



CALL NO. 207

CONTRACT ID. 195072

SPENCER - JEFFERSON - HENRY COUNTIES

FED/STATE PROJECT NUMBER 121GR19D072-STP

DESCRIPTION S WATTERSON TRAIL (JEFFERSON) KY1169 (SPENCER) KY997
(HENRY)

WORK TYPE BRIDGE REPLACEMENT

PRIMARY COMPLETION DATE 5/15/2020

LETTING DATE: March 22,2019

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME March 22,2019. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

PLANS AVAILABLE FOR THIS PROJECT.

DBE CERTIFICATION REQUIRED - 2.50%

REQUIRED BID PROPOSAL GUARANTY: Not less than 5% of the total bid.

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PART I
SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 05

CONTRACT ID - 195072

121GR19D072-STP

COUNTY - HENRY

PCN - BR05209971905

STP 9030 (028)

KY 997 (MP 1.900) REPLACE BRIDGE ON KY 997 (1.903) OVER WHITE SULPHUR FORK (052B00060N) (MP 1.906), A DISTANCE OF 0.01 MILES.BRIDGE REPLACEMENT SYP NO. 05-10002.00.

GEOGRAPHIC COORDINATES LATITUDE 38:29:43.00 LONGITUDE 85:12:49.00

COUNTY - JEFFERSON

PCN - BR05610051904

STP 9030 (026)

S Watterson Trail (MP 0.685) ADDRESS DEFICIENCIES OF S. WATTERSON TRAIL OVER FERN CREEK (056C00159N) (MP 0.691), A DISTANCE OF 0.01 MILES.BRIDGE REPLACEMENT SYP NO. 05-10010.00.

GEOGRAPHIC COORDINATES LATITUDE 38:10:08.00 LONGITUDE 85:37:22.00

COUNTY - SPENCER

PCN - BR10811691969

STP 9030 (027)

KY 1169 (MP 4.639) ADDRESS DEFICIENCIES OF KY 1169 BRIDGE OVER ELK CREEK (108B00040N), FROM MP 4.639 TO MP 4.655 (MP 4.655), A DISTANCE OF 0.02 MILES.BRIDGE REPLACEMENT SYP NO. 05-10013.00.

GEOGRAPHIC COORDINATES LATITUDE 38:05:42.00 LONGITUDE 85:22:13.00

COMPLETION DATE(S):

COMPLETED BY 05/15/2020

APPLIES TO ENTIRE CONTRACT

CONTRACT NOTES

PROPOSAL ADDENDA

All addenda to this proposal must be applied when calculating bid and certified in the bid packet submitted to the Kentucky Department of Highways. Failure to use the correct and most recent addenda may result in the bid being rejected.

BID SUBMITTAL

Bidder must use the Department's electronic bidding software. The Bidder must download the bid file located on the Bid Express website (www.bidx.com) to prepare a bid packet for submission to the Department. The bidder must submit electronically using Bid Express.

JOINT VENTURE BIDDING

Joint venture bidding is permissible. All companies in the joint venture must be prequalified in one of the work types in the Qualifications for Bidders for the project. The bidders must get a vendor ID for the joint venture from the Division of Construction Procurement and register the joint venture as a bidder on the project. Also, the joint venture must obtain a digital ID from Bid Express to submit a bid. A joint bid bond of 5% may be submitted for both companies or each company may submit a separate bond of 5%.

UNDERGROUND FACILITY DAMAGE PROTECTION

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. When prescribed in said directives, the contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom shall be contacted through their individual Protection Notification Center. Non-compliance with these directives can result in the enforcement of penalties.

REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY

Pursuant to KRS 176.085(1)(b), an agency, department, office, or political subdivision of the Commonwealth of Kentucky shall not award a state contract to a person that is a foreign entity required by [KRS 14A.9-010](#) to obtain a certificate of authority to transact business in the Commonwealth ("certificate") from the Secretary of State under [KRS 14A.9-030](#) unless the person produces the certificate within fourteen (14) days of the bid or proposal opening. If the foreign entity is not required to obtain a certificate as provided in [KRS 14A.9-010](#), the foreign entity should identify the applicable exception. Foreign entity is defined within [KRS 14A.1-070](#).

For all foreign entities required to obtain a certificate of authority to transact business in the Commonwealth, if a copy of the certificate is not received by the contracting agency within the time frame identified above, the foreign entity's solicitation response shall be deemed non-responsive or the awarded contract shall be cancelled.

Businesses can register with the Secretary of State at <https://secure.kentucky.gov/sos/ftbr/welcome.aspx>.

SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT

Questions about projects during the advertisement should be submitted in writing to the Division of Construction Procurement. This may be done by fax (502) 564-7299 or email to kytc.projectquestions@ky.gov. The Department will attempt to answer all submitted questions. The Department reserves the right not to answer if the question is not pertinent or does not aid in clarifying the project intent.

The deadline for posting answers will be 3:00 pm Eastern Daylight Time, the day preceding the Letting. Questions may be submitted until this deadline with the understanding that the later a question is submitted, the less likely an answer will be able to be provided.

The questions and answers will be posted for each Letting under the heading "Questions & Answers" on the Construction Procurement website (www.transportation.ky.gov/contract). The answers provided shall be considered part of this Special Note and, in case of a discrepancy, will govern over all other bidding documents.

HARDWOOD REMOVAL RESTRICTIONS

The US Department of Agriculture has imposed a quarantine in Kentucky and several surrounding states, to prevent the spread of an invasive insect, the emerald ash borer. Hardwood cut in conjunction with the project may not be removed from the state. Chipping or burning on site is the preferred method of disposal.

INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES

Identification of excess material sites and borrow sites shall be the responsibility of the Contractor. The Contractor shall be responsible for compliance with all applicable state and federal laws and may wish to consult with the US Fish and Wildlife Service to seek protection under Section 10 of the Endangered Species Act for these activities.

ACCESS TO RECORDS

The contractor, as defined in KRS 45A.030 (9) agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this contract for the purpose of financial audit or program review. Records and other prequalification information confidentially

disclosed as part of the bid process shall not be deemed as directly pertinent to the contract and shall be exempt from disclosure as provided in KRS 61.878(1)(c). The contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884.

In the event of a dispute between the contractor and the contracting agency, Attorney General, or the Auditor of Public Accounts over documents that are eligible for production and review, the Finance and Administration Cabinet shall review the dispute and issue a determination, in accordance with Secretary's Order 11-004.

April 30, 2018

FEDERAL CONTRACT NOTES

The Kentucky Department of Highways, in accordance with the Regulations of the United States Department of Transportation 23 CFR 635.112 (h), hereby notifies all bidders that failure by a bidder to comply with all applicable sections of the current Kentucky Standard Specifications, including, but not limited to the following, may result in a bid not being considered responsive and thus not eligible to be considered for award:

102.02 Current Capacity Rating 102.10 Delivery of Proposals
102.8 Irregular Proposals 102.14 Disqualification of Bidders
102.9 Proposal Guaranty

CIVIL RIGHTS ACT OF 1964

The Kentucky Department of Highways, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252) and the Regulations of the Federal Department of Transportation (49 C.F.R., Part 21), issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the ground of race, color, or national origin.

NOTICE TO ALL BIDDERS

To report bid rigging activities call: 1-800-424-9071.

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

SECOND TIER SUBCONTRACTS

Second Tier subcontracts on federally assisted projects shall be permitted. However, in the case of DBE's, second tier subcontracts will only be permitted where the other subcontractor is also a DBE. All second tier subcontracts shall have the consent of both the Contractor and the Engineer.

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

It is the policy of the Kentucky Transportation Cabinet (“the Cabinet”) that Disadvantaged Business Enterprises (“DBE”) shall have the opportunity to participate in the performance of highway construction projects financed in whole or in part by Federal Funds in order to create a level playing field for all businesses who wish to contract with the Cabinet. To that end, the Cabinet will comply with the regulations found in 49 CFR Part 26, and the definitions and requirements contained therein shall be adopted as if set out verbatim herein.

The Cabinet, contractors, subcontractors, and sub-recipients shall not discriminate on the basis of race, color, national origin, or sex in the performance of work performed pursuant to Cabinet contracts. The contractor shall carry out applicable requirements of 49 CFR 26 in the award and administration of federally assisted highway construction projects. The contractor will include this provision in all its subcontracts and supply agreements pertaining to contracts with the Cabinet.

Failure by the contractor to carry out these requirements is a material breach of its contract with the Cabinet, which may result in the termination of the contract or such other remedy as the Cabinet deems necessary.

DBE GOAL

The Disadvantaged Business Enterprise (DBE) goal established for this contract, as listed on the front page of the proposal, is the percentage of the total value of the contract.

The contractor shall exercise all necessary and reasonable steps to ensure that Disadvantaged Business Enterprises participate in a least the percent of the contract as set forth above as goals for this contract.

OBLIGATION OF CONTRACTORS

Each contractor prequalified to perform work on Cabinet projects shall designate and make known to the Cabinet a liaison officer who is assigned the responsibility of effectively administering and promoting an active program for utilization of DBEs.

If a formal goal has not been designated for the contract, all contractors are encouraged to consider DBEs for subcontract work as well as for the supply of material and services needed to perform this work.

Contractors are encouraged to use the services of banks owned and controlled by minorities and women.

CERTIFICATION OF CONTRACT GOAL

Contractors shall include the following certification in bids for projects for which a DBE goal has been established. BIDS SUBMITTED WHICH DO NOT INCLUDE CERTIFICATION OF DBE PARTICIPATION WILL NOT BE ACCEPTED. These bids will not be considered for award by the Cabinet and they will be returned to the bidder.

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

The certification statement is located in the electronic bid file. All contractors must certify their DBE participation on that page. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted.

DBE PARTICIPATION PLAN

Lowest responsive bidders must submit the *DBE Plan/ Subcontractor Request*, form TC 14-35 DBE, within **5** days of the letting. This is necessary before the Awards Committee will review and make a recommendation. **The project will not be considered for award prior to submission and approval of the apparent low bidder’s DBE Plan/Subcontractor Request.**

The DBE Participation Plan shall include the following:

- 1 Name and address of DBE Subcontractor(s) and/or supplier(s) intended to be used in the proposed project;
- 2 Description of the work each is to perform including the work item , unit, quantity, unit price and total amount of the work to be performed by the individual DBE. The Project Code Number (PCN), Category Number, and the Project Line Number can be found in the “material listing” on the Construction Procurement website under the specific letting;
- 3 The dollar value of each proposed DBE subcontract and the percentage of total project contract value this represents. DBE participation may be counted as follows; a) If DBE suppliers and manufactures assume actual and contractual responsibility, the dollar value of materials to be furnished will be counted toward the goal as follows:
 - The entire expenditure paid to a DBE manufacturer;
 - 60 percent of expenditures to DBE suppliers that are not manufacturers provided the supplier is a regular dealer in the product involved. A regular dealer must be engaged in, as its principal business and in its own name, the sale of products to the public, maintain an inventory and own and operate distribution equipment; and
 - The amount of fees or commissions charged by the DBE firms for a bona fide service, such as professional, technical, consultant, or managerial services and assistance in the procurement of essential personnel, facilities, equipment, materials, supplies, delivery of materials and supplies or for furnishing bonds, or insurance, providing such fees or commissions are determined to be reasonable and customary.

- b) The dollar value of services provided by DBEs such as quality control testing, equipment repair and maintenance, engineering, staking, etc.;
 - c) The dollar value of joint ventures. DBE credit for joint ventures will be limited to the dollar amount of the work actually performed by the DBE in the joint venture;
- 4 Written and signed documentation of the bidder's commitment to use a DBE contractor whose participation is being utilized to meet the DBE goal; and
- 5 Written and signed confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment.

UPON AWARD AND BEFORE A WORK ORDER WILL BE ISSUED

Contractors must submit the signed subcontract between the contractor and the DBE contractor, the DBE's certificate of insurance, and an affidavit for bidders, offerors, and contractors from the DBE to the Division of Construction Procurement. The affidavit can be found on the Construction Procurement website. If the DBE is a supplier of materials for the project, a signed purchase order and an affidavit for bidders, offerors, and contractors must be submitted to the Division of Construction Procurement.

Changes to DBE Participation Plans must be approved by the Cabinet. The Cabinet may consider extenuating circumstances including, but not limited to, changes in the nature or scope of the project, the inability or unwillingness of a DBE to perform the work in accordance with the bid, and/or other circumstances beyond the control of the prime contractor.

CONSIDERATION OF GOOD FAITH EFFORTS REQUESTS

If the DBE participation submitted in the bid by the apparent lowest responsive bidder does not meet or exceed the DBE contract goal, the apparent lowest responsive bidder must submit a Good Faith Effort Package to satisfy the Cabinet that sufficient good faith efforts were made to meet the contract goals prior to submission of the bid. Efforts to increase the goal after bid submission will not be considered in justifying the good faith effort, unless the contractor can show that the proposed DBE was solicited prior to the letting date. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted. One complete set and nine (9) copies of this information must be received in the office of the Division of Contract Procurement no later than 12:00 noon of the tenth calendar day after receipt of notification that they are the apparent low bidder.

Where the information submitted includes repetitious solicitation letters it will be acceptable to submit a sample representative letter along with a distribution list of the firms solicited. Documentation of DBE quotations shall be a part of the good faith effort submittal as necessary to demonstrate compliance with the factors listed below which the Cabinet considers in judging good faith efforts. This documentation may include written subcontractors' quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

The Good Faith Effort Package shall include, but may not be limited to information showing evidence of the following:

- 1 Whether the bidder attended any pre-bid meetings that were scheduled by the Cabinet to inform DBEs of subcontracting opportunities;
- 2 Whether the bidder provided solicitations through all reasonable and available means;
- 3 Whether the bidder provided written notice to all DBEs listed in the DBE directory at the time of the letting who are prequalified in the areas of work that the bidder will be subcontracting;
- 4 Whether the bidder followed up initial solicitations of interest by contacting DBEs to determine with certainty whether they were interested. If a reasonable amount of DBEs within the targeted districts do not provide an intent to quote or no DBEs are prequalified in the subcontracted areas, the bidder must notify the DBE Liaison in the Office of Minority Affairs to give notification of the bidder's inability to get DBE quotes;
- 5 Whether the bidder selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise perform these work items with its own forces;
- 6 Whether the bidder provided interested DBEs with adequate and timely information about the plans, specifications, and requirements of the contract;
- 7 Whether the bidder negotiated in good faith with interested DBEs not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached;
- 8 Whether quotations were received from interested DBE firms but were rejected as unacceptable without sound reasons why the quotations were considered unacceptable. The fact that the DBE firm's quotation for the work is not the lowest quotation received will not in itself be considered as a sound reason for rejecting the quotation as unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a DBE quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy DBE goals;
- 9 Whether the bidder specifically negotiated with subcontractors to assume part of the responsibility to meet the contract DBE goal when the work to be subcontracted includes potential DBE participation;
- 10 Whether the bidder made any efforts and/or offered assistance to interested DBEs in obtaining the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal; and
- 11 Any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include DBE participation.

FAILURE TO MEET GOOD FAITH REQUIREMENT

Where the apparent lowest responsive bidder fails to submit sufficient participation by DBE firms to meet the contract goal and upon a determination by the Good Faith Committee based upon the information submitted that the apparent lowest responsive bidder failed to make sufficient reasonable efforts to meet the contract goal, the bidder will be offered the opportunity to meet in person for administrative reconsideration. The bidder will be notified of the Committee's decision within 24 hours of its decision. The bidder will have 24 hours to request reconsideration of the Committee's decision. The reconsideration meeting will be held within two days of the receipt of a request by the bidder for reconsideration.

The request for reconsideration will be heard by the Office of the Secretary. The bidder will have the opportunity to present written documentation or argument concerning the issue of whether it met the goal or made an adequate good faith effort. The bidder will receive a written decision on the reconsideration explaining the basis for the finding that the bidder did or did not meet the goal or made adequate Good Faith efforts to do so.

The result of the reconsideration process is not administratively appealable to the Cabinet or to the United States Department of Transportation.

The Cabinet reserves the right to award the contract to the next lowest responsive bidder or to rebid the contract in the event that the contract is not awarded to the low bidder as the result of a failure to meet the good faith requirement.

SANCTIONS FOR FAILURE TO MEET DBE REQUIREMENTS OF THE PROJECT

Failure by the prime contractor to fulfill the DBE requirements of a project under contract or to demonstrate good faith efforts to meet the goal constitutes a breach of contract. When this occurs, the Cabinet will hold the prime contractor accountable, as would be the case with all other contract provisions. Therefore, the contractor's failure to carry out the DBE contract requirements shall constitute a breach of contract and as such the Cabinet reserves the right to exercise all administrative remedies at its disposal including, but not limited to the following:

- Disallow credit toward the DBE goal;
- Withholding progress payments;
- Withholding payment to the prime in an amount equal to the unmet portion of the contract goal; and/or
- Termination of the contract.

PROMPT PAYMENT

The prime contractor will be required to pay the DBE within seven (7) working days after he or she has received payment from the Kentucky Transportation Cabinet for work performed or materials furnished.

CONTRACTOR REPORTING

All contractors must keep detailed records and provide reports to the Cabinet on their progress in meeting the DBE requirement on any highway contract. These records may include, but shall not be limited to payroll, lease agreements, cancelled payroll checks, executed subcontracting agreements, etc. Prime contractors will be required to complete and submit a signed and notarized affidavit (TC 18-7) and copies of checks for any monies paid to each DBE subcontractor or supplier utilized to meet a DBE goal. **These documents must be submitted within 10 days of being paid by the Cabinet.**

Payment information that needs to be reported includes date the payment is sent to the DBE, check number, Contract ID, amount of payment and the check date. Before Final Payment is made on this contract, the Prime Contractor will certify that all payments were made to the DBE subcontractor and/or DBE suppliers.

The Prime Contractor should supply the payment information at the time the DBE is compensated for their work. Form to use is located at:

<http://transportation.ky.gov/Construction/Pages/Subcontracts.aspx>

The prime contractor should notify the KYTC Office of Civil Rights and Small Business Development seven (7) days prior to DBE contractors commencing work on the project. The contact is Melvin Bynes and the telephone number is (502) 564-3601.

Photocopied payments and completed, signed and notarized affidavit must be submitted by the Prime Contractor to: Office of Civil Rights and Small Business Development
6th Floor West 200 Mero Street
Frankfort, KY 40622

DEFAULT OR DECERTIFICATION OF THE DBE

If the DBE subcontractor or supplier is decertified or defaults in the performance of its work, and the overall goal cannot be credited for the uncompleted work, the prime contractor may utilize a substitute DBE or elect to fulfill the DBE goal with another DBE on a different work item. If after exerting good faith effort in accordance with the Cabinet's Good Faith Effort policies and procedures, the prime contractor is unable to replace the DBE, then the unmet portion of the goal may be waived at the discretion of the Cabinet.

1/27/2017

LEGAL REQUIREMENTS AND RESPONSIBILITY TO THE PUBLIC – CARGO PREFERENCE ACT (CPA).

(REV 12-17-15) (1-16)

SECTION 7 is expanded by the following new Article:

102.10 **Cargo Preference Act – Use of United States-flag vessels.**

Pursuant to Title 46CFR Part 381, the Contractor agrees

- To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

- To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph 1 of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

- To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

EXPEDITE PROJECT WORK ORDER

The Contractor may request that the Department expedite the work order for this project to allow for maximization of time to complete the work. In order for the Department to accomplish this task, the Contractor may be required to “hand carry” all required project documentation to facilitate the process. Immediately UPON NOTIFICATION OF AWARD OF THE CONTRACT, deliver required project documentation to:

Division of Construction Procurement
200 Mero St.
Frankfort, KY 40602

ASPHALT MIXTURE

Unless otherwise noted, the Department estimates the rate of application for all asphalt mixtures to be 110 lbs/sy per inch of depth.

INCIDENTAL SURFACING

The Department has included in the quantities of asphalt mixtures established in the proposal estimated quantities required for resurfacing or surfacing mailbox turnouts, farm field entrances, residential and commercial entrances, curve widening, ramp gores and tapers, and road and street approaches, as applicable. Pave these areas to the limits as shown on Standard Drawing RPM-110-06 or as directed by the Engineer. In the event signal detectors are present in the intersecting streets or roads, pave the crossroads to the right of way limit or back of the signal detector, whichever is the farthest back of the mainline. Surface or resurface these areas as directed by the Engineer. The Department will not measure placing and compacting for separate payment but shall be incidental to the Contract unit price for the asphalt mixtures.

OPTION B

Be advised that the Department will control and accept compaction of asphalt mixtures furnished on this project under OPTION B in accordance with Sections 402 and 403.

PREAPPROVED UTILITY CONTRACTORS

The Preapproved Utility Contractors that must be used on this project will be listed under the General Utility Notes.

**SPECIAL NOTE FOR CONTRACT COMPLETION DATE AND
LIQUIDATED DAMAGES ON BRIDGE REPAIR CONTRACTS**
Henry County SYP 5-10002.00

I. COMPLETION DATE.

Upon Notice to Proceed, the Contractor has the option of selecting the Begin Work date. Once selected, notify the Department in writing of the date selected at least two weeks prior to beginning work and provide a proposed project schedule. All work is to be completed by the specified contract completion date. The Contractor is allotted 60 calendar days once the bridge is closed to complete all work to safely reopen the structure with no lane closures. At a minimum, prior to reopening the bridge to traffic, all strength requirements and curing for materials used shall be completed per Division 600 of the Standard Specifications. Guardrail shall be installed to the satisfaction of the Engineer prior to reopening the bridge to traffic unless prior approval is obtained from the engineer for use of temporary railing.

The Engineer will begin charging calendar days for a structure on the day the Contractor closes the structure to traffic, regardless of holidays or seasonal weather limitations.

II. LIQUIDATED DAMAGES.

Liquidated damages will be assessed to the Contractor in accordance with the Transportation Cabinet, Department of Highway's 2012 Standard Specifications for Road and Bridge Construction, Section 108.09, when either the allotted number of calendar days or the specified completion date is exceeded.

Contrary to the Standard Specifications, liquidated damages will be assessed to the Contractor during the months of December, January, February and March when the contract time has expired on any individual bridge. Contract time will be charged during these months. All construction must be completed in accordance with the weather limitations specified in Section 606 and/or Section 601 as applicable. No extension of Contract time will be granted due to inclement weather or temperature limitations that occur due to starting work on the Contract or a structure late in the construction season.

Any approval of cold weather plans or allowance of construction operations to occur outside Section 606 and/or Section 601 does not alleviate the 60 day maximum bridge closure. In the event the closure lasts longer than 60 calendar days as specified, liquidated damages will apply to all excess days regardless of weather limitations.

SPECIAL NOTE FOR CONTRACT COMPLETION DATE AND LIQUIDATED DAMAGES ON BRIDGE REPAIR CONTRACTS

Jefferson County SYP 05-10010.00

I. COMPLETION DATE.

Upon Notice to Proceed, the Contractor has the option of selecting the Begin Work date. Once selected, notify the Department in writing of the date selected at least two weeks prior to beginning work and provide a proposed project schedule. All work is to be completed by the specified contract completion date. The Contractor is allotted 60 calendar days once work begins to complete all work to safely reopen the structure with no lane closures. At a minimum, prior to reopening the lane to traffic, all strength requirements and curing for materials used shall be completed per Division 600 of the Standard Specifications.

The Engineer will begin charging calendar days for a structure on the day the Contractor begins work, with the exception of placement of signs, regardless of holidays or seasonal weather limitations.

II. LIQUIDATED DAMAGES.

Liquidated damages will be assessed to the Contractor in accordance with the Transportation Cabinet, Department of Highway's 2012 Standard Specifications for Road and Bridge Construction, Section 112.03.15A, when the lane closures are used beyond the allotted number of calendar days. Liquidated Damages will be assessed per the Standard Specification Section 108.09 when the contract time extends beyond the contract date.

Contrary to the Standard Specifications, liquidated damages will be assessed to the Contractor during the months of December, January, February and March when the contract time has expired on any individual bridge. Contract time will be charged during these months. All construction must be completed in accordance with the weather limitations specified in Section 606 and/or Section 601 as applicable. No extension of Contract time will be granted due to inclement weather or temperature limitations that occur due to starting work on the Contract or a structure late in the construction season.

SPECIAL NOTE FOR CONTRACT COMPLETION DATE AND LIQUIDATED DAMAGES ON BRIDGE REPAIR CONTRACTS

Spencer Count SYP 05-10013.00

I. COMPLETION DATE.

Upon Notice to Proceed, the Contractor has the option of selecting the Begin Work date. Once selected, notify the Department in writing of the date selected at least two weeks prior to beginning work and provide a proposed project schedule. All work is to be completed by the specified contract completion date. The Contractor is allotted 60 calendar days once work begins to complete all work to safely reopen the structure with no lane closures. At a minimum, prior to reopening the lane to traffic, all strength requirements and curing for materials used shall be completed per Division 600 of the Standard Specifications.

The Engineer will begin charging calendar days for a structure on the day the Contractor begins work, with the exception of placement of signs, regardless of holidays or seasonal weather limitations.

II. LIQUIDATED DAMAGES.

Liquidated damages will be assessed to the Contractor in accordance with the Transportation Cabinet, Department of Highway's 2012 Standard Specifications for Road and Bridge Construction, Section 112.03.15A, when the lane closures are used beyond the allotted number of calendar days. Liquidated Damages will be assessed per the Standard Specification Section 108.09 when the contract time extends beyond the contract date.

Contrary to the Standard Specifications, liquidated damages will be assessed to the Contractor during the months of December, January, February and March when the contract time has expired on any individual bridge. Contract time will be charged during these months. All construction must be completed in accordance with the weather limitations specified in Section 606 and/or Section 601 as applicable. No extension of Contract time will be granted due to inclement weather or temperature limitations that occur due to starting work on the Contract or a structure late in the construction season.

**SPECIAL NOTE FOR CONTRACT COMPLETION DATE AND
LIQUIDATED DAMAGES ON BRIDGE REPAIR CONTRACTS**
Henry County SYP 5-10002.00

I. COMPLETION DATE.

Upon Notice to Proceed, the Contractor has the option of selecting the Begin Work date. Once selected, notify the Department in writing of the date selected at least two weeks prior to beginning work and provide a proposed project schedule. All work is to be completed by the specified contract completion date. The Contractor is allotted 60 calendar days once the bridge is closed to complete all work to safely reopen the structure with no lane closures. At a minimum, prior to reopening the bridge to traffic, all strength requirements and curing for materials used shall be completed per Division 600 of the Standard Specifications. Guardrail shall be installed to the satisfaction of the Engineer prior to reopening the bridge to traffic unless prior approval is obtained from the engineer for use of temporary railing.

The Engineer will begin charging calendar days for a structure on the day the Contractor closes the structure to traffic, regardless of holidays or seasonal weather limitations.

II. LIQUIDATED DAMAGES.

Liquidated damages will be assessed to the Contractor in accordance with the Transportation Cabinet, Department of Highway's 2012 Standard Specifications for Road and Bridge Construction, Section 108.09, when either the allotted number of calendar days or the specified completion date is exceeded.

Contrary to the Standard Specifications, liquidated damages will be assessed to the Contractor during the months of December, January, February and March when the contract time has expired on any individual bridge. Contract time will be charged during these months. All construction must be completed in accordance with the weather limitations specified in Section 606 and/or Section 601 as applicable. No extension of Contract time will be granted due to inclement weather or temperature limitations that occur due to starting work on the Contract or a structure late in the construction season.

Any approval of cold weather plans or allowance of construction operations to occur outside Section 606 and/or Section 601 does not alleviate the 60 day maximum bridge closure. In the event the closure lasts longer than 60 calendar days as specified, liquidated damages will apply to all excess days regardless of weather limitations.

SPECIAL NOTE FOR CONTRACT COMPLETION DATE AND LIQUIDATED DAMAGES ON BRIDGE REPAIR CONTRACTS

Jefferson County SYP 05-10010.00

I. COMPLETION DATE.

Upon Notice to Proceed, the Contractor has the option of selecting the Begin Work date. Once selected, notify the Department in writing of the date selected at least two weeks prior to beginning work and provide a proposed project schedule. All work is to be completed by the specified contract completion date. The Contractor is allotted 60 calendar days once work begins to complete all work to safely reopen the structure with no lane closures. At a minimum, prior to reopening the lane to traffic, all strength requirements and curing for materials used shall be completed per Division 600 of the Standard Specifications.

The Engineer will begin charging calendar days for a structure on the day the Contractor begins work, with the exception of placement of signs, regardless of holidays or seasonal weather limitations.

II. LIQUIDATED DAMAGES.

Liquidated damages will be assessed to the Contractor in accordance with the Transportation Cabinet, Department of Highway's 2012 Standard Specifications for Road and Bridge Construction, Section 112.03.15A, when the lane closures are used beyond the allotted number of calendar days. Liquidated Damages will be assessed per the Standard Specification Section 108.09 when the contract time extends beyond the contract date.

Contrary to the Standard Specifications, liquidated damages will be assessed to the Contractor during the months of December, January, February and March when the contract time has expired on any individual bridge. Contract time will be charged during these months. All construction must be completed in accordance with the weather limitations specified in Section 606 and/or Section 601 as applicable. No extension of Contract time will be granted due to inclement weather or temperature limitations that occur due to starting work on the Contract or a structure late in the construction season.

SPECIAL NOTE FOR CONTRACT COMPLETION DATE AND LIQUIDATED DAMAGES ON BRIDGE REPAIR CONTRACTS

Spencer Count SYP 05-10013.00

I. COMPLETION DATE.

Upon Notice to Proceed, the Contractor has the option of selecting the Begin Work date. Once selected, notify the Department in writing of the date selected at least two weeks prior to beginning work and provide a proposed project schedule. All work is to be completed by the specified contract completion date. The Contractor is allotted 60 calendar days once work begins to complete all work to safely reopen the structure with no lane closures. At a minimum, prior to reopening the lane to traffic, all strength requirements and curing for materials used shall be completed per Division 600 of the Standard Specifications.

The Engineer will begin charging calendar days for a structure on the day the Contractor begins work, with the exception of placement of signs, regardless of holidays or seasonal weather limitations.

II. LIQUIDATED DAMAGES.

Liquidated damages will be assessed to the Contractor in accordance with the Transportation Cabinet, Department of Highway's 2012 Standard Specifications for Road and Bridge Construction, Section 112.03.15A, when the lane closures are used beyond the allotted number of calendar days. Liquidated Damages will be assessed per the Standard Specification Section 108.09 when the contract time extends beyond the contract date.

Contrary to the Standard Specifications, liquidated damages will be assessed to the Contractor during the months of December, January, February and March when the contract time has expired on any individual bridge. Contract time will be charged during these months. All construction must be completed in accordance with the weather limitations specified in Section 606 and/or Section 601 as applicable. No extension of Contract time will be granted due to inclement weather or temperature limitations that occur due to starting work on the Contract or a structure late in the construction season.

SPECIAL NOTE

Tree Clearing Restriction

Henry County

Item No. 5-10002

Bridge No. 052B00060N

DUE TO THE RECOVERY PLAN FOR ENDANGERED BATS, NO TREE CLEARING
IS PERMITTED FROM JUNE 1 THROUGH JULY 31.

**If there are any questions regarding this note, please contact Danny Peake,
Director, Division of Environmental Analysis, 200 Mero Street, Frankfort, KY
40601, Phone: (502) 564-7250.**

SPECIAL NOTE

Tree Clearing Restriction

Jefferson County

Item No. 5-10010.00

Bridge No. 056C00159N

DUE TO THE RECOVERY PLAN FOR ENDANGERED BATS, NO TREE CLEARING
IS PERMITTED FROM JUNE 1 THROUGH JULY 31.

**If there are any questions regarding this note, please contact Danny Peake,
Director, Division of Environmental Analysis, 200 Mero Street, Frankfort, KY
40601, Phone: (502) 564-7250.**

SPECIAL NOTE

Tree Clearing Restriction

Spencer County

Item No. 5-10013

Bridge No. 108B00040N

**DUE TO THE RECOVERY PLAN FOR ENDANGERED BATS, NO TREE CLEARING
IS PERMITTED FROM JUNE 1 THROUGH JULY 31.**

**If there are any questions regarding this note, please contact Danny Peake,
Director, Division of Environmental Analysis, 200 Mero Street, Frankfort, KY
40601, Phone: (502) 564-7250.**

Special Note for Bridge Demolition, Renovation and Asbestos Abatement

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

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



Asbestos Inspection Report

To: Tom Springer, QK4, Inc.

Date: November 30, 2018

Conducted By: Russell Brooks, LFI, Inc.
Kentucky Accredited Asbestos Inspector #118-06-9270

Project and Structure Identification

Project: Henry County: Item No. 5-10002

Structure ID: #052B00060N

Structure Location: KY 997 over White Sulphur Creek, Henry County, Kentucky

Sample Description: No suspect asbestos containing (ACM) were observed

Inspection Date: November 28, 2018

Results and Recommendations

The asbestos inspection was performed in accordance with current United States Environmental Protection Agency (US EPA) regulations, specifically 40 CFR Part 61, Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) revision, final rule effective November 20, 1990.

It is recommended that this report accompany the 10-Day Notice of Intent for Demolition ([DEP7036 Form](#)) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

No suspect asbestos containing (ACM) were observed.



Asbestos Inspection Report

To: Tom Springer, QK4, Inc.

Date: October 26, 2018

Conducted By: Russell Brooks, LFI, Inc.
Kentucky Accredited Asbestos Inspector #118-06-9270

Project and Structure Identification

Project: Jefferson County: Item No. 5-10010

Structure ID: #056C00159N

Structure Location: S. Watterson Trail over Fern Creek, Jefferson County, Kentucky

Sample Description: No suspect asbestos containing (ACM) were observed

Inspection Date: October 24, 2018

Results and Recommendations

The asbestos inspection was performed in accordance with current United States Environmental Protection Agency (US EPA) regulations, specifically 40 CFR Part 61, Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) revision, final rule effective November 20, 1990.

It is recommended that this report accompany the 10-Day Notice of Intent for Demolition ([DEP7036 Form](#)) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

No suspect asbestos containing (ACM) were observed.

Commonwealth of Kentucky
Department for Environmental Protection
Division for Air Quality

Russell Henry Brooks

Has met the requirements of 401 KAR 58.005 and is accredited as an:

**Asbestos
Inspector**

Accreditation Number: **118-06-9270**

Issue Date: **6/12/2018**

Expiration Date: **6/5/2019**



Asbestos Inspection Report

To: Tom Springer, QK4, Inc.

Date: November 27, 2018

Conducted By: Russell Brooks, LFI, Inc.
Kentucky Accredited Asbestos Inspector #118-06-9270

Project and Structure Identification

Project: Spencer County: Item No. 5-10013

Structure ID: #108B00040N

Structure Location: KY-1169 over Elk Creek, Spencer County, Kentucky

Sample Description: Bridge joint mastic

Inspection Date: November 14, 2018

Results and Recommendations

The asbestos inspection was performed in accordance with current United States Environmental Protection Agency (US EPA) regulations, specifically 40 CFR Part 61, Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) revision, final rule effective November 20, 1990.

It is recommended that this report accompany the 10-Day Notice of Intent for Demolition ([DEP7036 Form](#)) which is to be submitted to the Kentucky Division of Air Quality prior to abatement, demolition, or renovation of any building or structure in the Commonwealth.

No suspect asbestos containing (ACM) were observed.

MRS, INC. *MRS, Inc. Analytical Laboratory Division*

332 West Broadway / Suite # 902
Louisville, Kentucky - 40202 - 2133

Phone # : (502) 495-1212
E-Mail Address: CEOMRSInc@AOL.Com

Client: L F I
Address: 114 Fairfax Avenue
Louisville, Kentucky
40207
Attention : Russell Brooks

Project No: # 11207 B
Sample ID: # 1 A
Sampled: 14-Nov-18
Received: 14-Nov-18
Analyzed: 20-Nov-18 - Point Count -

Bulk Sample Analysis

Sampled By : Russell Brooks
Facility/Location: Spencer County / LFI Project 168 - 18
Field Description: Bridge Joint Mastic

Laboratory Description:
Thick Black Material

Asbestos Materials:
Chrysotile = 2/400 = 0.50% (< 1 %) Sample Is Negative

Non-Asbestos Fibrous Materials :

Cellulose	0.25 %
Binders	99.25 %

Remarks: The sample was analyzed for asbestos content following the EPA Methodology (600/R-93/116). The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S. Government.

Analyst: Winterford Mensah

Reviewed By: 
Signature

MRS, INC. *MRS, Inc. Analytical Laboratory Division*

332 West Broadway / Suite # 902
Louisville, Kentucky - 40202 - 2133

Phone # : (502) 495-1212
E-Mail Address: CEOMRSInc@AOL.Com

Client: L F I
Address: 114 Fairfax Avenue
Louisville, Kentucky
40207
Attention : Russell Brooks

Project No: # 11207 B
Sample ID: # 1 B
Sampled: 14-Nov-18
Received: 14-Nov-18
Analyzed: 20-Nov-18 - Point Count -

Bulk Sample Analysis

Sampled By : Russell Brooks
Facility/Location: Spencer County / LFI Project 168 - 18
Field Description: Bridge Joint Mastic

Laboratory Description:
Thick Black Material

Asbestos Materials:
Chrysotile = 2/400 = 0.50% (< 1 %) Sample Is Negative

Non-Asbestos Fibrous Materials :

Cellulose	0.25 %
Binders	99.25 %

Remarks: The sample was analyzed for asbestos content following the EPA Methodology (600/R-93/116). The test relates only to the items tested. This report does not represent endorsement by NVLAP or any agency of the U.S. Government.

Analyst: Winterford Mensah

Reviewed By: 
Signature

MRS, Inc.
P.O. Box 19424
Louisville, Kentucky 40259-0424

Phon (502) 495 - 1212
Fax (502) 491 - 7111

Client : Linebach Funkhouser, Inc.
Project : LFI Project # 168-18

CHAIN OF CUSTODY RECORD

PROJECT: 168-18
 LOCATION: Spencer County
 SAMPLED BY: R. Brooks
 DATE: 11 / 14 / 18

COMMENTS AND/OR INSTRUCTIONS:
Stop First Positive
Point Count <4%

SAMPLE NUMBER	LOCATION	MATRIX	COLOR	SIZE	COMMENTS	T/L	W/C	PLM
1 A/B	<u>BRIDGE JOINT</u>	<u>MASTIC</u>						x
2 A/B								x
3 A/B								x
4 A/B								x
5 A/B								x
6 A/B								x
7 A/B								x
8 A/B								x
9 A/B								x
10 A/B								x
11 A/B								x
12 A/B								x
13 A/B								
14 A/B								
15 A/B								

Relinquished By: (Signature) <u>Russell A. Brooks</u>	Date <u>11 / 15 / 18</u>	Time	Received By: (Signature) <u>Winters</u>
Relinquished By: (Signature)	Date	Time	Received By: (Signature)

Commonwealth of Kentucky
Department for Environmental Protection
Division for Air Quality

Russell Henry Brooks


Has met the requirements of 401 KAR 58.005 and is accredited as an:

**Asbestos
Inspector**

Accreditation Number: **118-06-9270**

Issue Date: **6/12/2018**

Expiration Date: **6/5/2019**

	KENTUCKY TRANSPORTATION CABINET Department of Highways DIVISION OF RIGHT OF WAY & UTILITIES RIGHT OF WAY CERTIFICATION	TC 62-226 Rev. 01/2016 Page 1 of 1
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<input checked="" type="checkbox"/>	Original	<input type="checkbox"/>	Re-Certification	RIGHT OF WAY CERTIFICATION
ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)	
5-10002.00	HENRY	1100 FD04 121 9414001R		

PROJECT DESCRIPTION

BRIDGING KENTUCKY PROJECT - REPLACE BRIDGE ON KY 997 OVER WHITE SULPHUR FORK (052B00060N).

No Additional Right of Way Required

Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.

Condition # 1 (Additional Right of Way Required and Cleared)

All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.

Condition # 2 (Additional Right of Way Required with Exception)

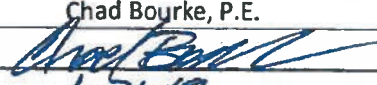

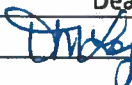
The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract

Condition # 3 (Additional Right of Way Required with Exception)

The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.

Total Number of Parcels on Project	0	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Number of Parcels That Have Been Acquired			
Signed Deed	0		
Condemnation	0		
Signed ROE	0		

Notes/ Comments (Use Additional Sheet if necessary)

LPA RW Project Manager		Right of Way Supervisor	
Printed Name	Chad Bourke, P.E.	Printed Name	Mark C. Askin, P.E.
Signature		Signature	
Date	1-21-19	Date	1-21-19
Right of Way Director		FHWA	
Printed Name	Dean M. Loy	Printed Name	
Signature		Signature	
Date	30 JAN 2019	Date	

	KENTUCKY TRANSPORTATION CABINET Department of Highways DIVISION OF RIGHT OF WAY & UTILITIES RIGHT OF WAY CERTIFICATION	TC 62-226 Rev. 01/2016 Page 1 of 1
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<input checked="" type="checkbox"/> Original	<input type="checkbox"/> Re-Certification	RIGHT OF WAY CERTIFICATION	
ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)
5-10010.00	JEFFERSON	1100 FD04 121 9414001R	

PROJECT DESCRIPTION

BRIDGING KENTUCKY PROJECT - REPLACE BRIDGE ON SOUTH WATTERSON TRAIL OVER FERN CREEK (056C00159N).

No Additional Right of Way Required

Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.

Condition # 1 (Additional Right of Way Required and Cleared)

All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.

Condition # 2 (Additional Right of Way Required with Exception)

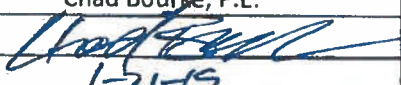
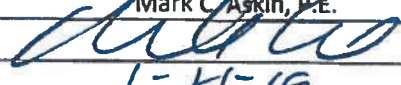

The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract

Condition # 3 (Additional Right of Way Required with Exception)

The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.

Total Number of Parcels on Project	0	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Number of Parcels That Have Been Acquired			
Signed Deed	0		
Condemnation	0		
Signed ROE	0		

Notes/ Comments (Use Additional Sheet if necessary)

LPA RW Project Manager		Right of Way Supervisor	
Printed Name	Chad Bourke, P.E.	Printed Name	Mark C. Askin, P.E.
Signature		Signature	
Date	1-21-19	Date	1-21-19
Right of Way Director		FHWA	
Printed Name	Dean M. Loy	Printed Name	
Signature		Signature	
Date	30 JAN 2019	Date	



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

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

<input checked="" type="checkbox"/>	Original	<input type="checkbox"/>	Re-Certification	RIGHT OF WAY CERTIFICATION		
ITEM #		COUNTY		PROJECT # (STATE)		PROJECT # (FEDERAL)
5-10013.00		SPENCER		1100 FD04 121 9414001R		
PROJECT DESCRIPTION						
BRIDGING KENTUCKY PROJECT - REPLACE BRIDGE ON SOUTH WATTERSON TRAIL OVER FERN CREEK (056C00159N).						
<input type="checkbox"/> No Additional Right of Way Required						
Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.						
<input checked="" type="checkbox"/> Condition # 1 (Additional Right of Way Required and Cleared)						
All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.						
<input type="checkbox"/> Condition # 2 (Additional Right of Way Required with Exception)						
The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract						
<input type="checkbox"/> Condition # 3 (Additional Right of Way Required with Exception)						
The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.						
Total Number of Parcels on Project		1	EXCEPTION (S) Parcel #		ANTICIPATED DATE OF POSSESSION WITH EXPLANATION	
Number of Parcels That Have Been Acquired						
Signed Deed		1				
Condemnation		0				
Signed ROE		0				
Notes/ Comments (Use Additional Sheet if necessary)						
LPA RW Project Manager				Right of Way Supervisor		
Printed Name	Chad Bourke, P.E.			Printed Name	Mark C. Askin, P.E.	
Signature				Signature		
Date	01/28/19			Date	01/28/19	
Right of Way Director				FHWA		
Printed Name	Dean M. Loy			Printed Name		
Signature				Signature		
Date	30 JAN 2019			Date		

UTILITIES AND RAIL CERTIFICATION NOTE

**HENRY COUNTY
KY 997 BRIDGE OVER WHITE SULPHUR FORK (052B00060N)
MILE POINT 1.88 TO 1.92
ITEM NO. 5-10002.00**

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

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

No Rail Involved **Minimal Rail Involved (See Below)** **Rail Involved (See Below)**

UNDERGROUND FACILITY DAMAGE PROTECTION – BEFORE YOU DIG

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

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

SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

The contractor will be responsible for contacting all utility facility owners on the subject project to coordinate his activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The

Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs.

UTILITIES AND RAIL CERTIFICATION NOTE

**HENRY COUNTY
KY 997 BRIDGE OVER WHITE SULPHUR FORK (052B00060N)
MILE POINT 1.88 TO 1.92
ITEM NO. 5-10002.00**

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

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

AREA UTILITIES CONTACT LIST

AT&T
1340 E. John Rowan Blvd.
Bardstown, KY 40004
Scott Roche
(502) 348-4528 (o)
(502) 827-4703 (m)
sr8832@att.com

Henry County Water District #2
8955 Main Street
Campbellsburg, KY 40011
Bobbey Simpson
(502) 553-6279 (o)
bsimpson@hcwd2.com

Shelby Energy Cooperative, Inc.
620 Old Finchville Road
Shelbyville, KY 40065
Jason Ginn
(502) 643-2778 (o)
jason@shelbyenergy.com

UTILITIES AND RAIL CERTIFICATION NOTE

Jefferson County
Mile point: 0.685 TO 0.691
ADDRESS DEFICIENCIES OF S WATTERSON TRL BRIDGE OVER FERN CREEK. (056C00159N)
ITEM NUMBER: 05-10010.00

PROJECT NOTES ON UTILITIES

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

The contractor will be responsible for contacting all utility facility owners on the subject project to coordinate his activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs. The utility facilities as noted in the previous section(s) have been determined using data garnered by varied means and with varying degrees of accuracy: from the facility owners, a result of S.U.E., field inspections, and/or reviews of record drawings. The facilities defined may not be inclusive of all utilities in the project scope and are not Level A quality, unless specified as such. It is the contractor's responsibility to verify all utilities and their respective locations before excavating.

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. The contractor is instructed to contact KY 811 for the location of existing underground utilities. Contact shall be made a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY 811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom are to be contacted through their individual Protection Notification Center. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area. Non-compliance with these directives can result in the enforcement of penalties.

UTILITIES AND RAIL CERTIFICATION NOTE

Jefferson County
Mile point: 0.685 TO 0.691
ADDRESS DEFICIENCIES OF S WATTERSON TRL BRIDGE OVER FERN CREEK. (056C00159N)
ITEM NUMBER: 05-10010.00

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

AT&T - KY - Communication

Louisville Water Company - Water

Time Warner Communications - CATV

LG&E KU - Electric

LG&E/KU - Natural Gas

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

THE FOLLOWING FACILITY OWNERS ARE RELOCATING/ADJUSTING THEIR FACILITIES WITHIN THE PROJECT LIMITS AND WILL BE COMPLETE PRIOR TO CONSTRUCTION

LG&E(Electric) will relocate existing pole RT Station 100+75+/- to RT Station 100+40 and will be complete by April 15, 2019. All other utilities attached will relocate to new pole by April 15, 2019.

LG&E (Gas) will relocate their gas line that runs on the Right side of the bridge to a new location outside the construction limits and will be complete by April 30, 2019.

UTILITIES AND RAIL CERTIFICATION NOTE

Jefferson County
Mile point: 0.685 TO 0.691
ADDRESS DEFICIENCIES OF S WATTERSON TRL BRIDGE OVER FERN CREEK. (056C00159N)
ITEM NUMBER: 05-10010.00

THE FOLLOWING FACILITY OWNERS HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE OWNER OR THEIR SUBCONTRACTOR AND IS TO BE COORDINATED WITH THE ROAD CONTRACT

Louisville Water Company has an existing 12" DI water line that runs Left Station 100+00- 101+50 that will be relocated.

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

Not Applicable

RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

No Rail Involvement Rail Involved Rail Adjacent

UTILITIES AND RAIL CERTIFICATION NOTE

Jefferson County

Mile point: 0.685 TO 0.691

ADDRESS DEFICIENCIES OF S WATTERSON TRL BRIDGE OVER FERN CREEK. (056C00159N)

ITEM NUMBER: 05-10010.00

UTILITIES AND RAIL CERTIFICATION NOTE

Jefferson County
Mile point: 0.685 TO 0.691
ADDRESS DEFICIENCIES OF S WATTERSON TRL BRIDGE OVER FERN CREEK. (056C00159N)
ITEM NUMBER: 05-10010.00

AREA FACILITY OWNER CONTACT LIST

Facility Owner	Address	Contact Name	Phone	Email
AT&T - KY - Communication	1340 E. John Rowan Blvd Bardstown KY 40004	Scott Roche	5023484528	sr8832@att.com
LG&E KU - Electric	820 West Broadway Louisville KY 40202	Caroline Justice	5026273708	Caroline.Justice@lge-ku.com
LG&E/KU - Natural Gas	820 West Broadway Louisville KY 40202	Caroline Justice	5026273708	caroline.justice@lge-ku.com
Louisville Water Company - Water	550 South Third Street Louisville KY 40202	Daniel Tegene	5025693649	dtegene@lwcky.com
Time Warner Communications - CATV	10168 Linn Station Road Louisville KY 40223	Deno Barbour	5026647395	dwright.barbour@charter.com

UTILITIES AND RAIL CERTIFICATION NOTE

<p style="text-align: center;">Spencer County Mile point: 4.639 TO 4.655 ADDRESS DEFICIENCIES OF KY 1169 BRIDGE OVER ELK CREEK. (108B00040N) ITEM NUMBER: 05-10013.00</p>

PROJECT NOTES ON UTILITIES

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

The contractor will be responsible for contacting all utility facility owners on the subject project to coordinate his activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs. The utility facilities as noted in the previous section(s) have been determined using data garnered by varied means and with varying degrees of accuracy: from the facility owners, a result of S.U.E., field inspections, and/or reviews of record drawings. The facilities defined may not be inclusive of all utilities in the project scope and are not Level A quality, unless specified as such. It is the contractor's responsibility to verify all utilities and their respective locations before excavating.

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. The contractor is instructed to contact KY 811 for the location of existing underground utilities. Contact shall be made a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY 811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom are to be contacted through their individual Protection Notification Center. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area. Non-compliance with these directives can result in the enforcement of penalties.

UTILITIES AND RAIL CERTIFICATION NOTE

Spencer County
Mile point: 4.639 TO 4.655
ADDRESS DEFICIENCIES OF KY 1169 BRIDGE OVER ELK CREEK. (108B00040N)
ITEM NUMBER: 05-10013.00

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

AT&T - Telephone

City of Taylorsville Sewer & Water - Water

LG&E KU - Electric

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

THE FOLLOWING FACILITY OWNERS ARE RELOCATING/ADJUSTING THEIR FACILITIES WITHIN THE PROJECT LIMITS AND WILL BE COMPLETE PRIOR TO CONSTRUCTION

City of Taylorsville Sewer & Water – Water will be relocating their lines and will be complete by April 15, 2019.

AT&T will relocate existing overhead line at end of bridge and will directional bore new line at end of bridge and will move existing pole at the west end of the bridge further from the road. They will be complete by April 15, 2019.

KU will transfer to the new AT&T pole at west end of bridge and will be complete by April 15, 2019.

UTILITIES AND RAIL CERTIFICATION NOTE

<p style="text-align: center;">Spencer County Mile point: 4.639 TO 4.655 ADDRESS DEFICIENCIES OF KY 1169 BRIDGE OVER ELK CREEK. (108B00040N) ITEM NUMBER: 05-10013.00</p>

THE FOLLOWING FACILITY OWNERS HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE OWNER OR THEIR SUBCONTRACTOR AND IS TO BE COORDINATED WITH THE ROAD CONTRACT

Not Applicable

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

Not Applicable

RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

No Rail Involvement Rail Involved Rail Adjacent

UTILITIES AND RAIL CERTIFICATION NOTE

Spencer County
Mile point: 4.639 TO 4.655
ADDRESS DEFICIENCIES OF KY 1169 BRIDGE OVER ELK CREEK. (108B00040N)
ITEM NUMBER: 05-10013.00

AREA FACILITY OWNER CONTACT LIST

Facility Owner	Address	Contact Name	Phone	Email
AT&T - Telephone	1350 E John Rowan Blvd Bardstown KY 40004	Scott Roche	5023484528	sr8832@att.com
City of Taylorsville Sewer & Water - Water	PO Box 279 Taylorsville KY 40071	Harold Compton	5024773235	hcompton@taylorsvillewater.org
LG&E KU - Electric	820 West Broadway Louisville KY 40202	Caroline Justice	5026273708	Caroline.Justice@lge-ku.com

GENERAL UTILITY NOTES AND INSTRUCTIONS APPLICABLE TO ALL UTILITY WORK MADE A PART OF THE ROAD CONSTRUCTION CONTRACT

Jefferson County SYP 5-10010.00

The contractor should be aware the following utility notes and Standard KYTC Utility Bid Item Descriptions shall supersede, replace and take precedence over any and all conflicting information that may be contained in utility owner supplied specifications contained in the contract, on plans supplied by the utility owner, or any utility owner specifications or information externally referenced in this contract.

Where information may have been omitted from these notes, bid item descriptions, utility owner supplied specifications or plans; the KYTC Standard Specifications for Road and Bridge Construction shall be referenced.

PROTECTION OF EXISTING UTILITIES

The existing utilities shown on the plans are shown as best known at the time the plans were developed and are to be used as a guide only by the Contractor. The Contractor shall use all means at his disposal to accurately locate all existing utilities, whether shown on the plans or not, prior to excavation. The contractor shall protect these utilities during construction. Any damage to existing utilities during construction that are shown or not shown on the plans shall be repaired at the Contractor's expense.

PREQUALIFIED UTILITY CONTRACTORS

Some utility owners may require contractors that perform relocation work on their respective facilities as a part of the road contract be prequalified or preapproved by the utility owner. Those utility owners with a prequalification or preapproval requirement are as follows:

SEE ATTACHED LISTING OF PREQUALIFIED CONTRACTORS

The bidding contractor needs to review the above list and look for a list of preapproved or prequalified contractors at the end of these general notes as identified above before bidding. Only contractors shown to be prequalified or preapproved by the utility owner on the following list(s) will be allowed to work on that utility as a part of this contract.

Any utility contractor that is not listed as prequalified or preapproved when the project is advertised for bid and wishes to be added must make request through the KYTC Contract Procurement website. The request should be made at least one week prior to the bidding deadline to allow for review and posting on the KYTC Contract Procurement website. A contractor is only considered prequalified or preapproved when

published on the KYTC Contract Procurement website. Contractors that contact the utility owner directly for preapproval or prequalification without contacting KYTC will not be considered for preapproval or prequalification for this contract. Contractors that are not prequalified or preapproved through KYTC before the bidding deadline will not be considered for prequalification or preapproval after bidding.

CONTRACT ADMINISTRATION RELATIVE TO UTILITY WORK

All utility work is being performed as a part of a contract administered by KYTC; there is not a direct contract between the utility contractor and utility owner. The KYTC Section Engineer is ultimately responsible for the administration of the road contract and any utility work included in the contract.

SUBMITTALS AND CORRESPONDENCE

All submittals and correspondence of any kind relative to utility work included in the road contract shall be directed to the KYTC Section Engineer, a copy of which may also be supplied to the utility owner by the contractor to expedite handling of items like material approvals and shop drawings. All approvals and correspondence generated by the utility owner shall be directed to the KYTC Section Engineer. The KYTC Section Engineer will relay any approvals or correspondence to the utility contractor as appropriate. At no time shall any direct communication between the utility owner and utility contractor without the communication flowing through the KYTC Section Engineer be considered official and binding under the contract.

ENGINEER

Where the word "Engineer" appears in any utility owner specifications included in this proposal, utility owner specifications included as a part of this contract by reference or on the utility relocation plans, it shall be understood the "Engineer" is the Kentucky Transportation Cabinet (KYTC) Section Engineer or designated representative and the utility owner engineer or designated representative jointly. Both engineers must mutually agree upon all decisions made with regard to the utility construction. The Transportation Cabinet, Section Engineer shall make all final decisions in all disputes.

INSPECTOR OR RESIDENT PROJECT REPRESENTATIVE

Where the word “Inspector” or “Resident Project Representative” appears in the utility specifications included in this proposal, utility owner specifications included as a part of this contract by reference or on the utility relocation plans, it shall be understood the “Inspector” or “Resident Project Representative” is the utility owner inspector and KYTC inspector jointly. The Transportation Cabinet, Section Engineer shall make all final decisions in all disputes.

NOTICE TO UTILITY OWNERS OF THE START OF WORK

One month before construction is to start on a utility, the utility contractor shall make notice to the KYTC Section Engineer and the utility owner of when work on a utility is anticipated to start. The utility contractor shall again make confirmation notice to the KYTC Section Engineer and the utility owner one week before utility work is to actually start.

UTILITY SHUTDOWNS

The Contractor shall not shut down any active and in-service mains, utility lines or services for any reason unless specifically given permission to do so by the utility owner. The opening and closing of valves and operating of other active utility facilities for main, utility line or utility service shut downs are to be performed by the utility owner unless specific permission is given to the contractor by the owner to make shutdowns. If and when the utility owner gives the contractor permission to shutdown mains, utility lines or utility services, the contractor shall do so following the rules, procedures and regulations of the utility owner. Any permission given by the utility owner to the contractor to shutdown active and in-service mains, utility lines or services shall be communicated to the KYTC Section Engineer by the utility owner that such permission has been given.

Notice to customers of utility shut downs is sometimes required to be performed by the utility contractor. The contractor may be required; but, is not limited to, making notice to utility customers in a certain minimum amount of time in advance of the shut down and by whatever means of communication specified by the utility owner. The means of communication to the customer may be; but is not limited to, a door hanger, notice by newspaper ad, telephone contact or any combination of communication methods deemed necessary, customary and appropriate by the utility owner. The contractor should refer to the utility owner specifications for requirements on customer notice.

Any procedure the utility owner may require the contractor to perform by specification or plan note and any expense the contractor may incur to comply with the utility owner’s shut down procedure and notice to customers shall be considered an incidental expense to the utility construction.

STATIONS AND DISTANCES

All stations and distances, when indicated for utility placement in utility relocation plans or specifications, are approximate; therefore, some minor adjustment may have to be made during construction to fit actual field conditions. Any changes in excess of 6 inches of plan location shall be reviewed and approved jointly by the KYTC Section Engineer or designated representative and utility owner engineer or designated

representative. Changes in location without prior approval shall be remedied by the contractor at his own expense if the unauthorized change creates an unacceptable conflict or condition.

RESTORATION

Temporary and permanent restoration of paved or stone areas due to utility construction shall be considered incidental to the utility work. No separate payment will be made for this work. Temporary restoration shall be as directed by the KYTC Section Engineer. Permanent restoration shall be “in-kind” as existing.

Restoration of seed and sod areas will be measured and paid under the appropriate seeding and sodding bid items established in the contract for roadway work.

BELOW ARE NOTES FOR WHEN “INST” ITEMS ARE IN THE CONTRACT MEANING THE UTILITY COMPANY IS PROVIDING CERTAIN MATERIALS FOR UTILITY RELOCATION

MATERIAL

Contrary to Standard Utility Bid Item Descriptions, those bid items that have the text “**Inst**” at the end of the bid item will have the major components of the bid item provided by the utility owner. No direct payment will be made for the major material component(s) supplied by the utility company. All remaining materials required to construct the bid item as detailed in utility bid item descriptions, in utility specifications and utility plans that are made a part of this contract will be supplied by the contractor. The contractor’s bid price should reflect the difference in cost due to the provided materials.

The following utility owners have elected to provide the following materials for work under this contract:

No materials are being supplied by the utility owner(s). All materials are to be supplied by the contractor per bid item descriptions, utility specifications and utility plans.

SECURITY OF SUPPLIED MATERIALS

If any utility materials are to be supplied by the utility owner, it will be the responsibility of the utility contractor to secure all utility owner supplied materials after delivery to the project site. The utility contractor shall coordinate directly with the utility owner and their suppliers for delivery and security of the supplied materials. Any materials supplied by the utility owner and delivered to the construction site that are subsequently stolen, damaged or vandalized and deemed unusable shall be replaced with like materials at the contractor’s expense.

LWC PreQualified Contractors by Selected Category(ies)

Contractors Listed are prequalified in the Categories you requested:

ALL of these designated Categories: 4" - 16" Ductile Iron Water Mains	ANY of these designated Categories: 4" - 16" Ductile Iron Water Mains
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Bid Number **Amount Required:**

\$1.00

Advanced Paving & Construction Co.

Mr. Daniel Lee
 P O Box 125 PO Box 125
 Eastwood KY 40018

MBE No **WBE** Yes **HBE** No
Phone Number (502) 245-8935
Fax Number (502) 244-3620
Email Address advancedpaving@aol.com

American Contracting & Services, Inc.

Mr. Roy Zimmerman
 6200 E. Highway 62, Building 2503
 Jeffersonville IN 47130

MBE No **WBE** No **HBE** No
Phone Number 8122854123
Fax Number (812) 280-4415
Email Address rzimmerman@hughesgrp.com

Basham Construction & Rental Co.

Mr. Randall Basham
 1102 South Park Road
 Fairdale KY 40118

MBE No **WBE** No **HBE** No
Phone Number (502) 961-9001
Fax Number (502) 961-0998
Email Address bashamconst@yahoo.com

Brown Sprinkler Corporation

Mr. Chris Lang
 4705 Pinewood Road
 Louisville KY 40218

MBE No **WBE** No **HBE** No
Phone Number 5029686274
Fax Number 5029686278
Email Address chrislang@brownsprinkler.com

Buky Golf, Inc. dba Buky Construction

Mr. Greg Buky
 522 Bethel Church Road P.O. Box 105
 Mount Washington KY 40047

MBE No **WBE** No **HBE** No
Phone Number 5025922367
Fax Number 5025383193
Email Address Gbuky@aol.com

C Squared, Inc.

Mr. Chris Eichberger
7321 St. Andrews Church Road
Louisville KY 40214
MBE No WBE No HBE No
Phone Number (502) 363-0069
Fax Number (502) 363-2333
Email Address Chris@esquaredinc.com

C. P. Systems International, Inc.

Mr. Dave Mountain
12100 LaGrange Road
Louisville KY 40223
MBE No WBE No HBE No
Phone Number 9056557122
Fax Number 9056557122
Email Address dave@cp-systems.com

Cleary Construction Inc.

Mr. Ryan Cornwall
2006 Edmonton Road
Tompkinsville KY 42167
MBE No WBE No HBE No
Phone Number 270-487-1784
Fax Number 270-487-8029
Email Address ryancornwell@clearyconst.com

Cornell Harbison Excavating, Inc.

Mr. Roger Harbison
2014 Edwardsville Galena Rd
Georgetown IN 47122
MBE No WBE No HBE No
Phone Number (812) 923-5811
Fax Number (812) 923-1282
Email Address rcharbison@insightbb.com

Cottongim Enterprises, Inc.

Ms. Sara Day
5010 E. State Road 56
Salem IN 47167
MBE No WBE No HBE No
Phone Number 8128836602
Fax Number 8128836668
Email Address sd@8836602.com

Culver & Associates, Inc.

Ms. Kim Culver
7212 Ridge Creek Road
Louisville KY 40291
MBE No WBE No HBE No
Phone Number 5025506054
Fax Number (502) 491-8099
Email Address sculver@twc.com

Dan Cristiani Excavating Co., Inc.

Mr. Dan Cristiani
P O Box 2427
Clarksville IN 47131-2427
MBE No WBE No HBE No
Phone Number 5025581500
Fax Number (812) 282-9908
Email Address dan@dcexc.com

Debbie Sutherland Excavating

Ms. Debbie Sutherland KY 40165
585 Browningtown Road
Shepherdsville
MBE No **WBE** Yes **HBE** No
Phone Number (502) 955-7161
Fax Number (502) 543-3583
Email Address internet1921@windstream.net

Dirt Design Construction

Ms. Crystal C. Robison KY 40165-8964
12114 Bells Mill
Shepherdsville
MBE No **WBE** Yes **HBE** No
Phone Number 5026648801
Fax Number 5029559363
Email Address robison.crystal@yahoo.com

Excel Excavating, Inc.

Mr. Mike Flynn IN 47172
57110 Utica Sellersburg Road
Sellersburg
MBE No **WBE** No **HBE** No
Phone Number 8122074884
Fax Number
Email Address mikeflynn@excelexcavating.com

E-Z Construction Company, Inc.

Mr. Timothy Dues KY 40258
7420 Distribution Drive
Louisville
MBE No **WBE** No **HBE** No
Phone Number (502) 937-6855
Fax Number (502) 937-9726
Email Address timdues@ezconst.com

Filcon Construction LLC

Mr. Tim Filiatreau KY 40013
915 Deatsville Rd
Cox's Creek
MBE No **WBE** No **HBE** No
Phone Number 502-349-3222
Fax Number 502-349-9110
Email Address filcon@bardstown.com

Flynn Brothers Contracting, Inc.

Mr. Jason Rice KY 40232
P O BOX 32065
Louisville
MBE No **WBE** No **HBE** No
Phone Number (502) 364-9100
Fax Number (502) 363-1646
Email Address jrice@flynnbrothers.com

G.B.M.C., Inc.

Ms. Leah White IN 47129
564 Eastern Blvd.
Clarksville
MBE No **WBE** No **HBE** No
Phone Number 8122827740
Fax Number 812-282-7773
Email Address GBMCINC82@AOL.COM

Garney Companies, Inc.
 Mr. Stephen Ford
 200 Crutchfield Avenue
 Nashville TN 37210
MBE No **WBE No** **HBE No**
Phone Number 6153507975
Fax Number 6153506067
Email Address sford@garney.com

Hall Contracting of Kentucky, Inc.
 Mr. Richard Shutt
 3800 Crittenden Drive
 Louisville KY 40209
MBE No **WBE No** **HBE No**
Phone Number (502) 367-6151
Fax Number (502) 361-5771
Email Address rshutt@hallky.com

Herrick Company, Inc.
 Ms. Donna Herrick
 1385 Tracy Rd.
 Lawrenceburg KY 40342
MBE No **WBE No** **HBE No**
Phone Number 502-839-3484
Fax Number 502-839-0939
Email Address hci@dcr.net

Howell Contractors, Inc.
 Mr. Paul Bricking
 980 Helen Ruth Drive
 Ft. Wright KY 41017
MBE No **WBE No** **HBE No**
Phone Number 8593315457
Fax Number 8593316768
Email Address pbricking@howellcontractors.com

Hubert Excavating & Construction
 Mr. Lance Hubert
 2590 Bondville Road
 Salvisa KY 40372
MBE No **WBE No** **HBE No**
Phone Number 5026801281
Fax Number
Email Address hubertexcavating@gmail.com

Hussung Mechanical Contractors Inc. (HMC)
 Mr. Floyd Springer
 6913 Enterprise Drive, Suite B
 Louisville KY 40214
MBE No **WBE No** **HBE No**
Phone Number 502-375-3500
Fax Number 5023752377
Email Address springerf@hussung.com

Infrastructure Systems, Inc.
 Mr. Devin C. Schmidt
 260 W. Vincennes St.
 Orleans IN 47452
MBE No **WBE No** **HBE No**
Phone Number (812) 865-3309
Fax Number (812) 865-3009
Email Address dschmidt@netsurfusa.net

J. Fletcher Creamer & Son, Inc.
 Mr. Robert A. Flock
 1701 East Linden Ave
 Linden NJ 07036
MBE No **WBE** No **HBE** No
Phone Number 9089865688
Fax Number 9089253350
Email Address rflock@jfsosn.com

Jeff Robards Construction Inc.
 Mr. Jeff Robards President
 4320 North Preston Highway
 Shepherdsville KY 40165
MBE No **WBE** No **HBE** No
Phone Number 502-957-5909
Fax Number 5029575977
Email Address jrobards@jrc-inc.com

K. Hayes Limited
 Mr. Kunte Hayes, President
 431 S. Broadway, Suite 332
 Lexington KY 40508
MBE Yes **WBE** No **HBE** No
Phone Number 8593338887
Fax Number 8594750170
Email Address kunte@khayeslimited.com

Kelsey Construction, LLC
 Mr. Gobel Newsome
 212 Cedar Grove Road
 Shepherdsville KY 40165
MBE No **WBE** No **HBE** No
Phone Number (502) 955-1410
Fax Number (502) 921-9092
Email Address gobel@kelseyconstruct.com

Larry Clark Construction, Inc.
 Mr. Larry Clark President
 5427 Bardstown Road, Suite 2
 Louisville KY 40291
MBE No **WBE** No **HBE** No
Phone Number (502) 239-8400
Fax Number (502) 231-1700
Email Address LCC5427@yahoo.com

Lawrence Construction & Leasing, Inc.
 Mr. Timothy Mahoney,
 460 Shorland Drive
 Walton KY 41094
MBE No **WBE** No **HBE** No
Phone Number (859) 586-5758
Fax Number (859) 586-5594
Email Address lawrence.construction@outlook.com

Layne Heavy Civil, Inc. (FKA - Reynolds, Inc.)
 Mr. Les Archer, President
 4520 North State Rd. 37
 Orleans IN 47452
MBE No **WBE** No **HBE** No
Phone Number (812) 865-3232
Fax Number (812) 865-3075
Email Address Mike.green@layne.com and lisa.sowder@layne.com

Louis D. Powell Excavating, Inc.

Ms. Vicky Powell
2200 Elder Park Road
LaGrange KY 40031
MBE No **WBE** No **HBE** No
Phone Number 5022229940
Fax Number 5022650155
Email Address powell.louis@insightbb.com

Louisville Paving Company, Inc.

Mr. Doug Wood
1801 Payne St.
Louisville KY 40206
MBE No **WBE** No **HBE** No
Phone Number (502) 583-1726
Fax Number (502) 583-6375
Email Address dougw@loupaving.com

MAC Construction & Excavating Inc.

Mr. Bryan Winslow
1908 Unruh Court
New Albany IN 47151-6787
MBE No **WBE** No **HBE** No
Phone Number (812) 941-7895
Fax Number 8129410699
Email Address bryanw@macconstruction.com

Miller Pipeline Corporation

Mr. Kevin Miller
8850 Crawfordsville Rd.
Indianapolis IN 46234
MBE No **WBE** No **HBE** No
Phone Number (317) 293-0278
Fax Number (317) 293-8502
Email Address Kevin.Miller@millerpipeline.com

PACE Contracting LLC

Ms. Lori Weatherly
200 Willinger Lane
Jeffersonville IN 47130
MBE No **WBE** No **HBE** No
Phone Number (812) 283-5784
Fax Number (812) 283-5795
Email Address pacecontractingllc@sbcglobal.net

Phillips Brothers Construction, LLC

Mr. Clifton Smith
120 Insanity Lane
Vine Grove KY 40175
MBE No **WBE** No **HBE** No
Phone Number 2708776303
Fax Number 2708776305
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Scott & Ritter, Inc.

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Sedam Contracting Co., LLC

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Southern Pipeline Construction Co.

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S-Walk Inc. dba Seven Seas Construction

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T & C Contracting, Inc.

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Three T Construction

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Triplet Stripping Inc. dba TSI Paving

Mr. Keith Kramer,
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United Construction & Design, LLC

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Standard Water Bid Item Descriptions

W AIR RELEASE VALVE This bid item description shall apply to all air release valve installations of every size except those defined as “Special”. This item shall include the air release valve, main to valve connecting line or piping, manhole, vault, structure, access casting or doors, tapping the main, labor, equipment, excavation, proper backfill and restoration required to install the air release valve at the location shown on the plans or as directed in accordance with the specifications and standard drawings complete and ready for use. All air release/vacuum valves on a project shall be paid under one bid item regardless of size. No separate pay items will be established for size variations. Only in the case of the uniqueness of a particular air release valve would a separate bid item be established. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

BOLLARDS This item is for payment for furnishing and installing protective guard posts at above ground utility installations. A bollard may consist of, but not limited to, a steel post set in concrete or any other substantial post material. This item shall include all labor, equipment, and materials needed for complete installation of the bollard as specified by the utility owner specifications and plans. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

NOTE: A bid code for this item has been established in standard roadway bid items and shall be used for payment of this item. The bid code is 21341ND

W CAP EXISTING MAIN This item shall include the specified cap, concrete blocking and/or mechanical anchoring, labor, equipment, excavation, backfill, and restoration required to install the cap at the location shown on the plans or as directed in accordance with the specifications. This item is not to be paid on new main installations. This pay item is only to be paid to cap existing mains. Caps on new mains are incidental to the new main. Any and all caps on existing mains shall be paid under one bid item included in the contract regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W DIRECTIONAL BORE Payment under this item is made whenever the plans or specifications specifically show directional boring is to be utilized in order to minimize the impact of open cut for the installation of water main under streets, creeks, and etc. Payment under this item shall include the specified bore pipe, labor, and equipment. No separate payment shall be made for bore pipe installed in the bore whether used as a carrier pipe or an encasement of a separate carrier pipe. This item shall also include pipe anchors at each end of the bore when specified to prevent the creep or contraction of the bore pipe. Carrier pipe installed within a bore pipe shall be paid separately under pipe items. Payment under this item shall not be size specific and no separate bid items will be established for size variations. The bore pipe sizes to be included under this item shall be as shown on the plans and/or in the specifications. Any and all directional bores in each contract shall be paid under one directional bore bid item included in the contract regardless of size. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W ENCASUREMENT CONCRETE Includes all labor, equipment, excavation, concrete, reinforcing steel, backfill, restoration, and etc., to construct the concrete encasement of the water main as shown on the plans, and in accordance with the specifications and standard drawings. Payment under this item shall be in addition to the carrier pipe as paid under separate bid items. Carrier pipe is not included in this bid item. Any and all concrete encasement shall be paid under one bid item included in the contract regardless of the size of the carrier pipe or the volume of concrete or steel reinforcement as specified in the plans and specifications. No separate bid items will be established for size variations. Measurement of pay quantity shall be from end of concrete to end of concrete. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W ENCASUREMENT STEEL BORED This item shall include the steel encasement pipe size as specified on the plans and in the specifications, casing spacers, end seals, labor, and equipment to bore and install the encasement in accordance with the plans and specifications, complete and ready for use. The size shall be the measured internal diameter of the encasement pipe. The sizes of encasement to be paid under the size ranges specified in the bid items shall be as follows:

- Range 1 = All encasement sizes greater than 2 inches to and including 6 inches
- Range 2 = All encasement sizes greater than 6 inches to and including 10 inches
- Range 3 = All encasement sizes greater than 10 inches to and including 14 inches
- Range 4 = All encasement sizes greater than 14 inches to and including 18 inches
- Range 5 = All encasement sizes greater than 18 inches to and including 24 inches
- Range 6 = All encasement sizes greater than 24 inches

(Encasement sizes of 2 inches internal diameter or less shall not be paid separately; but, shall be considered incidental to the carrier pipe.) Payment under this bid item shall not include the carrier pipe. Carrier pipe shall be paid under a separate bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W ENCASUREMENT STEEL OPEN CUT This item shall include the steel encasement pipe size as specified on the plans and in the specifications, casing spacers, end seals, labor, and equipment to open cut and install the encasement in accordance with the plans and specifications, complete and ready for use. The size shall be the measured internal diameter of the encasement pipe. The size encasement to be paid under the size ranges specified in the bid items shall be as follows:

- Range 1 = All encasement sizes greater than 2 inches to and including 6 inches
- Range 2 = All encasement sizes greater than 6 inches to and including 10 inches
- Range 3 = All encasement sizes greater than 10 inches to and including 14 inches
- Range 4 = All encasement sizes greater than 14 inches to and including 18 inches
- Range 5 = All encasement sizes greater than 18 inches to and including 24 inches
- Range 6 = All encasement sizes greater than 24 inches

(Encasement sizes of 2 inches internal diameter or less shall not be paid separately; but, shall be considered incidental to the carrier pipe.) Payment under this bid item shall not include the carrier pipe. Carrier pipe shall be paid under a separate bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W FIRE HYDRANT ADJUST Includes all labor, equipment, excavation, materials, and backfill to adjust the existing fire hydrant using the fire hydrant manufacturer's extension kit for adjustments of 18" or less. Adjustments greater than 18" require anchoring couplings and vertical bends to adjust to grade. The Contractor will supply and install all anchor couplings, bends, fire hydrant extension, concrete blocking, restoration, granular drainage material, etc, needed to adjust the fire hydrant complete and ready for use as shown on the plans, and in accordance with the specifications and standard drawings. This also includes allowing for the utility owner inspector to inspect the existing fire hydrant prior to adjusting, contractor returning unusable fire hydrants to the utility owner warehouse and picking up a replacement hydrant. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete and ready for use.

W FIRE HYDRANT ASSEMBLY Includes all labor, equipment, new fire hydrant, isolating valve and valve box, concrete pad around valve box (when specified in specifications or plans), piping, anchoring tee, anchoring couplings, fire hydrant extension, excavation, concrete blocking, granular drainage material, backfill, and restoration, to install a new fire hydrant assembly as indicated on plans and on standard drawings complete and ready for use. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W FIRE HYDRANT RELOCATE This item includes all labor and equipment to remove the existing fire hydrant from its existing location and reinstalling at a new location. This item shall include a new isolating valve and valve box, concrete pad around valve box (when required in specifications or plans), new piping, new anchoring tee, anchoring couplings, fire hydrant extensions, concrete blocking, restoration, granular drainage material, excavation, and backfill as indicated on plans, specifications, and on standard drawings complete and ready for use. This item shall also include allowing for utility owner inspector to inspect the existing fire hydrant prior to reuse, contractor returning unusable fire hydrants to the utility owner warehouse and picking up a replacement hydrant for use, if the existing fire hydrant is determined unfit for reuse. No additional payment will be made for rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W FIRE HYDRANT REMOVE This bid item includes removal of an abandoned fire hydrant, isolating valve, and valve box to the satisfaction of the engineer. The removed fire hydrant, isolating valve and valve box shall become the property of the contractor for his disposal as salvage or scrap. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W FLUSH HYDRANT ASSEMBLY This item shall include the flushing hydrant assembly, service line, tapping the main, labor, equipment, excavation, backfill, and restoration required to install the flush hydrant at the location shown on the plans and in accordance with the specifications and standard drawings, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W FLUSHING ASSEMBLY This item shall include the flushing device assembly, service line, meter box and lid, tapping the main, labor, equipment, excavation, backfill, and restoration required to install the

flushing device at the location shown on the plans and in accordance with the specifications and standard drawings, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W LEAK DETECTION METER This item is for payment for installation of a water meter at main valve locations where shown on the plans for detection of water main leaks. The meter shall be of the size and type specified in the plans or specifications. This item shall include all labor, equipment, meter, meter box or vault, connecting pipes between main and meter, main taps, tapping saddles, casting, yoke, and any other associated material needed for installation of a functioning water meter in accordance with the plans and specifications, complete and ready for use. No separate payment will be made under any other contract item for connecting pipe or main taps. Any and all leak detection meters shall be paid under one bid item included in the contract regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete and ready for use.

W LINE MARKER This item is for payment for furnishing and installing a water utility line marker as specified by the utility owner specifications and plans. A line marker may consist of a post or monument of whatever materials specified and shall include markings and/or signage on same as specified by plans or specifications. This item shall include all labor, equipment, and materials needed for complete installation of the marker. This item shall be paid EACH (EA) when complete.

W MAIN POINT RELOCATE This item is intended for payment for horizontal and/or vertical relocation of a short length of an existing main at the locations shown on the plans. This bid item is to be used to relocate an existing water main at point locations such as to clear a conflict at a proposed drainage structure, pipe or any other similar short relocation situation, and where the existing pipe material is to be reused. The contractor shall provide any additional pipe or fitting material needed to complete the work as shown on the plans and specifications. The materials provided shall be of the same type and specification as those that exist. Substitution of alternative materials shall be approved by the engineer in advance on a case by case basis. New polyethylene wrap is to be provided (if wrap exists or is specified in the specifications to be used). If it is necessary that the pipe be disassembled for relay, payment under this item shall also include replacement of joint gaskets as needed. Bedding and backfill shall be provided and performed the same as with any other pipe installation as detailed in the plans and specifications. Payment under this item shall be for each location requiring an existing main to be relocated horizontally or vertically regardless of pipe size or relocation length. No separate pay items will be established for pipe size variations or relocation segment length variations. Water Main Relocate shall not be paid on a linear feet basis; but, shall be Paid EACH (EA) at each location when complete and placed in service. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced.

W METER This item is for payment for installation of all standard water meters of all sizes 2 inches ID or less as specified on the plans. This item shall include all labor, equipment, meter, meter box, casting, yoke, and any other associated material needed for installation of a functioning water meter in accordance with the plans and specifications, complete and ready for use. This item shall include connections to the new or existing water service line. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W METER ADJUST This item includes all labor, equipment, excavation, materials, backfill, restoration, and etc., to adjust the meter casting to finished grade (whatever size exists) at the location shown on the plans or as directed in accordance with the specifications and standard drawings complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W METER RELOCATE This item includes all labor, equipment, excavation, additional fittings, disinfection, testing, restoration, and etc., to relocate the existing water meter (whatever size exists), meter yoke, meter box, casting, and etc., from its old location to the location shown on the plans or as directed, in accordance with the specifications and standard drawings complete and ready for use. The new service pipe (if required) will be paid under short side or long side service bid items. Any and all meter relocations of 2 inches or less shall be paid under one bid item included in the contract regardless of size. Each individual relocation shall be paid individually under this item; however, no separate bid items will be established for meter size variations of 2 inches ID or less. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W METER VAULT SIZE RANGE 1 OR 2 This item is for payment for installation of an underground structure for housing of a larger water meter, fittings, and valves as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or access doors, the specified meter(s) valve(s), all piping, and fitting materials associated with installing a functioning meter and vault in accordance with the plans, standard drawings, and specifications, complete and ready for use. The size shall be the measured internal diameter of the meter and piping to be installed. The size meter vault to be paid under size 1 or 2 shall be as follows:

- Size Range 1 = All meter and piping sizes greater than 2 inches up to and including 6 inches
- Size Range 2 = All meter and piping sizes greater than 6 inches

This item shall be paid EACH (EA) when complete. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced.

W METER/FIRE SERVICE COMBO VAULT This item is for payment for installation of an underground structure for housing of a water meter and fire service piping, fittings, and valves as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or access doors, the specified meter(s), valve(s), all piping, and fitting materials associated with installing a functioning meter and fire service vault in accordance with the plans and specifications, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W METER WITH PRESSURE REDUCING VALVE (PRV) This item is for payment for installation of all standard water meters with pressure reducing valves (PRV) of all sizes 2 inches ID or less as specified on the plans. This item shall include all labor, equipment, meter, PRV, meter box, casting, yoke, and any other associated material needed for installation of a functioning water meter with PRV in accordance with the plans and specifications, complete and ready for use. This item shall include connections to the new or existing water service line. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced.

This item shall be paid EACH (EA) when complete.

W PIPE This description shall apply to all PVC, ductile iron, and polyethylene/plastic pipe bid items of every size and type to be used as water main, except those bid items defined as “Special”. This item includes the pipe specified by the plans and specifications, all fittings (including, but not limited to, bends, tees, reducers, plugs, and caps), tracing wire with test boxes (if required by specification), polyethylene wrap (when specified), labor, equipment, excavation, bedding, restoration, testing, sanitizing, backfill, and etc., required to install the specified new pipe and new fittings at the locations shown on the plans, or as directed, in accordance with the specifications and standard drawings complete and ready for use. No additional payment will be made for rock excavation. This bid item includes material and placement of flowable fill under existing and proposed pavement, and wherever else specified on the plans or in the specifications. **This item shall include all temporary and permanent materials and equipment required to pressure test and sanitize mains including, but not limited to, pressurization pumps, hoses, tubing, gauges, main taps, saddles, temporary main end caps or plugs and blocking, main end taps for flushing, chlorine liquids or tablets for sanitizing, water for testing/sanitizing and flushing (when not supplied by the utility), chlorine neutralization equipment and materials, and any other items needed to accomplish pressure testing and sanitizing the main installation.** This item shall also include pipe anchors, at each end of polyethylene pipe runs when specified to prevent the creep or contraction of the pipe. Measurement of quantities under this item shall be through fittings, encasements, and directional bores (only when a separate carrier pipe is specified within the directional bore pipe). Measurements shall be further defined to be to the center of tie-in where new pipe contacts existing pipe at the center of connecting fittings, to the outside face of vault or structure walls, or to the point of main termination at dead ends. No separate payment will be made under pipe items when the directional bore pipe is the carrier pipe. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W PLUG EXISTING MAIN This item shall include the specified plug, concrete blocking and/or anchoring, labor, equipment, excavation, backfill, and restoration required to install the plug in an existing in-service main that is to remain at the location shown on the plans or as directed in accordance with the specifications. Any and all plugs on all existing in-service mains shall be paid under one bid item included in the contract regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company’s Specifications. If the Company does not have specifications, KYTC’s Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

NOTE: This utility bid item is not to be paid on new main installations or abandoned mains. This pay item is to plug existing in-service mains only. Plugs on new mains are incidental to the new main just like all other fittings.

NOTE: Plugging of existing abandon mains shall be performed and paid in accordance with Section 708.03.05 of KYTC Standard Specifications For Road And Bridge Construction and paid using Bid Code 01314 Plug Pipe.

W PRESSURE REDUCING VALVE This description shall apply to all pressure reducing valves (PRV) of every size required in the plans and specifications except those bid items defined as “Special”. Payment under this description is to be for PRVs being installed with new main. This item includes the PRV as specified in the plans and specifications, polyethylene wrap (if required by specification), labor, equipment, excavation, anchoring (if any), pit or vault, backfill, restoration, testing, disinfection, and etc., required to install the specified PRV at the location shown on the plans in accordance with the specifications and standard drawings complete and ready for use. If required on plans and/or proposed adjoining DIP is restrained, PRVs shall be restrained. PRV restraint shall be considered incidental to the

PRV and adjoining pipe. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W PUMP STATION This item is for payment for installation of pumps and an above or below ground structure for housing of the pumps. This item shall include all pumps, piping, fittings, valves, electrical components, building materials, concrete, any other appurtenances, labor, equipment, excavation, and backfill, to complete the pump station installation as required by the plans, standard drawings, and specifications, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LUMP SUM (LS) when complete.

W REMOVE TRANSITE (AC) PIPE This item shall include all labor, equipment, and materials needed for removal and disposal of the pipe as hazardous material. All work shall be performed by trained and certified personnel in accordance with all environmental laws and regulations. Any and all transite AC pipe removed shall be paid under one bid item included in the contract regardless of size. No separate bid items will be established for size variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid LINEAR FEET (LF) when complete.

W SERVICE LONG SIDE This bid item description shall apply to all service line installations of every size bid up to and including 2 inch inside diameter, except those service bid items defined as "Special". This item includes the specified piping material, main tap, tapping saddle (if required), and corporation stop materials, coupling for connecting the new piping to the surviving existing piping, encasement of 2 inches or less internal diameter (if required by plan or specification), labor, equipment, excavation, backfill, testing, disinfection, and restoration, at the locations shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and ready for use. This bid item is to pay for service installations where the ends of the service connection are on opposite sides of the public roadway and the service line crosses the centerline of the public roadway as shown on the plans. The length of the service line is not to be specified. Payment under this item shall not be restricted by a minimum or maximum length. The contractor shall draw his own conclusions as to the length of piping that may be needed. Payment under this item shall include boring, jacking, or excavating across the public roadway for placement. Placement of a service across a private residential or commercial entrance alone shall not be reason to make payment under this item. Private or commercial entrances shall not be considered a public roadway in defining payment under this item. This pay item does not include installation or relocation of meters. Meters will be paid separately. No additional payment will be made for rock excavation or for special bedding required in rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W SERVICE SHORT SIDE This bid item description shall apply to all service line installations of every size up to and including 2 inch internal diameter, except those service bid items defined as "Special". This item includes installation of the specified piping material of the size specified on plans, encasement of 2 inches or less internal diameter (if required by plan or specification), main tap, tapping saddle (if required), corporation stop, coupling for connecting the new piping to the surviving existing piping, labor, equipment, excavation, backfill, testing, disinfection, and restoration, at the locations shown on the plans or as directed, in accordance with the specifications and standard drawings, complete and

ready for use. This bid item is to pay for service installations where both ends of the service connection are on the same side of the public roadway, or when an existing service crossing a public roadway will remain and is being extended, reconnected, or relocated with all work on one side of the public roadway centerline as shown on the plans. The length of the service line is not to be specified and shall not be restricted to any minimum or maximum length. Payment shall be made under this item even if the service crosses a private residential or commercial entrance; but, not a public roadway. Private or commercial entrances shall not be considered a public roadway in defining payment under this item. The contractor shall draw his own conclusions as to the length of piping that may be needed. This pay item does not include installation or relocation of meters. Meters will be paid separately. No additional payment will be made for rock excavation or for bedding required in rock excavation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W SERVICE RELOCATE This item is for the relocation of an existing water service line where a meter is not involved, and where an existing service line can easily be adjusted by excavating alongside and moving the line horizontally and/or vertically a short distance without cutting the service line to avoid conflicts with road construction. This item shall include excavation, labor, equipment, bedding, and backfill to relocate the line in accordance with the plans and specifications complete and ready for use. Payment under this item shall be for each location requiring relocation. Payment shall be made under this item regardless of service size or relocation length. No separate pay items will be established for size or length variation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W STRUCTURE ABANDONMENT This item is to be used to pay for abandonment of larger above or below ground water structures such as meter vaults, fire pits, pump stations, tanks, and etc. Payment under this item shall not be limited to size or scope; however structures with connecting pipes of 2 inches or less shall not be paid under this item; but, shall be considered incidental to water construction, (i.e., abandonment of standard water meters up to and including 2 inches would not be paid under this item). Payment under this item shall include all labor, equipment, and compacted fill or flowable fill for abandonment of the structure in place and restoration complete. No separate bid items will be established for size or structure variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W STRUCTURE REMOVAL This item is to be used to pay for removal of larger above or below ground water structures such as meter vaults, fire pits, pump stations, tanks, and etc. Payment under this item shall not be limited to size or scope; however structures with connecting pipes of 2 inches or less shall not be paid under this item; but, shall be considered incidental to water construction, (i.e., removal of standard water meters up to and including 2 inches would not be paid under this item). Payment under this item shall include all labor, equipment, and compacted backfill for removal of the structure and restoration complete. No separate bid items will be established for size or structure variations. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W TAPPING SLEVE AND VALVE SIZE 1 OR 2 This item shall include the specified tapping sleeve, valve, valve box, concrete pad around valve box (when required in specifications or plans), labor, and equipment to install the specified tapping sleeve and valve, complete and ready for use in accordance with

the plans and specifications. The size shall be the measured internal diameter of the live pipe to be tapped. The size tapping sleeve and valve to be paid under sizes 1 or 2 shall be as follows:

Size 1 = All live tapped main sizes up to and including 8 inches

Size 2 = All live tapped main sizes greater than 8 inches

Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W TIE-IN This bid description shall be used for all main tie-in bid items of every size except those defined as "Special". This item includes all labor, equipment, excavation, fittings, sleeves, reducers, couplings, blocking, anchoring, restoration, disinfection, testing and backfill required to make the water main tie-in as shown on the plans, and in accordance with the specifications complete and ready for use. Pipe for tie-ins shall be paid under separate bid items. This item shall be paid EACH (EA) when complete.

W VALVE This description shall apply to all valves of every size required in the plans and specifications except those bid items defined as "Special". Payment under this description is to be for gate or butterfly valves being installed with new main. This item includes the valve as specified in the plans and specifications, polyethylene wrap (if required by specification), labor, equipment, excavation, anchoring (if any), valve box and valve stem extensions, backfill, concrete pad around valve box (if required by specification), restoration, testing, disinfection, and etc., required to install the specified valve at the location shown on the plans in accordance with the specifications and standard drawings complete and ready for use. If required on plans and/or proposed adjoining DIP is restrained, valves shall be restrained. Valve restraint shall be considered incidental to the valve and adjoining pipe. This description does not apply to cut-in valves. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W VALVE ANCHOR EXISTING This bid item is intended to pay for installation of restraint hardware on an existing valve where no restraint exists to hold the valve in place to facilitate tie-ins and other procedures where restraint is prudent. This work shall be performed in accordance with water specifications and plans. This bid item shall include all labor equipment, excavation, materials and backfill to complete restraint of the designated valve, regardless of size, at the location shown on the plans, complete and ready for use. Materials to be provided may include, but is not limited to, retainer glands, lugs, threaded rod, concrete, reinforcing steel or any other material needed to complete the restraint. Should the associated valve box require removal to complete the restraint, the contractor shall reinstall the existing valve box, the cost of which shall be considered incidental to this bid item. No separate bid items are being provided for size variations. All sizes shall be paid under one bid item. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W VALVE BOX ADJUST Includes all labor, equipment, valve box and valve stem extensions (if required), excavation, backfill, concrete pad around valve box (when specified in specifications or plans), restoration, and etc., to adjust the top of the box to finished grade complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W VALVE CUT-IN This bid description is for new cut-in valve installations of all sizes where installation is accomplished by cutting out a section of existing main. This item shall include cutting the existing pipe, supplying the specified valve, couplings or sleeves, valve box, concrete pad around valve box (when required in specifications or plans), labor, equipment, and materials to install the valve at the locations shown on the plans, or as directed by the engineer, complete and ready for use. Any pipe required for installation shall be cut from that pipe removed or supplied new by the contractor. No separate payment will be made for pipe required for cut-in valve installation. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

W VALVE VAULT This item is for payment for installation of an underground structure for housing of specific valve(s) as required by the plans and specifications. This item shall include all labor, equipment, excavation, concrete, manhole castings or doors, the specified valve(s), all piping, and fitting materials associated with installing a functioning valve vault in accordance with the plans, standard drawing, and specifications, complete and ready for use. Please refer to the Utility Company's Specifications. If the Company does not have specifications, KYTC's Specifications shall be referenced. This item shall be paid EACH (EA) when complete.

**LOUISVILLE WATER COMPANY
TECHNICAL SPECIFICATIONS AND
STANDARD DRAWINGS FOR
PIPELINE CONSTRUCTION**

2008



**LOUISVILLE WATER COMPANY
LOUISVILLE, KENTUCKY**

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TECHNICAL SPECIFICATIONS AND
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2008



LOUISVILLE WATER COMPANY
LOUISVILLE, KENTUCKY

GREGORY C. HEITZMAN – PRESIDENT
JAMES H. BRAMMELL – VICE PRESIDENT, CHIEF ENGINEER

LOUISVILLE WATER COMPANY
TECHNICAL SPECIFICATIONS AND STANDARD DRAWINGS
FOR PIPELINE CONSTRUCTION
2008

The Technical Specifications and Standard Drawings are provided as a technical resource for the construction of water projects managed and contracted by the Louisville Water Company. The Technical Specifications and Standard Drawings will apply to water projects with 4-inch through 20-inch pipeline sizes. All work shall be performed in accordance with accepted workmanship practices and the Technical Specifications and Standard Drawings.

The Technical Specifications and Standard Drawings revisions shall become effective immediately upon formal adoption by the Chief Engineer of the Louisville Water Company and shall supercede all former Technical Specifications and Standard Drawings for water construction. Revisions are planned on a 5 year cycle. A copy of the current edition of the Technical Specifications and Standard Drawings may be obtained from the Chief Engineer at the 550 S. Third St. office or from the LWC Resource Coordinator, Construction Inspection Services at the 4801 Allmond Ave. office.

The Technical Specifications and Standard Drawings are under the direction of the President and Vice President / Chief Engineer on behalf of the Louisville Water Company and no part of the Technical Specifications and Standard Drawings may be reproduced or copied in any form without the written prior consent of the President or Vice President / Chief Engineer.

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No part of the Drawings or Technical Specifications may be reproduced or copied in any form without the written prior consent of The Louisville Water Company.

TECHNICAL SPECIFICATIONS FOR PIPELINE CONSTRUCTION

1. GENERAL REQUIREMENTS

1.1 Pre-construction Valve Inspection

Prior to the beginning of construction, the Contractor shall be responsible for locating and inspecting all existing valves associated with the work to be done. Specific valves and locations are shown in the table and on the valve cards which are a part of the SUPPLEMENTARY SPECIFICATIONS. Inspection work to be done on these valves shall be included in the Contractor's base bid, and shall consist of the following:

- A. Locate the valve in the field. Valve boxes that are paved over or buried shall be uncovered and made accessible.
- B. Inspect keytubes and operating nut. Keytubes shall be cleared of debris and the operating nut made accessible. Gate Keys must be placed and turned on Gate Valve Operating Nuts to ensure the functional operation of the valve. Company Inspector must be present when operating gate valves.
- C. Valve boxes (round tops) and lids shall be raised to grade where necessary.

Any valve determined by the Company to be inoperative shall be excavated and repaired or replaced by the Contractor as deemed necessary by the LWC Project Manager. Unit costs shall be as submitted by the Contractor in the BIDDER'S PROPOSAL form.

Except in cases of emergency, the Contractor shall not operate any valve without the direct supervision of the LWC Project Manager or Company Inspector. In an emergency, the Company Inspector and Company Radio Room shall be immediately notified by the Contractor. The Company Radio Room Direct Phone Line is (502) 368-0127.

1.2 Project Identification and Contractor Signs

The Contractor is required to install a 4 ft. x 8 ft. double-faced sign on each end of the project limits, unless on dead end roads where only one sign will be required. The sign shall be furnished by the Company and consist of a 4 ft. x 8 ft. sheet of one quarter inch (1/4") corrugated plastic board. The Contractor shall supply the materials to install the sign using two (2) – four inches (4") x four inches (4") x ten feet (10') posts set in concrete anchors (eighteen inches (18") diameter and three feet (3') depth, primed and painted white.

The Contractor shall supply the materials to mount the sign to the posts using three (3) – two and one-half inches (2 1/2") galvanized lag bolts with one inch (1") diameter galvanized washers on each post. A sign shall be mounted on both sides of the posts visible from traffic in both directions. The Contractor must install the signs prior to beginning any work and not remove the signs until final restoration is approved. Project Identification signs may not be required on new development projects on non-public roadways.

The Contractor is required to display LWC Contractor magnetic signs on both sides of all licensed vehicles when performing LWC project contract work. Company Inspectors will assign and collect magnetic signs on a project basis.

1.3 Traffic Control, Permits, and Regulations

1.3.1 Traffic Control

Wherever the excavation is in paving, the Contractor shall so conduct their operations that at least one lane of traffic is kept open at all times. Where the excavation is performed in an intersection, the work shall be completed in one work day, including backfilling and temporary bituminous pavement; temporary paving restoration shall be adequately maintained until permanent pavement is placed.

Traffic control shall be in accordance with the Federal Highway Administration Part VI of the Manual on Uniform Traffic Control Devices (MUTCD) latest edition.

Traffic control on streets shall be in accordance with requirements of appropriate City or County jurisdiction.

Traffic control on County streets shall be approved by the County Engineer.

Specific signing and traffic control is incidental to this project and will be set up at the pre-construction conference with representatives from the appropriate agencies. No extra payment will be made for placement of these traffic controls.

1.3.2 Encroachment Permits

Applicable permits shall be obtained by the Company from the appropriate agency: Louisville / Jefferson County Metro Government-Metro Works, Louisville and Jefferson County Metro Parks, Bullitt County Public Works Department, Oldham County Public Works Department, and / or Kentucky Department of Highways for installing water mains in public thoroughfares. The Contractor shall coordinate their time schedule for performing this work with the LWC Project Manager in order that the appropriate authority can be notified of the progress of construction. Special attention is directed to the working hours as specified by any of these traffic control departments in their respective permit.

A minimum fourteen (14) day advance notice of the need for a permit shall be provided to the LWC Project Manager. Copies of the permit(s), along with the approved traffic control plan, shall be on-site, readily available, legible and displayed in construction vehicles used at the project site. The Contractor will be responsible for obtaining appropriate permits for Joint-Bid Projects (i.e. Kentucky Transportation Cabinet (KTC) Projects, MSD Projects, or Developer Installed Projects, etc.)

The Contractor shall submit a traffic control plan to the LWC Project Manager with the request for the permit. As a minimum, the traffic control plan shall include lanes to be blocked, "No Parking" zones to be created, parking meters to be "bagged", method of controlling traffic, designated work hours, and proposed work schedule. Contractors must use certified traffic control devices and not deviate from the approved Traffic Control Plans unless directed by the Jurisdictional Authority and any such deviation shall be documented.

Unless specifically approved by the Permitting Agency, all roadways (including side roads) shall remain open, with traffic maintained in a safe manner. Outside the designated work hours, all travel lanes shall be temporarily restored and reopened to traffic, and all construction vehicles, equipment, and personnel removed from the roadway.

1.3.3 Crossing of Roads

With respect to all roadways, any and all water main crossings, fire hydrant crossings, and/or service crossings shall be bored, jacked, or tunneled as specified within these Contract Documents. Any alteration(s) to the above shall require written approval from both the Louisville Water Company and the Jurisdictional Authority prior to the work being performed. Any additions and/or deletions in roadway bores/jacks/tunnels from those included in the project's scope of work shall require compensation adjustment in accordance with the BIDDER'S PROPOSAL form's Supplementary Unit Prices (if applicable) or with CHANGES IN THE WORK, in the TERMS AND CONDITIONS (if said Supplementary Unit Prices are not applicable).

1.3.4 Parking Meter Permit

The Contractor shall arrange for and pay for a permit as required by Louisville / Jefferson County Metro Government Ordinance Title VII Traffic Code: Chapter 72: Parking Regulations for the bagging of all parking meters affected by the construction. Issuance and enforcement are administered by the Louisville / Jefferson County Metro Government. Information may be obtained at the following address. All costs shall be included in the Contractor's base bid.

Louisville / Jefferson County Metro Government
Department of Metro Works
531 Court Place
Fiscal Court Building
Louisville, Kentucky 40202

1.3.5 Soil Erosion and Sediment Control Permit

The Contractor shall abide by and shall arrange for and pay for any and all permits involving the Kentucky Division of Water regulations pertaining to erosion and sediment control requirements as administered by the Louisville and Jefferson County Metropolitan Sewer District (MSD) where required. The Contractor shall comply with the applicable provisions of KRS Chapters 220 and 224 of the State Water Pollution Control Laws and other applicable statutes relating to the prevention and/or abatement of water pollution.

Projects involving disturbed areas of more than one (1) acre shall require the Contractor to submit a "Notice of Intent" Letter to the Kentucky Division of Water, as well as an "Erosion and Sediment Control" plan submitted to MSD for MSD's approval where required.

In any event, regardless of the size of the project, the Contractor shall: exercise every reasonable precaution at all times to prevent water pollution by the erosion and deposition of sediment in streams, lakes, and reservoirs; conduct and schedule operations so as to avoid or minimize the muddying or siltation of areas adjacent to the construction site including streets, storm sewers, vacant lots, etc.; and not leave partially completed areas of work in a manner that will contribute to erosion during the period in which work is suspended.

For each stream crossing (a "stream" being defined as a so-called blue-line stream, either solid or broken, as shown on the United States Geological Survey (USGS) quadrangle map), the Louisville Water Company shall apply for a construction permit, or for an exemption thereto, from the Kentucky Division of Water, if applicable, (see Section 1.3.6). In any event, the Contractor shall: utilize adequate and environmentally-responsible construction practices, placing silt control prior to the start of construction and maintaining it until vegetation has been established; revegetate all disturbed areas upon completion of construction; maintain at least three and one-half feet (3 ½') of cover over the top of pipe with respect to the stream bed elevation; and obtain approval from MSD where required, prior to the start of construction, of an "Erosion and Sediment Control" plan.

LWC hereby gives notice to Contractors (and, Contractors are directed to provide notice to their employees, agents, assigns and Contractor's subcontractors, their employees, agents and assigns, and Contractor's suppliers, their employees, agents and assigns on the project site) that LWC holds an Erosion Prevention Sediment Control Plan General Permit issued by MSD, pursuant to the Louisville/Jefferson County Metro Government Code of Ordinance No. 186, Series 2007 (amending Jefferson County Ordinance Chapter 159), Erosion Prevention and Sediment Control, and, that certain activities require additional Individual Site Disturbance Permits, also issued by MSD, pursuant to the Louisville/Jefferson County Metro Government Code of Ordinance No. 186, Series 2007, Erosion Prevention and Sediment Control.

Pursuant to the requirements of that General Permit where required and any required individual site disturbance permits, LWC further gives notice to Contractors of the County's Erosion Prevention and Sediment Control Ordinance. LWC hereby expressly requires Contractors, their employees, agents, and assigns and Contractor's subcontractors, their employees, agents and assigns, and Contractor's suppliers, their employees, agents and assigns on the project site to comply with the provisions of that Ordinance and all permits, General and Individual, as part of the required compliance with "any federal, state or local government statute, ordinance, regulation and law which controls or limits in any way the actions of persons working on the project and which affects the purchase, installation, or disposition of any materials related to the project" set out in CONTRACTOR'S RESPONSIBILITIES, in the TERMS AND CONDITIONS.

This Contractor responsibility for compliance with the Erosion Prevention and Sediment Control Ordinance is in addition to those set out in CONTRACTOR'S RESPONSIBILITIES, in the TERMS AND CONDITIONS.

See Standard Drawing: 4501 in Appendix of Drawings.

1.3.6 Stream – Wetland Crossing Permit

The Kentucky Division of Water (KDOW) requires a General Water Quality Certification (W.Q.C.) Permit #12 for the crossing of streams or wetlands. It is not necessary to apply for an individual General Water Quality Certification (W.Q.C.) Permit #12 unless the stream is classified as an Outstanding, Exceptional, or Cold Water stream (Special Waters) by the KDOW. Listings of streams with these classifications can be found on the KDOW webpage: http://nrepcapps.ky.gov/special_waters/specialwaters.htm.

For subfluvial (streams and rivers) pipe crossings, a flood plain construction permit will not be required pursuant to KRS 151.250 if the following requirements of 401 KAR 4:050 Section 2 are met:

- No material shall be placed in the stream or in the flood plain of the stream to form construction pads, coffer dams, access roads, etc. during construction of pipe crossings.
- Crossing trenches shall be backfilled as closely as possible to the original contour.

- All excess material resulting from construction displacement in a crossing trench shall be disposed of outside the flood plain.
- For erodible channels, there must be at least three and one half (3.5) feet of backfill on top of all pipe or conduit (casing) points in the crossing.
- For non-erodible channels, pipes or conduits (casing) in the crossing shall be encased on all sides by at least six (6) inches of concrete with all pipe or conduit (casing) points in the crossing at least six (6) inches below the original contour of the channel.

For subfluvial (streams and rivers) pipe crossings greater than fifteen (15) feet in width:

- The water main shall be of special construction, having flexible, restrained, or welded watertight joints.
- Valves shall be provided at both ends of the water crossings so that the section can be isolated for testing or repair.
- Valves shall be easily accessible, not subject to flooding, and if closest to the supply source, be in a manhole with permanent taps made on each side of the valve to allow insertion of a small meter to determine leakage and for sampling purposes.

See Standard Drawing: 1608 in Appendix of Drawings.

1.4 Project Drawings and Specifications

1.4.1 General

The Contractor shall make available a set of record plans and specifications at the job site at all times.

1.4.2 Combined Specification

This specification discusses the installation of ductile iron pipe, PVC (polyvinyl chloride) pipe, ductile iron appurtenances, and other project specified piping and materials.

The type of pipe to be installed is specified in the SUPPLEMENTARY SPECIFICATIONS. The sections "PIPELINE MATERIALS", "INSTALLATION", and "SERVICE WORK" reference pipe of either type. Whenever pipe of one type is referenced, the specification pertains to this type only. When the type of pipe is not distinguished, the specification pertains to both.

1.5 Daily Materials Installed Form

The Contractor shall maintain the Daily Materials Installed forms supplied by the Company as a record of the pipe, fittings, and valves installed each day, and shall provide same to the Company Inspector daily. Pipeline materials shall be listed on the form in the same sequence as installed.

1.6 Video Recording

Prior to the start of construction, the Contractor shall provide one (1) original walking, narrative continuous video, or equal method approved by the LWC Project Manager, of any project along existing public roads, representative of the complete project area.

The video should include narration of the video footage, verbal descriptions of the locations shown, and at a speed which clearly shows the condition of all areas which could be effected by the project construction. The video recording must be acceptable to the LWC Project Manager.

2. CONDUCT OF WORK

2.1 Safety

Wherever necessary, to prevent caving during the excavating of sand, gravel, sandy soil, or other unstable material, the trench shall be adequately sheeted, braced, and drained. The trench shall be maintained in accordance with OSHA regulations so that workers may work thereon safely and efficiently and vehicular and pedestrian traffic, livestock, and animals are protected at the worksite. It is essential that the trench pumps discharge into natural drainage channels or drain toward storm drains in compliance with regulatory agency requirements.

Any excavated materials to be stockpiled, shall be piled in a manner that will not endanger personnel, property, adjacent properties and pedestrians, and will not obstruct driveways, sidewalks, or thoroughfares. Drainage lines shall not be obstructed.

With respect the entry of and/or working within confined spaces, the Contractor shall abide by the KOSHA Standards referenced by 803 KAR 2:300 thru 2:320 for General Industry and 803 KAR 2:240 thru 2:423 for Construction Standards, plus any and all additional related regulations required by the Commonwealth of Kentucky.

For questions or concerns relating to this matter, the Contractor shall contact the KOSHA-Kentucky Occupational Safety & Health Program, (phone (502) 564-3070).

2.2 Jobsite / Work Area Cleanliness

The Contractor shall routinely and regularly remove all dirt and rubbish resulting from its operations, and shall keep the jobsite or work area neat and tidy.

When its work is complete, it shall at once remove from the premises all tools and machinery belonging to the Contractor and all rubbish in connection with the work and render the jobsite or work area clean and free from all obstructions, delivering the work at completion whole, clean, tight, and ready for use, with the grounds in a neat and presentable condition.

2.3 Cooperation

The Contractor shall cooperate with local governing agencies, Kentucky Department of Highways, the Louisville Water Company, other utilities, and other Contractors to cause as little interference as possible, to avoid inconvenience and delay, and to facilitate prompt completion of the work.

The Contractor shall make special arrangements with the Company for valving off mains in the case of each connection or change in existing mains, and will conduct the work to cause the shortest possible interruption of service.

3. SITE WORK

3.1 Utilities

3.1.1 General

The Louisville Water Company has endeavored to locate sub-surface obstructions from available records, and such structures are shown on the project drawings. The Louisville Water Company does not guarantee the accuracy of the information there shown, although it has undertaken to present available data. The project drawings do not show the size or location of services.

Wherever the Contractor deems it necessary to determine the exact location of existing pipe, valve, or other underground structures, the Contractor may make any examinations that it may determine desirable in advance of the work and no added compensation will be paid. Only in the event that the LWC Project Manager by written order directs the Contractor to make additional exploration and excavation will extra compensation be allowed.

The Contractor's attention is directed to the Kentucky 811 (811 or 1-800-752-6007), which has been established to provide accurate locations of below-ground utilities.

The Contractor shall notify the Kentucky 811 two (2) business days in advance of any construction on this project. Additional information for Kentucky 811 can be found at www.kentucky811.org.

3.1.2 Utilities In Conflict with the Pipeline

In excavating trenches and installing pipe, where any existing utilities (including water pipe, sewer pipes, inlets and drains, gas pipes, electric lines and conduits, telephone lines and conduits, cable television lines and conduits, communication – fiber optic lines and conduits, service connections from these utilities, trolley tracks used for cathodic protection, traffic signal loop detector system or street light system), cross the trench, they shall be protected, supported, and maintained in service and restored to the condition in which they were found, all at no additional cost to the Company.

Where because of location or grade, such utilities cannot be replaced to occupy their original location, they shall be changed at no additional cost to the Company and as directed by the LWC Project Manager and utility owner to accomplish their original purpose with adequate provision for drainage over or under the pipe as circumstances require.

Where any utility facility, including service connections, is touched or endangered by the work, the utility management shall be notified by the Contractor, and the Contractor shall cooperate with the utility and pay the cost of protection and repair if damaged.

The Contractor shall protect all abandoned trolley tracks. If abandoned trolley tracks are damaged, contact Pipeline Integrity Group of Louisville Gas and Electric Company, at (502) 627-4427, prior to the repair of any cut or damaged rail. Repair, if required, shall be as directed by Louisville Gas and Electric Company.

3.1.3 Utilities Parallel to the Pipeline

Where utilities exist parallel to the water main and at a location which will interfere with its installation, they shall be handled as follows:

A. The affected utility shall be notified at least five days in advance, if possible, of the time necessary to do the work. The cost of temporary hook-up and any charges from the utility will be paid by the Contractor unless previously authorized by the Louisville Water Company.

B. Gas, sewers, telephone, or electric facilities shall be gently uncovered, and personnel from the pertinent utility must remove its facility after accomplishing a temporary hook-up to prevent loss of service. After the water main has been placed, the utility line will be reinstalled near its original location and grade by the utility personnel, and the Contractor will complete the necessary backfill.

3.1.4 Water/Sewer Main Separation

Water mains shall be installed in accordance with Kentucky Division of Water regulations and Recommended Standards for Water Works (Ten States Standards).

Water mains shall be installed at a minimum of ten feet (10') horizontally from any existing or proposed non-storm sewer main or non-storm sewer manhole; measured from the outside diameters. ("Non-storm sewer" is defined as sanitary sewer, combined sewer, septic tank, or subsoil treatment system.)

When crossing over or under a non-storm sewer main, the water main shall maintain one and one-half feet (1.5') vertical separation with one (1) full length of the water pipe located so that both joints of the water pipe will be as far from the non-storm sewer as possible. Special structural support for the non-storm sewer and water pipes may be required.

When ten feet (10') of horizontal separation or one and one-half feet (1.5') of vertical separation cannot be maintained, the LWC Project Manager must be notified for resolution. There shall be no deviation from the above ten feet (10') horizontal and one and one-half feet (1.5') vertical separation requirements when water pipes are crossing non-storm sewer force mains. Only in the event that the LWC Project Manager directs the Contractor by written order may changes be made to these minimum separations.

3.1.5 Water Service Line Depth and Water Service/Non-storm sewer Separation

Water service lines shall be installed at the standard depth of forty two inches (42"). Service lines crossing over or under a non-storm sewer shall maintain a minimum vertical separation of one and one-half feet (1.5').

See Standard Drawing: 1000 in Appendix of Drawings.

3.2 Laying Out the Work

The exact location of the work will be fixed by lines and elevations furnished by the LWC Project Manager on project drawings or specifications. The Contractor shall layout its own work, lines, measurements, bench marks, levels and grades, right-of-way and easement lines. The Contractor shall contact the LWC Project Manager prior to entering a property on which the pipeline is being installed in an easement to ensure that the easement has been obtained.

Unless otherwise directed by the Company Inspector, the Contractor shall complete each block of water main installation or, in the absence of intersecting streets, every 500 feet of water main installation in urban areas, every 1000 feet of water main installation in suburban / residential

areas, and 1500 feet in rural areas before proceeding. This includes chlorination, pressure testing, service work, and permanent restoration of all areas affected by the construction.

The pipelines shall be installed throughout the public rights-of-way or in easements as indicated on the project drawings. Generally, all work must be confined to the public way or easement provided; however, the Contractor may make arrangements for more operating room at its own expense and responsibility.

The Contractor will obtain written permission for use of private property by the property owner and furnish an affidavit to the LWC Project Manager that proper arrangements are made prior to occupation of the property. Otherwise, the Contractor shall conduct its operations in a manner that will not interfere with adjacent property owners.

3.3 Stakes

The Contractor shall furnish and set all stakes necessary in laying out the location of lines and grades, shall protect all stakes by suitable guard stakes, and shall be responsible for maintenance of all stakes after set.

3.4 Temporary Contractor Facilities

3.4.1 Power

The Contractor shall arrange and pay for all power required for construction purposes.

3.4.2 Heat and Enclosures

The Contractor shall furnish at its own expense, all temporary heat and/or enclosures that may be deemed necessary.

3.4.3 Light

The Contractor shall provide and pay for temporary electric light necessary for the execution of the work. This will include all necessary wiring, fixtures, and electric bulbs. Torches or other sources of light which cause damage by fire or by smoke shall not be used.

3.4.4 Water

The Contractor shall purchase water from the Company for use in construction operations. The Contractor shall include the cost of Temporary Water Service, and cost of water purchased, in the base bid.

3.4.4.1 Temporary Water Service

Water used by the Contractor or Company for disinfection, flushing, pressure testing, and leakage testing will be supplied by the Company.

To obtain a temporary water service meter, an application, with deposit, must be completed in Metering Services offices at 4801 Allmond Avenue between the hours 8:00am to 3:00pm Monday through Friday.

Routine questions regarding a temporary service meter or billing concerns may be directed to our Call Center, (502) 583-6610.

Use of temporary services must comply with all LWC Service Rules and Regulations. The Louisville Water Company prohibits the unauthorized use of fire hydrants and will work with law enforcement officials to pursue each incident to the extent allowed by law.

The Contractor is responsible to protect the fire hydrant meter assemblies and fire hydrant wrenches from loss and theft. Fire hydrant meter assemblies must be dismantled when not in use to protect from theft or freezing weather. Fire hydrant wrenches shall never be left unattended on a fire hydrant.

Fire Hydrants must be turned on completely open to prevent flooding through hydrant drain holes. Flow shall be regulated by the temporary meter assembly valve. The Contractor must notify the LWC Radio Room (569-3600, ext. 2700 & 2701) of all hydrants flowed between December 1 and March 15 so the hydrant can be winterized after use to prevent freezing. Some fire hydrants have a locking device attached to prevent unauthorized use.

The Contractor shall notify the LWC Project Manager or Company Inspector 48 hours in advance of the need to use such a fire hydrant so the lock can be removed by LWC personnel.

The Contractor shall immediately notify the LWC Project Manager or Company Inspector when the fire hydrant is no longer needed so the lock can be re-installed. It is the responsibility of the Contractor to properly protect the fire hydrant meter assembly, and to ensure that proper replacement techniques be applied, including placement of gasket to prevent water loss upstream of the meter.

3.4.4.2 Water uses excluded in Temporary Water Service

Any water from a fire hydrant must be metered. In some instances, the Company Inspector may approve non-metered water use (e.g. filling the main, flushing of hyper-chlorinated or potable water where practical.)

See Standard Drawing: 3600 in Appendix of Drawings.

3.4.5 Temporary Toilets

The Contractor shall provide in the vicinity of the work at locations satisfactory to the Company, and maintain in a sanitary condition, suitable temporary toilets for the use of the workers and Company personnel.

Upon completion of the work, the temporary toilets shall be removed and the premises left in a sanitary condition. The temporary toilets shall be satisfactory to the governing Board of Health jurisdiction.

3.4.6 Temporary Fencing

The Contractor shall supply and install temporary fencing when necessary to control livestock or property owner animals requiring containment. The Contractor shall make arrangements with the property owners for removal / containment of the animals during any removal of existing fencing and placement of the temporary fencing.

3.4.7 Contractor Communications

The Contractor shall supply a communication device such as a telephone, cellphone or mobile radio at the project site to allow direct communication with the LWC Project Manager or Company Inspector.

4. PIPELINE MATERIALS

4.1 Pipe and Fittings

4.1.1 Pipe and Fittings Furnished by the Company

Pipe to be furnished by the Company for this construction shall be as specified in the SUPPLEMENTARY SPECIFICATIONS, either PVC (polyvinyl chloride) pipe or cement-lined ductile iron pipe, each having push-on joints, or other materials as specified by the LWC Project Manager. Fittings will be ductile iron with mechanical joints.

4.1.2 Pipe and Fittings Furnished by the Contractor

Materials provided for "Furnish and Install" projects shall be specified in the SUPPLEMENTARY SPECIFICATIONS and approved by the LWC Project Manager prior to installation.

The Company Inspector shall verify all materials meet project specifications prior to installation and shall so certify in writing.

The Contractor retains ownership of all Contractor furnished materials under "Furnish and Install" contracts and materials not installed cannot be returned to the Louisville Water Company.

4.2 Furnished to the Contractor

4.2.1 Materials

All PVC (polyvinyl chloride) or ductile iron pipe, bends or elbows, reducers, adapters, restraining tie rods, sleeves, rubber gaskets and other joint materials, tee bolts and gaskets for mechanical joint and special fittings, gate valves, butterfly valves, air relief valves of all sizes and descriptions including corporation cocks, copper service lines, fittings, concrete blocks, valve boxes, casing pipe, polyethylene wrap, cleaning pigs, and fire hydrants will be furnished by the Company. The Contractor shall requisition and haul, on appropriate vehicles, these materials from the Company warehouse to the points of their respective installation.

The Contractor shall protect pipe and fittings to avoid vehicle exhaust, debris, and damage during transit from the LWC warehouse to being installed.

As referenced in the current edition of the Company's "Process for Job Site Delivery of Line Pipe" Document, a copy of which is available from the LWC Project Manager, pipe delivery from the pipe manufacturer to the jobsite is available if the Contractor makes arrangements as stated in said Document.

4.2.2 Requisition and Return of Materials

The Contractor shall requisition and return materials on the Company provided forms or warehouse computer software program, and shall account for or promptly return all materials so requisitioned.

Any unused materials shall be returned within five (5) working days after the date of completion of the work as specified by the Company Inspector. The cost of any unused materials not returned to the warehouse by this date shall be billed to the Contractor.

Below is a list of guidelines to draw or return materials from the Company's Allmond Avenue warehouse:

- A. Call (502) 569-3600, extension 3633 to make an appointment with the Warehouse. Appointments are scheduled for 30 minutes in length. Fax a copy of the materials list to the warehouse at 569-0812.
- B. Appointments, including standing appointments, will be scheduled on a first-come first-served basis. Appointments are not required for emergency situations, but must be approved by the LWC Project Manager.
- C. Issues and returns would be considered equal in regard to scheduling.
- D. Warehouse office hours are 7:30 a.m. - 4:00 p.m., Monday thru Friday (except Company holidays). Appointments are scheduled from 8:00 a.m. - 2:00 p.m.
- E. All returned material must be in the same condition as it was when issued - clean and with all accessories. Returns of dirty, corroded, and/or rusted material, and/or fittings missing accessories, or otherwise damaged shall not be accepted.

- F. The Contractor shall not return cut pieces of pipe to the LWC Warehouse. Contractors shall make best use of pipe, minimize cut pieces of pipe and shall not install more than two (2) pieces of cut pipe adjacent in a straight run. Only whole – uncut pipe may be returned to the LWC Warehouse and it must be clean and in good condition.

4.2.3 Loading and Unloading Procedures

Refer to PIPE AND PIPE APPURTENANCES FURNISHED BY THE COMPANY, in the TERMS AND CONDITIONS.

4.2.4 Equipment

For pressure and leakage testing, the Company shall issue a test pump and meter kit to the Contractor. Contractors may furnish their own test pump if equipped with a quick-connect coupling to allow placement of the Company Inspector's pressure gauge.

The Contractor is to: notify the Gate Shop (502) 569-3600, ext. 2766, at the Warehouse at least two days in advance of the day of intended use; pick up the test pump kit between the hours to 7:30 a.m. and 3:30 p.m.; have the test pump kit for 48 hours at no charge (Saturdays and Sundays are excluded from the allowed time frame); and return the test pump kit to the Gate Shop within 48 hours of pick-up.

If outstanding for more than two days, beginning on the third day, a \$50.00/day rental fee will be charged to the Contractor; this fee shall be waived only if the Company Inspector notifies the Warehouse Office or the Gate Shop at the Warehouse of special circumstances.

The Contractor shall be held responsible for the test pump and all test kit contents, and shall be invoiced for all cleanup and/or repair costs. The Company does not loan or lease hoses and/or tools, including tapping machines.

4.3 Storage of PVC (Polyvinyl Chloride) Pipe

When storing PVC (polyvinyl chloride) pipe, caution should be exercised to avoid compression, damage, or deformation to the pipe, including the bell ends. Insure that the weight of the upper units does not cause deformation to the lower units. All pipe must be stored in a manner to prevent dirt, debris, foreign objects, or any other substance from entering the pipe.

5. EXCAVATION

5.1 Rock Excavation

5.1.1 Definition of Rock

Rock, for the purpose of this contract, shall mean boulders, pieces of concrete or masonry exceeding 300 pounds in weight, and solid ledge rock (usually limestone) which, in the opinion of the LWC Project Manager, requires: drilling and blasting; wedging and blasting; wedging, sledging, or barring; or breaking up with a power operated tool for its removal. All rock shall be Unclassified. Unclassified rock shall mean any rock which has to be removed for construction and the cost of removal shall be included in the base bid price.

5.1.2 Trench Dimensions

Trench rock excavation shall be based on a trench width of eighteen inches (18") wider than the nominal diameter of the pipe, equally spaced at nine inches (9") on each side of the pipe and a trench depth of six inches (6") below the outside bottom of the pipe.

5.2 Rock Soundings

The Louisville Water Company does not know or pretend to know, nor does it undertake to state, the nature of all materials which will be necessary to excavate, in order to construct the work contemplated herein. The Contractor is advised to perform rock soundings or subsurface investigations where feasible on all projects prior to bid.

The Contractor shall assume all risks arising from, or out of, the nature of all forms of materials necessary to be excavated, except as otherwise specified.

5.3 Rock Blasting Requirements

All blasting for excavations shall be conducted by a blaster licensed in the State of Kentucky in compliance with provisions of KRS 351 and KAR 803 and 805. Blasting will be permitted only after securing the approval of the LWC Project Manager and only when proper precautions are taken for the protection of persons or property. Any damage caused by blasting, including damaged or raised pavement, shall be repaired by the Contractor at their expense.

The Contractor shall abide by all Federal, State, and Local laws and regulations regarding the storage and use of blasting materials (KRS 351 and KAR 803 and 805). The hours of blasting will be fixed by the LWC Project Manager. A blasting log must be kept and a copy furnished to the Company.

5.4 Excavation in Streets and Parking Areas

5.4.1 Procedure

Wherever the excavation is in paving, whether in the streets or in parking lots, the Contractor shall so conduct their operations that at least one lane of traffic is kept open at all times. Where the excavation is performed in a traveled lane, the trench shall be made safe during non-working hours by installing backfill and temporary bituminous pavement, backfill and concrete subbase, or plates (see "Plating" Section 5.4.3).

Where the excavation is performed in an intersection, the work shall be completed in one work day, including backfilling and temporary bituminous pavement. Temporary paving restoration shall be adequately maintained until permanent pavement is placed.

Traffic warning signs shall be placed and maintained on the streets being crossed, in accordance with the applicable agency as described in "Traffic Control" (Section 1.3.1).

5.4.2 Twelve-Inch (12") Cutback Requirement

The Contractor shall make two pairs of straight paving cuts of uniform width: the first pair being along the edges of the anticipated trench location, to be performed prior to excavating the pipe trench; and the second pair being along the anticipated twelve-inch (12") cutback locations, to be performed upon completion of trench backfill placement up to the subbase bottom elevation and prior to subbase placement.

Sawcuts shall be of sufficient penetration of the pavement base to insure straight edges during pavement removal. Irregular edges shall be sawcut to provide straight edges at a uniform width.

Twelve-Inch (12") Cutback Requirement is not required when backfilling the trench with flowable fill (Controlled Low Strength Cementitious Material).

5.4.3 Plating

5.4.3.1 Traveled Lanes

In traveled lanes, the Contractor shall provide plates recessed flush with the pavement for any excavation and trenches must be backfilled to subbase prior to placing plates. Any lane that is open to the traffic at any time during the day is defined as a traveled lane.

5.4.3.2 Non-Traveled Lanes

In non-traveled lanes, the Contractor shall also provide recessed plates where required by the LWC Project Manager and as described in the SUPPLEMENTARY SPECIFICATIONS. Otherwise, for non-traveled lanes and parking lots, surface mounted plates, properly secured to pavement, shall be provided.

Recessed and surface mounted plates shall have a minimum thickness of one inch (1") and shall be placed on a minimum bearing area of one foot of pavement bordering the perimeter of the excavation.

All plates, whether or not in a traveled lane, are to have 45-degree beveled edges along the entire perimeter. All plates must have readily identifiable markings to reflect Contractor ownership.

All plates are to be recessed from November 1st thru March 31st, so as to minimize the potential hazards to snow removal vehicles.

If plates are unable to be recessed and must be pinned due to other utility encumbrances, the appropriate Road Maintenance Agency must be notified immediately.

See Standard Drawing: 4000 and 4100 in Appendix of Drawings.

5.5 Trenching

5.5.1 General

The Contractor shall make all excavations for pipe, blow-off connections, valves and vaults, etc. which may be required for this project. All excavations shall be backfilled or plated overnight with open pipe ends plugged or capped.

5.5.2 Alignment and Grade

The trench shall be excavated to the alignment and depth required and only so far in advance of pipe installation as the Company Inspector shall permit. All pipe shall be installed and maintained to the lines and grades shown on the project drawings.

5.5.3 Trench Width

The trench width shall be as narrow as practicable to permit the pipe to be installed and jointed properly with a minimum of nine inches (9") of separation between outside of the pipe and each sidewall of the trench. Trench width must allow for the backfill to be placed and compacted around the pipe. Vertical trench sides are desired where the nature of the excavated material and depth of trench will permit.

A trench width of eighteen inches (18") plus nominal pipe diameter shall be the pay width for any items of work for which compensation is made where trench width is a factor in computing the value of work done.

5.5.4 Trench Depth

The pipe trench shall be excavated to such depth as to provide for six inches (6") of depth under and a minimum forty-two inches (42") of cover over the outside of the pipe barrel. Unless otherwise specified, the trench shall have a flat bottom conforming to this grade. The trench bottom shall be so excavated at the bells, so that the barrel of the pipe will have a bearing for its full length.

Any part of the trench excavated below grade (grade being six inches (6") under the pipe) shall be backfilled to grade with the same backfill material used to bed the pipe or other material approved by the LWC Project Manager, and compacted to ninety percent of Modified Proctor as required in "BACKFILLING PROCEDURES AND TAMPING" (Section 7).

Unstable soil material shall be excavated from the trench, removed from the site, and backfilled and compacted as described above.

Depth of cover beyond that required above shall be provided where indicated on the project drawings with no additional compensation.

The pipe trench shall not be excavated to exceed five feet (5') of cover over the outside of the pipe barrel under normal conditions unless indicated on the project drawings.

Variations from these required depths will be allowed only on written authority from the LWC Project Manager.

5.5.5 Minimum Clearances

Boulders, large stones, and rock (including shale) shall be removed to provide a clearance of at least six inches (6") below all parts of the pipe, valves, or fittings and to provide a clear width of at least nine inches (9") on each side of all pipe and appurtenances.

Bell holes of ample dimension shall be dug to permit jointing to be made properly and to insure that the pipe is evenly supported throughout in length rather than on bells or couplings.

5.5.6 Contaminated Soil

In the event the Contractor suspects encountering contaminated soil (i.e., soils containing asbestos, PCBs, petroleum products, hazardous waste, radioactive material, and/or any other substance that presents a potential danger to persons or property exposed thereto), the Contractor shall take the following steps:

- immediately secure the work site to prevent access by unauthorized personnel;
- notify the Kentucky Department for Environmental Protection, if reportable, (reportable is when an actual spill or release of a hazardous material occurs or when there appears to be a threat of severe environmental harm), at (502) 564-2380 or 1-800-928-2380;
- immediately notify "Emergency Response" at 911;
- immediately stop all work in the vicinity of the contaminated soil, and notify the Company Inspector, the LWC Project Manager or the Company Radio Room at 569-3600 ext. 2700 or 2701; or 368-0127
- follow the instructions from the Kentucky Department for Environmental Protection for disposal of excavated soils which are contaminated.

- water lines installed or replaced in areas of organic contamination or in areas within 200 feet of underground or petroleum storage tanks or petroleum pipelines require ductile iron or other non-permeable materials and shall be used in all portions of the water line installation or replacement as approved by the LWC Project Manager.
- resume work on unaffected elements of the project.

5.5.7 Preservation of Landscape

In lawn, parks, and private property, the existing sod may, at the Contractor's option, be stripped and rolled to be saved and re-laid, or replaced with new sod of equal quality as existing. See "RESTORATION" (Section 11).

If trenching machines are used, care shall be taken to avoid damage to trees or existing structures above or below ground.

Trees and shrubs shown on the project drawings and labeled "PROTECT, DO NOT DAMAGE" are to be protected from any damage both above and below ground, and the property owner is to receive full remuneration for any damage. Trees at other locations shall not be damaged or removed without explicit instructions from the LWC Project Manager and owner or agency responsible therefore.

The project drawings may call for certain shrubs and trees in private roadways or easements to be transplanted until operations are completed and replaced in their original location or replaced with new stock.

5.5.8 Preservation of Historical Construction Materials

When historical construction materials (such as cobblestones, large brick, granite blocks, limestone, or other large stone building blocks used in the course of pavement, curbs, and sidewalks) are encountered in public streets or alleys, they shall be replaced with like material. The Contractor may request a waiver when this is not possible from the LWC Project Manager for approval.

5.5.9 Preservation of Boundary Monuments

Contractors shall be responsible for the location and protection of any boundary monuments locating property lines, property corners or right-of-way lines within project limits. If any monuments are removed or disturbed during construction, the Contractor will be responsible for replacement of the monuments by a Professional Land Surveyor of the State of Kentucky.

5.5.10 Archaeological

Contractors shall immediately stop work, if during the prosecution of work; they encounter any unidentified archaeological artifacts, skeletal remains, abandoned cemeteries or burial grounds within the work area and immediately notify the LWC Project Manager or Company Inspector.

6. INSTALLATION

6.1 Handling Pipe and Appurtenances

6.1.1 General

Proper equipment, tools, and facilities satisfactory to the LWC Project Manager shall be provided and used by the Contractor for the safe and convenient progression of the work. Slings used in handling the pipe shall be made of non-abrasive materials such as nylon. Chains or any sharp abrasive material shall not be used to lift or move pipe. Pipe fittings, valves, and other accessories shall at all times be handled with care to avoid damage.

The method of handling, hauling, and placing pipe in the trench shall be such as in no way will injure or damage the ductile iron pipe and coating or the PVC (polyvinyl chloride) pipe. All damage to pipe and/or appurtenances shall be paid for by the Contractor.

In loading and unloading, pipe shall be lifted in such manner as to avoid shock. Under no circumstances shall they be dropped. Forklifts' forks or other tools and equipment shall not be inserted into the barrels of pipe, valves or other fittings to lift or move them.

6.1.2 PVC (polyvinyl chloride) Pipe

When handling PVC (polyvinyl chloride) pipe, the Contractor shall avoid abrasion damage and gouging or cutting by metal surfaces or rocks, and any stressing of bell joints and damage of bevel ends.

Avoid severe impact, particularly in subfreezing temperatures. In subfreezing temperatures, caution is advised in handling to prevent impact damage.

6.2 Installing Pipe and Appurtenances

6.2.1 General

All pipe installation shall be done under the supervision of an experienced superintendent who will be constantly on the job to supervise the installation of all pipe and making of all joints.

All pipe, fittings, and valves shall be carefully lowered into the trench, piece by piece, in such a manner as to prevent damage.

Unless shown otherwise on the project drawings, PVC (polyvinyl chloride) and Ductile Iron pipe joints will be rubber ring gasketed bell end type.

The Contractor shall furnish all equipment and materials necessary to make all joints completely assembled, except as described in "Furnished to the Contractor" (Section 4.2).

All pipe shall require a six inch (6") undercut and a six inch (6") compacted depth layer of backfill to insure proper bedding for the pipe. These requirements are described in the sections "Trenching" and "BACKFILLING PROCEDURES AND TAMPING" (Sections 5.5 and 7, respectively).

The interior of all pipe, fittings, and other accessories shall be kept free from dirt and foreign material at all times. All pipe shall be clean and kept clean.

The exposed ends of pipe in the trench shall be closed by a suitable plug at all times when pipe installation is not actually in progress.

Pipe collars furnished by the Company may be used in areas under pavement where future service tapping locations are identifiable and required. Pipe collars shall have weep holes in the bottom section to allow drainage from the pipeline.

6.2.2 PVC (Polyvinyl Chloride) Pipe

All PVC (polyvinyl chloride) pipe installation shall be in accordance with AWWA Manual No. M23 "PVC Pipe - Design and Installation", unless otherwise specified herein.

Wherever either horizontal or vertical curves or angles are shown on the project drawings, or found to be needed, appropriate ductile iron bends shall be used with PVC (polyvinyl chloride) pipe.

Under no circumstances will the bending of PVC pipe be allowed.

Backfilling procedures and mechanical tamping of backfill material shall be strictly adhered to as specified in the "BACKFILLING PROCEDURES AND TAMPING" (Section 7) of these specifications.

6.2.3 Ductile Iron Pipe

All ductile iron pipe installation shall be in accordance with the current edition of AWWA Standard Specification C600, "AWWA Standard for Installation of Ductile Iron Water Main and Their Appurtenances", unless otherwise specified herein.

Wherever either horizontal or vertical curves or angles are shown on the project drawings, or found to be needed, appropriate ductile iron bends shall be used with ductile iron pipe.

When installing ductile iron pipe, joint openings not exceeding four degrees (4°) will be allowed.

Backfilling procedures and mechanical tamping of backfill material shall be strictly adhered to as specified in the "BACKFILLING PROCEDURES AND TAMPING" (Section 7) of these specifications.

Maximum Deflection for Full Length Ductile Iron Pipe @ 4 degrees
 (Push -on Joint Pipe)

Pipe Size (inches)	Maximum Offset (inches)	Maximum Offset (inches)	Approx. Radius of Curve Produced by Succession of Joints (feet)	Approx. Radius of Curve Produced by Succession of Joints (feet)
	Pipe Length = 18 ft.	Pipe Length = 20 ft.	Pipe Length = 18 ft.	Pipe Length = 20 ft.
4 in.- 20 in.	15 in.	16 in.	255 ft.	285 ft.

6.3 Boring and Tunneling

When boring is required, the Contractor shall use a boring tool of the proper size to form a tunnel for the purpose of installing the pipe from one excavation to the other without disturbing the surface. Steel casing pipe shall be provided to the Contractor by the Louisville Water Company. Where such methods are used, a plug or suitable closure shall be inserted in the end of the pipe to exclude any earth from the inside of said pipe.

Where it is necessary to cut the paved surfaces to accomplish the above boring beyond the limits of the excavation necessary to make the tap, the cost of making such pavement repairs shall be borne by the Contractor.

When the boring of trees is required as specified on the project drawings or specifications, the Contractor shall be responsible for the survival of the trees disturbed by the installation for a period of two (2) years after final contract payment for the project.

Whenever water main is to be installed through casing pipe, the water main shall be ductile iron pipe with restrained joints. Steel casing pipe and ductile iron restrained in the pipe, both to be installed by the Contractor, will be furnished by the Louisville Water Company at its Allmond Avenue warehouse.

When ductile iron restrained-joint pipe is installed in casing pipe, casing runners shall be used to prevent damage during installation and to provide long term support. Pipe shall not rest on bells. Casing runners shall provide sufficient height between bell joint and casing wall and should be fastened securely to the pipe.

Unless otherwise stated in the BIDDER'S PROPOSAL form and/or the SUPPLEMENTARY SPECIFICATIONS, there shall be three (3) casing runners for each typical 18-foot pipe length, to be placed at the 3-foot, 9-foot, and 15-foot locations. Ends of casing pipes must be grouted or End Seals installed to prevent debris and seepage from entering the casing pipe and extend a minimum of five (5) feet beyond the edge of pavement.

Pipe may be installed in the casing using winch-drawn cable or jacking. Exercise care to avoid damage to the pipe, bell joints, and polywrap.

For ease of installation, use a lubricant such as flax soap or drilling mud between casing runners and casing. Do not use petroleum products such as oil or grease.

Any rock encountered in the construction of bore pits and/or receiving pits shall be unclassified.

If voids shall develop or if the excavation is greater than the outside diameter of the casing pipe or tunnel liner by more than approximately one inch (1"), they shall be filled by pressure grouting. In the case where sections of casing pipe are field welded in order to meet the plan requirements, the Contractor shall weld the casing pipe fully around the entire circumference of the casing pipe and make the casing pipe available for weld inspection prior to installation of the water main.

All interior weld beads or slag shall not extend more than 3/32 inch from the interior pipe face.

See Standard Drawing: 1500 in Appendix of Drawings.

6.4 Mechanical and Push-on Joint Assembly

6.4.1 General

All rubber-gasket joints for Ductile Iron pipe shall be made in accordance with the current edition of AWWA Standard Specifications C111 "Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings", as recommended by the manufacturer, and as described in the following Sections: 6.4.2; 6.4.3; and 6.4.4.

All rubber-gasket joints for PVC (polyvinyl chloride) pipe shall be made in accordance with the current edition of AWWA Standard Specification C900 "Polyvinyl Chloride (PVC) Pressure Pipe, 4-inch Through 12-inch, for Water Distribution", as recommended by the manufacturer, and as described in the following Sections: 6.4.2; 6.4.3; and 6.4.4.

6.4.2 Mechanical Joint

The inside of the bell and the outside spigot end shall be thoroughly cleaned to remove oil, grit, excess coating, and other foreign matter from the joint, and then painted with a manufacturers approved lubricant.

The ductile iron gland shall then be slipped on the spigot end of the pipe with the lip extension of the gland toward the joint. The rubber gasket shall be painted with the lubricant and placed on the spigot end with the thick edge toward the gland. The entire section of pipe shall be pushed forward to seat the spigot end in the bell.

The gasket shall then be pressed into place within the bell with care being taken so that the gasket shall be evenly located around the entire joint.

The ductile iron gland shall then be moved along the pipe into position for bolting, all of the bolts inserted, and the nuts screwed up tightly, with the fingers. Nuts spaced 180 degrees apart shall be tightened alternately, in order to produce an equal pressure on all parts of the gland.

The torque applied for various sizes of bolts shall be as follows:

Mechanical Joint Bolt Torque Table:

5/8"	45-60 ft.-lbs
3/4"	75-90 ft.-lbs
1"	100-120 ft.-lbs
1-1/4"	120-150 ft.-lbs

Any mechanical joint restraints or gripper rings shall be retightened to Bolt Torque Table specifications no sooner than thirty (30) minutes after initial tightening.

6.4.3 Push-on Joint

The inside of the bell and the outside of the spigot end shall be thoroughly cleaned to remove oil, grit, excess coating, and other foreign matter. If placement of the gasket occurs in the field, the circular rubber gasket shall be flexed inward and inserted in the gasket recess of the bell socket. A thin film of gasket lubricant shall be applied to the spigot end of the pipe.

Lubricant shall be applied evenly over the entire surface requiring lubrication, but avoid using an excess amount. Use only lubricant supplied by the pipe manufacturer. Failure to do so may promote bacterial growth or damage to the gaskets or the pipe.

Correct alignment of the pipe is essential for ease of assembly. The spigot end of the pipe shall be entered into the socket with care to keep the joint from contacting the ground.

The PVC (polyvinyl chloride) pipe shall be inserted into the bell or coupling by application of firm and steady pressure by hand or by block assembly until the spigot end slips through the gasket. PVC pipe shall be assembled by hand or with the use of bar and block. The spigot end of the pipe is marked by the manufacturer to indicate the correct depth of insertion. Over-insertion (over-belling) of the pipe shall not be permitted and can cause rolled gaskets, split bells, failure of hydrostatic pressure test, and damage to previously assembled joints.

Ductile iron pipe joints shall be completed by forcing the spigot end to the bottom of the socket using a pry bar, backhoe, jack-type tool, or other device approved by the LWC Project Manager. Field cut pipe shall be insertion depth marked and end beveled before assembly to assure that the spigot end is inserted to the full depth of the joint.

6.4.4 Field-Cut Pipe

Push-On Assembly: Field-cut ductile iron or PVC (polyvinyl chloride) pipe requires a square cut for proper assembly of mechanical joint or push-on joint. It is recommended that the pipe be marked around its entire circumference prior to cutting to insure a square cut.

The end shall be beveled by using a beveling tool, rasp or grinder as appropriate to assemble the push-on joint. Round-off any sharp edges on the leading edge of the bevel. Reinstall depth mark using original mark by manufacturer as a guide.

Mechanical Joint Assembly: When field-cut PVC (polyvinyl chloride) pipe is to be inserted into a mechanical joint end, the bevel shall not be reinstalled. The above-stated requirements for a square cut, rounding off sharp edges, and establishing a correct-depth marker shall be performed.

6.5 Tie-ins to Existing Mains

The Contractor shall install the necessary pipe and fittings for the connections to the existing mains, as shown on the project drawings, and shall make the connections complete, ready-for-use.

It is imperative that the sequence of work involving an interruption of service be such that all operations be completed and the new pipeline ready to be connected prior to shutting off existing mains that are serving customer connections. Except for filling of the main, tie-ins shall not be accomplished until the main has passed pressure testing and disinfection.

All pipe, fittings and materials installed for tie-ins or taps not exposed to pipeline dechlorination shall be disinfected with an adequate chlorine solution.

When connections to existing pressurized PVC water mains are to be made with a tapping sleeve and gate valve, the tapping sleeve and gate shall be installed a minimum distance of twenty-four inches (24") from any fitting end or pipe end.

The Contractor shall make that tap only after a hydrostatic pressure test of 125 psi is applied for fifteen (15) minutes with no leakage to the tapping sleeve and gate valve assembly. Before cutting an existing main under pressure, the Contractor shall ensure the adjacent existing valve and fittings are sufficiently secure.

The Contractor shall be responsible to provide the tapping coupon to the Company Inspector. The Contractor shall be responsible for a minimum advance notification of forty-eight (48) hours to the Company Inspector to make connections to existing mains.

The Contractor shall be responsible to make up to three (3) connection attempts in situations due to circumstances outside of their control such as inoperable valves or unavailable LWC personnel assistance.

Subsequently, water mains abandoned in-place shall be capped at all open ends as shown on the project drawings or as directed by the LWC Project Manager.

6.6 Transition of Pipe Materials (Ductile Iron Pipe and PVC Pipe)

All pipe material transitions (locations where ductile iron pipe is connected to PVC (polyvinyl chloride) pipe or vice versa) shall be made at a ductile iron fitting (tee, valve, coupler, sleeve, bend reducer, etc.).

The joining of pipe ends by inserting the spigot to bell of different pipe materials will not be allowed.

6.7 Removal of Asbestos-Cement (AC or Transite) Pipe

Any required cutting or tapping of asbestos-cement pipe shall be performed by qualified Louisville Water Company personnel, and shall be in compliance with all OSHA requirements. Pieces of asbestos concrete resulting from the work shall be double bagged, placed in a rigid container and disposed of in an approved landfill. This work shall be coordinated by the Contractor through the Company Inspector.

6.8 Setting Cast Iron Valves and Fittings

Valves, air valves, blow offs, and drains shall be assembled, and joints made up, both flanged and mechanical joint, as indicated on the project drawings. Valves twelve inches (12") and larger on ductile iron pipe, all valves on PVC (polyvinyl chloride) pipe, and all reducers must be anchored by coated and deformed reinforcing bars, as detailed per LWC Standard Drawing 1400, wrapped around each end of the valve or reducer, and cast in a cast-in-place concrete anchor block under each valve.

The weight of each valve shall be supported by solid pre-cast concrete bricks. Bricks should not be removed prior to concrete placement. Cast-in-place concrete shall then be poured up to the bottom of the valve. In no instance shall the weight of the valve be supported by the adjacent pipe.

If PVC pipe is used with iron fittings, the weight of each fitting shall be supported by a two feet (2') x two feet (2') width x one foot (1') depth cast-in-place concrete support block; rod anchorage is required at vertical bends which require the placement of the thrust block under the fitting.

The concrete support block shall bear against undisturbed earth, as shall the other above-mentioned types of concrete blocking.

The LWC Project Manager shall have the authority to direct the Contractor to add line valves if they are needed to facilitate the project and/or to keep service outages to an absolute minimum. In cases where the water main must be put into service as soon as possible, very early strength concrete can be specified by the LWC Project Manager for thrust restraint. See Standard Drawing: 1400 in Appendix of Drawings.

6.9 Polyethylene Wrap for Ductile Iron Pipe and Fittings

Polyethylene wrap shall be installed in accordance with the current edition of AWWA Standard Specification C105 (ANSI A21.5) for American National Standard for Polyethylene Encasement, unless otherwise specified herein.

Polyethylene wrap will be furnished by the Company in 500 foot rolls. The Contractor shall cut the roll in tubes 2 feet (2') longer than the standard length of pipe. Each tube shall be slipped over the length of ductile iron pipe, with centering to allow a one foot overlap on each adjacent pipe section. After the lap is made, slack in the tubing shall be taken up for a snug fit, and the overlay shall be secured with polyethylene tape. Each length of ductile iron pipe shall receive two separate polyethylene wraps as described above.

Ductile iron pipe shall not be wrapped for more than 5 days in advance of placement into the trench. Pipe to be wrapped shall include ductile iron and ductile iron restrained-joint pipe and iron fittings.

Odd shaped appurtenances such as valves, tees, fittings, and other ferrous metal pipeline appurtenances shall be wrapped by using a flat sheet of polyethylene. Wrapping shall be done by placing the sheet under the appurtenances and bringing it up around the item to be wrapped. Seams will be made by bringing the edges together, folding twice, and taping down. Each appurtenance shall receive two separate polyethylene wraps as described above.

Care will be taken when backfilling to prevent damage to the polyethylene wrapping. Sections of wrapping having cuts, tears, punctures, or other damage shall be repaired or replaced.

PVC (polyvinyl chloride) pipe requires no polyethylene wrap.

AWWA Standards for installing polyethylene wrap and manufacturers' recommended methods for installing polyethylene wrap are available for review at the office of the Louisville Water Company's Resource Coordinator, Construction Inspection Services, 4801 Allmond Avenue. See Standard Drawing: 1200 A-C in Appendix of Drawings.

6.10 Installation of Tracing Wire and Identification Ribbon for PVC Pipe

The Contractor shall install insulated #12 solid copper wire along with the PVC pipe. This wire shall be installed directly over the water main.

At each and every valve: the wire shall be directly connected to one of the valve joint bolts, and shall extend upward along the outside of the keytube but inside the round top frame. The wire shall be looped upward along the outside of the keytube to maintain the wire continuity. This wire shall be taped securely to the top of the pipe at the midpoint and bell of each section of pipe.

The wire shall also be connected to each end of the water main. The tracing wire shall be wrapped once around each copper or ductile iron service line. The wire shall be stripped of insulation and connected or wrapped with each valve, and service line.

Along with this wire, the Contractor shall also install a thin identification ribbon. Under paved or unpaved surfaces, this ribbon shall be installed eighteen inches (18") below the surface or finished grade and directly over the water main. Both wire and ribbon shall be supplied by the Louisville Water Company.

6.11 Cast Iron Frames and Lids

The Contractor shall set all cast iron frames and lids for valves, air valves, and vaults. These frames and lids shall be set to grade and maintained in the proper position for the duration of the period covered by this contract.

Cast iron frames and lids shall be removed on all discontinued vaults, and surfaces shall be restored in accordance with the appropriate requirements of the sections "BACKFILLING PROCEDURES AND TAMPING" and "RESTORATION" (Sections 7 and 11, respectively).

All out-of-ground cast iron frames and lids shall be returned to the Allmond Avenue warehouse.

6.12 Valve Boxes

Standard valve boxes consisting of keytubes, extension pipes, and round tops and lids shall be furnished by the Company and installed on all valves by the Contractor. These boxes shall be centered about the operating nuts, shall be vertical, shall be set to grade, shall be placed and maintained in the proper position, and shall be free of dirt or other matter for the duration of the period covered by this contract.

Styrofoam collars or polywrap tape may be placed around each valve box before placement of concrete and in such a manner to allow the valve box to be raised to grade without demolishing the concrete subbase.

Valve extensions shall be placed on gate valves operating nuts to reach not less than two feet (2') or more than three feet (3') of ground elevation. Valve extensions may be welded together to reach the appropriate length. Valve extensions are available at the LWC warehouse.

Cast iron screw type (two (2) piece Buffalo style) valve box, round top, and cover may be required in areas of vehicular traffic per project drawings.

In areas of bituminous pavement, round top shims shall be furnished by the Company and installed by the Contractor under the round tops. The shims shall be installed after the subbase has cured, and before placement of the bituminous pavement.

Round tops and lids on all valves that are to be abandoned shall be removed and returned to the Allmond Avenue warehouse. The keytube shall be filled and surfaces restored in accordance with the appropriate requirements of the sections "BACKFILLING PROCEDURES AND TAMPING" and "RESTORATION" (Sections 7 and 11, respectively).

6.13 Plugging Ends of Pipe

When work is stopped at the end of a day, a cast iron plug shall be installed in place in the open end of the pipe to maintain a water tight seal. If trench water or debris enters the pipeline, it shall be removed from the pipe before work proceeds. Permanent plugs or caps shall be inserted where shown on the project drawings, and shall be securely braced as shown on the thrust anchor details included on the detail sheet of the project drawings. Plastic tape over pipe ends will only be permitted on non-standard / oversized pipe with Company Inspector approval.

6.14 Thrust Anchors, Counterweights, and Restrained-Joint Hardware

The Contractor shall install concrete thrust anchors or counterweights (3,500 psi concrete) at all bends (11¼, 22½, 45, and 90 degrees), reducers, tees, offsets, gate valves and plugs to withstand maximum test pressure. The Contractor shall provide all labor and material to construct the thrust anchors, piers, and counterweights, for all fittings, both horizontal and vertical. These concrete thrust anchors shall be minimum dimensions and size as indicated on the thrust anchor schedule shown on the detail sheet in the project drawings.

If field conditions prevent standard concrete thrust anchors placement as shown detailed in project drawings, the LWC Project Manager must approve any modification. Concrete thrust anchors in solid rock trenches may be modified with LWC Project Manager approval.

The Company Inspector may require forming (plywood or steel) in order to properly locate and position concrete thrust anchors. Company-supplied restrained-joint hardware is not intended to be used in lieu of concrete thrust anchors and counterweights. Such hardware is to be used **ONLY** when it is necessary to return a water main to service immediately, as when making tie-ins or at the specific instructions of the Company.

Whenever restrained-joint hardware is used to restrain fittings, the Contractor must also pour a concrete thrust block. In no instances, shall restrained-joint hardware alone be accepted as a permanent thrust restraint. See Standard Drawing: 1400 in Appendix of Drawings.

7. BACKFILLING PROCEDURES AND TAMPING

7.1 General

In general, trench dimensioning and backfill materials shall be as follows: six inches (6") of vertical clearance with the bottom of the trench, and the subsequent layered placement of pit run sand, DGA or manufactured sand bedding along the bottom of the pipe; nine inches (9") of horizontal clearance with each side of the trench, and the subsequent layered placement of pit run sand, DGA, or manufactured sand backfill along each side of the pipe; the layered placement of pit run sand, DGA, or manufactured sand to the elevation of twelve inches (12") above the crown of the pipe; and, if in a lawn area, the remainder of the backfill to be common (but acceptable) fill, or, if in a paved and/or a to-be-paved area, the remainder of the backfill to be the layered placement of pit run sand, DGA, manufactured sand, #57 stone or flowable fill up to the bottom elevation of the respective pavement restoration scheme.

All bedding and backfill material shall be uniform and continuous for the entire trench excavation limits.

The total depth of cover (i.e., the vertical distance from crown-of-pipe to ground/pavement surface) shall be at least forty-two inches (42"). The cost of applicable backfill material, backfilling, and required tamping shall be covered in the base bid as shown on the **BIDDER'S PROPOSAL** form.

All backfill (except flowable fill) shall be properly compacted by pneumatic, vibratory, or other approved compaction equipment. A backhoe bucket is not an approved compaction device. Degree of compaction shall be at least ninety percent (90%) of Modified Proctor (ASTM D-1557), and the compaction effort shall be performed in a uniform and consistent manner. The Company reserves the right to conduct compaction testing and such testing will not relieve the Contractor of any future warranty responsibilities. When instructed by the LWC Project Manager, the Contractor shall excavate backfilled material to a particular grade for testing. Backfilled areas which do not pass this test shall be excavated and re-compacted until they meet compaction specifications. Areas excavated for testing shall be re-compacted in accordance with this compaction specification. The cost of this work shall be included in the base bid.

Appropriate and sufficient backfill material shall be furnished by the Contractor to replace material deemed unsatisfactory by the LWC Project Manager or the Company Inspector.

Unsatisfactory material includes unsuitable soil as described in "FINAL BACKFILLING" (Section 7.6) and frozen or exceptionally wet backfill material, and may include backfill material excavated for testing purposes or backfill material excavated for failure to meet compaction requirements. See Standard Drawing: 4300 in Appendix of Drawings.

7.2 Acceptable Backfill Materials

7.2.1 Pit Run Sand (Natural Sand)

Pit Run Sand is sand resulting from the natural degradation of rock and shall meet the material and gradation requirements of Section 804 Fine Aggregates of the current edition of the Kentucky Department of Highways "Standard Specifications for Road and Bridge Construction".

7.2.2 Dense Graded Aggregate (Kentucky DGA or Indiana #73)

Dense Graded Aggregate shall meet the material and gradation requirements of Section 805 Coarse Aggregates of the current edition of the Kentucky Department of Highways "Standard Specifications for Road and Bridge Construction".

7.2.3 Flowable Fill (Controlled Low Strength Cementitious Material).

Flowable fill, a quick-setting, cementitious, self-compacting, shrinkless fill material, may only be used with the prior written approval of the LWC Project Manager.

The mix design must be approved prior to placement by the LWC Project Manager. The 28-day compression strength of said fill shall not exceed 150 psi, and the minimum strength shall be 25 psi. The mix shall include sand, cement, fly ash with water not included as part of the volume mix. Fly ash shall have a ph value of no less than 7.0 and no greater than 12.5. The pipe shall be enveloped with pit run sand, manufactured sand or dense graded aggregate and backfilled in accordance with "Initial Backfilling" (Section 7.5).

7.2.4 Manufactured Sand (Kentucky 3/8" Manufactured Sand)

Manufactured Sand shall be the material resulting from the crushing and classification by screening, or otherwise, of rock and gravel. Manufactured Sand shall be washed and contain no fine particles and or dust.

The Contractor shall be responsible for all dust control associated with the use of Manufactured Sand. Manufactured Sand shall meet the material and gradation requirements of Section 804.08 Pipe Bedding of the current edition of the Kentucky Department of Highways "Standard Specifications for Road and Bridge Construction".

7.2.5 Kentucky #57 Stone (or Indiana #8 Stone)

Kentucky #57 Stone shall not be used as bedding or initial backfilling for pipe. Kentucky #57 Stone shall meet the material and gradation requirements of Section 805 Course Aggregates of the current edition of the Kentucky Department of Highways "Standard Specifications for Road and Bridge Construction".

7.2.6 Kentucky #3 Stone (or Indiana # 2 Stone)

Kentucky #3 Stone shall only be used for Fire Hydrant Drainage Pits. (See Section 9.2 Drainage Pit). Kentucky #3 Stone shall meet the material and gradation requirements of Section 805 Coarse Aggregates of the current edition of the Kentucky Department of Highways "Standard Specifications for Road and Bridge Construction".

7.2.7 By-product of trench rock excavator

The by-product of trench rock excavator equipment may be acceptable for pipe bedding and/or backfill material if prior written approval is granted by the LWC Project Manager.

The LWC Project Manager must review the material and be assured of the compaction ability of the material. The Contractor must wash the material thoroughly (i.e., no dust particles); and to sieve the material thoroughly so that no individual rock pieces exceed sieve size of one inch (1") (25.0mm).

7.3 Un-Acceptable Backfill Materials

Un-washed Manufactured sand, Black sand (coal or coke by-products), slag, or foundry by-products will not be allowed as pipe bedding and / or backfill material.

7.4 Bedding

For the entire length of the trench, the excavation shall provide a six inch (6") space below the pipe, which shall be placed and firmly compacted with approved backfill materials, pit run sand, manufactured sand or Dense Graded Aggregate, as specified by the Kentucky Transportation Cabinet Department of Highways Standard Specification for Road and Bridge Construction, (latest edition) "Fine Aggregates" or "Coarse Aggregates," to form a bedding for the pipe.

The bedding shall be excavated at bells, valves, and fittings so the barrel of the pipe will have a bearing for its full length.

See Standard Drawing: 4300 in Appendix of Drawings.

7.5 Initial Backfilling

Initial backfill should occur as soon as possible after the installation of pipe, so as to prevent the pipe from shifting. After the pipe has been placed on the bedding, pit run sand or Dense Graded Aggregate, shall be deposited in the trench by mechanical equipment and distributed in six inch (6") layers on both sides of the pipe for the full width of the trench, the trench width having nine inches (9") of horizontal clearance along each side of the pipe.

The pit run sand or Dense Graded Aggregate shall be tamped in six inch (6") layers and thoroughly compacted under the centerline and on each side of the pipe. Backfill shall be placed and tamped to a height of at least twelve inches (12") above the top of the pipe.

See Standard Drawing: 4300 in Appendix of Drawings.

7.6 Final Backfilling

When not under paved surfaces or surfaces where paving is intended, the remainder of the trench shall be backfilled with soil free from brush or vegetative matter, rocks larger than fist-size, pieces of concrete larger than fist-size, cinders, or any other matter which could prevent proper consolidation.

When under paved surfaces or surfaces where paving is intended, the remainder of the trench shall be backfilled for the full depth with pit run sand, Dense Graded Aggregate, or #57 stone as specified by the Kentucky Department of Highways Standard Specification for Road and Bridge Construction, (latest edition) "Fine Aggregates" or "Coarse Aggregates." At pavement crossings, this pavement backfill shall extend five feet (5') beyond each end of the paving or proposed paving.

Whether under paved or unpaved surfaces, the final backfill shall be tamped by pneumatic or other approved tamping equipment in successive layers of six inches (6") or less in height to finish grade or pavement restoration as required.

If Hydra-Hammer or Hoe-Pack type compactors are approved by the LWC Project Manager, compaction shall be performed in successive layers eighteen inches (18") or less in height to finish grade or pavement restoration. Backfill must be a minimum of two feet (2') above the water main before Hydra-Hammer or Hoe-Pack type compactors may be used. Water jetting will not be allowed except by written approval by the LWC Project Manager.

The total depth of cover (i.e., the vertical distance from crown-of-pipe to ground/pavement surface) shall be at least forty two inches (42") and no more than fifty-four inches (54") unless approved prior to installation by the LWC Project Manager.

See Standard Drawing: 4300 in Appendix of Drawings.

8. PLACING WATER MAIN IN SERVICE

8.1 General

After a section of main has been properly installed and valved, the main shall be filled, disinfected, pig cleaned, flushed, and pressure and leakage tested before being placed in service.

The Contractor shall provide adequate personnel to assist the Company Inspector on site for placing the water main in service.

The cleaning pig shall be inserted into the pipeline at the time of installation. Pipe soap shall not be applied directly to cleaning pigs. Pigs shall be supplied by Louisville Water Company.

Disinfection, cleaning, and flushing of the water main must result with subsequent water samples passing all Louisville Water Company water quality tests.

8.2 Filling and Disinfection of the Water Main

8.2.1 Filling of the Water Main

The main shall be chlorinated prior to beginning the pigging operation and shall be filled from downstream of the pig. Contractors must use Temporary Service Meters for filling mains to account for water usage and backflow prevention.

The main shall be filled with hyperchlorinated water for at least 24-hours prior to the beginning of flushing operations.

When the disinfection method is granular calcium hypochlorite (HTH or equal), the granular calcium hypochlorite (HTH or equal) must be applied into each section of pipe during installation and prior to filling the water main. See Section 8.2.2.

When the pipe is filled, air shall be expelled through fire hydrants, air valves, or flushing connections.

All flushing connections, fill connections, and discharge connections shall be installed by the Contractor at locations indicated on the project drawings or as directed by the LWC Project Manager or Company Inspector if a fire hydrant or service connection cannot be utilized.

If not specified to be furnished by the Company, particular components of flushing/discharge hardware shall be furnished by the Contractor.

8.2.2 Disinfection of the Water Main

New or relocated water mains shall be disinfected in accordance with the requirements of the Kentucky Division of Water, Natural Resources and Environmental Cabinet and AWWA Standard C651 upon completion of construction and before being placed in service.

The method to be used to achieve these requirements will be application of chlorine or chlorine compounds (calcium hypochlorite granules - HTH or equal) to each pipe length at the time of installation, or liquid sodium hypochlorite or other LWC Project Manager approved method.

The Contractor shall supply granular calcium hypochlorite or sodium hypochlorite as needed. Granular calcium hypochlorite shall conform to ANSI / AWWA B300 and contain a minimum of 65% per cent available chlorine by weight and be stored in a cool, dry, and dark environment to minimize its deterioration.

Granular calcium hypochlorite must meet NSF /ANSI Standard 60 requirements. Certified Manufacturers are listed on the NSF Product and Service Listings internet site at:
<http://www.nsf.org/Certified/PwsChemicals/Listings.asp?ChemicalName=Calcium+Hypochlorite&>

Sodium hypochlorite liquid shall conform to ANSI / AWWA B300 and contain a minimum of 15% per cent available chlorine by volume and the storage conditions and time must be controlled to minimize deterioration.

Sodium hypochlorite liquid must meet NSF /ANSI Standard 60 requirements. Certified Manufacturers are listed on the NSF Product and Service Listings internet site at:
<http://www.nsf.org/Certified/PwsChemicals/Listings.asp?ChemicalName=Sodium+Hypochlorite&>

The Contractor shall equally apply calcium hypochlorite granules (HTH or equal) throughout the entire section of pipeline during the installation or sodium hypochlorite to produce a concentration of at least fifty (50) ppm and a residual of at least twenty-five (25) ppm at the end of 24 hours, to be followed by thorough flushing; this is in compliance with 401 KAR 8:150 "Disinfection and Filtration", Sections 4(1) and 4(2).

The following amounts of calcium hypochlorite granules (HTH or equal) or sodium hypochlorite liquid (@ 12.5 %), per 100 linear feet of pipeline, should produce fifty (50) ppm of chlorine:

Amount of Granular Chlorine (HTH OR EQUAL) or Sodium Hypochlorite per 100 Linear Feet of Pipeline:

Pipe Size	Weight of Granular Chlorine (HTH or equal)	Volume of Granular Chlorine (HTH or equal)	Volume of Sodium Hypochlorite @12.5% solution
4"	0.75 ounce	1/8 cup	0.031 gallons
6"	1.50 ounces	1/4 cup	0.072 gallons
8"	2.75 ounces	3/8 cup	0.126 gallons
12"	6.00 ounces	7/8 cup	0.286 gallons
16"	10.75 ounces	1-1/2 cups	0.501 gallons
20"	16.75 ounces	2-1/2 cups	0.787 gallons

After the disinfection procedure has begun, the Contractor shall tag-out and not operate any valves, including those newly installed, without consent and presence of the LWC Project Manager or Company Inspector.

The Contractor shall perform the chlorination under the complete control of the LWC Project Manager or Company Inspector.

8.3 Pig Cleaning and Flushing the Water Main

8.3.1 Pig Cleaning the Water Main

When beginning the pigging operation, after opening the downstream (outlet) valve, the valve upstream of the pig shall be opened allowing the pig to move at approximately one (1) foot per second (FPS).

Hyperchlorinated water shall be discharged through the end of the pipeline from which the pig shall be removed in accordance with the requirements of Section 8.4, "DISCHARGE OF HYPERCHLORINATED WATER".

8.3.2 Flushing the Water Main

With respect to flushing, the Company's standard operating procedure is as follows. The flushing assembly is to be checked-out from the Company's meter shop by the Contractor with an initial meter reading taken and shall be returned by same after flushing operations have been completed.

The meter/check valve portion of the flushing assembly is not to be installed until after the completion of pigging operations (so as to protect the meter/check valve from internal damage caused by debris). Upon the completion of pigging operations and prior to the start of flushing operations, the meter/check valve is to be installed.

The Contractor is to supply a two inch (2") hose to be used during flushing operations. Upon the completion of flushing operations, a final meter reading will be taken when returned to the Company's meter shop.

No flushing device, blow-off, or air relief valve shall be directly connected to any non-storm sewer, storm sewer, or storm drain, and shall be located at a distance greater than ten (10) feet from any non-storm sewer.

See Standard Drawing: 1601, 1602, and 1603 in Appendix of Drawings.

8.4 Discharge of Hyperchlorinated Water

Discharge of hyperchlorinated water can be directed to combined or sanitary sewer facilities only after the LWC Project Manager has received approval from the Permit Section Supervisor of the Louisville and Jefferson County Metropolitan Sewer District or jurisdictional sewer agency authority. Flushing outside the Louisville and Jefferson County Metropolitan Sewer District service area shall be in accordance with Kentucky Division of Water requirements.

The Contractor shall provide 72 hours notice to the LWC Project Manager of intended discharge of hyperchlorinated water. In locations where discharge of hyperchlorinated water is restrictive, LWC Project Managers may approve tanker truck transportation for disposal at other sites. If the discharge of hyperchlorinated water can not be to a combined or sanitary sewer, the hyperchlorinated water shall be neutralized to a chlorine concentration of less than 0.019 ppm (mg/L) before discharge to a storm drain or onto the ground surface in a manner which will not violate 401 KAR 5:031 Surface Water Standards.

The Contractor shall be responsible for all chlorinated water disposal (neutralized to acceptable levels per regulations prior to release) and adherence to "LWC Best Management Practice & Procedures on Chlorinated Water Disposal" and 401 KAR 5:031 and 401 KAR 8:020. Contractor disposal methods must have LWC Project Manager approval.

The Company shall furnish all dechlorination hardware necessary for the dechlorination operation. The Contractor will be responsible to furnish hoses and fittings required for the flushing operation.

The LWC Project Manager or Company Inspector shall reserve the right to postpone the dechlorination operation in the event of an anticipated major rain event.

The LWC Project Manager shall reserve the right to dechlorinate water with calcium thiosulfate (Captor), sodium bisulfate, or other approved method supplied by the Company.

8.5 Pressure and Leakage Test

Before the hydrostatic test is begun, the Contractor shall: backfill all pipe; provide all temporary and permanent thrust anchor blocking; and install taps for releasing air at all points of highest elevation where no fire hydrant or flushing connection has been installed. All valves within the test area shall be fully open including valves on fire hydrant supply pipes.

It shall be the Contractor's responsibility to locate and repair any and all leaks that may develop.

The water main (ductile iron and PVC) and appurtenances shall be discharged of hyperchlorinated water, flushed and filled with potable water prior to performing the pressure and leakage test.

The water main shall then be subject to a hydrostatic pressure of 200 PSI for ductile iron pipe, 200 PSI for PVC DR-14, and 150 PSI for PVC DR-18 or at a pressure specified by the LWC Project Manager at the lowest point along the section being tested for a period of two (2) hours with the test pressure not dropping more than 5 PSI during the test. At elevated sections of the pipeline the minimum test pressure shall be 75% of the hydrostatic test pressure.

In conjunction with the hydrostatic test, a leakage test shall be conducted at the same pressure and for the same period of time.

The Contractor may furnish a test pump if approved by the Company Inspector. The test pump must be equipped with a quick-connect coupling to allow the connection of the Company Inspector's pressure gauge.

The leakage allowed will be as given by the following table. All of this testing shall be accomplished in the presence of the LWC Project Manager or Company Inspector.

Allowable Leakage per 1000 feet of Ductile Iron or PVC Pipeline in gallons/hour. (Average Test Pressure @ 200 PSI for Ductile Iron and PVC DR-14 or 150 PSI for PVC DR-18)

Pipe Diameter(inches)	4"	6"	8"	12"	16"	20"
D.I. or PVC - DR14 Leakage @ 200 PSI (gallon/hour)	0.38	0.57	0.76	1.15	1.53	1.91
PVC - DR 18 Leakage @ 150 PSI (gallon/hour)	0.33	0.50	0.66	0.99	1.32	1.66

All pipe, fittings, and other materials found to be defective under test shall be removed and replaced. These tests shall be repeated until satisfactory to the LWC Project Manager and Company Inspector. All visible leaks shall be repaired regardless of the amount of leakage.

The required testing apparatus, consisting of a gasoline motor driven pump, valves, pressure gauge, meter, test pump hose, and connections, shall be picked up and returned to the Company yard, the day the test is to be run.

The Contractor shall be responsible for all phases of testing the water main.

8.6 Coliform Monitoring

The water main shall be placed in service only after coliform monitoring (sampling and analysis) applicable to the line does not show the presence of coliform. If coliform is detected, repeat flushing of the line and coliform monitoring. If coliform is still detected, repeat disinfection and flushing as if the line has never been disinfected. Continue the described process until monitoring does not show the presence of coliform. The presence or absence of total coliform monitored by sampling and analysis as needed shall be determined for new, cleaned, repaired or relocated water line(s).

Water samples shall be taken within 1200 feet of each connection point to existing lines, at one (1) mile intervals, and at dead ends without omitting any branch of the new, cleaned, repaired or relocated water line(s).

Sample bottles shall be clearly identified with a unique project identification note and delivered to the LWC Water Quality Laboratory. The test results will be submitted to the cabinet (KDOW) on a monthly basis, no later than the 10th day of the following month. These results will include chlorine residual and total coliform negative results.

8.7 Air Relief Valves

Air relief valves or hydrants shall be placed at necessary high points in water mains where air can accumulate. The Contractor shall install air relief valves at all locations as identified on project plans. Additional air relief valves that may be required by the LWC Project Manager or Company Inspector will be compensated as described in CHANGES IN THE WORK, in the TERMS AND CONDITIONS.

Corporation stops for air relief valves shall be installed with tapping saddles to minimize pig damage when pig cleaning the pipe line.

8.7.1 Automatic Air Relief Valves

Where practical, the open end of an air relief pipe from automatic valves shall be extended a minimum distance of one foot (1') above grade and provided with a screened, downward-facing elbow.

Automatic air relief valves shall not be installed in situations where the flooding of the manhole or chamber may occur.
See Standard Drawing: 1603 in Appendix of Drawings.

8.7.2 Manual Air Relief Valves

The open end of an air relief pipe from a manually operated valve shall be extended to the top of the pit and provided with a screened, downward-facing elbow if drainage is provided for the manhole.

Use of manual air relief valves is recommended wherever possible.
See Standard Drawing: 1602 in Appendix of Drawings.

8.8 Leak Detection By-Pass Meter at Underwater Crossings

Leak Detection By-Pass Meters are required at all underwater crossings which are greater than fifteen feet (15') in width.

Water main valves shall be installed at both sides of the water crossing so that section can be isolated for testing or repair. The valves and meter vault shall be easily accessible and not subject to flooding. The valve closest to the supply source shall have permanent taps on each side to allow the installation of a meter to determine leakage and for sampling purposes. See Standard Drawing: 1608 in Appendix of Drawings.

9. FIRE HYDRANT

9.1 Materials and Installation

The fire hydrant installation shall consist of the following items, and shall be as shown on the detail sheet of project drawings.

The field location of fire hydrants shall be approved by the Company's Inspector prior to installation. Fire hydrants shall be installed to allow proper drainage. Fire hydrants located on project drawings in areas of poor drainage shall contact the LWC Project Manager or Company Inspector for movement to a suitable location.

The fire hydrant anchor tee and gate valve shall be installed as the main is installed. A tapping sleeve and gate valve shall be installed if the main is in service. Fire hydrant supply pipe (pipe, fittings, gate valve, and fire hydrant) must be secured to the water main for proper thrust restraint. All joints in the fire hydrant supply pipe (between fire hydrant and the main to which it is connected) shall be installed using a restrained joint method.

The fire hydrant supply pipe shall be ductile iron pipe, in all cases, regardless of the type of main being connected to. The fire hydrant supply pipe shall be a minimum diameter of six (6) inches and connected to a main with a minimum diameter of six (6) inches.

The fire hydrant shall be that furnished by the Company, designed for proper depth of bury, shall have a drain hole, and shall be so installed that the barrel will properly drain.

The fire hydrant shall be set plumb, and shall have the pumper nozzles set facing perpendicular to the curb. The bottom of the break-away flange bolts shall be located from two inches (2") to five inches (5") above finished grade, with the center of the nozzle eighteen inches (18") to thirty inches (30") above finished grade.

The fire hydrant shall be set to established grade, with the center of the barrel two feet (2') back of the face of the curb line (eighteen inches (18") behind the back edge of the curb for rolled curbs) or as directed, or in the absence of a curb approximately five feet (5') to fifteen feet (15') from the edge of the pavement, no more than fifteen feet (15') from a hard traveled surface, in accordance with governing fire department ordinances and accessible to the fire department. The base of the fire hydrant shall be set on a precast concrete block. The back of the elbow shall be well anchored against undisturbed earth by means of precast concrete blocks.

Two layers of polyethylene wrapping shall be installed from the fire hydrant anchor tee to the base elbow of the fire hydrant, including the fire hydrant valve, connecting pipe, and thrust restraints. The wrapping shall not impede the drain holes located near the bottom of the fire hydrant barrel.

Fire hydrant barrel extension kits shall not be used for new fire hydrant installations unless approved by the Company Inspector prior to requisitioning from the LWC Warehouse. No more than one (1) fire hydrant barrel extension kit shall be used on an existing fire hydrant when raising is required. All fire hydrant barrel extension kits must be installed in the presence of a Company Inspector.

Fire hydrant wrenches shall never be left unattended on a fire hydrant.

Fire Hydrants must be turned on completely open to prevent flooding through hydrant drain holes. Flow shall be regulated by the temporary meter assembly valve. The Contractor must notify the LWC Radio Room (569- 3600, ext. 2700 & 2701) of all hydrants flowed between December 1 and March 15 so the hydrant can be winterized after use to prevent freezing.

Some fire hydrants have a locking device attached to prevent unauthorized use. The Contractor shall notify the LWC Project Manager or Company Inspector 48 hours in advance of the need to use such a fire hydrant so the lock can be removed by LWC personnel. The Contractor shall immediately notify the LWC Project Manager or Company Inspector when the fire hydrant is no longer needed so the lock can be re-installed.

The Contractor shall notify the Company Inspector of any "Out of Service" fire hydrants. "Out of Service" fire hydrant tags shall be placed on the nozzle of all inoperable or "Out of Service" fire hydrants.

The Contractor shall paint fire hydrants after installation at the Company Inspector's request to cover scraped or chipped areas on the fire hydrant. Fire hydrant paint will be supplied by the LWC Warehouse. Fire hydrant attachment number labels shall not be painted over.

Fire hydrant attachment number labels shall be installed by Company personnel.

See Standard Drawing: 2000 in Appendix of Drawings

9.2 Drainage Pit

Whenever a fire hydrant is set, a drainage pit shall be excavated below each fire hydrant elbow and filled compactly with washed #3 stone under and around the elbow of the fire hydrant and to a level of two feet (2') above the base of the elbow. Dimensions of the pit shall be three (3) ft. long x three (3) ft. wide x four (4) ft. deep, with the pit centered about the barrel of the fire hydrant. Once the fire hydrant is installed and prior to filling the pit with washed #3 stone, the fire hydrant shall be pressurized, the drains flushed and then depressurized to ensure that the fire hydrant drains properly.

The top of the entire drainage pit shall be covered with geotextile fabric (four (4) fire hydrant blankets) before backfilling. Before this dry well (drainage pit) is covered with backfill, the Contractor shall notify the Company Inspector in order that each drainage system may be inspected.

Fire hydrant drainage pits shall not be connected to or located within ten (10) feet of non-storm sewers, storm sewers, or storm drains.

See Standard Drawing: 2000 in Appendix of Drawings

9.3 Removal of Fire Hydrants

Fire hydrants that are discontinued, abandoned or replaced shall be removed and returned with caps to the Allmond Avenue Warehouse. Surfaces shall be restored in accordance with Section 11: "RESTORATION".

9.3.1 Removal of Fire Hydrants on Active Water Mains

All discontinued Fire Hydrants shall be abandoned by turning off the Fire Hydrant connecting valve, excavating and removing the Fire Hydrant either by disconnecting and removing both the supply and Fire Hydrant at the Fire Hydrant gate valve or by removing the Fire Hydrant from the supply at the elbow of the Fire Hydrant.

If the supply pipe is removed from the gate valve, the gate valve shall be turned off and a mechanical joint plug installed on the gate valve.

If the fire hydrant is removed from the supply pipe at the elbow, a mechanical joint cap shall be installed on the abandoned Fire Hydrant supply pipe.

If a Mechanical Joint Cap will not fit on the fire hydrant supply pipe, the supply pipe may be sealed with concrete.

9.3.2 Removal of Fire Hydrants on Abandoned Water Mains

Fire hydrants which are abandoned with the water main, in lieu of removal by excavation and with approval of the LWC Project Manager, the fire hydrant may be cut off no less than one foot (1') below finished grade, the abandoned barrel filled with concrete, the fire hydrant gate valve turned off, round top and lid removed, and keytube filled with concrete.

10. SERVICE WORK

10.1 Notification of Customers

Notification of customers is the Contractor's responsibility with coordination of LWC Personnel. It is the intent of the Company not to interrupt service to existing customers, unless absolutely necessary. When it is necessary to interrupt service, all customers affected by shut-off shall be notified in person, or in cases where the customer cannot be contacted, by a LWC notification tag attached to the front door of their premises by the Contractor.

Such notification shall be made twenty-four hours prior to shut-off and with Company approval, allowing sufficient time for the customer to draw and reserve an ample supply of water. Notification tags are available from the Company.

10.2 Service Installation - General

A service installation is defined to include all work necessary to install the copper tubing or pipe and all related items from the main to the property line. The installation shall include, the following: tapping of the main; installing the corporation stop or gate valve; service line tubing or pipe; meter vault; cast iron frame and lid; water meter assembly; backfilling and restoring of paved and unpaved surfaces and flushing. Installation may require reconnection to existing service lines.

Excavation, backfilling, and restoring paved and unpaved surfaces shall be done in accordance with "Service Excavation at Main" (Section 10.12).

All taps in water mains shall be made by the Contractor, and corporation stops shall be inserted by means of a tapping machine in such manner that will permit continued conditions of water flow and pressure within these mains. The Contractor shall use care in inserting and tightening the corporation stop, and shall reimburse the Company for any damage or expense caused by any of their activities under this contract.

Wet tapping of water mains shall be required on all pipe.

10.3 Small Service Installation - Two Inches (2") and Smaller

During installation of corporation stops, the corporation stop shall not be turned using a pipe wrench. The corporation stop must be turned using a smooth jaw, adjustable crescent type wrench or open end wrench.

Special care shall be observed in handling the copper tubing so as not to kink, mash, or otherwise damage it. No such damaged tubing shall be installed. No bend shall be made in the tubing with a radius less than four inches (4"). Where under pavement, tubing shall be installed continuously and in one piece without intermediate joints or couplings except at the terminals and except where the continuous length to be installed exceeds one hundred feet (100') for 3/4" and 1" sizes.

All intermediate and terminal joints for 3/4" and 1" sizes of copper tubing shall be the flared type or compression type, using the proper tools for the sizes of tubing and types of fittings involved.

Service connections shall be installed so that the outlet is at an angle of 45° above the horizontal. A bend in the service line shall be provided to ensure flexibility and to accommodate the effects of loads.

Tubing shall extend from the meter setting assembly to the property line and thoroughly flushed for one (1) minute prior to connection to the customer service line.

For Double Setter meters the tail pipes of a service installation (where two meters are to be installed in one vault), shall be installed parallel for their entire length and at least eight inches (8") apart, and in no event shall they cross one another.

Long services are defined as services to meters on the opposite side of the street of the water main to which it is connected and shall be bored or jacked under pavements unless an open cut is approved by the LWC Project Manager.

The Contractor must verify the service size with the LWC Project Manager or Company Inspector where any service length is greater than one hundred feet (100').

Short services are defined as services to meters on the same side of the street as the water main to which it is connected.

See Standard Drawings: 3002, 3003, 3004, 3400, 3401, 3403, 3404, 3420, 3430, 3200, and 3202 in Appendix of Drawings

10.3.1 Tapping Ductile Iron –Pressure Class 350 Pipe for Small Service Installation - Two Inches (2") and Smaller

In the location where Ductile Iron –Pressure Class 350 Pipe will be tapped, the pipe shall be wrapped with three (3) layers of polyethylene compatible tape completely around the pipe to cover the area where the tapping machine and chain is mounted. The tap shall install the corporation stop directly through the tape and polywrap.

After the tap is completed on mains with polyethylene wrap, the Contractor shall repair and replace the polyethylene wrap to completely cover the main and corporation stop in accordance with the details in the Appendix of Drawings.

The service line shall be flushed for two (2) minutes through the meter stop before connecting to the meter. Once the corporation stop has been turned on, and prior to backfilling, the corporation barrel set nut may need to be securely tightened to prevent leakage.

The corporation stop and a minimum distance of three feet (3') of the copper service line shall be wrapped with polytape.

For ductile iron pipe Pressure Class 350 service outlets shall be made per the table below:

Service Installation Guide for Pressure Class 350 Ductile Iron Pipe

Pipe Size (inches)	Tap Size (inches)				
	¾	1	1 ½	2	>2
4"	tap	saddle	saddle	saddle	Requires Tapping
6"	tap	tap	saddle	saddle	Sleeve or Fitting
8"	tap	tap	saddle	saddle	" "
12"	tap	tap	saddle	saddle	" "
16"& 20"	tap	tap	tap	tap	" "

All direct taps require the installation of 2 to 3 layers of 3-mil thread sealant tape on the corporation stop. This guide is based on either a direct tap method or tapping saddle using an AWWA standard taper thread Corporation Stop.

See Standard Drawings: 3002, 3003, 3004, 3400, 3401, 3403, 3404, 3420, 3430, 3200, 3202 and 3804 in Appendix of Drawings

10.3.2 Tapping PVC Pipe for Small Service Installation - Two Inches (2") and Smaller

For PVC (polyvinyl chloride) pipe, service outlets of three quarter inch (¾") through two inches (2") shall be made with a tapping saddle.

Tapping saddle bolts shall be tightened with a torque wrench according to the saddle manufacturers' torque recommendations.

When installing a service to PVC, the Contractor shall use a shell cutter that is designed for DR14 (pressure class 200, AWWA C900) or DR18 (pressure class 150, AWWA C900) and one that will remove the material and retain the coupon. No twist drills will be allowed. The cutting tool must be sharp and without damage. The coupon must be delivered to the Company Inspector.

When tapping the PVC pipe under pressure, the pipe temperature shall be between 32° and 90° F.

The taps shall be located a minimum of twenty-four inches (24") from the joint of the PVC pipe, and, if installing more than one tap in one length of PVC pipe, the taps shall be staggered and a minimum of eighteen inches (18") apart, measured longitudinally. Taps shall not be made in an area of PVC pipe that shows damage.

The service line shall be flushed for two (2) minutes through the meter stop before connecting to the meter. Once the corporation stop has been turned on, and prior to backfilling, the corporation barrel set nut may need to be securely tightened to prevent leakage.

Tapping sleeves shall be assembled according to the manufacturers' instructions and must be supported independently of PVC pipe by precast concrete blocks during the tapping operation. The support shall be left in place, filling any voids such that the pad is bearing against undisturbed earth, and thrust blocks behind tapping sleeves shall be used as with other fittings.

When a service tap is made on a PVC water main, No. 12 copper tracer wire will be connected to the No. 12 copper tracer wire on the main and then wrapped, with insulation removed, around the copper service line or affixed to the tapping saddle.

See Standard Drawings: 3002, 3003, 3004, 3400, 3401, 3403, 3404, 3420, 3430, 3200, and 3202 in Appendix of Drawings

10.3.3 Tapping Ductile Iron Class 54 & 56 Pipe and Cast Iron Pipe for Small Service Installation - Two inches (2") and smaller

For ductile iron pipe Class 54 & 56 and cast iron pipe, service outlets of three quarter inch (3/4") through two inches (2") shall be made by direct tapping.

All direct taps require the installation of 2 to 3 layers of 3-mil thread sealant tape on the corporation stop. This guide is based on either a direct tap method or tapping saddle using an AWWA standard taper thread Corporation Stop.

In direct tapping of iron pipe, the tap threads must match the corporation stop's AWWA threads. The pipe and corporation stop shall be examined to insure acceptability for direct tapping.

In the location where Ductile Iron Class 54 & 56 Pipe will be tapped, the pipe shall be wrapped with three (3) layers of polyethylene compatible tape completely around the pipe to cover the area where the tapping machine and chain is mounted.

The tap shall install the corporation stop directly through the tape and polywrap.

After the tap is completed on mains with polyethylene wrap, the Contractor shall repair and replace the polyethylene wrap to completely cover the main and corporation stop in accordance with the detail in the Appendix of Drawings.

The service line shall be flushed for two (2) minutes through the meter stop before connecting to the meter. Once the corporation stop has been turned on, and prior to backfilling, the corporation barrel set nut may need to shall be securely tightened to prevent leakage.

The corporation stop and a minimum distance of three feet (3') of the copper service line shall be wrapped with polytape.
See Standard Drawings: 3002, 3003, 3004, 3400, 3401, 3403, 3404, 3420, 3430, 3200, 3202, and 3804 in Appendix of Drawings

10.4 Large Service Installation – Larger than Two Inches (2")

Service outlets of larger than two inches (2") shall be made with a ductile iron tee or stainless steel or ductile iron tapping sleeve and gate as directed by LWC Project Manager or Company Inspector on new ductile iron or PVC pipe. There shall be no tapping of same size on same size pipe with tapping sleeve and gate, a tee must be installed.

Long services are defined as services to meters on the opposite side of the street of the water main to which it is connected and shall be bored or jacked under pavements unless an open cut is approved by the LWC Project Manager. The Contractor must verify the service size with the LWC Project Manager or Company Inspector where any service length is greater than one hundred feet (100'). Short services are defined as services to meters on the same side of the street as the water main to which it is connected.

10.4.1 Tapping Ductile Iron –Pressure Class 350 Pipe for Large Service Installation - Larger than Two Inches (2")

Service outlets of larger than two inches (2") shall be made with a ductile iron tee or stainless steel or ductile iron tapping sleeve and gate valve as directed by LWC Project Manager or Company Inspector on ductile iron – Pressure Class 350 pipe.

There shall be no tapping of same size on same size pipe with tapping sleeve and gate, a tee must be installed.

After the tap is completed on mains with polyethylene wrap, the Contractor shall repair and replace the polyethylene wrap to completely cover the main and fittings in accordance with the detail in the Appendix of Drawings.

The service line shall be flushed for two (2) minutes through the meter stop before connecting to the meter.

See Standard Drawings: 3203 and 3601 in Appendix of Drawings

10.4.2 Tapping PVC Pipe for Large Service Installation – Larger than Two Inches (2")

Service outlets of larger than two inches (2") shall be made with a ductile iron tee or stainless steel or ductile iron tapping sleeve and gate valve as directed by LWC Project Manager or Company Inspector on PVC (polyvinyl chloride) pipe.

There shall be no tapping of same size on same size pipe with tapping sleeve and gate, a tee must be installed.

When installing a service to PVC, the Contractor shall use a shell cutter that is designed for DR14 (pressure class 200, AWWA C900) or DR18 (pressure class 150, AWWA C900) and one that will remove the material and retain the coupon. No twist drills will be allowed. The cutting tool must be sharp and without damage. The coupon must be delivered to the Company Inspector.

When tapping the PVC pipe under pressure, the pipe temperature shall be between 32° and 90° F. The taps shall be located a minimum of twenty-four inches (24") from the joint of the PVC pipe. Taps shall not be made in an area of PVC pipe that shows damage.

Tapping sleeves shall be assembled according to the manufacturers' instructions and must be supported independently of PVC pipe by precast concrete blocks during the tapping operation. The support shall be left in place, filling any voids such that the pad is bearing against undisturbed earth, and thrust blocks behind tapping sleeves shall be used as with other fittings.

When a service tap is made on a PVC water main, No. 12 copper tracer wire will be connected to the No. 12 copper tracer wire on the main and then wrapped, with insulation removed, around the service line gate valve and extend to the top of the keytube.

The service line shall be flushed for two (2) minutes through the meter stop before connecting to the meter.

See Standard Drawings: 3203 and 3601 in Appendix of Drawings

10.4.3 Tapping Ductile Iron Class 54 & 56 Pipe and Cast Iron Pipe for Large Service Installation – Larger than Two Inches (2")

Service outlets of larger than 2" shall be made with a ductile iron tee or stainless steel or ductile iron tapping sleeve and gate valve on existing ductile iron Class 54 & 56 pipe and Cast Iron Pipe. There shall be no tapping of same size on same size pipe with tapping sleeve and gate, a tee must be installed.

After the tap is completed on mains with polyethylene wrap, the Contractor shall repair and replace the polyethylene wrap to completely cover the main and fittings in accordance with the detail in the Appendix of Drawings.

The service line shall be flushed for two (2) minutes through the meter stop before connecting to the meter.

See Standard Drawings: 3203 and 3601 in Appendix of Drawings

10.5 Setting Meter Vaults

Meter vaults shall be set either to the existing grade, or as indicated on the service order or to the grade given by a stake card. Earth shall be firmly tamped by pneumatic, vibratory or other approved compaction device and backfilled per Section 7: "BACKFILLING PROCEDURES AND TAMPING" around the vault and cover, the lid locked in and the meter setting centered in the middle of the vault and at the proper depth below grade, as shown on the drawing in the Appendix of Drawings.

Meter vaults shall not be installed in areas subject to vehicular traffic if avoidable. When directed to be installed in areas subject to vehicular traffic, the meter vault shall be of the heavy duty concrete type with heavy duty frame and cover.

See Standard Drawings: 3002, 3003, 3004, 3400, 3401, 3403, 3404, 3420, 3430, 3200, 3202, 3203, and 3601 in Appendix of Drawings

10.6 Pressure Regulators (Pressure Reducing Valves)

When directed by the LWC Project Manager, the Contractor shall install a pressure regulator (pressure reducing valves).

See Standard Drawings: 3003, 3004, 3401, and 3202 in Appendix of Drawings

10.7 Leak Testing the Service

After the complete service has been installed and before any joints are covered, the corporation stop shall be opened, the entire length of the service filled with water and each joint observed by the Contractor for leaks.

Any leaks so found shall be immediately repaired. After the service has been observed by the Company Inspector to be watertight throughout its length, the meter stop shall be shut off, and the backfilling started.

The corporation barrel set nut may need to be securely tightened to prevent leakage.

The Contractor shall leave the corporation stop fully open and the meter angle stop fully closed upon completion of the testing.

10.8 Relocate Service

Relocating a service is defined to include installing a complete new service to an existing customer, including a new tail pipe, discontinuing the old service at the main (in the event the existing main is to remain active), abandoning the old meter vault, and returning the old meter, cover and cast iron frame to the Louisville Water Company's Almond Avenue Yard.

Concrete meter vaults and heavy duty frame and covers shall be used in driveways, parking lots, and other areas of vehicular traffic.

Service installation shall be done in accordance with "Small Service Installation (Section 10.3) and Large Service Installation (Section 10.4). Excavation, backfilling, and restoring of surfaces shall be done in accordance with "Service Excavation at Main" (Section 10.12). Abandoning the old meter vaults shall be done in accordance with "Backfill Meter Vault" (Section 10.13).

Contractors shall be responsible to make at least two (2) attempts when connecting the tailpiece to a customer's galvanized service line. The second attempt shall be limited to a maximum of three feet (3') beyond the property line or to any property improvement which would require excessive restoration. If the second attempt is unsuccessful, the Contractor shall immediately contact the Company Inspector, obtain a representative sample of the deteriorated line and provide a temporary service connection to the customer.

See Standard Drawing: 3440 in Appendix of Drawings

10.9 Renew Service

Renewing a service is defined to include installing a new copper service line from the existing main or new main to the meter stop, and a new copper tail pipe from the meter stop to the property line or the joint where the tail pipe connects to the customer service line (whichever is shorter) and shall include, the following: excavation; boring or jacking of copper tubing or pipe; installing corporation stop; tapping saddle or tapping sleeve and gate valve at the main; installing all tubing and/or pipe and all associated fittings; frame and cover; and backfilling and restoring of all surfaces.

Service installation shall be done in accordance with "Small Service Installation" (Section 10.3) and "Large Service Installation" (Section 10.4). The Contractor shall discontinue the old service in accordance with "Discontinue Service" (Section 10.11). All lead service lines shall be renewed in accordance with "Cutting Lead Pipe" (Section 10.16) and "Flushing of Lead Services" (Section 10.17) unless otherwise instructed on the project drawings.

Excavation, backfilling, and restoring of surfaces shall be done in accordance with "Service Excavation at Main" (Section 10.12). The LWC Project Manager has estimated the number of services to be renewed, and these are shown on the project drawings.

Contractors shall be responsible to make at least two (2) attempts when connecting the tailpiece to a customer's galvanized service line. The second attempt shall be limited to a maximum of three feet (3') beyond the property line or to any property improvement which would require excessive restoration. If the second attempt is unsuccessful, the Contractor shall immediately contact the Company Inspector, obtain a representative sample of the deteriorated line and provide a temporary service connection to the customer.

See Standard Drawing: 3441 in Appendix of Drawings

10.10 Transfer Service

Transferring a service is defined to include installing a length of service line, as require, to reconnect an existing copper service to the existing main or new main, and shall include, the following: excavation; boring or jacking of copper tubing or pipe; installing corporation stop; tapping saddle or tapping sleeve and gate valve at the main; installing all tubing and/or pipe and all associated fittings; and backfilling and restoring of all surfaces.

Service installation shall be done in accordance with "Small Service Installation" (Section 10.3) and "Large Service Installation" (Section 10.4). The Contractor shall discontinue the old service in accordance with "Discontinue Service" (Section 10.11).

When a lead or galvanized tail pipe is encountered, the tail pipe from the meter stop to the property line or joint where the tail pipe connects to the customer service line (whichever is shorter) shall be replaced with a copper service line.

All lead service lines shall be transferred in accordance with "Cutting Lead Pipe" (Section 10.16) and "Flushing of Lead Services" (Section 10.17) unless otherwise instructed on the project drawings.

Excavation, backfilling, and restoring of surfaces shall be done in accordance with "Service Excavation at Main" (Section 10.12). The LWC Project Manager has estimated the number of services to be transferred, and these are shown on the project drawings.

Contractors shall be responsible to make at least two (2) attempts when connecting the tailpiece to a customer's galvanized service line. The second attempt shall be limited to a maximum of three feet (3') beyond the property line or to any property improvement which would require excessive restoration. If the second attempt is unsuccessful, the Contractor shall immediately contact the Company Inspector, obtain a representative sample of the deteriorated line and provide a temporary service connection to the customer.

See Standard Drawing: 3442 in Appendix of Drawings

10.11 Discontinue Service

Discontinuing a service is defined to include excavating a service line at a water main that is to remain active, turning off the corporation stop (ferrule), disconnecting and plugging the service line, backfill the meter vault, and restoring all surfaces.

Driven ferrules, which are not threaded onto the main, will require water main shutdown, removal, and installation of a wrap-around repair band. Driven ferrules can be expected on most lead services.

Excavating, backfilling, and restoring of surfaces shall be done in accordance with "Service Excavation at Main" (Section 10.12). Abandoning the old meter vaults shall be done in accordance with "Backfill Meter Vault" (Section 10.13). The LWC Project Manager has estimated the number of services to be discontinued, and these are shown on the project drawings.

Service vaults abandoned as a result of abandoning an existing main shall be site-restored by the Contractor as required in "Backfill Meter Vault" (Section 10.13).

See Standard Drawing: 3442 in Appendix of Drawings.

10.12 Service Excavation at Main

The excavation at the water main shall be made in accordance with "Twelve-Inch (12") Cutback Requirement" (Section 5.4.2), and "Trenching" (Section 5.5) as appropriate to the type of surface. Backfilling and restoration shall be in accordance with "BACKFILLING PROCEDURES AND TAMPING" (Section 7) and "RESTORATION" (Section 11) as appropriate to the type of surface.

Contractor shall be responsible for all remedial work due to service excavations as required in the section "WARRANTY" (Section 12).

10.13 Backfill Meter Vault

Meter vaults on all discontinued or relocated services shall be abandoned by removing the old meter, cast iron frame and cover, and any existing curb stop lids, and filling the void to existing grade with backfill and surface material, appropriate to the type surface. Unpaved areas shall be backfilled to grade with topsoil and restored in accordance with "RESTORATION" (Section 11).

Sidewalks shall be backfilled with pit run sand or DGA, and repaved in accordance with "RESTORATION" (Section 11). Parking lots, driveways, and other areas subject to vehicular traffic shall be backfilled using DGA, and restored in accordance with "Twelve-Inch (12") Cutback Requirement" (Section 5.4.2), "BACKFILLING PROCEDURES AND TAMPING" (Section 7), and "RESTORATION" (Section 11) found in this specification.

All meters and cast iron frames and lids shall be returned to the Allmond Avenue warehouse. Contractor shall be responsible for all remedial work due to discontinuation of meter vaults as required in the section "WARRANTY" (Section 12).

10.14 Potential Shock Hazard

Due to electrical grounding of some electrical services to metal water service lines, the potential for electrically charged water service lines and/or water meters exists.

The Contractor shall check each service for electric potential before working on the service. Any electrically-charged water service shall immediately be brought to the attention of the Company Inspector.

10.15 Cutting Lead Pipe

When the cutting of pipe made of lead is required, the pipe shall be cut with a shear device, such as Reed Ratchet Shears or similar device, as approved by the LWC Project Manager. Sawing of lead pipe shall not be allowed. All lead material shall be removed before it is connected.

10.16 Flushing of Lead Services

Flushing of renewed lead services shall be conducted immediately after the renewed service is reconnected at maximum flow. Flushing shall be continued for a minimum of sixty (60) minutes.

The Contractor shall be responsible for supplying all hoses, fixtures, and couplings needed to perform the lead service flush.

The Contractor shall identify, on a daily basis, those services that will require renewal on the following workday. Residences requiring lead service renewals shall be investigated to determine if an outside spigot is available and functioning properly. The Contractor shall notify the Company Inspector when an outside spigot is not available or not properly functioning in order for the Company Inspector to contact the customer.

Services that cannot be flushed externally by the Contractor or internally by the customer at the time of the renewal, may be renewed, but shall be left in the "off" position immediately after the renewal is completed. The Contractor shall immediately notify the Company Inspector when any service is turned "off" in order for the Company Inspector to notify the Company Radio Room.

10.17 Lead Service Renewal Notification

"Lead Service Renewal" notices shall be supplied by the Company and distributed by the Contractor to all properties in which a lead service was renewed or replaced.

11. RESTORATION

11.1 General

Repaving over the completed trench shall be done by the Contractor, who shall furnish all materials required. Repaving shall match the original paving in type, shall be first class in all respects, and shall comply with specifications covering the type of paving to be restored as issued by the authority over the thoroughfare involved.

The restoration of parking lots and driveways serving commercial and/or public establishments shall comply with the specifications of the respective authority having jurisdiction over the abutting right-of-way.

Except for parking lots, driveways, and sidewalks, each individual pavement restoration shall have a Company-supplied pavement marker installed by the Contractor.

All sawcuts shall be straight and perpendicular to the driveway / roadway. Restoration shall be made with the same type material and finish that is removed. Street restoration shall be as specified in the detail for Backfill and Pavement Restoration in accordance with the Appendix of Drawings, pending the jurisdiction of said street, included in these specifications. Permanent restoration of driveway, sidewalks, and street intersections shall be completed by the Contractor within ten working days after backfilling of trench is complete. If restorations are not completed, the Company may, at its option, have the repairs made by others and deduct those costs from the amount owed to the Contractor.

The Contractor is to take whatever measures are necessary to keep all traveled surfaces free of dirt, mud, or other material during all non-working hours. Unless otherwise approved by the LWC Project Manager, no excavated material shall be placed on the paved surface or any other areas near the trench; the excavated material shall be placed directly from the trench to the haul truck. The Contractor shall provide adequate dust control and follow all governing regulations applicable to the work.

A maximum of 1,500 lineal feet shall be disturbed at one time prior to final grade. Restoration of the area is required before the Contractor is permitted to proceed.

11.2 Bituminous Paved Surfaces (Asphalt)

All bituminous pavement cuts are to be restored in accordance with the permanent pavement restoration detail as shown in the Appendix of Drawings.

Pavement cuts are to be uniform width and straight sawed edges. An approved joint sealer is to be used to seal all joints between new and existing pavement. In the event asphalt plants have closed for the season, the Contractor shall maintain all pavement cuts with temporary bituminous pavement, until it becomes possible to permanently restore the pavement. Bituminous concrete pavement used for permanent pavement restoration shall have a minimum temperature of 225°F as measured when discharging from the truck.

Particular care is to be taken that existing pavement surfaces within the right-of-way are not scarred or otherwise damaged by equipment. Planking or other protective devices are to be used at all times to prevent damage to paved surfaces from tracked equipment.

In the event the paved surfaces damaged by work on this project, resurfacing is to be required as follows:

- 1) If scarring or other damage is continuous, resurfacing is to be likewise continuous, and is to consist of one and one-half inches (1 ½") Class A bituminous surfaces extending to the edge of damaged lane.

The edge of the damaged pavement shall be edge keyed, with the resurfaced section being flush with the undisturbed adjacent pavement surface, allowing roadway surface drainage not to be obstructed.

- 2) If scarring or other damage is determined to be intermittent, individual or paved patches may be permitted, and are likewise to consist of Class A bituminous surface, extending to the edge of the damaged lane.
- 3) All damage to the edge of pavement shall require the removal of and base repair of a minimum of two feet (2') in addition to the maximum width of the damage. The longitudinal edge is to be a uniform width with straight sawed edges. The lane is then to be milled a minimum of five feet (5') in width with a two inch (2") minimum asphalt overlay.

There will be no skip milling allowed and the minimum length will be determined in the field by the Company Inspector or LWC Project Manager.

All joint sealant material shall be: hot-applied, non-water-based, and produced by a competent and reputable manufacturer. Store-bought items shall not be allowed. Sand shall be placed to prevent tracking.

11.3 Asphalt Materials and Construction Methods

The composition of the bituminous asphalt (bituminous concrete) pavement and method of construction shall be in accordance with the Kentucky Transportation Cabinet Department of Highways (KTCDOH) Standard Specifications for Road and Bridge Construction (latest edition). A copy of these specifications is on file with the Louisville Water Company's Resource Coordinator, Construction Inspection Services, 4801 Allmond Avenue.

11.4 Concrete Paved Surfaces (Portland Cement Concrete)

All concrete used for structural purposes (such as thrusts blocks, road subbase, sidewalks, etc.) shall be produced at a concrete plant, delivered by a ready-mix concrete truck or mobile mixer (metered) concrete truck. Only concrete used for miscellaneous purposes (such as vault floor pad, end plugs for mains to be abandoned-in-place, etc.) is allowed to be that of an on-site bag mix.

All cuts in concrete driveways and sidewalks are to be replaced from construction joint to construction joint, using minimum 3500 psi concrete. When a section of sidewalk at a street intersection is to be replaced in the Louisville / Jefferson County Metro Government jurisdiction a wheel chair ramp is to be installed in accordance with the Appendix of Drawings.

For pipeline installation work, all concrete curbs or curb and gutter which are damaged are to be entirely removed and replaced in kind between existing joints. Stone base material shall be placed and compacted under any disturbed area with the curb replacement with the same type stone base material and compaction as removed. Base material shall extend a minimum of eighteen (18) inches beyond the back of the curb. Install one-half inch (1/2"), pre-molded expansion joint material between new and existing concrete. Concrete shall be a minimum 3500 psi concrete.

For service line installation work, concrete curbs or curb and gutter which are saw cut (typically four inch (4)" in width) are to be replaced in kind and have additional saw cutbacks one foot (1') to each side of the initial cut (4"cut). If either of the additional one foot (1') saw cutbacks fall within two feet (2') of an existing pavement joint, the entire section shall be removed and replaced to the existing joint. Stone base material shall be placed and compacted under any disturbed area with the curb replacement with the same type stone base material and compaction as removed.

Base material shall extend a minimum of eighteen (18) inches beyond the back of the curb. Install one-half inch (1/2"), pre-molded expansion joint material between new and existing concrete. Concrete shall be a minimum 3500 psi concrete.

Particular care is to be taken that existing pavement surfaces within the right-of-way are not scarred or otherwise damaged by equipment. Planking or other protective devices are to be used at all times to prevent damage to paved surfaces from tracked equipment.
See Standard Drawing: 4410 in Appendix of Drawings

11.5 Concrete Materials and Construction Methods (Portland Cement Concrete)

All concrete used on this project and as shown on the project drawings shall have a 28-day minimum compression strength of 3,500 pounds per square inch (psi). The proportions and construction requirements for the concrete shall be as listed in the Kentucky Transportation Cabinet Department of Highways (KTCDOH) Standard Specifications for Road and Bridge Construction (latest edition).
See Standard Drawings: 4000, 4100 and 4400 in Appendix of Drawings

11.6 Unpaved Surfaces

All drainage structures (such as pipe, head or wing walls, channels, flumes, and culverts), fences, signs, etc., public or private, which are damaged or removed by this Contractor, shall be repaired or replaced in kind to the satisfaction of the owner. All open ditches shall be restored to their present cross sections, depths, and slopes, and dressed and graded to provide permanent adequate drainage to present connecting ditches or culverts equal to the original drainage systems except where specifically indicated on the project drawings.

The Contractor shall replace all surface material including landscaping, shrubbery, fences, or other disturbed surfaces, to a condition at least equal to that before the work began, furnishing all labor and materials.

The grassed area disturbed by the work under this contract, whether by the Contractor or by any subcontractor, within or adjacent to the right-of-way of any state, county, city or other thoroughfare, public or private (except as required below), now in grass shall be shaped, seeded, and mulched in accordance with KTCDOH Standard Specifications for Road and Bridge Construction (latest edition).

Seed mixture shall be Mixture No. 1 as described in Seed Mixtures for Permanent Seeding. Acceptance of Seeding Section shall be amended to disallow compensations for any corrective seeding required by the LWC Project Manager.

All work fronting residential lots now in grass shall be shaped and seeded in accordance with KTCDOH Standard Specifications for Road and Bridge Construction (latest edition), but shall be amended to include removal of all rock from the sod bed. A minimum of six inches (6") of top soil being free of rock shall be placed prior to final restoration.

Reseeded areas that are located within ditches or on other sloped ground of 2:1 slopes or greater shall be covered with erosion control netting secured with pins or stakes, or prefabricated matting containing mulch, seed and fertilizer. All ditch lines in residential lots shall be covered with erosion control netting secured with pins or stakes, or prefabricated matting containing mulch, seed and fertilizer.

A maximum of 1,500 lineal feet shall be disturbed at one time prior to final grade. Restoration of the area is required before the Contractor is permitted to proceed.

Certain areas as approved by the LWC Project Manager or shown on the project drawings shall be sodded. Unless otherwise approved by the LWC Project Manager, no excavated material shall be placed on any paved roadway surface.

See Standard Drawing: 4300 in Appendix of Drawings.

11.7 Site Clean Up

Surplus pipeline materials, equipment, tools, and temporary structures shall be removed by the Contractor, and all dirt, rubbish and excess earth from excavations shall be hauled and disposed by the Contractor, all in a manner satisfactory to the Company.

The Contractor shall leave the site in presentable shape at least comparable with the condition in which it was before the construction began and in compliance with all restoration provisions of this specification.

12. WARRANTY

The provisions governing work covered by warranty are contained in WARRANTIES, in the TERMS AND CONDITIONS.

13. ADDITIONAL CONTRACT DEFINITIONS, and ABBREVIATIONS

13.1 Additional Contract Definitions

Right-of-Way – A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to a street, highway, or other public improvement.

Service Line – Any pipe, line, or conduit used or to be used to provide water service from a water main to the property line joint. A water service line shall be owned and maintained by the Company from the tap at the water main to the property line, edge of easement, or property line joint, whichever is closer to the water main.

Non-storm sewers – Sanitary sewer, combined sewer, septic tank, or subsoil treatment system.

Stone Classifications: Equivalencies:

Kentucky # 3 = Indiana # 2

Kentucky # 57 = Indiana # 8

Kentucky # 9 = Indiana # 3/8 pea

Kentucky D.G.A. = Indiana # 73

Structures – Bridges, culverts, catch basins, drop inlets, retaining walls, cribbing, manholes, endwalls, sewers, service pipes, septic tanks, lateral fields, foundation drains, fences, swimming pools, and other features which may be encountered in the work and not classified herein.

Supplemental Project Drawings – Drawings included in the Plans to specify construction details.

Underground Facility – means any item which shall be buried or placed below ground for use in connection with the storage or conveyance of water, sewage, electronic, telephone or telegraph communications, electric energy, oil, gas or other substances, and shall include pipes, Sewers, conduits, cables, valves, lines, wires, manholes, appurtenances, attachments and those portions of poles and their attachments below ground.

Utility – Pipe lines, conduits, ducts, transmission lines, overhead or underground wires, railroads, storm drains, sanitary sewers, irrigation facilities, street lighting, traffic signals, and fire alarm systems, and appurtenances of public utilities and those of private industry, businesses or individuals solely for their own use or use of their customers which are operated or maintained in, on, under, over or across public right-of-way or public or private easement.

Water Main – Mains of three (3) inch and larger diameter, together with all appurtenances, any necessary valves, fire hydrants, and associated materials receiving potable water and distributing it to individual customers.

13.2

Abbreviations:

ANSI – American National Standards Institute
ASTM – American Society of Testing Materials
AWWA – American Water Works Association
C – Temperature in degree Celsius
CFS – Cubic Feet Per Second
CI – Cast Iron
DEG - ° - Degree
DGA – Dense Graded Aggregate
DI – Ductile Iron
F – Temperature in degree Fahrenheit
FPS – Feet Per Second
FT - ‘ - Feet
HTH – Dry Chlorine (Calcium Hypochlorite)
IN - “ - Inch
KAR – Kentucky Administrative Regulations
KDOW – Kentucky Division of Water
KOSHA – Kentucky Occupational Safety and Health Association
KRS – Kentucky Revised Statutes
KTC – Kentucky Transportation Cabinet
KTCDOH - Kentucky Transportation Cabinet Department of Highways
MJ – Mechanical Joint
MSD – Louisville and Jefferson County Metropolitan Sewer District

MUTCD – Manual on Uniform Traffic Control Devices for Streets and Highways
OSHA – Occupational Safety and Health Administration
PCB – Polychlorinated Biphenyls (toxic chemicals)
PPM – Parts per Million
PSF – Pounds per Square Foot
PSI – Pounds per Square Inch
PVC – Polyvinyl Chloride
USGS – United States Geological Survey
VHS - Video Cassette Format (Vertical Helix Scan)
WQC – Water Quality Certification
% - per cent
@ - at
/- per
= - equals

13.3 Technical References

Section:

- 1.6.1 Federal Highway Administration, Part VI (6) of the Manual on Uniform Traffic Control Devices (MUTCD).
- 1.6.4 Louisville / Jefferson County Metro Government Ordinance: Title VII (7), Traffic Code: Chapter 72 Parking Regulations.
- 1.6.5 KRS-220, 224 Soil Erosion and Sediment Control
Jefferson County Ordinance, Chapter 159, Erosion Prevention and Sediment Control
- 1.6.6 Kentucky Division of Water- General Water Quality Certification, Permit #12.
- 2.2 KOSHA – 803 KAR 2:300 – 2:320; 803 KAR 2:240 – 2:423
- 3.2.4 Recommended Standards for Water Works (Ten States Standards) 2003 Edition
- 5.3 Blasting Regulations: KRS 351 and KAR 805.
- 6.2.2 PVC Pipe – Design and Installation AWWA Manual No. M-23
- 6.2.3 AWWA Standard Specification C 600 – Installation of Ductile Iron Water Mains and Their Appurtenances.
- 6.4.1 AWWA Standard Specification C 111 – Rubber–Gasket Joints for Ductile Iron Pressure Pipe and Fittings.
AWWA Standard Specification C 900 – Polyvinyl Chloride (PVC) Pressure Pipe, 4”-12” for Water Distribution.
- 6.7.1 AWWA Standard Specification C 105 – Polyethylene Encasement for Ductile-Iron Pipe Systems.
- 7.1. ASTM D-1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort.

- 7.4 Kentucky Transportation Cabinet – Department of Highways – Standard Specification for Road and Bridge Construction.
- 8.2.2 401 KAR 8:150 –sections 4 (1) and 4 (2) Disinfection and Filtration.
- 8.3 Louisville Water Company Best Management Practice and Procedures on Chlorinated Water Disposal, December, 2001.

14. TECHNICAL DESIGN AND CONSTRUCTION STANDARDS

1 GENERAL DESIGN REQUIREMENTS

- 1.1 The Utility shall establish and maintain Technical Design and Construction Standards for all water main projects reviewed and constructed under the Agreed Order.
- 1.2 The Utility shall ensure that the plans and specifications for each project meet or exceed all Technical Design and Construction Standards.
- 1.3 The Professional Engineer of Record shall ensure the plans and specifications for each project meet or exceed these Technical Design and Construction Standards.
- 1.4 Hydraulics
 - 1.4.1 The utility shall define existing and potential customer peak demand in the hydraulic analysis.
 - 1.4.2 The hydraulics analysis shall demonstrate the proposed water main projects can be flushed at least two and one half (2.5) feet per second (fps), while keeping system pressure above twenty (20) pounds per square inch (psi) within the pressure zone of the proposed project.
 - 1.4.3 The hydraulic analysis shall demonstrate the proposed water main project maintains thirty (30) psi under peak demand.
 - 1.4.4 The hydraulic analysis shall demonstrate that the proposed water main project does not drop ground level pressure in any part of the pressure zone below twenty (20) psi under all conditions of flow.

1.4.5 Pressure greater than or equal to thirty (30) psi shall be available on the discharge side of all water meters.

1.5 Hydrants

1.5.1 Fire hydrants shall only be installed on new or existing water mains designed to carry fire flows. The water main supplying the hydrant must have a diameter greater than or equal to six (6) inches and provide sufficient capacity to meet the required fire flow. (LWC Technical Specifications Section 9.1)

1.5.2 An auxiliary valve shall be installed in all hydrant supply pipes. (LWC Technical Specifications Section 9.1)

1.5.3 Hydrant drains shall not be connected to any sanitary sewer, combined sewer, septic tank or subsoil treatment system (hereinafter "non-storm sewer") or any storm sewer or storm drain, and shall be located at a distance greater than ten (10) feet from any non-storm sewer. (LWC Technical Specifications Section 9.2)

1.6 Water Main Valves

1.6.1 Water mains shall have a sufficient quantity of valves so that customer inconvenience and sanitary hazards will be minimized during repairs.

1.6.2 Urban areas as determined by the Utility shall include a valve spacing distance of less than or equal to five hundred feet (500') for commercial service areas and less than or equal to one thousand feet (1,000') for residential service areas. Valves should be located at roadway intersections where practical.

1.6.3 Rural areas as determined by the Utility shall include a valve spacing distance of less than one (1) mile. Valves should be located at roadway intersections where practical.

1.7 Blow-Off or Flushing Connections

- 1.7.1 For water mains that dead end, a fire hydrant or blow-off shall be required at the end of each six (6) inch or larger diameter water main and a flush hydrant or blow-off shall be required at the end of each water main that is less than six (6) inches in diameter.
- 1.7.2 Each blow-off, fire hydrant, or flush hydrant shall be sized so that velocity of greater than or equal to two and one half (2.5) feet per second (fps) can be achieved in the water main served by the blow-off or hydrant during flushing.
- 1.7.3 Flushing devices, blow-offs, or air relief valve shall not be connected to any non-storm sewer or any storm sewer or storm drain, and shall be located at a distance greater than ten (10) feet from any non-storm sewer. Chambers, pits, or manholes containing valves, blow-offs, meters, or other such appurtenances shall not be directly connected to any non-storm sewer or any storm sewer or storm drain. Such chambers, pits, or manholes shall be drained to absorption pits underground or to the surface of the ground where they are not subject to flooding by surface water. (LWC Technical Specifications Section 8.3.2)

1.8 Air Relief Valves

- 1.8.1 Air relief valves or hydrants shall be installed at high points in water mains, where air can accumulate. Automatic air relief valves shall not be used in situations where manhole or chamber flooding may occur. (LWC Technical Specifications Section 8.7, 8.7.1 & 8.7.2)
- 1.8.2 The open end of an air relief pipe from automatic valves shall be extended a distance of greater than or equal to one (1) foot above grade and provided with a screened, downward facing elbow or shall be an equivalent standard as determined by the best professional judgment of the Utility. The pipe from a manually operated valve shall be extended to the top of the pit. (LWC Technical Specifications Section 8.7.1 & 8.7.2)

1.9 Bedding and Backfill

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 greater than or equal to six (6) inches below the bottom of the pipe. (LWC Technical Specifications Section 7.1)

1.10 Minimum Depth

All water mains shall be covered to a depth equal to or greater than forty-two (42) inches to prevent freezing. (LWC Technical Specifications Section 7.1)

1.11 Thrust Blocks

All tees, bends, plugs, and hydrants shall be provided with reaction blocking, tie rods, or joints designed to prevent movement. (LWC Technical Specifications Section 6.14 & 9.1)

1.12 Disinfection and Coliform Monitoring

1.12.1 New or relocated water mains shall be thoroughly disinfected in accordance with 401 KAR Chapter 8:150 Section 4 (1) upon completion of construction and before being placed into service. To disinfect the new or relocated water mains, the Utility shall use chlorine or chlorine compounds (disinfectants) in such amounts as to produce an initial disinfectant concentration of at least fifty (50) ppm and a residual disinfection of greater than or equal to twenty-five (25) ppm at the end of twenty-four (24) hours. Follow the water main disinfection with thorough flushing and place the water main into service if, and only if, coliform monitoring applicable to the water main does not show the presence of coliform. If coliform is detected, repeat flushing of the water main and coliform monitoring. If coliform is still detected, repeat disinfection and flushing as if the water main has never been disinfected. Continue the described process until monitoring does not show the presence of coliform. (LWC Technical Specifications Section 8.2.2 & 8.6)

- 1.12.2 The presence or absence of total coliform monitored by sampling and analysis shall be determined for the new or relocated water main(s) as needed. Take samples at connection points to existing water mains at one (1) mile intervals and at dead ends, without omitting any branch of the new or relocated water main. Sample bottles shall be clearly identified as "special" construction tests. (LWC Technical Specifications Section 8.6)
- 1.12.3 For new construction projects, the distribution system, using the most expedient method, shall maintain coliform test results. (LWC Technical Specifications Section 8.6)
- 1.12.4 Chlorinated water resulting from disinfection of project components shall be disposed in a manner which will not violate 401 KAR 5:031. (LWC Technical Specifications Section 8.4)
- 1.13 Pressure Testing and Leak Detection

The presence or absence of leaks monitored by physical testing shall be determined in all types of installed pipe as needed. Pressure testing and leakage testing shall be in accordance with the latest edition of AWWA Standard C600. (LWC Technical Specifications Section 8.5)
- 1.14 Water Main Construction and Material Standards
 - 1.14.1 Installation of water mains and appurtenances shall meet or exceed AWWA standards or manufacturer recommendations.
 - 1.14.2 Pipes, fittings, valves, fire hydrants, and appurtenances shall meet or exceed the latest standards issued by the AWWA, ASTM, or NSF (if such standards exist). PVC and Polyethylene piping used must be certified to ANSI/NSF Standard 61.
- 1.15 Sewer Crossings and Separation
 - 1.15.1 For the purpose of this standard, "non-storm sewer" is defined as any of the following: sanitary sewer, combined sewer, septic tank, or subsoil treatment system. (LWC Technical Specifications Section 3.1.4)

- 1.15.2 Water mains shall be laid a horizontal distance of greater than or equal to ten (10) feet horizontally from any existing or proposed non-storm sewer. The horizontal distance shall be measured from outside diameter of the water main to outside diameter of the non-storm sewer. (LWC Technical Specifications Section 3.1.4)
- 1.15.3 In cases where the Utility determines it is not practical to maintain a ten (10) foot separation, water mains may be installed closer to a non-storm sewer provided that a variance is obtained from the Cabinet's Division of Water and maintained with the project records. (LWC Technical Specifications Section 3.1.4)
- 1.15.4 No deviation from the ten (10) foot separation is allowed if the non-storm sewer is a force main (sewer under pressure). (LWC Technical Specifications Section 3.1.4)
- 1.15.5 When water mains and non-storm sewers cross:
- 1.15.5.1 Water mains shall be laid such that there shall be a vertical distance of greater than or equal to eighteen (18) inches between the water main and non-storm sewer. The vertical distance shall be measured from the outside diameter of the water main to the outside diameter of the non-storm sewer line. (LWC Technical Specifications Section 3.1.4)
 - 1.15.5.2 One (1) full length of the water pipe shall be located so that both joints of the water pipe will be as far from the non-storm sewer as practical as determined by the Utility. (LWC Technical Specifications Section 3.1.4)
 - 1.15.5.3 Special structural support for the water and non-storm sewer may be required. (LWC Technical Specifications Section 3.1.4)
- 1.15.6 No water pipe shall pass through or come in contact with any part of a non-storm sewer manhole. (LWC Technical Specifications Section 3.1.4)

1.16 Water Mains Near Areas with Organic Contamination

If water mains are installed or replaced in areas of organic contamination or in areas within two hundred (200) feet of underground or petroleum storage tanks, ductile iron or other non-permeable materials shall be used in all portions of the water main installation or replacement. (LWC Technical Specifications Section 5.5.6)

1.17 Asbestos-Cement Pipe (Transite Pipe)

If the existing water main to be tapped is asbestos-cement pipe, then the contractor shall conform to OSHA regulations governing the handling of hazardous waste during the process of tapping the asbestos-cement pipe. Pieces of asbestos-cement pipe resulting from the tap shall be double bagged, placed in a rigid container, and disposed of in an approved landfill. (LWC Technical Specifications Section 6.7)

1.18 Subfluvial Pipe Crossings

1.18.1 For subfluvial pipe crossings, a floodplain construction permit will not be required pursuant to KRS 151.250 if the following requirements of 401 KAR 4:050 Section 2 are met:

1.18.1.1 No material may be placed in the stream or in the flood plain of the stream to form construction pads, coffer dams, access roads, etc. during construction of pipe crossings.

1.18.1.2 Crossing trenches shall be backfilled as closely as possible to the original contour.

1.18.1.3 All excess material resulting from construction displacement in a crossing trench shall be disposed of outside the flood plain.

1.18.1.4 For erodible channels, there shall be at least thirty (30) inches of backfill on top of all pipe or conduit points in the crossing.

1.18.1.5 For nonerrodible channels, pipes or conduits in the crossing shall be encased on all sides by at least six (6) inches of concrete with all pipe or conduit points in the crossing at least six (6) inches below the original contour of the channel.
(LWC Technical Specifications Section 1.3.6)

1.18.2 For subfluvial pipe crossings greater than fifteen (15) feet in width:

1.18.2.1 The pipe shall be of special construction having flexible, restrained, or welded watertight joints, and

1.18.2.2 Valves shall be provided at both ends of water crossings so that the section can be isolated for testing or repair. Valves shall be easily accessible and not be subject to flooding.

1.18.2.3 Permanent taps or other provisions to allow insertion of a small meter to determine leakage and obtain water samples shall be made on each side of the valve closest to the supply source.
(LWC Technical Specifications Section 1.3.6)

1.19 Cross Connections

Cross connections shall not be allowed in accordance with 401 KAR 8:020.

401 KAR 8:020 (2) Cross-connections prohibited. All cross-connections shall be prohibited. The use of automatic devices, such as reduced pressure zone back flow preventers and vacuum breakers, may be approved by the cabinet in lieu of proper air gap separation. A combination of air gap separation and automatic devices shall be required if determined by the cabinet to be necessary due to the degree of hazard to public health. Every public water system shall determine if or where cross-connections exist and shall immediately eliminate them.

1.20 Project Approvals, Record Retention and Management requirements and stipulations under this Agreed Order are as follows:

- 1.20.1.1 All water main projects reviewed by the Utility require the preparation of plans and specifications stamped by a licensed Kentucky Professional Engineer (P.E.) who shall be the Engineer of Record for an individual project.
- 1.20.1.2 All water main projects submitted to the Utility for review shall be documented as reviewed and approved or denied by the Utility's Designated Plans Reviewer for the project.
- 1.20.1.3 All water main projects that the Utility designs internally or has designed by a contractor shall include plans and specifications stamped by a licensed Kentucky Professional Engineer (P.E.) who shall be the Engineer of Record for an individual project, and shall be reviewed and approved or denied by the Utility's Designated Plans Reviewer for the project.
- 1.20.1.4 All revisions to water main project plans previously approved by the Utility under the coverage of this Agreed Order shall be reviewed and approved or denied by the Utility's Designated Plans Reviewer for the project.
- 1.20.1.5 During construction, a set of Utility approved plans and specifications shall be available at the job site at all times. All work shall be performed in accordance with the Utility approved plans and specifications.
- 1.20.1.6 The Utility shall certify the water main projects has been constructed and tested in accordance with the approved plans and specifications. The Utility shall document and maintain a record of the certification of the project consistent with the recordkeeping requirements as stated in the Agreed Order.

1.20.1.7 The Utility shall define a project approval period not to exceed twelve (12) months, during which time the project construction shall begin.

1.20.1.8 Coverage under this Agreed Order does not relieve the Utility from the responsibility of obtaining any other approvals, permits, licenses required by the Cabinet and other state, federal and local agencies.

1.20.1.9 Project files and documentation, including water main project plans, location map, engineering calculations, and hydraulic information demonstrating regulatory compliance shall be retained for a period of not less than five (5) years from the completion of the project (in-service date).

2 Qualifications For Cabinet's Division of Water Agreed Order Projects

2.1 The Cabinet's Division of Water Agreed Order Projects will be limited to projects that meet the criteria identified in this section. Projects not meeting these qualifications shall be submitted to the Cabinet's Division of Water for review and approval.

2.1.1 The water system shall have a valid Agreed Order.

2.1.2 Projects with an overall length less than ten thousand (10,000) contiguous feet shall qualify. Two (2) or more adjoining projects shall be considered one (1) project for the purposes of this requirement.

2.1.3 Projects consisting of water mains greater than or equal to three (3) inches in diameter or less than or equal to twelve (12) inches in diameter shall qualify. Additionally, circulating two (2) inch water main projects of less than five hundred (500) feet shall qualify if future extension from the line will not occur and if the Utility determines that the two (2) inch line will benefit the overall system hydraulics and / or drinking water quality.

- 2.1.4 Projects qualifying for review and approval by the Utility may include water main projects with valves and / or hydrants as part of the design. However, projects, including those less than ten thousand (10,000) total linear feet, that include new construction or installation of treatment plants, storage tanks, chemical or pressure booster pumping stations, shall be reviewed by the Cabinet for final determination.
- 2.1.5 The water demand for the project shall not cause the Utility to exceed eighty-five (85) % of its rated or operational design capacity.
- 2.1.6 Projects funded in part or in full by the State Revolving Fund (SRF) or Congressional Special Appropriation Grants (SPAP) shall not qualify for review and approval by the Utility under the terms and conditions of this Agreed Order.
- 2.1.7 Projects under the jurisdiction of any regulating agency or funding agency other than the Kentucky Division of Water (external agencies), which in any way conflict with any regulatory process or funding process of these external agencies, shall not qualify for review and approval by the Utility under the terms and conditions of this Agreed Order.
- 2.1.8 The Utility is not authorized to approve any project that impacts any outstanding state resource water, outstanding national resource water, exceptional water, or cold water aquatic habitat as specified by 401 KAR Chapter 5.
- 2.1.9 Upon completion, projects shall meet all drinking water quality standards as set forth in 401 KAR Chapter 8.
- 2.1.10 The project meets all of the Technical Design and Construction Standards of the Cabinet's Division of Water Agreed Order and does not require any variances or deviations from the Technical Design and Construction Standards of the Cabinet's Division of Water Agreed Order.

APPENDIX OF STANDARD DRAWINGS FOR PIPELINE CONSTRUCTION

Standard
Drawing
Number

Section 1: General Requirements

4501 Creek Crossings With Concrete Cap (Sect. 1.3.5)

Section 3: Site

1000 Typical Utility Location Profiles (Sect.3.1)

3600 Typical Temporary Service From Fire Hydrant (Sect. 3.4.4 & 3.4.4.1)

Section 6: Installation

1500 Steel Casing Pipe and Casing Runners (Sect. 6.3)

1400 Typical Cast-in-Place Thrust Anchors (Sect.6.8 & 6.14)

1200 A-C Methods for Installing and Restoring Polyethylene Wrap (Sect. 6.9)

Section 7: Backfilling Procedures And Tamping

4300 Common Backfill and Lawn Restoration (Sect. 7.1, 7.4, 7.5, 7.6 & 11.6)

Section 8: Placing Water Main In Service

1601 Typical 2" Blow-off and Flushing Connection (Sect. 8.3.2)

1602 Typical 1" Manual Air Valve (For mains up to 20") (Sect. 8.3.2, 8.7 & 8.7.2)

1603 Typical Combined 2" Automatic and Manual Air Valve
(For mains 16" and larger) (Sect. 8.3.2, 8.7 & 8.7.1)

1608 Leak Detection By-Pass Meter for Underwater Crossings (Sect. 1.3.6 & 8.8)

Section 9: Fire Hydrant

2000 Typical Fire Hydrant Installation (Sect. 9)

Section 10: Service Work

3804 Method for Tapping Polyethylene Encased Pipe (Sect. 10.3.1 & 10.3.3)

3002 Typical Copper Service 1" and Smaller (Sect.10.3, 10.3.1, 10.3.2, 10.3.3 & 10.5)

3003 Typical 1" Copper Service With Pressure Reducing Valve (Sect.10.3, 10.3.1, 10.3.2, 10.3.3, 10.5 & 10.6)

3004 Typical 3/4" Copper Service With Pressure Reducing Valve (Sect.10.3, 10.3.1, 10.3.2, 10.3.3, 10.5 & 10.6)

3400 Typical Double 1" Domestic/Irrigation Copper Service (Sect. 10.3, 10.3.1, 10.3.2, & 10.3.3)

3401 Typical Double Domestic/Irrigation 1" Copper Service With Pressure Reducing Valve (Sect. 10.3, 10.3.1, 10.3.2, 10.3.3, 10.5 & 10.6)

3403 Typical 3/4" Irrigation Retro Fit Copper Service (Sect. 10.3, 10.3.1, 10.3.2, 10.3.3, & 10.5)

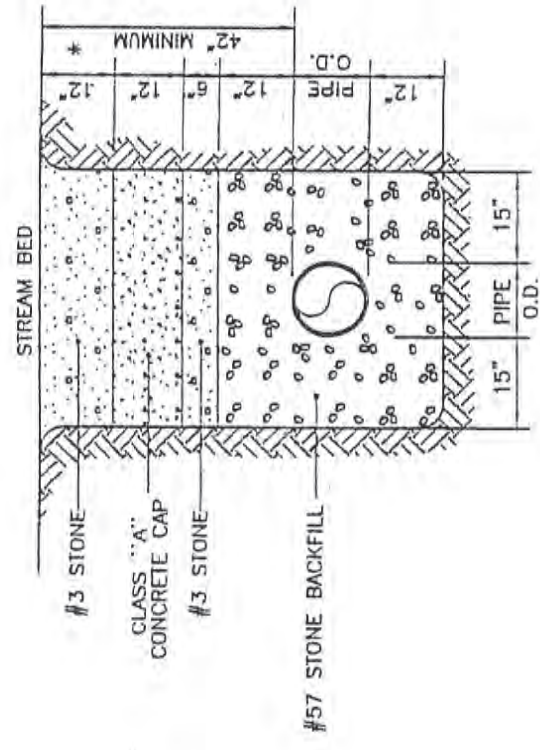
3404 Typical 1" Tandem 2-Way Domestic Copper Service (Sect. 10.3, 10.3.1, 10.3.2, 10.3.3, & 10.5)

3420 Typical 1" 3-Way Domestic Copper Service (Sect. 10.3, 10.3.1, 10.3.2, 10.3.3, & 10.5)

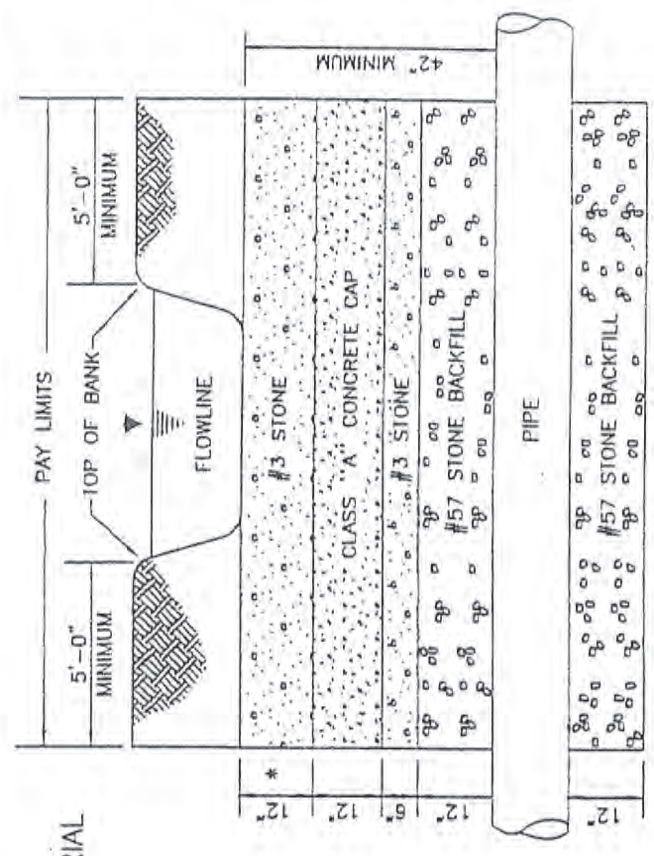
- 3430 Typical 1" 4-Way Domestic Copper Service (Sect. 10.3, 10.3.1, 10.3.2, 10.3.3, & 10.5)
- 3200 Typical 1-1/2" or 2" Copper Service (Sect. 10.3, 10.3.1, 10.3.2, 10.3.3 & 10.5)
- 3202 Typical 1-1/2" or 2" Copper Service With Pressure Reducing Valve (Sect. 10.3, 10.3.1, 10.3.2, 10.3.3, 10.5 & 10.6)
- 3203 Typical Ductile Iron Domestic Service 4" and Larger (Sect. 10.4, 10.4.1, 10.4.2, 10.4.3, & 10.5)
- 3601 Typical Fire Protection Service 4" and Larger (Sect. 10.4, 10.4.1, 10.4.2, 10.4.3 & 10.5)
- 3440 Relocate Service (Sect.10.8)
- 3441 Renew Service (Sect. 10.9)
- 3442 Transfer Service (Sect.10.10) and Discontinue Service (Sect.10.11)
- 3805 Service Sleeve Installation Detail (Sect.10)
- Section 11: Restoration**
- 4000 State of Kentucky Backfill and Paving Restoration (Sect. 11)
- 4100 Metro Louisville/Jefferson County Backfill and Paving Restoration (Sect. 11)
- 4400 Sidewalk/Backfill Detail (Sect. 11)
- 4410 Concrete Curb and Gutter Restoration Detail (Sect. 11.4)
- Other:**
- 4600 Typical Master Meter Detail
- 5005 Valve Status Marker

*THE TOP 12" TO BE #3 STONE OR OTHER SELECT MATERIAL APPROVED BY THE KENTUCKY DIVISION OF WATER.

TYPICAL SECTION



TYPICAL PROFILE



STREAM CROSSING CONDITIONS

1. COMPLY WITH SECTION 1.3.5, SOIL EROSION AND SEDIMENT CONTROL.
2. THIS DETAIL APPLIES ONLY TO BLUE-LINE STREAMS, AS SHOWN ON THE PERTINENT USGS QUADRANGLE MAP.
3. MANAGEMENT CONSTRUCTION PRACTICES MUST BE USED AT ALL TIMES DURING CONSTRUCTION. ADEQUATE SILT CONTROL MUST BE PLACED PRIOR TO THE START OF CONSTRUCTION AND MAINTAINED UNTIL VEGETATION IS ESTABLISHED.
4. REVEGETATE ALL DISTURBED GRASSY AREAS ON THE STREAM SLOPES. SOD STAKES MAY BE REQUIRED TO SECURE SOD ON THE STREAM BANKS.
5. MAINTAIN AT LEAST 3.5' OF BACKFILL AT THE STREAM CROSSING FROM THE TOP OF PIPE TO THE ORIGINAL STREAM BED ELEVATION.
6. OBTAIN APPROVAL FROM THE METROPOLITAN SEWER DISTRICT PRIOR TO THE START OF THE STREAM CROSSING WHEN CONSTRUCTION IS UNDER THEIR JURISDICTION.
7. TO BE PAID PER LINEAL FOOT OF CONCRETE CAP.
8. THRUST BLOCKING SHALL BE CONSTRUCTED AT ALL BENDS.

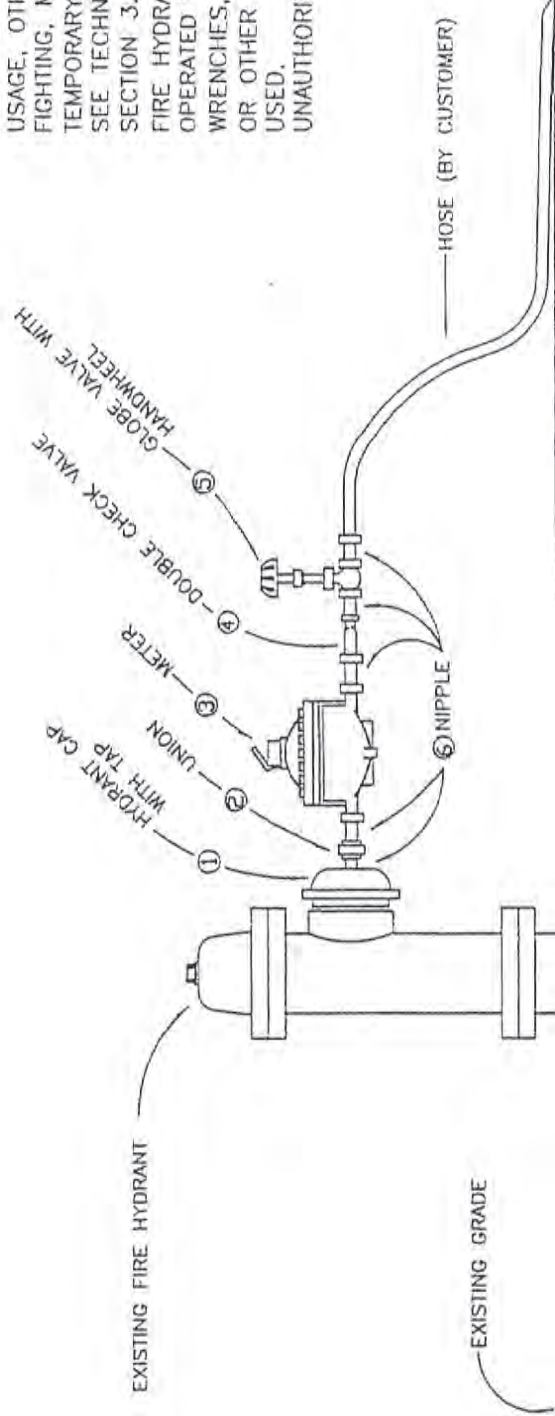
LOUISVILLE WATER COMPANY
660 E. 3RD STREET - LOUISVILLE, KENTUCKY 40202 - (502) 684-5000
GREGORY C. HEITZMAN - PRESIDENT
JAMES H. BRAMMEL - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
CREEK CROSSING
WITH CONCRETE CAP

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	4501	SHEET	1 OF 1

NOTES :

ALL FIRE HYDRANT USAGE, OTHER THAN FIRE FIGHTING, MUST USE A TEMPORARY WATER SERVICE. SEE TECHNICAL SPECIFICATION SECTION 3.4.4 WATER. FIRE HYDRANTS MUST BE OPERATED WITH FIRE HYDRANT WRENCHES, NO PIPE WRENCHES OR OTHER TOOLS SHALL BE USED. UNAUTHORIZED USE IS PROHIBITED.



GASKETS MUST BE USED ON ALL HYDRANT CAPS.

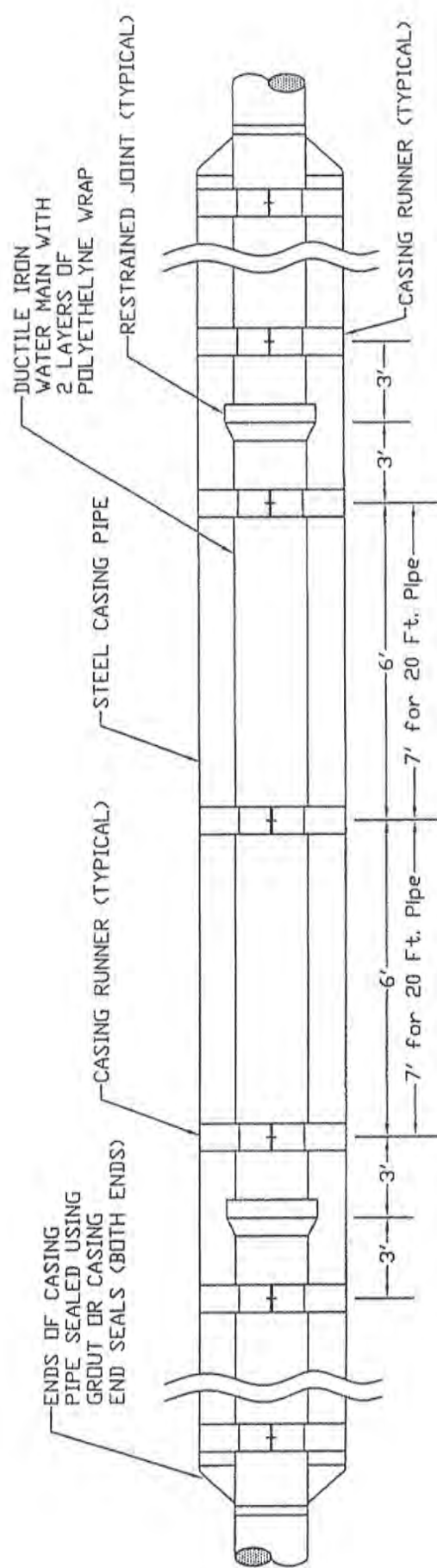
WHEN SERVICE IS USED, THE FIRE HYDRANT IS TO BE FULLY TURNED ON. THE AMOUNT OF SERVICE FLOW IS TO BE CONTROLLED BY THE WHEEL VALVE ⑤.

NO.	QUANTITY	FITTING	JOINT	SERVICE SIZES
①	1	Hydrant Cap w/Gasket & Tap	Female Threaded	3/4" 1-1/2"
②	1	Union	Female Threaded	4" x 3/4" 4" x 1-1/2"
③	1	Meter	Female Threaded	3/4" 1-1/2"
④	1	Check Valve	Flanged	3/4" 1-1/2"
⑤	1	Globe Valve w/Handwheel	Female Threaded	3/4" 1-1/2"
⑥	5	Nipple	Inlet-Male Threaded Outlet-Male Threaded	3/4" 1-1/2"

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STANDARD DRAWING
TYPICAL TEMPORARY SERVICE
FROM FIRE HYDRANT
3/4" OR 1-1/2"

DATE: MAR. 2008
SCALE: NONE
DRAWING NO.: 3600
SHEET: 1 OF 1



TYPICAL RUNNER SPACING
(PER 18 FT. PIPE LENGTH)

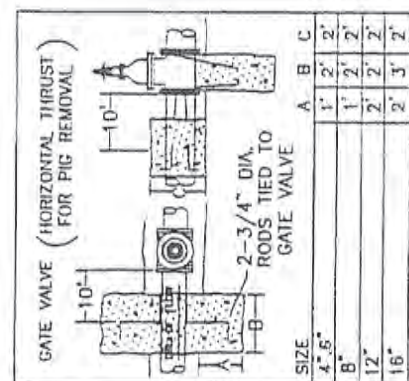
WATER MAIN PIPE SIZE (INCHES)	CASING PIPE SIZE (INCHES)	CASING THICKNESS (INCHES)
4	12	0.375
6	16	0.375
8	16	0.375
12	20	0.375
16	24	0.375
20	30	0.500

- NOTES:
- 1) STEEL CASING TO EXTEND A MINIMUM OF FIVE (5) FEET BEYOND THE EDGE OF PAVEMENT.
 - 2) THREE (3) CASING RUNNERS PER EACH PIPE LENGTH (MINIMUM) WITH ONE CASING RUNNER WITHIN 3 FT. OF EACH PIPE END.
 - 3) WATER MAIN SHALL HAVE RESTRAINED JOINTS WITHIN CASING PIPE. (SEE SECT. 6.3)

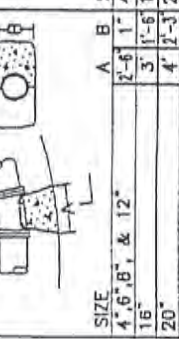
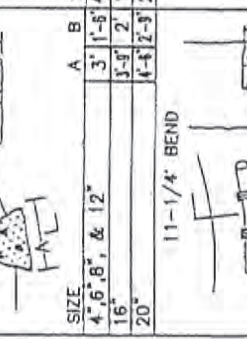
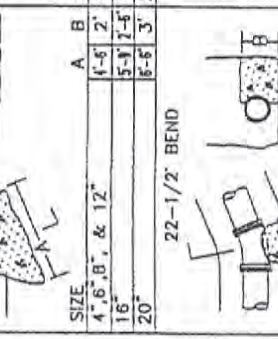
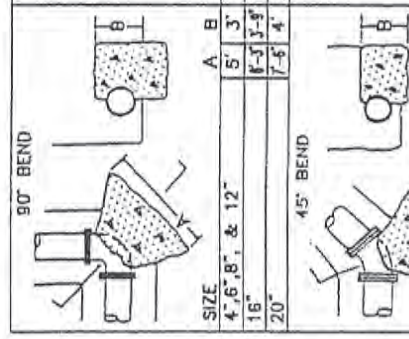
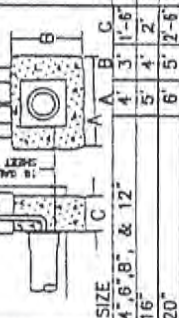
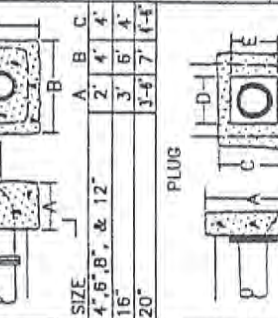
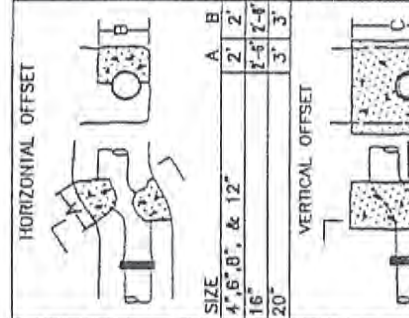
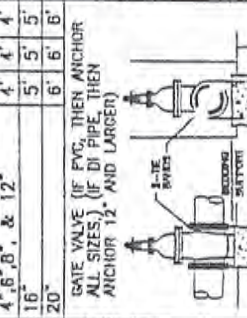
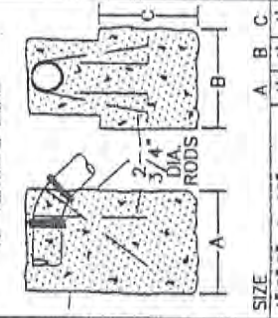
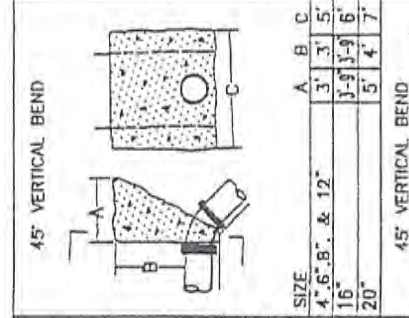
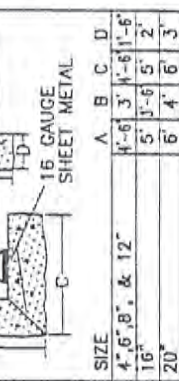
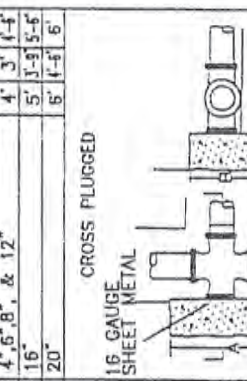
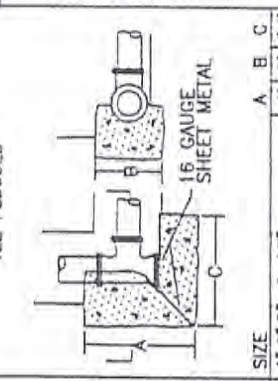
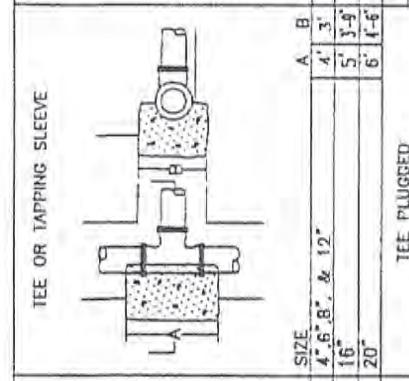
LOUISVILLE WATER COMPANY
560 S. 3RD STREET - LOUISVILLE, KENTUCKY 40202 - (502) 598-3000
GREGORY C. HEITZMAN - PRESIDENT
JAMES H. BRAMBELL - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
STEEL CASING PIPE
AND CASING RUNNERS

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	1500	SECRET	1 OF 1



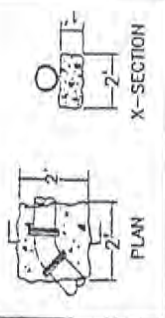
NOTE:
(1) ALL DUCTILE AND GRAY IRON PIPE AND APPURTENANCES SHALL BE DOUBLE POLYWRAPPED.
(2) CARE SHALL BE TAKEN TO AVOID DAMAGING POLYWRAP ANY DAMAGE OR TORN POLYETHYLENE WRAP MUST BE REPAIRED WITH POLYETHYLENE TAPE AND ADDITIONAL POLYETHYLENE WRAP IF NECESSARY TO PROVIDE TWO (2) LAYERS OF PROTECTION.
(3) CONCRETE THRUST ANCHORS MUST BE ALLOWED TO CURE, OR PROTECTED AS APPROVED BY THE PROJECT MANAGER, BEFORE BACKFILLING.
(4) ALL CONCRETE SHALL BE 3,500psi FROM A COMMERCIAL PLANT, OR SHALL BE AN ON-SITE MIXTURE, PREVIOUSLY APPROVED AT THE PRECONSTRUCTION CONFERENCE.
(5) ALL FITTINGS INVOLVED WITH PVC PIPE SHALL HAVE A CONCRETE SUPPORT BLOCK, IN ADDITION TO THE PERTINENT THRUST BLOCK.
(6) ALL REDUCERS ARE TO BE ANCHORED, THE ANCHOR DIMENSIONS SHOWN IN THE "GATE VALVE" DRAWING SHALL APPLY; USE THE LARGER OF THE TWO REDUCER DIMENSIONS AS THE DICTATING DIMENSION.
(7) SIZING OF THRUST ANCHORS ASSUME AN ALLOWABLE SOIL BEARING CAPACITY OF 3,000 PSF.
(8) REINFORCING STEEL USED IN THRUST RESTRAINT SHALL BE GRADE 60 AND EPOXY COATED.



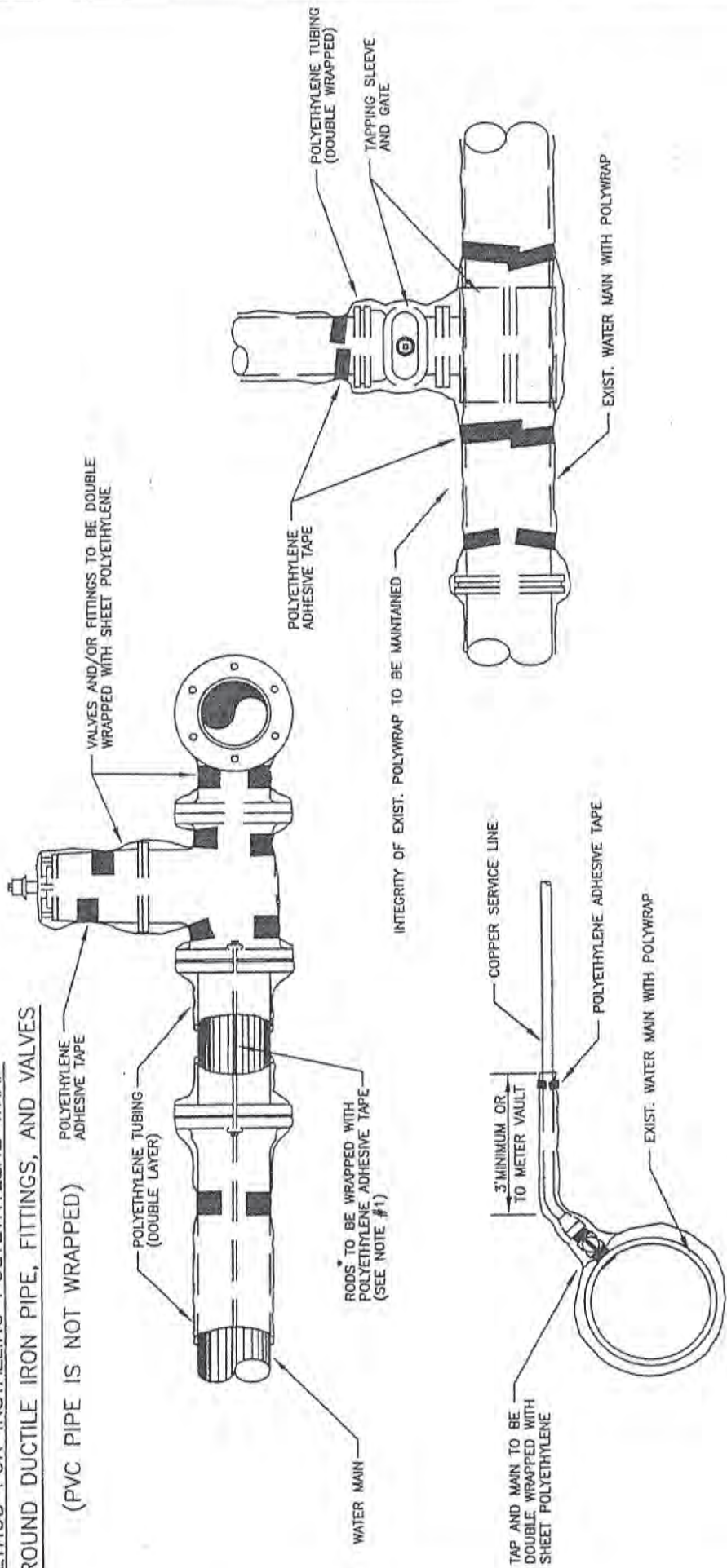
LOUISVILLE WATER COMPANY
550 S. 3RD STREET - LOUISVILLE, KENTUCKY 40202 - (502) 569-5000
GREGORY C. HEITZMAN - PRESIDENT
JAMES B. PRABHALL - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
TYPICAL CAST-IN-PLACE
THRUST ANCHORS

DATE: MAR. 2000
SCALE: NONE
DRAWING NO.: 1400
SHEET: 1 OF 1



METHOD FOR INSTALLING POLYETHYLENE WRAP
AROUND DUCTILE IRON PIPE, FITTINGS, AND VALVES
(PVC PIPE IS NOT WRAPPED)

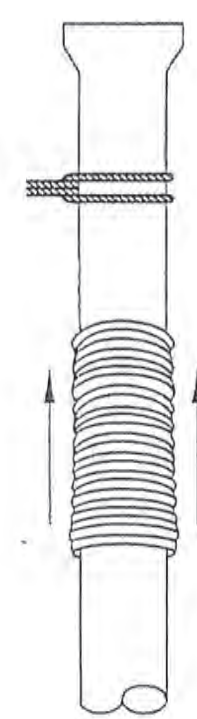


METHOD FOR RESTORING
POLYETHYLENE WRAP
WHEN TAPPING WATER MAINS

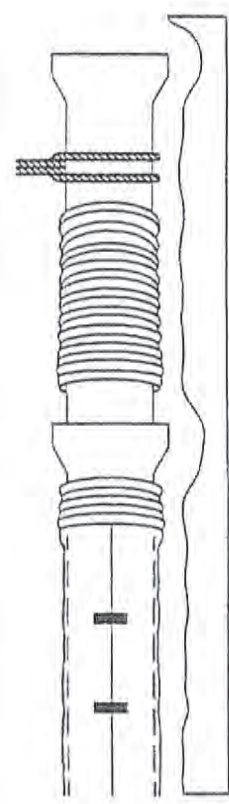
- NOTES:**
- 1)* RODS USED FOR THRUST RESTRAINT ARE TO BE USED ONLY AS TEMPORARY THRUST RESTRAINT. THRUST ANCHORS MUST BE POURED FOR ALL FITTINGS AS DETAILED IN THE STANDARD SPECIFICATIONS. MECHANICAL RESTRAINT MAY BE USED IN PLACE OF RODS AT THE DISCRETION OF THE PROJECT MANAGER.
 - 2) ANY DAMAGE OR TORN POLYETHYLENE WRAP MUST BE REPAIRED WITH POLYETHYLENE ADHESIVE TAPE AND ADDITIONAL POLYETHYLENE WRAP IF NECESSARY TO PROVIDE TWO (2) LAYERS OF PROTECTION.
 - 3) PIPE SHALL NOT BE WRAPPED FOR MORE THAN FIVE (5) DAYS IN ADVANCE OF PLACEMENT INTO THE TRENCH.
 - 4) ALL DUCTILE IRON TEES, VALVES AND FITTINGS ON PVC PIPE SHALL BE DOUBLE WRAPPED WITH POLYETHYLENE AND ENDS FASTENED SECURELY ON PVC PIPE.

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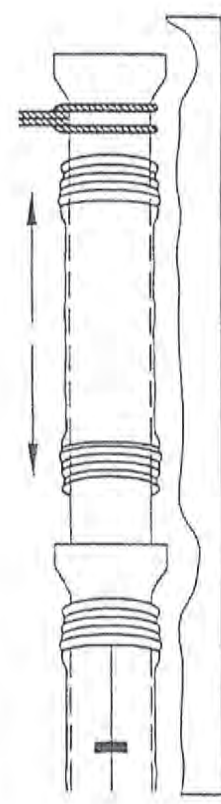
STANDARD DRAWING	
METHODS FOR INSTALLING AND RESTORING POLYETHYLENE WRAP	
DATE	MAR. 2008
SCALE	NONE
DRAWING NO.	1200-A
SHEET	1 OF 3



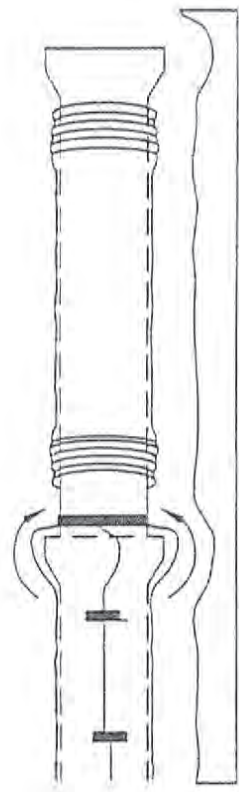
STEP 1.
CUT A SECTION OF POLYETHYLENE TUBE APPROXIMATELY TWO FEET LONGER THAN THE PIPE SECTION. REMOVE ALL LUMPS OF CLAY, MUD, CINDERS, OR OTHER MATERIAL THAT MIGHT HAVE ACCUMULATED ON THE PIPE SURFACE DURING STORAGE. SLIP THE POLYETHYLENE TUBE AROUND THE PIPE, STARTING AT THE SPIGOT END. BUNCH THE TUBE ACCORDOWN-FASHION ON THE END OF THE PIPE. PULL BACK THE OVERRANGING END OF THE TUBE UNTIL IT CLEARS THE PIPE END.



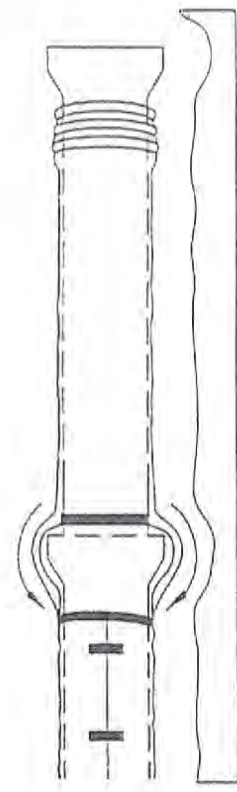
STEP 2.
DIG A SHALLOW BELL HOLE IN THE TRENCH BOTTOM AT THE JOINT LOCATION TO FACILITATE INSTALLATION OF THE POLYETHYLENE TUBE. LOWER THE PIPE INTO THE TRENCH AND MAKE UP THE PIPE JOINT WITH THE PRECEDING SECTION OF PIPE.



STEP 3.
MOVE THE CABLE TO THE BELL END OF THE PIPE AND LIFT THE PIPE SLIGHTLY TO PROVIDE ENOUGH CLEARANCE TO EASILY SLIDE THE TUBE. SPREAD THE TUBE OVER THE ENTIRE BARREL OF THE PIPE. NOTE: MAKE SURE THAT NO DIRT OR THE BEDDING MATERIAL BECOMES TRAPPED BETWEEN THE WRAP AND THE PIPE.



STEP 4.
MAKE THE OVERLAP OF THE POLYETHYLENE TUBE BY PULLING BACK THE BUNCHED POLYETHYLENE FROM THE PRECEDING LENGTH OF PIPE AND SECURING IT IN PLACE. NOTE: THE POLYETHYLENE MAY BE SECURED IN PLACE BY USING TAPE, STRING, OR ANY OTHER MATERIAL CAPABLE OF HOLDING THE POLYETHYLENE ENCASEMENT SNUGLY AGAINST THE PIPE.



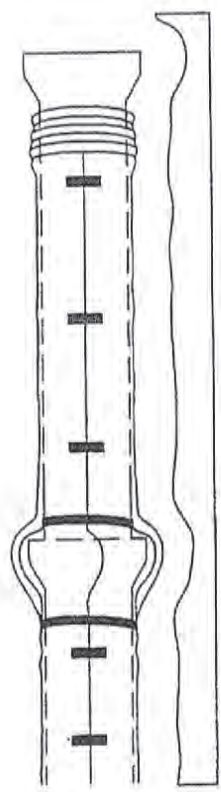
STEP 5.
OVERLAP THE SECURED TUBE END WITH THE TUBE END OF THE NEW PIPE SECTION. SECURE THE NEW TUBE END IN PLACE.



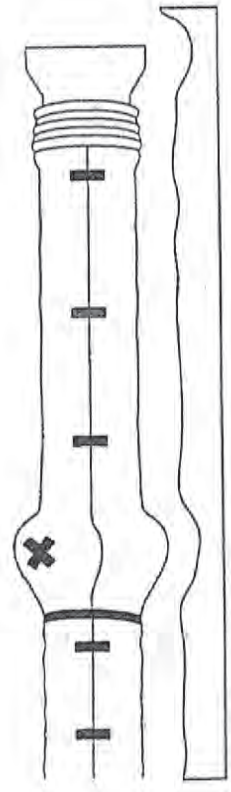
STEP 6.
TAKE UP THE SLACK IN THE TUBE ALONG THE BARREL OF THE PIPE TO MAKE A SNUG, BUT NOT TIGHT, FIT. FOLD EXCESS POLYETHYLENE BACK OVER THE TOP OF THE PIPE.

LOUISVILLE WATER COMPANY
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GREGORY C. HEITZMAN - PRESIDENT
JAMES H. BRANNWAL - VICE PRESIDENT/CHIEF ENGINEER

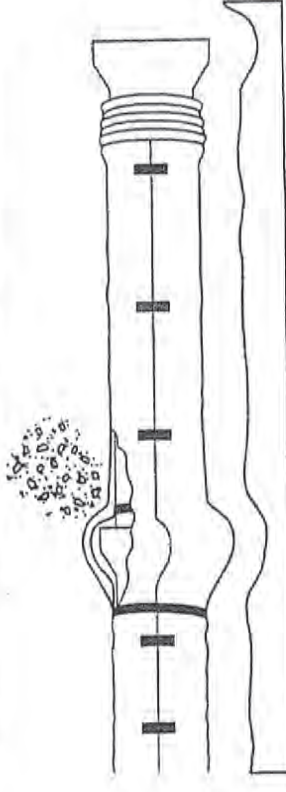
STANDARD DRAWING		SCALE	NONE
METHODS FOR		FOUR	SHEET
INSTALLING AND RESTORING		2	OF 3
POLYETHYLENE WRAP			
DATE	MAR. 2005	DRAWING NO.	1200-B



STEP 7.
SECURE THE FOLD AT SEVERAL LOCATIONS ALONG THE PIPE BARREL (APPROXIMATELY EVERY THREE FEET).



STEP 8.
REPAIR ALL SMALL RIPS, TEARS, OR OTHER TUBE DAMAGE WITH ADHESIVE TAPE. IF THE POLYETHYLENE IS BADLY DAMAGED, REPAIR THE DAMAGED AREA WITH A SHEET OF POLYETHYLENE AND SEAL THE EDGES OF THE REPAIR WITH ADHESIVE TAPE.



STEP 9.
CAREFULLY BACKFILL THE PIPE ACCORDING TO THE AWWA C600 STANDARD FOR BACKFILL PROCEDURE. TO PREVENT DAMAGE DURING BACKFILLING, ALLOW ADEQUATE SLACK IN THE TUBE AT THE JOINT. BACKFILL SHOULD BE FREE OF CINDERS, ROCKS, BOULDERS, NAILS, STICKS, OR OTHER MATERIALS THAT MIGHT DAMAGE THE POLYETHYLENE. AVOID DAMAGING THE POLYETHYLENE WHEN USING TAMPING DEVICES.

TABLE FOR MINIMUM FLATTENED
POLYETHYLENE TUBE WIDTHS

NOMINAL PIPE SIZE (INCHES)	RECOMMENDED POLYETHYLENE FLAT TUBE WIDTH (INCHES)
4	24
6	24
8	24
12	30
16	36
20	48

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STANDARD DRAWING
METHODS FOR
INSTALLING AND RESTORING
POLYETHYLENE WRAP

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	1200-C	SHEET	3 OF 3

TEMPORARY FLUSHING ASSEMBLY
FURNISHED BY LWC METER SHOP.

- ① 2"x6" BRASS NIPPLE THD*
- ② 2" GATE VALVE*
- ③ 2" 90° ELL BRASS THD*
- ④ 2"x6" BRASS NIPPLE THD*
- ⑤ 2"x1" TEE WITH 1"x3/4" BUSHING*
- ⑥ 3/4" BRASS SPIGOT WITH 1/2" OUTLET*
- ⑦ 2"x12" BRASS NIPPLE THD*
- ⑧ 2" DUAL CHECK VALVE*
- ⑨ 2"x3" BRASS NIPPLE THD*
- ⑩ 2"x1-1/2" BRASS REDUCER*
- ⑪ 1-1/2" MIP X FLG*
- ⑫ 1-1/2" TURBINE METER*
- ⑬ 2"x6" BRASS NIPPLE THD*

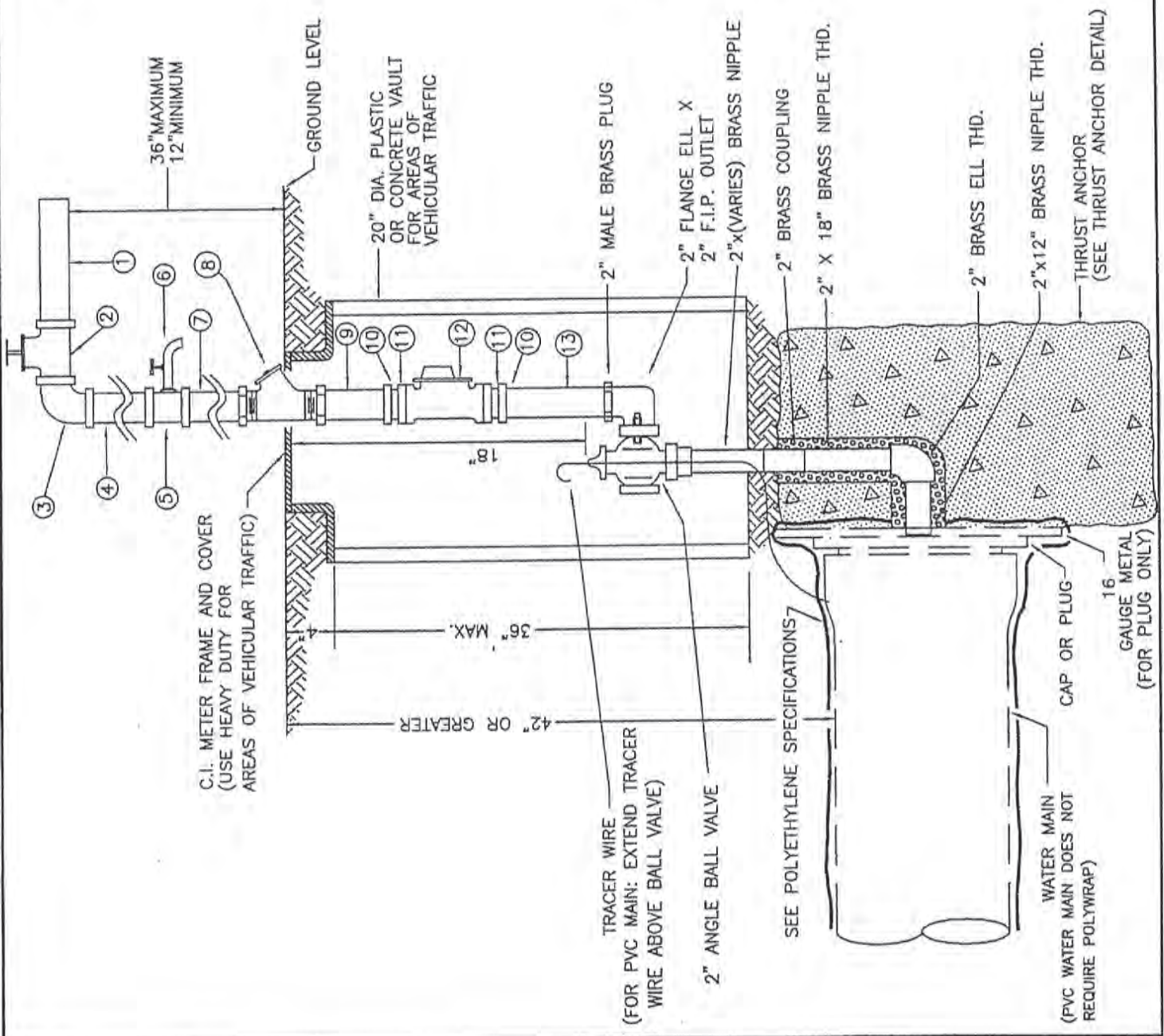
CAUTION: DO NOT CONNECT PRESSURE TEST EQUIPMENT TO TEMPORARY FLUSHING ASSEMBLY!

NOTE:

1-1/2" TURBINE METER AND 2" DUAL CHECK VALVE ARE TO BE INSTALLED AFTER PIGGING OPERATIONS. A 2" HOSE IS TO BE USED DURING ALL FLUSHING OPERATIONS.

NOTE:

8" AND LARGER WATER MAINS MAY REQUIRE LARGER THAN A 2" FLUSHING OUTLET TO MEET THE KDW 2.5 F.P.S. FLUSHING REGULATION.



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STANDARD DRAWING
TYPICAL 2" BLOW-OFF
AND FLUSHING CONNECTION

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	1601	SHEET	1 OF 1

C.I. METER FRAME AND COVER,
USE HEAVY DUTY FRAME AND
COVER IN AREAS OF VEHICULAR TRAFFIC.



GROUND LEVEL

20" DIA. CONCRETE
(IN AREAS OF VEHICULAR TRAFFIC)
OR PLASTIC VAULT

3/4" OR 1" COPPER TUBING

TRACER WIRE (FOR PVC MAIN)

3/4" OR 1" COMPRESSION CURB STOP

3/4" OR 1" COPPER TUBING

3/4" OR 1" COMPRESSION CORPORATION STOP WITH TAPPING SADDLE

#57 CRUSHED STONE

POLYWRAP

DUCTILE IRON WATER MAIN (P.V.C. WATER MAIN DOES NOT REQUIRE POLYWRAP; NOT REQUIRE TRACER WIRE TO TOP OF STOP)

3/4" OR 1"-90° STREET ELL SCREENED 90° OUTLET

3/4" OR 1"-90° STREET ELL

14" MINIMUM

36" MAX.

12" MINIMUM

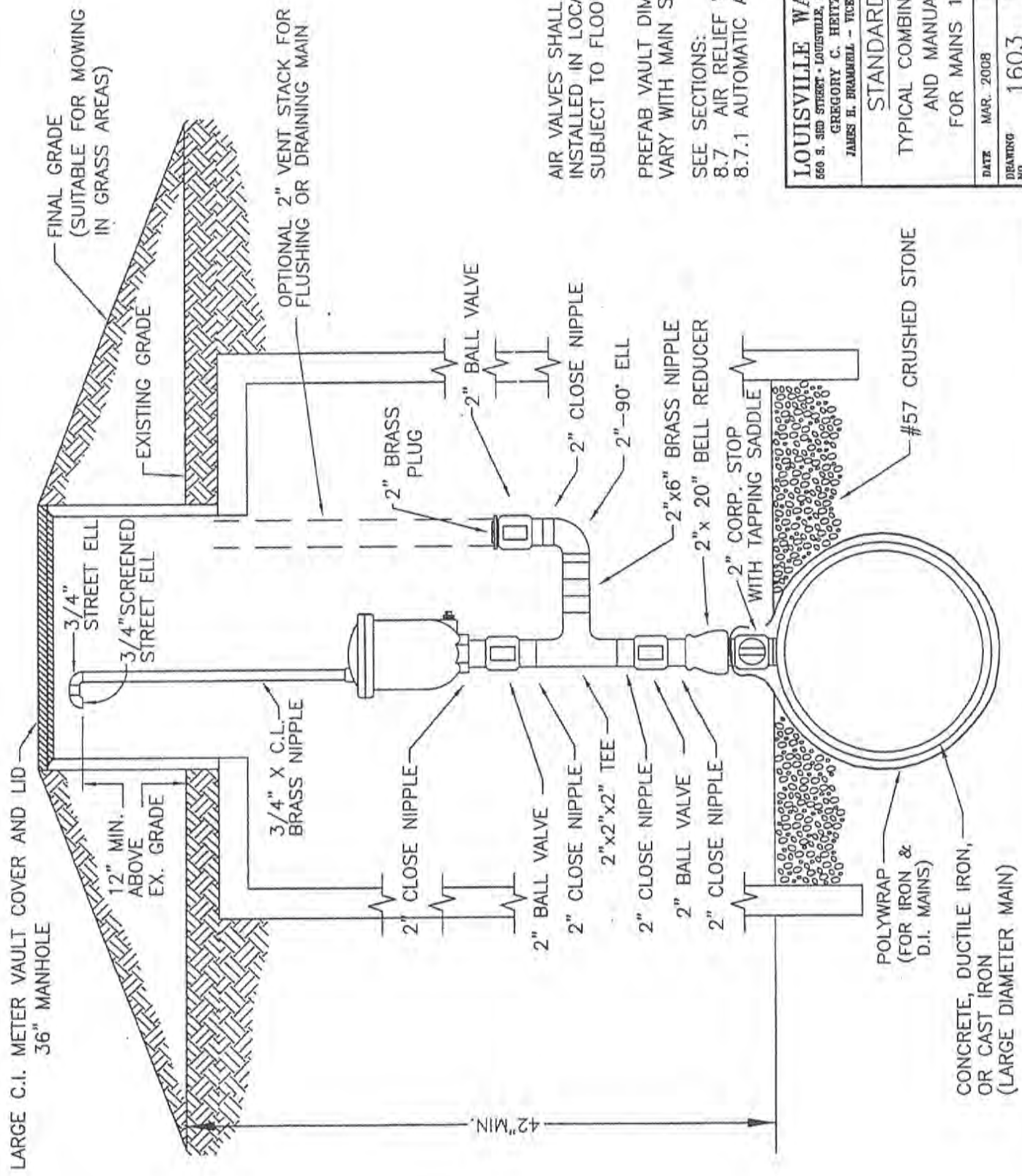
42" OR GREATER

AIR VALVES SHALL NOT BE INSTALLED IN LOCATIONS SUBJECT TO FLOODING. SEE SECTIONS:
8.7 AIR RELIEF VALVES
8.7.2 MANUAL AIR RELIEF VALVES

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STANDARD DRAWING
TYPICAL 3/4" OR 1" MANUAL AIR VALVE
(FOR MAINS UP TO 20")

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	1602	SHEET	1 of 1



AIR VALVES SHALL NOT BE INSTALLED IN LOCATIONS SUBJECT TO FLOODING.

PREFAB VAULT DIMENSIONS VARY WITH MAIN SIZE

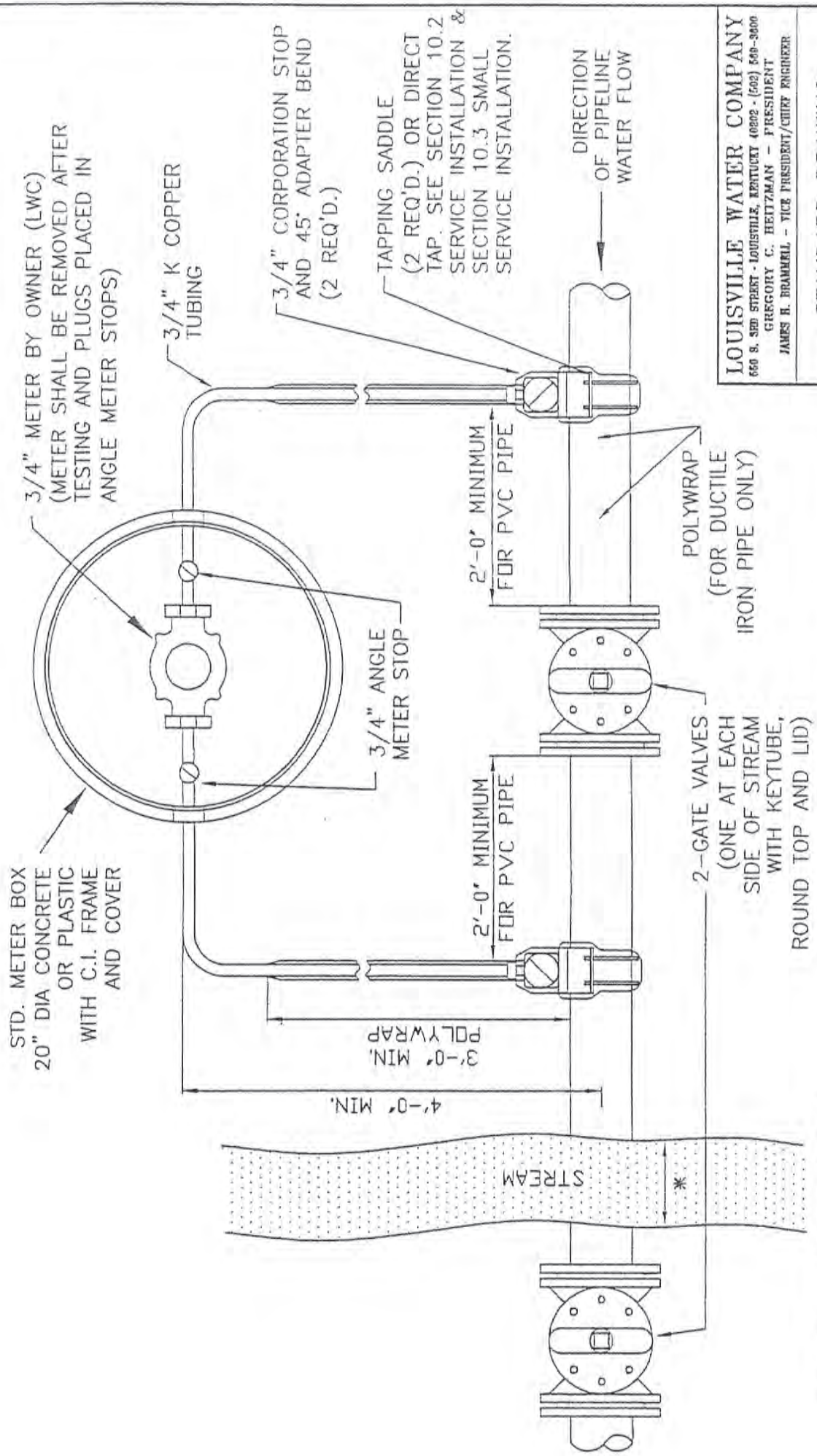
SEE SECTIONS:
8.7 AIR RELIEF VALVES
8.7.1 AUTOMATIC AIR RELIEF VALVES

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STANDARD DRAWING

TYPICAL COMBINED 2" AUTOMATIC AND MANUAL AIR VALVE FOR MAINS 16" AND LARGER

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	1603	SHEET	1 OF 1



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STANDARD DRAWING
LEAK DETECTION
BY-PASS METER

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	1608	SHEET	1 of 1

LEAK DETECTION BY-PASS METER
FOR UNDERWATER CROSSINGS

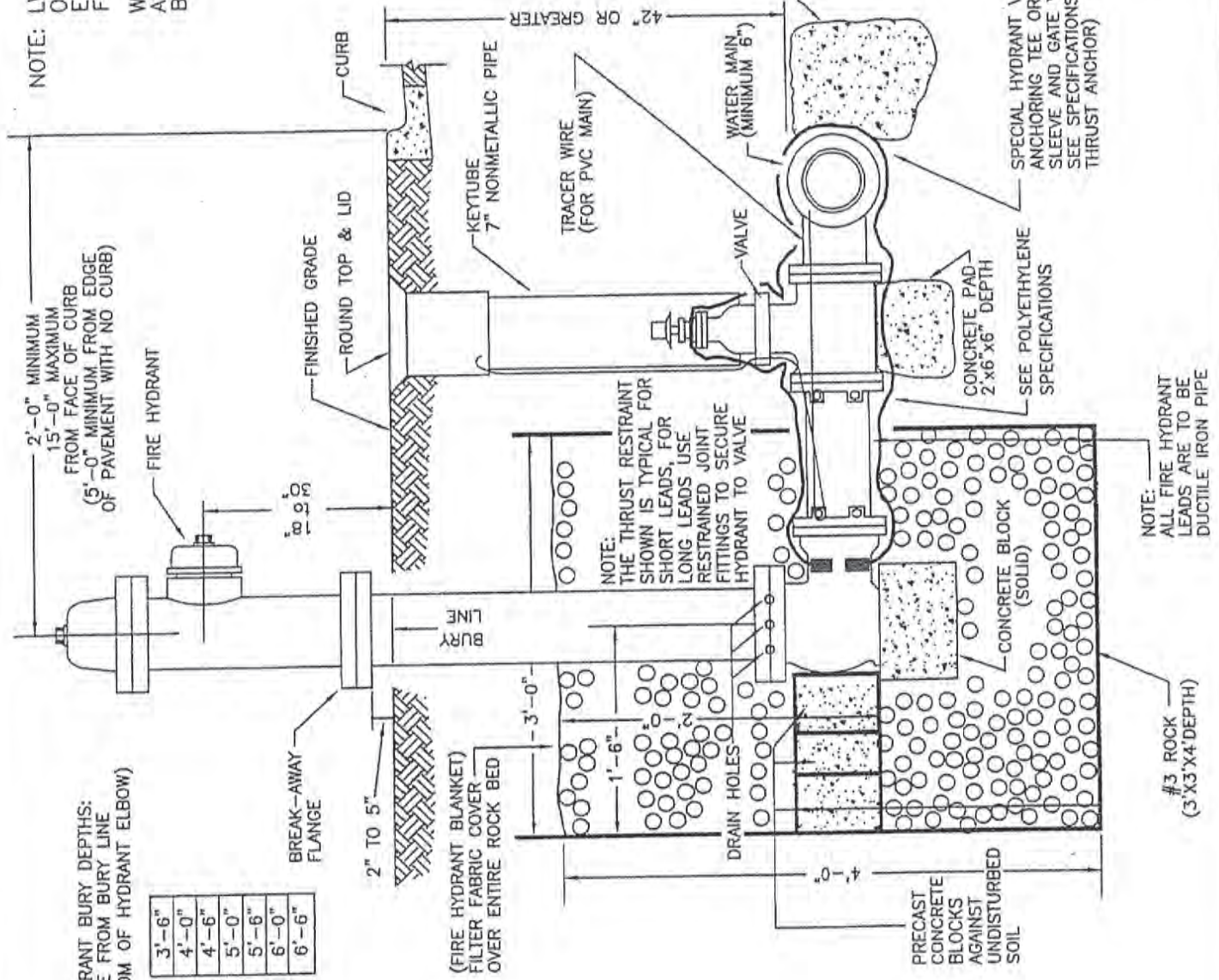
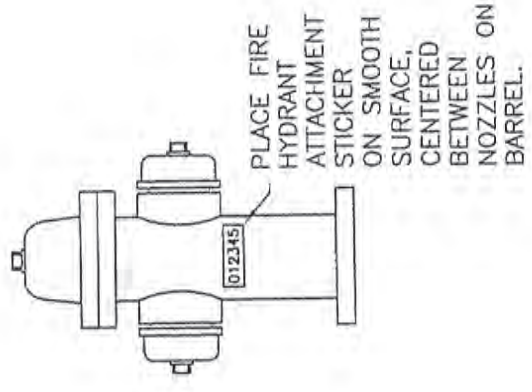
* LEAK DETECTION BY-PASS METER IS REQUIRED IF UNDERWATER CROSSING IS GREATER THAN 15 FT. SEE SECTION 8.8.

NOTE: LWC SUPPLIES HYDRANTS OF VARIOUS BURY DEPTHS. EXTENSION KITS ARE PROHIBITED FOR NEW INSTALLATIONS. SEE SECTION 9. WHEN TURNING FIRE HYDRANT OFF, ALLOW TIME FOR FIRE HYDRANT TO DRAIN BEFORE REPLACING NOZZLE CAPS.

2'-0" MINIMUM FROM FACE OF CURB
15'-0" MAXIMUM (5'-0" MINIMUM FROM EDGE OF PAVEMENT WITH NO CURB)

FIRE HYDRANT BURY DEPTHS:
(DISTANCE FROM BURY LINE TO BOTTOM OF HYDRANT ELBOW)

3'-6"
4'-0"
4'-6"
5'-0"
5'-6"
6'-0"
6'-6"



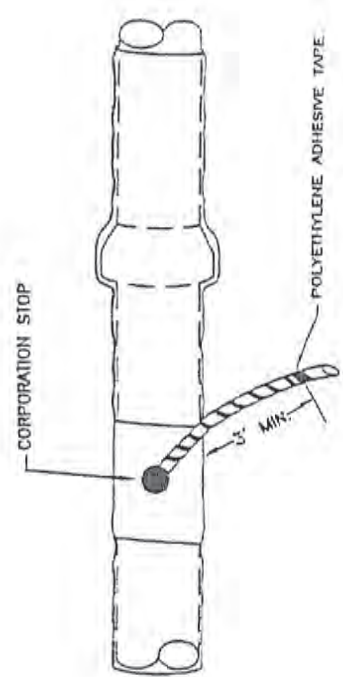
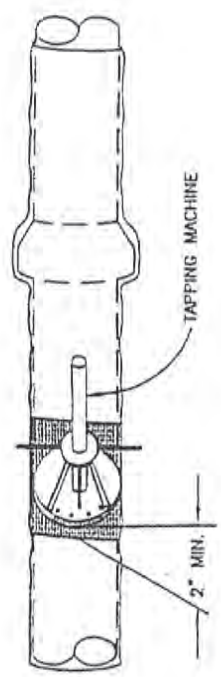
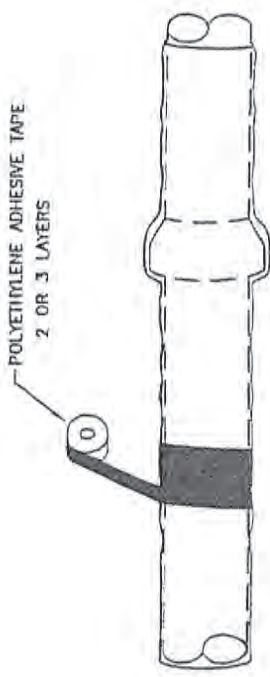
NOTE: THE THRUST RESTRAINT SHOWN IS TYPICAL FOR SHORT LEADS, FOR LONG LEADS USE RESTRAINED JOINT FITTINGS TO SECURE HYDRANT TO VALVE.

NOTE: ALL FIRE HYDRANT LEADS ARE TO BE DUCTILE IRON PIPE

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STANDARD DRAWING
TYPICAL
FIRE HYDRANT INSTALLATION

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	2000	SHEET	1 OF 1



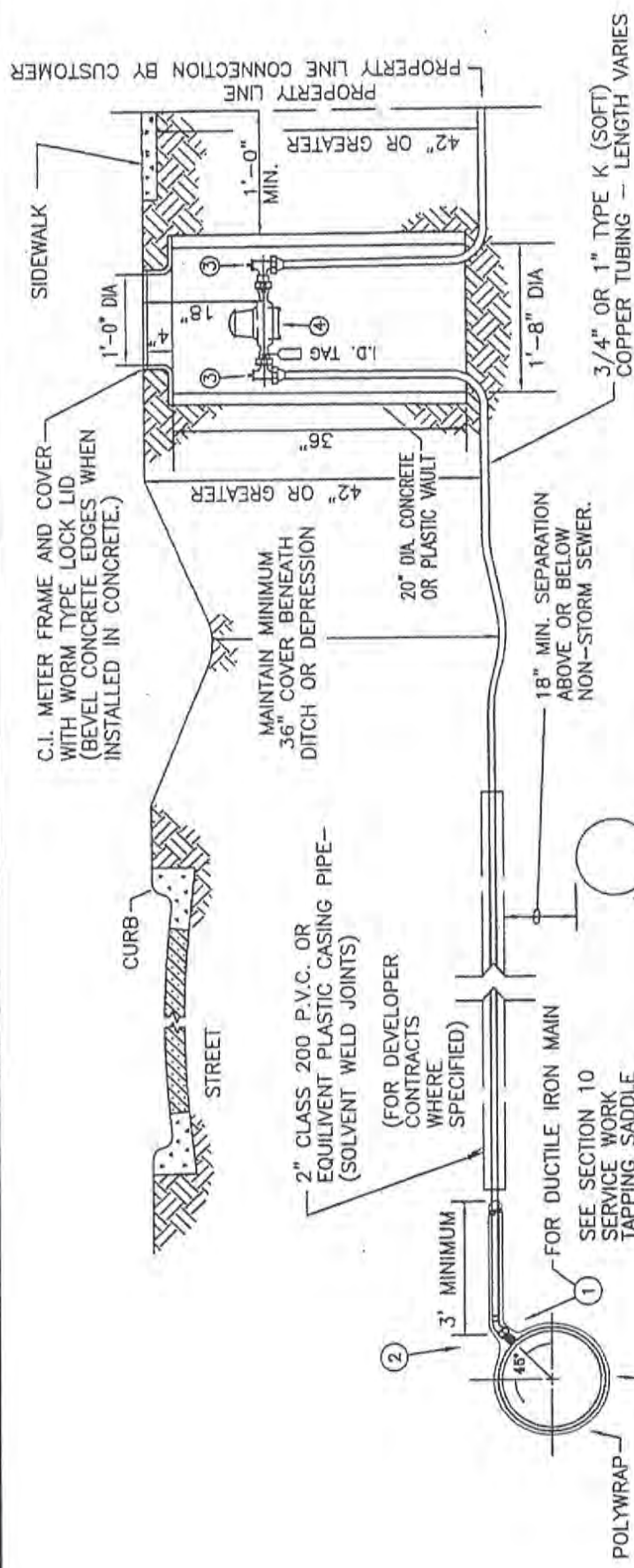
OPENINGS FOR BRANCHES, SERVICE TAPS, BLOW OFFS, AIR VALVES, AND SIMILAR APPURTENANCES SHALL BE MADE BY:

- 1.) WRAPPING 2 OR 3 LAYERS OF POLYETHYLENE ADHESIVE TAPE COMPLETELY AROUND THE PIPE TO COVER THE AREA WHERE THE TAPPING MACHINE AND CHAIN WILL BE MOUNTED, EXTENDING A MINIMUM OF 2" BEYOND THE MOUNTING SURFACE.
- 2.) MOUNT THE TAPPING MACHINE ON THE PIPE AREA COVERED BY THE TAPE. MAKE THE TAP AND INSTALL THE CORPORATION STOP DIRECTLY THROUGH THE TAPE AND POLYETHYLENE.
- 3.) INSPECT THE ENTIRE CIRCUMFERENTIAL AREA FOR DAMAGE AND MAKE ANY NECESSARY REPAIRS WITH TAPE.
- 4.) ON HOUSE SERVICES, TO MINIMIZE THE POSSIBILITY OF DISSIMILAR METAL CORROSION AT SERVICE CONNECTIONS, WRAP THE CORPORATION STOP AND A MINIMUM CLEAR DISTANCE OF THREE (3) FEET OF THE COPPER SERVICE WITH POLYETHYLENE ADHESIVE TAPE.
- 5.) SEE SECTION 10.3.1 & 10.3.3

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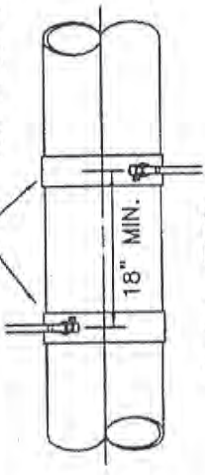
STANDARD DRAWING
 METHOD FOR
 TAPPING POLYETHYLENE
 ENCASED PIPE

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3804	SHEET	1 OF 1



NOTE:

- 1) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE, WITH HEAVY FRAME AND COVER, OTHERS SHALL BE PLASTIC WITH LIGHT FRAME AND COVER.
- 2) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING 3804.



PLAN FOR
PVC MAIN

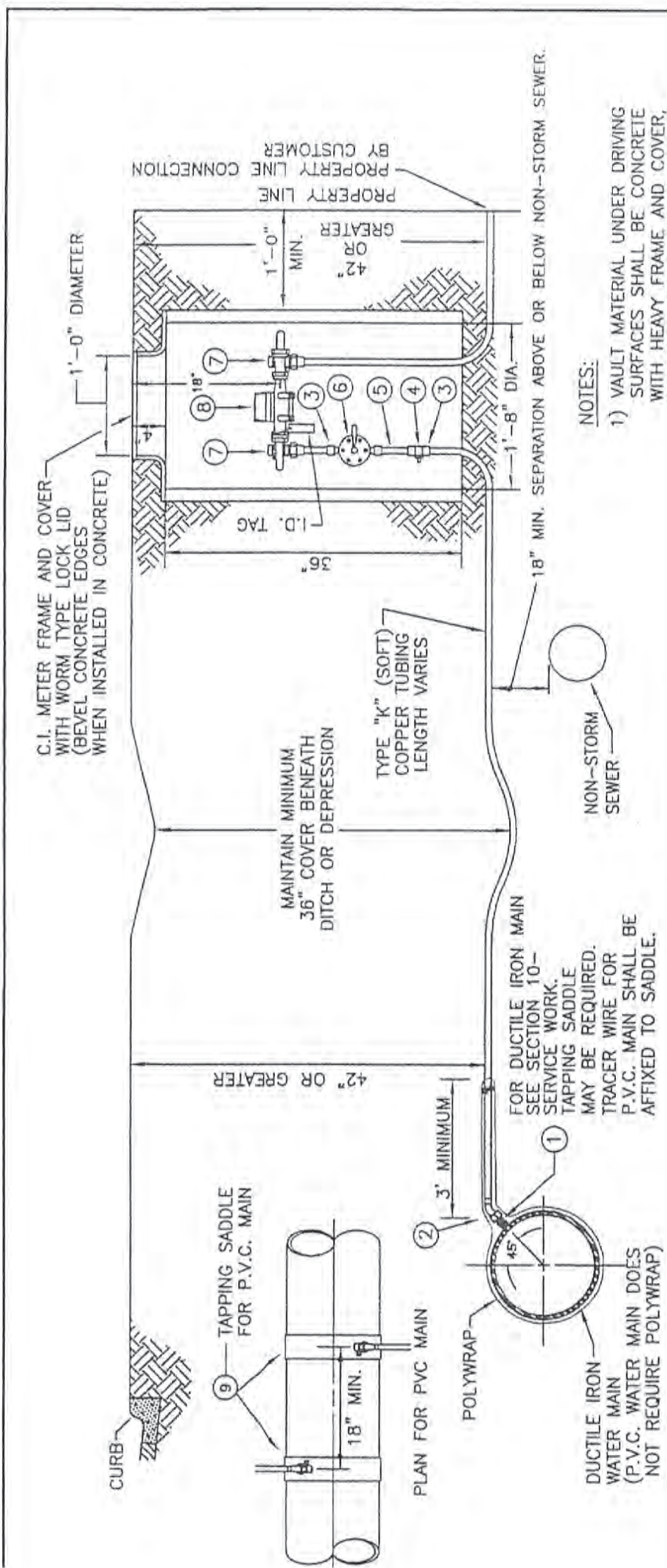
TYPICAL COPPER SERVICE 1" AND SMALLER

NO.	QTY	FITTING	JOINT	SERVICE SIZES
①	1	Corporation Stop	Inlet-Male Thread (Tapered)	1"
②	1	Adapter Bend (45° OR 90°)	Outlet-Male Thread	3/4"
③	2	Angle Meter Stop	Inlet-Female Thread	1"
			Outlet-Female Compression	1"
			Female Compression	3/4"
			Female Thread	3/4"
④	1	Meter	Male Thread	1"

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STANDARD DRAWING
TYPICAL COPPER
SERVICE 1" AND
SMALLER

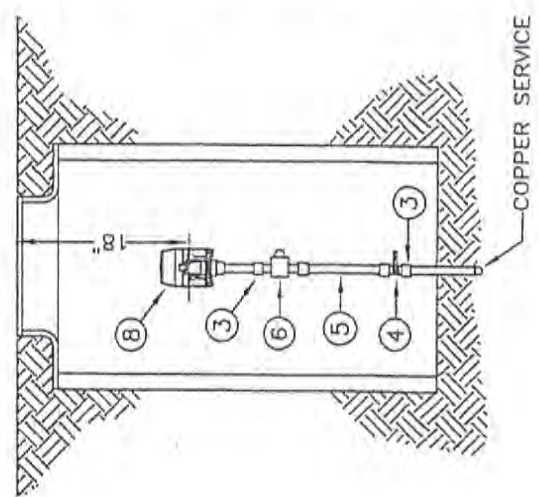
DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3002	SHEET	1 OF 1



NOTES:

- 1) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE WITH HEAVY FRAME AND COVER, OTHERS SHALL BE PLASTIC WITH LIGHT FRAME AND COVER.
- 2) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING 3804.

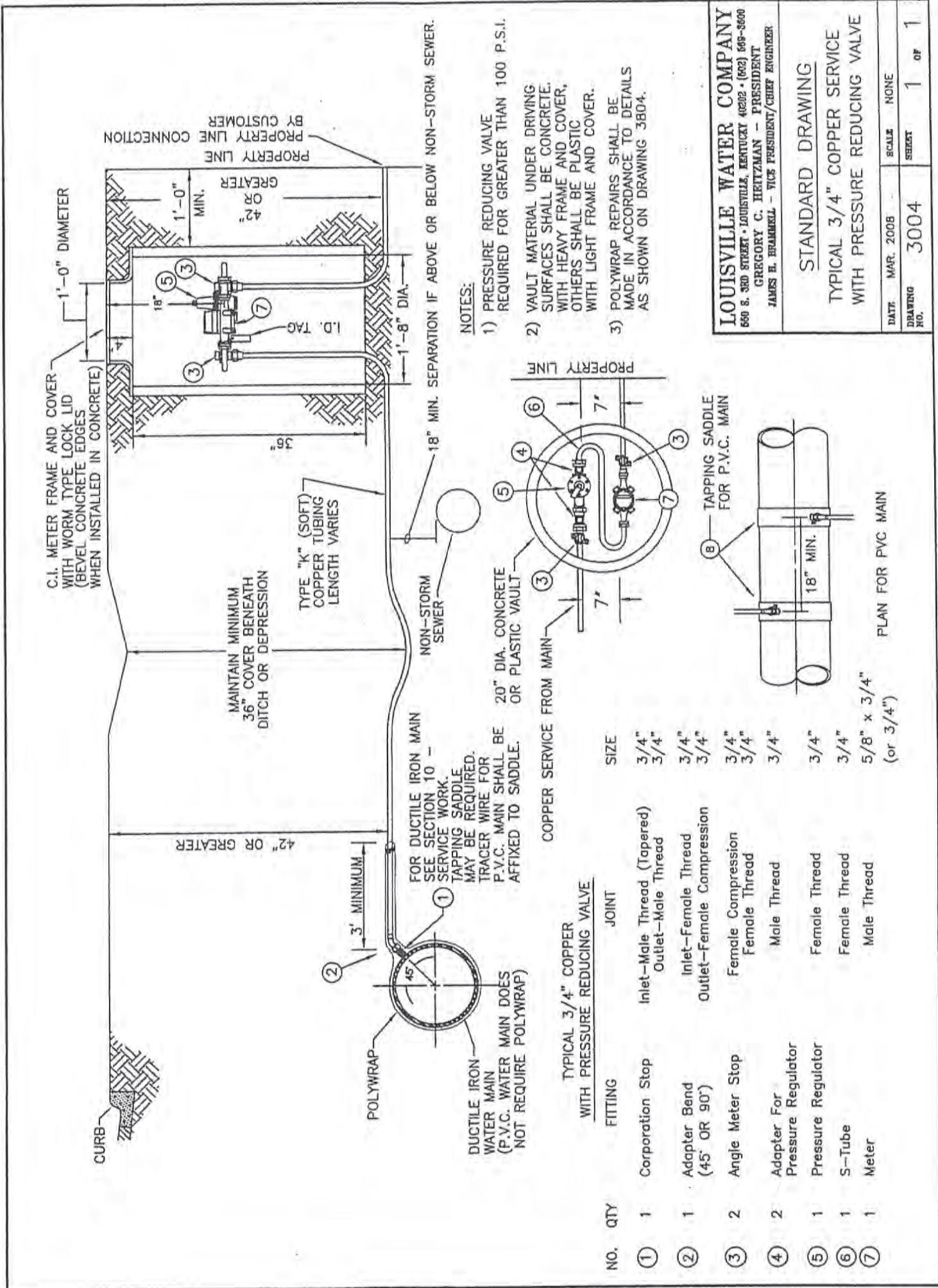
TYPICAL 1" COPPER SERVICE WITH PRESSURE REDUCING VALVE.		JOINT	
NO.	QTY	FITTING	SIZE
1	1	Corporation Stop	1"
		Inlet-Male Thread (Tapered) Outlet-Male Thread	1"
2	1	Adapter Bend (45° OR 90°)	1"
		Inlet-Female Thread Outlet-Female Compression	1"
3	2	Adapter	1"
		Female Compression Male Thread	1"
4	1	Ball Valve w/ Handle	1"
		Female Thread	1"
5	1	Brass Nipple	1"
		Male Thread	1"
6	1	Pressure Reducing Valve	1"
		Female Thread	1"
7	2	Angle Meter Stop	1"
		Female Compression Female Thread	1"
8	1	Meter	1"
		Meter Thread	1"



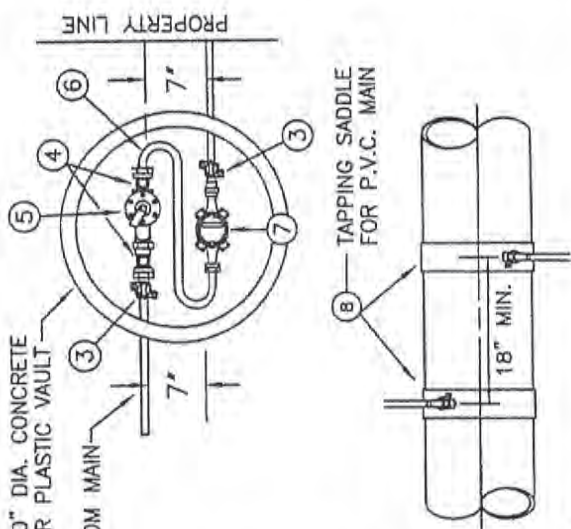
LOUISVILLE WATER COMPANY
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STANDARD DRAWING
TYPICAL 1" COPPER SERVICE
WITH PRESSURE REDUCING VALVE

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3003	SHEET	1 OF 1



- NOTES:**
- 1) PRESSURE REDUCING VALVE REQUIRED FOR GREATER THAN 100 P.S.I.
 - 2) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE. WITH HEAVY FRAME AND COVER, OTHERS SHALL BE PLASTIC WITH LIGHT FRAME AND COVER.
 - 3) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING 3804.



TYPICAL 3/4" COPPER WITH PRESSURE REDUCING VALVE

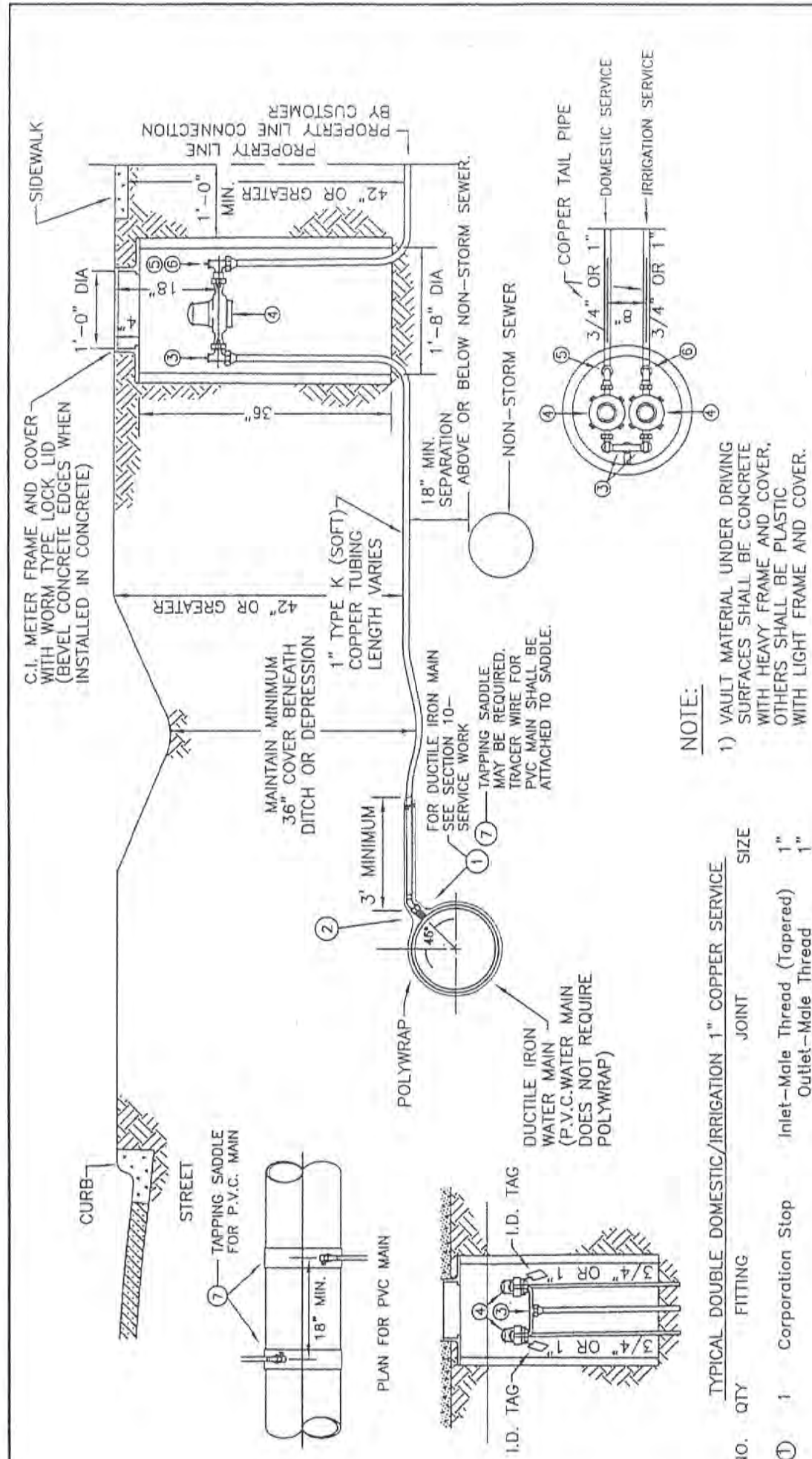
NO.	QTY	FITTING	JOINT	SIZE
①	1	Corporation Stop	Inlet-Male Thread (Tapered) Outlet-Male Thread	3/4" 3/4"
②	1	Adapter Bend (45° OR 90°)	Inlet-Female Thread Outlet-Female Compression	3/4" 3/4"
③	2	Angle Meter Stop	Female Compression Female Thread	3/4" 3/4"
④	2	Adapter For Pressure Regulator	Male Thread	3/4"
⑤	1	Pressure Regulator	Female Thread	3/4"
⑥	1	S-Tube	Female Thread	3/4"
⑦	1	Meter	Male Thread	5/8" x 3/4" (or 3/4")

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STANDARD DRAWING
TYPICAL 3/4" COPPER SERVICE
WITH PRESSURE REDUCING VALVE

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3004	SHEET	1 OF 1

PLAN FOR PVC MAIN



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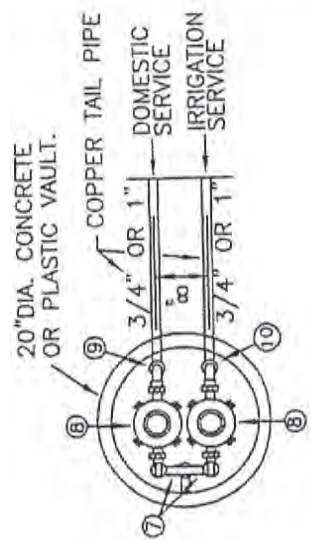
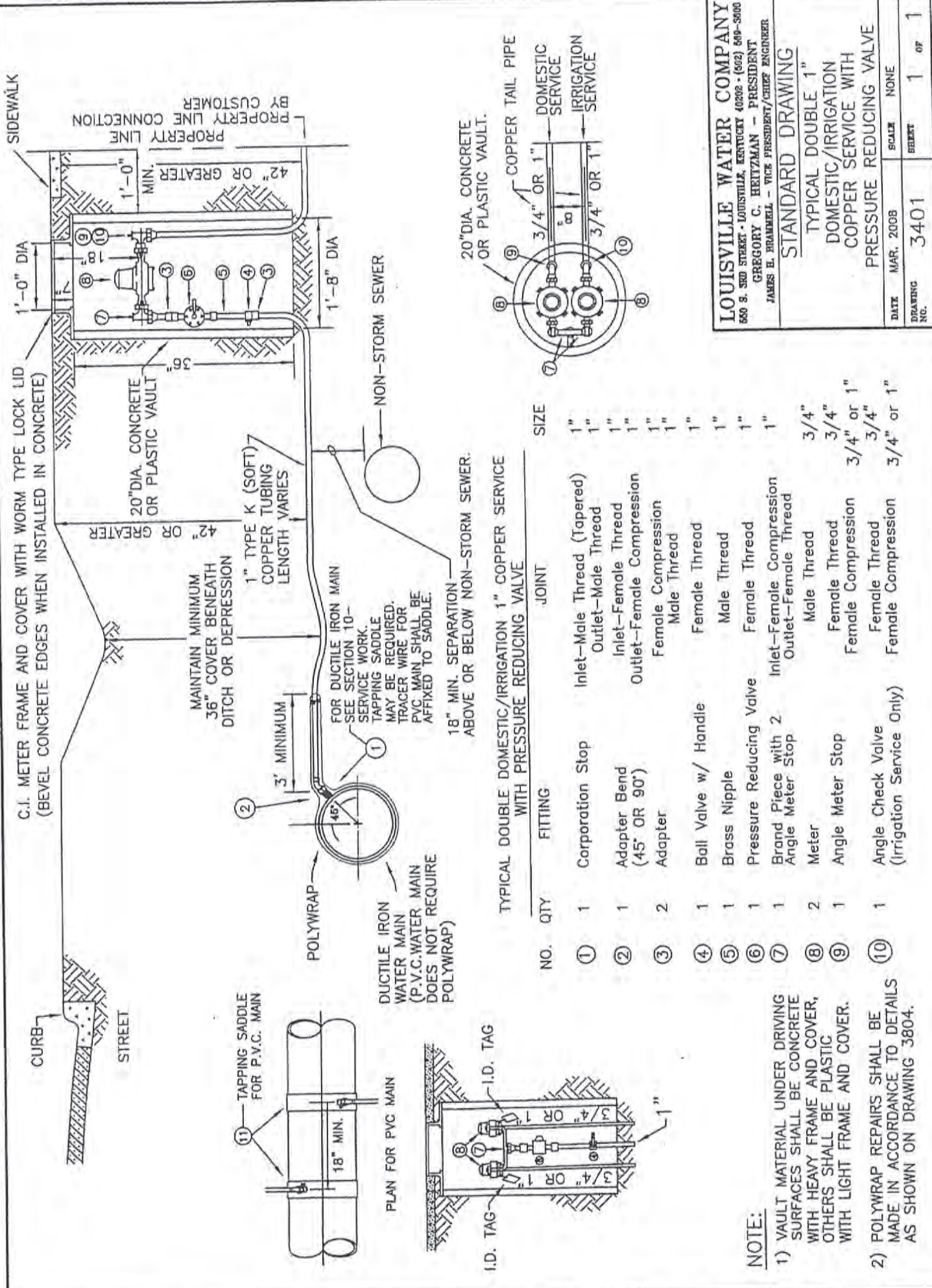
STANDARD DRAWING
TYPICAL DOUBLE 1" DOMESTIC/IRRIGATION COPPER SERVICE

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3400	SHEET	1 OF 1

NOTE:

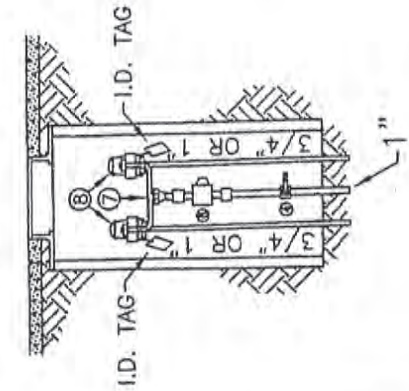
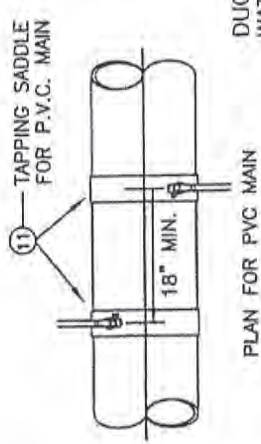
- 1) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE WITH HEAVY FRAME AND COVER. OTHERS SHALL BE PLASTIC WITH LIGHT FRAME AND COVER.
- 2) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING 3804.

NO.	QTY	FITTING	JOINT	SIZE
①	1	Corporation Stop	Inlet-Male Thread (Tapered) Outlet-Male Thread	1" 1"
②	1	Adapter Bend (45° OR 90°)	Inlet-Female Thread Outlet-Female Compression	1" 1"
③	1	Branch Piece, with 2 Angle Meter Stops	Inlet-Female Compression Outlet-Female Compression	1" 3/4"
④	2	Meter	Male Thread	3/4"
⑤	1	Angle Meter Stop	Female Thread	3/4"
⑥	1	Angle Check Valve (Irrigation Service Only)	Female Compression Female Thread Female Compression	3/4" or 1" 3/4" 3/4" or 1"



NO.	QTY	FITTING	JOINT	SIZE
①	1	Corporation Stop	Inlet-Male Thread (Tapered) Outlet-Male Thread	1"
②	1	Adapter Bend (45° OR 90°)	Inlet-Female Thread Outlet-Female Compression	1"
③	2	Adapter	Female Compression Male Thread	1"
④	1	Ball Valve w/ Handle	Female Thread	1"
⑤	1	Brass Nipple	Male Thread	1"
⑥	1	Pressure Reducing Valve	Female Thread	1"
⑦	1	Brand Piece with 2 Angle Meter Stop	Inlet-Female Compression Outlet-Female Thread	1"
⑧	2	Meter	Male Thread	3/4"
⑨	1	Angle Meter Stop	Female Thread	3/4"
⑩	1	Angle Check Valve (Irrigation Service Only)	Female Thread Female Compression	3/4" or 1" 3/4" or 1"

TYPICAL DOUBLE DOMESTIC/IRRIGATION 1" COPPER SERVICE WITH PRESSURE REDUCING VALVE



NOTE:

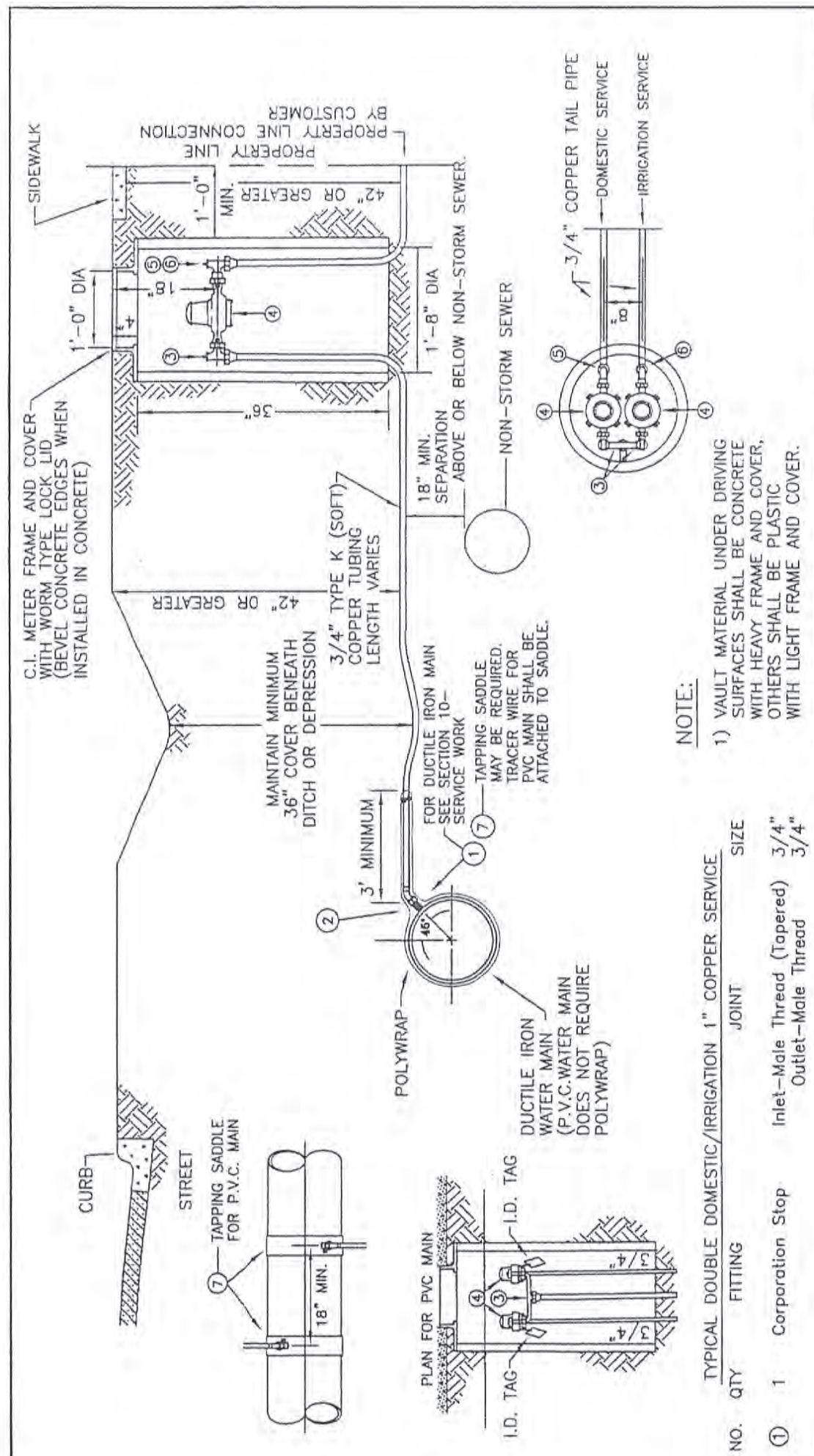
- 1) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE WITH HEAVY FRAME AND COVER, OTHERS SHALL BE PLASTIC WITH LIGHT FRAME AND COVER.
- 2) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING 3804.

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STANDARD DRAWING

TYPICAL DOUBLE 1" DOMESTIC/IRRIGATION COPPER SERVICE WITH PRESSURE REDUCING VALVE

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3401	SHEET	1 OF 1



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 GREGORY C. HEITZMAN - PRESIDENT
 JAMES B. BRAMBELL - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
 TYPICAL 3/4" IRRIGATION
 RETRO FIT
 COPPER SERVICE

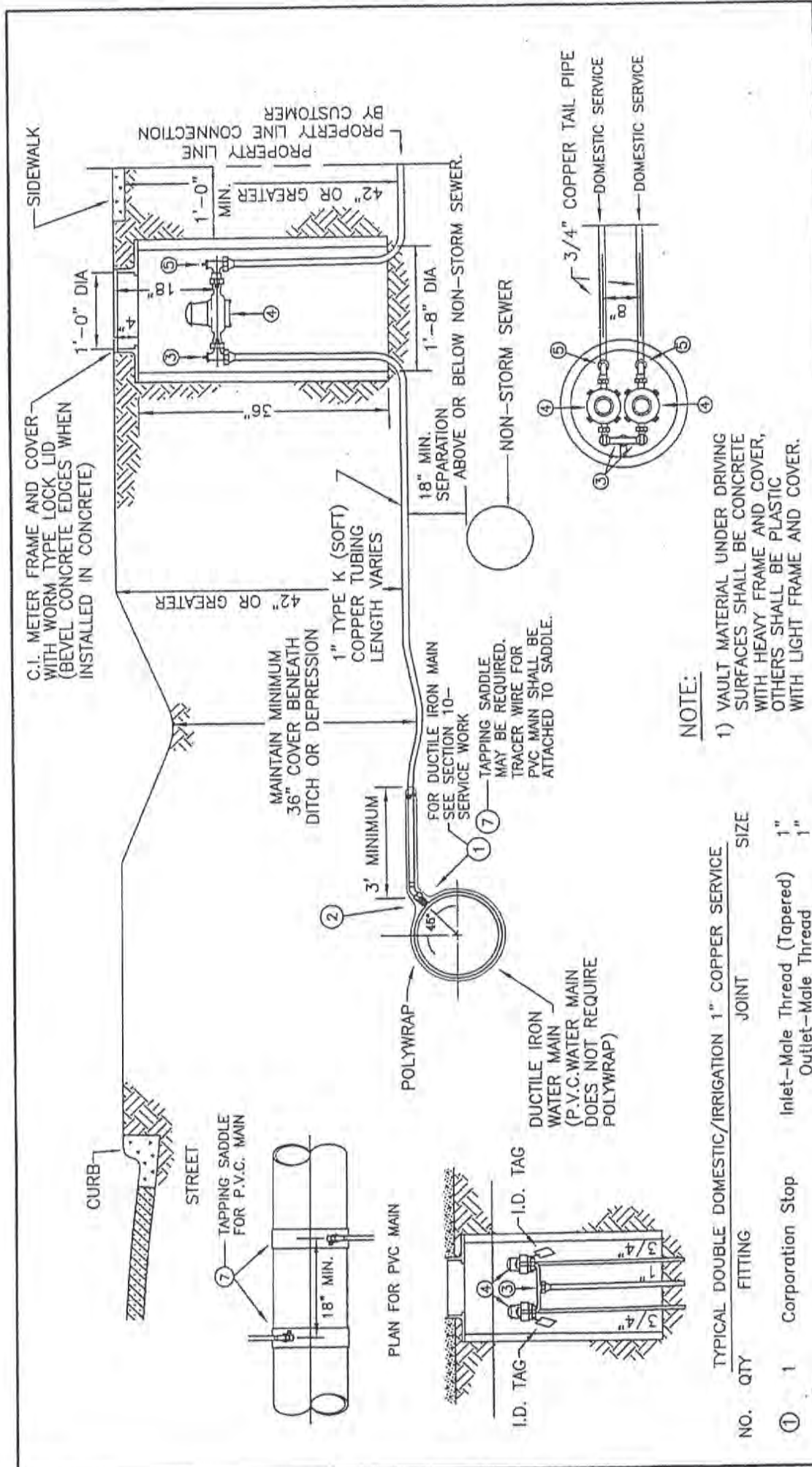
DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3403	SHEET	1 of 1

NOTE:

- 1) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE WITH HEAVY FRAME AND COVER, OTHERS SHALL BE PLASTIC WITH LIGHT FRAME AND COVER.
- 2) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING 3804.

TYPICAL DOUBLE DOMESTIC/IRRIGATION 1" COPPER SERVICE

NO.	QTY	FITTING	JOINT	SIZE
①	1	Corporation Stop	Inlet-Male Thread (Tapered) Outlet-Male Thread	3/4" 3/4"
②	1	Adapter Bend (45° OR 90°)	Inlet-Female Thread Outlet-Female Compression	3/4" 3/4"
③	1	Branch Piece, with 2 Angle Meter Stops	Inlet-Female Compression Outlet-Female Compression	3/4" x 3/4" 3/4"
④	2	Meter	Male Thread	3/4"
⑤	1	Angle Meter Stop	Female Thread Female Compression	3/4" 3/4"
⑥	1	Angle Check Valve (Irrigation Service Only)	Female Thread Female Compression	3/4" 3/4"



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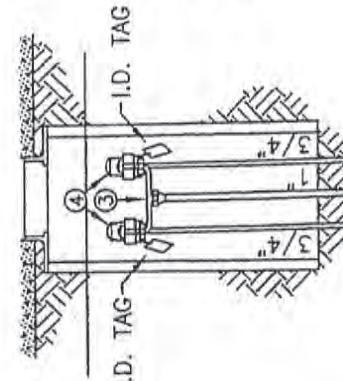
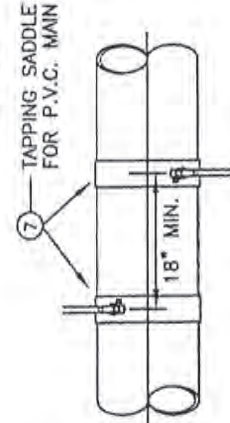
STANDARD DRAWING
 TYPICAL 1" TANDEM
 2-WAY DOMESTIC
 COPPER SERVICE

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3404	SHEET	1 OF 1

- NOTE:**
- 1) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE WITH HEAVY FRAME AND COVER, OTHERS SHALL BE PLASTIC WITH LIGHT FRAME AND COVER.
 - 2) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING 3804.

NO.	QTY	FITTING	JOINT	SIZE
①	1	Corporation Stop	Inlet-Male Thread (Tapered) Outlet-Male Thread	1" 1"
②	1	Adapter Bend (45° OR 90°)	Inlet-Female Thread Outlet-Female Compression	1" 1"
③	1	Branch Piece, with 2 Angle Meter Stops	Inlet-Female Compression Outlet-Female Compression	1" x 3/4" 3/4"
④	2	Meter	Male Thread	3/4"
⑤	2	Angle Meter Stop	Female Thread Female Compression	3/4" 3/4"

TYPICAL DOUBLE DOMESTIC/IRRIGATION 1" COPPER SERVICE



POLYWRAP

DUCTILE IRON WATER MAIN (P.V.C. WATER MAIN DOES NOT REQUIRE POLYWRAP)

FOR DUCTILE IRON MAIN SEE SECTION 10-SERVICE WORK

TAPPING SADDLE MAY BE REQUIRED. TRACER WIRE FOR PVC MAIN SHALL BE ATTACHED TO SADDLE.

18" MIN. SEPARATION ABOVE OR BELOW NON-STORM SEWER.

1" TYPE K (SOFT) COPPER TUBING LENGTH VARIES

4'-2" OR GREATER

36" COVER BENEATH DITCH OR DEPRESSION

MAINTAIN MINIMUM 36" COVER BENEATH DITCH OR DEPRESSION

1'-0" DIA

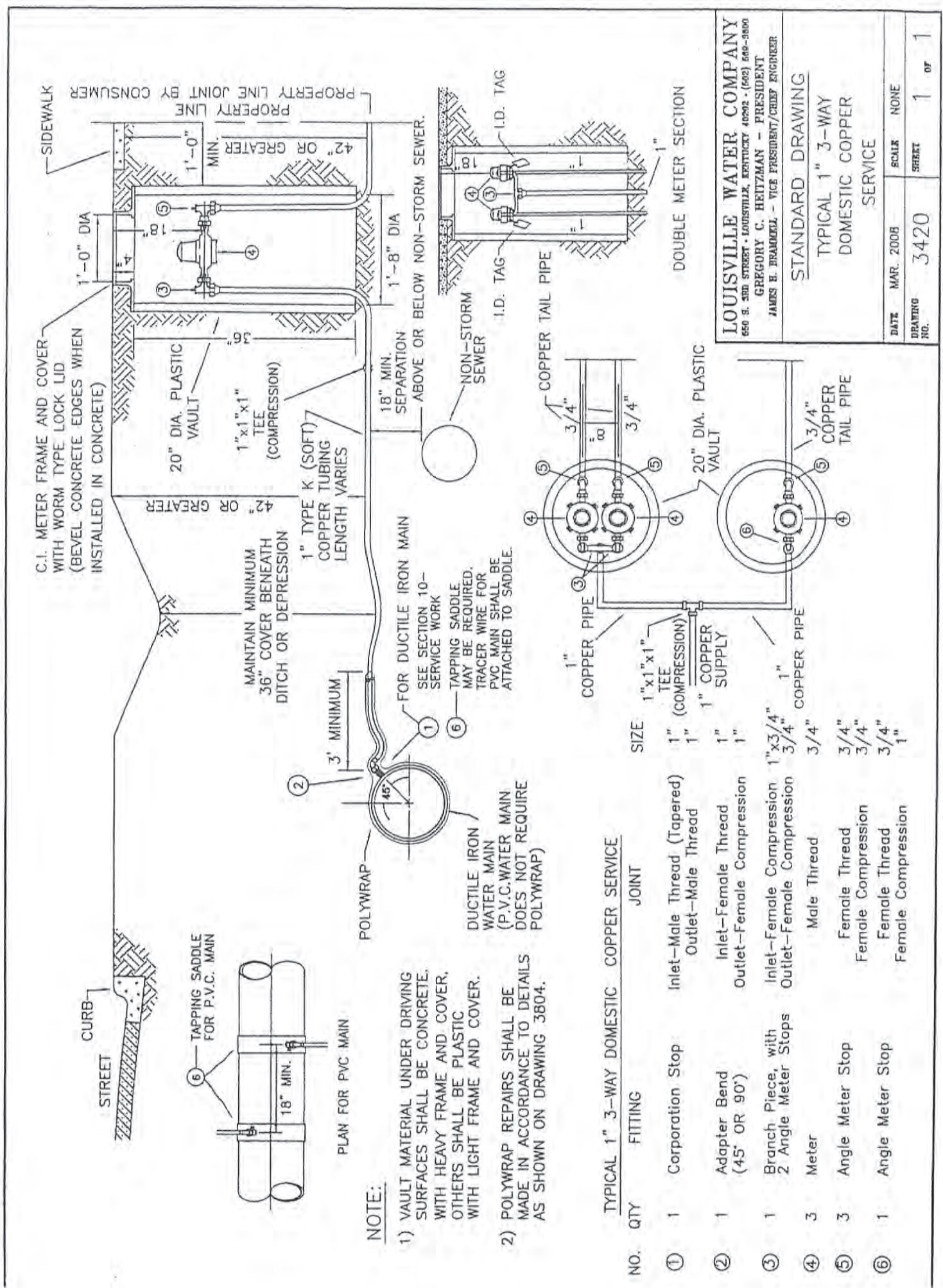
1'-0" DIA

PROPERTY LINE

PROPERTY LINE CONNECTION BY CUSTOMER

SIDEWALK

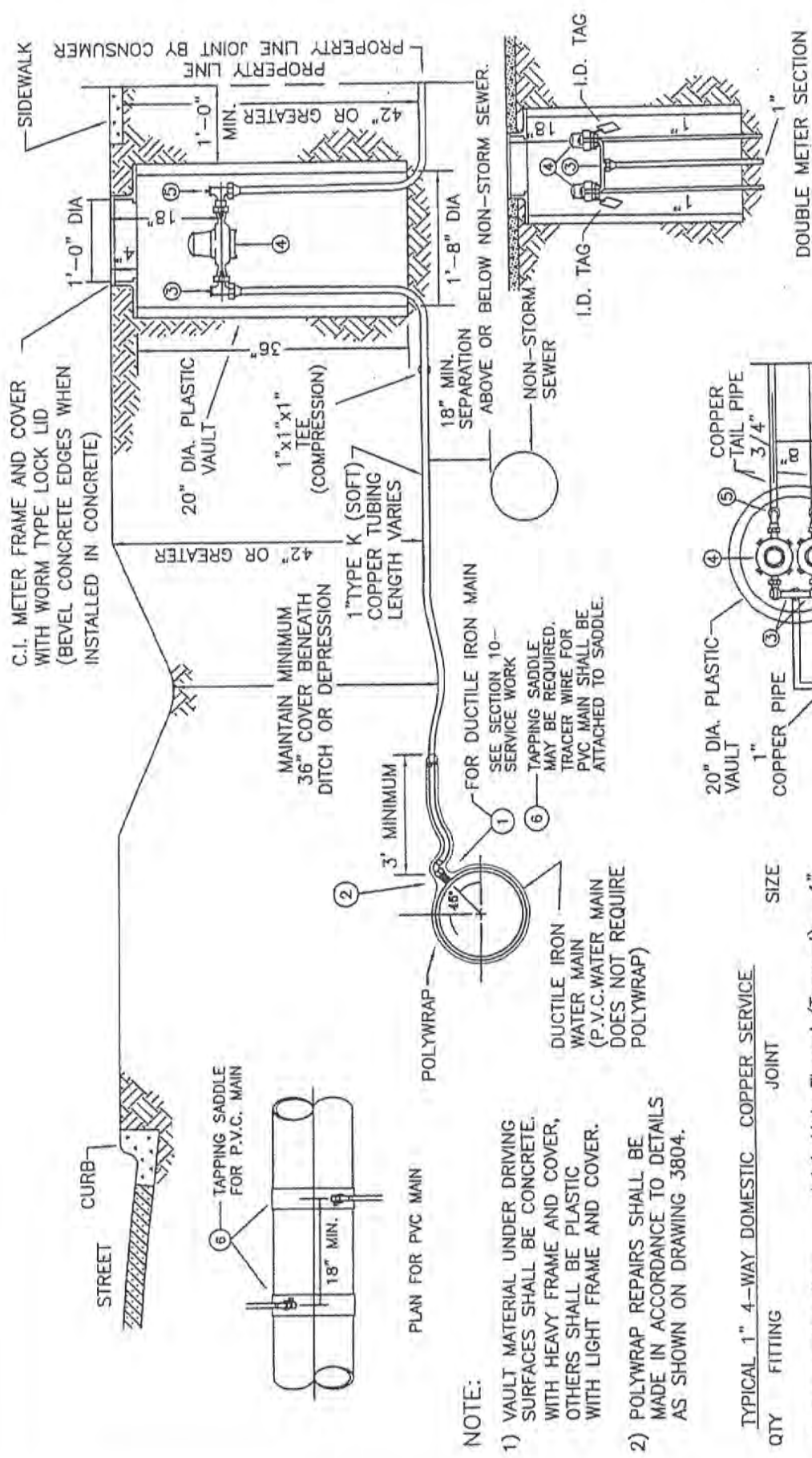
C.I. METER FRAME AND COVER WITH WORM TYPE LOCK LID (BEVEL CONCRETE EDGES WHEN INSTALLED IN CONCRETE)



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JAMES B. FRANKEL - VICE PRESIDENT/CHIEF ENGINEER

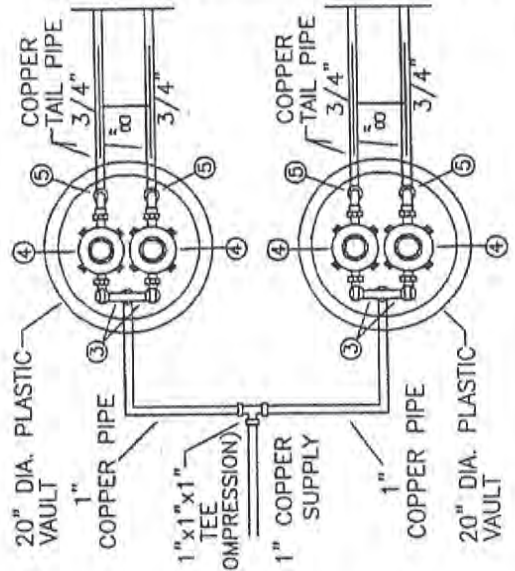
STANDARD DRAWING
TYPICAL 1" 3-WAY DOMESTIC COPPER SERVICE

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3420	SHEET	1 OF 1



NOTE:

- 1) VAULT MATERIAL UNDER DRIVING SURFACES SHALL BE CONCRETE. WITH HEAVY FRAME AND COVER, OTHERS SHALL BE PLASTIC WITH LIGHT FRAME AND COVER.
- 2) POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING 3804.

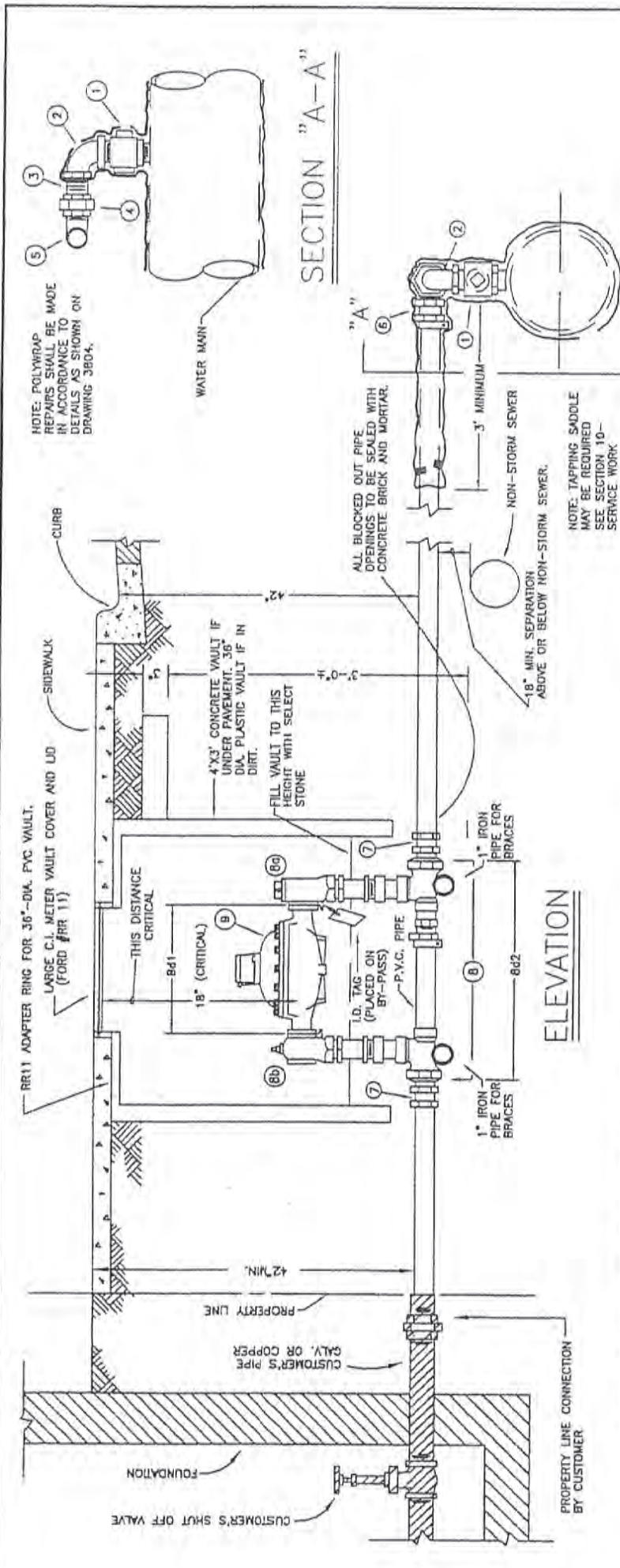


NO.	QTY	FITTING	JOINT	SIZE
①	1	Corporation Stop	Inlet-Male Thread (Tapered) Outlet-Male Thread	1" 1"
②	1	Adapter Bend (45° OR 90°)	Inlet-Female Thread Outlet-Female Compression	1" 1"
③	2	Branch Piece, with 2 Angle Meter Stops	Inlet-Female Compression Outlet-Female Compression	1"x3/4" 3/4"
④	4	Meter	Male Thread	3/4"
⑤	4	Angle Meter Stop	Female Thread Female Compression	3/4" 3/4"

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STANDARD DRAWING
TYPICAL 1" 4-WAY
DOMESTIC COPPER
SERVICE

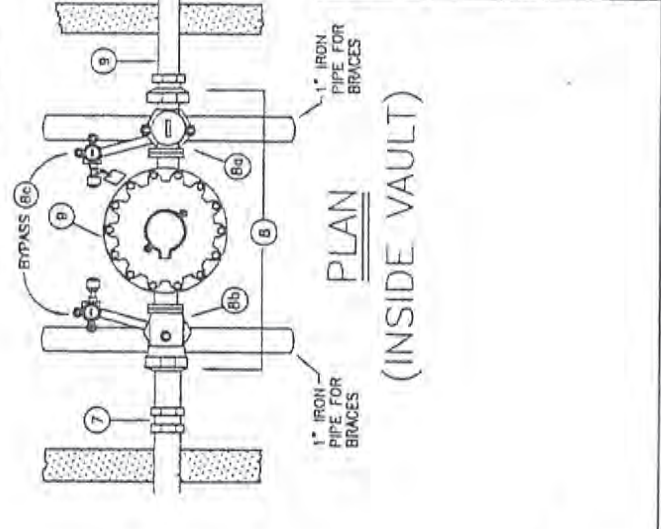
DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3430	SHEET	1 OF 1



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STANDARD DRAWING
TYPICAL 1-1/2" OR 2" COPPER SERVICE

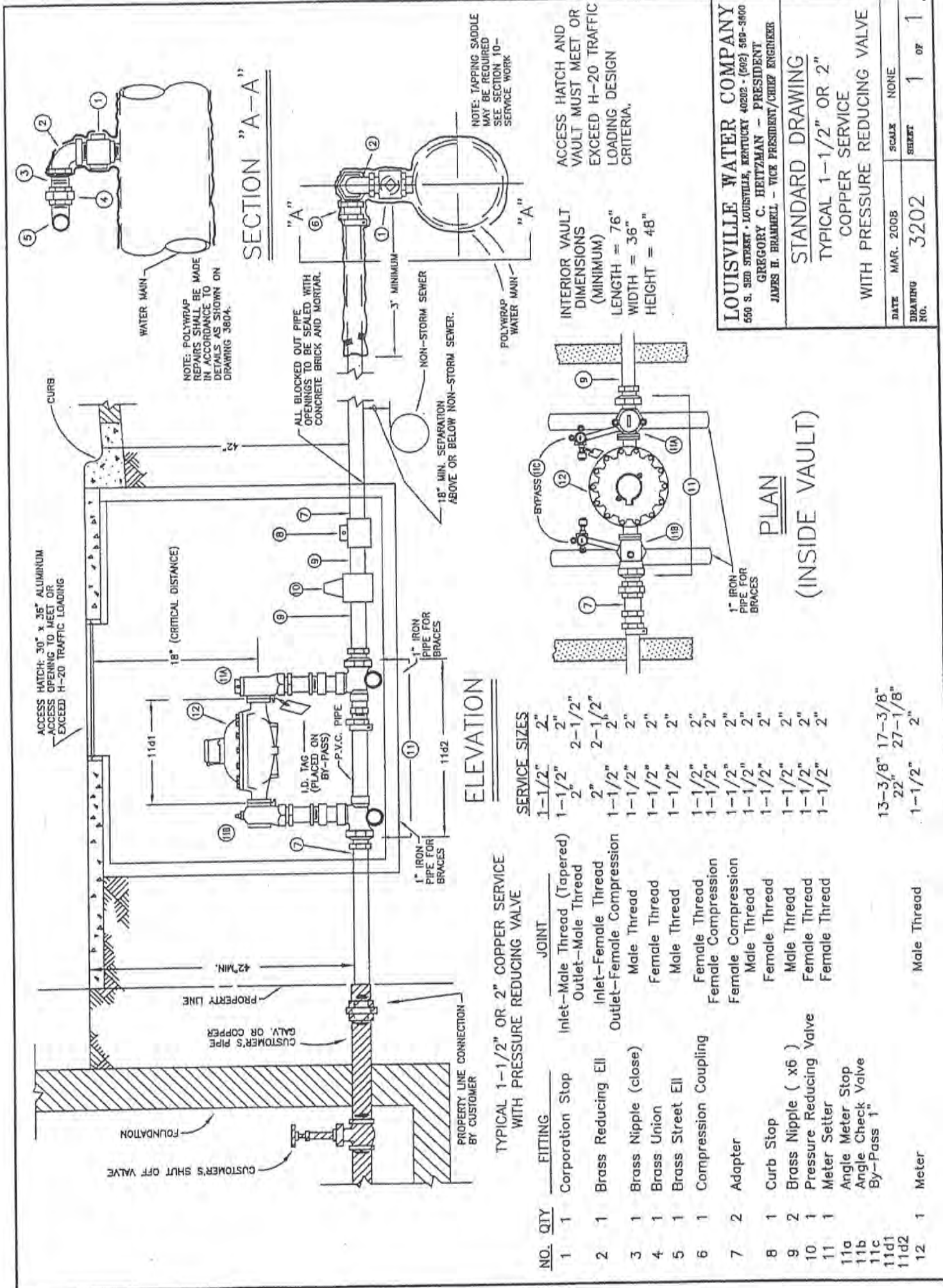
DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3200	SHEET	1 OF 1



ELEVATION

TYPICAL 1-1/2" OR 2" COPPER SERVICE

NO.	QTY	FITTING	JOINT	SERVICE SIZES
①	1	Corporation Stop	Inlet-Male Thread (Tapered) Outlet-Male Thread	1-1/2" 2" 2" 2-1/2"
②	1	Brass Reducing Ell	Inlet-Female Thread Outlet-Female Thread	2" 2-1/2" 2" 2-1/2"
③	1	Brass Nipple (close)	Male Thread	1-1/2" 2"
④	1	Brass Union	Female Thread	1-1/2" 2"
⑤	1	Brass Street Ell	Male Thread	1-1/2" 2"
⑥	1	Compression Coupling	Female Thread	1-1/2" 2"
⑦	2	Adapter	Female Compression	1-1/2" 2"
⑧	1	Meter Setter	Male Thread	1-1/2" 2"
⑨	1	Angle Meter Stop	Female Thread	1-1/2" 2"
⑩	1	Angle Check Valve	Male Thread	1-1/2" 2"
⑪	1	By-Pass 1"	Female Thread	1-1/2" 2"
⑫	1	Meter	Male Thread	13-3/8" 17-3/8" 22" 27-1/8" 1-1/2" 2"



ELEVATION

TYPICAL 1-1/2" OR 2" COPPER SERVICE WITH PRESSURE REDUCING VALVE

NO.	QTY	FITTING	JOINT	SERVICE SIZES
1	1	Corporation Stop	Inlet-Male Thread (Tapered) Outlet-Male Thread	1-1/2" 2" 1-1/2" 2"
2	1	Brass Reducing Ell	Inlet-Female Thread Outlet-Female Compression	2" 2-1/2" 2" 2-1/2"
3	1	Brass Nipple (close)	Male Thread	1-1/2" 2"
4	1	Brass Union	Female Thread	1-1/2" 2"
5	1	Brass Street Ell	Male Thread	1-1/2" 2"
6	1	Compression Coupling	Female Thread Female Compression	1-1/2" 2" 1-1/2" 2"
7	2	Adapter	Female Compression Male Thread	1-1/2" 2" 1-1/2" 2"
8	1	Curb Stop	Female Thread	1-1/2" 2"
9	2	Brass Nipple (x6)	Male Thread	1-1/2" 2"
10	1	Pressure Reducing Valve	Female Thread	1-1/2" 2"
11	1	Meter Setter	Female Thread	1-1/2" 2"
11a		Angle Meter Stop		
11b		Angle Check Valve		
11c		By-Pass 1"		
11d1				
11d2				
12	1	Meter	Male Thread	13-3/8" 17-3/8" 22" 27-1/8" 1-1/2" 2"

LOUISVILLE WATER COMPANY
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STANDARD DRAWING
TYPICAL 1-1/2" OR 2"
COPPER SERVICE
WITH PRESSURE REDUCING VALVE

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3202	SHEET	1 OF 1

ACCESS HATCH AND VAULT MUST MEET OR EXCEED H-20 TRAFFIC LOADING DESIGN CRITERIA.

INTERIOR VAULT DIMENSIONS (MINIMUM)
LENGTH = 76"
WIDTH = 36"
HEIGHT = 48"

PLAN (INSIDE VAULT)

NOTE: TAPPING SADDLE MAY BE REQUIRED SEE SECTION 10-SERVICE WORK

NOTE: POLYWRAP REPAIRS SHALL BE MADE IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING 3604.

ALL BLOCKED OUT PIPE OPENINGS TO BE SEALED WITH CONCRETE BRICK AND MORTAR.
NON-STORM SEWER
POLYWRAP WATER MAIN
18" MIN. SEPARATION ABOVE OR BELOW NON-STORM SEWER.

ACCESS HATCH: 30" x 36" ALUMINUM ACCESS OPENING TO MEET OR EXCEED H-20 TRAFFIC LOADING

18" (CRITICAL DISTANCE)

42" MIN.

CUSTOMER'S SHUT OFF VALVE

CUSTOMER'S PIPE GALV. OR COPPER

FOUNDATION

PROPERTY LINE CONNECTION BY CUSTOMER

PROPERTY LINE

I.D. TAG (PLACED ON BY-PASS)

P.V.C. PIPE

1" IRON PIPE FOR BRACES

1" IRON PIPE FOR BRACES

1" IRON PIPE FOR BRACES

CURB

5

3

2

1

WATER MAIN

SECTION "A-A"

"A"

"A"

6

2

1

3" MINIMUM

1

2

1

NON-STORM SEWER

2

1

NON-STORM SEWER

2

1

18" MIN. SEPARATION ABOVE OR BELOW NON-STORM SEWER.

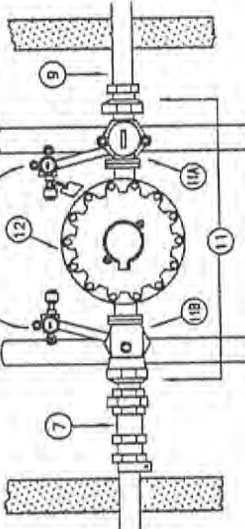
2

1

POLYWRAP WATER MAIN

2

1



PLAN (INSIDE VAULT)

1" IRON PIPE FOR BRACES

11a

11b

11c

11d1

11d2

12

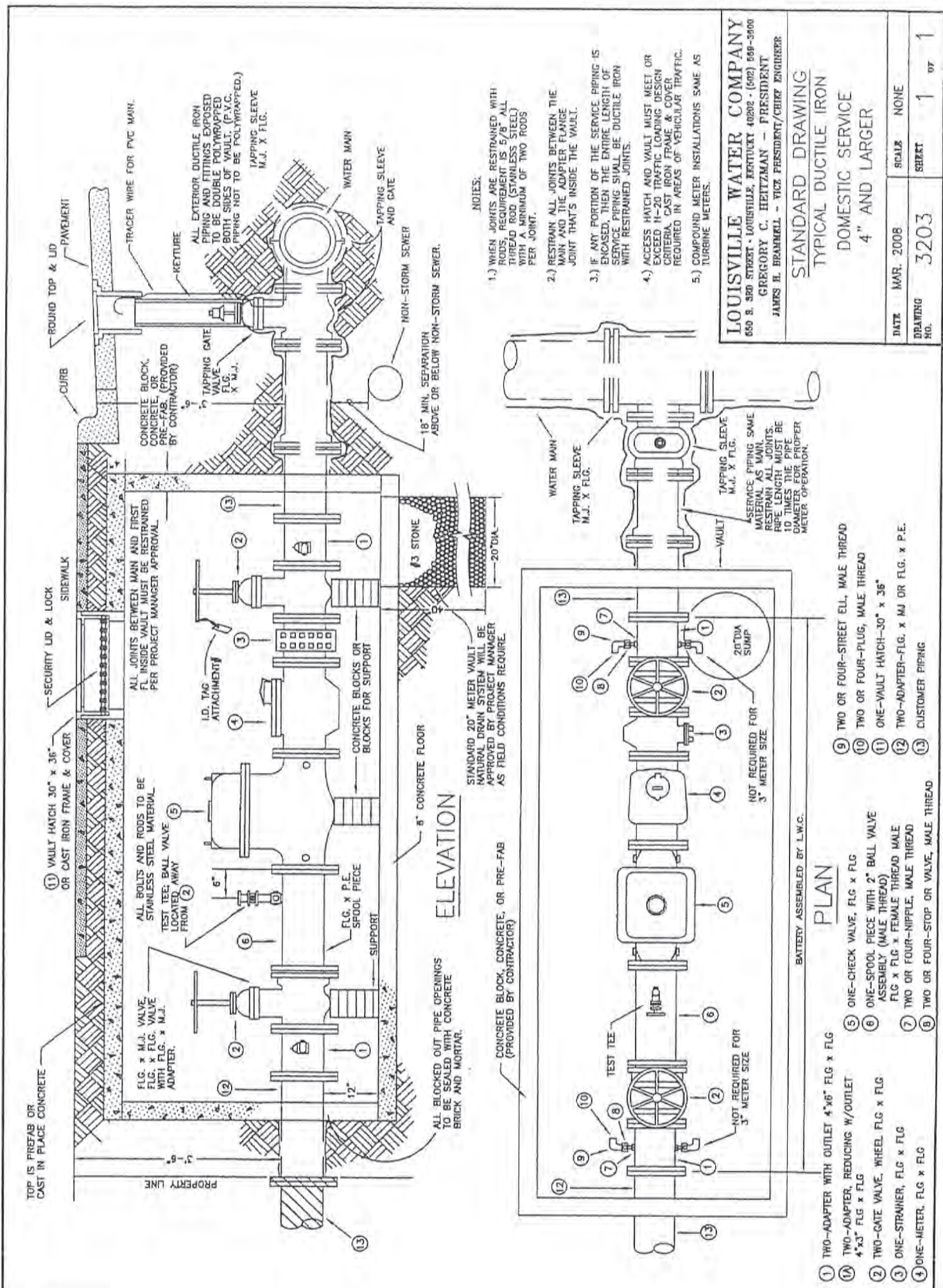
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10

7

BYPASS

PLAN (INSIDE VAULT)

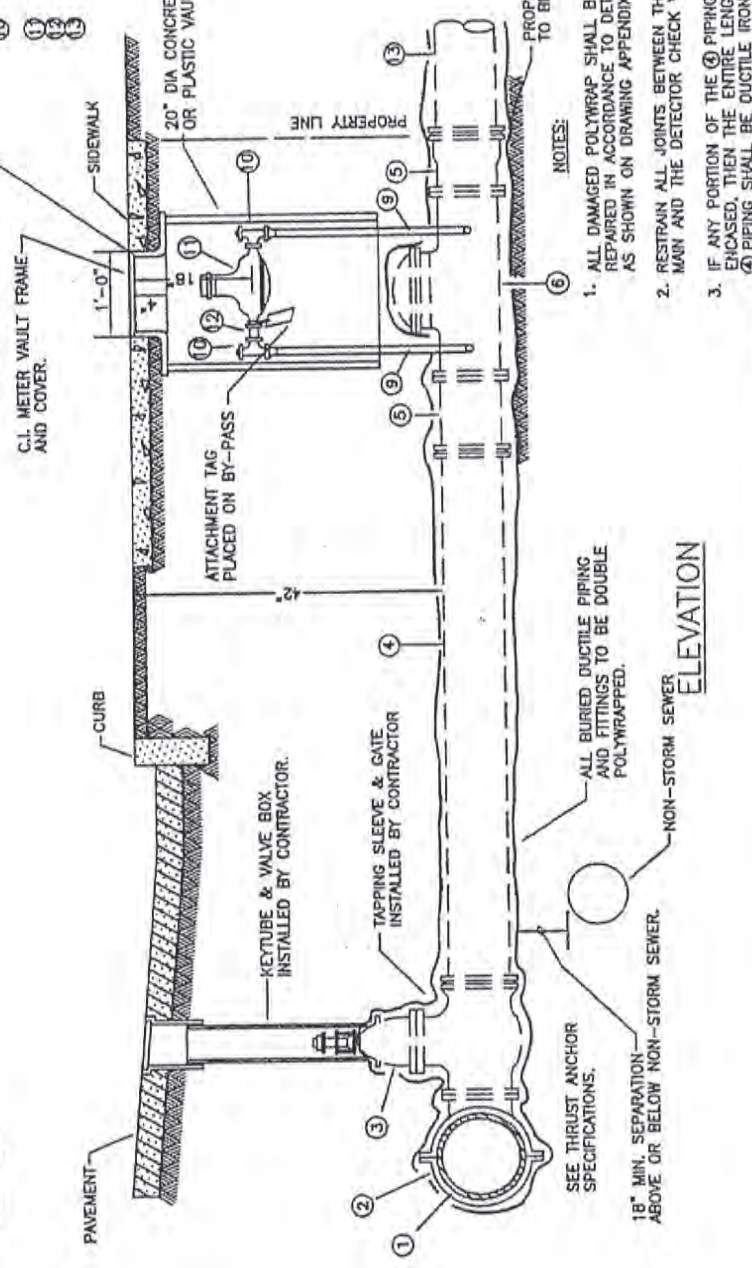
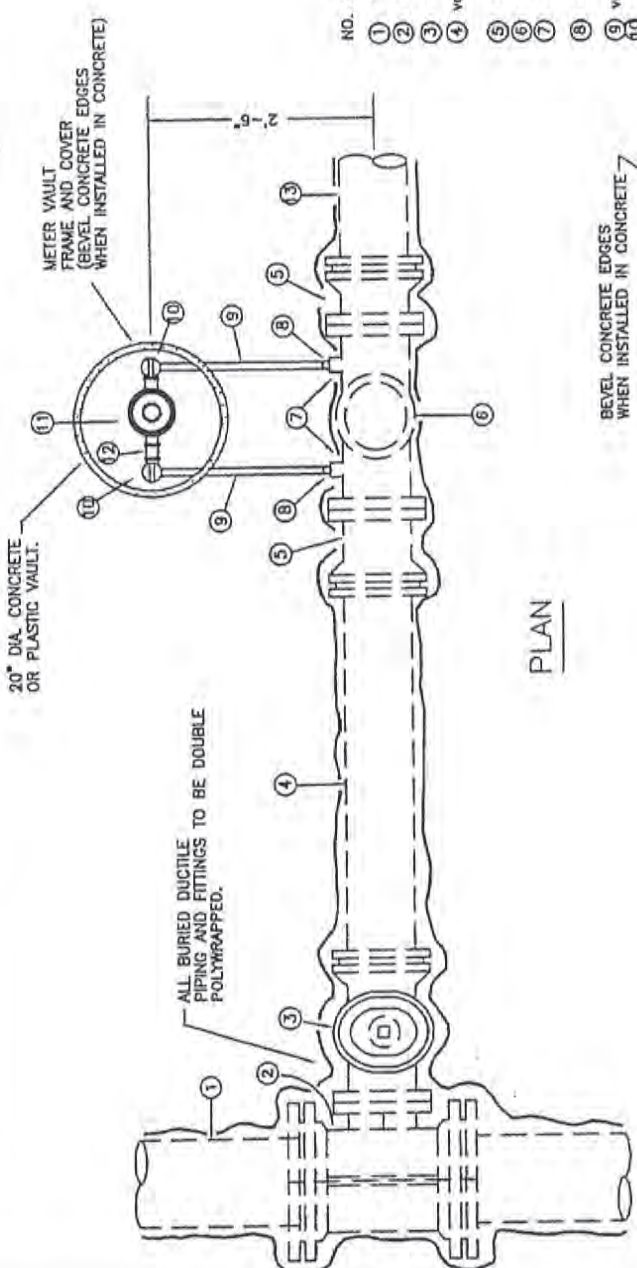


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STANDARD DRAWING
TYPICAL DUCTILE IRON DOMESTIC SERVICE 4" AND LARGER

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3203	SHEET	1 OF 1

BATTERY ASSEMBLED BY L.W.C.



TYPICAL FIRE PROTECTION SERVICE 4" OR LARGER

NO.	QTY	FITTING	JOINT	FIRE SERVICE SIZES
1	1	Main in Street	Varies	4" - 6"
2	1	Tapping Sleeve	Flange	4" - 6"
3	1	Tapping Gate Valve	Flange x MJ (restrained)	4" - 6"
4	varies	D.I. Service Piping	MJ / B & S (restrain all joints up to check valve) Flange X MJ or PE	4" - 6"
5	2	Adapter	Flange	4" - 6"
6	1	Detector Check Valve	Flange	4" - 6"
7	2	Bushing	Male Thread	1-1/2" 3/4"
8	2	Adapter	Male Thread	3/4" 3/4"
9	varies	Copper Tubing	Female Compression	3/4"
10	2	Angle Meter Stop	Female Compression	3/4"
11	1	Meter	Female Compression	3/4"
12	1	Swing Check Valve	Male Thread	3/4"
13	1	Customer Piping	Female Thread	3/4"

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STANDARD DRAWING
TYPICAL
FIRE PROTECTION SERVICE
4" AND LARGER

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3601	SHEET	1 of 1

- NOTES:
- ALL DAMAGED POLYWRAP SHALL BE REPAIRED IN ACCORDANCE TO DETAILS AS SHOWN ON DRAWING APPENDIX.
 - RESTRAIN ALL JOINTS BETWEEN THE MAIN AND THE DETECTOR CHECK VALVE.
 - IF ANY PORTION OF THE ④ PIPING IS ENCASED, THEN THE ENTIRE LENGTH OF ④ PIPING SHALL BE DUCTILE IRON.
- PROPERTY JOINT TIE-IN TO BE MADE BY OTHERS.

ALL BURIED DUCTILE PIPING AND FITTINGS TO BE DOUBLE POLYWRAPPED.

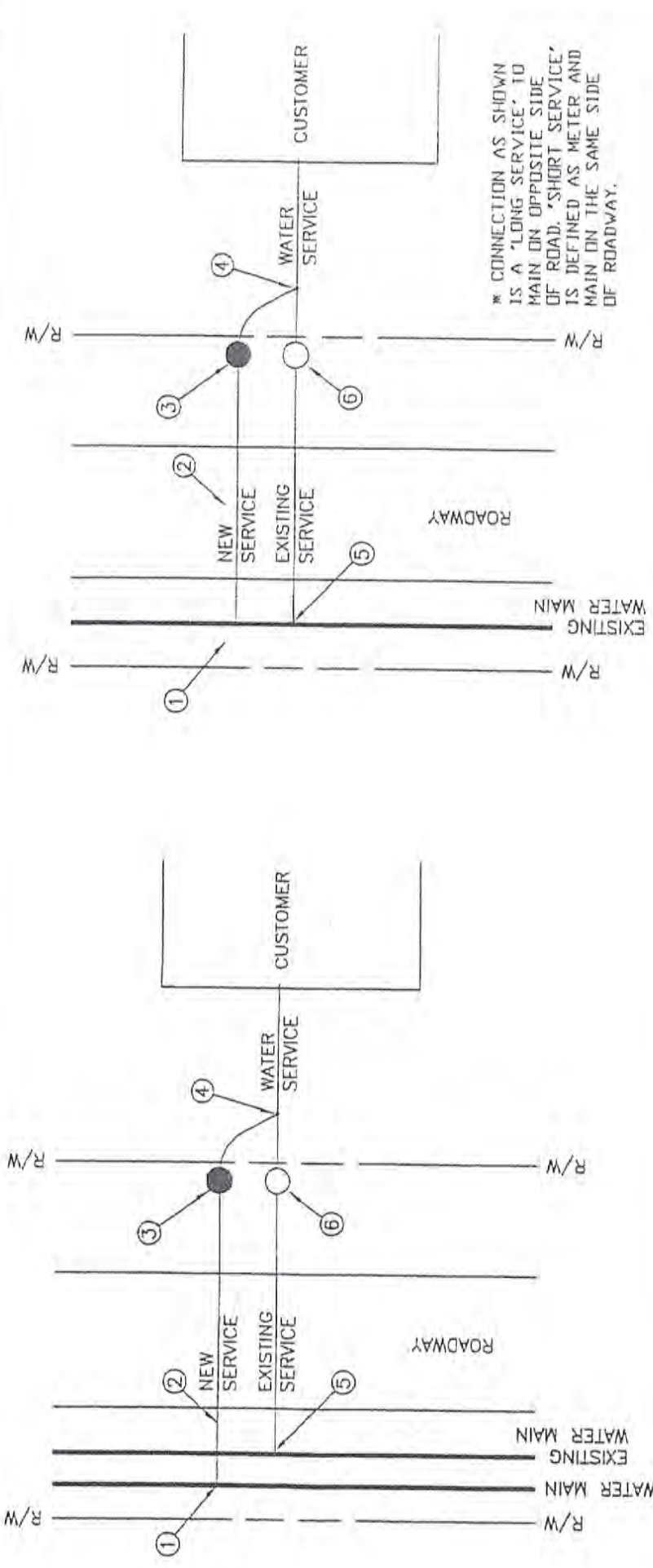
SEE THRUST ANCHOR SPECIFICATIONS.

18" MIN. SEPARATION ABOVE OR BELOW NON-STORM SEWER.

NON-STORM SEWER

PLAN

ELEVATION



RELOCATE SERVICE (SECT. 10.8)

RELOCATE SERVICE (SECT. 10.8)

WITH CONNECTION TO NEW WATER MAIN *

WITH CONNECTION TO EXISTING WATER MAIN *

LEGEND

- = EXISTING METER VAULT
- = NEW METER VAULT

NOTES:

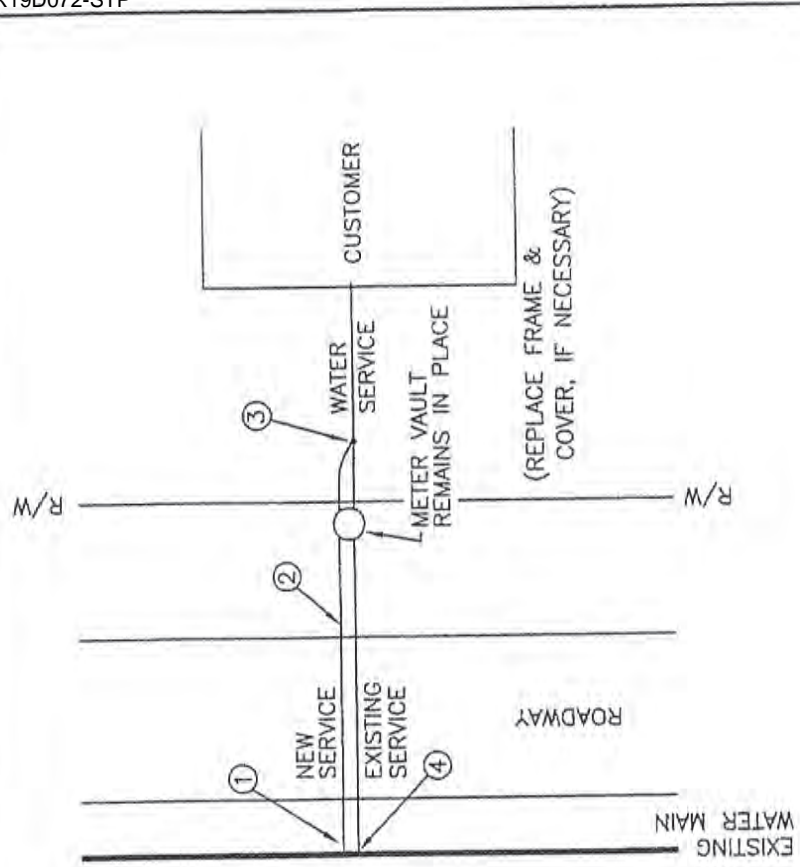
- ① INSTALL CORPORATION STOP ON NEW MAIN.
- ② INSTALL NEW SERVICE LINE.
- ③ INSTALL METER, VAULT, FRAME AND LID. CONCRETE METER VAULTS WITH HEAVY FRAME AND COVER SHALL BE INSTALLED IN AREAS OF VEHICULAR TRAFFIC.
- ④ INSTALL TAIL PIECE AND TIE-IN TO CUSTOMER SERVICE LINE.
- ⑤ DISCONTINUE OLD SERVICE AT EXISTING WATER MAIN. DRIVEN FERRULES MUST BE REMOVED AND REPAIR BAND INSTALLED AT TAP IF MAIN WILL REMAIN ACTIVE. (SEE SECT. 10.11)
- ⑥ ABANDON OLD METER VAULT, RETURN METER AND CAST IRON FRAME & COVER TO ALLMOND AVENUE, BACKFILL METER VAULT (SEE SECT.10.13)

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STANDARD DRAWING

RELOCATE SERVICE (SECT. 10.8)

DATE	MAR. 2009	SCALE	NONE
DRAWING NO.	3440	SHEET	1 OF 1



RENEW SERVICE (SECT. 10.9)
WITH CONNECTION TO EXISTING WATER MAIN *

RENEW SERVICE (SECT. 10.9)
WITH CONNECTION TO NEW WATER MAIN *

* CONNECTIONS AS SHOWN ARE A "LONG SERVICE" TO MAIN ON OPPOSITE SIDE OF ROAD. "SHORT SERVICE" IS DEFINED AS METER AND MAIN ON THE SAME SIDE OF ROADWAY.

LEGEND

○ = EXISTING METER VAULT

NOTES:

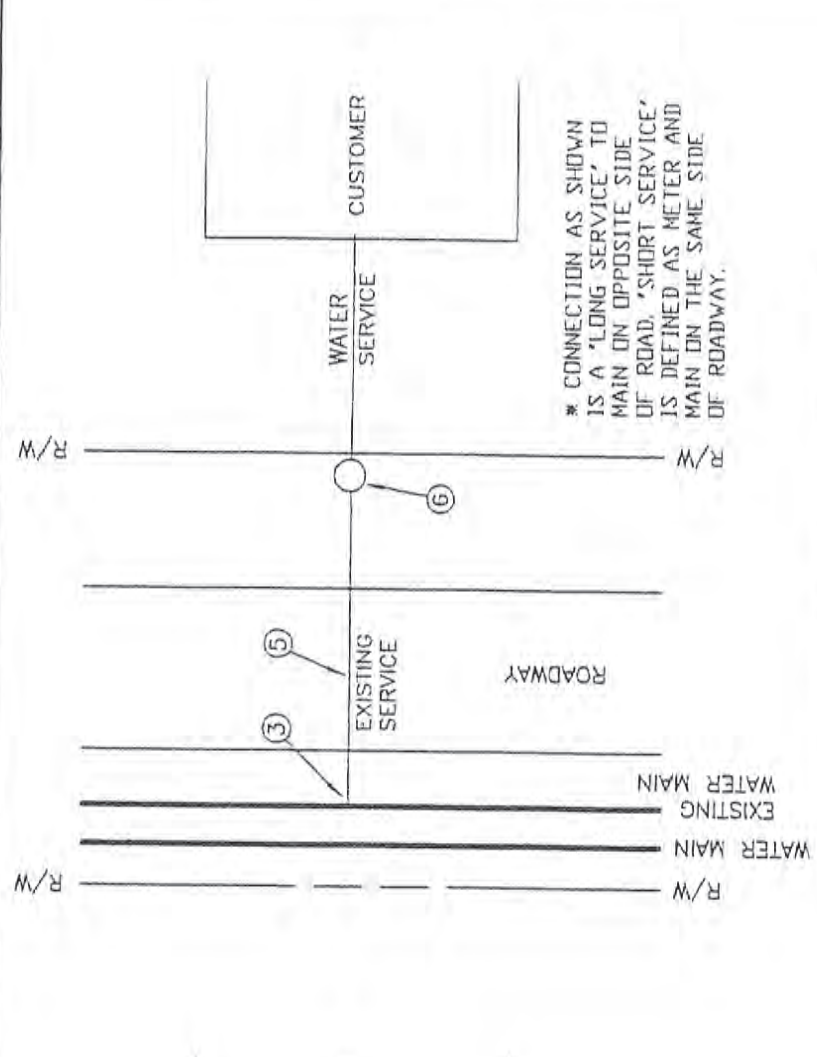
- ① INSTALL CORPORATION STOP ON MAIN.
- ② INSTALL NEW SERVICE LINE TO EXISTING METER STOP.
- ③ INSTALL TAIL PIECE AND TIE-IN TO CUSTOMER SERVICE LINE.
- ④ DISCONTINUE OLD SERVICE AT EXISTING WATER MAIN. DRIVEN FERRULES MUST BE REMOVED AND REPAIR BAND INSTALLED AT TAP IF MAIN WILL REMAIN ACTIVE.

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STANDARD DRAWING

RENEW SERVICE (SECT. 10.9)

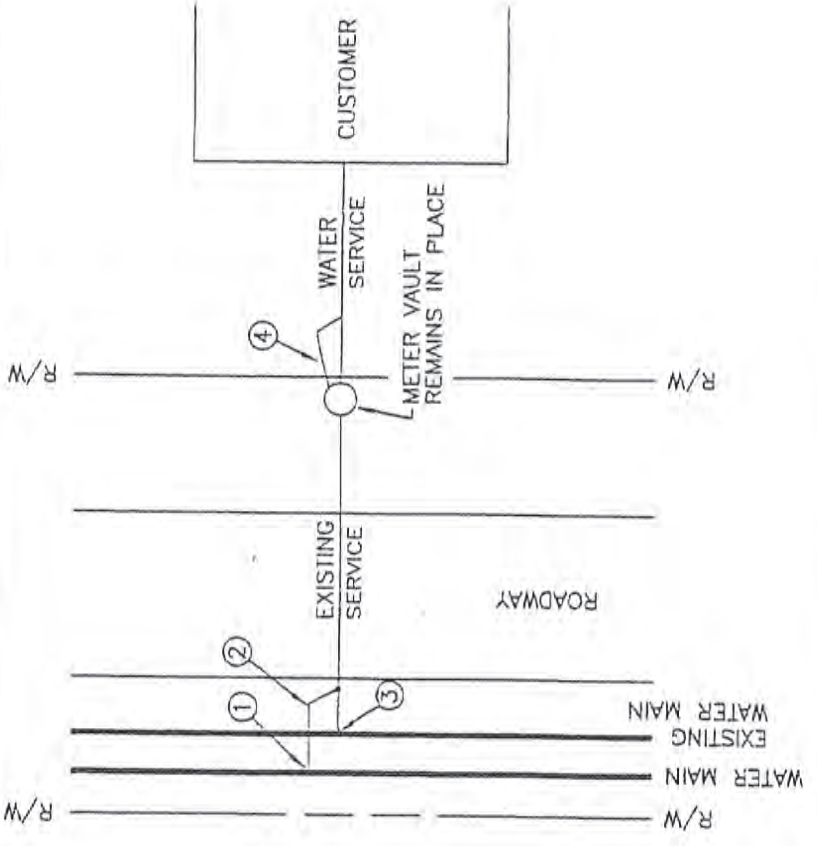
DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3441	SHEET	1 OF 1



TRANSFER SERVICE (T-10.10)*

NOTES:

- ① INSTALL CORPORATION STOP ON NEW MAIN.
- ② INSTALL NEW SERVICE LINE FROM NEW MAIN AND TIE-IN TO EXISTING SERVICE LINE. (AS REQUIRED)
- ③ DISCONTINUE OLD SERVICE AT EXISTING WATER MAIN. DRIVEN FERRULES MUST BE REMOVED AND REPAIR BAND INSTALLED AT TAP IF MAIN WILL REMAIN ACTIVE.



DISCONTINUE SERVICE (T-10.11)*

LEGEND

- = EXISTING METER VAULT
- = NEW METER VAULT

- ④ REPLACE TAIL PIECE WHEN EXISTING SERVICE LINE IS LEAD.
- ⑤ DISCONNECT & PLUG SERVICE LINE.
- ⑥ ABANDON OLD METER VAULT, RETURN METER AND CAST IRON FRAME & COVER TO ALLMOND AVENUE, BACKFILL METER VAULT (SEE SECT. 10.13)

LOUISVILLE WATER COMPANY 650 S. 3RD STREET - LOUISVILLE, KENTUCKY 40202 - (502) 540-9000	
GREGORY C. HEITZMAY - PRESIDENT JAMES H. BRANDELL - VICE PRESIDENT/CHIEF ENGINEER	
STANDARD DRAWING	
TRANSFER SERVICE (SECT. 10.10) DISCONTINUE SERVICE (SECT. 10.11)	
DATE: MAR. 2008	SCALE: NONE
DRAWING NO. 3442	SHEET 1 OF 1

SERVICE SLEEVE INSTALLATIONS

IN ORDER TO AVOID CURB AND PAVEMENT CUTS DURING SERVICE INSTALLATIONS, THE FOLLOWING PROCEDURES HAVE BEEN ESTABLISHED FOR NEW DEVELOPMENT PROJECTS:

- SERVICE SLEEVES ARE TO BE INSTALLED BY THE DEVELOPER'S WATER MAIN INSTALLATION CONTRACTOR AS SHOWN ON THE PLANS. LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL COORDINATE EXACT SERVICE SLEEVE LOCATIONS WITH THE DEVELOPER OR THEIR REPRESENTATIVE.
- WHEN THE SERVICE SLEEVES ARE SUPPLIED BY THE DEVELOPER, L.W.C. WILL ADJUST THE DEVELOPER'S PROJECT MATERIAL COSTS TO REFLECT DEVELOPER-DOCUMENTED SLEEVE MATERIAL COST.
- SLEEVES MUST BE INSTALLED AT 36" COVER, AND ALIGNED SO THAT FUTURE INSTALLATION OF SERVICE PIPING CAN BE ACCOMPLISHED WITHOUT PAVEMENT, OR CURB CUTS. SLEEVES MUST BE INSTALLED IN A STRAIGHT LINE WITHOUT ANY BENDS OR OBSTRUCTIONS.
- ALL SERVICE SLEEVES MUST EXTEND AT LEAST 2 FEET BEYOND THE BACK OF CURBS, WITH SEALED ENDS MARKED BY ABOVE-GRADE P.V.C. PIPE, TRACER WIRE OR OTHER MARKER ACCEPTABLE TO L.W.C.
- ALL SLEEVES MUST HAVE #12 COPPER TRACER WIRE INSTALLED THROUGH EACH SLEEVE AND THE TRACER WIRE MUST BE CONNECTED TO THE WATER MAIN. (FOR P.V.C. PIPE, THE TRACER WIRE IN THE SLEEVE MUST BE CONNECTED TO THE WIRE ON THE P.V.C. PIPE AND FOR DUCTILE IRON PIPE, THE TRACER WIRE MUST BE CONNECTED TO THE D.I. PIPE).

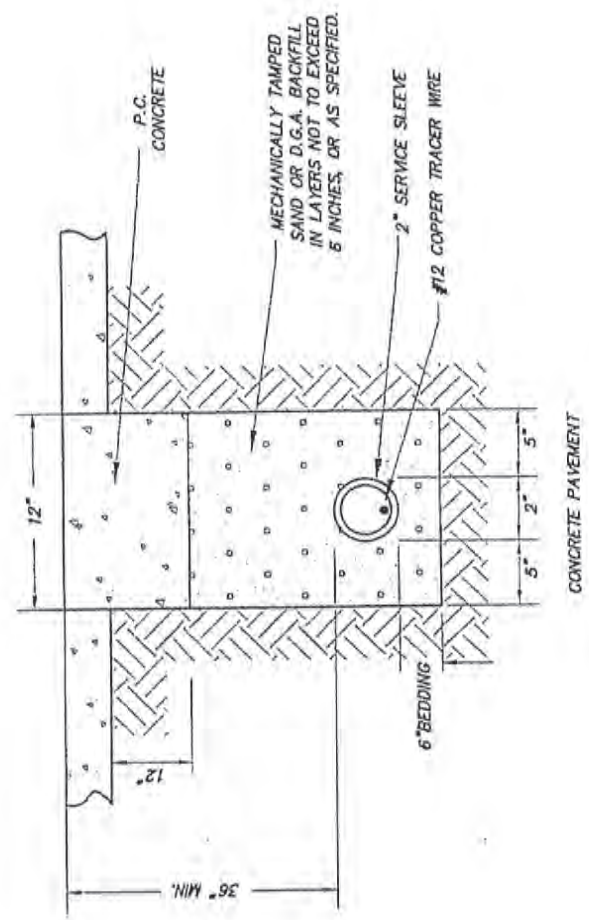
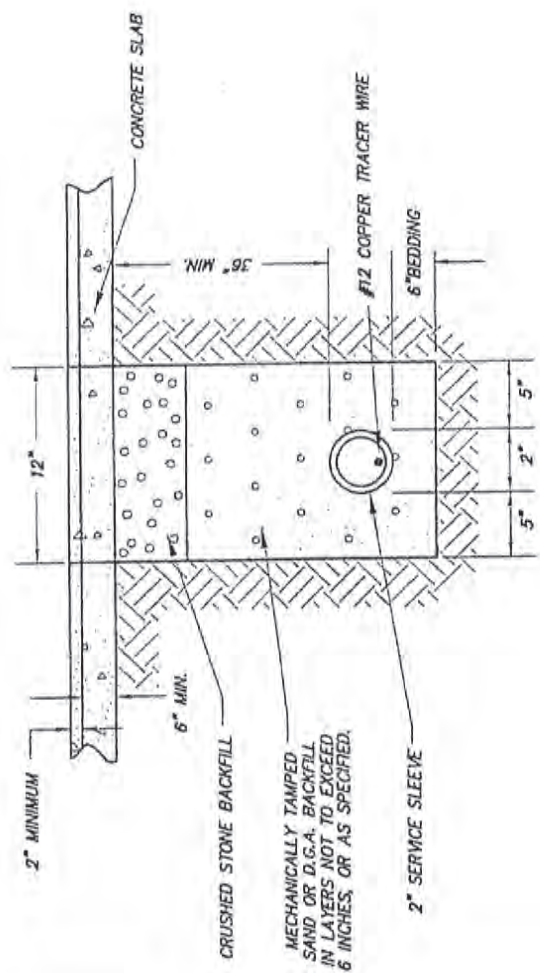
EXPEDITED SERVICE INSTALLATION REQUESTS

- FOR LOTS WHERE THE DEVELOPER PREFERS TO REQUEST EXPEDITED SERVICE INSTALLATIONS PRIOR TO FINAL PAVING, THE CONTRACTOR SHALL NOTIFY THE DEVELOPER WHEN THE WATER LINES HAVE PASSED PRESSURE AND L.W.C. LAB TESTING AND ADVISE THEM TO MAKE APPLICATION TO L.W.C. FOR THOSE SERVICES.
- AFTER APPLICATIONS HAVE BEEN MADE AND AT LEAST TWO WEEKS PRIOR TO PAVING, THE CONTRACTOR SHALL NOTIFY L.W.C. INSPECTOR WHEN THEY PLAN TO PAVE AND REQUEST EXPEDITED SERVICE INSTALLATION FOR THOSE SERVICES.
- L.W.C. INSPECTOR WILL NOTIFY L.W.C. SERVICE INSTALLATION SUPERVISOR THAT EXPEDITED INSTALLATION HAS BEEN REQUESTED, AND PROVIDE DATE THE CONTRACTOR HAS ADVISED PAVING IS PLANNED.

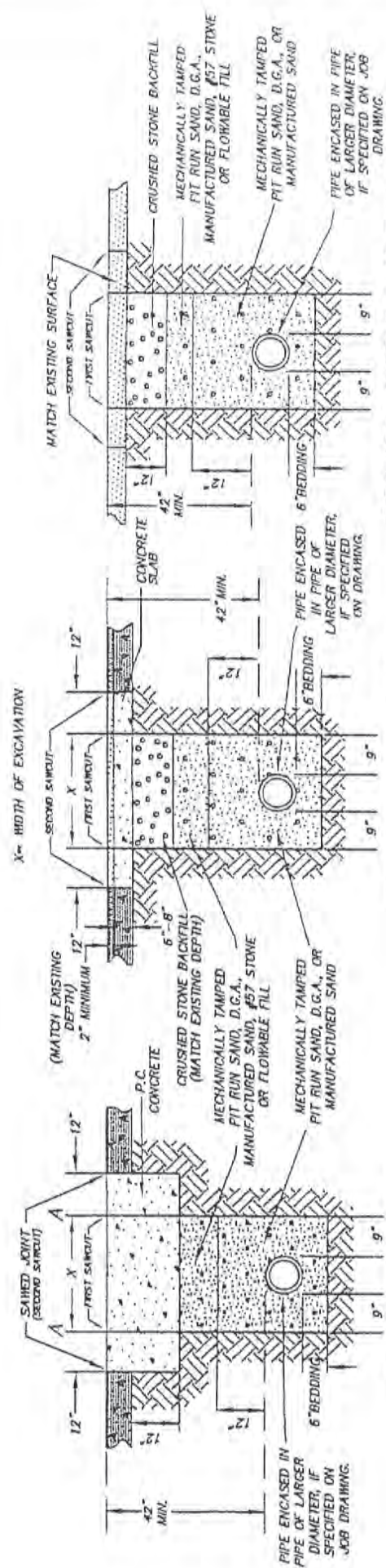
LOUISVILLE WATER COMPANY
550 S. 3RD STREET - LOUISVILLE, KENTUCKY 40202 • (502) 560-3600
GREGORY C. HEITZMAN - PRESIDENT
JAMES H. BRANNELL - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
SERVICE SLEEVE
INSTALLATION DETAIL

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	3805	SHEET	1 of 1

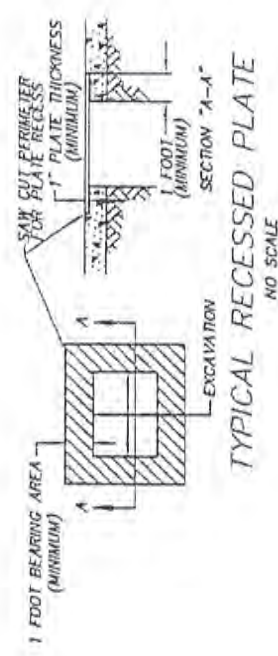


NOTE: FROM POINTS "A" (CONCRETE PAVEMENT) TO NEAREST JOINT OR BREAK IN PAVEMENT MUST BE SIX(6) FEET OR MORE IF LESS THAN 6'. REMOVE PAVEMENT TO JOINT OR BREAK AND REPLACE ENTIRE SLAB. CONCRETE SLAB UNDER BITUMINOUS SURFACE TO EXTEND 12 INCHES ON EACH SIDE OF TRENCH.



BITUMINOUS SURFACE 2" +
(12" CUTBACK IS NOT REQUIRED WHEN FLOWABLE FILL IS USED.)

BITUMINOUS SURFACE LESS THAN 2" AND TRAFFIC BOUND MACADAM
(12" CUTBACK IS NOT REQUIRED WHEN FLOWABLE FILL IS USED.)



NOTE: REPLACE CONCRETE PAVEMENT WITH NEW PAVEMENT SAME THICKNESS OF EXISTING PAVEMENT + 12". REPLACE BITUMINOUS PAVEMENT WITH SAME TYPE AND DEPTH AS EXISTING PAVEMENT.

STATE OF KENTUCKY SPECIFICATIONS

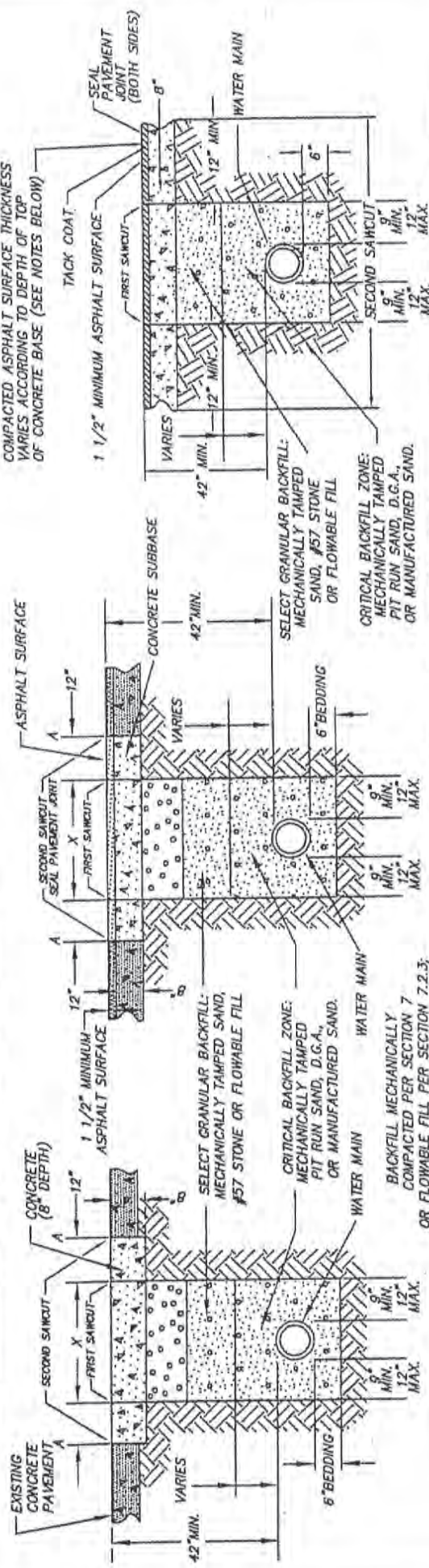
- INITIAL BACKFILL SHALL BE FIT RUN SAND, DENSE-GRADED AGGREGATE, OR MANUFACTURED SAND MECHANICALLY COMPACTED PER SECTION 7; BACKFILLING PROCEDURES AND TAMPING.
- CONTRACTOR WILL BE HELD RESPONSIBLE DURING THE ENSUING 5 YEARS FOR PROPER BACKFILLING AND REPLACEMENT OF SURFACE DURING THE 5 YEAR PERIOD AFTER THE DATE OF THE FINAL CONTRACT PAYMENT. ANY PAVEMENT SETTLEMENT SHALL BE IMMEDIATELY REPAIRED IN AN APPROVED MANNER AT THE EXPENSE OF THE CONTRACTOR.
- BACKFILLING UP TO BOTTOM OF SUBBASE ELEVATION SHALL BE COMPLETED PRIOR TO SECOND PAIR OF SAWCUTS AND EXCAVATION FOR THE ADDITIONAL 12" OF CONCRETE ON EACH SIDE OF THE TRENCH.
- DILUTE SS1H (OR OTHER APPROVED TACK COAT MATERIAL) SHALL BE APPLIED AT THE RATE OF 0.1 GAL. PER SQUARE YARD OVER THE CONCRETE BASE. ALLOW SUFFICIENT TIME FOR IT TO "BREAK" BEFORE THE FINISHED BITUMINOUS CONCRETE IS PLACED, AND SEAL ALL JOINTS SECURELY AFTER PAVING.

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STANDARD DRAWING
STATE OF KENTUCKY
BACKFILL AND PAVING
RESTORATION

DATE	MAY, 2008	SCALE	NONE
DRAWING NO.	4000	SHEET	1 OF 1

NOTE: FROM POINTS "A" (CONCRETE PAVEMENT) TO NEAREST JOINT OR BREAK IN PAVEMENT MUST BE FOUR (4) FEET OR MORE IF LESS THAN 4 REMOVE PAVEMENT TO JOINT OR BREAK AND REPLACE ENTIRE SLAB. CONCRETE SLAB UNDER BITUMINOUS SURFACE TO EXTEND 12" ON EACH SIDE OF TRENCH.



CONCRETE PAVEMENT

(12" CUTBACK IS NOT REQUIRED WHEN FLOWABLE FILL IS USED)
SEE KTC SPECIFICATION FOR SPECIAL PROVISIONS SECTION 76 PAGES 1-12 FOR PAVEMENT REPAIRS.

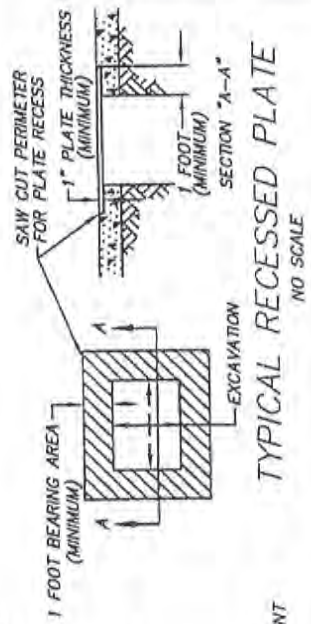
BITUMINOUS SURFACE

NEW ASPHALT SHALL BE A MINIMUM OF 1 1/2" THICK (12" CUTBACK IS NOT REQUIRED WHEN FLOWABLE FILL IS USED)
NOTE: THE CONCRETE BASE SHALL BE FLOAT FINISHED OR BROOMED OR LIGHTLY RAKED AFTER FLOATING TO A UNIFORM GRADE.

BASE OTHER THAN CONCRETE HAVING AN ASPHALT SURFACE

(12" CUTBACK IS NOT REQUIRED WHEN FLOWABLE FILL IS USED)
NOTE: THE CONCRETE BASE SHALL BE FLOAT FINISHED OR BROOMED OR LIGHTLY RAKED AFTER FLOATING TO A UNIFORM GRADE.

1. CRITICAL BACKFILL ZONE SHALL CONSIST OF MECHANICALLY TAMPED PIT RUN SAND, DENSE-GRADED AGGREGATE, OR MANUFACTURED SAND.
2. SELECT GRANULAR BACKFILL SHALL CONSIST OF NO. 57 STONE OR SAND. THE NO. 57 STONE SHALL BE PLACED IN 6" LOOSE LIFTS AND MECHANICALLY COMPACTED. THE SAND BACKFILL MAY BE FLUSHED AND JETTED OR MECHANICALLY COMPACTED BY VIBRATORY METHODS TO 95% DENSITY. IN ROADWAY ENHANCEMENT SITUATIONS WHEN SAND BACKFILL IS UTILIZED, COMPACTED EARTH SHALL BE PLACED IN THIS ZONE WITHIN 5 FEET (HORIZONTAL DISTANCE) OF THE ENHANCEMENT SLOPE.
3. BACKFILLING UP TO BOTTOM OF SUBBASE ELEVATION SHALL BE COMPLETED PRIOR TO SECOND PAIR OF SAWCUTS AND EXCAVATION FOR THE ADDITIONAL 12" OF CONCRETE ON EACH SIDE OF THE TRENCH, UNLESS FLOWABLE FILL IS USED.
4. PLATES MUST BE SECURED AND/OR RECESSED AT ALL TIMES.
5. CONCRETE CAP MUST BE PLATED UNTIL CONCRETE REACHES STRENGTH REQUIREMENTS (MINIMUM 3500 PSI)
6. DILUTE SSFH (OR OTHER APPROVED TACK COAT MATERIAL) SHALL BE APPLIED AT THE RATE OF 0.1 GAL. PER SQUARE YARD OVER THE CONCRETE BASE. ALLOW SUFFICIENT TIME FOR IT TO "BREAK" BEFORE THE FINISHED BITUMINOUS CONCRETE IS PLACED, AND SEAL ALL JOINTS SECURELY AFTER PAVING.
7. PAVEMENT JOINTS SHALL BE SEALED WITH AN APPROVED JOINT SEALER AFTER PLACEMENT OF THE BITUMINOUS CONCRETE SURFACE. SEE SECTION 11.2 AND 11.3.
8. CONTRACTOR WILL BE HELD RESPONSIBLE DURING THE ENSUING 5 YEARS FOR PROPER BACKFILLING AND REPLACEMENT OF SURFACE. DURING THE 5 YEAR PERIOD AFTER THE DATE OF THE FINAL CONTRACT PAYMENT, ANY PAVEMENT SETTLEMENT SHALL BE IMMEDIATELY REPAIRED IN AN APPROVED MANNER AT THE EXPENSE OF THE CONTRACTOR.

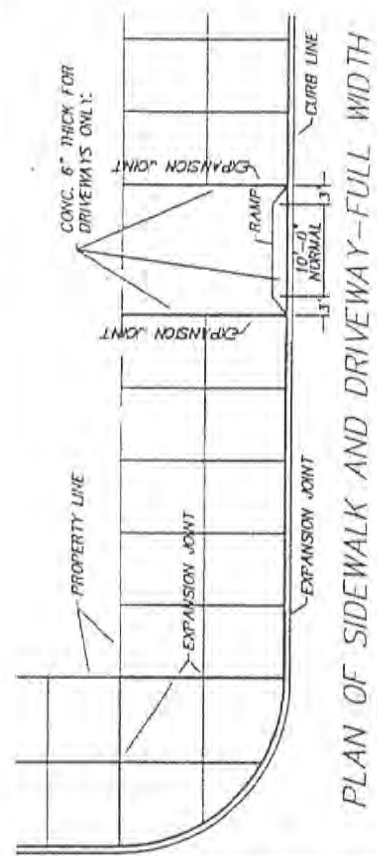


TYPICAL RECESSED PLATE
NO SCALE

LOUISVILLE WATER COMPANY
660 S. 3RD STREET - LOUISVILLE, KENTUCKY 40202 - (502) 586-3000
GREGORY C. HEITZMAN - PRESIDENT
JAMES H. BRAMBELL - VICE PRESIDENT/CHIEF ENGINEER

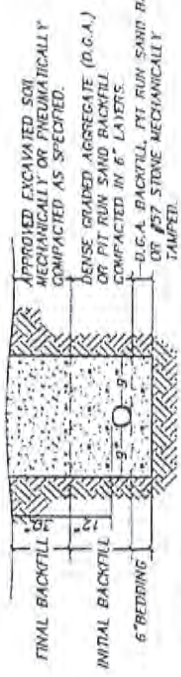
STANDARD DRAWING
LOUISVILLE-JEFFERSON COUNTY METRO
BACKFILL AND PAVING
RESTORATION

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	4100	SHEET	1 OF 1



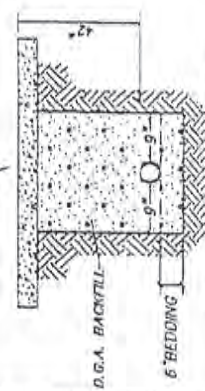
PLAN OF SIDEWALK AND DRIVEWAY-FULL WIDTH

NOTES:
 ALL SIDEWALKS SHALL BE 5" THICK. ALL DRIVEWAYS SHALL BE 6" THICK. ALL CONCRETE SHALL BE CLASS "A" (3500 LB. CONCRETE), HOOD FLOAT FINISH FOR ALL WORK. AN APPROVED TYPE OF LIQUID CURING COMPOUND WILL BE PERMITTED. EXPANSION JOINTS ACROSS THE LINE OF THE WALK SHALL BE SPACED NOT MORE THAN 50' APART. EXPANSION JOINTS PARALLEL TO THE LINE OF WALK WILL BE REQUIRED AT THE BACK OF CURB FOR FULL WIDTH WALKS. AT DRIVEWAYS, OTHER JOINTS SHALL BE USED ON BOTH SIDES AGAINST THE SIDEWALK. EXPANSION JOINTS SHALL BE APPROVED NON-EXTRUDING PREFORMED STRIPS ACROSS GRASS PLOTS. AN EXPANSION JOINT SHALL BE USED AT BACK OF CURB. ALL EXPANSION MATERIAL SHALL BE MARKED OR SCORED IN SUITABLE SIZED STRIPS BUT NOT LESS THAN 4" OR MORE THAN 6" ON A SIDE. CONTRACTION JOINTS (PLANES OF WEARNESS) SHALL BE AT EVERY THIRD BLOCK AND SHALL BE CUT AT LEAST 1 1/2" IN DEPTH (IN LIEU OF A SCORE) AT A SLOPE OR FLATTER.
 ALL SIDEWALK AND DRIVEWAY CONSTRUCTION IN THE PUBLIC WAYS OF THE CITY OF LOUISVILLE SHALL CONFORM WITH THE REQUIREMENTS ON THIS SHEET UNLESS OTHERWISE APPROVED IN WRITING BY THE CHIEF ENGINEER. MINIMUM WIDTH OF SIDEWALK SHALL BE 5' EXCEPT WITH PERMISSION OF CHIEF ENGINEER.



BACKFILL NOT UNDER PAVEMENT

CLASS "A" 3500 LB. CONCRETE - 4 1/2" (6" CONC. FOR DRIVEWAYS)

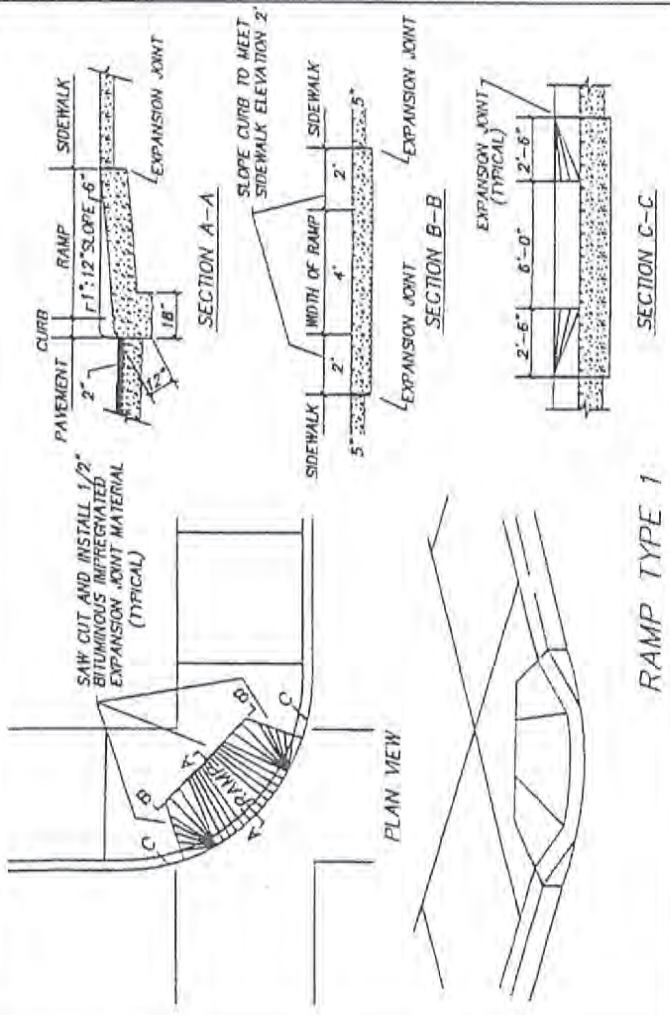


BACKFILL UNDER SIDEWALK

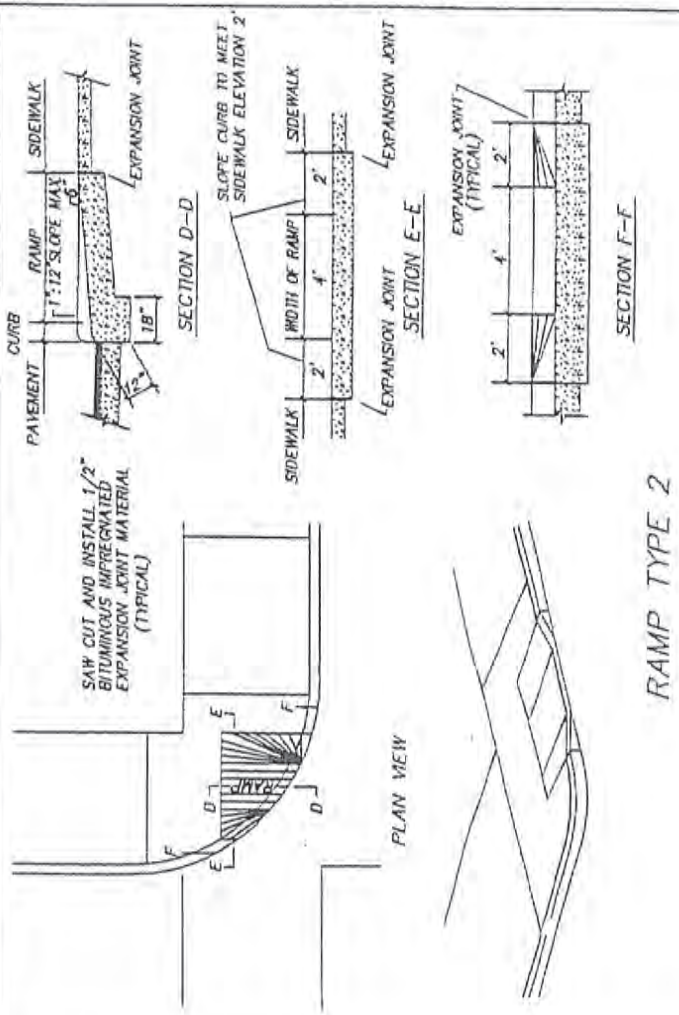
LOUISVILLE WATER COMPANY
 650 S. 3RD STREET - LOUISVILLE, KENTUCKY 40202 - (502) 688-5000
 GREGORY C. HEITZMAN - PRESIDENT
 JAMES H. BRANNELL - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
 SIDEWALK/BACKFILL
 DETAIL

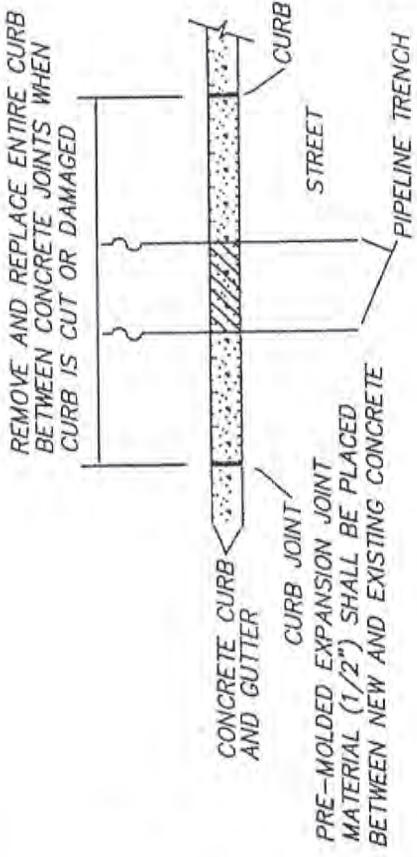
DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	4400	SHEET	1 OF 1



RAMP TYPE 1



RAMP TYPE 2



PLAN VIEW

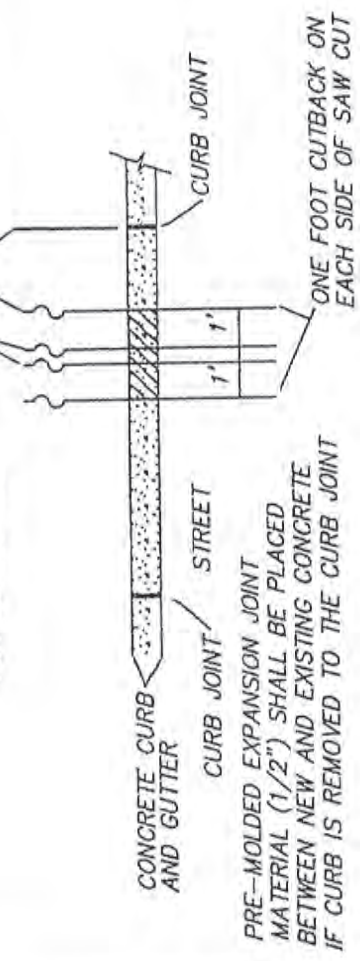
CURB RESTORATION FOR PIPELINE INSTALLATION

NOTES:

- ALL CONCRETE SHALL BE A MINIMUM CLASS "A" (3500 lb. CONCRETE).
- AN APPROVED TYPE OF LIQUID CURING COMPOUND WILL BE REQUIRED ON CONCRETE.
- EXPANSION JOINT MATERIAL SHALL BE USED BETWEEN CURB JOINTS AND CURBS AND ADJOINING SIDEWALKS.
- ALL EXPANSION MATERIAL SHALL BE APPROVED NON-EXTRUDING PREFORMED STRIPS (1/2" THICK).

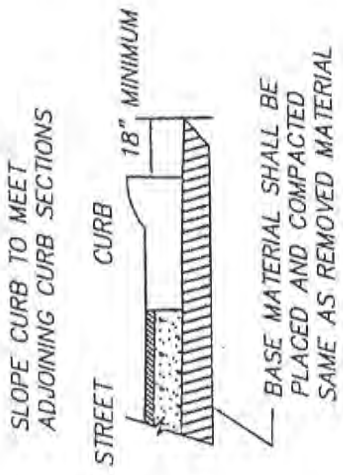
REMOVE AND REPLACE ENTIRE CURB BETWEEN CONCRETE JOINTS WHEN CUT BACK IS WITHIN 2 FEET OF CURB JOINT.

4 - INCH ROCK SAW CUT FOR SERVICE LINE



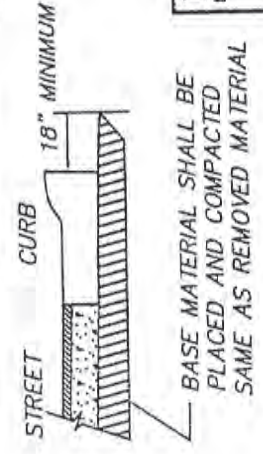
PLAN VIEW

CURB RESTORATION FOR SERVICE LINE INSTALLATION



SECTION

SLOPE CURB TO MEET ADJOINING CURB SECTIONS

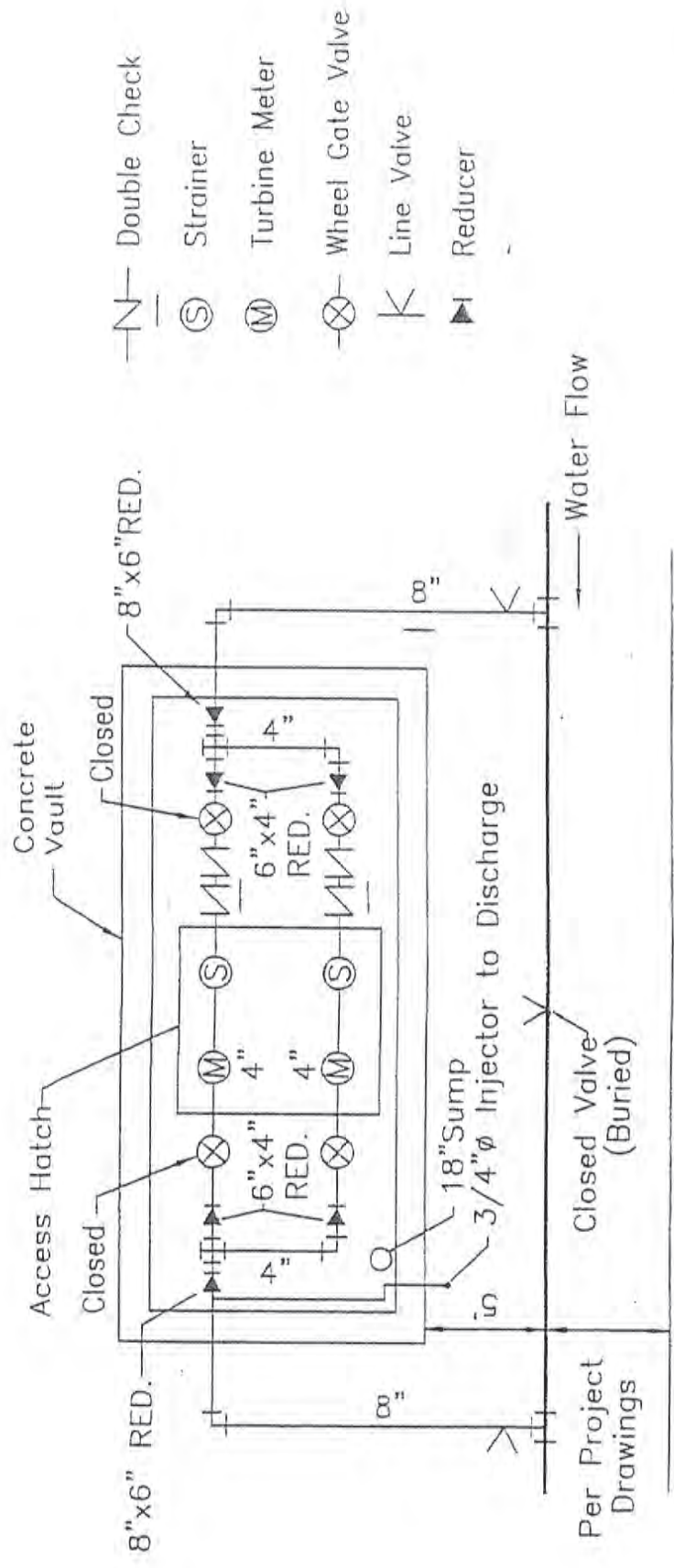


SECTION

LOUISVILLE WATER COMPANY
660 S. 3RD STREET • LOUISVILLE, KENTUCKY 40202 • (502) 660-3900
GREGORY C. HEITZMAN - PRESIDENT
JAMES H. BRAMMEL - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING
CONCRETE CURB AND GUTTER
RESTORATION DETAIL

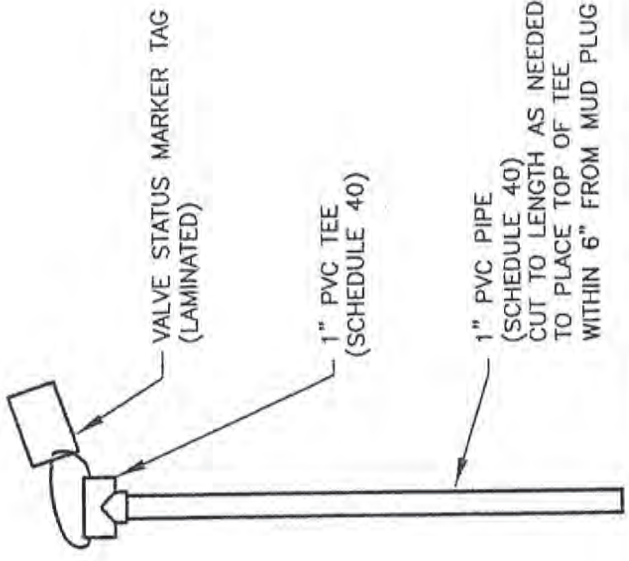
DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	4410	SHEET	1 OF 1



- |— Double Check
- ⊙ Strainer
- ⊙ Turbine Meter
- ⊗ Wheel Gate Valve
- ∠ Line Valve
- ▲ Reducer

LOUISVILLE WATER COMPANY
 550 S. 3RD STREET - LOUISVILLE, KENTUCKY 40202 - (502) 588-3000
 GREGORY C. HEITZMAN - PRESIDENT
 JAMES H. FRANKELL - VICE PRESIDENT/CHIEF ENGINEER

STANDARD DRAWING	
TYPICAL MASTER METER DETAIL	
DATE	MAR. 2008
SCALE	NONE
DRAWING NO.	4600
SHEET	1 of 1



VALVE STATUS MARKER

CONTACT PROJECT
'MANAGER OR COMPANY
INSPECTOR FOR APPROVAL
BEFORE OPERATING ANY
VALVE.

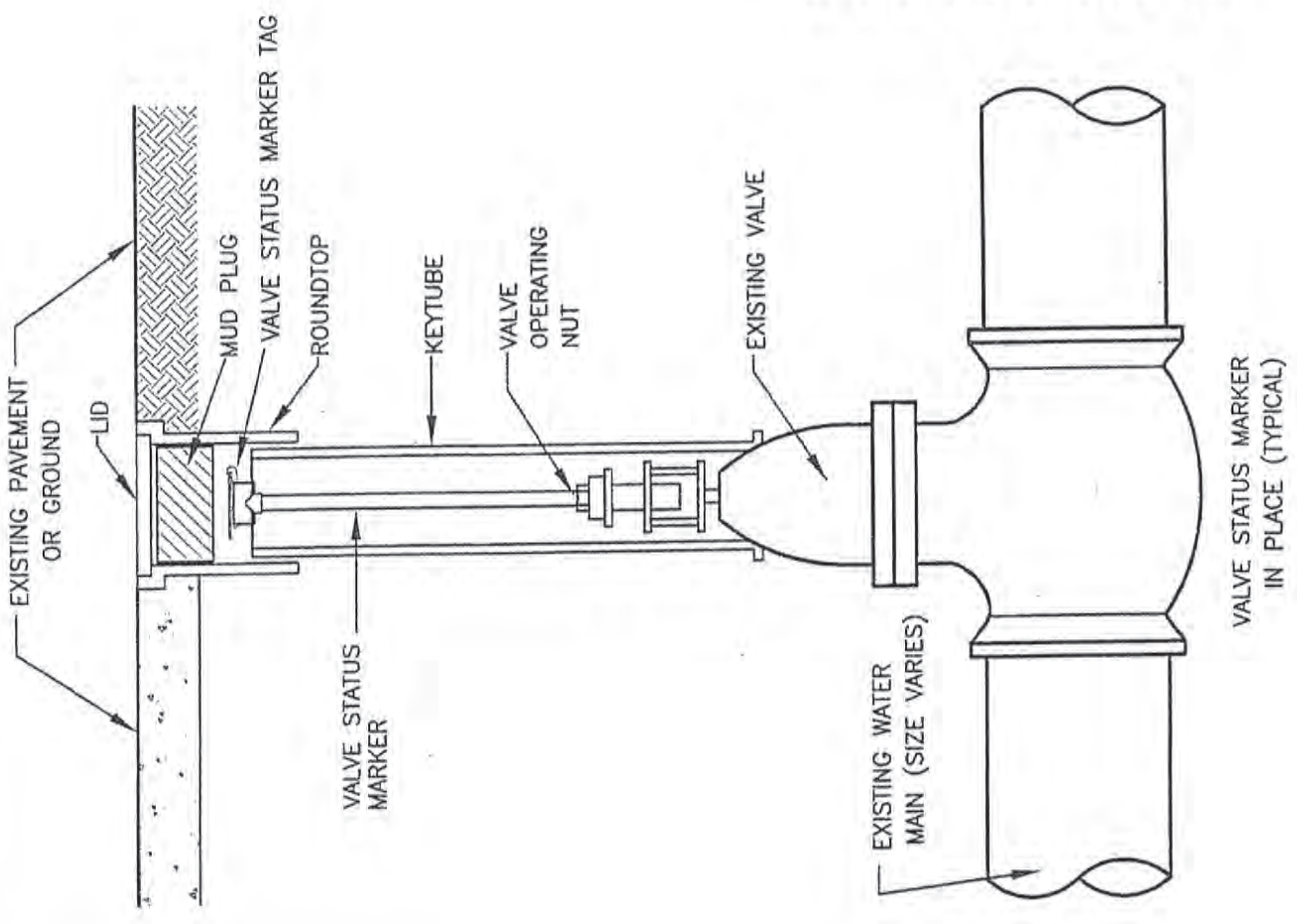
LOUISVILLE WATER COMPANY
660 S. 3RD STREET - LOUISVILLE, KENTUCKY 40202 - (502) 669-3600
GREGORY C. HEITZMAN - PRESIDENT
JAMES H. BRANDELL, P.E., P.E.S. - VICE PRESIDENT, CHIEF ENGINEER

STANDARD DRAWING
VALVE STATUS MARKER

DATE	MAR. 2008	SCALE	NONE
DRAWING NO.	5005	SHEET	1 OF 1

TYPICAL MARKER TAG NOTES:

- "PRESSURE PLANE BOUNDARY VALVE - DO NOT OPEN"
- "CLOSED VALVE - DO NOT OPEN"
- "LEFT HAND OPEN"
- "TEMPORARY CONSTRUCTION - CLOSED VALVE: CONTACT LWC RADIO ROOM OR INSPECTION"
- "VALVE PARTIAL OPEN # TURNS"



VALVE STATUS MARKER
IN PLACE (TYPICAL)

STATE OF KENTUCKY
W. K. KIRBY
KINGSBURY
2329
LICENSED
PROFESSIONAL
LAND SURVEYOR

STATE OF KENTUCKY
W. K. KIRBY
KINGSBURY
2329
LICENSED
PROFESSIONAL
LAND SURVEYOR

STATE OF KENTUCKY
W. K. KIRBY
KINGSBURY
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KINGSBURY
2329
LICENSED
PROFESSIONAL
LAND SURVEYOR

**SUPPLEMENTARY SPECIFICATIONS
BKP SOUTH WATTERSON TRAIL BRIDGE
REPLACEMENT LWC WATER MAIN RELOCATION
PROJECT SYP 05-10010.00**

PROJECT SUMMARY

The referenced project consists of the installation of; **125 +/-** linear feet of 12-inch Pressure Class 350 restrained joint ductile iron water main (using traditional trench installation techniques). Also included with the project is all cut and plugs, all appurtenances including restoration on and along Project Limits as stated above.

SCOPE OF WORK

1. Supply and install **125 +/-** linear feet of 12-inch Pressure Class 350 restrained joint ductile iron water main (using traditional trench installation techniques).
2. Supply and install **all** associated appurtenances, including valves, bends, connections, gripper (restraint) glands, frame and lids.
3. Provide traffic control including policing, barricades, signs, warning devices, flaggers, etc.
4. Site Restoration and cleanup work.
5. Installation of sedimentation and erosion control measures per appropriate state/local standards including submittal of control plan and obtaining all necessary permits and approval.
6. Perform all site work to complete the project.
7. Normal work hours shall be based on KYTC permits.

PREQUALIFICATION CONDITIONS

8. The contracting firm that is to supply and install the 12-inch whether acting as the general contractor of the KTC or as acting as a subcontractor, must be prequalified by the LWC in the category of "4"-16" Iron Pipe" and in the monetary amount, in said category, of at least \$100,000.
9. The LWC contact for inquiries about prequalification status is Ms. Carol Lyons: phone, 502-569-3600, Ext. 2239; Fax 502-569-0815.

GENERAL INFORMATION

10. The contractor is bound by and shall comply with the provisions of the "Louisville Water Company Technical Specifications and Standard Drawings for Pipeline Construction" (2008 Edition) which shall govern work on this project with the following additions/exceptions: **No exceptions**
11. As of 1/18/19, the necessary easements to construct this relocation have **not** been obtained. Prior to start of construction, please confirm with the LWC designee, Steve Emly @ semly@gk4.com or 502-719-7947, the status of these acquisitions.

TRAFFIC CONTROL

12. A road permit will be required for work performed within the ROW limits.
13. Traffic control shall be provided by the Contractor in accordance with the Manual for Uniform Traffic Control Devices (MUTCD).
14. Specific traffic control signage referencing lane blockages, detours, flaggers, etc. shall be removed from the site or covered when not in use. Signs that provide general messages such as "Construction Ahead" shall be left in place throughout the completion of this project.

VIDEO RECORDING / PRECONSTRUCTION PICTURES

15. Please refer to section 1.06 of the LWC Technical Specifications 2008 for Video Recording. In addition, video recording shall be provided in digital format on a USB flash drive prior to start of construction.
16. Preconstruction pictures shall be provided by the contractor to the LWC Project Manager prior to construction. The pictures shall be placed in a binder and appropriately labeled for easy reference. A minimum of one picture shall be provided for each property that is impacted by construction.

SITE WORK

17. Utility locations shown on the plans are from available information and are approximate. The contractor is responsible for locating all existing utilities including water line facilities prior to start of construction. The contractor is

responsible for relocating any existing utility that is in conflict with the proposed construction at no additional cost to LWC.

COORDINATE SHUTOFFS FOR CRITICAL MAINS

18. Contractor shall coordinate shutoffs affecting critical mains, with customers and LWC, for their approval of date and times. If necessary, contractor shall provide port-a-pots and work with inspector to provide necessary bottled water during shutoff period.

EXCAVATION

19. Excavation on this project shall be unclassified.
20. Rock shall be removed using mechanical methods (backhoe, hoe ram, or rock trenching machine). Blasting shall not be permitted.

WORK SCHEDULE

21. LWC observes designated holidays. No work shall be performed during the holiday periods. All equipment, personnel, and materials shall be removed from the work area. All excavations shall be backfilled and restored. All street cuts shall be paved or patched.
22. Normal work hours shall be limited to approved permit hours. All other work hour requests must be submitted by the contractor to the approving agency for approval after standard applications have been made and approved.
23. The Contractor shall anticipate the need to work after-hours and on weekends to accommodate all critical customer needs as directed by the LWC Project Manager. All such work will be considered incidental to the project and no additional compensation will be provided.

EROSION CONTROL MEASURES

24. An erosion control plan is provided for this project with the roadway plans. The contractor is responsible for maintaining all erosion control measures within the project limits in accordance with the latest LWC and KYTC specifications. The contractor is responsible for making all erosion control modifications within the project limits required by KYTC/LWC, or any other permitting authority at no additional cost to LWC/KYTC. The contractor is responsible to rectify any disputes

that may arise due to inadequate erosion control measures as determined by KYTC/ LWC, or any other permitting authority.

PIPELINE CONSTRUCTION

25. Prior to the start of any work at the site (including saw-cutting), the Contractor and LWC Construction Inspector shall review the proposed pipeline alignment with respect to the utility locations marked by the local utility locate company, trees, and other existing site improvements.

Waterline locates are for the contractor's reference only. The contractor shall field locate all water mains, services and appurtenances prior to starting project by digging, vacuum excavating, probing, etc. If in the course of construction, the contractor damages any existing water main, then the contractor shall stop work and repair damaged water main, services, etc, before proceeding with project. If the contractor is not pre-qualified to perform the repair, then the project manager will assign a contractor and the project contractor will be responsible to pay the invoice(s) and materials for that repair.

26. Standard burial depth for new water mains is 42 inches, as measured from the top of ground to the top of the newly installed pipe. While the Contractor is expected to adhere to this standard burial depth requirement at all times, it is understood that revisions to the burial depth will be necessary when the installation of mains and large services conflict with existing utilities and other site improvements. Prior approval from the LWC Project Manager is required for these deviations.
27. Care will be required to minimize damage to trees and tree root systems. Excavations that encounter roots should be backfilled as soon as possible. Severed roots more than 2-inches in diameter shall be cut straight at an undamaged portion, maintained in a moist condition and then buried as soon as possible. Excavated soil shall not be placed within the dripline of any tree.
28. When installing main within the dripline of any tree with a diameter of 6 inches or larger, the root system shall be bored. The cost of the tree bore shall be considered incidental to the installation of the pipeline, and no extra compensation will be provided. All tree root systems that require boring shall be bored a minimum of 20 feet; 10 feet either side of the tree trunk. The bore shall be located a minimum of 4 feet below the ground surface and a minimum of 5 feet from the center of the tree.
29. If the edge of trench is running parallel and is less than 3.0' from the edge of asphalt, then the trench shall be backfilled as per std. detail as if constructed under pavement, using compacted granular backfill up to within 8" of final grade.

RESTORATION

30. The contractor shall adhere to LWC Standard Drawing 4501, "Creek Crossing with Concrete Cap", for the stream crossing restoration.
31. Unless otherwise noted on the Project Plans, surface restoration of grassy areas shall consist of sod restoration. The type of sod used shall match the existing grass. Prior to the placement of sod, the Contractor shall place top soil on the disturbed area, remove all rock, and level the area to match existing grade.
32. Areas that have landscaping shall be replaced with like materials (mulch, plants, etc.). The Contractor shall contact each customer with landscaping to be disturbed to discuss options of removing it prior to construction and replacing it. The LWC general warranty period shall apply to this work.
33. Private Irrigation Lines, when encountered, shall be protected during construction. If these lines are damaged, the contractor shall hire a qualified licensed plumber to repair the damaged lines at no additional cost to LWC.
34. All historic mix concrete must be installed with a washed finish.
35. All concrete driveways that are damaged by construction or specified for replacement on the plans shall be replaced in their entirety to the nearest existing construction joint. Concrete thickness and strength shall be per LWC standard specifications. The style shall match the existing driveway. The limits of repair, style of concrete and type of concrete for each driveway shall be approved by the LWC Project Manager prior to installation. The LWC Project Manager may modify thickness, style, type and limits of repair based on field conditions and property owner consultation which shall be installed by the contractor at no additional cost to LWC.
36. All asphalt driveways shall be restored via a utility cut, as approved by the LWC Project Manager and property owner. Asphalt thickness and strength shall be installed per LWC standard specifications. Asphalt driveway replacement shall be completed from edge of pavement to edge of right-of-way. The LWC Project Manager may modify thickness, style, type and limits of repair based on field conditions and property owner consultation which shall be installed by the contractor at no additional cost to LWC.

37. All trench cuts made in pavement shall be backfilled with DGA. Pavement cuts shall include 1-foot cutbacks that are a minimum 8-inch deep. Cutbacks shall be made after the trench is backfilled with DGA. The contractor is responsible for maintaining the DGA trench with cold patch for smooth rideability if it is opened to traffic. Concrete restoration shall occur within 14 days of the utility cut. A minimum 8-inch concrete cap shall be placed over the backfill material, keyed into the cutback and made flush with existing pavement grade. Concrete shall be floated and broom finished for smooth rideability. The contractor will be permitted to leave 4-foot DGA with cold patch gaps at service locations for longer than 14 days. The contractor is responsible for maintaining these gaps for smooth rideability. The entire area shall be restored via mill and pave, unless stated otherwise, from edge of pavement to edge of pavement for all pavement areas disturbed, in accordance with KYTC standard specifications.

Kentucky Transportation
Cabinet Project:

NOTICE

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
NATIONWIDE SECTION 404 PERMIT AUTHORIZATION
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
KENTUCKY DIVISION OF WATER
SECTION 401 WATER QUALITY CERTIFICATION

PROJECT DESCRIPTION: Bridge Replacement
KY 997 over White Sulphur Fork
Henry County, KY
KYTC Item No. 5-10002

The Sections 404 and 401 activities for this project have previously been permitted under the authority of the Department of the Army, Nationwide Section 404 Permit Number 14, *Linear Transportation Projects* (with additional *Kentucky Regional General Conditions*), and the Division of Section 401 Water General Water Quality Certification. For these authorized permits to be valid, the attached conditions must be followed. The contractor shall post a copy of this Nationwide Number 14 permit and General Water Quality Certification in a conspicuous location at the project site, with unencumbered public access, for the duration of construction and comply with the general conditions required.

Locations Impacting Water Quality

Station-Location	Description
Bridge ID: 052B00060N	This replacement project will entail complete removal of the bridge and construction of a new bridge. The design objectives are to remove any load restrictions and have a design life of at least 75 years. The project will replace the bridge in the same location with current geometrics (bridge width, length, hydraulic opening, etc.) to avoid environmental impacts, utility impacts, and minimize the need for new right of way. The project will not include any reconstruction of the roadways approaching the bridge. Traffic will be handled via a temporary in-stream crossing. The project will not result in the loss of greater than 0.1 acre of waters of the U.S.; will not result in loss greater than 300 feet of ephemeral, intermittent, or perennial stream; and will not discharge to a special aquatic site.

Kentucky Transportation
Cabinet Project:

This project involves work near and/or within Jurisdictional Waters of the United States as defined by the U. S. Army Corps of Engineers; therefore, requiring a Nationwide Number 14 General Section 404 permit. The Division of Water conditionally certified this General Permit. Importantly, one of those conditions regards the use of heavy equipment in any stream channel, or streambed. If there is need to cross the stream channel with heavy equipment, or conduct work within the stream channel, a work platform or temporary crossing, is authorized. This should be constructed with clean rock (preferably sandstone or granite east of a line stretching from the McCreary-Wayne County line to the southwest, northeasterly to Lewis-Greenup County line), and sufficient pipe to allow stream flow to continue, unimpeded (refer to the attached standard drawing for low-water crossings at end of the document). Other conditions may be found under the heading, *General Certification—Nationwide Permit # 14 Linear Transportation Projects*.

In order for this authorization to be valid, the attached conditions must be followed. The contractor shall post a copy of this Nationwide Number 14 Approval in a conspicuous location at the project site, for the duration of the construction, and comply with the general conditions as required.

To more readily expedite construction, the contractor may elect to alter the design, or perform the work in a manner different from what was originally proposed and specified. Prior to commencing such alternative work, the contractor shall obtain written permission from the Division of Construction and the Kentucky Transportation Cabinet, Division of Environmental Analysis. If such changes necessitate further permitting, then the contractor will be responsible for applying to the U. S. Army Corps of Engineers and the Kentucky Division of Water. A copy of any request to the Corps of Engineers or Division of Water to alter this proposal and subsequent responses shall be forwarded to the Division of Environmental Analysis, DA Permit Coordinator, for office records and for informational purposes.



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

**ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION**

R. BRUCE SCOTT
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

General Certification--Nationwide Permit # 14 Linear Transportation Projects

This General Certification is issued March 19, 2017, in conformity with the requirements of Section 401 of the Clean Water Act of 1977, as amended (33 U.S.C. §1341), as well as Kentucky Statute KRS 224.16-050.

For this and all nationwide permits, the definition of surface water is as per 401 KAR 10:001 Chapter 10, Section 1(80): Surface Waters means those waters having well-defined banks and beds, either constantly or intermittently flowing; lakes and impounded waters; marshes and wetlands; and any subterranean waters flowing in well-defined channels and having a demonstrable hydrologic connection with the surface. Lagoons used for waste treatment and effluent ditches that are situated on property owned, leased, or under valid easement by a permitted discharger are not considered to be surface waters of the commonwealth.

Agricultural operations, as defined by KRS 224.71-100(1) conducting activities pursuant to KRS 224.71-100 (3), (4), (5), (6), or 10 are deemed to have certification if they are implementing an Agriculture Water Quality Plan pursuant to KRS 224.71-145.

For all other operations, the Commonwealth of Kentucky hereby certifies under Section 401 of the Clean Water Act (CWA) that it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 10, established pursuant to Sections 301, 302, 304, 306 and 307 of the CWA, will not be violated for the activity covered under NATIONWIDE PERMIT 14, namely Linear Transportation Projects, provided that the following conditions are met:

1. The activity will not occur within surface waters of the Commonwealth identified by the Kentucky Division of Water as Outstanding State or National Resource Water, Cold Water Aquatic Habitat, or Exceptional Waters.
2. The activity will not occur within surface waters of the Commonwealth identified as perpetually-protected (e.g. deed restriction, conservation easement) mitigation sites.
3. The activity will impact less than 1/2 acre of wetland/marsh.

General Certification--Nationwide Permit # 14
Linear Transportation Projects
Page 2

4. The activity will impact less than 300 linear feet of surface waters of the Commonwealth. Stream realignment greater than 100 feet and in-stream stormwater detention/retention basins are not covered under this general water quality certification.
5. For complete linear transportation projects, all impacts shall not exceed a cumulative length of 500 linear feet within each Hydrologic Unit Code (HUC) 14.
6. Any crossings must be constructed in a manner that does not impede natural water flow.
7. Stream impacts covered under this General Water Quality Certification and undertaken by those persons defined as an agricultural operation under the Agricultural Water Quality Act must be completed in compliance with the Kentucky Agricultural Water Quality Plan (KWQP).
8. The Kentucky Division of Water may require submission of a formal application for an individual certification for any project if the project has been determined to likely have a significant adverse effect upon water quality or degrade the waters of the Commonwealth so that existing uses of the water body or downstream waters are precluded.
9. Activities that do not meet the conditions of this General Water Quality Certification require an Individual Section 401 Water Quality Certification.
10. Activities qualifying for coverage under this General Water Quality Certification are subject to the following conditions:
 - Projects requiring in-stream stormwater detention/retention basins shall require individual water quality certifications.
 - Erosion and sedimentation pollution control plans and Best Management Practices must be designed, installed, and maintained in effective operating condition at all times during construction activities so that violations of state water quality standards do not occur (401 KAR 10:031 Section 2 and KRS 224.70-100).
 - Sediment and erosion control measures, such as check-dams constructed of any material, silt fencing, hay bales, etc., shall not be placed within surface waters of the Commonwealth, either temporarily or permanently, without prior approval by the Kentucky Division of Water's Water Quality Certification Section. If placement of sediment and erosion control measures in surface waters is unavoidable, design and placement of temporary erosion control measures shall not be conducted in such a manner that may result in instability of streams that are adjacent to,

General Certification--Nationwide Permit # 14
Linear Transportation Projects
Page 3

upstream, or downstream of the structures. All sediment and erosion control devices shall be removed and the natural grade restored within the completion timeline of the activities.

- Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
- Removal of riparian vegetation in the utility line right-of-way shall be limited to that necessary for equipment access.
- To the maximum extent practicable, all in-stream work under this certification shall be performed under low-flow conditions.
- Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances in which such in-stream work is unavoidable, then it shall be performed in such a manner and duration as to minimize turbidity and disturbance to substrates and bank or riparian vegetation.
- Any fill shall be of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters and/or cause violations of water quality standards. If rip-rap is utilized, it should be of such weight and size that bank stress or slump conditions will not be created because of its placement.
- If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the operator when such work will be done.
- Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the KDOW shall be notified immediately by calling (800) 928-2380.

Non-compliance with the conditions of this general certification or violation of Kentucky state water quality standards may result in civil penalties.



**US Army Corps
of Engineers®**
Louisville District

2017 Nationwide Permit General Conditions

The following General Conditions must be followed in order for any authorization by NWP to be valid:

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.
- (b) Any safety lights and signals prescribed by the US Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
- (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.
3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.
5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.
6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.
9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).
10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.
11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.
13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.
14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.
15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.
16. Wild and Scenic Rivers. (a) No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.
- (b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.
- (c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: <http://www.rivers.gov/>
17. Tribal Rights. No activity may impair tribal rights (including treaty rights), protected tribal resources, or tribal lands.
18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on the listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur.
- (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause an effect on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, and adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed.

(d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant recovery effort or if the site is eligible for listing in the National Register of Historic Places.

(c) Non-federal permittees must submit a pre-construction notification (PCN) to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the PCN must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete PCN. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from Corps.

(d) As a result of formal or informal consultation with the USFWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will review the ESA section 10(a)(1)(B) permit, and if he or she determines that it covers the proposed NWP activity, including any incidental take of listed species that might occur as a result of conducting the proposed NWP activity, the district engineer does not need to conduct a separate section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete PCN whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.nmfs.noaa.gov/pr/species/esa> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the US are not authorized by NWP's 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.
(b) For NWP's 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWP's only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).
(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse environmental effects.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g. conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on the both sides of a stream or if the waterbody is a lake or coastal waters. Then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g. riparian areas and/or wetlands compensation) based on what is best for the aquatic environmental on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWP's, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation if the use of mitigation bank or in-lieu fee program credits is not appropriate and practicable.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWP's. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the minimal impact requirement for the NWP's.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality

authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires Section 408 permission is not authorized by the NWP until the appropriate Corps office issues the section 408 permission to altar, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. **Pre-Construction Notification (PCN).** (a) **Timing.** Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

- (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
- (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) **Contents of Pre-Construction Notification:** The PCN must be in writing and include the following information:

- (1) Name, address and telephone numbers of the prospective permittee;
- (2) Location of the proposed activity;
- (3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;
- (4) A description of the proposed activity; the activity's purpose; direct and indirect

adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other water for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an

Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. **Coastal Zone Management.** In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. **Regional and Case-By-Case Conditions.** The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or USEPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. **Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. **Transfer of Nationwide Permit Verifications.** If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

30. **Compliance Certification.** Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;
- (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(i)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and
- (c) The signature of the permittee certifying the completion of the work and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. **Activities Affecting Structures or Works Built by the United States.** If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally

illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);
(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that may be affected by the proposed activity. For any NWP activity that requires pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. Federal permittees must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of PCN Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require preconstruction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line or ordinary high water mark.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural

resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, sites specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of PCN notifications to expedite agency coordination.

Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

Terms for Nationwide Permit No. 14 – Linear Transportation Projects

Activities required for crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must comply with 33 CFR 330.6(d).

Note 2: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Note 3: For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

Kentucky Transportation
Cabinet Project:

NOTICE

**DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
NATIONWIDE SECTION 404 PERMIT AUTHORIZATION**

**DEPARTMENT FOR ENVIRONMENTAL PROTECTION
KENTUCKY DIVISION OF WATER
SECTION 401 WATER QUALITY CERTIFICATION**

**PROJECT DESCRIPTION: Bridge Replacement
South Watterson Trail over Fern Creek
Jefferson County, KY
KYTC Item No. 5-10010**

The Sections 404 and 401 activities for this project have previously been permitted under the authority of the Department of the Army, Nationwide Section 404 Permit Number 14, *Linear Transportation Projects* (with additional *Kentucky Regional General Conditions*), and the Division of Section 401 Water General Water Quality Certification. For these authorized permits to be valid, the attached conditions must be followed. The contractor shall post a copy of this Nationwide Number 14 permit and General Water Quality Certification in a conspicuous location at the project site, with unencumbered public access, for the duration of construction and comply with the general conditions required.

Locations Impacting Water Quality

Station-Location	Description
Bridge ID: 056C00159N	This replacement project will entail complete removal of the bridge and construction of a new bridge. The design objectives are to remove any load restrictions and have a design life of at least 75 years. The project will replace the bridge in the same location with current geometrics (bridge width, length, hydraulic opening, etc.) to avoid environmental impacts, utility impacts, and minimize the need for new right of way. The project will not include any reconstruction of the roadways approaching the bridge. Traffic will be detoured onto existing roads, rather than onto a temporary crossing of the stream. The project will not result in the loss of greater than 0.1 acre of waters of the U.S.; will not result in loss greater than 300 feet of ephemeral, intermittent, or perennial stream; and will not discharge to a special aquatic site.

Kentucky Transportation
Cabinet Project:

This project involves work near and/or within Jurisdictional Waters of the United States as defined by the U. S. Army Corps of Engineers; therefore, requiring a Nationwide Number 14 General Section 404 permit. The Division of Water conditionally certified this General Permit. Importantly, one of those conditions regards the use of heavy equipment in any stream channel, or streambed. If there is need to cross the stream channel with heavy equipment, or conduct work within the stream channel, a work platform or temporary crossing, is authorized. This should be constructed with clean rock (preferably sandstone or granite east of a line stretching from the McCreary-Wayne County line to the southwest, northeasterly to Lewis-Greenup County line), and sufficient pipe to allow stream flow to continue, unimpeded (refer to the attached standard drawing for low-water crossings at end of the document). Other conditions may be found under the heading, *General Certification—Nationwide Permit # 14 Linear Transportation Projects*.

In order for this authorization to be valid, the attached conditions must be followed. The contractor shall post a copy of this Nationwide Number 14 Approval in a conspicuous location at the project site, for the duration of the construction, and comply with the general conditions as required.

To more readily expedite construction, the contractor may elect to alter the design, or perform the work in a manner different from what was originally proposed and specified. Prior to commencing such alternative work, the contractor shall obtain written permission from the Division of Construction and the Kentucky Transportation Cabinet, Division of Environmental Analysis. If such changes necessitate further permitting, then the contractor will be responsible for applying to the U. S. Army Corps of Engineers and the Kentucky Division of Water. A copy of any request to the Corps of Engineers or Division of Water to alter this proposal and subsequent responses shall be forwarded to the Division of Environmental Analysis, DA Permit Coordinator, for office records and for informational purposes.



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

**ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION**

R. BRUCE SCOTT
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

General Certification--Nationwide Permit # 14 Linear Transportation Projects

This General Certification is issued March 19, 2017, in conformity with the requirements of Section 401 of the Clean Water Act of 1977, as amended (33 U.S.C. §1341), as well as Kentucky Statute KRS 224.16-050.

For this and all nationwide permits, the definition of surface water is as per 401 KAR 10:001 Chapter 10, Section 1(80): Surface Waters means those waters having well-defined banks and beds, either constantly or intermittently flowing; lakes and impounded waters; marshes and wetlands; and any subterranean waters flowing in well-defined channels and having a demonstrable hydrologic connection with the surface. Lagoons used for waste treatment and effluent ditches that are situated on property owned, leased, or under valid easement by a permitted discharger are not considered to be surface waters of the commonwealth.

Agricultural operations, as defined by KRS 224.71-100(1) conducting activities pursuant to KRS 224.71-100 (3), (4), (5), (6), or 10 are deemed to have certification if they are implementing an Agriculture Water Quality Plan pursuant to KRS 224.71-145.

For all other operations, the Commonwealth of Kentucky hereby certifies under Section 401 of the Clean Water Act (CWA) that it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 10, established pursuant to Sections 301, 302, 304, 306 and 307 of the CWA, will not be violated for the activity covered under NATIONWIDE PERMIT 14, namely Linear Transportation Projects, provided that the following conditions are met:

1. The activity will not occur within surface waters of the Commonwealth identified by the Kentucky Division of Water as Outstanding State or National Resource Water, Cold Water Aquatic Habitat, or Exceptional Waters.
2. The activity will not occur within surface waters of the Commonwealth identified as perpetually-protected (e.g. deed restriction, conservation easement) mitigation sites.
3. The activity will impact less than 1/2 acre of wetland/marsh.

General Certification--Nationwide Permit # 14
Linear Transportation Projects
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4. The activity will impact less than 300 linear feet of surface waters of the Commonwealth. Stream realignment greater than 100 feet and in-stream stormwater detention/retention basins are not covered under this general water quality certification.
5. For complete linear transportation projects, all impacts shall not exceed a cumulative length of 500 linear feet within each Hydrologic Unit Code (HUC) 14.
6. Any crossings must be constructed in a manner that does not impede natural water flow.
7. Stream impacts covered under this General Water Quality Certification and undertaken by those persons defined as an agricultural operation under the Agricultural Water Quality Act must be completed in compliance with the Kentucky Agricultural Water Quality Plan (KWQP).
8. The Kentucky Division of Water may require submission of a formal application for an individual certification for any project if the project has been determined to likely have a significant adverse effect upon water quality or degrade the waters of the Commonwealth so that existing uses of the water body or downstream waters are precluded.
9. Activities that do not meet the conditions of this General Water Quality Certification require an Individual Section 401 Water Quality Certification.
10. Activities qualifying for coverage under this General Water Quality Certification are subject to the following conditions:
 - Projects requiring in-stream stormwater detention/retention basins shall require individual water quality certifications.
 - Erosion and sedimentation pollution control plans and Best Management Practices must be designed, installed, and maintained in effective operating condition at all times during construction activities so that violations of state water quality standards do not occur (401 KAR 10:031 Section 2 and KRS 224.70-100).
 - Sediment and erosion control measures, such as check-dams constructed of any material, silt fencing, hay bales, etc., shall not be placed within surface waters of the Commonwealth, either temporarily or permanently, without prior approval by the Kentucky Division of Water's Water Quality Certification Section. If placement of sediment and erosion control measures in surface waters is unavoidable, design and placement of temporary erosion control measures shall not be conducted in such a manner that may result in instability of streams that are adjacent to,

General Certification--Nationwide Permit # 14
Linear Transportation Projects
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upstream, or downstream of the structures. All sediment and erosion control devices shall be removed and the natural grade restored within the completion timeline of the activities.

- Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
- Removal of riparian vegetation in the utility line right-of-way shall be limited to that necessary for equipment access.
- To the maximum extent practicable, all in-stream work under this certification shall be performed under low-flow conditions.
- Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances in which such in-stream work is unavoidable, then it shall be performed in such a manner and duration as to minimize turbidity and disturbance to substrates and bank or riparian vegetation.
- Any fill shall be of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters and/or cause violations of water quality standards. If rip-rap is utilized, it should be of such weight and size that bank stress or slump conditions will not be created because of its placement.
- If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the operator when such work will be done.
- Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the KDOW shall be notified immediately by calling (800) 928-2380.

Non-compliance with the conditions of this general certification or violation of Kentucky state water quality standards may result in civil penalties.



**US Army Corps
of Engineers®**
Louisville District

2017 Nationwide Permit General Conditions

The following General Conditions must be followed in order for any authorization by NWP to be valid:

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.
- (b) Any safety lights and signals prescribed by the US Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
- (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.
3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.
5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.
6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.
9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).
10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.
11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.
13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

- (b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

- (c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: <http://www.rivers.gov/>

17. Tribal Rights. No activity may impair tribal rights (including treaty rights), protected tribal resources, or tribal lands.
18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on the listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur.

- (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification (PCN) to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the PCN must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete PCN. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from Corps.

(d) As a result of formal or informal consultation with the USFWS or NMFS the district engineer may add species-specific permit conditions to the NWP's.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will review the ESA section 10(a)(1)(B) permit, and if he or she determines that it covers the proposed NWP activity, including any incidental take of listed species that might occur as a result of conducting the proposed NWP activity, the district engineer does not need to conduct a separate section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete PCN whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.nmfs.noaa.gov/pr/species/esa> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those

requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause an effect on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, and adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed.

(d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the US are not authorized by NWP's 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWP's 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWP's only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse environmental effects.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g. conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on the both sides of a stream or if the waterbody is a lake or coastal waters. Then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g. riparian areas and/or wetlands compensation) based on what is best for the aquatic environmental on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWP's, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation if the use of mitigation bank or in-lieu fee program credits is not appropriate and practicable.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWP's. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the minimal impact requirement for the NWP's.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality

Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. **Coastal Zone Management.** In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. **Regional and Case-By-Case Conditions.** The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or USEPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. **Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. **Transfer of Nationwide Permit Verifications.** If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

30. **Compliance Certification.** Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;
- (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(i)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and
- (c) The signature of the permittee certifying the completion of the work and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. **Activities Affecting Structures or Works Built by the United States.** If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally

authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires Section 408 permission is not authorized by the NWP until the appropriate Corps office issues the section 408 permission to altar, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. **Pre-Construction Notification (PCN).** (a) **Timing.** Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

- (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
- (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) **Contents of Pre-Construction Notification:** The PCN must be in writing and include the following information:

- (1) Name, address and telephone numbers of the prospective permittee;
- (2) Location of the proposed activity;
- (3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;
- (4) A description of the proposed activity; the activity's purpose; direct and indirect

adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other water for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an

illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that may be affected by the proposed activity. For any NWP activity that requires pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. Federal permittees must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of PCN Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require preconstruction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line or ordinary high water mark.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural

resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, sites specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of PCN notifications to expedite agency coordination.

Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

Terms for Nationwide Permit No. 14 – Linear Transportation Projects

Activities required for crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must comply with 33 CFR 330.6(d).

Note 2: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Note 3: For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

Kentucky Transportation
Cabinet Project:

NOTICE

**DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
NATIONWIDE SECTION 404 PERMIT AUTHORIZATION**

**DEPARTMENT FOR ENVIRONMENTAL PROTECTION
KENTUCKY DIVISION OF WATER
SECTION 401 WATER QUALITY CERTIFICATION**

**PROJECT DESCRIPTION: Bridge Replacement
KY 1169 over Elk Creek
Spencer County, KY
KYTC Item No. 5-10013**

The Sections 404 and 401 activities for this project have previously been permitted under the authority of the Department of the Army, Nationwide Section 404 Permit Number 14, *Linear Transportation Projects* (with additional *Kentucky Regional General Conditions*), and the Division of Section 401 Water General Water Quality Certification. For these authorized permits to be valid, the attached conditions must be followed. The contractor shall post a copy of this Nationwide Number 14 permit and General Water Quality Certification in a conspicuous location at the project site, with unencumbered public access, for the duration of construction and comply with the general conditions required.

Locations Impacting Water Quality

Station-Location	Description
Bridge ID: 108B00040N	This replacement project will entail complete removal of the bridge and construction of a new bridge. The design objectives are to remove any load restrictions and have a design life of at least 75 years. The project will replace the bridge in the same location with current geometrics (bridge width, length, hydraulic opening, etc.) to avoid environmental impacts, utility impacts, and minimize the need for new right of way. The project will not include any reconstruction of the roadways approaching the bridge. Traffic will be detoured onto existing roads, rather than onto a temporary crossing of the stream. The project will not result in the loss of greater than 0.1 acre of waters of the U.S.; will not result in loss greater than 300 feet of ephemeral, intermittent, or perennial stream; and will not discharge to a special aquatic site.

Kentucky Transportation
Cabinet Project:

This project involves work near and/or within Jurisdictional Waters of the United States as defined by the U. S. Army Corps of Engineers; therefore, requiring a Nationwide Number 14 General Section 404 permit. The Division of Water conditionally certified this General Permit. Importantly, one of those conditions regards the use of heavy equipment in any stream channel, or streambed. If there is need to cross the stream channel with heavy equipment, or conduct work within the stream channel, a work platform or temporary crossing, is authorized. This should be constructed with clean rock (preferably sandstone or granite east of a line stretching from the McCreary-Wayne County line to the southwest, northeasterly to Lewis-Greenup County line), and sufficient pipe to allow stream flow to continue, unimpeded (refer to the attached standard drawing for low-water crossings at end of the document). Other conditions may be found under the heading, *General Certification—Nationwide Permit # 14 Linear Transportation Projects*.

In order for this authorization to be valid, the attached conditions must be followed. The contractor shall post a copy of this Nationwide Number 14 Approval in a conspicuous location at the project site, for the duration of the construction, and comply with the general conditions as required.

To more readily expedite construction, the contractor may elect to alter the design, or perform the work in a manner different from what was originally proposed and specified. Prior to commencing such alternative work, the contractor shall obtain written permission from the Division of Construction and the Kentucky Transportation Cabinet, Division of Environmental Analysis. If such changes necessitate further permitting, then the contractor will be responsible for applying to the U. S. Army Corps of Engineers and the Kentucky Division of Water. A copy of any request to the Corps of Engineers or Division of Water to alter this proposal and subsequent responses shall be forwarded to the Division of Environmental Analysis, DA Permit Coordinator, for office records and for informational purposes.



MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

**ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION**

R. BRUCE SCOTT
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

General Certification--Nationwide Permit # 14 Linear Transportation Projects

This General Certification is issued March 19, 2017, in conformity with the requirements of Section 401 of the Clean Water Act of 1977, as amended (33 U.S.C. §1341), as well as Kentucky Statute KRS 224.16-050.

For this and all nationwide permits, the definition of surface water is as per 401 KAR 10:001 Chapter 10, Section 1(80): Surface Waters means those waters having well-defined banks and beds, either constantly or intermittently flowing; lakes and impounded waters; marshes and wetlands; and any subterranean waters flowing in well-defined channels and having a demonstrable hydrologic connection with the surface. Lagoons used for waste treatment and effluent ditches that are situated on property owned, leased, or under valid easement by a permitted discharger are not considered to be surface waters of the commonwealth.

Agricultural operations, as defined by KRS 224.71-100(1) conducting activities pursuant to KRS 224.71-100 (3), (4), (5), (6), or 10 are deemed to have certification if they are implementing an Agriculture Water Quality Plan pursuant to KRS 224.71-145.

For all other operations, the Commonwealth of Kentucky hereby certifies under Section 401 of the Clean Water Act (CWA) that it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 10, established pursuant to Sections 301, 302, 304, 306 and 307 of the CWA, will not be violated for the activity covered under NATIONWIDE PERMIT 14, namely Linear Transportation Projects, provided that the following conditions are met:

1. The activity will not occur within surface waters of the Commonwealth identified by the Kentucky Division of Water as Outstanding State or National Resource Water, Cold Water Aquatic Habitat, or Exceptional Waters.
2. The activity will not occur within surface waters of the Commonwealth identified as perpetually-protected (e.g. deed restriction, conservation easement) mitigation sites.
3. The activity will impact less than 1/2 acre of wetland/marsh.

General Certification--Nationwide Permit # 14
Linear Transportation Projects
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4. The activity will impact less than 300 linear feet of surface waters of the Commonwealth. Stream realignment greater than 100 feet and in-stream stormwater detention/retention basins are not covered under this general water quality certification.
5. For complete linear transportation projects, all impacts shall not exceed a cumulative length of 500 linear feet within each Hydrologic Unit Code (HUC) 14.
6. Any crossings must be constructed in a manner that does not impede natural water flow.
7. Stream impacts covered under this General Water Quality Certification and undertaken by those persons defined as an agricultural operation under the Agricultural Water Quality Act must be completed in compliance with the Kentucky Agricultural Water Quality Plan (KWQP).
8. The Kentucky Division of Water may require submission of a formal application for an individual certification for any project if the project has been determined to likely have a significant adverse effect upon water quality or degrade the waters of the Commonwealth so that existing uses of the water body or downstream waters are precluded.
9. Activities that do not meet the conditions of this General Water Quality Certification require an Individual Section 401 Water Quality Certification.
10. Activities qualifying for coverage under this General Water Quality Certification are subject to the following conditions:
 - Projects requiring in-stream stormwater detention/retention basins shall require individual water quality certifications.
 - Erosion and sedimentation pollution control plans and Best Management Practices must be designed, installed, and maintained in effective operating condition at all times during construction activities so that violations of state water quality standards do not occur (401 KAR 10:031 Section 2 and KRS 224.70-100).
 - Sediment and erosion control measures, such as check-dams constructed of any material, silt fencing, hay bales, etc., shall not be placed within surface waters of the Commonwealth, either temporarily or permanently, without prior approval by the Kentucky Division of Water's Water Quality Certification Section. If placement of sediment and erosion control measures in surface waters is unavoidable, design and placement of temporary erosion control measures shall not be conducted in such a manner that may result in instability of streams that are adjacent to,

General Certification--Nationwide Permit # 14
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upstream, or downstream of the structures. All sediment and erosion control devices shall be removed and the natural grade restored within the completion timeline of the activities.

- Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
- Removal of riparian vegetation in the utility line right-of-way shall be limited to that necessary for equipment access.
- To the maximum extent practicable, all in-stream work under this certification shall be performed under low-flow conditions.
- Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances in which such in-stream work is unavoidable, then it shall be performed in such a manner and duration as to minimize turbidity and disturbance to substrates and bank or riparian vegetation.
- Any fill shall be of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters and/or cause violations of water quality standards. If rip-rap is utilized, it should be of such weight and size that bank stress or slump conditions will not be created because of its placement.
- If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the operator when such work will be done.
- Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the KDOW shall be notified immediately by calling (800) 928-2380.

Non-compliance with the conditions of this general certification or violation of Kentucky state water quality standards may result in civil penalties.



**US Army Corps
of Engineers®**
Louisville District

2017 Nationwide Permit General Conditions

The following General Conditions must be followed in order for any authorization by NWP to be valid:

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.
- (b) Any safety lights and signals prescribed by the US Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
- (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.
3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.
5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.
6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.
9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).
10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.
11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: <http://www.rivers.gov/>

17. Tribal Rights. No activity may impair tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on the listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification (PCN) to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the PCN must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete PCN. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from Corps.

(d) As a result of formal or informal consultation with the USFWS or NMFS the district engineer may add species-specific permit conditions to the NWP's.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will review the ESA section 10(a)(1)(B) permit, and if he or she determines that it covers the proposed NWP activity, including any incidental take of listed species that might occur as a result of conducting the proposed NWP activity, the district engineer does not need to conduct a separate section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete PCN whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the USFWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.nmfs.noaa.gov/pr/species/esa> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those

requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause an effect on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, and adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed.

(d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the US are not authorized by NWP's 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWP's 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWP's only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse environmental effects.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g. conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on the both sides of a stream or if the waterbody is a lake or coastal waters. Then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g. riparian areas and/or wetlands compensation) based on what is best for the aquatic environmental on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWP's, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation if the use of mitigation bank or in-lieu fee program credits is not appropriate and practicable.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWP's. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the minimal impact requirement for the NWP's.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality

authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires Section 408 permission is not authorized by the NWP until the appropriate Corps office issues the section 408 permission to altar, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification (PCN). (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

- (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
- (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

- (1) Name, address and telephone numbers of the prospective permittee;
- (2) Location of the proposed activity;
- (3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;
- (4) A description of the proposed activity; the activity's purpose; direct and indirect

adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other water for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an

Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or USEPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;
- (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(i)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and
- (c) The signature of the permittee certifying the completion of the work and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally

illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);
(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that may be affected by the proposed activity. For any NWP activity that requires pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. Federal permittees must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of PCN Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require preconstruction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line or ordinary high water mark.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural

resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, sites specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of PCN notifications to expedite agency coordination.

Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

Terms for Nationwide Permit No. 14 – Linear Transportation Projects

Activities required for crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must comply with 33 CFR 330.6(d).

Note 2: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Note 3: For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

CAP Notes

The following notes are required to be fulfilled as part of the Contract

JEFFERSON SYP 5-10010.00

Environmental Concern – Running Buffalo Clover:

In addition, the parties agree as follows:

- To avoid potential conflict with RBC, the start date for the construction on this bridge will be August 1, 2019. In the spring the site will be re-evaluated for RBC habitat. If RBC is encountered mitigation take place prior to the August 1, 2019 begin construction date.

Parcel 1 (Jessie Wilson- 5412 and 5414 South Watterson Trail):

In addition, the parties agree as follows:

- The contractor or anyone associated with the construction of this Bridging Kentucky project are not to use, park vehicles or impede the access to the driveway that serves Parcel 1 (combined driveway for 5412 South Watterson Trail and 5414 South Watterson Trail).

CAP Notes

The following notes are required to be fulfilled as part of the Contract
SPENCER SYP 5-10013.00

Parcel 1 (Mary Lee Frye & Raymond E Frye, Jr):

In addition, the parties agree as follows:

- The proposed guardrail on the southwest quadrant of the proposed bridge will be terminated far enough east so it does not disturb or block the existing field entrance located at approximate station 101+20, right. The existing field entrance shall be maintained throughout and after construction to allow complete ingress and egress to the Frye property (Parcel 1).

MATERIAL SUMMARY

CONTRACT ID: 195072

121GR19D072-STP

BR05209971905

KY 997 REPLACE BRIDGE ON KY 997 (1.903) OVER WHITE SULPHUR FORK (052B00060N) BRIDGE REPLACEMENT, A DISTANCE OF .01 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0340	02355	GUARDRAIL-STEEL W BEAM-S FACE A	100.00	LF
0345	02545	CLEARING AND GRUBBING - Less than 1 acre	1.00	LS
0350	21415ND	EROSION CONTROL	1.00	LS
0355	02731	REMOVE STRUCTURE	1.00	LS
0360	02223	GRANULAR EMBANKMENT	42.00	CUYD
0365	02371	GUARDRAIL END TREATMENT TYPE 7	4.00	EACH
0370	02399	EXTRA LENGTH GUARDRAIL POST	16.00	EACH
0375	03299	ARMORED EDGE FOR CONCRETE	47.00	LF
0380	02726	STAKING	1.00	LS
0385	08002	STRUCTURE EXCAV-SOLID ROCK	73.00	CUYD
0390	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
0395	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
0400	08003	FOUNDATION PREPARATION	1.00	LS
0405	03304	BRIDGE OVERLAY APPROACH PAVEMENT	117.00	SQYD
0410	08019	CYCLOPEAN STONE RIP RAP	107.00	TON
0415	08100	CONCRETE-CLASS A	149.00	CUYD
0420	08104	CONCRETE-CLASS AA	14.00	CUYD
0425	08150	STEEL REINFORCEMENT	11,892.00	LB
0430	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	10.00	EACH
0435	08151	STEEL REINFORCEMENT-EPOXY COATED	1,679.00	LB
0440	08662	PRECAST PC BOX BEAM CB17-48	207.50	LF
0445	08801	GUARDRAIL-STEEL W BEAM-S FACE BR	77.00	LF
0450	24982EC	CONCRETE COATING - Approximately 1135 SF	1.00	LS
0455	02569	DEMOBILIZATION	1.00	LS

MATERIAL SUMMARY

CONTRACT ID: 195072

121GR19D072-STP

BR05610051904

S Watterson Trail ADDRESS DEFICIENCIES OF S. WATTERSON TRAIL OVER FERN CREEK (056C00159N)
BRIDGE REPLACEMENT, A DISTANCE OF .01 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0165	01310	REMOVE PIPE	33.00	LF
0170	01644	JUNCTION BOX-30 IN	2.00	EACH
0175	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	6.00	EACH
0180	02223	GRANULAR EMBANKMENT	6.00	CUYD
0185	02351	GUARDRAIL-STEEL W BEAM-S FACE	75.00	LF
0190	02355	GUARDRAIL-STEEL W BEAM-S FACE A	100.00	LF
0195	02360	GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH
0200	02381	REMOVE GUARDRAIL	175.00	LF
0205	02391	GUARDRAIL END TREATMENT TYPE 4A	1.00	EACH
0210	02545	CLEARING AND GRUBBING - Less than 1 acre	1.00	LS
0215	02625	REMOVE HEADWALL	1.00	EACH
0220	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
0225	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
0230	02726	STAKING	1.00	LS
0235	02731	REMOVE STRUCTURE	1.00	LS
0240	03299	ARMORED EDGE FOR CONCRETE	49.00	LF
0245	03304	BRIDGE OVERLAY APPROACH PAVEMENT	161.00	SQYD
0250	08002	STRUCTURE EXCAV-SOLID ROCK	182.00	CUYD
0255	08003	FOUNDATION PREPARATION	1.00	LS
0260	08019	CYCLOPEAN STONE RIP RAP	610.00	TON
0265	08100	CONCRETE-CLASS A	302.00	CUYD
0270	08100	CONCRETE-CLASS A	2.22	CUYD
0275	08104	CONCRETE-CLASS AA	13.00	CUYD
0280	08150	STEEL REINFORCEMENT	32,940.00	LB
0285	08151	STEEL REINFORCEMENT-EPOXY COATED	1,720.00	LB
0290	08661	PRECAST PC BOX BEAM CB12-48	198.00	LF
0295	08801	GUARDRAIL-STEEL W BEAM-S FACE BR	63.00	LF
0300	14023	W FLUSHING ASSEMBLY	1.00	EACH
0305	14050	W PIPE DCTL IRON RSTRND JOINT 12 IN	120.00	LF
0310	14097	W TIE-IN 12 INCH	2.00	EACH
0315	14108	W VALVE 12 INCH	2.00	EACH
0320	21415ND	EROSION CONTROL	1.00	LS
0325	23378EC	CONCRETE SEALING - Approx. 3856 SF	1.00	SQFT
0330	02569	DEMOBILIZATION	1.00	LS
0335	00524	STORM SEWER PIPE-24 IN	26.00	LF

MATERIAL SUMMARY

CONTRACT ID: 195072

121GR19D072-STP

BR10811691969

KY 1169 ADDRESS DEFICIENCIES OF KY 1169 BRIDGE OVER ELK CREEK (108B00040N), FROM MP 4.639 TO MP 4.655 BRIDGE REPLACEMENT, A DISTANCE OF .02 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	03304	BRIDGE OVERLAY APPROACH PAVEMENT	580.00	SQYD
0010	01987	DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	13.00	EACH
0015	02014	BARRICADE-TYPE III	2.00	EACH
0020	02223	GRANULAR EMBANKMENT	20.00	CUYD
0025	02351	GUARDRAIL-STEEL W BEAM-S FACE	25.00	LF
0030	02355	GUARDRAIL-STEEL W BEAM-S FACE A	100.00	LF
0035	02360	GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH
0040	02367	GUARDRAIL END TREATMENT TYPE 1	3.00	EACH
0045	02381	REMOVE GUARDRAIL	50.00	LF
0050	02399	EXTRA LENGTH GUARDRAIL POST	16.00	EACH
0055	02429	RIGHT-OF-WAY MONUMENT TYPE 1	3.00	EACH
0060	02432	WITNESS POST	3.00	EACH
0065	02545	CLEARING AND GRUBBING - Less than 1 acre	1.00	LS
0070	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
0075	02726	STAKING	1.00	LS
0080	02731	REMOVE STRUCTURE	1.00	LS
0085	20418ED	REMOVE & RELOCATE SIGNS	1.00	EACH
0090	21415ND	EROSION CONTROL	1.00	LS
0095	03299	ARMORED EDGE FOR CONCRETE	48.20	LF
0100	08001	STRUCTURE EXCAVATION-COMMON	118.00	CUYD
0105	08002	STRUCTURE EXCAV-SOLID ROCK	55.00	CUYD
0110	08019	CYCLOPEAN STONE RIP RAP	1,100.00	TON
0115	08100	CONCRETE-CLASS A	72.10	CUYD
0120	08104	CONCRETE-CLASS AA	38.30	CUYD
0125	08140	MECHANICAL REINF COUPLER #5 EPOXY COATED	80.00	EACH
0130	08150	STEEL REINFORCEMENT	4,200.00	LB
0135	08151	STEEL REINFORCEMENT-EPOXY COATED	4,059.00	LB
0140	08652	PRECAST PC BOX BEAM B17-48	479.00	LF
0145	08801	GUARDRAIL-STEEL W BEAM-S FACE BR	150.00	LF
0150	24982EC	CONCRETE COATING - Approx. 1672 SF	1.00	LS
0155	02569	DEMOBILIZATION	1.00	LS
0160	02430	RIGHT-OF-WAY MONUMENT TYPE 1A	3.00	EACH

PART II
SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2012* and *Standard Drawings, Edition of 2016*.

SUPPLEMENTAL SPECIFICATIONS

The contractor shall use the Supplemental Specifications that are effective at the time of letting.
The Supplemental Specifications can be found at the following link:

<http://transportation.ky.gov/Construction/Pages/Kentucky-Standard-Specifications.aspx>

SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

This Special Note will apply when indicated on the plans or in the proposal.

1.0 DESCRIPTION. Furnish, install, operate, and maintain variable message signs at the locations shown on the plans or designated by the Engineer. Remove and retain possession of variable message signs when they are no longer needed on the project.

2.0 MATERIALS.

2.1 General. Use LED Variable Message Signs Class I, II, or III, as appropriate, from the Department's List of Approved Materials.

Unclassified signs may be submitted for approval by the Engineer. The Engineer may require a daytime and nighttime demonstration. The Engineer will make a final decision within 30 days after all required information is received.

2.2 Sign and Controls. All signs must:

- 1) Provide 3-line messages with each line being 8 characters long and at least 18 inches tall. Each character comprises 35 pixels.
- 2) Provide at least 40 preprogrammed messages available for use at any time. Provide for quick and easy change of the displayed message; editing of the message; and additions of new messages.
- 3) Provide a controller consisting of:
 - a) Keyboard or keypad.
 - b) Readout that mimics the actual sign display. (When LCD or LCD type readout is used, include backlighting and heating or otherwise arrange for viewing in cold temperatures.)
 - c) Non-volatile memory or suitable memory with battery backup for storing pre-programmed messages.
 - d) Logic circuitry to control the sequence of messages and flash rate.
- 4) Provide a serial interface that is capable of supporting complete remote control ability through land line and cellular telephone operation. Include communication software capable of immediately updating the message, providing complete sign status, and allowing message library queries and updates.
- 5) Allow a single person easily to raise the sign to a satisfactory height above the pavement during use, and lower the sign during travel.
- 6) Be Highway Orange on all exterior surfaces of the trailer, supports, and controller cabinet.
- 7) Provide operation in ambient temperatures from -30 to + 120 degrees Fahrenheit during snow, rain and other inclement weather.
- 8) Provide the driver board as part of a module. All modules are interchangeable, and have plug and socket arrangements for disconnection and reconnection. Printed circuit boards associated with driver boards have a conformable coating to protect against moisture.
- 9) Provide a sign case sealed against rain, snow, dust, insects, etc. The lens is UV stabilized clear plastic (polycarbonate, acrylic, or other approved material) angled to prevent glare.
- 10) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
- 11) Provide a photocell control to provide automatic dimming.

- 12) Allow an on-off flashing sequence at an adjustable rate.
- 13) Provide a sight to aim the message.
- 14) Provide a LED display color of approximately 590 nm amber.
- 15) Provide a controller that is password protected.
- 16) Provide a security device that prevents unauthorized individuals from accessing the controller.
- 17) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

/KEEP/RIGHT/=>=>=>/	/MIN/SPEED/**MPH/
/KEEP/LEFT/←←←/	/ICY/BRIDGE/AHEAD/ /ONE
/LOOSE/GRAVEL/AHEAD/	LANE/BRIDGE/AHEAD/
/RD WORK/NEXT/**MILES/	/ROUGH/ROAD/AHEAD/
/TWO WAY/TRAFFIC/AHEAD/	/MERGING/TRAFFIC/AHEAD/
/PAINT/CREW/AHEAD/	/NEXT/**/MILES/
/REDUCE/SPEED/**MPH/	/HEAVY/TRAFFIC/AHEAD/
/BRIDGE/WORK/**0 FT/	/SPEED/LIMIT/**MPH/
/MAX/SPEED/**MPH/	/BUMP/AHEAD/
/SURVEY/PARTY/AHEAD/	/TWO/WAY/TRAFFIC/

*Insert numerals as directed by the Engineer.
Add other messages during the project when required by the Engineer.

2.3 Power.

- 1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. Provide direct wiring for operation of the sign or arrow board from an external power source to provide energy backup for 21 days without sunlight and an on-board system charger with the ability to recharge completely discharged batteries in 24 hours.

3.0 CONSTRUCTION. Furnish and operate the variable message signs as designated on the plans or by the Engineer. Ensure the bottom of the message panel is a minimum of 7 feet above the roadway in urban areas and 5 feet above in rural areas when operating. Use Class I, II, or III signs on roads with a speed limit less than 55 mph. Use Class I or II signs on roads with speed limits 55 mph or greater.

Maintain the sign in proper working order, including repair of any damage done by others, until completion of the project. When the sign becomes inoperative, immediately repair or replace the sign. Repetitive problems with the same unit will be cause for rejection and replacement.

Use only project related messages and messages directed by the Engineer, unnecessary messages lessen the impact of the sign. Ensure the message is displayed in either one or 2 phases with each phase having no more than 3 lines of text. When no message is needed, but it is necessary to know if the sign is operable, flash only a pixel.

When the sign is not needed, move it outside the clear zone or where the Engineer directs. Variable Message Signs are the property of the Contractor and shall be removed from the project when no longer needed. The Department will not assume ownership of these signs.

4.0 MEASUREMENT. The final quantity of Variable Message Sign will be

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the actual number of individual signs acceptably furnished and operated during the project. The Department will not measure signs replaced due to damage or rejection.

5.0 PAYMENT. The Department will pay for the Variable Message Signs at the unit price each. The Department will not pay for signs replaced due to damage or rejection. Payment is full compensation for furnishing all materials, labor, equipment, and service necessary to, operate, move, repair, and maintain or replace the variable message signs. The Department will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02671	Portable Changeable Message Sign	Each

Effective June 15, 2012

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

- (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;
- (2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and
- (4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

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

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

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

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
EMPLOYMENT REQUIREMENTS
RELATING TO
NONDISCRIMINATION OF EMPLOYEES
(APPLICABLE TO FEDERAL-AID SYSTEM CONTRACTS)**

**AN ACT OF THE KENTUCKY GENERAL ASSEMBLY
TO PREVENT DISCRIMINATION IN EMPLOYMENT**

**KRS CHAPTER 344
EFFECTIVE JUNE 16, 1972**

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (forty and above); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age forty (40) and over. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, except that such a notice or advertisement may indicate a preference, limitation, or specification based on religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, when religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, is a bona fide occupational qualification for employment.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age forty (40) and over, in admission to, or employment in any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

Standard Title VI/Non-Discrimination Assurances

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **Federal Highway Administration** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **Federal Highway Administration**, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **Federal Highway Administration** may determine to be appropriate, including, but not limited to:
 - a. withholding payments to the contractor under the contract until the contractor complies; and/or
 - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the **Federal Highway Administration** may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

Standard Title VI/Non-Discrimination Statutes and Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq.*)

EXECUTIVE BRANCH CODE OF ETHICS

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

KRS 11A.040 (7) provides:

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

KRS 11A.040 (9) states:

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

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

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

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

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

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

General Decision Number: KY190038 02/15/2019 KY38

Superseded General Decision Number: KY20180100

State: Kentucky

Construction Type: Highway

Counties: Anderson, Bath, Bourbon, Boyd, Boyle, Bracken, Breckinridge, Bullitt, Carroll, Carter, Clark, Elliott, Fayette, Fleming, Franklin, Gallatin, Grant, Grayson, Greenup, Hardin, Harrison, Henry, Jefferson, Jessamine, Larue, Lewis, Madison, Marion, Mason, Meade, Mercer, Montgomery, Nelson, Nicholas, Oldham, Owen, Robertson, Rowan, Scott, Shelby, Spencer, Trimble, Washington and Woodford Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019
1	02/15/2019

BRIN0004-003 06/01/2017

BRECKENRIDGE COUNTY

Rates Fringes

BRICKLAYER.....\$ 26.80 12.38

BRKY0001-005 06/01/2017

BULLITT, CARROLL, GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE,
MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, & TRIMBLE
COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 26.80	12.38

BRKY0002-006 06/01/2017

BRACKEN, GALLATIN, GRANT, MASON & ROBERTSON COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 27.81	13.01

BRKY0007-004 06/01/2017

BOYD, CARTER, ELLIOT, FLEMING, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 32.98	19.02

BRKY0017-004 06/01/2017

ANDERSON, BATH, BOURBON, BOYLE, CLARK, FAYETTE, FRANKLIN,
HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS,
OWEN, SCOTT, WASHINGTON & WOODFORD COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 26.47	12.76

CARP0064-001 05/01/2015

	Rates	Fringes
CARPENTER.....	\$ 27.50	16.06
Diver.....	\$ 41.63	16.06
PILEDRIVERMAN.....	\$ 27.75	16.06

ELEC0212-008 06/04/2018

BRACKEN, GALLATIN and GRANT COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 28.39	18.98

* ELEC0212-014 11/26/2018

BRACKEN, GALLATIN & GRANT COUNTIES:

	Rates	Fringes
Sound & Communication Technician.....	\$ 24.35	10.99

ELEC0317-012 06/01/2018		

BOYD, CARTER, ELLIOT & ROWAN COUNTIES:

	Rates	Fringes
ELECTRICIAN (Wiremen) Cable Splicer.....	\$ 32.68	18.13
Electrician.....	\$ 33.75	20.03

ELEC0369-007 05/30/2018		

ANDERSON, BATH, BOURBON, BOYLE, BRECKINRIDGE, BULLITT, CARROLL,
 CLARK, FAYETTE, FRAONKLIN, GRAYSON, HARDIN, HARRISON, HENRY,
 JEFFERSON, JESSAMINE, LARUE, MADISON, MARION, MEADE, MERCER,
 MONTGOMERY, NELSON, NICHOLAS, OLDHAM, OWEN, ROBERTSON, SCOTT,
 SHELBY, SPENCER, TRIMBLE, WASHINGTON, & WOODFORD COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 31.66	17.01

* ELEC0575-002 12/31/2018		

FLEMING, GREENUP, LEWIS & MASON COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 32.75	16.69

ENGI0181-018 07/01/2017		

	Rates	Fringes
POWER EQUIPMENT OPERATOR GROUP 1.....	\$ 31.95	15.15
GROUP 2.....	\$ 29.09	15.15
GROUP 3.....	\$ 29.54	15.15
GROUP 4.....	\$ 28.77	15.15

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - A-Frame Winch Truck; Auto Patrol; Backfiller;
 Batcher Plant; Bituminous Paver; Bituminous Transfer
 Machine; Boom Cat; Bulldozer; Mechanic; Cableway; Carry-All
 Scoop; Carry Deck Crane; Central Compressor Plant; Cherry
 Picker; Clamshell; Concrete Mixer (21 cu. ft. or Over);
 Concrete Paver; Truck-Mounted Concrete Pump; Core Drill;
 Crane; Crusher Plant; Derrick; Derrick Boat; Ditching &
 Trenching Machine; Dragline; Dredge Operator; Dredge
 Engineer; Elevating Grader & Loaders; Grade-All; Gurries;
 Heavy Equipment Robotics Operator/Mechanic; High Lift;
 Hoe-Type Machine; Hoist (Two or More Drums); Hoisting
 Engine (Two or More Drums); Horizontal Directional Drill

Operator; Hydrocrane; Hyster; KeCal Loader; LeTourneau; Locomotive; Mechanic; Mechanically Operated Laser Screed; Mechanic Welder; Mucking Machine; Motor Scraper; Orangepeel Bucket; Overhead Crane; Piledriver; Power Blade; Pumpcrete; Push Dozer; Rock Spreader, attached to equipment; Rotary Drill; Roller (Bituminous); Rough Terrain Crane; Scarifier; Scoopmobile; Shovel; Side Boom; Subgrader; Tailboom; Telescoping Type Forklift; Tow or Push Boat; Tower Crane (French, German & other types); Tractor Shovel; Truck Crane; Tunnel Mining Machines, including Moles, Shields or similar types of Tunnel Mining Equipment

GROUP 2 - Air Compressor (Over 900 cu. ft. per min.); Bituminous Mixer; Boom Type Tamping Machine; Bull Float; Concrete Mixer (Under 21 cu. ft.); Dredge Engineer; Electric Vibrator; Compactor/Self-Propelled Compactor; Elevator (One Drum or Buck Hoist); Elevator (When used to Hoist Building Material); Finish Machine; Firemen & Hoist (One Drum); Flexplane; Forklift (Regardless of Lift Height); Form Grader; Joint Sealing Machine; Outboard Motor Boat; Power Sweeper (Riding Type); Roller (Rock); Ross Carrier; Skid Mounted or Trailer Mounted Concrete Pump; Skid Steer Machine with all Attachments; Switchman or Brakeman; Throttle Valve Person; Tractair & Road Widening Trencher; Tractor (50 H.P. or Over); Truck Crane Oiler; Tugger; Welding Machine; Well Points; & Whirley Oiler

GROUP 3 - All Off Road Material Handling Equipment, including Articulating Dump Trucks; Greaser on Grease Facilities servicing Heavy Equipment

GROUP 4 - Bituminous Distributor; Burlap & Curing Machine; Cement Gun; Concrete Saw; Conveyor; Deckhand Oiler; Grout Pump; Hydraulic Post Driver; Hydro Seeder; Mud Jack; Oiler; Paving Joint Machine; Power Form Handling Equipment; Pump; Roller (Earth); Steerman; Tamping Machine; Tractor (Under 50 H.P.); & Vibrator

CRANES - with booms 150 ft. & Over (Including JIB), and where the length of the boom in combination with the length of the piling leads equals or exceeds 150 ft. - \$1.00 over Group 1 rate

EMPLOYEES ASSIGNED TO WORK BELOW GROUND LEVEL ARE TO BE PAID 10% ABOVE BASIC WAGE RATE. THIS DOES NOT APPLY TO OPEN CUT WORK.

IRON0044-009 06/01/2018

BRACKEN, GALLATIN, GRANT, HARRISON, ROBERTSON,
BOURBON (Northern third, including Townships of Jackson, Millersburg, Ruddel Mills & Shawhan);
CARROLL (Eastern third, including the Township of Ghent);
FLEMING (Western part, excluding Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains, Ringos Mills, Tilton & Wallingford);
MASON (Western two-thirds, including Townships of Dover,

Lewisburg, Mays Lick, Maysville, Minerva, Moranburg, Murphysville, Ripley, Sardis, Shannon, South Ripley & Washington);
 NICHOLAS (Townships of Barefoot, Barterville, Carlisle, Ellisville, Headquarters, Henryville, Morningglory, Myers & Oakland Mills);
 OWEN (Townships of Beechwood, Bromley, Fairbanks, Holbrook, Jonesville, Long Ridge, Lusby's Mill, New, New Columbus, New Liberty, Owenton, Poplar Grove, Rockdale, Sanders, Teresita & Wheatley);
 SCOTT (Northern two-thirds, including Townships of Biddle, Davis, Delaplain, Elmville, Longlick, Muddy Ford, Oxford, Rogers Gap, Sadieville, Skinnersburg & Stonewall)

	Rates	Fringes
IRONWORKER		
Fence Erector.....	\$ 26.76	21.20
Structural.....	\$ 28.17	21.20

 IRON0070-006 06/01/2018

ANDERSON, BOYLE, BRECKINRIDGE, BULLITT, FAYETTE, FRANKLIN, GRAYSON, HARDIN, HENRY, JEFFERSON, JESSAMINE, LARUE, MADISON, MARION, MEADE, MERCER, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE, WASHINGTON & WOODFORD
 BOURBON (Southern two-thirds, including Townships of Austerlity, Centerville, Clintonville, Elizabeth, Hutchison, Littlerock, North Middletown & Paris);
 CARROLL (Western two-thirds, including Townships of Carrollton, Easterday, English, Locust, Louis, Prestonville & Worthville);
 CLARK (Western two-thirds, including Townships of Becknerville, Flanagan, Ford, Pine Grove, Winchester & Wyandotte);
 OWEN (Eastern eighth, including Townships of Glenmary, Gratz, Monterey, Perry Park & Tacketts Mill);
 SCOTT (Southern third, including Townships of Georgetown, Great Crossing, Newtown, Stampling Ground & Woodlake);

	Rates	Fringes
IRONWORKER.....	\$ 28.79	22.50

 IRON0769-007 06/01/2018

BATH, BOYD, CARTER, ELLIOTT, GREENUP, LEWIS, MONTGOMERY & ROWAN
 CLARK (Eastern third, including townships of Bloomingdale, Hunt, Indian Fields, Kiddville, Loglick, Rightangele & Thomson);
 FLEMING (Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksville, Plummers Landing, Plummers Mill, Poplar Plains, Ringos Mills, Tilton & Wallingford);
 MASON (Eastern third, including Townships of Helena, Marshall, Orangeburg, Plumville & Springdale);
 NICHOLAS (Eastern eighth, including the Township of Moorefield Sprout)

	Rates	Fringes
IRONWORKER		
ZONE 1.....	\$ 31.67	25.27
ZONE 2.....	\$ 31.67	25.27
ZONE 3.....	\$ 31.67	25.27

ZONE 1 - (no base rate increase) Up to 10 mile radius of Union Hall, 1643 Greenup Ave, Ashland, KY.

ZONE 2 - (add \$0.40 per hour to base rate) 10 to 50 mile radius of Union Hall, 1643 Greenup Ave, Ashland, KY.

ZONE 3 - (add \$2.00 per hour to base rate) 50 mile radius & over of Union Hall, 1643 Greenup Ave, Ashland, KY.

 LABO0189-003 07/01/2018

BATH, BOURBON, BOYD, BOYLE, BRACKEN, CARTER, CLARK, ELLIOTT, FAYETTE, FLEMING, FRANKLIN, GALLATIN, GRANT, GREENUP, HARRISON, JESSAMINE, LEWIS, MADISON, MASON, MERCER, MONTGOMERY, NICHOLAS, OWEN, ROBERTSON, ROWAN, SCOTT, & WOOLFORD COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 23.07	14.21
GROUP 2.....	\$ 23.32	14.21
GROUP 3.....	\$ 23.37	14.21
GROUP 4.....	\$ 23.97	14.21

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushhammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman;
Gunnite Operator & Mixer; Grout Pump Operator; Side Rail
Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free
Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher;
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste
- Levels A & B; Miner & Driller (Free Air); Tunnel Blaster;
& Tunnel Mucker (Free Air); Directional & Horizontal
Boring; Air Track Drillers (All Types); Powdermen &
Blasters; Troxler & Concrete Tester if Laborer is Utilized

LABO0189-008 07/01/2018

ANDERSON, BULLITT, CARROLL, HARDIN, HENRY, JEFFERSON, LARUE,
MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE &
WASHINGTON COUNTIES

Rates Fringes

Laborers:

GROUP 1.....	\$ 23.07	14.21
GROUP 2.....	\$ 23.32	14.21
GROUP 3.....	\$ 23.37	14.21
GROUP 4.....	\$ 23.97	14.21

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement
Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter
Tender; Cement Mason Tender; Cleaning of Machines;
Concrete; Demolition; Dredging; Environmental - Nuclear,
Radiation, Toxic & Hazardous Waste - Level D; Flagperson;
Grade Checker; Hand Digging & Hand Back Filling; Highway
Marker Placer; Landscaping, Mesh Handler & Placer; Puddler;
Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail
& Fence Installer; Signal Person; Sound Barrier Installer;
Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper;
Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer);
Brickmason Tender; Mortar Mixer Operator; Scaffold Builder;
Burner & Welder; Bushhammer; Chain Saw Operator; Concrete
Saw Operator; Deckhand Scow Man; Dry Cement Handler;
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste
- Level C; Forklift Operator for Masonary; Form Setter;
Green Concrete Cutting; Hand Operated Grouter & Grinder
Machine Operator; Jackhammer; Pavement Breaker; Paving
Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven
Georgia Buggy & Wheel Barrow; Power Post Hole Digger;
Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind
Trencher; Sand Blaster; Concrete Chipper; Surface Grinder;
Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman;
Gunnite Operator & Mixer; Grout Pump Operator; Side Rail
Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free

Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher;
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste
- Levels A & B; Miner & Driller (Free Air); Tunnel Blaster;
& Tunnel Mucker (Free Air); Directional & Horizontal
Boring; Air Track Drillers (All Types); Powdermen &
Blasters; Troxler & Concrete Tester if Laborer is Utilized

LABO0189-009 07/01/2018

BRECKINRIDGE & GRAYSON COUNTIES

Rates Fringes

Laborers:

GROUP 1.....	\$ 23.07	14.21
GROUP 2.....	\$ 23.32	14.21
GROUP 3.....	\$ 23.37	14.21
GROUP 4.....	\$ 23.97	14.21

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement
Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter
Tender; Cement Mason Tender; Cleaning of Machines;
Concrete; Demolition; Dredging; Environmental - Nuclear,
Radiation, Toxic & Hazardous Waste - Level D; Flagperson;
Grade Checker; Hand Digging & Hand Back Filling; Highway
Marker Placer; Landscaping, Mesh Handler & Placer; Puddler;
Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail
& Fence Installer; Signal Person; Sound Barrier Installer;
Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper;
Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer);
Brickmason Tender; Mortar Mixer Operator; Scaffold Builder;
Burner & Welder; Bushhammer; Chain Saw Operator; Concrete
Saw Operator; Deckhand Scow Man; Dry Cement Handler;
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste
- Level C; Forklift Operator for Masonary; Form Setter;
Green Concrete Cutting; Hand Operated Grouter & Grinder
Machine Operator; Jackhammer; Pavement Breaker; Paving
Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven
Georgia Buggy & Wheel Barrow; Power Post Hole Digger;
Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind
Trencher; Sand Blaster; Concrete Chipper; Surface Grinder;
Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman;
Gunnite Operator & Mixer; Grout Pump Operator; Side Rail
Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free
Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher;
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste
- Levels A & B; Miner & Driller (Free Air); Tunnel Blaster;
& Tunnel Mucker (Free Air); Directional & Horizontal
Boring; Air Track Drillers (All Types); Powdermen &

Blasters; Troxler & Concrete Tester if Laborer is Utilized

PAIN0012-005 06/11/2005

BATH, BOURBON, BOYLE, CLARK, FAYETTE, FLEMING, FRANKLIN,
HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS,
ROBERTSON, SCOTT & WOODFORD COUNTIES:

	Rates	Fringes
PAINTER		
Bridge/Equipment Tender and/or Containment Builder..\$	18.90	5.90
Brush & Roller.....\$	21.30	5.90
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement.....\$	22.30	5.90
Sandblasting & Waterblasting.....\$	22.05	5.90
Spray.....\$	21.80	5.90

PAIN0012-017 05/01/2015

BRACKEN, GALLATIN, GRANT, MASON & OWEN COUNTIES:

	Rates	Fringes
PAINTER (Heavy & Highway Bridges - Guardrails - Lightpoles - Striping)		
Bridge Equipment Tender and Containment Builder.....\$	20.73	9.06
Brush & Roller.....\$	23.39	9.06
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement.....\$	24.39	9.06
Sandblasting & Water Blasting.....\$	24.14	9.06
Spray.....\$	23.89	9.06

PAIN0118-004 06/01/2018

ANDERSON, BRECKINRIDGE, BULLITT, CARROLL, GRAYSON, HARDIN,
HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY,
SPENCER, TRIMBLE & WASHINGTON COUNTIES:

	Rates	Fringes
PAINTER		
Brush & Roller.....\$	22.00	12.52
Spray, Sandblast, Power Tools, Waterblast & Steam Cleaning.....\$	23.00	12.52

PAIN1072-003 12/01/2018

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS and ROWAN COUNTIES

	Rates	Fringes
Painters:		
Bridges; Locks; Dams; Tension Towers & Energized Substations.....	\$ 33.33	18.50
Power Generating Facilities.	\$ 30.09	18.50

 PLUM0248-003 06/01/2018

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
Plumber and Steamfitter.....	\$ 36.00	20.23

 PLUM0392-007 06/01/2018

BRACKEN, CARROLL (Eastern Half), GALLATIN, GRANT, MASON, OWEN &
 ROBERTSON COUNTIES:

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 32.01	19.67

 PLUM0502-003 08/01/2018

BRECKINRIDGE, BULLITT, CARROLL (Western Half), FRANKLIN
 (Western three-fourths), GRAYSON, HARDIN, HENRY, JEFFERSON,
 LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE &
 WASHINGTON COUNTIES

	Rates	Fringes
PLUMBER.....	\$ 34.62	20.78

 SUKY2010-160 10/08/2001

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 16.57	7.34
GROUP 2.....	\$ 16.68	7.34
GROUP 3.....	\$ 16.86	7.34
GROUP 4.....	\$ 16.96	7.34

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Mobile Batch Truck Tender

GROUP 2 - Greaser; Tire Changer; & Mechanic Tender

GROUP 3 - Single Axle Dump; Flatbed; Semi-trailer or Pole
 Trailer when used to pull building materials and equipment;
 Tandem Axle Dump; Distributor; Mixer; & Truck Mechanic

GROUP 4 - Euclid & Other Heavy Earthmoving Equipment &

Lowboy; Articulator Cat; 5-Axle Vehicle; Winch & A-Frame
when used in transporting materials; Ross Carrier; Forklift
when used to transport building materials; & Pavement
Breaker

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave
for Federal Contractors applies to all contracts subject to the
Davis-Bacon Act for which the contract is awarded (and any
solicitation was issued) on or after January 1, 2017. If this
contract is covered by the EO, the contractor must provide
employees with 1 hour of paid sick leave for every 30 hours
they work, up to 56 hours of paid sick leave each year.
Employees must be permitted to use paid sick leave for their
own illness, injury or other health-related needs, including
preventive care; to assist a family member (or person who is
like family to the employee) who is ill, injured, or has other
health-related needs, including preventive care; or for reasons
resulting from, or to assist a family member (or person who is
like family to the employee) who is a victim of, domestic
violence, sexual assault, or stalking. Additional information
on contractor requirements and worker protections under the EO
is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within
the scope of the classifications listed may be added after
award only as provided in the labor standards contract clauses
(29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification
and wage rates that have been found to be prevailing for the
cited type(s) of construction in the area covered by the wage
determination. The classifications are listed in alphabetical
order of "identifiers" that indicate whether the particular
rate is a union rate (current union negotiated rate for local),
a survey rate (weighted average rate) or a union average rate
(weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed
in dotted lines beginning with characters other than "SU" or
"UAVG" denotes that the union classification and rate were
prevailing for that classification in the survey. Example:
PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of
the union which prevailed in the survey for this
classification, which in this example would be Plumbers. 0198
indicates the local union number or district council number
where applicable, i.e., Plumbers Local 0198. The next number,
005 in the example, is an internal number used in processing

the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

TO: EMPLOYERS/EMPLOYEES

PREVAILING WAGE SCHEDULE:

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

OVERTIME:

Overtime is to be paid after an employee works eight (8) hours a day or forty (40) hours a week, whichever gives the employee the greater wages. At least time and one-half the base rate is required for all overtime. A laborer, workman or mechanic and an employer may enter into a written agreement or a collective bargaining agreement to work more than eight (8) hours a calendar day but not more than ten (10) hours a calendar day for the straight time hourly rate. Wage violations or questions should be directed to the designated Engineer or the undersigned.

Director
Division of Construction Procurement
Frankfort, Kentucky 40622
502-564-3500

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
9.6%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

**Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609**

4. As used in this Notice, and in the contract resulting from this solicitation, the "**covered area**" is Henry County.

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
11.2%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

**Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609**

4. As used in this Notice, and in the contract resulting from this solicitation, the "**covered area**" is Jefferson County.

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
9.6%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

**Evelyn Teague, Regional Director
Office of Federal Contract Compliance Programs
61 Forsyth Street, SW, Suite 7B75
Atlanta, Georgia 30303-8609**

4. As used in this Notice, and in the contract resulting from this solicitation, the "**covered area**" is Spencer County.

PART IV
INSURANCE

INSURANCE

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

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

The cost of insurance is incidental to all contract items. All subcontractors must meet the same minimum insurance requirements.

PART V
BID ITEMS

PROPOSAL BID ITEMS

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Section: 0001 - BRIDGE - 052B00060N

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	10.00	EACH		\$	
0020	02223		GRANULAR EMBANKMENT	42.00	CUYD		\$	
0030	02355		GUARDRAIL-STEEL W BEAM-S FACE A	100.00	LF		\$	
0040	02371		GUARDRAIL END TREATMENT TYPE 7	4.00	EACH		\$	
0050	02399		EXTRA LENGTH GUARDRAIL POST	16.00	EACH		\$	
0060	02545		CLEARING AND GRUBBING Less than 1 acre	1.00	LS		\$	
0070	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0080	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		\$	
0090	02726		STAKING	1.00	LS		\$	
0100	02731		REMOVE STRUCTURE	1.00	LS		\$	
0110	03299		ARMORED EDGE FOR CONCRETE	47.00	LF		\$	
0120	03304		BRIDGE OVERLAY APPROACH PAVEMENT	117.00	SQYD		\$	
0130	08002		STRUCTURE EXCAV-SOLID ROCK	73.00	CUYD		\$	
0140	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0150	08019		CYCLOPEAN STONE RIP RAP	107.00	TON		\$	
0160	08100		CONCRETE-CLASS A	149.00	CUYD		\$	
0170	08104		CONCRETE-CLASS AA	14.00	CUYD		\$	
0180	08150		STEEL REINFORCEMENT	11,892.00	LB		\$	
0190	08151		STEEL REINFORCEMENT-EPOXY COATED	1,679.00	LB		\$	
0200	08662		PRECAST PC BOX BEAM CB17-48	207.50	LF		\$	
0210	08801		GUARDRAIL-STEEL W BEAM-S FACE BR	77.00	LF		\$	
0220	21415ND		EROSION CONTROL	1.00	LS		\$	
0230	24982EC		CONCRETE COATING Approximately 1135 SF	1.00	LS		\$	

Section: 0002 - BRIDGE - 056C00159N

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0240	00524		STORM SEWER PIPE-24 IN	26.00	LF		\$	
0250	01310		REMOVE PIPE	33.00	LF		\$	
0260	01644		JUNCTION BOX-30 IN	2.00	EACH		\$	
0270	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	6.00	EACH		\$	
0280	02223		GRANULAR EMBANKMENT	6.00	CUYD		\$	
0290	02351		GUARDRAIL-STEEL W BEAM-S FACE	75.00	LF		\$	
0300	02355		GUARDRAIL-STEEL W BEAM-S FACE A	100.00	LF		\$	
0310	02360		GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH		\$	
0320	02381		REMOVE GUARDRAIL	175.00	LF		\$	
0330	02391		GUARDRAIL END TREATMENT TYPE 4A	1.00	EACH		\$	
0340	02545		CLEARING AND GRUBBING Less than 1 acre	1.00	LS		\$	
0350	02625		REMOVE HEADWALL	1.00	EACH		\$	
0360	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0370	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		\$	
0380	02726		STAKING	1.00	LS		\$	

PROPOSAL BID ITEMS

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0390	02731		REMOVE STRUCTURE	1.00	LS		\$	
0400	03299		ARMORED EDGE FOR CONCRETE	49.00	LF		\$	
0410	03304		BRIDGE OVERLAY APPROACH PAVEMENT	161.00	SQYD		\$	
0420	08002		STRUCTURE EXCAV-SOLID ROCK	182.00	CUYD		\$	
0430	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0440	08019		CYCLOPEAN STONE RIP RAP	610.00	TON		\$	
0450	08100		CONCRETE-CLASS A	304.22	CUYD		\$	
0460	08104		CONCRETE-CLASS AA	13.00	CUYD		\$	
0470	08150		STEEL REINFORCEMENT	32,940.00	LB		\$	
0480	08151		STEEL REINFORCEMENT-EPOXY COATED	1,720.00	LB		\$	
0490	08661		PRECAST PC BOX BEAM CB12-48	198.00	LF		\$	
0500	08801		GUARDRAIL-STEEL W BEAM-S FACE BR	63.00	LF		\$	
0510	14023		W FLUSHING ASSEMBLY	1.00	EACH		\$	
0520	14050		W PIPE DCTL IRON RSTRND JOINT 12 IN	120.00	LF		\$	
0530	14097		W TIE-IN 12 INCH	2.00	EACH		\$	
0540	14108		W VALVE 12 INCH	2.00	EACH		\$	
0550	21415ND		EROSION CONTROL	1.00	LS		\$	
0560	23378EC		CONCRETE SEALING Approx. 3856 SF	1.00	SQFT		\$	

Section: 0003 - BRIDGE - 108B00040N

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0570	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	13.00	EACH		\$	
0580	02014		BARRICADE-TYPE III	2.00	EACH		\$	
0590	02223		GRANULAR EMBANKMENT	20.00	CUYD		\$	
0600	02351		GUARDRAIL-STEEL W BEAM-S FACE	25.00	LF		\$	
0610	02355		GUARDRAIL-STEEL W BEAM-S FACE A	100.00	LF		\$	
0620	02360		GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH		\$	
0630	02367		GUARDRAIL END TREATMENT TYPE 1	3.00	EACH		\$	
0640	02381		REMOVE GUARDRAIL	50.00	LF		\$	
0650	02399		EXTRA LENGTH GUARDRAIL POST	16.00	EACH		\$	
0660	02429		RIGHT-OF-WAY MONUMENT TYPE 1	3.00	EACH		\$	
0670	02430		RIGHT-OF-WAY MONUMENT TYPE 1A	3.00	EACH		\$	
0680	02432		WITNESS POST	3.00	EACH		\$	
0690	02545		CLEARING AND GRUBBING Less than 1 acre	1.00	LS		\$	
0700	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0710	02726		STAKING	1.00	LS		\$	
0720	02731		REMOVE STRUCTURE	1.00	LS		\$	
0730	03299		ARMORED EDGE FOR CONCRETE	48.20	LF		\$	
0740	03304		BRIDGE OVERLAY APPROACH PAVEMENT	580.00	SQYD		\$	
0750	08001		STRUCTURE EXCAVATION-COMMON	118.00	CUYD		\$	
0760	08002		STRUCTURE EXCAV-SOLID ROCK	55.00	CUYD		\$	
0770	08019		CYCLOPEAN STONE RIP RAP	1,100.00	TON		\$	
0780	08100		CONCRETE-CLASS A	72.10	CUYD		\$	
0790	08104		CONCRETE-CLASS AA	38.30	CUYD		\$	

PROPOSAL BID ITEMS

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0800	08140		MECHANICAL REINF COUPLER #5 EPOXY COATED	80.00	EACH		\$	
0810	08150		STEEL REINFORCEMENT	4,200.00	LB		\$	
0820	08151		STEEL REINFORCEMENT-EPOXY COATED	4,059.00	LB		\$	
0830	08652		PRECAST PC BOX BEAM B17-48	479.00	LF		\$	
0840	08801		GUARDRAIL-STEEL W BEAM-S FACE BR	150.00	LF		\$	
0850	20418ED		REMOVE & RELOCATE SIGNS	1.00	EACH		\$	
0860	21415ND		EROSION CONTROL	1.00	LS		\$	
0870	24982EC		CONCRETE COATING Approx. 1672 SF	1.00	LS		\$	

Section: 0004 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0880	02569		DEMOBILIZATION	1.00	LS		\$	

SPECIAL NOTE FOR ADDITIONAL ENVIRONMENTAL COMMITMENTS

Bundle 19.03.05

05-10002.00	Henry	052B00060N
05-10010.00	Jefferson	056C00159N
05-10013.00	Spencer	108B00040N

In addition to other environmental commitments listed in this contract, the following commitments also apply:

- 1) The Contractor shall not go beyond the limits specified as “archaeologically cleared” or “Archaeology APE,” and shall avoid areas identified as “Do Not Disturb.” If no limits are shown on the plans, the contractor shall adhere to the stipulations in the project-specific CAP. If there is no CAP, the contractor shall confine construction work to the previously disturbed area within the existing right of way. If the areas outside the cleared areas are intended for use as laydown yards, vehicle parking, or any other activity related to the construction of this project, the Contractor must clear the area for environmental concerns.
- 2) In the event that human remains are encountered during project activities, all work should be immediately stopped in the area. The area should be cordoned off, and, in accordance with KRS 72.020, the county coroner and local law enforcement must be contacted immediately. Upon confirmation that the human remains are not of forensic interest, the unanticipated discovery must be reported to Nicolas Laracuenta at the Kentucky Heritage Council at (502) 892-3614 and George Crothers at the Office of State Archaeology at (859) 257-1944.

For guidance regarding inadvertent discovery and treatment of human remains, refer to the KYTC’s Right of Way Guidance Manual (Section ROW-1202), and the Advisory Council on Historic Preservation’s (ACHP) Policy Statement Regarding Treatment of Human Remains and Grave Goods (adopted by ACHP February 23, 2007).

- 3) If, during the implementation of The Project, a previously unidentified historic/archaeological property is discovered or a previously identified historic/archaeological property is affected in an unanticipated manner, the contractor shall (1) call KYTC DEA archaeologists at (502) 564-7250, (2) call SHPO archaeologists at (502) 892-3614, and (3) ensure that all work within a reasonable area of the discovery shall cease until such time as a treatment plan can be developed and implemented.

Archaeologically Cleared

Phase I Archaeological Survey for the Proposed Replacement of Two Bridges in Kentucky Transportation Cabinet District 5 (Item Nos. 5-10002 and 5-10013) in Henry and Spencer Counties, Kentucky

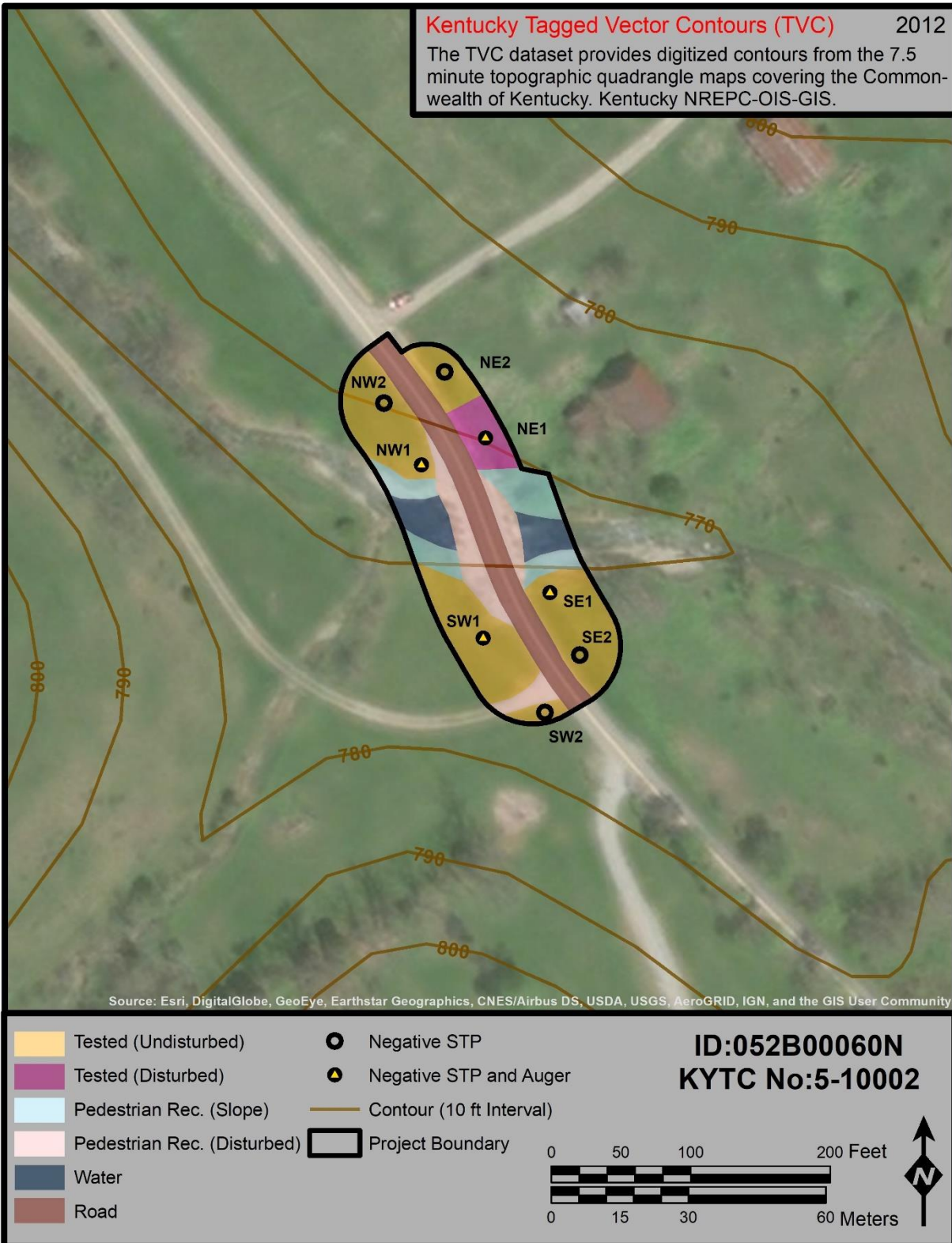


Figure 10. The KY 997 over White Sulphur Fork (Bridge 052B00060N, Item No. 5-10002, Henry County), showing test locations and conditions on aerial map.

Archaeologically Cleared

Phase I Archaeological Survey for the Proposed Replacement of Eleven Bridges in KYTC District 5, Franklin, Henry, Jefferson, Shelby, and Spencer Counties, Kentucky

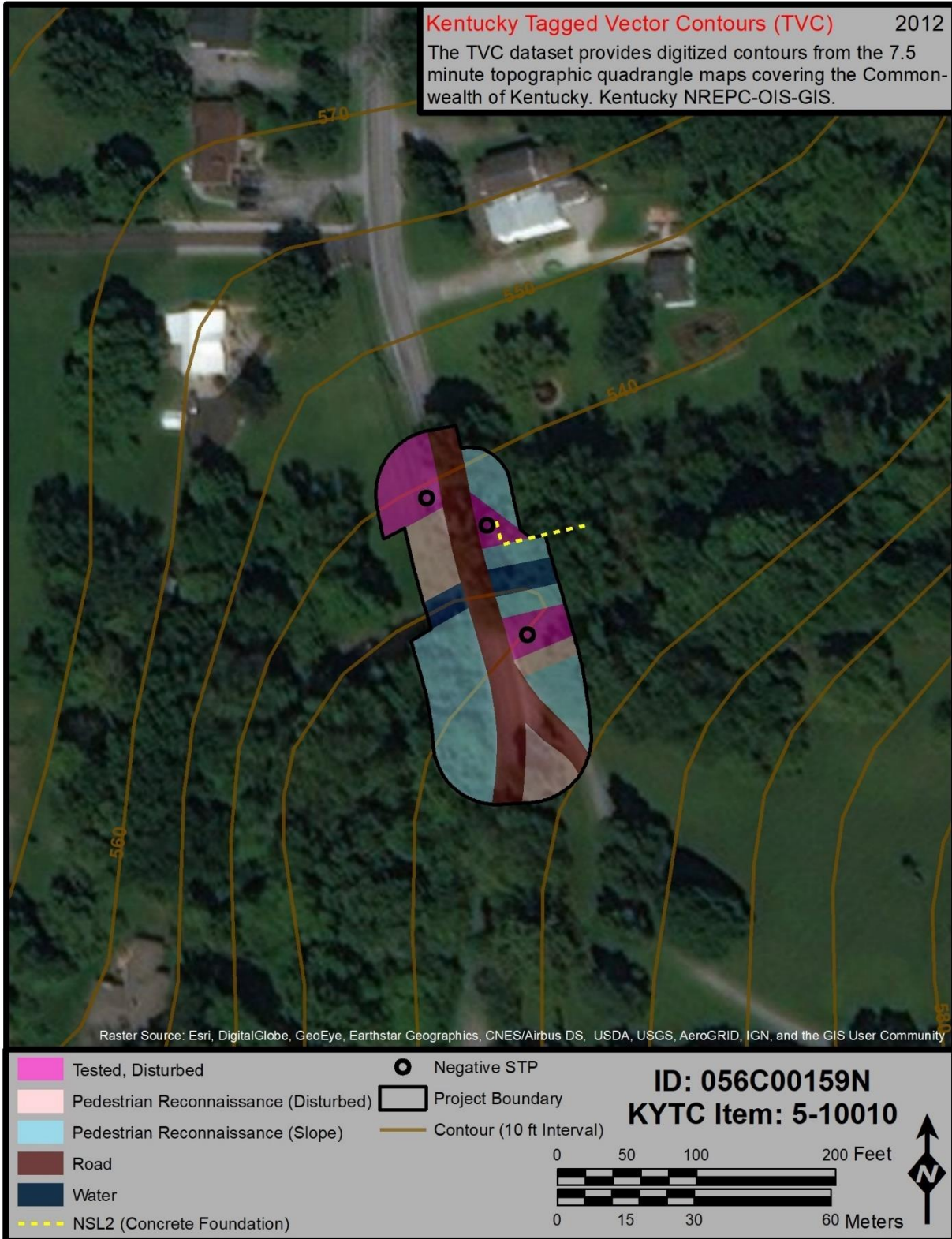


Figure 43. Bridge No. 056C00159N (Item No. 5-10010) STP map.

Archaeologically Cleared

Phase I Archaeological Survey for the Proposed Replacement of Two Bridges in Kentucky Transportation Cabinet District 5 (Item Nos. 5-10002 and 5-10013) in Henry and Spencer Counties, Kentucky

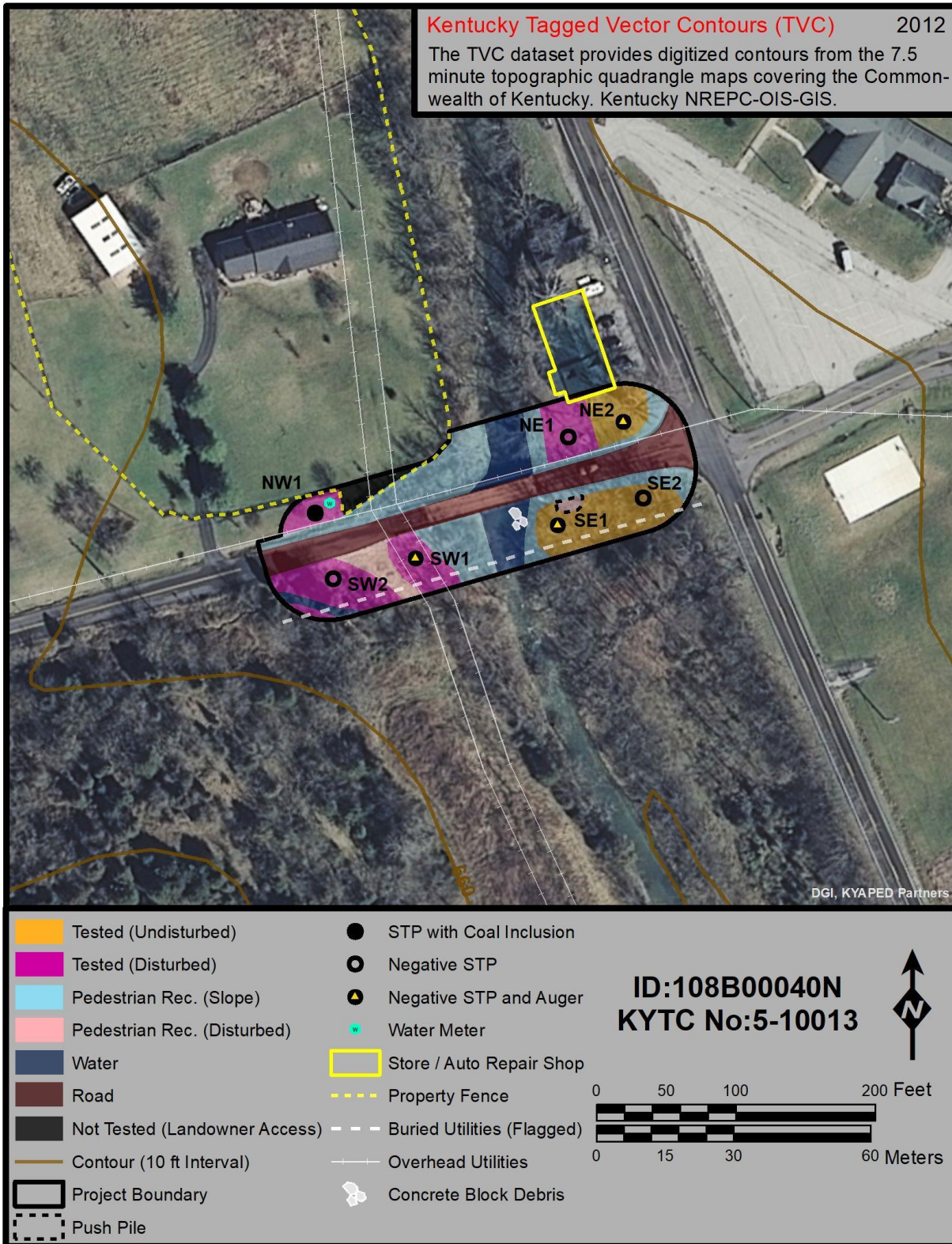


Figure 21. The KY 1169 bridge over Elk Creek (Bridge 108B00040N, Item No. 5-10013, Spencer County) showing shovel test locations and conditions on aerial map.

Special Note For Milestone Completions

Progress Milestone Completion

Progress Milestones are set up to ensure a continuous progression of work on the contract and state the number of bridges that must be completed by a specified date. Unless specified elsewhere in the contract, it is the Contractor's decision on which structures to complete by the milestone completion. Refer to Special Note for Liquidated Damages in this proposal. Failure to meet the required completion date for the number of structures will result in the Contractor being charged for Milestone Completion Damages equal to a percentage of the Liquidated Damages, as specified per section 108.09 of the Standard Specification applied at a rate equal to the formula below:

$$\left(\frac{\text{\# of Bridges failed to meet completion requirement}}{\text{Total \# of Bridges}} \right) \times \text{Liquidated Damage Daily Rate}$$

Bridge Specific Milestone Completion

Bridge Specific Milestones are set up for each structure and listed in the Special Note for Liquidated Damages as total days allowed for bridge closure or lane closure. In addition, certain structures may require completion by a specific date or some may not be allowed to be started until a specific date. In the event work is not complete by the specified date or within the specified range on more than one structure, Bridge Specific Milestone Completion Damages will be applied for each structure. Bridge Specific Milestone Completion Damages and the Liquidated Damage rates will be applied cumulatively.

For example, if two structures each allow for only 60 day bridge closures and both bridges are continuing to be worked on with the bridge closed at 61 days, then the Bridge Specific Milestone Completion Damages will be applied twice, once for each bridge. Also, should the Contractor violate both the specified number of days for a closure and the required completion date for that structure, Both Bridge Specific Milestone Completion Damages and Liquidated Damages will be applied cumulatively, for each violation.