

PART VI

CONTRACT AGREEMENT

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PART VI

CONTRACT AGREEMENT

THIS AGREEMENT, made on the 16 day of May, 2024, by and between Lexington-Fayette Urban County Government, acting herein called "OWNER" and DelMae LLC, doing business as ~~*(an individual)~~ ~~(a partnership)~~ (a corporation) located in the City of London, County of Laurel, and State of Kentucky, hereinafter called "CONTRACTOR."

WITNESSETH: That the CONTRACTOR and the OWNER in consideration of Eighty-Three Thousand Three Hundred Dollars and Zero Cents \$83,300.00 quoted in the proposal by the CONTRACTOR, dated March 24th, 2024, hereby agree to commence and complete the construction described as follows:

1. SCOPE OF WORK

The CONTRACTOR shall furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal, the General Conditions, and the Special Conditions of the Contract, the Specifications, IonWave Q&A and Contract Documents therefore as prepared by **Tetra Tech** for Lexington-Fayette Urban County Government for Pebble Creek Bank Stabilization project.

2. TIME OF COMPLETION

The time period estimated and authorized by the OWNER for the proper execution of the Work by the Contract, in full, is hereby fixed as one hundred twenty (120) calendar days to final completion. The time shall begin in accordance with the Notice to Proceed provided by OWNER.

3. ISSUANCE OF WORK ORDERS

Notice to begin Work will be given in whole or for part of the Work as determined by the OWNER pending the availability of funds. The order of construction will be as determined by the Engineer after consultation with the CONTRACTOR and the OWNER.

4. THE CONTRACT SUM

The OWNER agrees to pay the CONTRACTOR in current funds for the performance of the Contract, as quoted in the proposal, subject to any additions and deductions, as provided therein.

5. PROGRESS PAYMENTS

The OWNER shall make payments on account of the Contract, as provided in accordance with the General Conditions, as estimated by the Engineer, less the aggregate of previous payments.

6. ACCEPTANCE AND FINAL PAYMENT

Final payment shall be due within ninety (90) days after completion of the Work, provided the Work be then fully completed and the Contract fully accepted.

Before issuance of final certificate, the CONTRACTOR shall submit evidence satisfactory to the Engineer that all payrolls, material bills, and other indebtedness connected with the Work has been paid.

If, after the Work has been substantially completed, full completion thereof is materially delayed through no fault of the CONTRACTOR, and the ENGINEER so certifies, the OWNER shall upon certificate of the ENGINEER, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

7. THE CONTRACT DOCUMENTS

This Agreement shall consist of the terms herein as well as the following additional documents, which are attached hereto as exhibits and incorporated herein by reference as if fully stated:

- a. Exhibit "A" – Technical Specifications
- b. Exhibit "B" – Certificates of Insurance
- c. Exhibit "C" – Performance and Payment Bonds

To the extent that there is any conflict between or among any of these documents, the terms and provisions of this Agreement shall prevail, followed by terms and provisions of Exhibit A.

8. DISPUTES

Except as otherwise provided in this Agreement, any dispute hereunder may be resolved by agreement of the OWNER's Agent (Charles H. Martin, P.E., Director of Water Quality) and the CONTRACTOR. In the absence of such an agreement, the dispute shall be submitted to the OWNER's Commissioner, Department of Environmental Quality and Public Works whose decision shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, capricious, arbitrary, or so grossly erroneous as necessarily to imply bad faith. Pending a final decision of a dispute hereunder, the CONTRACTOR shall proceed diligently with the performance of the Agreement in accordance with the directions of the OWNER.

9. EXTRA WORK

The OWNER, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the Work, the Contract Sum being adjusted accordingly. All such Work shall be executed and paid for in accordance with the General Conditions, which is a part of this Contract.

10. THE FOLLOWING IS AN ENUMERATION OF THE SPECIFICATIONS AND DRAWINGS (CONTRACT DOCUMENTS):

SPECIFICATIONS

SECTION NO.	TITLE	PAGES
I	Advertisement for Bids	AB 1-10
II	Information for Bidders	IB 1-9
III	Form of Proposal	P 1-37
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V	Special Conditions	SC 1-6
VI	Contract Agreement	CA 1-5
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TECHNICAL SPECIFICATIONS

Division 1	General Requirements	all-inclusive
Division 2	Site Preparation	all-inclusive

DRAWINGS

<u>Number</u>	<u>Description</u>
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G-002	General Notes and Index of Drawings
G-003	Legend and Erosion and Sediment Control Notes
V-101	Existing Site Plan
C-100	ESC Plan
C-101	Site Plan
C-102	Stream Cross Sections
C-501	Civil and ESC Details
C-502	Civil Details

IN WITNESSETH WHEREOF, the parties hereto have executed this Contract as of the date and year above written.

(Seal)

Lexington-Fayette Urban County Government.
Lexington, Kentucky

(Owner)

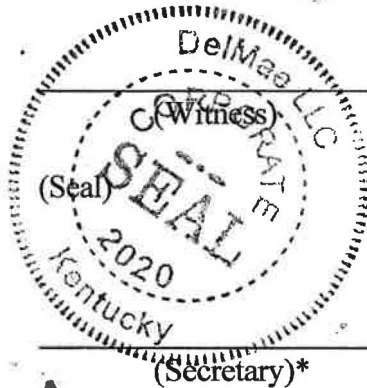
ATTEST:


Clerk of the Urban County Council

BY:



MAYOR



(Title)

DelMae LLC

(Contractor)

BY:




(Witness)

Owner

(Title)

204 Jackson Forest Rd Lexington KY 40511
(Address and Zip Code)

IMPORTANT: *Strike out any non-applicable terms.

Secretary of the Owner should attest. If the CONTRACTOR is corporation, Secretary should attest. Give proper title of each person-executing Contract.

END OF SECTION

PART VII

PERFORMANCE BOND

Bond No. 408112T

KNOW ALL MEN BY THESE PRESENTS, that

DelMae, LLC

(Name of CONTRACTOR)

204 Jackson Fariston Road London, KY 40744

(Address of CONTRACTOR)

a LLC hereinafter
(Corporation, Partnership, or Individual)

called Principal, and Westfield Insurance Company

(Name of Surety)

P. O. Box 5001 Westfield Center, OH 44251-5001

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT

200 East Main Street, Third Floor

Lexington, Kentucky 40507

hereinafter called "OWNER" in the penal sum of: Eighty Three Thousand Three Hundred and 00/100 Dollars, (\$ 83,300.00), for the payment of whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into a Contract with OWNER for **Pebble Creek Bank Stabilization** in accordance with drawings and specifications prepared by **Tetra Tech** which Contract is by reference made a part hereof and is hereinafter referred to as the Contract.

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the OWNER.

Whenever, Principal shall be, and declared by OWNER to be in default under the Contract, the OWNER having performed OWNER'S obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

- (1) Complete the Contract in accordance with its terms and conditions or

- (2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or if the OWNER elects, upon determination by the OWNER and Surety jointly of the lowest responsible bidder, arrange for a Contract between such bidder and OWNER, and make available as Work progresses (even though there may be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract Price", as used in this paragraph shall mean the total amount payable by OWNER to Principal under the Contract and any amendments thereto, less the amount properly paid by OWNER to Principal.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the OWNER named herein or the heirs, executors, administrators, or successors of OWNER.

IN WITNESS WHEREOF, this instrument is executed in Three (3) counterparts, each one of (number)

which shall be deemed an original, this the 30th day of May, 20 24.

ATTEST:

(Principal) Secretary



Witness as to Principal

204 JACKSON FARISTON ROAD
(Address)
LONDON KY 40744

ATTEST:

Leanne Hammons
(Surety) Secretary Leanne Hammons

(SEAL)

Eleanor Dorrncott
Witness as to Surety Eleanor Dorrncott
1900 Winston Road, Suite 100
(Address)
Knoxville, TN 37919

TITLE: Witness

NOTE: The number of executed counterparts of the bond shall coincide with the number of executed counterparts of the Contract.

DelMae, LLC

Principal

BY: [Signature]

204 Jackson Fariston Road

(Address)

London, KY 40744

Westfield Insurance Company

Surety

BY: [Signature]
Lavonne Sherrod Attorney-in-Fact
P. O. Box 5001

(Address)

Westfield Center, OH 44251-5001

Attorney-in-Fact Address:

1900 Winston Road, Suite 100
Knoxville, TN 37919

TITLE: _____

Surety

BY: _____

PART VII

PAYMENT BOND

Bond No. 408112T

KNOW ALL MEN BY THESE PRESENT: that

DelMae, LLC

(Name of Contractor)

204 Jackson Fariston Road, London, KY 40744

(Address of Contractor)

a LLC, hereinafter

(Corporation, Partnership or Individual)

called Principal, and Westfield Insurance Company

(Name of Surety)

P. O. Box 5001, Westfield Center, OH 44251-5001

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto:

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT

200 East Main Street, Third Floor

Lexington, Kentucky 40507

Obligee, hereinafter called OWNER, for the use and benefit of claimants as hereinafter defined, in the amount of Eighty Three Thousand Three Hundred and 00/100 Dollars (\$ 83,300.00) the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into a Contract with OWNER for Pebble Creek Bank Stabilization in accordance with drawings and specifications prepared by Tetra Tech which Contract is by reference made a part hereof and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly make payment to all claimants as hereinafter defined for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise, it shall remain in full force and effect, subject, however, to the following conditions.

1. A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
2. The above named Principal and Surety hereby jointly and severally agree with the OWNER that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or

performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The OWNER shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

- (a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: The Principal, the OWNER, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the Work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the Work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, OWNER, or Surety, at any place where an office is regularly maintained for the transaction of business or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.
- (b) After the expiration of one (1) year following the date on which Principal ceased Work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
- (c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.

4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against aid improvement, whether or not claim for the amount of such lien be presented under and against this bond.

IN WITNESS WHEREOF, this instrument is executed in Three (3) counterparts, each one of (number)

which shall be deemed an original, this the 30th day of May, 2024.

ATTEST:

DelMae, LLC

(Principal)

(Principal) Secretary

(SEAL)

BY: [Signature] (s)

204 Jackson Fariston Road

(Address)

London, KY 40744

[Signature]

(Witness to Principal)

204 Jackson Fariston Road

(Address)

London, KY 40744

Westfield Insurance Company

(Surety)

ATTEST:

BY: [Signature]

Lavonne Sherrod (Attorney-in-Fact)

[Signature]
(Surety) Secretary Leanne Hammons

(SEAL)

[Signature]
Witness as to Surety Eleanor Dorrycott
1900 Winston Road, Suite 100

(Address)

Knoxville, TN 37919

P. O. Box 5001

(Address)

Westfield Center, OH 44251-5001

Attorney-in-Fact Address: 1900 Winston Road, Suite 100

Knoxville, TN 37919

NOTE: The number of executed counterparts of the bond shall coincide with the number of executed counterparts of the Contract.

PART VII

Bond No. 408112T

EROSION AND SEDIMENT CONTROL PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that

DeIMae, LLC

(Name of CONTRACTOR)

204 Jackson Fariston Road, London, KY 40744

(Address of CONTRACTOR)

a LLC, hereinafter
(Corporation, Partnership, or Individual)

called Principal, and Westfield Insurance Company
(Name of Surety)

P. O. Box 5001 Westfield Center, OH 4251-5001

(Address of Surety)

hereinto called Surety, are held and firmly bound unto

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
200 East Main Street, Third Floor
Lexington, Kentucky 40507

Obligee, hereinafter called "OWNER" in the penal sum of:

[5% of Total Bid Price] Four Thousand One Hundred Sixty Five & 00/100 dollars (\$4,165.00), for the payment of whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into an Agreement (Contract) with OWNER for the Pebble Creek Bank Stabilization, LFUCG Bid No. 129-2023 in accordance with Contract Documents prepared by Tetra Tech and dated 05/16, 2024, which Agreement (Contract) is by reference made a part hereof, and is hereinafter referred to as the Agreement (Contract).

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall promptly and faithfully perform said Agreement (Contract), then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the OWNER.

Whenever, Principal shall be, and declared by OWNER to be in default under the Agreement (Contract), the OWNER having performed OWNER's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

1. Complete the installation, maintenance, and removal of the soil erosion and sediment controls and final stabilization of the site during the full period of land disturbance in accordance with the Agreement (Contract), the LFUCG Land Disturbance Permit, Chapter 16 Article X Division 5 of the LFUCG Code of Ordinances, Chapter 11 of the LFUCG Stormwater Manual, and the KPDES General Permit for Stormwater Discharges Associated with Construction Activities (KYR10).
2. Obtain a Bid or Bids for completing the installation, maintenance, and removal of the soil erosion and sediment controls and final stabilization of the site in accordance with the Agreement's (Contract's) terms and conditions, and upon determination by Surety of the lowest responsible bidder, or if the OWNER elects, upon determination by the OWNER and Surety jointly of the lowest responsible bidder, arrange for an Agreement (Contract) between such bidder and OWNER, and make available as Work progresses (even though there may be a default or a succession of defaults under the Agreement (Contract) or Agreements (Contracts) of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Agreement (Contract) Amount; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Agreement (Contract) Amount", as used in this paragraph shall mean the total amount payable by OWNER to Principal under the Agreement (Contract) and any amendments hereto, less the amount properly paid by OWNER to Principal.

Any suit under this bond must be instituted before the expiration one (1) year from the date on which final payment under the Agreement (Contract) falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the OWNER named herein or the heirs, executors, administrators or successors of OWNER.

THIS POWER OF ATTORNEY SUPERCEDES ANY PREVIOUS POWER BEARING THIS SAME POWER # AND ISSUED PRIOR TO 02/17/23, FOR ANY PERSON OR PERSONS NAMED BELOW.

POWER NO. 4111212 04

General
Power
of Attorney

Westfield Insurance Co.
Westfield National Insurance Co.
Ohio Farmers Insurance Co.
Westfield Center, Ohio

CERTIFIED COPY

Know All Men by These Presents, That WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, corporations, hereinafter referred to individually as a "Company" and collectively as "Companies," duly organized and existing under the laws of the State of Ohio, and having its principal office in Westfield Center, Medina County, Ohio, do by these presents make, constitute and appoint
CHARLES C. MARTIN, JAMES F. OAKES, LAVONNE SHERROD, LINDA M. HOWARD, LEANNE HAMMONS, JOINTLY OR SEVERALLY

of KNOXVILLE and State of TN its true and lawful Attorney(s)-in-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver any and all bonds, recognizances, undertakings, or other instruments or contracts of suretyship in any penal limit.

LIMITATION: THIS POWER OF ATTORNEY CANNOT BE USED TO EXECUTE NOTE GUARANTEE, MORTGAGE DEFICIENCY, MORTGAGE GUARANTEE, OR BANK DEPOSITORY BONDS.

and to bind any of the Companies thereby as fully and to the same extent as if such bonds were signed by the President, sealed with the corporate seal of the applicable Company and duly attested by its Secretary, hereby ratifying and confirming all that the said Attorney(s)-in-Fact may do in the premises. Said appointment is made under and by authority of the following resolution adopted by the Board of Directors of each of the WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY:

"Be It Resolved, that the President, any Senior Executive, any Secretary or any Fidelity & Surety Operations Executive or other Executive shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

The Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements of indemnity and other conditional or obligatory undertakings and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed by the President and sealed and attested by the Corporate Secretary."

"Be it Further Resolved, that the signature of any such designated person and the seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signatures or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached." (Each adopted at a meeting held on February 8, 2000).

In Witness Whereof, WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY have caused these presents to be signed by their National Surety Leader and Senior Executive and their corporate seals to be hereto affixed this 17th day of FEBRUARY A.D., 2023.

Corporate
Seals
Affixed



WESTFIELD INSURANCE COMPANY
WESTFIELD NATIONAL INSURANCE COMPANY
OHIO FARMERS INSURANCE COMPANY

By: 
Gary W. Stumper, National Surety Leader and
Senior Executive

State of Ohio
County of Medina ss.:

On this 17th day of FEBRUARY A.D., 2023, before me personally came Gary W. Stumper to me known, who, being by me duly sworn, did depose and say, that he resides in Medina, OH; that he is National Surety Leader and Senior Executive of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, the companies described in and which executed the above instrument; that he knows the seals of said Companies; that the seals affixed to said instrument are such corporate seals; that they were so affixed by order of the Boards of Directors of said Companies; and that he signed his name thereto by like order.

Notarial
Seal
Affixed





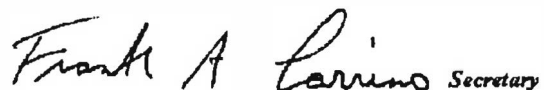
David A. Kotnik, Attorney at Law, Notary Public
My Commission Does Not Expire (Sec. 147.03 Ohio Revised Code)

State of Ohio
County of Medina ss.:

I, Frank A. Carrino, Secretary of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; and furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Westfield Center, Ohio, this 30th day of May A.D., 2024




Frank A. Carrino, Secretary

BPOAC2 (combined) (03-22)

RESOLUTION NO. 260 – 2024

A RESOLUTION AUTHORIZING AND DIRECTING THE MAYOR, ON BEHALF OF THE URBAN COUNTY GOVERNMENT, TO EXECUTE THE AGREEMENT WITH DELMAE LLC FOR SERVICES RELATED TO THE PEBBLE CREEK BANK STABILIZATION PROJECT, FOR THE DIVISION OF WATER QUALITY, AT A COST NOT TO EXCEED \$83,300.00.

BE IT RESOLVED BY THE COUNCIL OF THE LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT:

Section 1 – That the Mayor, on behalf of the Lexington-Fayette Urban County Government, be and hereby is authorized and directed to execute the Agreement, which is attached hereto and incorporated herein by reference, with DelMae LLC, for services related to the Pebble Creek Bank Stabilization Project, for the Division of Water Quality.

Section 2 – That an amount, not to exceed the sum of \$83,300.00, be and hereby is approved for payment to DelMae LLC, from account # 4052-303204-3372-92211, pursuant to the terms of the Agreement.

Section 3 – This Resolution shall become effective on the date of its passage.

PASSED URBAN COUNTY COUNCIL: May 16, 2024



MAYOR

ATTEST:


CLERK OF URBAN COUNTY COUNCIL

0471-24:EPT:4893-6170-3357, v. 1



TECHNICAL SPECIFICATIONS

FOR

PEBBLE CREEK BANK STABILIZATION

**DIVISION OF WATER QUALITY
LEXINGTON FAYETTE URBAN COUNTY GOVERNMENT**

LFUCG BID NO. 129-2023

EDITION: BID DOCUMENTS

**PREPARED BY:
Tetra Tech
424 Lewis Hargett Circle, Suite 110
Lexington, KY 40503**

November 2023

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DIVISION 0

**BIDDING REQUIREMENTS, CONTRACT FORMS, AND CONDITIONS OF THE
CONTRACT**

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PART 1

ADVERTISEMENT FOR BIDS

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PART 1

ADVERTISEMENT FOR BIDS

1. INVITATION

Sealed proposals for the **Pebble Creek Bank Stabilization** will be received by the Lexington-Fayette Urban County Government (LFUCG) via Ion Wave until 2:00 p.m., local time, **DECEMBER 19th, 2023**, for furnishing all labor and/or materials and performing all work as set forth by this advertisement, Ion Wave Q&A, conditions (general and special), specifications, and/or the drawings prepared by **Tetra Tech** for Lexington-Fayette Urban County Government. Immediately following the scheduled closing time for reception of bids, all proposals which have been submitted in accordance with the above will be opened electronically and a bid tab sheet will be posted via Ion Wave.

Due to the current environment and recommendations for social distancing, LFUCG will only be accepting bids on-line through Ion Wave for this solicitation. Base bid and alternate totals (if required) should be provided on the appropriate line items tab on Ion Wave. Submissions without line item totals (if required) may be rejected and deemed non-responsive. All forms normally provided with bid submission should be downloaded from Ion Wave, filled out and attached with bid submission. A copy of bid bond must be included with submission. THESE INSTRUCTIONS SUPERCEDE ALL OTHER BID SUBMISSION INSTRUCTIONS PROVIDED IN THIS PACKAGE. PLEASE SUBMIT ALL QUESTIONS VIA THE Q&A MODULE ON ION WAVE.

2. DESCRIPTION OF WORK

Consisting of the construction and/or furnishing of items as listed in the Bid Schedule beginning on page P-6, Part III, Form of Proposal, of this document, for the **Pebble Creek Bank Stabilization** project, Lexington-Fayette County, Kentucky.

Specs and drawings are available on Ion Wave only.

3. OBTAINING PLANS, SPECIFICATIONS, AND BID DOCUMENTS

Plans, Specifications, and Contract Documents shall be obtained from Ion Wave (LFUCG's electronic bidding system). Ion Wave can be accessed at <https://lexingtonky.ionwave.net>

4. METHOD OF RECEIVING BIDS

Bids will be received from Prime Contracting firms on a **Unit Price/Lump Sum** for total Project. Bidder must include a price for all bid items to be considered. **Bids shall be submitted in the manner and subject to the conditions as set forth and described in the Instruction to Bidders and Special Conditions.**

Bids/proposals should be submitted online via Ion Wave.

5. METHOD OF AWARD

The Contract, if awarded, will be to the lowest responsive and responsible bidder for the total project whose qualifications indicate the award will be in the best interest of the OWNER and whose bid/proposal complies with all the prescribed requirements. No Notice of Award will be given until the OWNER has concluded such investigation as deemed necessary to establish the responsibility, qualifications and financial ability of Bidders to do the work in accordance with the Contract Documents to the satisfaction of the OWNER within the time prescribed. The OWNER reserves the right to reject the Bid of any Bidder who does not pass such investigation to the OWNER's satisfaction. The OWNER reserves the right to reject the Bid of any Bidder that is deemed to be unbalanced or front loaded. In analyzing Bids, the OWNER may take into consideration alternate and unit prices, if requested by the Bid forms.

6. BID WITHDRAWAL

No bidder may withdraw his bid for a period of ninety (90) calendar days after the closing date for receipt of bids. Errors and omissions will not be cause for withdrawal of bid without forfeit of bid bond.

7. BID SECURITY

If the bid is \$50,000 or greater, bid shall be accompanied by a certified check or bid bond payable to the Lexington-Fayette Urban County Government in an amount not less than Five Percent (5%) of the base bid. Bid bond shall be executed by a Surety Company authorized to do business in the Commonwealth of Kentucky and countersigned by a licensed Kentucky Resident Agent, representing the Surety Company. Bid Bonds are not required for bids under \$50,000. A cashier's check or irrevocable letter of credit is an acceptable form of bid security.

8. SUBMISSION OF BIDS

CONTRACTORS shall submit their bids via Ion Wave not later than 2:00 p.m. local time, **DECEMBER 19th, 2023**. Bids will remain sealed until **DECEMBER 19th, 2023**, 2:00 pm, the official Bid closure time. Bids received after the scheduled closing time for receipt of

bids will not be accepted. Bid submittals and bid tab sheet will be immediately available after bid opening, under the Documents link on Ion Wave.

9. RIGHT TO REJECT

The Lexington-Fayette Urban County Government reserves the right to reject any and all bids and to waive all informalities and/or technicalities where the best interest of the Lexington-Fayette Urban County Government may be served.

10. NOTIFICATION TO THE LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT FOR AFFIRMATIVE ACTION PLAN AND CURRENT WORKFORCE

The successful bidder must submit the following to the Lexington-Fayette Urban County Government:

1. Affirmative Action Plan for his/her firm.
2. Current Workforce Analysis Form

Failure to submit this as required herein may result in disqualification of the Bidder from the award of the contract.

11. NOTICE CONCERNING MWDBE and Veteran Goals

Notice of requirement for Affirmative Action to ensure Equal Employment Opportunities and Disadvantaged Business Enterprises (DBE) Contract participation. Disadvantaged Business Enterprises (DBE) consists of Minority-Owned Business Enterprises (MBE) and Woman-Owned Business Enterprises (WBE).

The Lexington-Fayette Urban County Government has set a goal that not less than ten percent (10%) of the total value of this Contract be subcontracted to Disadvantaged Business Enterprises, which is made up of MBEs and WBEs, and set a goal that not less than three percent (3%) of the total value of this Contract be subcontracted to Veteran-Owned Small Businesses. The goals for the utilization of Disadvantaged Business Enterprises and Veteran-Owned Small Businesses as subcontractors are recommended goals. Contractor(s) who fail to meet such goals will be expected to provide written explanations to the Director of the Division of Purchasing of efforts they have made to accomplish the recommended goal, and the extent to which they are successful in accomplishing the recommended goal will be a consideration in the procurement process. Depending on the funding source, other DBE goals may apply.

For assistance in locating Disadvantaged Business Enterprise and Veteran-Owned Small Businesses as Subcontractors contact:

Sherita Miller, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, 3rd Floor, Room 338
Lexington, Kentucky 40507
859-258-3323
smiller@lexingtonky.gov

12. AMERICAN RESCUE PLAN ACT

CERTIFICATION OF COMPLIANCE FOR AMERICAN RESCUE PLAN ACT EXPENDITURES

The Lexington-Fayette Urban County Government (“LFUCG”) may classify the subject matter of this bid as an expenditure under the American Rescue Plan Act of 2021. Expenditures under the American Rescue Plan Act of 2021 require evidence of the contractor’s compliance with Federal law. Therefore, by the signature below of an authorized company representative, you certify that the information below is understood, agreed, and correct. Any misrepresentations may result in the termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims.

The bidder agrees and understands that in addition to all conditions stated within the attached bid documents, the following conditions will also apply to any Agreement entered between bidder and LFUCG, if LFUCG classifies the subject matter of this bid as an expenditure under the American Rescue Plan Act. The bidder further certifies that it can and will comply with these conditions, if this bid is accepted and an Agreement is executed:

1. Any Agreement executed as a result of acceptance of this bid may be governed in accordance with 2 CFR Part 200 and all other applicable Federal law and regulations and guidance issued by the U.S. Department of the Treasury.
2. Pursuant to 24 CFR 85.43, any Agreement executed as a result of acceptance of this bid can be terminated if the contractor fails to comply with any term of the award. This Agreement may be terminated for convenience in accordance with 24 CFR 85.44 upon written notice by LFUCG. Either party may terminate this Agreement with thirty (30) days written notice to the other party, in which case the Agreement shall terminate on the thirtieth day. In the event of termination, the contractor shall be entitled to that portion of total compensation due under this Agreement as the services rendered bears to the services required. Either party may terminate this Agreement for good cause shown with forty-five (45) days written notice, which shall explain the party’s cause for the termination. If the parties do not reach a settlement before the end of the 45 days, then the Agreement shall terminate on the forty-fifth day.

3. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following:

- (1) 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. 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 will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- (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' representatives 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.
- (5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part, and the contractor may be declared ineligible for further government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

- (8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. 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 noncompliance.

Provided, however, that in the event a contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

4. If fulfillment of the contract requires the contractor to employ mechanic's or laborers, the contractor further agrees that it can and will comply with the following:

- (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 a 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 a 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. LFUCG 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.

5. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.

6. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency Regional Office.

7. The contractor shall include these requirements in numerical paragraphs 5 and 6 in each subcontract exceeding \$100,000 financed in whole or in part with American Rescue Plan Act funding.

8. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.

9. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency Regional Office.

10. The contractor shall include these requirements in numerical paragraphs 8 and 9 in each subcontract exceeding \$100,000 financed in whole or in part with American Rescue Plan Act funds.

11. The contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.

12. The contractor shall report each violation to LFUCG and understands and agrees that LFUCG will, in turn, report each violation as required to assure notification to the Treasury Department and the appropriate Environmental Protection Agency regional office.

13. The contractor shall include these requirements in numerical paragraphs 11 and 12 in each subcontract exceeding \$100,000 financed in whole or in part with American Rescue Plan Act funds.

14. The contractor shall include this language in any subcontract it executes to fulfill the terms of this bid: "the sub-grantee, contractor, subcontractor, successor, transferee, and assignee shall comply with Title VI of the Civil Rights Act of 1964, which prohibits recipients of federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. § 2000d et seq.), as implemented by the Department of the Treasury's Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this contract (or agreement). Title VI also includes protection to persons with 'Limited English Proficiency' in any program or activity receiving federal financial assistance, 42 U.S.C. § 2000d et seq., as implemented by the Department of the Treasury's Title VI regulations, 31 CFR Part 22, and herein incorporated by reference and made a part of this contract or agreement."

15. Contractors who apply or bid for an award of \$100,000 or more shall file the required certification that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency. Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier, up to the recipient. The required certification is included here:

- a. The undersigned certifies, to the best of his or her knowledge and belief, that:
 - (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an 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.
 - (2) 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 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.
 - (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.
- b. 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 section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Signature

Date

13. PRE-BID CONFERENCE

A pre-bid conference is planned for December 5, 2023, at 2:00 p.m. at the following location:

Lexington-Fayette Urban County Government, Division of Water Quality Office
125 Lisle Industrial Ave.
North Elkhorn Conference Room
Lexington, KY 40511

END OF SECTION

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INFORMATION FOR BIDDERS

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PART II

INFORMATION FOR BIDDERS

1. RECEIPT AND OPENING OF BIDS

The Lexington-Fayette Urban County Government (herein called the OWNER) invites Bids from firms on the project described in the Advertisement for Bids. The OWNER will receive Bids online through Ion Wave (<https://lexingtonky.ionwave.net>) at the time and in the manner set forth in the Advertisement for Bids, at which time the bids will be opened electronically. The OWNER may consider informal any Bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all Bids. Any Bid may be withdrawn prior to the scheduled time for the opening of Bids or authorized postponement thereof. Any Bid received after the time and date specified shall not be considered. No Bidder may withdraw a Bid within ninety (90) days after the actual time and date of the Bid opening, but OWNER may, in its sole discretion, release any Bid and return the Bid Security prior to that date.

The OWNER assumes no responsibility for Bids that are not submitted electronically as indicated above. Bids that are not submitted online by the stated time and date will be rejected.

2. PREPARATION OF BID

Each Bid must be submitted on the prescribed digital Bid Form within Ion Wave. All blank spaces for the Bid prices must be filled in or the bid will be considered incomplete. Each Bid must be submitted online via Ion Wave.

3. SUBCONTRACTS

The bidder is specifically advised that any person, firm, or other party to whom it is proposed to award a subcontract under this Contract must be acceptable to the OWNER. All proposed subcontractors must be identified on the Form of Proposal. Prior to the award of Contract, the OWNER or the OWNER'S representative will advise the CONTRACTOR of the acceptance and approval thereof or of any action necessary to be taken. Should any Subcontractor be rejected by the OWNER, the CONTRACTOR shall present a new name and/or firm to the OWNER at no change in the Contract Price.

4. QUALIFICATION OF BIDDER

The OWNER may make such investigations as the OWNER deems necessary to determine the ability of the bidder to perform the Work, and the bidder shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the OWNER that such bidder is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein. Conditional bids will not be accepted.

In evaluating Bids, OWNER shall consider the qualifications of the BIDDERS, whether or not the Bids comply with the prescribed requirements, and alternatives and unit prices, as requested. OWNER may consider maintenance requirements, performance data, and disruption or damage to private property. It is OWNER'S intent to accept alternatives, if requested by the bid forms, in the order in which they are listed in the Bid Form, but OWNER may accept or decline them in any order or combination. The contract, if awarded, will be awarded to the lowest, qualified, responsible BIDDER based upon OWNER'S evaluation which indicates that the award will be in the best interest of OWNER and the general public.

In the event there is any question as to the bidder's qualifications and ability to complete the work, a final determination will be made in accordance with a fair evaluation by the Urban County Government of the above listed elements.

- A. If the OWNER requires filling out a detailed financial statement, the bidder may provide its current certified financial statement(s) for the required time interval.
- B. Corporate firms are required to be registered and in good standing with the requirements and provisions of the Office of the Secretary of State, Commonwealth of Kentucky.
- C. Documents Required of CONTRACTOR - (1) A sworn statement signed by the President or owner of the Company regarding all current work in progress anywhere; (2) A document showing the percent of completion of each project and the total worth of each project; and (3) Documentation showing the percentage of the DBE employment levels on each project of the Bidder's current work force, and DBE participation levels for Subcontractors.
- D. Optional OWNER Requirements - The OWNER, at its discretion, may require the BIDDER/CONTRACTOR to provide: (1) a current detailed financial statement for a period including up to 3 prior years; (2) financial security or insurance in amounts and kinds acceptable to the OWNER to meet the financial responsibility requirements for the CONTRACTOR to indemnify the OWNER. (3) Additional information and/or DBE work force data, as well as DBE participation data.

Each bidder agrees to waive any claim it has or may have against the Owner, the Architect/Engineer, and their respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any bid.

5. BID SECURITY

- A. Each bid must be accompanied by a bid bond prepared on a Form of Bid Bond and attached hereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the OWNER, in the amount of 5% of the bid. Such bid bond will be returned to the unsuccessful bidder(s) only upon written request to the Director of Central Purchasing within seven (7) days of opening of bids. Bid bond shall be made payable to the Lexington-Fayette Urban County Government. Bid security is not required for projects under \$50,000.

- B. Bonds shall be placed with an agent licensed in Kentucky with surety authorized to do business within the state. When the premium is paid for such coverage, the full commission payable shall be paid to such local agent who shall not divide such commission with any person other than a duly licensed resident local agent.

6. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT

The successful bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within ten (10) days after he has received notice of the acceptance of his bid, shall forfeit to the OWNER, as liquidated damages for such failure or refusal, the security deposited with his bid.

7. TIME OF COMPLETION AND LIQUIDATED DAMAGES

Bidder must agree to commence work on or before a date to be specified in a written "Notice to Proceed" from the OWNER and to fully complete the Project within the time as specified in the Contract. Bidder must agree also to pay \$400 per day as liquidated damages, or the sum as specified in the Contract for each consecutive calendar day thereafter as hereinafter provided in the General Conditions.

8. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

- A. It is the responsibility of each Bidder before submitting a Bid, to (a) examine the Contract Documents thoroughly, (b) visit the site(s) to become familiar with local conditions that may affect cost, progress, performance or furnishing of the work, (c) consider Federal, State and Local laws and regulations that may affect cost, progress, performance or furnishing of the work, (d) study and carefully correlate Bidder's observations with the Contract Documents, and (e) notify Engineer of all conflicts, errors or discrepancies in the Contract Documents.
- B. Bidders should examine the requirements of section 4 of the General Conditions for information pertaining to subsurface conditions, underground structures, underground facilities, and availability of lands, easements, and rights-of-way. The completeness of data, presented in the Contract Documents, pertaining to subsurface conditions, underground structures, and underground facilities for the purposes of bidding or construction is not assured. The Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (surface and subsurface) which may affect cost, progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price, and other terms and conditions of the Contract Documents. On request in advance, OWNER will provide access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a bid. Bidder shall fill all holes, clean up and restore the site to its former condition upon completion of such explorations.
- C. The submission of a Bid will constitute an incontrovertible representation by the Bidder that Bidder has complied with every requirement of this paragraph 8; that without exception the Bid is premised upon furnishing and performing the Work

required by the Contract Documents and such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the Contract Documents; and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

9. ADDENDA AND INTERPRETATIONS

No interpretation of the meaning of the Contract Documents will be made to any bidder orally. Every request for such interpretation should be in writing addressed to the Director of Central Purchasing, who in turn will have an Addendum issued for the Lexington-Fayette Urban County Government, and to be given consideration must be received prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications. Acknowledgement of the receipt of addenda must be included with all submitted bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

10. SECURITY FOR FAITHFUL PERFORMANCE

- A. Simultaneously with his delivery of the executed Contracts, the CONTRACTOR shall furnish a surety bond or bonds as security for the faithful performance of this Contract and for payment of all persons performing labor on the Project under this Contract and furnishing materials in connection with this Contract, as specified in the General Conditions. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the OWNER and authorized to do business in the Commonwealth of Kentucky.
- B. All bonds required by this Contract and laws of this State shall be placed with agents licensed in the State of Kentucky. When the premium is paid for such coverage's, the full commission shall be paid to such local agent who shall not divide such commission with any person other than a duly licensed resident local agent.
- C. **Contractor shall use standard Performance and Payment Bond forms such as documents provided with this contract book or AIA form A312-1984 (or later). Each document will be for 100% of the Contract Bid Amount.**

11. POWER OF ATTORNEY

Attorney-in-fact who signs bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

12. TAXES AND WORKMEN'S COMPENSATION

The CONTRACTOR and subcontractor will be required to accept liability for payment of all payroll taxes, sales and use tax, and all other taxes or deductions required by local, state or federal law, such as old age pension, social security, or annuities measured by wages. Each shall carry Workmen's Compensation Insurance to the full amounts as required by Statutes and shall include the cost of all foregoing items in the proposal. The CONTRACTOR will not otherwise be reimbursed or compensated for such tax payments. The CONTRACTOR is urged to ascertain at his own risk his actual tax liability in connection with the execution or performance of his Contract.

13. LAWS AND REGULATIONS

The bidder's attention is directed to the fact that all applicable state laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract throughout, and they will be deemed to be included in the contract, the same as though herein written out in full.

14. EROSION AND SEDIMENT CONTROL AND PERMITS

The CONTRACTOR and Subcontractors performing work on projects on behalf of the OWNER shall also comply with all applicable federal, state, and local environmental regulations and all requirements and conditions set forth in "special" permits including but not limited to Corp of Engineers 404 permits, 401 Water Quality Certifications, Stream Crossing and Floodplain Encroachment Permits as described in Part 4 General Conditions Paragraph 5.17.

15. PREVAILING WAGE LAW AND MINIMUM HOURLY RATES

Federal or state wage rates and regulations, if required for this Project, will be as described in the Special Conditions.

16. AFFIRMATIVE ACTION PLAN

The successful Bidder must submit with their bid, the following items to the Urban County Government:

1. Affirmative Action Plan of the firm
2. Current Work Force Analysis Form
3. Good Faith Effort Documentation
4. List of Disadvantaged Business Enterprise Subcontractors and the Dollar Value of each Subcontract

A Work Force Analysis Form shall be submitted for each Contract. Failure to submit these items as required herein may result in disqualification of the Bidder from award of the Contract.

All submissions should be directed to:

Director, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, Third Floor
Lexington, KY 40507

17. CONTRACT TIME

The number of calendar days within which the Work is to be substantially completed and ready for final payment (the Contract Time) is set forth in the Form of Proposal and the Agreement.

18. SUBSTITUTE OR "OR-EQUAL" ITEMS

The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by the CONTRACTOR if acceptable to the ENGINEER and OWNER, application for such acceptance will not be considered by the ENGINEER and OWNER until after the effective date of the Agreement. The procedure for submission of any such application by the CONTRACTOR and consideration by the ENGINEER and OWNER is set forth in the General Conditions.

19. ALTERNATE BIDS

Bidders shall submit alternate bids/proposals only if and when such alternate bids/proposals have been specifically requested in an Invitation for Bids. If alternate bids/proposals are requested in an Invitation for Bids, the form of submission of such alternate bid and the conditions under which such alternate bids will be considered for award of a contract will be established in the Invitation.

Any Bidder who submits a bid incorporating an alternate proposal when alternate bids/proposals have not been requested in the Invitation for Bids shall have his/her bid rejected as non-responsive.

Any Bidder who submits a bid incorporating two (2) or more prices for an item or groups of items (unless such method of pricing is requested in the Invitation for Bids), or which imposes conditions for acceptance other than those established in the Invitation for Bids, shall have their bid rejected as non-responsive.

20. SIGNING OF AGREEMENT

When OWNER gives a Notice of Award to the successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within ten days thereafter, CONTRACTOR shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER with the required Bonds, Certificate of Insurance, and Power of Attorney. The OWNER will deliver one fully signed counterpart to CONTRACTOR at such time as it has been signed by the Mayor.

21. ASSISTANCE TO BE OFFERED TO DISADVANTAGED BUSINESS ENTERPRISE (MWDBE) CONTRACTORS

A. Outreach for MWDBE(s)

The Lexington-Fayette Urban County Government (LFUCG) maintains a database of MWDBE contractors and organizations. When a LFUCG construction project is advertised for bidding, notices are sent to companies registered at <https://lexingtonky.ionwave.net>. The notices describe the project and indicate the deadline for submitting bids.

If you wish to be added to the LFUCG MWDBE contractor database, please contact:

Sherita Miller, Minority Business Enterprise Liaison
Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, Room 338
Lexington, Kentucky 40507
smiller@lexingtonky.gov

B. Bid Bond Assistance for MWDBE(s)

For those MWDBE contractors who wish to bid on LFUCG project, bid bond assistance is available. This bid bond assistance is in the form of a "Letter of Certification" which is accepted by the LFUCG's Division of Purchasing, in lieu of a bid bond. The "Letter of Certification" must be included in the bid package when it is submitted to the Division of Purchasing. The "Letter of Certification" will reference the specific project for which the bid is being submitted, and the time and date on which the bid is due. Bid bond assistance must be requested from the Lexington-Fayette Urban County Government's Division of Central Purchasing.

C. Eligibility for Bid Bond Assistance for MWDBE(s)

In order to be eligible for any Bid bonding assistance, a MWDBE construction company must be owned or controlled at the level of 51% or more by a member or members of a minority group or females. Prior to receiving assistance, a statement providing evidence of ownership and control of the company by a member or members of a minority group or females must be signed by the Owner or corporate officer and by an attorney or accountant submitted to:

Sherita Miller, Minority Business Enterprise Liaison
Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, Room 338
Lexington, Kentucky 40507
smiller@lexingtonky.gov

D. MWDBE and Veteran Subcontractors

The LFUCG will, upon request, assist prime contractors in the procurement of eligible DBE subcontractors in an effort to achieve 10% minimum MWDBE and 3% minimum veteran goal.

For a list of eligible subcontractors, please contact:

Sherita Miller, Minority Business Enterprise Liaison
Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, Room 338
Lexington, Kentucky 40507
smiller@lexingtonky.gov

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PART III

FORM OF PROPOSAL

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PART III
Invitation to Bid No. 129-2023

Pebble Creek Bank Stabilization

1. FORM OF PROPOSAL

Place: Lexington, Kentucky

Date: _____

The following Form of Proposal shall be followed exactly in submitting a proposal for this Work.

This Proposal Submitted by _____

(Name and Address of Bidding Contractor)

(Hereinafter called "Bidder"), organized and existing under the laws of the State of _____, doing business as _____
"a corporation," "a partnership", or an "individual" as applicable.

To: Lexington-Fayette Urban County Government
(Hereinafter called "OWNER")
Office of the Director of Purchasing
200 East Main Street, 3rd Floor
Lexington, KY 40507

Gentlemen:

The Bidder, in compliance with your Invitation for Bids for **Pebble Creek Bank Stabilization** having examined the Plans and Specifications with related documents, having examined the site for proposed Work, and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the lump sum and/or unit prices stated hereinafter. These prices are to cover all expenses incurred in performing the Work required under the Contract Documents, of which this proposal is a part. The OWNER will issue work orders for work to be performed under this Contract.

BIDDER hereby agrees to commence work under this contract on or before a date to be specified in the Notice to Proceed and to fully complete the project within the time provided in the Purchase Order or Work Orders issued by the OWNER. BIDDER further agrees to pay liquidated damages, the sum of \$400 for each consecutive calendar day thereafter.

The Bidder hereby acknowledges receipt of the following addenda:

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Insert above the number and the date of any Addendum issued and received. If none has been issued and received, the word "NONE" should be inserted.

2. **LEGAL STATUS OF BIDDER**

Bidder _____

Date _____

* 1. A corporation duly organized and doing business under the laws of the State of _____, for whom _____, bearing the official title of _____, whose signature is affixed to this Bid/Proposal, is duly authorized to execute contracts.

* 2. A Partnership, all of the members of which, with addresses are: (Designate general partners as such)

* 3. An individual, whose signature is affixed to this Bid/Proposal (please print name)

*(The Bidder shall fill out the appropriate form and strike out the other two.)

3. BIDDERS AFFIDAVIT

Comes the Affiant, _____, and after being first duly sworn, states under penalty of perjury as follows:

1. His/her name is _____ and he/she is the individual submitting the bid or is the authorized representative of _____, the entity submitting the bid (hereinafter referred to as "Bidder").
 2. Bidder will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the bid is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.
 3. Bidder will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.
 4. Bidder has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.
 5. Bidder has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Bidder will not violate any provision of the campaign finance laws of the Commonwealth.
 6. Bidder has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as the "Ethics Act."
 7. Bidder acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.
- Further, Affiant sayeth naught.

(Affiant)

STATE OF _____

COUNTY OF _____

The foregoing instrument was subscribed, sworn to and acknowledged before me by

_____ on this the _____ day of _____, 20____.

My Commission expires: _____

NOTARY PUBLIC, STATE AT LARGE

4. BID SCHEDULE – SCHEDULE OF VALUES

The Bidder agrees to perform all the Work described in the Specifications and shown on the Plans for the following proposed lump sum and/or unit prices, if applicable, which shall include the furnishing of all labor, materials, supplies, equipment and/or vehicle usage, services, all items of cost, overhead, taxes (federal, state, local), and profit for the Contractor and any Subcontractor involved, within the time set forth herein.

All pricing must be submitted correctly in Ionwave to reflect the correct total of your bid. Contractors are responsible for this if items are entered incorrectly your bid will be rejected. Please pay close attention to how the units are specified and enter the unit amounts. Ionwave will calculate the totals and the total bid amount.

The LFUCG's decision on the bid amount is final.

The contract, if awarded, will be on the basis of materials and equipment specified in the specifications without consideration of possible substitute or "or equal" items.

The estimated quantities of items of unit price work are not guaranteed and are solely for the purpose of comparison of bids and determining an initial Contract price. Determination of the actual quantities and classification of unit price work performed by the Contractor will be made by the Engineer in accordance with the General Conditions.

BID ITEM NO.	UNIT DESCRIPTION	UNIT	APPROX QTY.	UNIT PRICE WITH WRITTEN DESCRIPTION	TOTAL
1	Mobilization (max. 2% of Bid)	LS	1	SUBMIT IN IONWAVE ONLY	IONWAVE WILL CALCULATE
2	General Conditions (max. 2% of Bid)	LS	1	SUBMIT IN IONWAVE ONLY	IONWAVE WILL CALCULATE
3	Demobilization (min. 1% of Bid)	LS	1	SUBMIT IN IONWAVE ONLY	IONWAVE WILL CALCULATE
4	Project Sign	EA	1	SUBMIT IN IONWAVE ONLY	IONWAVE WILL CALCULATE
5	Construction Staking	LS	1	SUBMIT IN IONWAVE ONLY	IONWAVE WILL CALCULATE
6	Erosion and Sediment Control	LS	1	SUBMIT IN IONWAVE ONLY	IONWAVE WILL CALCULATE
7	Protective Matting	SY	150	SUBMIT IN IONWAVE ONLY	IONWAVE WILL CALCULATE

8	Embankment	CY	50	SUBMIT IN IONWAVE ONLY	IONWAVE WILL CALCULATE
9	TRM Lining (InstaTurf or Approved Equal)	SY	350	SUBMIT IN IONWAVE ONLY	IONWAVE WILL CALCULATE
10	Class II Channel Lining	TN	30	SUBMIT IN IONWAVE ONLY	IONWAVE WILL CALCULATE
11	Seeding and Protection	SY	1,200	SUBMIT IN IONWAVE ONLY	IONWAVE WILL CALCULATE
Total Bid Price					

TOTAL OF ALL BID PRICES FOR **Pebble Creek Bank Stabilization** (Items 1 through 11) in words and figures. In case of discrepancy, the amount shown in words will govern.

_____ (\$_____).

The ENGINEER'S Estimated Quantities shown in the Construction Plans are to be considered approximate. It is the CONTRACTOR'S responsibility to verify and determine quantities and unit costs that reflect the Total Lump Sum Cost for the entire project. Once the bid is submitted, the CONTRACTOR will not be permitted to alter the unit prices identified in the Bid Schedule.

Submitted by:

Firm

Address

City, State & Zip

***Bid must be signed:
(original signature)***

Signature of Authorized Company Representative – Title

Representative/s Name (Typed or Printed)

Area Code – Phone – Extension

Fax #

E-Mail Address

OFFICIAL ADDRESS:

(Seal if Bid is by Corporation)

By signing this form, you agree to ALL terms, conditions, and associated forms in this bid package

5. STATEMENT OF BIDDER'S QUALIFICATIONS

The following statement of the Bidder's qualifications is required to be filled in, executed, and submitted with the Proposal:

1. Name of Bidder: _____
2. Permanent Place of Business: _____
3. When Organized: _____
4. Where Incorporated: _____
5. Construction Plant and Equipment Available for this Project:

(Attach Separate Sheet If Necessary)

6. Financial Condition:

If specifically requested by the OWNER, the apparent low Bidder is required to submit its latest three (3) years audited financial statements to the OWNER'S Division of Central Purchasing within seven (7) calendar days following the bid opening.

7. In the event the Contract is awarded to the undersigned, surety bonds will be furnished by:

_____ (Surety)

Signed: _____ (Representative of Surety)

8. The following is a list of similar projects performed by the Bidder: (Attach separate sheet if necessary).

<u>NAME</u>	<u>LOCATION</u>	<u>CONTRACT SUM</u>

9. The Bidder has now under contract and bonded the following projects:

<u>NAME</u>	<u>LOCATION</u>	<u>CONTRACT SUM</u>

10. List Key Bidder Personnel who will work on this Project.

<u>NAME</u>	<u>POSITION DESCRIPTION</u>	<u>NO. OF YEARS WITH BIDDER</u>

11. DBE Participation on current bonded projects under contract:

<u>SUBCONTRACTORS</u> <u>(LIST)</u>	<u>PROJECT</u> <u>(SPECIFIC TYPE)</u>	<u>DBE</u>	<u>% of WORK</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(USE ADDITIONAL SHEETS IF NECESSARY)

12. We acknowledge that, if we are the apparent low Bidder, we may be required to submit to the OWNER within 7 calendar days following the Bid Opening, a sworn statement regarding all current work on hand and under contract, and a statement on the OWNER'S form of the experience of our officers, office management and field management personnel. Additionally, if requested by the OWNER, we will within 7 days following the request submit audited financial statements and loss history for insurance claims for the 3 most recent years (or a lesser period stipulated by the OWNER).

6. LIST OF PROPOSED SUBCONTRACTORS

The following list of proposed subcontractors is required by the OWNER to be executed, completed, and submitted with the BIDDER'S FORM OF PROPOSAL. All subcontractors are subject to approval of the Lexington-Fayette Urban County Government. Failure to submit this list completely filled out may be cause for rejection of bid.

BRANCH OF WORK - LIST EACH

MAJOR ITEM Such as: Grading, bituminous paving, concrete, seeding and protection, construction staking, etc.

SUBCONTRACTOR

**DBE
Yes/No**

% of Work

1. _____	Name: _____ Address: _____	_____ _____	_____ _____
2. _____	Name: _____ Address: _____	_____ _____	_____ _____
3. _____	Name: _____ Address: _____	_____ _____	_____ _____
4. _____	Name: _____ Address: _____	_____ _____	_____ _____
5. _____	Name: _____ Address: _____	_____ _____	_____ _____
6. _____	Name: _____ Address: _____	_____ _____	_____ _____
7. _____	Name: _____ Address: _____	_____ _____	_____ _____

(Attach additional sheet(s) if necessary.)

7. **Lexington-Fayette Urban County Government**
MWDBE PARTICIPATION GOALS

A. . GENERAL

- 1) The LFUCG request all potential contractors to make a concerted effort to include Minority-Owned (MBE), Woman-Owned (WBE), Disadvantaged (DBE) Business Enterprises and Veteran-Owned Small Businesses (VOSB) as subcontractors or suppliers in their bids.
- 2) Toward that end, the LFUCG has established 10% of total procurement costs as a Goal for participation of Minority-Owned, Woman-Owned and Disadvantaged Businesses on this contract.
- 3) **It is therefore a request of each Bidder to include in its bid, the same goal (10%) for MWDBE participation and other requirements as outlined in this section.**
- 4) The LFUCG has also established a 3% of total procurement costs as a Goal for participation for of Veteran-Owned Businesses.
- 5) **It is therefore a request of each Bidder to include in its bid, the same goal (3%) for Veteran-Owned participation and other requirements as outlined in this section.**

B. PROCEDURES

- 1) The successful bidder will be required to report to the LFUCG, the dollar amounts of all payments submitted to Minority-Owned, Woman-Owned or Veteran-Owned subcontractors and suppliers for work done or materials purchased for this contract. (See Subcontractor Monthly Payment Report)
- 2) Replacement of a Minority-Owned, Woman-Owned or Veteran-Owned subcontractor or supplier listed in the original submittal must be requested in writing and must be accompanied by documentation of Good Faith Efforts to replace the subcontractor / supplier with another MWDBE Firm; this is subject to approval by the LFUCG. (See LFUCG MWDBE Substitution Form)
- 3) For assistance in identifying qualified, certified businesses to solicit for potential contracting opportunities, bidders may contact:
 - a) The Lexington-Fayette Urban County Government, Division of Central Purchasing (859-258-3320)
- 4) The LFUCG will make every effort to notify interested MWDBE and Veteran-Owned subcontractors and suppliers of each Bid Package, including information on the scope of work, the pre-bid meeting time and location, the bid date, and all other pertinent information regarding the project.

C. DEFINITIONS

- 1) A Minority-Owned Business Enterprise (MBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by persons of African American, Hispanic, Asian, Pacific Islander, American Indian or Alaskan Native Heritage.
- 2) A Woman-Owned Business Enterprise (WBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by one or more women.

- 3) A Disadvantaged Business (DBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by a person(s) that are economically and socially disadvantaged.
- 4) A Veteran-Owned Small Business (VOSB) is defined as a business which is certified as being at least 51% owned, managed and controlled by a veteran and/or a service-disabled veteran.
- 5) Good Faith Efforts are efforts that, given all relevant circumstances, a bidder or proposer actively and aggressively seeking to meet the goals, can reasonably be expected to make. In evaluating good faith efforts made toward achieving the goals, whether the bidder or proposer has performed the efforts outlined in the Obligations of Bidder for Good Faith Efforts outlined in this document will be considered, along with any other relevant factors.

D. OBLIGATION OF BIDDER FOR GOOD FAITH EFFORTS

- 1) **The bidder shall make a Good Faith Effort to achieve the Participation Goal for MWDBE and Veteran-Owned subcontractors/suppliers. The failure to meet the goal shall not necessarily be cause for disqualification of the bidder; however, bidders not meeting the goal are required to furnish with their bids written documentation of their Good Faith Efforts to do so.**
- 2) Award of Contract shall be conditioned upon satisfaction of the requirements set forth herein.
- 3) The Form of Proposal includes a section entitled "MWDBE Participation Form". The applicable information must be completed and submitted as outlined below.
- 4) **Failure to submit this information as requested may be cause for rejection of bid or delay in contract award.**

E. DOCUMENTATION REQUIRED FOR GOOD FAITH EFFORTS

- 1) Bidders reaching the Goal are required to submit only the MWDBE Participation Form." The form must be fully completed including names and telephone number of participating MWDBE firm(s); type of work to be performed; estimated value of the contract and value expressed as a percentage of the total Lump Sum Bid Price. The form must be signed and dated and is to be submitted with the bid.
- 2) Bidders not reaching the Goal must submit the "MWDBE Participation Form", the "Quote Summary Form" and a written statement documenting their Good Faith Effort to do so. If bid includes no MWDBE and/or Veteran participation, bidder shall enter "None" on the subcontractor / supplier form). In addition, the bidder must submit written proof of their Good Faith Efforts to meet the Participation Goal:
 - a. Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.
 - b. Included documentation of advertising in the above publications with the bidders good faith efforts package

- c. Attended LFUCG Central Purchasing Economic Inclusion Outreach event
- d. Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned businesses of subcontracting opportunities
- e. Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses.
- f. Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).
- g. Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.
- h. Sent written notices, by certified mail, email, or facsimile, to qualified, certified MWDBEs and/or Veteran-Owned businesses soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.
- i. Followed up initial solicitations by contacting MWDBEs and Veteran-Owned Businesses to determine their level of interest.
- j. Provided the interested MWDBE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.
- k. Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses 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 MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work items with its own workforce
- l. Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses 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.
- m. Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.
- n. Bidder has to submit sound reasons why the quotations were considered 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 MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.

- o. Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal
- p. Made efforts to expand the search for MWDBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.
- q. Other--any other evidence that the bidder submits which may show that the bidder has made reasonably good faith efforts to include MWDBE and Veteran participation.

Note: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to review by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.



LEXINGTON

MINORITY BUSINESS ENTERPRISE PROGRAM

Sherita Miller, MPA
Minority Business Enterprise Liaison
Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street
Lexington, KY 40507
smiller@lexingtonky.gov
859-258-3323

OUR MISSION: The mission of the Minority Business Enterprise Program is to facilitate the full participation of minority and women owned businesses in the procurement process and to promote economic inclusion as a business imperative essential to the long-term economic viability of Lexington-Fayette Urban County Government.

To that end the city council adopted and implemented Resolution 484-2017 – A Certified Minority, Women and Disadvantaged Business Enterprise ten percent (10%) minimum goal and a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and Certified Service-Disabled Veteran – Owned Businesses for government contracts.

The resolution states the following definitions shall be used for the purposes of reaching these goals (a full copy is available in Central Purchasing):

Certified Disadvantaged Business Enterprise (DBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a person(s) who is socially and economically disadvantaged as defined by 49 CFR subpart 26.

Certified Minority Business Enterprise (MBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by an ethnic minority (i.e. African American, Asian American/Pacific Islander, Hispanic Islander, Native American/Native Alaskan Indian) as defined in federal law or regulation as it may be amended from time-to-time.

Certified Women Business Enterprise (WBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a woman.

Certified Veteran-Owned Small Business (VOSB) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

Certified Service Disabled Veteran Owned Small Business (SDVOSB) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a disabled veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

The term “Certified” shall mean the business is appropriately certified, licensed, verified, or validated by an organization or entity recognized by the Division of Purchasing as having the appropriate credentials to make a determination as to the status of the business.

To comply with Resolution 484-2017, prime contractors and minority, women and veteran owned businesses must enroll in the new Diverse Business Management Compliance system, <https://lexingtonky.diversitycompliance.com/>

We have compiled the list below to help you locate certified DBE, MBE, WBE and VOSB certified businesses. Below is a listing of contacts for LFUCG Certified MWDBEs and Veteran-Owned Small Businesses in (<https://lexingtonky.ionwave.net>)

Business	Contact	Email Address	Phone
LFUCG	Sherita Miller	smiller@lexingtonky.gov	859-258-3323
Commerce Lexington – Minority Business Development	Tyrone Tyra	ttyra@commercelexington.com	859-226-1625
Tri-State Minority Supplier Diversity Council	Susan Marston	smarston@tsmsdc.com	502-365-9762
Small Business Development Council	Shawn Rogers UK SBDC	shawn.rogers@uky.edu	859-257-7666
Community Ventures Corporation	Phyllis Alcorn	palcorn@cvky.org	859-231-0054
KY Transportation Cabinet (KYTC)	Melvin Bynes	Melvin.bynes2@ky.gov	502-564-3601
KYTC Pre-Qualification	Shella Eagle	Shella.Eagle@ky.gov	502-782-4815
Ohio River Valley Women’s Business Council (WBENC)	Sheila Mixon	smixon@orvwbc.org	513-487-6537
Kentucky MWBE Certification Program	Yvette Smith, Kentucky Finance Cabinet	Yvette.Smith@ky.gov	502-564-8099
National Women Business Owner’s Council (NWBOC)	Janet Harris-Lange	janet@nwbo.org	800-675-5066
Small Business Administration	Robert Coffey	robertcoffey@sba.gov	502-582-5971
LaVoz de Kentucky	Andres Cruz	lavozdeky@yahoo.com	859-621-2106
The Key News Journal	Patrice Muhammad	production@keynewsjournal.com	859-685-8488



LEXINGTON

LFUCG MWDBE PARTICIPATION FORM

Bid/RFP/Quote Reference # _____

The MWDBE and/or veteran subcontractors listed have agreed to participate on this Bid/RFP/Quote. If any substitution is made or the total value of the work is changed prior to or after the job is in progress, it is understood that those substitutions must be submitted to Central Purchasing for approval immediately. **Failure to submit a completed form may cause rejection of the bid.**

MWDBE Company, Name, Address, Phone, Email	MBE WBE or DBE	Work to be Performed	Total Dollar Value of the Work	% Value of Total Contract
1.				
2.				
3.				
4.				

The undersigned company representative submits the above list of MWDBE firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Company

Company Representative

Date

Title



LEXINGTON

LFUCG MWDBE SUBSTITUTION FORM

Bid/RFP/Quote Reference # _____

The substituted MWDBE and/or veteran subcontractors listed below have agreed to participate on this Bid/RFP/Quote. These substitutions were made prior to or after the job was in progress. These substitutions were made for reasons stated below and are now being submitted to Central Purchasing for approval. By the authorized signature of a representative of our company, we understand that this information will be entered into our file for this project.

SUBSTITUTED MWDBE Company Name, Address, Phone, Email	MWDBE Formally Contracted/ Name, Address, Phone, Email	Work to Be Performed	Reason for the Substitution	Total Dollar Value of the Work	% Value of Total Contract
1.					
2.					
3.					
4.					

The undersigned acknowledges that any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Company

Company Representative

Date

Title



LEXINGTON

MWDBE QUOTE SUMMARY FORM

Bid/RFP/Quote Reference # _____

The undersigned acknowledges that the minority and/or veteran subcontractors listed on this form did submit a quote to participate on this project. Failure to submit this form may cause rejection of the bid.

Company Name	Contact Person
Address/Phone/Email	Bid Package / Bid Date

MWDBE Company Address	Contact Person	Contact Information (work phone, Email, cell)	Date Contacted	Services to be performed	Method of Communication (email, phone meeting, ad, event etc.)	Total dollars \$\$ Do Not Leave Blank (Attach Documentation)	MBE * AA HA AS NA Female	Veteran

(MBE designation / AA=African American / HA= Hispanic American/AS = Asian American/Pacific Islander/
NA= Native American)

The undersigned acknowledges that all information is accurate. Any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Company

Company Representative

Date

Title



LEXINGTON

LFUCG SUBCONTRACTOR MONTHLY PAYMENT REPORT

The LFUCG has a 10% goal plan adopted by city council to increase the participation of minority and women owned businesses in the procurement process. The LFUCG also has a 3% goal plan adopted by cited council to increase the participation of veteran owned businesses in the procurement process. In order to measure that goal LFUCG will track spending with MWDBE and Veteran contractors on a monthly basis. By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentation may result in termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims. Please submit this form monthly to the Division of Central Purchasing/ 200 East Main Street / Room 338 / Lexington, KY 40507.

Bid/RFP/Quote # _____

Total Contract Amount Awarded to Prime Contractor for this Project _____

Project Name/ Contract #	Work Period/ From: _____ To: _____
Company Name:	Address:
Federal Tax ID:	Contact Person:

Subcontractor Vendor ID (name, address, phone, email)	Description of Work	Total Subcontract Amount	% of Total Contract Awarded to Prime for this Project	Total Amount Paid for this Period	Purchase Order number for subcontractor work (please attach PO)	Scheduled Project Start Date	Scheduled Project End Date

By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentations may result in the termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims.

Company

Company Representative

Date

Title

LFUCG STATEMENT OF GOOD FAITH EFFORTS

Bid/RFP/Quote # _____

By the signature below of an authorized company representative, we certify that we have utilized the following Good Faith Efforts to obtain the maximum participation by MWDBE and Veteran-Owned business enterprises on the project and can supply the appropriate documentation.

_____ Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.

_____ Included documentation of advertising in the above publications with the bidder's good faith efforts package

_____ Attended LFUCG Central Purchasing Economic Inclusion Outreach event

_____ Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned Businesses of subcontracting opportunities

_____ Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses

_____ Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).

_____ Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.

_____ Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.

_____ Followed up initial solicitations by contacting MWDBEs and Veteran-Owned businesses to determine their level of interest.

_____ Provided the interested MWDBE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.

_____ Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses 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 MWDBE and Veteran

participation, even when the prime contractor may otherwise perform these work items with its own workforce

_____ Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses 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.

_____ Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.

_____ Bidder has to submit sound reasons why the quotations were considered 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 MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.

_____ Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal

_____ Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

_____ Other--any other evidence that the bidder submits which may show that the bidder has made reasonably good faith efforts to include MWDBE and Veteran participation.

NOTE: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to approval by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.

The undersigned acknowledges that all information is accurate. Any misrepresentations may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Company

Date

Company Representative

Title

8. AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND CONFLICT OF INTEREST

I hereby swear (or affirm) under the penalty for false swearing:

1. That I am the Bidder (if the Bidder is an individual), a partner of the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);
2. That the attached bid has been arrived at by the Bidder independently, and has been submitted without collusion with, and without any agreement, understanding or planned common course of action, with any other contractor, vendor of materials, supplies, equipment or services described in the Invitation to Bid, designed to limit independent bidding or competition;
3. That the contents of the bid or bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished, with the bid or bids, and will not be communicated to any such person, prior to the official opening of the bid or bids;
4. That the Bidder is legally entitled to enter into the contracts with the Lexington-Fayette Urban County Government, and is not in violation of any prohibited conflict of interest;
5. (Applicable to corporation only) That as a foreign corporation, we are registered with the Secretary of State, Commonwealth of Kentucky, and authorized to do business in the State _____ or, that as a domestic corporation, we are in good standing with the Secretary of State, Commonwealth of Kentucky _____. Check the statement applicable.
6. This offer is for 60 calendar days from the date this bid is opened. In submitting the above, it is expressly agreed that, upon proper acceptance by the Lexington-Fayette Urban County Government of any or all items bid above, a contract shall thereby be created with respect to the items accepted.
7. That I have fully informed myself regarding the accuracy of the statements made in this statement.
8. That I certify that Subcontractors have not and will not be awarded to any firm(s) that have been debarred from noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 As Amended, Executive Order 11246 As Amended or any other Federal Law.

9. STATEMENT OF EXPERIENCE

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

* Include all officers, office management's, Affirmative Action officials, and field management personnel. (Attach separate sheets if necessary.)

10. EQUAL OPPORTUNITY AGREEMENT

Standard Title VI Assurance

The Lexington Fayette-Urban County Government, (hereinafter referred to as the "Recipient") hereby agrees that as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation, it will comply with Title VI of the Civil Rights Act of 1964, 78Stat.252, 42 U.S.C. 2000d-4 (hereinafter referred to as the "Act"), and all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, (49 CFR, Part 21) Nondiscrimination in Federally Assisted Program of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964 (hereinafter referred to as the "Regulations") and other pertinent directives, no person in the United States shall, on the grounds of race, color, national origin, sex, age (over 40), religion, sexual orientation, gender identity, veteran status, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Recipient receives Federal financial assistance from the U.S. Department of Transportation, including the Federal Highway Administration, and hereby gives assurance that will promptly take any necessary measures to effectuate this agreement. This assurance is required by subsection 21.7(a) (1) of the Regulations.

The Law

- * Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- * Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and subcontractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- * Section 503 of the Rehabilitation Act of 1973 States:
The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.
- * Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal Contracts.
- * Section 206 (A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:
The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors, and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is

the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractor may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Bidders

I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, Vietnam veterans, handicapped, and aged persons.

Signature

Name of Business

The Entity (regardless of whether construction contractor, non-construction contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, creed, national origin, sex or age, and to promote equal employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.

The Kentucky equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) requires that any count, city, town, school district, water district, hospital district, or other political subdivision of the state shall include in directly or indirectly publicly funded contracts for supplies, materials, services, or equipment hereinafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

- (1) *The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin;*
- (2) *The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractors that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age or national origin;*
- (3) *The contract will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of the non-discrimination clauses required by this section; and*
- (4) *The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the contractor's commitments under the nondiscrimination clauses.*

The Act further provides:

KRS 45.610. Hiring minorities – Information required

- (1) *For the length of the contract, each contractor shall hire minorities from other sources within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetable.*
- (2) *Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to 45.640 and such rules, regulations and orders issued pursuant thereto.*

KRS 45.620. Action against contractor – Hiring of minority contractor or subcontractor

- (1) *If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such certification shall be binding upon the contracting agency unless it is reversed in the course of judicial review.*
- (2) *If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 – 45.640.*
- (3) *The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority contractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.*

KRS 45.630 Termination of existing employee not required, when

Any provision of KRS 45.560 to 45.640 notwithstanding, no contractor shall be required to terminate an existing employee upon proof that that employee was employed prior to the date of the contract.

KRS 45.640 Minimum skills

Nothing in KRS 45.560 to 45.640 shall require a contractor to hire anyone who fails to demonstrate the minimum skills required to perform a particular job.

It is recommended that all of the provisions quoted above to be included as special conditions in each contract. In the case of a contract exceeding \$250,000, the contractor is required to furnish evidence that his work-force in Kentucky is representative of the available work-force in the area from which he draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the contract.

11. **EQUAL EMPLOYMENT OPPORTUNITY AFFIRMATIVE ACTION POLICY**

It is the policy of _____
to assure that all applicants for employment and all employees are treated on a fair and equitable basis without regard to their race, religion, sex, color, handicap, natural origin or age.

Such action shall include employment, promotion, demotion, recruitment or recruitment advertising, layoff or termination, rates of pay and other forms of compensation, and selection for training, whether apprenticeship and/or on-the-job-training.

Furthermore, this company agrees to make special recruitment efforts to hire the protected class whenever feasible. This company also agrees to adhere to all applicable federal, state, and local laws relating to Equal Employment Opportunity for all individuals.

12. WORKFORCE ANALYSIS FORM

Name of Organization: _____

Categories	Total	White (Not Hispanic or Latino)		Hispanic or Latino		Black or African American (Not Hispanic or Latino)		Native Hawaiian and Other Pacific Islander (Not Hispanic or Latino)		Asian (Not Hispanic or Latino)		American Indian or Alaskan Native (not Hispanic or Latino)		Two or more races (Not Hispanic or Latino)		Total	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Administrators																	
Professionals																	
Superintendents																	
Supervisors																	
Foremen																	
Technicians																	
Protective Service																	
Para-Professionals																	
Office/Clerical																	
Skilled Craft																	
Service/Maintenance																	
Total:																	

Prepared by: _____ Date: ____/____/____

(Name and Title)

13. EVIDENCE OF INSURABILITY

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT CONSTRUCTION PROJECT
(Use separate form for each Agency or Brokerage agreeing to provide coverage)

Names Insured: _____ Employee ID: _____
 Address: _____ Phone: _____
 Project to be insured: _____

In lieu of obtaining certificates of insurance at this time, the undersigned agrees to provide the above Named Insured with the minimum coverage listed below. These are outlined in the Insurance and Risk Management of Part V (Special Conditions), including all requirements, and conditions:

Section Items	Coverage	Minimum Limits and Policy Requirements	Limits Provided To Insured	Name of Insurer	A.M. Best's Code	Rating
SC-3, Section 2, Part 4.1 – see provisions	CGI	\$1,000,000 per occ. And \$2,000,000 aggregate	\$			
SC-3, Section 2, Part 4.1 – see provisions	AUTO	\$2,000,000/per occ.	\$			
SC-3, Section 2, Part 4.1 – see provisions	WC	Statutory w/ endorsement as noted	\$			

Section 2 includes required provisions, statements regarding insurance requirements, and the undersigned agrees to abide by all provisions for the coverage's checked above unless stated otherwise when submitting.

Agency or Brokerage _____ Name of Authorized Representative _____
 Street Address _____ Title _____
 City _____ State _____ Zip _____ Authorized Signature _____
 Telephone Number _____ Date _____

NOTE: Authorized signatures may be the agent's if agent has placed insurance through an agency agreement with the insurer. If insurance is brokered, authorized signature must be that of authorized representative of insurer.

IMPORTANT: Contract may not be awarded if a completed and signed copy of this form for all coverage's listed above is not provided with the bid.

14. DEBARRED FIRMS

PROJECT NAME: _____

BID NUMBER: _____

**LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
LEXINGTON, KY**

All prime Contractors shall certify that Subcontractors have not and will not be awarded to any firms that has been debarred for noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 As Amended, Executive Order 11246 As Amended or any other Federal Law.

All bidders shall complete the attached certification in duplicate and submit both copies to the Owner with the bid proposal. The Owner (grantee) shall transmit one copy to the Lexington-Fayette Urban County Government, Division of Community Development, within fourteen (14) days after bid opening.

The undersigned hereby certifies that the firm of _____ has not and will not award a subcontract, in connection with any contract award to it as the result of this bid, to any firm that has been debarred for noncompliance with the Federal labor Standards, Title VI of the civil Rights Act of 1964, Executive Order 11246 as amended or any Federal Law.

Name of Firm Submitting Bid

Signature of Authorized Official

Title

Date

15. DEBARMENT CERTIFICATION

All contractors/subcontractors shall complete the following certification and submit it with the bid proposal.

The contractor/subcontractor certifies in accordance with Executive Order 12549 (Debarment and Suspension 2/18/86) that to the best of its knowledge and belief, that it and its principals:

- 1) Are not presently debarred, suspended, proposed for debarment, declared negligible, or voluntarily excluded from covered transactions or contract by any Federal department or agency for noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 as amended, Executive Order 11246 as amended or any other Federal law;
 - a) 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;
 - b) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(a) of this certification; and
 - c) Have not within a three-year period preceding this bid has one or more public (Federal, State or local) transactions or contracts terminated for cause or default.
- 2) Where the contractor is unable to certify to any of the statements in this certification, such prospective contractors shall attach an explanation to this certification form.

Firm Name: _____

Project: _____

Printed Name and Title of Authorized Representative: _____

Signature: _____

Date: _____

END OF SECTION

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GENERAL CONDITIONS
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PART IV

GENERAL CONDITIONS

1. DEFINITIONS

Wherever used in these General Conditions or the other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural thereof.

1.1 Addenda

Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bid Documents or the Contract Documents.

1.2 Agreement

The written agreement between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

1.3 Application for Payment

The form accepted by ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

1.4 Bid

The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.5 Bidder

An individual, partnership, or corporation, who submit a Bid for a prime contract with the OWNER, for the Work described in the proposed Contract Documents.

1.6 Bonds

Bid, performance and payment bonds and other instruments of security.

1.7 Calendar Day

A calendar day of twenty-four hours measured from midnight to the next midnight shall constitute a day.

1.8 Change Order

A document recommended by ENGINEER, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

1.9 Contract Documents

The Advertisement for Bidders, Information for Bidders, Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR'S Bid (including documentation accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Bonds, these General Conditions, the Special Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all amendments, modifications and supplements.

1.10 Contract Unit Price

The monies payable by OWNER to CONTRACTOR under the Contract Documents as stated in the Agreement. Unit Prices are to be firm for the term of this Contract.

1.11 Contract Time

The number of consecutive calendar days between the date of issuance of the Notice to Proceed and the contract completion date.

1.12 CONTRACTOR

The person, firm or corporation with whom OWNER has entered into the Agreement.

1.13 Defective

An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER'S recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER).

1.14 Drawings

The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by ENGINEER and are referred to in the Contract Documents.

1.15 Effective Date of the Agreement

The date indicated in the Agreement on which it becomes effective.

1.16 ENGINEER

The Lexington-Fayette Urban County Government Division of Water Quality or its authorized representative.

1.17 Field Order

A documented order issued by ENGINEER which orders minor changes in the Work, but which does not involve a change in the Contract Price or the Contract Time.

1.18 Giving Notice

Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

1.19 Laws and Regulations

Laws, rules, regulations, ordinances, codes and/or orders.

1.20 Notice of Award

The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

1.21 Notice to Proceed

A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR'S obligations under the Contract Documents.

1.22 OWNER

The Lexington-Fayette Urban County Government.

1.23 Partial Utilization

Placing a portion of the Work in service for the purpose for which it is intended (or related purpose) before reaching Completion for all the Work.

1.24 Project

The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

1.25 Inspector

The authorized representative of the ENGINEER who is assigned to the site or any part thereof.

1.26 Shop Drawings

All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.

1.27 Specifications

Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and

workmanship as applied to the Work and certain administrative details applicable thereto.

1.28 Standard Specifications

The "Standard Specifications for Road and Bridge Construction", Transportation Cabinet, Department of Highways, Commonwealth of Kentucky, current edition. MUTCD shall refer to the "Manual of Uniform Traffic Control Devices."

1.29 Subcontractor

An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

1.30 Special Conditions

The part of the Contract Documents which amends or supplements these General Conditions.

1.31 Supplier

A manufacturer, fabricator, supplier, distributor, materialman or vendor.

1.32 Underground Facilities

All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

1.33 Unit Price Work

Work to be paid for on the basis of unit prices.

1.34 Work

The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

1.35 Time Period

When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

2. PRELIMINARY MATTERS

2.1 Delivery of Bonds

When the CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER, such Bonds, Insurance Certificate, and Power of Attorney as CONTRACTOR may be required to furnish.

2.2 Copies of Documents

Owner shall furnish to CONTRACTOR up to three copies (unless otherwise specified in the Special Conditions) of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

2.3 Commencement of Contract Time; Notice to Proceed

The Contract Time will commence to run on the day specified in the Notice to Proceed.

2.4 Starting the Project

CONTRACTOR shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract Time commences to run.

2.5 Before Starting Construction

Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy in the Contract Documents, unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

2.6 Submittal of Schedules

Within ten days after the effective date of the Agreement (unless otherwise specified) CONTRACTOR shall submit to ENGINEER for review:

2.6.1 an estimated progress schedule indicating the starting and completion dates of the various stages of the Work;

2.6.2 a preliminary schedule of Shop Drawing submissions; and

2.6.3 a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the

basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by CONTRACTOR at the time of submission.

2.7 Preconstruction Conference

Before CONTRACTOR starts the Work at the proposed site, a conference attended by CONTRACTOR, ENGINEER, EEO-Affirmative Action Officer, and other appropriate parties will be held to discuss the following issues: (1) The scheduling of the Work to be completed; (2) The procedures for handling shop drawings and other submittals; (3) The processing of applications for payment; (4) The establishment of an understanding among the involved parties in regard to the proposed project; and (5) The establishment of procedures for effectively implementing the LFUCG's 10% minimum DBE goals.

2.8 Finalizing Schedules

At least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to finalize the schedules submitted in accordance with paragraph 2.6. The finalized progress schedule will be acceptable to ENGINEER as providing orderly progression of the Work to completion within the Contract Time, but such acceptance will neither impose on ENGINEER responsibility for the progress or scheduling of the Work nor relieve CONTRACTOR from full responsibility thereof. The finalized schedule of Shop Drawing submissions will be acceptable to ENGINEER as providing a workable arrangement for processing the submissions. The finalized schedule of values will be acceptable to ENGINEER as to form and substance.

3. CONTRACT DOCUMENTS: INTENT, CONFLICTS, AMENDING AND REUSE

3.1 General

The Contract Documents comprise the entire agreement between OWNER and CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

3.2 Intent

It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials or equipment such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any

technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to ENGINEER, or any of ENGINEER'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in paragraph 8.4.

3.3 Conflicts

If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, CONTRACTOR shall so report to ENGINEER in writing at once and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from ENGINEER; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy in the Contract Documents unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

In resolving such conflicts, errors and discrepancies, the documents shall be given precedence in the following order:

1. Agreement
2. Field and Change Orders
3. Addenda
4. Special Conditions
5. Instruction to Bidders
6. General Conditions
7. Specifications and Drawings

Figure dimension on drawings shall govern over scale dimensions and detailed Drawings shall govern over general Drawings.

3.4 Amending and Supplementing Contract Documents

The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof by means of a Change Order or a Field Order. Contract Price and Contract Time may only be changed by a Change Order.

3.5 Reuse of Documents

Neither CONTRACTOR nor any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER; and they shall not reuse any of them on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaptation by ENGINEER.

4. AVAILABILITY OF LANDS; PHYSICAL CONDITIONS, REFERENCE POINTS

4.1 Availability of Lands

OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR believes that any delay in OWNER'S furnishing these lands, rights-of-way or easements entitles CONTRACTOR to an extension of the Contract Time, CONTRACTOR may make a claim therefor as provided in Article 11. ENGINEER shall determine if the claim is legitimate or not. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2 Physical Conditions

4.2.1 Explorations and Reports

Reference is made to the Special Conditions for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by ENGINEER in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, but not upon non-technical data, interpretations or opinions contained therein or for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to subsurface conditions at the site.

4.2.2 Existing Structures

Reference is made to the Special Conditions for identification of those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities referred to in paragraph 4.3 which are at or contiguous to the site that have been utilized by ENGINEER in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such drawings, but not for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to physical conditions in or relating to such structures.

4.2.3 Report of Differing Conditions

If CONTRACTOR believes that:

4.2.3.1 any technical data on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is inaccurate, or

4.2.3.2 any physical conditions uncovered or revealed at the site differ materially from that indicated, reflected or referred to in the Contract Documents,

CONTRACTOR shall, promptly after becoming aware thereof and before performing and WORK in connection therewith (except in an emergency) notify OWNER and ENGINEER in writing about the inaccuracy or difference.

4.2.4 ENGINEER'S Review

Engineer will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto and advise CONTRACTOR of ENGINEER'S findings and conclusions.

4.2.5 Possible Document Change

If ENGINEER concludes that there is a material error in the Contract Documents or that because of newly discovered conditions a change I the Contract Documents is required, a Change Order will be issued as provided in Article 10 to reflect and document the consequences of the inaccuracy or difference.

4.2.6 Possible Price and Time Adjustments

In each such case, an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, or any combination thereof, will be allowable to the extent that they are attributable to any such inaccuracy or difference.

4.3 Physical Conditions-Underground Facilities

4.3.1 Shown or Indicated

The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or ENGINEER by the owners of such underground facilities or by others. Unless it is otherwise expressly provided in the Special Conditions:

4.3.1.1 OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and,

4.2.1.2 CONTRACTOR shall have full responsibility for reviewing and checking all such information and data; for locating all underground

facilities shown or indicated in the Contract Documents; for coordination of the Work with the owners of such underground facilities during construction; and for the safety and protection thereof and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

4.3.2 Not Shown or Indicated

If an underground facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of, CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work affected thereby (except in an emergency), identify the owner of such Underground Facility and give written notice thereof to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the underground facility to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility, and the Contract Documents will be amended or supplemented to the extent necessary. During such time, CONTRACTOR shall be responsible for the safety and protection of such underground facility. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any underground facility that was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of.

4.4 Reference Points

OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER'S judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work (unless otherwise specified), shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations and shall be responsible for the accurate replacement or relocation of such reference points by a Registered Land Surveyor.

5. CONTRACTOR'S RESPONSIBILITIES

5.1 Supervision

CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall assure that all CONTRACTOR personnel (including subcontractors, etc.) conduct themselves in a courteous and respectful manner toward the ENGINEER and the general public. Failure to comply with this condition of the Contract will result in immediate suspension of the Work. Following a review by the Commissioner of Public Works, the Contract may be

terminated (see GC section 14). CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.

5.2 Superintendence

CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR'S representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

5.3 Labor

CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER'S written consent given after prior written notice to ENGINEER.

5.4 Start-Up and Completion of Work

Unless otherwise specified, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work and shall install, maintain and remove all equipment of the construction, other utensils or things, and be responsible for the safe, proper and lawful construction, maintenance and use of same, and shall construct in the best and most workmanlike manner, a complete job and everything incidental thereto, as shown on the plans, stated in the specifications, or reasonably implied therefrom, all in accordance with the contract documents.

5.5 Materials and Equipment

All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be

applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be effective to assign to ENGINEER, or any of ENGINEER'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4.

5.5.1 Not Clearly Specified or Indicated

In all instances where materials specified are obtainable in different sizes, weights, trade grades, qualities or finishes, etc., whose weights, trade grades, qualities or finishes, etc., are not clearly specified or indicated on the Drawings, the CONTRACTOR shall notify the ENGINEER of all such instances at least five (5) days in advance of receiving the proposals. The Engineer will then determine which size, weight, trade grade, quality, finish, etc., is required.

5.5.2 Coordination of Work

The CONTRACTOR shall see that for his own Work and for the work of each subcontractor, proper templates and patterns necessary for the coordination of the various parts of the Work are prepared. The CONTRACTOR shall furnish or require the Subcontractor to furnish such duplicates as will enable the Subcontractors to fit together and execute fully their respective portions of the Work.

5.6 Adjusting Progress Schedule

CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.8) adjustments in the progress schedule to reflect the impact thereon of new developments; these will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the Contract Documents applicable thereto.

5.7 Substitutes or "Or-Equal" Items

5.7.1 General

Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function, and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by OWNER/ENGINEER if sufficient information is submitted by CONTRACTOR to allow OWNER/ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by OWNER/ENGINEER will include the following. Requests for review of substitute items of material and equipment will not be accepted by

OWNER/ENGINEER from anyone, other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to OWNER/ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR'S achievement of completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by OWNER/ENGINEER in evaluating the proposed substitute. OWNER/ENGINEER may require CONTRACTOR to furnish at CONTRACTOR'S expense additional data about the proposed substitute.

5.7.2 Substitutes

If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to OWNER/ENGINEER, if CONTRACTOR submits sufficient information to allow OWNER/ENGINEER to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by OWNER/ENGINEER will be similar to that provided in paragraph 5.7.1 as applied by OWNER/ENGINEER.

5.7.3 OWNER/ENGINEER'S Approval

OWNER/ENGINEER will be allowed a reasonable time within which to evaluate each proposed substitute. OWNER/ENGINEER will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without OWNER/ENGINEER'S prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR'S expense a special performance guarantee or other surety with respect to any substitute. OWNER/ENGINEER will record time required by OWNER/ENGINEER and OWNER/ENGINEER'S consultants in evaluating substitutions proposed by CONTRACTOR and in making

changes in the Contract Documents occasioned thereby. Whether or not OWNER/ENGINEER accepts a proposed substitute, CONTRACTOR shall reimburse OWNER for the charges of OWNER/ENGINEER and OWNER/ENGINEER'S consultants for evaluating each proposed substitute.

5.8 Subcontractors, Suppliers, and Others

5.8.1 Acceptable to ENGINEER

CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization (including those acceptable to OWNER and ENGINEER as indicated in paragraph 5.8.2), whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

5.8.2 Objection After Due Investigation

If the Contract Documents require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials and equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and ENGINEER and if CONTRACTOR has submitted a list thereof, OWNER'S or ENGINEER'S acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the bidding documents or the Contract Documents) of any such Subcontractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute. No acceptance by OWNER or ENGINEER of any such Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

5.8.3 Contractor Responsible for Acts of Subcontractors

The CONTRACTOR shall perform on the site, and with its own organization, work equivalent to at least fifty (50) percent of the total amount of Work to be performed under the Contract. This percentage may be reduced by a supplemental agreement to this Contract if, during performing the Work, the CONTRACTOR requests a reduction and the Urban County Engineer determines that the reduction would be to the advantage of the Urban County Government.

The CONTRACTOR shall, at the time he submits his proposal for the Contract, notify the OWNER in writing of the names of Subcontractors proposed for the Work. He shall not employ any Subcontractor without the prior written approval of the OWNER.

CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR'S own acts and omissions. Nothing in the Contract Documents shall create any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

5.8.4 Division of Specifications

The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

5.8.5 Agreement Between Contractor and Subcontractors

All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER.

5.8.6 Statements and Comments by CONTRACTOR

Neither the CONTRACTOR, his employees, nor his subcontractors shall at any time make any statement or comment as to the project scope, nature, intention, design, or construction method to any third party or parties without the explicit written consent of the OWNER.

Any third party requesting such information shall be referred to the OWNER or his representative.

Should there be any change from the original intent of the project as a result of any statement or comment by the contractor, his employees or subcontractors, contractor shall be held liable for any change in the scope, nature, design, or construction method and shall bear the full cost for the previously mentioned changes.

5.9 Patent Fees and Royalties

CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others.

5.10 Permits

Unless otherwise provided in the Special conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or if there are no Bids on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

5.11 Laws and Regulations

5.11.1 CONTRACTOR to Comply

CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR'S compliance with any Laws and Regulations.

5.11.2 Specifications and Drawings at Variance

If CONTRACTOR observes that the Specifications or Drawings are at variance with any Laws or Regulations, CONTRACTOR shall give ENGINEER prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in paragraph 3.4. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Laws, or Regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR'S primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

5.12 Taxes

CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work. Any party, firm or individual submitting a proposal pursuant to invitation must have paid all taxes owed to the Lexington-Fayette Urban County Government at the time the

proposal is submitted and must maintain a "current" status in regard to those taxes throughout the Contract. If applicable, business must be licensed in Fayette County.

5.13 Use of Premises

5.13.1 Project Site

CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the staging areas or work site areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER or ENGINEER by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold OWNER and ENGINEER harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any such other party against OWNER or ENGINEER to the extent based on a claim arising out of CONTRACTOR'S performance of the Work.

5.13.2 Clean Up

During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by OWNER. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

5.13.1 Loading of Structures

CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

5.14 Record Drawings

CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Change Orders, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, samples and Shop Drawings will be delivered to ENGINEER for OWNER.

5.15 Shop Drawings and Samples

5.15.1 Shop Drawing Submittals

After checking and verifying all field measurements and after complying with applicable procedures specified, CONTRACTOR shall submit to ENGINEER for review and approval in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.8), or for other appropriate action if so indicated in the Special Conditions, five copies (unless otherwise specified) of all Shop Drawings, which will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the Contract Documents with respect to the review of the submission. All submissions will be identified as ENGINEER may require. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable ENGINEER to review the information as required.

5.15.2 Sample Submittals

CONTRACTOR shall also submit to ENGINEER for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the Contract Documents with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.

5.15.3 Review by CONTRACTOR

Before submission of each Shop Drawing or sample CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.

5.15.4 Notice of Variation

At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to ENGINEER for review and approval of each such variation.

5.15.5 ENGINEER'S Approval

ENGINEER will review and approve with reasonable promptness Shop Drawings and samples, but ENGINEER'S review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit, as required, new samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

5.15.6 Responsibility for Errors and Omissions

ENGINEER'S review and approval of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER'S attention to each such variation at the time of submission as required by paragraph 5.15.4 and ENGINEER has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 5.15.3.

5.15.7 Cost of Related Work

Where a Shop or sample is required by the Specifications, any related Work performed prior to ENGINEER'S review and approval of the pertinent submission will be the sole expense and responsibility of CONTRACTOR.

5.16 Continuing the Work

CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolutions of any disputes or disagreements, except as permitted by paragraph 14.5 or as CONTRACTOR and OWNER may otherwise agree in writing.

5.17 Erosion and Sediment Control

5.17.1 General Environmental Requirements

The CONTRACTOR and Subcontractors performing work on projects on behalf of the OWNER shall comply with all applicable federal, state, and local environmental regulations and all requirements and conditions set forth in “special” permits including but not limited to Corp of Engineers 404 permits, 401 Water Quality Certifications, Stream Crossing and Floodplain Encroachment Permits.

Any fines or penalties resulting from the failure to comply with the terms of the federal, state or local permits or perform necessary corrective action are solely the obligation of the CONTRACTOR.

5.17.2 Stormwater Pollution Prevention

A. The CONTRACTOR shall exercise due care to prevent or minimize any damage to any stream or wetland from pollution by debris, sediment or other material. The operation of equipment and/or materials in a jurisdictional wetland is expressly prohibited. Water that has been used for washing or processing, or that contains oils, sediments or other pollutants shall not be discharged from the job site. Such waters shall be collected and properly disposed of by the CONTRACTOR in accordance with applicable local, state and federal law.

B. The CONTRACTOR is solely responsible for securing all required state and local permits associated with stormwater discharges from the project including, but not necessarily limited to the KY Notice of Intent to Disturb (NOI) for Coverage of Storm Water Discharges Associated with Construction Activities under the KPDES Storm Water General Permit KYR100000 and the LFUCG, Land Disturbance Permit. Permit application preparation and all required documentation are the responsibility of the CONTRACTOR. The CONTRACTOR is solely responsible for maintaining compliance with the stormwater pollution prevention plan or erosion and sediment control plan and ensuring the following:

- a. That the Stormwater Pollution Prevention Plan (SWPPP) or erosion control plan is current and available for review on site;
- b. That any and all stormwater inspection reports required by the permit are conducted by qualified personnel and are available for review onsite; and
- c. That all best management practices (BMPs) are adequately maintained and effective at controlling erosion and preventing sediment from leaving the site.

C. The CONTRACTOR shall provide the necessary equipment and personnel to perform any and all emergency measures that may be required to contain any spillage or leakage and to remove materials, soils or liquids that become contaminated. The collected spill material shall be properly disposed at the CONTRACTOR's expense.

D. Upon completion of the work and with the concurrence of the OWNER, the CONTRACTOR must file a Notice of Termination (NOT) of Coverage Under the KPDES General Permit for Storm Water Discharges Associated with Construction Activity with the appropriate local and state authorities.

E. Any fines or penalties resulting from the failure to comply with the terms of the state or local stormwater permits or perform necessary corrective action are solely the obligation of the CONTRACTOR.

6. OTHER WORK

6.1 Related Work at Site

OWNER may perform other work related to the Project at the site by OWNER'S own forces, have other work performed by utility owners or let other direct contracts therefor which shall contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the Contract Documents, written notice thereof will be given to CONTRACTOR prior to starting any such other work; and, if such performance will involve additional expense to CONTRACTOR or requires additional time, a Change Order to the Contract will be negotiated.

6.2 Other Contractors or Utility Owners

CONTRACTOR shall afford each utility owner and other contractor who is a party to such a direct contract (or OWNER, if OWNER is performing the additional work with OWNER'S employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with theirs. CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

6.3 Delays Caused by Others

If any part of CONTRACTOR'S Work depends for proper execution or results upon the work of any such other contractor or utility owner (or OWNER), CONTRACTOR shall inspect and promptly report to ENGINEER in writing any

delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. CONTRACTOR'S failure so to report will constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR'S Work except for latent or non-apparent defects and deficiencies in the other work.

6.4 Coordination

If OWNER contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Special Conditions, and the specific matters to be covered by such authority and responsibility will be itemized, and the extent of such authority and responsibilities will be provided, in the Special Conditions.

7. OWNER'S RESPONSIBILITIES

7.1 Communications

OWNER shall issue all communications to CONTRACTOR through ENGINEER.

7.2 Data and Payments

OWNER shall furnish the data required of OWNER under the Contract Documents promptly after they are due.

7.3 Lands, Easements, and Surveys

OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER'S identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions at the site and in existing structures which have been utilized by ENGINEER in preparing the Drawings and Specifications.

7.4 Change Orders

OWNER is obligated to execute Change Orders as indicated in paragraph 9.4.

7.5 Inspections, Tests and Approvals

OWNER'S responsibility in respect to certain inspections, tests and approvals is set forth in paragraph 13.3.

7.6 Stop or Suspend Work

In connection with OWNER'S right to stop Work or suspend Work, see paragraph 12.4 and 14.1 Paragraph 14.2 deals with OWNER'S rights to terminate services of CONTRACTOR under certain circumstances.

8. ENGINEER'S STATUS DURING CONSTRUCTION

8.1 OWNER'S Representative

ENGINEER will be OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER'S representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER and ENGINEER.

8.2 Visits to Site

ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. ENGINEER'S efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform to the Contract Documents. On the basis of such visits and on-site observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defects and deficiencies in the Work.

8.3 Project Representation

ENGINEER will provide an Inspector to assist ENGINEER in observing the performance of the Work. If OWNER designates another agent to represent OWNER at the site who is not ENGINEER'S agent or employee, the duties, responsibilities and limitations of authority of such other person will be as provided in the Special Conditions.

8.4 Clarifications and Interpretations

ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

8.5 Authorized Variations in Work

ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order.

8.6 Rejecting Defective Work

ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective and will also have authority to require special inspection or testing of the Work as provided in paragraph 12.3, whether or not the Work is fabricated, installed or completed.

8.7 Shop Drawings

In connection with ENGINEER'S responsibility for Shop Drawings and samples, see paragraphs 5.15.1 through 5.16 inclusive.

8.8 Change Orders

In connection with ENGINEER'S responsibilities as to Change Orders, see Articles 10, 11 and 12.

8.9 Payments

In connection with ENGINEER'S responsibilities with respect to Applications for Payment, etc., see Article 13.

8.10 Determinations for Unit Prices

ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR.

ENGINEER will review with CONTRACTOR ENGINEER'S preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise).

8.11 Decision on Disputes

ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and claims under Articles 10 and 11 in respect of changes in the Contract Price or Contract Time will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph, which ENGINEER will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise thereto, and written supporting data will be submitted to ENGINEER within sixty days after such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim.

8.12 Limitations on Engineer's Responsibilities

8.12.1 CONTRACTOR, Supplier, or Surety

Neither ENGINEER'S authority to act under this Article 8 or elsewhere in the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or

responsibility of ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

8.12.2 To Evaluate the Work

Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper", or "satisfactory" or adjectives or like "effect" or "import" are used to describe a requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign ENGINEER any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4.

8.12.3 CONTRACTOR'S Means, Methods, Etc.

ENGINEER will not be responsible for CONTRACTOR'S means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and ENGINEER will not be responsible for CONTRACTOR'S failure to perform or furnish the Work in accordance with the Contract Documents.

8.12.4 Acts of Omissions of CONTRACTOR

ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

9. **CHANGES IN THE WORK**

9.1 **OWNER May Order Change**

Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by a Change Order. Upon receipt of such notice, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

9.2 **Claims**

Claims for an increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Change Order will be settled as provided for in Article 10 or Article 11.

9.3 Work Not in Contract Documents

CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraph 3.4, except in the case of an emergency and except in the case of uncovering Work as provided in paragraph 12.3.4.

9.4 Change Orders

OWNER and CONTRACTOR shall execute appropriate Change Orders covering:

9.4.1 changes in the Work which are ordered by OWNER pursuant to paragraph 9.1, are required because of acceptance of defective Work under paragraph 12.7 or corrective defective Work under paragraph 12.8, or are agreed to by the parties;

9.4.2 changes in the Contract Price or Contract Time which are agreed to by the parties; and

9.4.3 changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 8.11; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and REGULATIONS, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 5.16.

9.5 Notice of Change

If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR'S responsibility, and the amount of each applicable Bond will be adjusted accordingly.

10. CHANGE OF CONTRACT PRICE

10.1 Total Compensation

The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

10.2 Claim for Increase or Decrease in Price

The Contract Price may only be changed by a Change Order. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than

thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by CONTRACTOR'S written statement that the amount claimed covers all known amounts (direct, indirect, and consequential) to which the CONTRACTOR is entitled as a result of the occurrence of said event.

10.3 Value of Work

The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

10.3.1 Unit Prices

Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved (subject to the provisions of paragraphs 10.9.1. through 10.9.3, inclusive).

10.3.2 Lump Sum

By mutual acceptance of a lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 10.6.2.1).

10.3.3 Cost Plus Fee

On the basis of the Cost of the Work (determined as provided in paragraphs 10.4 and 10.5) plus a CONTRACTOR'S fee for overhead and profit (determined as provided in paragraphs 10.6 and 10.7).

10.4 Cost of the Work

The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project; shall include only the following items; and shall not include any of the costs itemized in paragraph 10.5:

10.4.1 Payroll Costs

Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' or workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall

include superintendents and foremen at the site. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by OWNER.

10.4.2 Materials and Equipment Costs

Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

10.4.3 Subcontractor Costs

Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to CONTRACTOR and shall deliver such bids to OWNER who will then determine, with the advice of ENGINEER, which bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a Fee, the Subcontractor's Cost of the Work shall be determined in the same manner as CONTRACTOR'S Cost of the Work. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

10.4.4 Special Consultant Costs

Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.

10.4.5 Supplemental Costs

10.4.5.1 The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR'S employees incurred in discharge of duties connected with the Work.

10.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less

market value of such items used but not consumed which remain the property of CONTRACTOR.

10.4.5.3 Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, installation, dismantling and removal shall be in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

10.4.5.4 Sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

10.4.5.5 Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

10.4.5.6 Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by CONTRACTOR in connection with the performance and furnishing of the Work (except losses and damages within the deductible amounts of property insurance established by OWNER), provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR'S fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid a fee proportionate to that stated in paragraph 10.6.2 for services.

10.4.5.7 The cost of utilities, fuel and sanitary facilities at the site.

10.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site,

expressage and similar petty cash items in connection with the Work.

10.4.5.9 Cost of premiums for additional Bonds and insurance required because of changes in the Work and premiums for property insurance coverage within the limits of the deductible amounts established by OWNER.

10.5 Not to Be Included in Cost of the Work

The term Cost of the Work shall not include any of the following:

10.5.1 Costs of Officers and Executives

Payroll costs and other compensation of CONTRACTOR'S officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR'S principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.4.1 or specifically covered by paragraph 10.4.4 - all of which are to be considered administrative costs covered by the CONTRACTOR'S fee.

10.5.2 Principal Office

Expenses of CONTRACTOR'S principal and branch offices other than CONTRACTOR'S office at the site.

10.5.3 Capital Expense

Any part of CONTRACTOR'S capital expenses, including interest on CONTRACTOR'S capital employed for the Work and charges against CONTRACTOR for delinquent payments.

10.5.4 Bonds and Insurance

Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 10.4.5.9 above).

10.5.5 Costs Due to Negligence

Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

10.5.6 Other Costs

Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 10.4.

10.6 Contractor's Fee

The CONTRACTOR'S Fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

10.6.1 a mutually acceptable fixed fee; or if none can be agreed upon,

10.6.2 a fee based on the following percentages of the various portions of the Cost of the Work:

10.6.2.1 for costs incurred under paragraphs 10.4.1 and 10.4.2, the CONTRACTOR'S fee shall be fifteen percent;

10.6.2.2 for costs incurred under paragraph 10.4.3, the CONTRACTOR'S fee shall be five percent; and if a subcontract is on the basis of Cost of the Work Plus a fee, the maximum allowable to CONTRACTOR on account of overhead and profit of all Subcontractors shall be fifteen percent;

10.6.2.3 no fee shall be payable on the basis of costs itemized under paragraphs 10.4.4, 10.4.5 and 10.5;

10.6.2.4 the amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR'S Fee by an amount equal to ten percent of the net decrease; and

10.6.2.5 when both additions and credits are involved in any one change, the adjustment in CONTRACTOR'S fee shall be computed on the basis of the net change in accordance with paragraphs 10.6.2.1 through 10.6.2.4, inclusive.

10.7 Itemized Cost Breakdown

Whenever the cost of any Work is to be determined pursuant to paragraph 10.4 or 10.5, CONTRACTOR will submit in form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

10.8 Cash Allowances

It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such Subcontractors or Suppliers and for such sums within the limit of the allowances as may be acceptable to ENGINEER, CONTRACTOR agrees that:

10.8.1 Materials and Equipment

The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and

10.8.2 Other Costs

CONTRACTOR'S costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances. No demand for additional payment on account of any thereof will be valid.

10.8.3 Change Order

Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

10.9 Unit Price Work

10.9.1 General

Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER in accordance with Paragraph 8.10.

10.9.2 Overhead and Profit

Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR'S overhead and profit for each separately identified item.

10.9.3 Claim for Increase in Unit Price

Where the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement and there is no corresponding adjustment with respect to any other item of Work and if CONTRACTOR believes that CONTRACTOR has incurred additional expense as a result thereof, CONTRACTOR may make a claim for an increase in the Contract Price in accordance with Article 10.

11. CHANGE OF CONTRACT TIME

11.1 Change Order

The Contract Time may only be changed by a Change Order. Any claim for an extension or shortening of the Contract Time shall be based on written notice delivered to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by ENGINEER in accordance with paragraph 8.11. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph 11.1.

11.2 Justification for Time Extensions

The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if a claim is made therefore as provided in paragraph 11.1. Such delays shall include, but not be limited to, acts or neglect by OWNER or others performing additional work as contemplated by Article 6, or to fires, floods, labor disputes, epidemics, abnormal weather conditions or acts of God.

11.3 Time Limits

All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this Article 11 shall not exclude recovery for damages (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs) for delay by either party.

12. WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

12.1 Warranty and Guarantee

CONTRACTOR warrants and guarantees to OWNER and ENGINEER that all Work will be in accordance with the Contract Documents and will not be defective. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 12.

12.2 Access to Work

ENGINEER and ENGINEER'S representatives, other representatives of OWNER, testing agencies and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access.

12.3 Tests and Inspections

12.3.1 Timely Notice

CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals.

12.3.2 Requirements and Responsibilities

The ENGINEER may require such inspection and testing during the course of the Work as he/she deems necessary to ascertain and assure the integrity and acceptable quality of the materials incorporated and the work performed. Inspection presence may be either full-time or intermittent, and neither the presence nor absence at any time of the ENGINEER or the INSPECTOR shall relieve the CONTRACTOR of sole responsibility for the acceptability and integrity of the Work or any part thereof.

The costs of sampling, testing, and inspection on-site to ascertain acceptability of the Work and materials will be borne by the OWNER except as otherwise provided. The OWNER will select a testing laboratory to perform such sampling and testing. Sampling and/or testing required by the CONTRACTOR or necessitated by failure of Work or materials to meet the above acceptability test shall be at the expense of the CONTRACTOR.

Inspection services may be performed by the employees of the OWNER or by others selected or designated by the OWNER or the ENGINEER.

Sampling and/or testing required for manufacturing quality and/or process control, for certification that raw mineral materials or manufactured products are the quality specified in the contract, or to assure the acceptability for incorporation into the Work shall be borne by the CONTRACTOR or the material supplier.

Cost for inspection, sampling, testing, and approvals required by the laws or regulations of any public body having competent jurisdiction shall be borne by the CONTRACTOR or the material supplier.

Sampling and testing will be in accord with pertinent codes and regulations and with appropriate standards of the American Society of Testing Materials or other specified standards.

12.3.3 On-Site Construction Test and Other Testing

All inspections, tests or approvals other than those required by Laws or Regulations of any public body having jurisdiction shall be performed by organizations acceptable to OWNER and CONTRACTOR (or by ENGINEER if so specified).

12.3.4 Covered Work

If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation. Such uncovering shall be at CONTRACTOR'S expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR'S intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

12.3.5 CONTRACTOR'S Obligation

Neither observations by ENGINEER nor inspections, tests or approvals by others shall relieve CONTRACTOR from CONTRACTOR'S obligations to perform the Work in accordance with the Contract Documents.

12.4 OWNER May Stop the Work

If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any other party.

12.5 Correction or Removal of Defective Work

If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by ENGINEER, remove it from the site and replace it with non-defective Work. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

12.6 One Year Correction Period

If within one year after the date of Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER'S written instructions, either correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with non-defective Work. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement (including but not limited to fees and charges of engineers, architects, attorneys and

other professionals) will be paid by CONTRACTOR. In special circumstances where a particular item of equipment is placed in continuous service before Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Change Order.

12.7 Acceptance of Defective Work

If, instead of requiring correction or removal and replacement of defective Work, OWNER prefers to accept it, OWNER may do so. CONTRACTOR shall bear all direct, indirect and consequential costs attributable to OWNER'S evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness and to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals).

12.8 OWNER May Correct Defective Work

If CONTRACTOR fails within a reasonable time after written notice of ENGINEER to proceed to correct and to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 12.5, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR'S services related thereto, take possession of CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER'S representatives, agents and employees such access to the site as may be necessary to enable OWNER to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of OWNER in exercising such rights and remedies will be charged against CONTRACTOR in an amount approved as to reasonableness by ENGINEER, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. Such direct, indirect and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all court costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR'S defective Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by OWNER of OWNER'S rights and remedies hereunder.

13. PAYMENTS TO CONTRACTOR AND COMPLETION

13.1 Schedule of Values

The schedule of values established as provided in paragraph 2.8 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

13.2 Application for Progress Payment

At least ten days before each progress payment is scheduled (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER'S interest therein, all of which will be satisfactory to OWNER. OWNER shall, within thirty (30) calendar days of presentation to him of an approved Application for Payment, pay CONTRACTOR the amount approved by ENGINEER. Monthly progress payments shall be ninety (90) percent of the sum obtained by applying the respective bid unit prices to the approved estimated quantities of work completed by the Contractor during the preceding month. The remaining ten (10) percent will be held by the Owner, as retainage. At such time as the Engineer deems appropriate - based on the quality of work performed, progress of cleanup, and other pertinent factors - the rate of retainage, or the total amount retained, may be reduced; although, any reduction in retainage, below the ten (10) percent level, is made solely at the Engineer's discretion. All remaining retainage held will be included in the final payment to the Contractor.

13.3 CONTRACTOR'S Warranty of Title

CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

13.4 Review of Applications for Progress Payment

13.4.1 Submission of Application for Payment

ENGINEER will, after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER or return the Application to CONTRACTOR indicating in writing ENGINEER'S reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

13.4.2 ENGINEER'S Recommendation

ENGINEER may refuse to recommend the whole or any part of any payment, if, in ENGINEER'S opinion, it would be incorrect to make such representations to OWNER. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in ENGINEER'S opinion to protect OWNER from loss because:

13.4.2.1 the Work is defective, or completed Work has been damaged requiring correction or replacement;

13.4.2.2 the Contract Price has been reduced by Written Amendment or Change Order;

13.4.2.3 OWNER has been required to correct defective Work or complete Work in accordance with paragraph 12.8; or

13.4.2.4 of ENGINEER'S actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.2.1 through 14.2.9 inclusive.

13.5 Partial Utilization

OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and has been completed. If CONTRACTOR agrees, CONTRACTOR will certify to OWNER that said part of the Work is complete and request that a Certificate of Completion be issued for that part of the Work.

13.6 Final Inspection

Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will make a final inspection with CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

13.7 Final Application for Payment

After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in paragraph 5.14) and other documents - all as required by the Contract Documents, and after ENGINEER has indicated that the Work is acceptable (subject to the provisions of paragraph 13.10), CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER'S property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Subcontractor or Supplier fails to furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

13.8 Final Payment and Acceptance

13.8.1 ENGINEER'S Approval

If, on the basis of ENGINEER'S observation of the Work during construction and final inspection, and ENGINEER'S review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR'S other obligations under the Contract Documents have been fulfilled, ENGINEER will, after receipt of the final Application for Payment, indicate in writing ENGINEER'S recommendation of payment and present the Application to OWNER for payment. Thereupon ENGINEER will give written notice to OWNER and CONTRACTOR that the Work is acceptable, subject to the provisions of paragraph 13.10. Otherwise, ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application.

13.8.2 Delay in Completion of Work

If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, OWNER shall, upon receipt of CONTRACTOR'S final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is

less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 10 of Part II, Information for Bidders, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

13.9 CONTRACTOR'S Continuing Obligation

CONTRACTOR'S obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by ENGINEER, nor the issuance of a certificate of Completion, nor any payment by OWNER to CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor any correction of defective Work by OWNER will constitute an acceptance of Work not in accordance with the Contract Documents or a release of CONTRACTOR'S obligation to perform the Work in accordance with the Contract Documents (except as provided in paragraph 13.10).

13.10 Waiver of Claims

The making and acceptance of final payment will constitute:

13.10.1 a waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from defective Work appearing after final inspection or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it will not constitute a waiver by OWNER of any rights in respect of CONTRACTOR'S continuing obligations under the Contract Documents; and

13.10.2 a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

14. SUSPENSION OF WORK AND TERMINATION

14.1 OWNER May Suspend Work

OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if CONTRACTOR makes an approved claim therefor as provided in Articles 10 and 11.

14.2 OWNER May Terminate

The OWNER may terminate the Work upon the occurrence of any one or more of the following events:

14.2.1 if CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if CONTRACTOR takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency;

14.2.2 if a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other federal or state law in effect at the time relating to bankruptcy or insolvency;

14.2.3 if CONTRACTOR makes a general assignment for the benefit of creditors;

14.2.4 if a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR'S creditors;

14.2.5 if CONTRACTOR admits in writing an inability to pay its debts generally as they become due;

14.2.6 if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.8 as revised from time to time);

14.2.7 if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

14.2.8 if CONTRACTOR disregards the authority of ENGINEER, or

14.2.9 if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

OWNER may, after giving CONTRACTOR (and the surety) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from

the site and take possession of the Work and of all CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by ENGINEER and incorporated in a Change Order, but when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

14.2.10 If safety violations are observed and brought to the Contractors attention and Contractor fails to take immediate corrective measures any repeat of similar safety violations, Owner will order an immediate termination of contract. Note: it is the Contractor's responsibility to know proper safety measures as they pertain to construction and OSHA.

14.2.11 This contract may be canceled by either party thirty (30) days after delivery by canceling party of written notice of intent to cancel to the other contracting party.

14.2.12 This contract may be canceled by the Lexington-Fayette Urban County Government if it is determined that the Bidder has failed to perform under the terms of this agreement, such cancellation to be effective upon receipt of written notice of cancellation by the Bidder.

14.3 CONTRACTOR'S Services Terminated

Where CONTRACTOR'S services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

14.4 Payment After Termination

Upon seven days' written notice to CONTRACTOR, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed and any expense sustained plus reasonable termination expenses, which will include, but not be limited to, direct, indirect and consequential costs (including,

but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs).

14.5 CONTRACTOR May Stop Work or Terminate

If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within sixty days after it is submitted, or OWNER fails for sixty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days' written notice to OWNER and ENGINEER, terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition, and in lieu of terminating the Agreement, if ENGINEER has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven days' written notice to OWNER and ENGINEER stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve CONTRACTOR of the obligations under paragraph 5.16 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

15. MISCELLANEOUS

15.1 Claims for Injury or Damage

Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 15.1 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

15.2 Non-Discrimination in Employment

The CONTRACTOR shall comply with the following requirements prohibiting discrimination:

15.2.1 That no person (as defined in KRS 344.010) shall bid on Lexington-Fayette Urban County Government construction projects, or bid to furnish materials or supplies to the Lexington-Fayette Urban County Government, if, within six months prior to the time of opening of bids, said person shall have been found, by declaratory judgment action in Fayette Circuit Court, to be presently engaging in an unlawful practice, as hereinafter defined. Such declaratory judgment action may be brought by an aggrieved individual or upon an allegation that an effort at conciliation pursuant to KRS 344.200 has been attempted and failed, by the Lexington-Fayette County Human Rights Commission.

15.2.2 That it is an unlawful practice for an employer:

15.2.2.1 to fail or refuse to hire, or to discharge any individual or otherwise to discriminate against an individual, with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, sex, age, or national origin; or

15.2.2.2 to 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 sex, race, color, religion, age, or national origin.

15.2.3 That it is an unlawful practice for an employer, labor organization, or joint-labor management committee controlling apprenticeship or other training or retraining, including on-the-job training programs to discriminate against an individual because of his race, color, religion, sex, age, or national origin in admission to, or employment in, any program established to provide apprenticeship or other training.

15.2.4 That a copy of this Ordinance shall be furnished all suppliers and made a part of all bid specifications.

15.2.5 This Ordinance shall take effect after it is signed, published, and recorded, as required by law.

15.3 Temporary Street Closing or Blockage

The CONTRACTOR will notify the ENGINEER at least 72 hours prior to making any temporary street closing or blockage. This will permit orderly notification to all concerned public agencies. Specific details and restrictions on street closure or blockage are contained in the Special Conditions.

15.4 Percentage of Work Performed by prime CONTRACTOR

The CONTRACTOR shall perform on site, and with its own organization, Work equivalent to at least fifty (50%) percent of the total amount of Work to be performed under the Contract. This percentage may be reduced by a supplemental agreement to this Contract if, during performing the Work, the CONTRACTOR requests a reduction, and the ENGINEER determines that the reduction would be to the advantage of the OWNER.

15.5 Clean-up

Cleanup shall progress, to the greatest degree practicable, throughout the course of the Work. The Work will not be considered as completed, and final payment will not be made, until the right-of-way and all ground occupied or affected by the Contractor in connection with the Work has been cleared of all rubbish, equipment,

excess materials, temporary structures, and weeds. Rubbish and all waste materials of whatever nature shall be disposed of, off of the project site, in an acceptable manner. All property, both public and private, which has been damaged in the prosecution of the Work, shall be restored in an acceptable manner. All areas shall be draining, and all drainage ways shall be left unobstructed, and in such a condition that drift will not collect, or scour be induced.

15.6 General

The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 12.1, 12.3.5, 13.3, and 15.2 and all of the rights and remedies available to OWNER and ENGINEER thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the Contract Documents will survive final payment and termination or completion of the Agreement.

15.7 Debris Disposal

For all LFUCG projects any trash, construction demolition debris, yard waste, dirt or debris of any kind that is removed from the project site must be disposed of in accordance with local, state, and federal regulations. The disposal site or facility must be approved in advance by the LFUCG and disposal documentation is required. The Contractor will be responsible for payment of any fines associated with improper disposal of material removed from the project site.

END OF SECTION

PART IX

ADDENDA

All addenda issued during the bidding of the Project will be reproduced in the signed Contract Documents, on the pages following this heading sheet.

<u>Addendum Number</u>	<u>Title</u>	<u>Date</u>
1.		
2.		
3.		
4.		
5.		

END OF SECTION

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PART V
SPECIAL CONDITIONS
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1. BLASTING

Blasting shall not be allowed on this project.

2.

**RISK MANAGEMENT PROVISIONS
INSURANCE AND INDEMNIFICATION**

INDEMNIFICATION AND HOLD HARMLESS PROVISION

- (1) It is understood and agreed by the parties that Contractor hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the part of Contractor or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "CONTRACTOR") under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby.
- (2) CONTRACTOR shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "LFUCG") from and against all liability, damages, and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by CONTRACTOR's performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the CONTRACTOR; and (b) not caused solely by the active negligence or willful misconduct of LFUCG.
- (3) In the event LFUCG is alleged to be liable based upon the above, CONTRACTOR shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by LFUCG, which approval shall not be unreasonably withheld.
- (4) These provisions shall in no way be limited by any financial responsibility or insurance requirements and shall survive the termination of this agreement.
- (5) The work and services performed hereunder involve a CONSENT DECREE as further explained in Part 1-Advertisement for Bids, provision 13. These provisions are incorporated herein by reference as if expressly stated.
- (6) LFUCG is a political subdivision of the Commonwealth of Kentucky. CONTRACTOR acknowledges and agrees that LFUCG is unable to provide indemnity or otherwise save, hold harmless, or defend the CONTRACTOR in any manner.

FINANCIAL RESPONSIBILITY

BIDDER/CONTRACTOR understands and agrees that it shall, prior to final acceptance of its bid and the commencement of any work, demonstrate the ability to assure compliance with the above Indemnity provisions and these other risk management provisions.

INSURANCE REQUIREMENTS

YOUR ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW, AAND YOU MAY NEED TO CONFER WITH YOUR INSURANCE AGENTS, BROKERS, OR CARRIERS TO DETERMINE IN ADVANCE OF SUBMISSION OF A RESPONSE THE AVAILABILITY OF THE INSURANCE COVERAGES AND ENDORSEMENTS REQUIRED HEREIN. IF YOU FAIL TO COMPLY WITH THE INSURANCE REQUIREMENTS BELOW, YOU MAY BE DISQUALIFIED FROM AWARD OF THE CONTRACT.

Required Insurance Coverage

BIDDER/CONTRACTOR shall procure and maintain for the duration of this contract the following or equivalent insurance policies at no less than the limits shown below and cause its subcontractors to maintain similar insurance with limits acceptable to LFUCG in order to protect LFUCG against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONTRACTOR. The cost of such insurance shall be included in any bid:

<u>Coverage</u>	<u>Limits</u>
General Liability aggregate (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million or \$2 million combined single limit
Commercial Automobile Liability (Insurance Services Office Form CA 0001)	combined single, \$1 million per occurrence
Worker's Compensation	Statutory
Employer's Liability	\$500,000.00

The policies above shall contain the following conditions:

- a. All Certificates of Insurance forms used by the insurance carrier shall be properly filed and approved by the Department of Insurance for the Commonwealth of Kentucky (DOI). LFUCG shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy using the Kentucky DOI approved forms.
- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by LFUCG.
- c. The General Liability Policy shall include a Products and Completed Operations endorsement or Premises and Operations Liability endorsement unless it is deemed not to apply by LFUCG.
- d. The General Liability Policy shall include an Explosion-Collapse Underground (XCU) endorsement.
- e. The General Liability Policy shall include a Pollution liability and/or Environmental Casualty endorsement unless it is deemed not to apply by LFUCG.

- f. LFUCG shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- g. Said coverage shall be written by insurers acceptable to LFUCG and shall be in a form acceptable to LFUCG. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.
- h. Owner requests that the Bidder obtain an Umbrella Liability endorsement to the CGL policy for a limit of liability of \$ NA and that this CGL policy endorsement be renewed for one (1) year after completion of this project.

Renewals

After insurance has been approved by LFUCG, evidence of renewal of an expiring policy must be submitted to LFUCG and may be submitted on a manually signed renewal endorsement form. If the policy or carrier has changed, however, new evidence of coverage must be submitted in accordance with these Insurance Requirements.

Deductibles and Self-Insured Programs

IF YOU INTEND TO SUBMIT A SELF-INSURANCE PLAN IT MUST BE FORWARDED TO LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT, DIVISION OF RISK MANAGEMENT, 200 EAST MAIN STREET, LEXINGTON, KENTUCKY 40507 NO LATER THAN A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE RESPONSE DATE. Self-insurance programs, deductibles, and self-insured retentions in insurance policies are subject to separate approval by Lexington-Fayette Urban County Government's Division of Risk Management, upon review of evidence of BIDDER/CONTRACTOR's financial capacity to respond to claims. Any such programs or retentions must provide LFUCG with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance coverage. If BIDDER/CONTRACTOR satisfies any portion of the insurance requirements through deductibles, self-insurance programs, or self-insured retentions, BIDDER/CONTRACTOR agrees to provide Lexington-Fayette Urban County Government, Division of Risk Management, the following data prior to the final acceptance of bid and the commencement of any work:

- a. Latest audited financial statement, including auditor's notes.
- b. Any records of any self-insured trust fund plan or policy and related accounting statements.
- c. Actuarial funding reports or retained losses.
- d. Risk Management Manual or a description of the self-insurance and risk management program.
- e. A claim loss run summary for the previous five (5) years.
- f. Self-Insured Associations will be considered.

Safety and Loss Control

CONTRACTOR shall comply with all applicable federal, state, and local safety standards related to the performance of its works or services under this Agreement and take necessary action to protect the life, health and safety and property of all of its personnel on the job site, the public, and LFUCG.

Verification of Coverage

BIDDER/CONTRACTOR agrees to furnish LFUCG with all applicable Certificates of Insurance signed by a person authorized by the insurer to bind coverage on its behalf prior to final award, and if requested, shall provide LFUCG copies of all insurance policies, including all endorsements.

Right to Review, Audit and Inspect

CONTRACTOR understands and agrees that LFUCG may review, audit and inspect any and all of its records and operations to ensure compliance with these Insurance Requirements.

DEFAULT

BIDDER/CONTRACTOR understands and agrees that the failure to comply with any of these insurance, safety, or loss control provisions shall constitute default and that LFUCG may elect at its option any single remedy or penalty or any combination of remedies and penalties, as available, including but not limited to purchasing insurance and charging BIDDER/CONTRACTOR for any such insurance premiums purchased, or suspending or terminating the work.

3. WAGE SCALES – N/A.

END OF SECTION

PART VI
CONTRACT AGREEMENT
INDEX

1.	SCOPE OF WORK.....	CA-2
2.	TIME OF COMPLETION.....	CA-2
3.	ISSUANCE OF WORK ORDERS	CA-2
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6.	ACCEPTANCE AND FINAL PAYMENT.....	CA-3
7.	THE CONTRACT DOCUMENTS.....	CA-3
8.	EXTRA WORK.....	CA-3
9.	ENUMERATION OF SPECIFICATIONS AND DRAWINGS.....	CA-4

PART VI

CONTRACT AGREEMENT

THIS AGREEMENT, made on the _____ day of _____, 20____, by and between **Lexington-Fayette Urban County Government**, acting herein called "OWNER" and _____, doing business as *(an individual) (a partnership) (a corporation) located in the City of _____, County of _____, and State of _____, hereinafter called "CONTRACTOR."

WITNESSETH: That the CONTRACTOR and the OWNER in consideration of _____ Dollars and _____ Cents (\$_____) quoted in the proposal by the CONTRACTOR, dated _____, hereby agree to commence and complete the construction described as follows:

1. SCOPE OF WORK

The CONTRACTOR shall furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal, the General Conditions, and the Special Conditions of the Contract, the Specifications, IonWave Q&A and Contract Documents therefore as prepared by **Tetra Tech** for Lexington-Fayette Urban County Government for Pebble Creek Bank Stabilization project.

2. TIME OF COMPLETION

The time period estimated and authorized by the OWNER for the proper execution of the Work by the Contract, in full, is hereby fixed as one hundred twenty (120) calendar days to final completion. The time shall begin in accordance with the Notice to Proceed provided by OWNER.

3. ISSUANCE OF WORK ORDERS

Notice to begin Work will be given in whole or for part of the Work as determined by the OWNER pending the availability of funds. The order of construction will be as determined by the Engineer after consultation with the CONTRACTOR and the OWNER.

4. THE CONTRACT SUM

The OWNER agrees to pay the CONTRACTOR in current funds for the performance of the Contract, as quoted in the proposal, subject to any additions and deductions, as provided therein.

5. PROGRESS PAYMENTS

The OWNER shall make payments on account of the Contract, as provided in accordance with the General Conditions, as estimated by the Engineer, less the aggregate of previous payments.

6. ACCEPTANCE AND FINAL PAYMENT

Final payment shall be due within ninety (90) days after completion of the Work, provided the Work be then fully completed and the Contract fully accepted.

Before issuance of final certificate, the CONTRACTOR shall submit evidence satisfactory to the Engineer that all payrolls, material bills, and other indebtedness connected with the Work has been paid.

If, after the Work has been substantially completed, full completion thereof is materially delayed through no fault of the CONTRACTOR, and the ENGINEER so certifies, the OWNER shall upon certificate of the ENGINEER, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

7. THE CONTRACT DOCUMENTS

The Advertisement for Bids, Information for Bidders, the General Conditions, Performance and Payment Bonds, Contract Agreement, Special Conditions, Technical Specifications, any and all Addenda, IonWave Q&A, and Proposal, and Plan Drawings form the Contract, and they are fully a part of the Contract as if hereto attached or herein repeated.

8. EXTRA WORK

The OWNER, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the Work, the Contract Sum being adjusted accordingly. All such Work shall be executed and paid for in accordance with the General Conditions, which is a part of this Contract.

9. THE FOLLOWING IS AN ENUMERATION OF THE SPECIFICATIONS AND DRAWINGS (CONTRACT DOCUMENTS):

SPECIFICATIONS

SECTION NO.	TITLE	PAGES
I	Advertisement for Bids	AB 1-10
II	Information for Bidders	IB 1-9
III	Form of Proposal	P 1-37
IV	General Conditions	GC 1-50
V	Special Conditions	SC 1-6
VI	Contract Agreement	CA 1-5
VII	Performance, Payment, and ESC Bonds	PB 1 -11
VIII	Permits	PE 1-1
IX	Addenda	AD 1-1
X	Notice of Award	NA 1-2
XI	Notice to Proceed	NP 1-2

TECHNICAL SPECIFICATIONS

Division 1	General Requirements	all-inclusive
Division 2	Site Preparation	all-inclusive

DRAWINGS

<u>Number</u>	<u>Description</u>
G-001	Cover Sheet
G-002	General Notes and Index of Drawings
G-003	Legend and Erosion and Sediment Control Notes
V-101	Existing Site Plan
C-100	ESC Plan
C-101	Site Plan
C-102	Stream Cross Sections
C-501	Civil and ESC Details
C-502	Civil Details

IN WITNESSETH WHEREOF, the parties hereto have executed this Contract as of the date and year above written.

(Seal)

Lexington-Fayette Urban County Government.
Lexington, Kentucky
(Owner)

ATTEST:

Clerk of the Urban County Council

BY: _____
MAYOR

(Witness)

(Title)

(Seal)

(Contractor)

(Secretary)*

BY: _____

(Witness)

(Title)

(Address and Zip Code)

IMPORTANT: *Strike out any non-applicable terms.

Secretary of the Owner should attest. If the CONTRACTOR is corporation,
Secretary should attest. Give proper title of each person-executing Contract.

END OF SECTION

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PART VII

PERFORMANCE, PAYMENT, AND ESC BONDS

1. PERFORMANCE BOND
2. PAYMENT BOND
3. EROSION AND SEDIMENT CONTROL BOND

PART VII

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that

(Name of CONTRACTOR)

(Address of CONTRACTOR)

a _____, hereinafter
(Corporation, Partnership, or Individual)

called Principal, and

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
200 East Main Street, Third Floor
Lexington, Kentucky 40507

hereinafter called "OWNER" in the penal sum of: _____
Dollars, (\$ _____), for the payment of whereof Principal and Surety bind themselves, their heirs,
executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into a Contract with OWNER for **Pebble Creek
Bank Stabilization** in accordance with drawings and specifications prepared by **Tetra Tech** which Contract
is by reference made a part hereof and is hereinafter referred to as the Contract.

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall
promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall
remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the OWNER.

Whenever, Principal shall be, and declared by OWNER to be in default under the Contract, the OWNER
having performed OWNER'S obligations thereunder, the Surety may promptly remedy the default, or shall
promptly:

- (1) Complete the Contract in accordance with its terms and conditions or

- (2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or if the OWNER elects, upon determination by the OWNER and Surety jointly of the lowest responsible bidder, arrange for a Contract between such bidder and OWNER, and make available as Work progresses (even though there may be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract Price", as used in this paragraph shall mean the total amount payable by OWNER to Principal under the Contract and any amendments thereto, less the amount properly paid by OWNER to Principal.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the OWNER named herein or the heirs, executors, administrators, or successors of OWNER.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of
(number)

which shall be deemed an original, this the _____ day of _____, 20_____.

ATTEST:

Principal

(Principal) Secretary

BY: _____ (s)

(Address)

Witness as to Principal

(Address)

ATTEST:

(Surety) Secretary

(SEAL)

Surety
BY: _____
Attorney-in-Fact

(Address)

Witness as to Surety

(Address)

TITLE: _____
Surety

BY: _____

TITLE: _____

NOTE: The number of executed counterparts of the bond shall coincide with the number of executed counterparts of the Contract.

PART VII
PAYMENT BOND

KNOW ALL MEN BY THESE PRESENT: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter
(Corporation, Partnership or Individual)

called Principal, and _____
(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto:

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
200 East Main Street, Third Floor
Lexington, Kentucky 40507

Obligee, hereinafter called OWNER, for the use and benefit of claimants as hereinafter defined, in the amount of _____ Dollars (\$_____) the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into a Contract with OWNER for **Pebble Creek Bank Stabilization** in accordance with drawings and specifications prepared by **Tetra Tech** which Contract is by reference made a part hereof and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly make payment to all claimants as hereinafter defined for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise, it shall remain in full force and effect, subject, however, to the following conditions.

1. A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
2. The above named Principal and Surety hereby jointly and severally agree with the OWNER that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or

performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The OWNER shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

- (a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: The Principal, the OWNER, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the Work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the Work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, OWNER, or Surety, at any place where an office is regularly maintained for the transaction of business or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.
- (b) After the expiration of one (1) year following the date on which Principal ceased Work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
- (c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.

4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against aid improvement, whether or not claim for the amount of such lien be presented under and against this bond.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of
(number)

which shall be deemed an original, this the _____ day of _____, 20_____.

ATTEST:

_____	_____ (Principal)
_____ (Principal) Secretary	
(SEAL)	BY: _____(s)
	_____ (Address)

_____ (Witness to Principal)	
_____ (Address)	

	_____ (Surety)
ATTEST:	
	BY: _____ (Attorney-in-Fact)
_____ (Surety) Secretary	
(SEAL)	
_____ Witness as to Surety	_____ (Address)
_____ (Address)	_____
_____	_____

NOTE: The number of executed counterparts of the bond shall coincide with the number of executed counterparts of the Contract.

PART VII

EROSION AND SEDIMENT CONTROL PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that

(Name of CONTRACTOR)

(Address of CONTRACTOR)

a _____, hereinafter
(Corporation, Partnership, or Individual)

called Principal, and _____
(Name of Surety)

(Address of Surety)

hereinto called Surety, are held and firmly bound unto

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
200 East Main Street, Third Floor
Lexington, Kentucky 40507

Obligee, hereinafter called "OWNER" in the penal sum of:

[5% of Total Bid Price] _____ dollars (\$ _____), for the
payment of whereof Principal and Surety bind themselves, their heirs, executors, administrators,
successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into an Agreement (Contract) with OWNER for
the Pebble Creek Bank Stabilization, LFUCG Bid No. 129-2023 in accordance with Contract
Documents prepared by Tetra Tech and dated _____, 20____, which Agreement (Contract)
is by reference made a part hereof, and is hereinafter referred to as the Agreement (Contract).

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall
promptly and faithfully perform said Agreement (Contract), then this obligation shall be null and void;
otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the OWNER.

Whenever, Principal shall be, and declared by OWNER to be in default under the Agreement (Contract), the OWNER having performed OWNER's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

1. Complete the installation, maintenance, and removal of the soil erosion and sediment controls and final stabilization of the site during the full period of land disturbance in accordance with the Agreement (Contract), the LFUCG Land Disturbance Permit, Chapter 16 Article X Division 5 of the LFUCG Code of Ordinances, Chapter 11 of the LFUCG Stormwater Manual, and the KPDES General Permit for Stormwater Discharges Associated with Construction Activities (KYR10).
2. Obtain a Bid or Bids for completing the installation, maintenance, and removal of the soil erosion and sediment controls and final stabilization of the site in accordance with the Agreement's (Contract's) terms and conditions, and upon determination by Surety of the lowest responsible bidder, or if the OWNER elects, upon determination by the OWNER and Surety jointly of the lowest responsible bidder, arrange for an Agreement (Contract) between such bidder and OWNER, and make available as Work progresses (even though there may be a default or a succession of defaults under the Agreement (Contract) or Agreements (Contracts) of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Agreement (Contract) Amount; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Agreement (Contract) Amount", as used in this paragraph shall mean the total amount payable by OWNER to Principal under the Agreement (Contract) and any amendments hereto, less the amount properly paid by OWNER to Principal.

Any suit under this bond must be instituted before the expiration one (1) year from the date on which final payment under the Agreement (Contract) falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the OWNER named herein or the heirs, executors, administrators or successors of OWNER.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of
(number)

which shall be deemed an original, this the _____ day of _____, 20 _____.

ATTEST:

Principal

(Principal) Secretary

By: _____ (s)

Address

Witness as to Principal

Address

Surety

ATTEST:

By: _____
Attorney-in-Fact

(Surety) Secretary

Address

(SEAL)

Witness to Surety

Title: _____
Surety

Address

By: _____

Title: _____

NOTE: The number of executed counterparts of the bond shall coincide with the number of executed counterparts of the Agreement (Contract).

END OF SECTION

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PART VIII

PERMITS

PART 1 - GENERAL

1.01 SUMMARY

The CONTRACTOR shall conform to the requirements of the following permits which are provided herein:

- A. United States Army Corps of Engineers Clean Water Act Section 401 Nationwide Permit #13, Bank Stabilization
- B. Kentucky Division of Water Clean Water Act Section 401 Water Quality Certification
- C. Kentucky Division of Water Stream Construction Permit

All other permits (as required) shall be obtained by the Contractor, including the Kentucky Division of Water *General Permit for Stormwater Discharges Associated with Construction Activities*, the LFUCG *Land Disturbance Permit*, the LFUCG Division of Building Inspection *Curb Cut Permit*, the LFUCG Division of Engineering *Right-of-Way Construction Permit*, and the LFUCG Division of Traffic Engineering *Lane Closure Permit*.

END OF SECTION

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DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, LOUISVILLE DISTRICT
600 DR. MARTIN LUTHER KING JR PL
LOUISVILLE, KY 40202

May 3, 2023

Regulatory Division
South Branch
ID No. LRL-2023-00172-mlk

Lexington-Fayette Urban County Government (LFUCG)
ATTN: Mr. Gregory Lubeck, Deputy Director—Division of Water Quality
125 Lisle Industrial Avenue Suite 180
Lexington, Kentucky 40511

Dear Mr. Lubeck:

This is in response to your request for authorization to stabilize approximately 200 linear feet of an unnamed tributary to West Hickman Creek (also referred to as Wilson Downing Tributary), located near Pebble Creek Drive Lexington, Fayette County, Kentucky (Latitude: 37.97443° N and Longitude: 84.50198 W°). Activities would include the stabilization of 200 linear feet of the north bank of the UT by grading the bank and placing 200 linear feet of turf reinforcement mat (InstaTurf ShearForce10) and No. 2 channel lining at the bottom of the bank along the mat to prevent movement and erosion. In addition, during construction, a temporary cofferdam would be placed along the stream bank and would be 220 linear feet by 2 feet (width of the sandbags) extending 2 to 3 feet into the stream bed. The cofferdam would be removed once the proposed project is completed. The information supplied by you was reviewed to determine whether a Department of the Army (DA) permit will be required under the provisions of Section 404 of the Clean Water Act.

This project is considered a discharge of fill material for bank stabilization. The project is authorized under the provisions of 33 CFR 330 Nationwide Permit (NWP) No. 13, Bank Stabilization, as published in the Federal Register December 27, 2021. Under the provisions of this authorization, you must comply with the enclosed Terms and General Conditions for NWP No. 13, and the following Special Condition:

The Permittee shall comply with all conditions of the General Water Quality Certification (WQC) and Conditions for NWP 13, issued by the Kentucky Division of Water (KDOW) on December 18, 2020, which are incorporated herein by reference.

This verification is valid until the NWP is modified, reissued, or revoked. NWP No. 13 will be modified, reissued, or revoked on March 14, 2026. It is incumbent upon LFUCG to remain informed of changes to the NWPs. If LFUCG commence or are under contract to commence this activity before the date that the relevant NWP is modified or revoked, you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP. The enclosed Compliance Certification 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. Please note that we also perform periodic inspections to ensure compliance with our permit conditions and applicable Federal laws. A copy of this letter will be forwarded to your agent, Tetra Tech and to the KDOW.

If you have any questions, please contact us by writing to the District Regulatory Office at the above address, ATTN: CELRL-RDS, or contact me directly at 502-315-6709 or meagan.l.knuckles@usace.army.mil. Any correspondence on this matter should refer to our ID Number LRL-2023-00172-mlk.

Sincerely,



2023.05.03

13:43:08

-04'00'

Meagan Knuckles
Senior Project Manager, South Branch
Regulatory Division

Enclosures



2021 Nationwide Permit Summary

US Army Corps
of Engineers
Louisville District ®

Issued: February 25, 2022

Expires: March 14, 2026

No. 13. Bank Stabilization

(NWP Final Rule, 86 FR 73522)

Bank stabilization activities necessary for erosion control or prevention, such as vegetative stabilization, bioengineering, sills, rip rap, revetment, gabion baskets, stream barbs, and bulkheads, or combinations of bank stabilization techniques, provided the activity meets all of the following criteria:

(a) No material is placed in excess of the minimum needed for erosion protection;

(b) The activity is no more than 500 feet in length along the bank, unless the district engineer waives this criterion by making a written determination concluding that the discharge of dredged or fill material will result in no more than minimal adverse environmental effects (an exception is for bulkheads—the district engineer cannot issue a waiver for a bulkhead that is greater than 1,000 feet in length along the bank);

(c) The activity will not exceed an average of one cubic yard per running foot, as measured along the length of the treated bank, below the plane of the ordinary high water mark or the high tide line, unless the district engineer waives this criterion by making a written determination concluding that the discharge of dredged or fill material will result in no more than minimal adverse environmental effects;

(d) The activity does not involve discharges of dredged or fill material into special aquatic sites, unless the district engineer waives this criterion by making a written determination concluding that the discharge of dredged or fill material will result in no more than minimal adverse environmental effects;

(e) No material is of a type, or is

placed in any location, or in any manner, that will impair surface water flow into or out of any waters of the United States;

(f) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored native trees and treetops may be used in low energy areas);

(g) Native plants appropriate for current site conditions, including salinity, must be used for bioengineering or vegetative bank stabilization;

(h) The activity is not a stream channelization activity; and

(i) The activity must be properly maintained, which may require repairing it after severe storms or erosion events. This NWP authorizes those maintenance and repair activities if they require authorization.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the bank stabilization activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges of dredged or fill material, 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. After construction, 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.

Notification: The permittee must submit a pre-construction notification to the

district engineer prior to commencing the activity if the bank stabilization activity: (1) Involves discharges of dredged or fill material into special aquatic sites; or (2) is in excess of 500 feet in length; or (3) will involve the discharge of dredged or fill material of greater than an average of one cubic yard per running foot as measured along the length of the treated bank, below the plane of the ordinary high water mark or the high tide line. (See general condition 32.) (Authorities: Sections 10 and 404)

Note: In coastal waters and the Great Lakes, living shorelines may be an appropriate option for bank stabilization, and may be authorized by NWP 54.

Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. 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 or her 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. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

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 NWP 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 Structures and Fills. Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. 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 NWP 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. Permittees 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 or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

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 designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of "effects of the action" for the purposes of ESA section 7 consultation, as

well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding "activities that are reasonably certain to occur" and "consequences caused by the proposed action."

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). 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 to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, 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 species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. 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 pre-construction notification. For activities where the non-

Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) 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 that the proposed activity will have "no effect" on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference 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 the Corps.

(d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(e) Authorization of an activity by an 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 FWS 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 coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA 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 pre-construction notification 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 FWS 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 that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects 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) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places 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 (see 33 CFR 330.4(g)(1)). 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 NWP 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 commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or 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 effects 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, or adverse effect.

(d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so 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. 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 permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they 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 a 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 United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 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 by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines 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 environmental effects of the proposed activity are no more than minimal, and provides an activity-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 only minimal adverse environmental effects.

(d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-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 environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-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 only 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. If restoring riparian areas involves planting vegetation, only native species should be planted. 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 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 environment 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, 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.

(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)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(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 (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity 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 no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or 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 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 or federal, 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. (a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed discharge

must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

(c) The district engineer or certifying authority 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)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. 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 U.S. EPA in its CWA 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 authorized, subject to the following restrictions:

(a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot 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.

(b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 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 activity 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(l)(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 activity 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 review by, or 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 and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification. (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. The request must specify the information needed 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 are in the vicinity of the activity, 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. 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) (i) 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.

(ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity 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 and intermittent 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 or 3/100-acre of stream bed 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 species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require 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. For NWP activities that require pre-construction notification, 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 NWP activity that requires permission from, or review by, 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, or review by, the Corps office having jurisdiction over that USACE project.

(c) *Form of Pre-Construction Notification:* The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. 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 activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) 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 (iii) 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 in tidal waters or the ordinary high water mark in the Great Lakes.

(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, site-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 that 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 pre-construction notifications to expedite agency coordination.

D. District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP

activity will result in only minimal individual and cumulative adverse environmental effects.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines

that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences 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. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure that the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific

modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

E. 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).

F. Nationwide Permit Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation),

establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term “discharge” means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water’s surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. The loss of stream bed includes the acres of stream bed that are permanently adversely affected by filling or excavation because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters or wetlands for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be

open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has surface water flowing continuously year-round during a typical year.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a

former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or

shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of “independent utility”). Single and complete non-linear projects may not be “piecemealed” to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds

and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream’s course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized jurisdictional stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished

aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a “water of the United States.” If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)).

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**General Certification--Nationwide Permit # 13
Bank Stabilization**

This General Certification is issued **December 18, 2020**, in conformity with the requirements of Section 401 of the Clean Water Act (CWA) of 1977, as amended (33 U.S.C. §1341), as well as Kentucky Statute KRS 224.16-050.

For this General Certification and all General Certifications of Nationwide Permits (NWP), the term 'surface water' is defined pursuant to 401 KAR Chapter 10, Section 1(72): 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.

As required by 40 CFR Part 121 – State Certification of Activities Requiring a Federal License or Permit, all conditions include a statement explaining why the condition is necessary to assure that any discharge authorized under the general permit will comply with water quality requirements and a citation to federal, state, or tribal law that authorizes the condition. The statements and citations are included with each condition. The statements are written entirely at the end of the certification under the section *Statements of Necessity*.

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.

The Commonwealth of Kentucky hereby certifies under Section 401 of the 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, 303, 306 and 307 of the CWA, will not be violated for the activity covered under NATIONWIDE PERMIT 13, namely Bank Stabilization, provided that the conditions in the certification are met. Activities that do not meet the conditions of this General Certification require an Individual Section 401 Water Quality Certification.

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1. Activities occurring within surface waters assessed by the Kentucky Division of Water as designated or Outstanding State Resource Waters, National Resource Waters, Cold Water Aquatic Habitat, Exceptional Waters, or identified as candidate Outstanding State Resource Waters or candidate Exceptional Waters are not authorized under this General Certification and require an Individual Certification. [Statement A and citations KRS 224.70-110, 401 KAR 10:030, Section 1(1), Section 1(2), & Section 1(3); and 401 KAR 10:031, Section 4(2) & Section 8]
2. Activities impacting surface waters assessed by the Kentucky Division of Water as impaired for warm water or cold water aquatic habitat where the parameter or source is related to habitat* are not authorized under this General Certification and require an Individual Certification. [Statement B and citations KRS 224.70-110 and 401 KAR 10:031, Section 2 & Section 4]

*These include waters impaired by the parameter 'habitat assessment', 'combined biota/habitat bioassessment' or any parameter from the parameter group 'habitat alterations, and/or waters where the parameter identified as a cause of impairment has a source from the source group 'habitat impacts'.

3. Activities impacting surface waters assessed by the Kentucky Division of Water as full support for warm water or cold water aquatic habitat are not authorized under this General Certification and require an Individual Certification. [Statements A and B and citations KRS 224.70-110 and 401 KAR 10:031, Section 2 & Section 4]
4. The activity will not occur within surface waters identified as perpetually-protected mitigation sites (e.g., deed restriction or conservation easement). [Statement C and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3); and 40 C.F.R. 230.97]
5. Activities with cumulative temporary and permanent impacts greater than 1/2 acre of wetland or 500 linear feet of surface waters are not authorized under this General Certification and require an Individual Certification. If opposite banks are stabilized, impacts to both banks are summed together to calculate the cumulative impact. [Statement A and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]
6. Surface water impacts covered under this General 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 (KAWQP). [Statements A and F and citations KRS 224.71-145(1), 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]
7. Stream relocation, realignment, straightening, and/or widening are not authorized under this General Certification and require an Individual Certification. [Statement D and citations KRS 224.70-110, 401 KAR 10:030, section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]

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8. The use of creek rock for bank stabilization; grouted rip-rap; unformed, poured grout; unformed, poured concrete; poured asphalt; or asphalt pieces is not authorized under this General Certification and requires an Individual Certification. Poured concrete or grout will be authorized under this General Certification when contained by tightly sealed forms or cells. Equipment shall not discharge waste washwater into surface waters at any time without adequate wastewater treatments. [Statement A and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]
9. New stormwater detention/ retention basins constructed in surface waters or modifications to stormwater detention/ retention basins resulting in the reduction in reach or that cause impairment of flow of surface waters are not authorized under this General Certification and require an Individual Certification. [Statement A and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]
10. Erosion and sedimentation pollution control plans and Best Management Practices (BMPs) 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. [Statements A and D and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]
11. 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, 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, 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. [Statements A and D and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]
12. Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering surface waters. [Statements A and D and citations [KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]
13. Removal of riparian vegetation shall be limited to that necessary for equipment access. [Statements A and D and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]

General Certification--Nationwide Permit # 13
Bank Stabilization
Page 4

14. To the maximum extent practicable, all in-stream work under this certification shall be performed under low-flow conditions. [Statements A and D and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]
15. Heavy equipment (e.g., bulldozers, backhoes, and draglines), 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. [Statements A and D and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]
16. 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. [Statements A and D and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]
17. If domestic water supply intakes are located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the operator when such work will be done prior to construction. [Statement E and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]
18. 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 Kentucky Division of Water shall be notified immediately by calling (800) 928-2380. [Statement A and D and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]
19. The Kentucky Division of Water requires submission of a formal application for any federal applicant that is not required to submit a Preconstruction Notification that would typically be required of any non-federal applicant. [Statements A and D and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]
20. The Kentucky Division of Water may require submission of a formal application for an Individual Certification for any project that has been determined to likely have a significant adverse effect upon water quality or degrade surface waters so that existing uses of the water body or downstream waters are precluded. [Statement A and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]

General Certification--Nationwide Permit # 13
Bank Stabilization
Page 5

21. If the final issued General Permit for Nationwide Permit #13 Bank Stabilization changes significantly, the Division of Water may opt to deny certification for this permit. [Statements A and D and citations KRS 224.70-110, 401 KAR 10:030, Section 1(3)(b) & Section 1(4)(b); and 401 KAR 10:031, Section 2 & Section 4]

Statements of Necessity

- A. This condition is necessary to protect waters categorized under the anti-degradation policy to protect the designated and existing uses and to maintain the associated water quality criteria necessary to protect these water resources.
- B. This condition is necessary to protect existing uses and the level of water quality necessary to protect those existing uses shall be assured in impaired water.
- C. This condition is necessary for long-term protection of compensatory mitigation sites.
- D. This condition is necessary to provide for the prevention, abatement, and control of all water pollution and to conserve water resources for legitimate uses, safeguard from pollution the uncontaminated waters, prevent the creation of any new pollution, and abate any existing pollution.
- E. This condition is necessary to protect domestic water supply use.
- F. This condition is necessary to evaluate, develop, and improve best-management practices in conservation plans, compliance plans, and forest stewardship management plans; establish statewide and regional agriculture water quality plans; and otherwise promote soil and water conservation activities that protect surface waters from the adverse impacts of agriculture operations within the Commonwealth.

Violation of Kentucky state water quality standards may result in civil penalties and remediation actions.

For assistance contact the Kentucky Division of Water, Water Quality Certification Section by email (401WQC@ky.gov) or by phone (502)-564-3410.

COORDINATING AGENCY

Ms. Samantha Vogeler
Kentucky Energy & Environment Cabinet
Division of Water
300 Sower Boulevard, 3rd Floor
Frankfort, Kentucky 40601
401wqc@ky.gov

AGENT

Mr. Herbert Lamaster
Tetra Tech
424 Lewis Hargett Circle, Suite 110
Lexington, Kentucky 40503
herb.lemaster@tetrattech.com

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Compliance Certification:

Permit Number: LRL-2023-00172-mlk

Name of Permittee: Lexington-Fayette Urban County Government

Date of Issuance: May 3, 2023

Upon completion of the activity authorized by this permit and any mitigation required by this permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers
CELRL-RDS
P.O. Box 59
Louisville, Kentucky 40201

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

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Andy Beshear
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

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

Rebecca W. Goodman
SECRETARY

Anthony R. Hatton
COMMISSIONER

STREAM CONSTRUCTION PERMIT

For Construction In Or Along A Stream

Issued to: **Lexington-Fayette Urban County Government**
Address: **125 Lisle Industrial Avenue, Suite 180**
Lexington, KY 40511

Permit effective date: **February 9, 2023**
Permit expires on: **February 9, 2024**

Permit No.: **32839**

Agency Interest: **134980**
Activity ID: **APE20230001**

In accordance with KRS 151.250 and KRS 151.260, the Energy and Environment Cabinet approves the application dated **February 8, 2023** for restoration and stabilization of approximately **200 linear feet of eroded stream embankment** including the installation of approximately **200 linear feet of turf reinforcement mat** and placement of a temporary cofferdam structure in the left descending floodplain of **Wilson Downing Road Tributary**, with coordinates **37.974429, -84.501983**, in **Lexington-Fayette County**.

There shall be no deviation from the plans and specifications submitted and hereby approved unless the proposed change shall first have been submitted to and approved in writing by the Cabinet. This approval is subject to the attached limitations. **Please read these limitations carefully!** If you are unable to adhere to these limitations for any reason, please contact this office prior to construction.

This permit is valid from the standpoint of stream obstruction only. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet and other state, federal and local agencies. Specifically if the project involves work in a stream, such as bank stabilization, dredging, relocation, or in designated wetlands, a 401 Water Quality Certification from the Division of Water will be required.

This permit is nontransferable and all construction must be completed by the expiration date noted above. Year by year extensions may be requested subject to the requirements of 401KAR 4:060 Section 3 (5) (a) and (b). A request for extension, including the Agency Interest and permit numbers listed above and statement that the scope of the project has not changed can be emailed to DOWFloodplain@ky.gov.

Any violation of the Water Resources Act of 1966 as amended is subject to penalties as set forth in KRS 151.990.

If you have any questions regarding this permit, please call Mr. Jim Oerther at 502-782-7030.

Sincerely,

David Coe, P.E., Supervisor
Floodplain Management Section
Water Resources Branch
Division of Water

c: Frankfort Regional Office
Doug Burton, Lexington-Fayette Urban County Government Floodplain Coordinator
Herbert Lemaster, P.E., Tetra Tech
File

FINAL CONSTRUCTION REPORT

NAME: Lexington-Fayette Urban County Government

PERMIT NO: 32839

AI NO: 134980 Activity ID: APE20230001

Has all work on this project been completed according to the plans and specifications on file with the Division of Water?

Yes:

No: **If no, explain. You may include attachments if necessary.**

eMail Instructions

- Copy and paste the Final construction Report text above and your responses into a blank eMail or
- Enter your name, permit number, AI #, activity # and your project completion date/explanation if not complete into a blank eMail.
- Email to DOWFloodplain@ky.gov with subject line of "FCR"

Mailing Instructions

- Fold the top edge of this page to the top edge of this box.
- Fold the bottom edge of the page up to meet the top fold and tape shut.
- Fill out return address portion
- Affix a stamp and mail.

Place
Stamp
Here

**Floodplain Management Section
Division of Water
300 Sower Boulevard
Frankfort, KY 40601**

Stream Construction Permit
Wilson Downing Trib - Fayette Co
Facility Requirements
Permit Number: 32839
Activity ID No.: APE20230001

ACTV0000000003 (AI: 134980 - LFUCG) restoration and stabilization of approximately 200 linear feet of eroded stream embankment including the installation of approximately 200 linear feet of turf reinforcement mat and placement of a temporary cofferdam structure in the left descending floodplain of Wilson Downing Road Tributary, with coordinates 37.974429, -84.501983, in Lexington-Fayette County:

Submittal/Action Requirements:

Condition No.	Condition
S-1	Lexington-Fayette Urban County Government must submit final construction report within 90 days after completion of construction. Lexington-Fayette Urban County Government must notify in writing that the project has been completed in accordance with the approved plans and specifications. A Final Construction Report Form is enclosed. [401 KAR 4:060 Section 6]

Narrative Requirements:

Condition No.	Condition
T-1	The issuance of this permit by the cabinet does not convey any property rights of any kind or any exclusive privilege. [KRS 151.250 & 401 KAR 4:060]
T-2	This permit is issued from the standpoint of stream obstruction only and does not constitute certification of any other aspect of the proposed construction. The applicant is liable for any damage resulting from the construction, operation, or maintenance of this project. This permit has been issued under the provisions of KRS Chapter 151.250 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet and other state, federal and local agencies. [KRS 151.250]
T-3	A copy of this permit must be available at the construction site. [KRS 151.250]
T-4	Any work performed by or for Lexington-Fayette Urban County Government that does not fully conform to the submitted application or drawings and the limitations set forth in this permit, is subject to partial or total removal and enforcement actions pursuant to KRS 151.280 as directed by the Kentucky Department for Environmental Protection. [KRS 151.280]
T-5	Any design changes or amendments to the approved plans must be submitted to the Division of Water and approved in writing prior to implementation. [KRS 151.250]
T-6	Since Lexington-Fayette Urban County Government participates in the National Flood Insurance Program, a local floodplain permit must be obtained prior to beginning of construction. Upon completion of construction Lexington-Fayette Urban County Government must contact the local permitting agency for final approval of the construction for compliance with the requirements of the local floodplain ordinance. [401 KAR 4:060 Section 9(c)]

Stream Construction Permit

Wilson Downing Trib - Fayette Co

Facility Requirements

Permit Number: 32839

Activity ID No.:APE20230001

Page 2 of 2

ACTV0000000003 (AI: 134980 - LFUCG) restoration and stabilization of approximately 200 linear feet of eroded stream embankment including the installation of approximately 200 linear feet of turf reinforcement mat and placement of a temporary cofferdam structure in the left descending floodplain of Wilson Downing Road Tributary, with coordinates 37.974429, -84.501983, in Lexington-Fayette County:

Narrative Requirements:

Condition No.	Condition
T-7	Erosion prevention measures, sediment control measures, and other site management practices shall be designed, installed, and maintained in an effective operating condition to prevent migration of sediment off site. [KRS 224.70-110]
T-8	To avoid secondary adverse impacts, all materials used shall be stable and inert, free from pollutants and floatable objects, and shall meet all appropriate engineering standards. (Inert here means materials that are not chemically reactive and that will not rot or decompose, such as soil, rock, broken concrete or similar materials.). [401 KAR 4:060 Section 7]
T-9	Stream bank restoration and stabilization shall be limited to that necessary to restore the stream bank as closely as possible to its original location and configuration, and shall be completed without compromising the conveyance capacity of the stream at any time. [401 KAR 4:060]
T-10	All debris and excess material shall be removed for disposal outside of the base floodplain. [401 KAR 4:060]
T-11	Upon completion of construction all disturbed areas shall be seeded and mulched or otherwise stabilized to prevent erosion. [401 KAR 4:060]
T-12	The entry of mobile equipment into the stream channel shall be limited as much as reasonably possible to minimize degradation of the waters of the Commonwealth. [401 KAR 4:060]
T-13	Construction other than as authorized by this permit shall require written approval from the Division of Water. [401 KAR 4:060]
T-14	The existing stream flow shall be maintained at all times during construction using standard flow diversion or pump around methods. Cofferdams or other structures placed in the stream shall be removed immediately if adverse flooding conditions result or if a flooding event is imminent. [401 KAR 4:060 Section 4]
T-15	The permittee must obtain a Water Quality Certification or a determination that none is required through the Division of Water, Water Quality Section before beginning construction. Contact the Water Quality Certification Supervisor at 401WQC@ky.gov or (502) 564-3410. [KRS 224.16-050 & Clean Water Act Section 401]

PART X

NOTICE OF AWARD

7

NOTICE OF AWARD

CONTRACTOR: _____

OWNER: Lexington-Fayette Urban County Government
Division of Water Quality
Lexington, Kentucky

PROJECT: Pebble Creek Bank Stabilization

LFUCG Bid No. 129-2023

You are hereby notified that the Owner has considered the Bid submitted by you for the above-described project in response to its Advertisement for Bids dated November 28th, 2023.

It appears that it is to the best interest of said Owner to accept your Bid in the amount of _____ dollars (\$ _____), and you are hereby notified that your Bid has been accepted for

PEBBLE CREEK BANK STABILIZATION

LFUCG Bid No. 129-2023

The Contractor is required by these Contract Documents to execute and deliver the formal Agreement (Contract) with the undersigned Owner and to furnish the required Contractor's Performance, Payment, Warranty, and Erosion and Sediment Control Bonds within fifteen (15) days from the date of the delivery of this Notice.

If you fail to execute said Agreement (Contract) and to furnish said Bonds within fifteen (15) days from the date of delivery of this Notice, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your Bid as abandoned and to award the Work covered by your Bid to another, or to re-advertise the Work or otherwise dispose thereof as the Owner may deem appropriate.

Dated this _____ day of _____, 20____.

Lexington-Fayette Urban County Government

By: _____

Title: _____

NOTICE OF ACCEPTANCE

Receipt of the above Notice of Award is hereby acknowledged this _____ day of _____, 20____.

By: _____

Title: _____

END OF SECTION

PART XI

NOTICE TO PROCEED

NOTICE TO PROCEED

CONTRACTOR: _____

OWNER: Lexington-Fayette Urban County Government
Lexington, Kentucky

PROJECT: Pebble Creek Bank Stabilization

LFUCG Bid No. 129-2023

Agreement (Contract) Amount: _____ dollars (\$ _____)

You are hereby notified to commence Work on the referenced project on or before _____, 20__ and to substantially complete Work within 120 CONSECUTIVE CALENDAR DAYS thereafter. Your Agreement (Contract) completion date is therefore _____, 20__.

The Agreement (Contract) provides for assessment of the sum of _____ four hundred dollars (\$ 400.00) as liquidated damages for each consecutive calendar day after the above established Agreement (Contract) completion date that the Work remains incomplete.

Lexington-Fayette Urban County Government

By: _____

Title: _____

Date: _____

END OF SECTION

DIVISION 01
GENERAL REQUIREMENTS

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SECTION 01110

SUMMARY OF WORK

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. These Specifications and the accompanying Drawings describe the Work to be done and materials to be furnished (see Drawings for vicinity map). Unless otherwise noted, Contractor shall provide and pay for labor, materials, equipment, tools, construction machinery, transportation, and other facilities and services necessary for proper execution and completion of Work required by Contract Documents.

Work of Contract can be summarized by reference to Contract, General Conditions, specification sections as listed in "Table of Contents" bound herewith, drawings as listed in "Schedule of Drawings" bound herewith, addenda and modifications to Contract Documents issued subsequent to initial printing of project specifications, and including but not necessarily limited to printed matter referenced by any of these. It is recognized that Work of Contract may be affected or influenced by governing regulations, natural phenomenon including weather conditions, and other forces outside Contract Documents.

- B. Major Work items in this Contract include:

1. Grade stream bank to match FEMA-approved cross-sections.
2. Install turf reinforcement mat on stream bank to prevent erosion.
3. Install and maintain erosion and sediment control BMPs as shown on the Plans and in accordance with LFUCG Standard Drawings
4. Restore disturbed, unpaved surfaces per the Plans.

- C. Stipulations

1. In the event of conflict between these specifications and Federal, State, and Local law/codes, the latter will take precedence.
2. In all cases where a device or part of the equipment is herein referred to in the singular, such reference shall apply to as many such items as are required to complete the installation.

Summary of Work
01110-1

3. Any item not shown on the drawing shall be constructed using Lexington Fayette-Urban County Government Standard Drawings, current edition.

1.02 CONTINUOUS OPERATIONS

- A. The Contractor shall ensure the continuous flow of the Wilson Downing Tributary. All construction in the creek shall take place during low flow conditions.
- B. Existing utilities in the area shall be maintained in continuous operations such that they meet local and state requirements.
- C. Contractor is responsible for all payment and fines resulting from any action or inaction on their part or their subcontractor's during performance of the Work.

1.03 TIME OF WORK

- A. The normal time of work for this Contract is limited to 40 hours per week and shall generally be between the hours of **8:00 a.m. and 6:00 p.m., Monday through Friday**. When necessary to block one (1) traveled-lane of a state highway, working hours shall be between 9:00 a.m. and 3:30 p.m., Monday through Friday. The Contractor may work beyond these hours or on weekends with written approval from the Owner provided that all costs incurred by the Owner for any additional engineering shall be borne by the Contractor. The Owner shall deduct the cost of additional engineering from monies due the Contractor.
- B. If it shall become imperative to perform work outside of the normal working hours the Owner and Engineer shall be informed a reasonable time in advance of the beginning of such work. Temporary lighting and all other necessary facilities for performing and inspecting the work shall be provided and maintained by the Contractor.
- C. Unless otherwise specifically permitted, all work that would be subject to damage shall be stopped during inclement, stormy or freezing weather. Only such work as will not suffer injury to workmanship or materials will be permitted. Contractor shall carefully protect his work against damage or injury from the weather, and when work is permitted during freezing weather, he shall provide and maintain approved facilities for heating the materials and for protecting the finished work.

Summary of Work
01110-2

1.04 PERMITS

- A. Contractor shall obtain any permits related or required by the Work in this Contract including but not limited to:

LFUCG *Land Disturbance Permit*
LFUCG Lane Closure Permit
LFUCG Right-of-Way Encroachment
LFUCG Curb Cut Permit

1.05 CODES

- A. Comply with applicable codes and regulations of authorities having jurisdiction. Submit copies of inspection reports, notices, citations, and similar communication to the Owner.

1.06 EXISTING CONDITIONS AND DIMENSIONS

- A. All utilities shown on the Drawings, in plan and profile, are for informational purposes only. The Contractor shall verify all utility locations and elevations.
- B. The Contractor is responsible for verifying all existing conditions, elevations, dimensions, etc.

END OF SECTION

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SECTION 01120

WORK SEQUENCE

PART 1 - GENERAL

1.01 WORK INCLUDED

The Contractor shall conform to all miscellaneous requirements as contained in the Contract.

1.02 RELATED REQUIREMENTS

- A. General Conditions
- B. Section 01110 - Summary of Work
- C. Section 01310 - Project Management and Coordination

PART 2 - PRODUCTS

2.01 MATERIALS

The Contractor shall comply with the Specifications for type of Work to be done.

PART 3 - EXECUTION

3.01 SEQUENCE OF CONSTRUCTION OPERATIONS

The Contractor shall submit to the Engineer for review and acceptance a complete schedule (progress chart) of his proposed sequence of construction operations prior to commencement of Work. However, the Engineer shall not accept a construction schedule that fails to utilize the entire time allocated for the construction of the project. The Contractor shall schedule the various construction activities to complete the project throughout the entire allotted time period. This schedule requirement in no way prevents the Contractor from completing the project in a shorter time frame than scheduled. The construction schedule along with a cost breakdown schedule shall be submitted and approved by the Owner prior to the submittal of the first partial payment request in accordance with the general conditions. A revised construction schedule shall be submitted to the Owner with each pay request. This revised schedule must be approved by the Owner prior to payment.

3.02 SPECIAL WORK SEQUENCE CONDITIONS

- A. Construction shall occur in the following order unless approved otherwise by the

Work Sequence
01120-1

Engineer.

- B. All erosion and sediment control BMPs shall be installed before earth moving operations commence.

END OF SECTION

Work Sequence
01120-2

SECTION 01290

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.01 DESCRIPTION

- A. This Section includes administrative and procedural requirements for determining payment for Work completed and ready for payment under the Unit Price Contract where the Unit Price Bid Form is utilized in the Applications for Payment.

1.02 RELATED SECTIONS

- A. Bid Schedule
- B. Schedule of Values

1.03 GENERAL REQUIREMENTS

- A. Prices shall include all costs required for the completed, in-place construction of the specified unit of Work. This may include but not be limited to, materials and delivery; cost of installation; incidentals; labor including social security, insurance, and other required fringe benefits; workman's compensation insurance; bond premiums; rental of equipment and machinery; taxes; testing; surveys; incidental expenses; and supervision.
- B. Installation, acceptance, and payment shall be in accordance with the References.
- C. The Owner reserves the right to reject the Contractor's measurement of completed Work that involves use of established unit prices, and to have this Work measured by an independent surveyor acceptable to the Contractor at the Owner's expense.
- D. Contract Sum adjustments will be by Change Order on basis of net accumulative change for each unit price category.
 - 1. Except as otherwise specified, unit prices shall apply to both deductive and additive variations of quantities.
 - 2. Lump sum and unit prices in the Agreement shall remain in effect until date of final completion of the entire Work.

E. Partial payment for material and equipment properly stored and protected will be made in accordance with requirements of the Contract.

F. MEASUREMENT AND PAYMENT

1. Payment shall constitute full compensation and will be made as indicated in the Contract.

2. The quantity approved for payment shall be either:

a. Percentage of the Lump Sum Price - A percentage of the Lump Sum Price equivalent to the percentage of the project completion as determined by the Engineer as of the date of the pay request submitted. The percent completion of the project shall be based on the percent of the total project actually constructed and not on the percent of the Contract price completed.

b. Measured Quantities - The actual quantities in-place and accepted as measured by the Engineer on the date of the pay request submitted in the units specified in the Bid form or approved Schedule of Values. C. Items measured by linear foot such as pipes, culverts, curb, guardrails, and underdrains that are shown on the Drawings and on the Bid Form are measured parallel with the base or foundations upon which they are placed. Contractor shall be paid based on plan view measurements installed for these types of items regardless of vertical deflections or other changes in depth that may require additional materials.

c. The Owner will make payments for acceptable Work in place and materials properly stored on-site. The value of payment shall be as established on the approved construction schedule and Application for Payment, EXCEPT the Owner will retain ten percent (10%) of the Work in place and a percentage as hereinafter listed for items properly stored or untested.

d. No payment will be made for stored materials unless an invoice from the supplier is attached to the pay request. Furthermore, no payment for store materials will be made if the value of the stored materials does not exceed \$1,000.00.

G. CLAIMS FOR EXTRA WORK

1. If the Contractor claims that any instructions by Drawings or otherwise involve extra cost, the Contractor shall give the Engineer written notice of said claim within seven (7) days after the receipt of such instructions, and in any event before proceeding to execute the work, stating clearly and in detail the basis of its claim or claims. No such claim shall be valid unless so made.
2. Claims additional compensation for extra work, due to alleged errors in spot elevations, contour lines, or bench marks, shall not be recognized unless accompanied by certified survey data, made prior to the time the original ground was disturbed, clearly showing that errors exist which resulted, or would result, in handling more material, or performing more work than would reasonably be estimated from the Drawings and topographical maps issued.
3. Any discrepancies which may be discovered between actual conditions and those represented by the topographical maps and Drawings shall at once be reported to the Engineer, and work shall not proceed, except at the Contractor's risk, until written instructions have been received by the Contractor from the Engineer.
4. If, on the basis of the available evidence, the Engineer determines that an adjustment of the Contract Price or time is justifiable, the procedure shall then be as provided herein for "Changes in the Work".
5. By execution of this Contract, the Contractor warrants that they have visited the site of the proposed work and fully acquainted themselves with the conditions there existing relating to construction and labor, and that they fully understand the facilities, difficulties, and restrictions attending the execution of the work under this Contract. The Contractor further warrants that they have thoroughly examined and are familiar with the Drawings, Specifications and all other documents comprising the Contract. The Contractor further warrants that by execution of this Contract their failure when they were bidding on this Contract to receive or examine any form, instrument or document, or to visit the site and acquaint themselves with conditions there existing, in no way relieves the Contractor from any obligation under the Contract, and the Contractor agrees that the Owner shall be justified in rejecting any claim based on facts regarding which they should have been on notice as a result thereof.

H. DETERMINATION OF THE VALUE OF EXTRA (ADDITIONAL) OR OMITTED WORK

1. The value of extra (additional) or omitted work shall be determined in one or more of the following ways:
 - a. On the basis of the actual cost of all the items of labor (including on-the-job supervision), materials, and use of equipment, plus a maximum 15 percent for added work or a minimum 15 percent for deleted work which shall cover the Contractor's general supervision, overhead and profit.
 - i. Labor may include on-site supervision, on-site project management, in addition to field personal associated with the work.
 - ii. In case of subcontracts, the 15 percent (maximum for added work and minimum for deleted work) is interpreted to mean the subcontractor's supervision, overhead and profit, and an additional 5 percent (maximum for added work and minimum for deleted work) may then be added to such costs to cover the General Contractor's supervision, overhead and profit.
 - iii. The cost of labor shall include required insurance, taxes, and fringe benefits.
 - iv. Equipment costs shall be based on current rental rates in Lexington, Kentucky.

I. PROTECTION

1. Where pavement, pipes, valves, appurtenances, trees, shrubbery, fences, other property or structures are in proximity to the Work, adequate protection shall be provided. Such protection is considered incidental to construction and shall not be assigned to any pay item.

J. RESTORATION

1. Where pavement, pipes, valves, structures, appurtenances, trees, shrubbery, fences, other property or structures not designated as pay items, have been damaged, removed or disturbed by the Contractor, whether deliberately or through failure to carry out the requirements of the Contract Documents, state laws, municipal ordinances or the

specific direction of the Engineer, or through failure to employ usual and reasonable safeguards, such property and surface structures shall be replaced or repaired at the expense of the Contractor to a condition equal to that before Work began within a time frame approved by the Engineer. Such restoration is considered incidental to construction and shall not be assigned to any pay item.

K. EXPLORATORY EXCAVATIONS

1. The Contractor shall verify the exact locations and depths of all utilities shown and shall conduct exploratory excavations of all utilities that may interfere with the Work. All such exploratory excavations shall be performed as soon as practicable after award of the Contract and, in any event, a sufficient time in advance of construction to avoid possible delays to the Contractor's work. When such exploratory excavations show the utility location as shown to be in error, the Contractor shall so notify the Engineer. The cost for conducting these excavations shall be considered incidental to construction.

L. TESTING, SURVEY, AND RECORD DRAWINGS

1. All survey layout and record drawings shall be considered incidental to the cost of construction and shall include all calculations and field work required, in order to establish all horizontal and vertical controls, set all stakes needed, such as grade stakes, offset stakes, reference point stakes, slopes stakes, and other reference marks or points necessary to provide lines and grades for construction and as-building of all roadway, utility construction, and miscellaneous items.
2. All testing shall be considered incidental to the cost of construction and shall include all field testing and laboratory work including reports as required by the Drawings and Specifications and by Agencies having jurisdiction over the project.

1.04 PAY ITEMS

A. MOBILIZATION

1. Measurement shall be on a lump sum basis. In no case shall the lump sum unit price for mobilization exceed two percent (2.0%) of the total Bid amount.
2. Work under this item includes all costs incurred for moving equipment and materials onto the Project area, and any pertinent costs related thereto.

Measurement and Payment
01290-5

3. Payment will be on the basis of the unit price Bid for the item.

B. GENERAL CONDITIONS

1. Measurement shall be on the lump sum basis. In no case shall the lump sum unit price exceed two percent (2.0%) of the total Bid amount.
2. This item includes insurance, Performance, Payment and Warranty bonds, establishing and providing temporary utilities, setting up field offices, and any other items required under bidding requirements, Contract forms, and conditions of the Contract.
3. Payment will be on the basis of the unit price Bid for the item.

C. DEMOBILIZATION

1. Measurement shall be on a lump sum basis. In no case shall the lump sum unit price for demobilization be less than one percent (1.0%) of the total Bid amount.
2. Work under this item includes all costs incurred for removing equipment and materials from the Project area, and any pertinent costs related thereto.
3. Payment will be on the basis of the unit price Bid for the item.

D. PROJECT SIGN

1. Measurement shall be on a per unit basis of each installed.
2. Work under this item includes furnishing and installing a 3-foot by 6-foot Public Improvement Sign in accordance with LFUCG Division of Engineering Standard Drawing No. 323 at the location shown on the Drawings.
3. Payment will be on the basis of the unit price Bid for the item.

E. CONSTRUCTION STAKING

1. Measurement shall be on a lump sum basis.
2. Work under this item includes surveying for the purpose of calculating lengths, areas, and volumes for payment, and construction staking to indicate construction as shown on the Drawings and preparing record documents.

Measurement and Payment
01290-6

3. Payment will be on the basis of the unit price Bid for the item.

F. EROSION AND SEDIMENT CONTROL

1. Measurement shall be on a lump sum basis.
2. Work under this item includes all labor, equipment, materials, and any incidentals required to complete any erosion and sediment control as shown on the Drawings, described herein, or as required to fulfill the requirements of the Contractor's SWPPP and Stormwater BMP, as well as any requirements of applicable permits. Additionally, this item includes all costs necessary for the development of the Contractor's SWPPP and Stormwater BMP.
3. Payment will be on the basis of the unit price Bid for the item.

G. PROTECTIVE MATTING

1. Measurement shall be on the basis of square yards of protective matting for construction entrance (residential concrete driveway only) installed in place.
2. Work under this item includes all labor, materials, and equipment to transport the protective matting to the job site, place protective matting, join sections where necessary, perform routine maintenance, and any other incidentals to protect the residential concrete driveway used as the designated construction entrance as shown on Drawings.
3. Payment will be on the basis of the unit price Bid for the item.

H. EMBANKMENT

1. Measurement shall be on the basis of cubic yards of embankment installed in place.
2. Work under this item includes all excavation, fill material, disposal of excess cut material, compaction, materials, equipment, cleanup, labor and any other necessary site development and incidentals for the embankment as shown on Drawings. Additionally, the installation and maintenance of protective rubber matting on the existing concrete residential driveway (construction entrance) as shown on the Drawings is considered incidental to this item.
3. Payment will be on the basis of the unit price Bid for the item.

Measurement and Payment
01290-7

I. TURF REINFORCEMENT MAT (INSTATURF OR APPROVED EQUAL)

1. Measurement shall be on the basis of square yards of turf reinforcement mat (TRM), in accordance with the Drawings and Specifications. Excess or waste material will not be included in the measurement.
2. This item includes all labor, materials, and equipment to transport the TRM to the job site, place TRM, extend up the channel wall, overlap the TRM, join sections of the mat where necessary, anchor the TRM, and any other incidentals to completely line the stream bank as shown on the Drawings.
3. Payment will be on the basis of the unit price Bid per square yard of TRM (InstaTurf or approved equal) installed.

J. CLASS II CHANNEL LINING

1. Measurement shall be on a per unit basis of tons according to delivery tickets of haul trucks. The Engineer or his representative must be presented a copy of the ticket at the time of delivery.
2. This item includes all labor, materials, and equipment to haul the Class II Channel Lining stone from quarry and install as specified and as shown on the Drawings.
3. Payment will be on the basis of the unit price Bid per ton. Excess stone delivered to the site that is not incorporated in the Work will not be paid.

K. SEEDING AND PROTECTION

1. Measurement shall be in the basis of square yards of non-paved site restoration using seed and erosion control blanket.
2. Work under this item includes all materials, equipment, labor, hauling, and incidentals required for the Contractor to restore the site using erosion control blanket. This includes all site preparation as listed in the General Notes and Specifications. Seed and seeding rate shall be in accordance with the Plans and Specifications. This item shall also include seeding the turf reinforcement mat installed on the stream bank.
3. Payment will be on the basis of square yard of seed and erosion control blanket in place.

Measurement and Payment
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PART 2 - PRODUCTS

(NOT USED)

END OF SECTION

Measurement and Payment
01290-9

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SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.01 REQUIREMENTS

A. Progress Schedule

1. Within thirty (30) days after execution of the Agreement, but at least twenty (20) days prior to submitting the first application for a progress payment, the Contractor shall prepare and submit three (3) copies of his proposed progress schedule to the Engineer for review and approval. If proposed progress schedule is submitted electronically, only one (1) copy is required.
2. If so required, the schedule shall be revised until it is approved by the Engineer.
3. The schedule shall be updated monthly, depicting progress to the last day of the month and three (3) copies (or one (1) digital copy) submitted to the Engineer not later than the fifth day of the month with the application for progress payment.
4. The schedule shall be prepared in the form of a horizontal bar chart showing in detail the proposed sequence of the work and identifying construction activities for each structure and for each portion of work.
5. The schedule shall be time scaled, identifying the first day of each week. The schedule shall be provided with estimated dates for Early Start, Early Finish, Late Start and Late Finish as applicable. The work shall be scheduled to complete the Project within the Contract time. The Late Finish date shall equal the Contract Completion Date.
6. The schedule shall show duration (number of days) and float for each activity. Float shall be defined as the measure of leeway in starting or completing a scheduled activity without adversely affecting the project completion date established by the Contract Documents.
7. The updated schedule shall show all changes since the previous submittal.
8. All revisions to the schedule must be reviewed and commented on by the Engineer.

Submittals
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B. Equipment and Material Orders Schedule

1. Contractor shall prepare and submit three (3) hard copies or one (1) electronic copy of his schedule of principal items of equipment and materials to be purchased to the Engineer for review and approval.
2. If so required, the schedule shall be revised until it is approved by the Engineer.
3. The schedule shall be updated monthly and three (3) hard copies or one (1) electronic copy submitted to the Engineer not later than the fifth day of every month with the application for progress payment.
4. The updated schedule shall be based on the Progress Schedule developed under the requirements of Paragraph 1.01(A) of this Section.
5. The schedule shall be in tabular form with appropriate spaces to insert the following information for principal items of equipment and materials:
 - a. Dates on which Shop Drawings are requested and received from the manufacturer.
 - b. Dates on which certification is received from the manufacturer and transmitted to the Engineer.
 - c. Dates on which Shop Drawings are submitted to the Engineer and returned by the Engineer for revision.
 - d. Dates on which Shop Drawings are revised by manufacturer and resubmitted to the Engineer.
 - e. Date on which Shop Drawings are returned by Engineer annotated either "Furnish as Submitted" or "Furnish as Corrected".
 - f. Date on which accepted Shop Drawings are transmitted to manufacturer.
 - g. Date of manufacturer's scheduled delivery.
 - h. Date on which delivery is actually made.

C. Working Drawings

1. Within thirty (30) days after the Notice to Proceed, Contractor shall prepare and submit three (3) hard copies or one (1) electronic copy of his

Submittals

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preliminary schedule of Working Drawing submittals to the Engineer for review and approval. If so required, the schedule shall be revised until it is approved by the Engineer.

2. Working Drawings include, but are not limited to, Shop Drawings, layout drawings in plan and elevation, installation drawings, etc. Contractor shall be responsible for securing all of the information, details, dimensions, Drawings, etc., necessary to prepare the Working Drawings required and necessary under this Contract and to fulfill all other requirements of his Contract. Contractor shall secure such information, details, Drawings, etc., from all possible sources including the Drawings, Working Drawings prepared by subcontractors, Engineers, suppliers, etc.
3. In the event that the Engineer is required to provide additional engineering services as a result of a substitution of materials or equipment by the Contractor, the additional services will be provided in accordance with Section 01110 - Summary of Work, and will be covered in supplementary or revised Drawings which will be issued to the Contractor. All changes indicated that are necessary to accommodate the equipment and appurtenances shall be incorporated into the Working Drawings submitted to the Engineer.
4. Shop Drawings and Manufactured Item Information
 - a. Contractor shall submit for review by the Engineer Shop Drawings for all fabricated work and for all manufactured items required to be furnished by the Contract Documents.
 - b. Structural and all other layout Drawings prepared specifically for the Project shall have a plan scale of not less than 1/4-inch = 1 foot.
 - c. The submitted documents shall provide information indicating that the materials are in conformance with the Technical Specifications and Contract Documents.
 - d. Where manufacturer's publications in the form of catalogs, brochures, illustrations or other data sheets are submitted in lieu of prepared Shop Drawings, such submittals shall specifically indicate the item for which approval is requested. Identification of items shall be made in ink, and submittals showing only general information are not acceptable.
5. Contractor Responsibilities

Submittals
01300-3

- a. All submittals from subcontractors, manufacturers or suppliers shall be sent directly to the Contractor for checking. Contractor shall thoroughly check all Drawings for accuracy and conformance to the intent of the Contract Documents. Drawings found to be inaccurate or otherwise in error shall be returned to the subcontractors, manufacturers, or suppliers by the Contractor for correction before submitting them to the Engineer.
- b. All submittals shall be bound or combined into a single PDF, dated, properly labeled and consecutively numbered. Information on the label shall indicate Specification Section, Drawing number, subcontractors', manufacturer's or supplier's name and the name or type of item the submittal covers. Each part of a submittal shall be marked and tabulated.
- c. Working Drawings shall be submitted as a single complete package including all associated drawings relating to a complete assembly of the various parts necessary for a complete unit or system.
- d. Shop Drawings shall be submitted as a single complete package for any operating system and shall include all items of equipment and any mechanical units involved or necessary for the functioning of such system.
- e. ALL SUBMITTALS SHALL BE THOROUGHLY CHECKED BY THE CONTRACTOR FOR ACCURACY AND CONFORMANCE TO THE INTENT OF THE CONTRACT DOCUMENTS BEFORE BEING SUBMITTED TO THE ENGINEER AND SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL CERTIFYING THAT THEY HAVE BEEN SO CHECKED. SUBMITTALS WITHOUT THE CONTRACTOR'S STAMP OF APPROVAL WILL NOT BE REVIEWED BY THE ENGINEER AND WILL BE RETURNED TO THE CONTRACTOR. Any comments added to the drawings by the Contractor shall be done in green ink so as to denote any Contractor notes.
- f. If the submittals contain any departures from the Contract Documents, specific mention thereof shall be made in the Contractor's letter of transmittal. Otherwise, the review of such submittals shall not constitute approval of the departure.
- g. No materials shall be ordered, fabricated or shipped or any work performed until the Engineer returns to the Contractor the

Submittals
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submittals, herein required, annotated either "Furnish as Submitted" or "Furnish as Corrected".

- h. Where errors, deviations, and/or omissions are discovered at a later date in any of the submittals, the Engineer's prior review of the submittals does not relieve the Contractor of the responsibility for correcting all errors, deviations, and/or omissions.

6. Procedure for Review

- a. Submittals shall be transmitted in sufficient time to allow the Engineer at least thirty (30) working days for review and processing.
- b. Engineer prefers initial submittals be in electronic media for review. Once the submittal is reviewed, Contractor to provide two (2) paper hardcopies.
- c. If Contractor does not have capability to submit electronic submittals, then Contractor shall submit a request to Engineer for waiver. In the event a waiver is granted, Contractor shall transmit two (2) prints of each submittal to the Engineer for review for all Drawings greater than 11-inches by 17-inches in size, as well as six (6) copies of all other material.
- d. Submittal shall be accompanied by a letter of transmittal, in duplicate, containing date, project title, Contractor's name, number and titles of submittals, notification of departures and any other pertinent data to facilitate review.
- e. Submittals will be annotated by the Engineer in one of the following ways:

"Furnish as Submitted" - no exceptions are taken.

"Furnish as Corrected" - minor corrections are noted and shall be made.

"Revise and Resubmit" - major corrections are noted and a resubmittal is required.

"Rejected" - Based on the information submitted, the submission is not in conformance with the Contract Documents. The deviations from the Contract Documents are too numerous to list and a completely revised submission of the proposed equipment or a submission of other equipment is required.

Submittals
01300-5

- f. If a submittal is satisfactory to the Engineer, the Engineer will annotate the submittal "Furnish as Submitted" or "Furnish as Corrected", retain four (4) copies and return remaining copies to the Contractor.
- g. If a resubmittal is required, the Engineer will annotate the submittal "Revise and Resubmit" and transmit five (5) copies to the Contractor for appropriate action.
- h. Contractor shall revise and resubmit submittals as required by the Engineer until submittals are acceptable to the Engineer. It is understood by the Contractor that Owner may charge the Contractor the Engineer's charges for review in the event a submittal is not approved (either "Furnish as Submitted" or "Furnish as Corrected") by the third submittal for a system or piece of equipment. These charges shall be for all costs associated with engineering review, meetings with the Contractor or manufacturer, etc., commencing with the fourth submittal of a system or type of equipment submitted for a particular Specification Section.
- i. Acceptance of a Working Drawing by the Engineer will constitute acceptance of the subject matter for which the Drawing was submitted and not for any other structure, material, equipment or appurtenances indicated or shown.

7. Engineer's Review

- a. Engineer's review of the Contractor's submittals shall in no way relieve the Contractor of any of his responsibilities under the Contract. An acceptance of a submittal shall be interpreted to mean that the Engineer has no specific objections to the submitted material, subject to conformance with the Contract Drawings and Specifications. The Engineer will denote any notes in red ink so as to record his comments on the submittal. Engineer may provide a tabular list of comments referencing the submittal, in lieu of, or in addition to marking the submittal.
- b. Engineer's review will be confined to general arrangement and compliance with the Contract Drawings and Specifications only, and will not be for the purpose of checking dimensions, weights, clearances, fittings, tolerances, interferences, coordination of trades, etc.

8. Record Working Drawings

Submittals
01300-6

- a. Prior to final payment, the Contractor shall furnish the Engineer one complete set of all accepted Working Drawings, including Shop Drawings, for equipment, piping, electrical work, heating system, ventilating system, air conditioning system, instrumentation system, plumbing system, structural, interconnection wiring diagrams, etc.
- b. Manufacturer's publications, submitted in lieu of prepared Shop Drawings, will not be required in reproducible form. However, three (3) sets of such material shall be furnished by the Contractor to the Engineer.
- c. Working Drawings furnished shall be corrected to include any departures from previously accepted Drawings.

D. Certified Shop Test Reports

- 1. Each piece of equipment for which pressure, head, capacity, rating, efficiency, performance, function or special requirements are specified or implied shall be tested in the shop of the manufacturer in a manner which shall conclusively prove that its characteristics comply fully with the requirements of the Contract Documents and applicable test codes and standards. Contractor shall keep the Engineer advised of the scheduling of shop tests (at least three weeks minimum advance notice) so that the Engineer may arrange for the witnessing or inspection at the proper time and place.
- 2. The contractor shall secure from the manufacturers five (5) paper copies and two (2) electronic copies of the actual test data, the interpreted results and a complete description of the testing facilities and testing setup, all accompanied by a certificate of authenticity sworn to by a responsible official of the manufacturing company and notarized. These reports shall be forwarded to the Engineer for review.
- 3. In the event any equipment fails to meet the test requirements, the manufacturer shall make all necessary changes, adjustments or replacements and the tests shall be repeated, at no additional cost to the Owner or Engineer, until the equipment test requirements are acceptable to the Engineer.
- 4. No equipment shall be shipped to the Project until the Engineer notifies the Contractor, in writing, that the shop test reports are acceptable.

E. Construction Photographs

Submittals
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1. The Contractor shall take photographs at the locations and at such stages of the construction as directed by the Engineer. Digital format shall be used. Provide all pictures for a given period on a CD, USB, or DVD.
2. Provide the equivalent of 36 different exposures per month for the duration of the Contract time. When directed by the Engineer, frequency of photographs may be increased to weekly sessions provided that the equivalent number of exposures is not exceeded. Engineer may waive requirements for photographs during inactive construction periods in favor of increased photographs during active construction sequences.

F. Stormwater Pollution Prevention Plan (SWPPP)

1. Within thirty (30) days after execution of the Agreement, but at least twenty (20) days prior to submitting the first application for a progress payment, the Contractor shall prepare and submit a sequenced SWPPP. The sequenced SWPPP must align with the Contractor's construction activities.
2. The SWPPP shall be updated monthly, depicting the current SWPPP, submitted to the Engineer not later than the fifth day of the month with the application for progress payment.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

Submittals
01300-8

SECTION 01310

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. The Contractor shall coordinate the Work of all trades and subcontractors engaged on the Work, and the Contractor shall have final responsibility in regard to the schedule, workmanship, and completeness of each and all parts of the Work.
- B. All trades and subcontractors shall be made to cooperate with each other and with others, as they may be involved in the installation of Work which adjoins, incorporates, precedes, or follows the Work of another. It shall be the Contractor's responsibility to point out areas of cooperation prior to execution of subcontract agreements and the assignment of the parts of the Work. Each trade and subcontractor shall be made responsible to the Owner, for furnishing embedded items, giving directions for doing all cutting and fitting, making all provisions for accommodating the Work, and for protecting, patching, repairing, and cleaning as required to satisfactorily perform the Work.
- C. The Contractor shall be responsible for all cutting, digging, and other action of his subcontractors and workmen. Where such action impairs the safety or function of any structure or component of the project, the Contractor shall make such repairs, alterations, and additions, in the opinion of the Engineer, to bring said structure or component back to its original design condition at no additional cost to the Owner.
- D. In cases where storm sewers, sanitary sewers, gas lines, water lines, telephone lines, electric lines, or other underground structures are encountered, they shall not be displaced or disturbed unless necessary, in which case they shall be replaced in as good condition as found as quickly as possible. All such lines or underground structures damaged or disturbed by the construction shall be replaced at the Contractor's expense, unless in the opinion of the Engineer, such damage was caused through no fault of the Contractor.
- E. The Contractor shall notify Kentucky 811 and, as necessary, the utility companies a minimum of 72 hours prior to any excavation adjacent to their facilities and shall locate all such facilities with their assistance.
- F. Coordination and obtaining utility markings are the responsibility of the Contractor and he shall follow all requirements associated to Kentucky

811/utility markings. Any fines given out because of failure to comply with requirements will be paid for by the Contractor at his own expense.

- G. Each subcontractor is expected to be familiar with the general requirements and all sections of the detailed Specifications for all other trades and to study all Drawings applicable to this Work. Each Contractor shall consult with the Engineer if conflicts exist on the Drawings.
- H. No extra compensation will be allowed to cover the cost of removing piping, conduits, etc., or equipment found encroaching on space required by others.
- I. Contractor shall coordinate with Columbia Gas during any excavation and backfilling within a foot of a gas main.
- J. Contractor shall coordinate with Kentucky American Water Company during excavation and backfilling within a foot of a water main. Work shall be in accordance with all regulatory and Kentucky American Water Company requirements.
- K. Contractor shall coordinate with all property owners for temporary fencing at no additional cost to the owner. Temporary fencing shall be a minimum of three (3) feet high and adequately supported to prevent overturning.

END OF SECTION

SECTION 01311

PROJECT MEETINGS

PART 1 - GENERAL

1.01 PRECONSTRUCTION CONFERENCES

- A. The Engineer shall schedule and administer preconstruction meetings, periodic progress meetings, and specially called meetings throughout the progress of Work.
 - 1. The Engineer shall:
 - a. Prepare agenda for meetings.
 - b. Make physical arrangements for meetings.
 - c. Preside at meetings.
 - d. Record in writing the minutes; include significant proceedings and decisions.
 - e. Record the meeting with an audio recording device.
 - f. Reproduce and distribute copies of minutes within five working days after each meeting:
 - i. To participants in the meeting.
 - ii. To parties affected by decisions made at the meeting.
- B. Representatives of Contractor, subcontractors, and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.
- C. The Contractor shall attend meetings to assure that Work is executed consistent with Contract Documents and construction schedules.
- D. The preconstruction conference will be for the purpose of reviewing procedures to be followed concerning the orderly flow of required paperwork; coordination of the various parties involved with the project, review of Shop Drawing submittals, Contract time, liquidated damages, payment estimates, Change Orders, and other items of interest to the parties involved.

1.02 MONTHLY PROGRESS MEETINGS

- A. Project meetings will occur at a minimum of once monthly. Additional meetings may be required if necessary to facilitate scheduling or construction conflicts. The Contractor's project manager shall attend these meetings. Representatives of the Owner, Engineer, and appropriate state and federal agencies will be in attendance as they choose.
 - 1. The Contractor is to attend progress meetings and is to study previous meeting minutes and current agenda items, in order to be prepared to discuss pertinent topics such as deliveries of materials and equipment, progress of Work, etc.
 - 2. The Contractor is to provide a current submittal log and construction schedule at each progress meeting.

END OF SECTION

SECTION 01320

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.01 WORK INCLUDED

Provide monthly photographs of the construction throughout the progress of the Work of the project site and adjacent property (as necessary). Provide video of the length of construction area prior to commencement of work, monthly progress, and at completion of work.

1.02 RELATED WORK

- A. General Conditions
- B. Section 01770 - Contract Closeout

1.03 PHOTOGRAPHY

- A. Provide monthly photographs (two sets) of the construction throughout progress of the Work. Provide twenty-four (24) views of Work each month or more as may be necessary to clearly show any new Work.
- B. Take the photographs at the beginning, during, and completion of each element of construction listed below, as applicable:
 - 1. Unclassified excavation.
 - 2. Trenching.
 - 3. Pipe removal
 - 4. Pipe installation
 - 5. Inlet installation
 - 6. Manhole Installation
 - 7. Basin grading
 - 8. Connection of pipes
 - 9. All other aspects of construction.

1.04 PRINTS

- A. Color: two (2) prints of each view, bound into separate sets.
Construction Progress Documentation

01320-1

- B. Paper: single weight, neutral black image tone, white base.
- C. Finish: matte.
- D. Size: 3" x 5". Mount with binder tabs.
- E. Label each print on back. List project name and Contract number, orientation of view, date and time of view, work being performed, location of work, and Contractor's name.

1.05 DIGITAL PHOTOGRAPHS

All photographs shall be digital. Digital photographs of all views shall be provided on compact disc (CD), universal serial bus (USB), or digital video disc (DVD) to the Owner. The CD or DVD shall be included monthly along with the two sets of prints. Digital pictures shall be time and date stamped one labeled the same as prints.

- A. No Copyrighted Photographs will be accepted.
- B. Images shall not be edited in any way.

1.06 DIGITAL VIDEO

- A. All video shall be digital. Digital video shall be provided on a compact disc (CD), universal serial bus (USB), or digital video disc (DVD) to the Owner. The CD or DVD shall be included monthly with the digital photographs. Digital video shall be time and date stamped.
- B. Initial video shall be completed prior to the arrival of any equipment for construction facilities. The video shall include all existing structures, visible utilities, parking lots, and access roads. Record any existing damage to the facilities.
- C. Final video shall be completed once all equipment and construction facilities have been removed from the sites. The video shall include all items listed above plus all new modifications or alternations.
- D. All video shall provide correct exposure and focus, high resolution and sharpness, maximum depth of field.

1.07 TECHNIQUE

- A. All views shall provide factual presentation of the Work progress.

- B. All photographs shall provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.

1.08 VIEWS

The photographs shall be from varied views that show the most representative sample of the Work progress.

1.09 SUBMITTALS

- A. Submit prints and CD, USB, or DVD at the monthly progress meetings unless specifically requested sooner by the Owner or Engineer.
- B. The photographer shall keep electronic copies for a minimum of two years from Owner acceptance of the project.

END OF SECTION

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SECTION 01321

SURVEYING

PART 1 – GENERAL

1.01 SUMMARY

This section of the specifications includes requirements for surveying, field engineering, and record documents.

1.02 CONTRACTOR'S SURVEYOR

Contractor is required to provide and pay all costs related to an individual skilled in the practice of surveying to provide surveying services as required for layout and construction of the project as indicated on the Drawings and specified herein. As deemed appropriate by the Contractor, its surveyor shall:

- A. Determine existing conditions and features,
- B. Generate cut sheets,
- C. Provide construction control points,
- D. Provide construction stake out,
- E. Provide necessary information and documentation for construction quality assurance,
- F. Provide information and documentation for final Record Drawings (as-builts),
- G. Maintain and update a set of project record documents, and
- H. Other information required to execute the work in accordance with the Drawings, Specifications, and Contract.

1.03 OWNER'S SURVEYOR

The Owner's surveyor will perform the following:

- A. Provide survey control information,
- B. Verify the work as the Owner deems necessary for construction quality assurance, and
- C. Verify surveys for measurement and payment for the work.

1.04 DEFINITIONS

- A. Existing Features: Existing features may include, but are not limited to the following:
 - 1. Roads
 - 2. Stormwater Basins
 - 3. Stormwater Channels
 - 4. Buried Piping
 - 5. Utilities
 - 6. Manholes
 - 7. Drives to be Crosses
 - 8. Trees to be removed
 - 9. Inlet Structures
- B. Independent Surveyor: A surveyor employed by an organization that is Independent from the Contractor and acceptable to the Owner.
- C. Record Documents: See Article 3.04 of this specification.

1.05 SUBMITTALS

- A. Within 14 days before commencing work, the Contractor shall submit qualifications of Contractor's surveyor. Submit surveyor's name, State license number, experience, and qualifications to the Owner or Owner's Representative:
- B. Project Record Documents: Upon Substantial Completion of the Work, contractor shall deliver survey record documents to Engineer. Final payment will not be made until Owner receives satisfactory record documents. Accompany record documents with transmittal form containing:
 - 1. Date.
 - 2. Project title and number.
 - 3. Contractor's name and address.
 - 4. Title and number of each record document.
 - 5. Certification that each document as submitted is complete and accurate.
 - 6. Signature of Contractor and certification by Contractor's Surveyor.

1.06 SITE CONDITIONS

- A. Existing Features: Contractor is required to field verify the location of existing features. Owner existing record drawings are available to the Contractor. The existence and location of features are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and existing features. Owner and Owner's representatives take no responsibility for the accuracy of these existing record drawings implied or otherwise.
- B. Field Verification: Prior to construction, verify the location of existing features at points of connection or tie-in to the Work.
- C. Field Conditions and Measurements: The Contractor shall base all measurements, both horizontal and vertical, from established benchmarks. The Contractor shall be responsible for field verification of all dimensions and conditions at the job site.
- D. Discrepancies: Should the Contractor discover any discrepancy between actual conditions and those indicated which prevent following good practice or the intent of the Drawings and Specifications, he shall notify Engineer in writing and request clarification and instructions on how to proceed. The Contractor shall not proceed with his work until he has received the same from Engineer.
- E. No Additional Payment: No claims shall be made for extra payment or extensions of Contract completion time if the Contractor fails to notify the Engineer of any discrepancy before proceeding with the aspect of the Work.

PART 2 – PRODUCTS

2.01 GLOBAL POSITIONING SYSTEM

The Contractor shall verify Permanent benchmarks and establish temporary bench marks with a global positioning system (GPS). Notify Engineer of any discrepancies.

PART 3 – EXECUTION

3.01 QUALIFICATIONS OF CONTRACTOR'S SURVEYOR

- A. Kentucky Registered Professional Surveyor and Mapper, acceptable to the Owner and the Engineer.

3.02 FIELD SURVEY WORK

- A. Control Points: Engineer will identify existing project control points, if any, at the site for the Contractor.

Surveying
01321-3

- B. Benchmarks: Contractor shall establish and maintain a minimum of two permanent benchmarks on the site, referenced to data established by survey control points. Record benchmark locations, with horizontal and vertical data, on project Record Documents. Do not change or relocate benchmarks or control points without prior written approval by the Engineer. Promptly report lost or destroyed reference points or requirements to relocate reference points because of necessary changes in grades or locations.
- C. Site Improvements: Work from lines and levels established by benchmarks and markers to set lines and levels as needed to properly locate each element of the Project. Locate and lay out site improvements, including stakes for slopes, grading, fill and topsoil placement, utility slopes and invert elevations by instrumentation and similar appropriate means. Calculate and measure required dimensions within indicated or recognized tolerances. Do not scale Drawings to determine dimensions.
- D. Relocation of Existing Utilities: Furnish information necessary to adjust, move or relocate existing features, structures, utility poles, lines, services or other appurtenances located in, or affected by construction. Coordinate with local authorities having jurisdiction.
- E. Surveyor's Log: Keep neat legible notes of all measurements and calculations made by him while surveying and laying out the work. Maintain a surveyor's log of control and other survey work. Make this log available for reference and provide as part of Record Documents.

3.03 TOLERANCES

- A. Positive Drainage: Provide positive drainage for surface towards permanent drainage ways. All areas shall be graded to the minimum slopes indicated. No ponding areas are permitted. Positive drainage shall be maintained on all gravity sewer lines. Other tolerances for specific items of work are listed where applicable.
- B. All equipment used for surveying shall have the capability of achieving a minimum accuracy of ± 0.1 foot horizontally. The allowable tolerances required for construction are ± 0.1 foot vertically and ± 0.1 foot horizontally.

3.04 RECORD DOCUMENTS

Contractor shall provide documents as follows:

- A. General: Do not use record documents for construction purposes. Protect record documentation from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Owner's reference during normal working hours. Backup electronic documents at least once per week.

B. Recording

1. Label and file record documents and samples in accordance with Specification Section number listings in Table of Contents of this Invitation for Bids/Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.
2. Preparation of project record documents shall be by personnel skilled as a draftsman competent to prepare the required drawings.
3. Record and update daily record information from field notes, on set of Drawings, and copy of Invitation for Bids/Project Manual.
4. Record information concurrently (daily) with construction progress. Do not conceal work until required information is recorded.
5. Record deviations from required lines and levels, and advise Engineer when deviations that exceed indicated or recognized tolerances are detected. On Project Record Drawings, record deviations that are accepted and not corrected.

C. Record Drawings: Maintain a clean, undamaged set of black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the work as originally shown. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.

Mark record sets with red erasable pencil. Mark new information that is important to the OWNER, but was not shown on Contract Drawings or Shop Drawings. Note related Change Order numbers where applicable. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set. Legibly mark each item to record actual construction, including:

1. Measured horizontal and vertical locations of underground utilities and appurtenances referenced to permanent surface improvements.
2. Measured locations of appurtenances concealed in construction, referenced to visible and accessible features of construction.
3. Field changes (dimensions and detail).
4. Changes by Modifications made by Owner.
5. Details not on original Contract Drawings.
6. References to related Shop Drawings and Modifications.

7. Depths of various elements of the Work in relation to datum.
- D. Record Specifications: Maintain one complete copy of the Project Manual, including addenda and one copy of other written construction documents such as Change Orders and Field Order issued in printed form during construction. Mark these documents to show substantial variations in actual work performed in comparison with the text of the Specifications, Change Order, and Field Order. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and product data. Legibly mark up each Section to record:
1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 2. Changes made by Change Order or Field Order.
 3. Other matters not originally specified.
- E. Record Product Data: Maintain one copy of each approved Product Data submittal. Mark these documents to show significant variations in actual work performed in comparison with information submitted. Include variations in products delivered to the site, and from the manufacturer's installation instructions and recommendations. Give particular attention to concealed products and portions of the work that cannot be otherwise be readily discerned later by direct observation. Note related Change Orders and mark-up of record drawings and Specifications.
- Upon completion of mark-up, submit complete set of record Product Data to the Owner for Owner's records.
- F. Record Sample Submittal: Record Sample Submittal: Immediately prior to the date or dates of Substantial Completion, the Contractor will meet at the site with Engineer and the Owner's personnel to determine which of the submitted samples that have been maintained during progress of the work are to be transmitted to Owner for record purposes. Comply with delivery to Owner sample storage area.
- G. As-Built Survey: Survey final location and elevation of all pipes, wells, sumps, and lateral connections. Buried pipes shall be surveyed at a minimum of every 50 feet, plus at all manholes, laterals, fittings, and at all breaks or changes in grade. Contractor shall determine as-built length and slope of all pipes installed under this Contract. Contractor shall provide final topographic mapping showing breaks in grade, swales, berms, ditches, and the extent of construction activities. The topographic mapping shall be on 1-foot vertical intervals. Provide as-built coordinates of all surveyed points and topographic mapping to Engineer in an acceptable electronic format for use in preparing as-built drawings.

H. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the work. Immediately prior to the date or dates of substantial completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Engineer for the Owner's records. Miscellaneous record submittals include but are not limited to:

1. Field Test Records
2. Inspection Certificates
3. Manufacturer's Certificates
4. Manufacturer's Warranties

I. All as-built survey information and record documents shall be provided to the Engineer within 30 days of Substantial Completion of the Work by the Contractor.

3.05 INSPECTION

Verify locations of survey control points and existing features prior to starting work. Promptly notify Engineer of any discrepancies.

3.06 SURVEYING FOR RECORD DRAWINGS

Final measurement shall be submitted to and verified by the Engineer. Drawings and as-built calculations shall be checked and certified by the Contractor's Surveyor. In the event of any disagreements, the Owner's Surveyor or an Independent Surveyor may be hired by the Owner to provide supplemental information on final pay quantities to the Engineer.

END OF SECTION

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SECTION 01400
QUALITY CONTROL

PART 1 - GENERAL

1.01 REQUIREMENTS

A. Testing Laboratory Services

1. Laboratory and field testing and checking required by the Specifications, including the cost of transporting all samples and test specimens, shall be provided and paid for by the Contractor unless otherwise indicated in the Specifications.
2. Materials to be tested include, but are not necessarily limited to the following: on-site fill.
3. Tests required by the Owner shall not relieve the Contractor from the responsibility of supplying test results and certificates from manufacturers or suppliers to demonstrate conformance with the Specifications.
4. In place testing of compacted materials will be conducted as specified or recommended by Engineer.
5. Procedures
 - a. The Contractor shall plan and conduct his operations to permit taking of field samples and test specimens, as required, and to allow adequate time for laboratory tests.
 - b. The collection, field preparation and storage of field samples and test specimens shall be as directed by the Engineer with the cooperation of the Contractor.
6. Significance of Tests
 - a. Test results shall be binding on both the Contractor and the Owner, and shall be considered irrefutable evidence of compliance or noncompliance with the Specification requirements, unless supplementary testing shall prove, to the satisfaction of the Owner, that the initial samples were not representative of actual conditions.
7. Supplementary and Other Testing

Quality Control
01400-1

- a. Nothing shall restrict the Contractor from conducting tests he may require. Should the Contractor at any time request the Owner to consider such test results, the test reports shall be certified by an independent testing laboratory acceptable to the Owner. Testing of this nature shall be conducted at the Contractor's expense.

1.02 IMPERFECT WORK OR MATERIALS

- A. Any defective or imperfect work or materials furnished by the Contractor which is discovered before the final acceptance of the work, as established by the Certificate of Substantial Completion, or during the subsequent guarantee period, shall be removed immediately even though it may have been overlooked by the Engineer and estimated for payment. Any materials condemned or rejected by the Engineer shall be tagged as such and shall be immediately removed from the site. Satisfactory work or materials shall be substituted for that rejected.
- B. The Engineer may order tests of imperfect or damaged work or materials to determine the required functional capability for possible acceptance, if there is no other reason for rejection. The cost of such tests shall be borne by the Contractor; and the nature, tester, extent and supervision of the tests will be as determined by the Engineer. If the results of the tests indicate that the required functional capability of the work or material was not impaired, consistent with the final general appearance of same, the work or materials may be deemed acceptable. If the results of such tests reveal that the required functional capability of the questionable work or materials has been impaired, then such work or materials shall be deemed imperfect and shall be replaced. The Contractor may elect to replace the imperfect work or material in lieu of performing the tests.

1.03 INSPECTION AND TESTS

- A. The Contractor shall allow the Engineer ample time and opportunity for testing materials to be used in the work. He shall advise the Engineer promptly upon placing orders for material so that arrangements may be made, if desired, for inspection before shipment from the place of manufacture. The Contractor shall at all times furnish the Engineer and his representatives, facilities including labor, and allow proper time for inspecting and testing materials and workmanship. The Contractor must anticipate possible delays that may be caused in the execution of his work due to the necessity of materials being inspected and accepted for use. The Contractor shall furnish, at his own expense, all samples of materials required by the Engineer for testing, and shall make his own arrangements for providing water, electric power, or fuel for the various inspections and tests of structures and material.
- B. Where other tests or analyses are specifically required in other Sections of these Specifications, the cost thereof shall be borne by the party (Owner or Contractor)

Quality Control
01400-2

so designated in such Sections. The Owner will bear the cost of all tests, inspections, or investigations undertaken by the order of the Engineer for the purpose of determining conformance with the Contract Documents if such tests, inspection, or investigations are not specifically required by the Contract Documents, and if conformance is ascertained thereby. Whenever nonconformance is determined by the Engineer as a result of such tests, inspections, or investigations, the Contractor shall bear the full cost thereof or shall reimburse the Owner for said cost. In this connection, the cost of any additional tests and investigations, which are ordered by the Engineer to ascertain subsequent conformance with the Contract Documents, shall be borne by the Contractor.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

Quality Control
01400-3

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SECTION 01430

SERVICES OF MANUFACTURER'S REPRESENTATIVE

PART 1 - GENERAL

1.01 GENERAL

The Contractor shall comply with the manufacturer's instructions pertaining to shipping, handling, storing and installing.

1.02 MANUFACTURER'S SERVICES

A. General

The Contractor shall provide a qualified service representative from each company manufacturing or supplying certain products to perform the duties herein described and as required by the various sections of the Specifications. All costs shall be included in the Contract price.

1. The service representative shall notify the Engineer each time he intends to be at the project site, and define the purpose of this visit. There will be no acknowledgment by the Owner of on-site visits by the service representative unless such visits are properly logged by the Engineer.

B. Supervision of Installation

Supervision of the workers and advice to the Owner shall be provided to ensure that proper procedures are followed during product installation.

C. Product Check-Out

1. After installation of the listed product has been completed and the product is presumably ready for operation, but before it is operated by others, the representative shall inspect and adjust the installed product. The inspection shall include, but shall not be limited to, the following points as applicable:
 - a. Soundness (without cracked or otherwise damaged parts).
 - b. Completeness in all details as specified.
 - c. Correctness of setting alignment, and relative arrangement of various parts.

Services of Manufacturer's Representative
01430-1

d. Adequacy and correctness of installation.

2. The operation, testing, and adjustment shall be as required to prove that the product has been installed properly and is capable of satisfactory operation under the conditions specified. On completion of his Work, the manufacturer's or supplier's representative shall submit in triplicate to the Engineer a complete signed report of the result of his inspection, operation, adjustments, and any tests. The report shall include detailed descriptions of the points inspected, tests, and adjustments made, quantitative results obtained, if such are specified, and suggestions for precautions to be taken to ensure proper maintenance. The report also shall include a certificate that the equipment conforms to the requirements of the Contract and is ready for permanent operation and that nothing in the installation will render the manufacturer's warranty null and void.

D. Field Acceptance Tests

After the Engineer has reviewed the reports from the manufacturer's representatives, the Contractor shall make arrangements to have the manufacturer's representatives present when the field acceptance tests are made.

E. Pre-Startup Operator Training

Provision of classroom and hands-on training to maintenance personnel in the operation and maintenance of the equipment prior to placing the product in full operation.

F. Post-startup Services

Provision of assistance to the Owner in the turning and troubleshooting, plus any additional training that may be required during the year after the product is accepted by the Owner.

END OF SECTION

Services of Manufacturer's Representative
01430-2

SECTION 01510

TEMPORARY UTILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish, install and maintain temporary utilities as required for construction, remove on completion of Work.
- B. The Contractor shall maintain strict supervision of use of temporary utility services.
 - 1. Enforce compliance with applicable standards.
 - 2. Enforce safety practices.
 - 3. Prevent abuse of services.
 - 4. Utility charges: Contractor shall be responsible for paying for all utilities utilized during construction.

1.02 REQUIREMENTS OF REGULATORY AGENCIES

- A. Obtain and pay for all permits as required by governing authorities.
- B. Obtain and pay for temporary easements required across property other than that of Owner.
- C. Comply with applicable codes including but not limited to Federal, State and Local codes and regulations and with utility company requirements, and were applicable National Electric Code, County Health Department and Environmental Regulations.

1.03 TEMPORARY ELECTRICITY AND LIGHTING

- A. Arrange with utility company, provide service required for power and lighting, and pay all costs for service and for power used in the construction, testing, and trial operation prior to final acceptance of the Work by the Owner.
- B. Install circuit and branch wiring, with the area distribution boxes located so that power and lighting is available throughout the construction by the use of construction type power cords.

Temporary Utilities
01510-1

- C. Provide adequate artificial lighting for all areas of Work when natural light is not adequate to Work, and all areas accessible to the public.

1.04 TEMPORARY TELEPHONE SERVICE

- A. Furnish and install temporary telephone service for construction needs throughout construction periods.
- B. Pay costs for temporary telephone service, including installation, maintenance, and removal.
- C. Pay service costs for all local telephone service.
- D. Pay costs of toll charges related to construction of the project.
- E. Do not use Owner's existing telephone system.

1.05 TEMPORARY WATER

- A. Arrange with the water utility provider to provide water for construction purposes.
- B. Install branch piping with taps located so that water is available throughout the construction by the use of hoses.
- C. Install at each and every connection to the Owner water supply a backflow preventer meeting the requirements of ANSI A40.6 and AWWA C511. Contractor shall be required to meter and pay for all water used.

1.06 TEMPORARY SANITARY

- A. Provide sanitary facilities in compliance with laws and regulations.
- B. Service, clean and maintain facilities and enclosures.

1.07 REMOVAL

- A. Completely remove temporary materials, equipment, and offices upon completion of construction.
- B. Repair damage caused by installation and restore to specified or original condition.

END OF SECTION

Temporary Utilities
01510-2

SECTION 01530

PROTECTION OF EXISTING FACILITIES

PART 1 - GENERAL

1.01 REQUIREMENTS

- A. Contractor shall be responsible for the preservation and protection of property adjacent to the work site against damage or injury as a result of his operations under this Contract. Any damage or injury occurring on account of any act, omission or neglect on the part of the Contractor shall be restored in a proper and satisfactory manner or replaced by and at the expense of the Contractor to an equal or superior condition than previously existed.
- B. Contractor shall be responsible for locating all underground utilities in accordance with applicable regulation. Locations and elevations of all existing utilities shall be accurately marked on record drawings.
- C. Contractor shall comply promptly with such safety regulations as may be prescribed by the Owner or the local authorities having jurisdiction and shall, when so directed, properly correct any unsafe conditions created by, or unsafe practices on the part of, his employees. In the event of the Contractor's failure to comply, the Owner may take the necessary measures to correct the conditions or practices complained of, and all costs thereof will be deducted from any monies due the Contractor. Failure of the Engineer to direct the correction of unsafe conditions or practices shall not relieve the Contractor of his responsibility hereunder.
- D. In the event of any claims for damage or alleged damage to property as a result of work under this Contract, the Contractor shall be responsible for all costs in connection with the settlement of or defense against such claims. Prior to commencement of work in the vicinity of property adjacent to the work site, the Contractor, at his own expense, shall take such surveys as may be necessary to establish the existing condition of the property. Before final payment can be made, the Contractor shall furnish satisfactory evidence that all claims for damage have been legally settled or sufficient funds to cover such claims have been placed in escrow, or that an adequate bond to cover such claims has been obtained.

1.02 PROTECTION OF WORK AND MATERIAL

- A. During the progress of the work and up to the date of final payment, the Contractor shall be solely responsible for the care and protection of all work and materials covered by the Contract.

Protection of Existing Facilities
01530-1

- B. All work and materials shall be protected against damage, injury or loss from any cause whatsoever, and the Contractor shall make good any such damage or loss at his own expense. Protection measures shall be subject to the approval of the Engineer.

1.03 BARRICADES, WARNING SIGNS AND LIGHTS

- A. The Contractor shall provide, erect and maintain as necessary, strong and suitable barricades, danger signs and warning lights along all roads accessible to the public, as required by the Manual on Uniform Traffic Control Devices or as required by the authority having jurisdiction, to ensure safety to the public. All barricades and obstructions along public roads shall include reflective material, shall be illuminated at night, and all lights for this purpose shall be kept burning from sunset to sunrise.
- B. Contractor shall provide and maintain such other warning signs and barricades in areas of and around their respective work as may be required for the safety of all those employed in the work, the Owner's operating personnel, or those visiting the site.

1.04 EXISTING UTILITIES AND STRUCTURES

- A. The term existing utilities shall be deemed to refer to both publicly-owned and privately-owned utilities such as electric power and lighting, telephone, water, gas, storm drains, sanitary sewers and all appurtenant structures.
- B. Where existing utilities and structures are indicated on the Drawings, it shall be understood that all of the existing utilities and structures affecting the work may not be shown and that the locations of those shown are approximate only. It shall be the responsibility of the Contractor to ascertain the actual extent and exact location of existing utilities and structures. In every instance, the Contractor shall notify the proper authority having jurisdiction and obtain all necessary directions and approvals before performing any work in the vicinity of existing utilities.
- C. Prior to beginning any excavation work, the Contractor shall, through field investigations, determine any conflicts or interferences between existing utilities and new utilities to be constructed under this project. This determination shall be based on the actual locations, elevations, slopes, etc., of existing utilities as determined in the field investigations, and locations, elevation, slope, or other information of new utilities as shown on the Drawings. If an interference exists, the Contractor shall bring it to the attention of the Engineer as soon as possible. If the Engineer agrees that an interference exists, he shall develop a plan to address the interference as required, and obtain the Owner's approval. Additional costs to the Contractor for this change shall be processed through a Change Order as detailed elsewhere in these Contract Documents. In the event the Contractor fails to bring a potential conflict or interference to the attention of the Engineer prior to

Protection of Existing Facilities

01530-2

beginning excavation work, any actual conflict or interference which does arise during the Project shall be corrected by the Contractor, as directed by the Engineer, at no additional expense to the Owner.

- D. The work shall be carried out in a manner to prevent disruption of existing services and to avoid damage to the existing utilities. Temporary connections shall be provided, as required, to insure uninterrupted of existing services. Any damage resulting from the work of this Contract shall be promptly repaired by the Contractor at his own expense in a manner approved by the Engineer and further subject to the requirements of any authority having jurisdiction. Where it is required by the authority having jurisdiction that they perform their own repairs or have them done by others, the Contractor shall be responsible for all costs thereof.
- E. Where excavations by the Contractor require any utility lines or appurtenant structures to be temporarily supported and otherwise protected during the construction work, such support and protection shall be provided by the Contractor. All such work shall be performed in a manner satisfactory to the Engineer and the respective authority having jurisdiction over such work. In the event the Contractor fails to provide proper support or protection to any existing utility, the Engineer may, at his discretion, have the respective authority to provide such support or protection as may be necessary to ensure the safety of such utility, and the costs of such measures shall be paid by the Contractor. This is not a pay item.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01550

VEHICULAR ACCESS AND PARKING AREAS

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Access roads.
- B. Access road protection.
- C. Temporary parking.
- D. Existing pavements and parking areas.
- E. Permanent pavements and parking areas.
- F. Maintenance.
- G. Removal and repair.

1.02 RELATED REQUIREMENTS

- A. Section 01730 - Cutting and Patching
- B. Section 01510 - Temporary Utilities

PART 2 - PRODUCTS

2.01 MATERIALS

- A. For temporary construction: Contractor's option, but must be approved by the Engineer.
- B. Rubber protection mat for access driveway/road.
 - 1. Rubber protection mat shall be a minimum of 2-inches thick.

PART 3 - EXECUTION

3.01 PREPARATION

Vehicular Access and Parking Areas
01550-1

- A. Clear areas, provide proper surface and storm drainage of premises and adjacent areas. Install erosion protection.

3.02 ACCESS ROADS

- A. Construct temporary all-weather access roads from public thoroughfares to serve construction area, of a width and load-bearing capacity to provide unimpeded traffic for construction purposes.
- B. Install rubber mat to protect concrete residential driveway from damage during construction.
- C. Construct temporary bridges and/or culverts to span low areas and allow unimpeded drainage.
- D. Extend and relocate as Work progress requires and provide detours as necessary for unimpeded traffic flow.
- E. Locate temporary access roads as approved by the Owner and/or the Engineer.
- F. Provide and maintain access to all Owner facilities.

3.03 TEMPORARY PARKING

- A. Construct temporary parking areas to accommodate use of construction personnel in an area acceptable to the Owner and/or the Engineer. Pay all costs relating to temporary parking.

3.04 MAINTENANCE

- A. Maintain traffic and parking areas in a sound condition, free of excavated material, construction equipment, products, mud, snow, and ice. Use dust control measures required to prevent airborne particles.
- B. Contractor shall schedule and control his work so as to prevent all hazards to public safety, health and welfare.
- C. Streets shall be kept free of dirt and debris on a continuous basis. Pedestrian facilities shall be kept free of obstruction, and an accessible route shall be maintained at all times.
- D. On existing streets, two-way traffic shall be maintained at all times unless detour plans have been approved in advance by the Engineer.

- E. Pedestrian and vehicular access to occupied buildings shall be maintained at all times except where approval from the building owner has been obtained.
- F. Adherence to the project's erosion and sediment control plan will be required. Features contained therein, such as silt fences, check dams and sedimentation ponds shall be maintained in good working order to the satisfaction of the public works inspector.
- G. Maintain existing paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies to maintain paving and drainage in original and/or specified condition.

3.05 REMOVAL AND REPAIR

- A. Remove temporary materials and construction when permanent facilities are usable as directed by the Engineer.
- B. Remove underground work and compacted materials to a depth of two (2) feet; fill and grade site as specified.
- C. Repair existing permanent facilities damaged by usage to original and/or specified condition, including residential access driveway.

END OF SECTION

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SECTION 01551

TRAFFIC REGULATION

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Construction parking control.
- B. Flagmen.
- C. Flares and lights.
- D. Haul routes.
- E. Removal.
- F. This consists of maintaining, controlling, and protecting vehicular, bicycle, and pedestrian traffic adjacent to and within the construction area in accordance with the Plans, Contract Documents and Specifications, and Lexington-Fayette Urban County Government (LFUCG) Standard Drawings, current edition. Work in this section shall also conform to the Kentucky Transportation Cabinet Standard Specifications, (KYTC) Latest Edition specially but not limited to: Sections 112 of the KYTC Standard Specifications, current edition and associated cross references, but only to the extent that these KYTC sections do not conflict with the content of these Plans, Contract Documents and Specifications, and LFUCG Standard Drawings.

1.02 RELATED SECTIONS

- A. General Conditions
- B. Section 01560 – Barriers

1.03 SUBMITTAL

- A. Contractor to submit a Traffic Control Plan to the Engineer for review prior to the commencement of construction.

PART 2 - PRODUCTS

2.01 SIGNS AND DEVICES

Traffic Regulation
01551-1

A. Traffic Cones and Drums, Flares and Lights: as approved by federal, state, and local jurisdictions.

B. Flagman Equipment: as required by federal, state, and local jurisdictions.

PART 3 – EXECUTION

3.01 CONSTRUCTION PARKING CONTROL

A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Owner's operations.

B. Monitor parking of construction personnel's vehicles in existing facilities. Maintain vehicular access to and through parking areas.

C. Prevent parking on or adjacent to access roads or in non-designated areas.

3.02 TRAFFIC CONTROL

A. All lane blockages and closures must be permitted by the LFUCG Division of Traffic Engineering. Contractor is responsible for obtaining all lane blockage/closure permits from LFUCG Traffic Engineering.

B. Contractor shall abide by county and state regulations governing utility construction Work.

C. Traffic control shall be provided according to the Kentucky Department of Highways Manual on Uniform Traffic Control Devices for Streets and Highways.

3.03 FLAGMEN

Provide trained and equipped flagmen to regulate traffic when construction operations or traffic encroach on public traffic lanes.

3.04 FLARES AND LIGHTS

Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

3.05 HAUL ROUTES

- A. Consult with authorities, establish public thoroughfares to be used for haul routes and site access.
- B. Confine construction traffic to designated haul routes.
- C. Provide traffic control at critical areas of haul routes to regulate traffic and minimize interference with public traffic.

3.06 REMOVAL

- A. Remove equipment and devices when no longer required.

END OF SECTION

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SECTION 01560

BARRIERS

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. The Contractor shall provide all temporary barriers in conformance with local, state, and federal codes.
- B. The Contractor is responsible for safety at all times on the project site. The Contractor shall provide appropriate barricades, safety fences, and warning signs. No open excavations or equipment shall be accessible to the general public at any time.
- C. Contractor shall coordinate with all property owners for temporary fencing at no additional cost to the Owner. Temporary fencing shall be a minimum of three (3) feet high and adequately supported to prevent overturning.

END OF SECTION

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SECTION 01561

SECURITY

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. The project area must remain safely accessible to Owner's personnel; however, the Contractor shall provide any non-interfering security he deems necessary to protect his Work, equipment, etc.
- B. Provide an adequate system to secure the project area at all times, especially during non-construction periods; the Contractor shall be solely responsible for taking proper security measures.

1.02 COSTS

- A. Contractor shall pay for all costs for protection and security systems.

END OF SECTION

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SECTION 01562

PROTECTION OF WORK AND PROPERTY

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

Protection for products (including Owner-provided products) after installation and existing property.

1.02 RELATED REQUIREMENTS

Division 1 - General Requirements

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.01 PROTECTION AFTER INSTALLATION

- A. Protect installed products and control traffic in immediate area to prevent damage from subsequent operations.
- B. Restrict traffic of any kind across planted lawn and landscape areas.

END OF SECTION

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SECTION 01570

TEMPORARY CONTROLS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Dust control.
- B. Erosion and sediment control.
- C. Surface drainage.

1.02 RELATED REQUIREMENTS

Section 01510 – Temporary Utilities

Section 02370 – Erosion and Sediment Control

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.01 DUST CONTROL

- A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- B. Execute Work by methods to minimize raising dust from construction operations. Provide positive means to prevent airborne dust from dispersing into atmosphere.
- C. Minimize amount of bare soil exposed at one time.
- D. Provide temporary measures such as berms, dikes, drains, hay bales, gabions, etc., so as to minimize siltation due to runoff.

Temporary Controls
01570-1

- E. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

3.02 SURFACE RUNOFF CONTROL

- A. Provide temporary control of surface runoff from adjacent property until proposed storm drainage is complete and in service.
- B. Direct surface water flow away from any open trenches.

END OF SECTION

SECTION 01580

PROJECT IDENTIFICATION AND SIGNS

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall provide signs near the site of the Work. The sign shall set forth the description of the Work and the names of the Owner, Engineer, and Contractor.

1.02 RELATED SECTIONS

- A. Part IV- General Conditions

PART 2 - PRODUCTS

2.01 IDENTIFICATION SIGN (3' x 6')

- A. Project identification sign shall comply with Standard Drawing 323 unless otherwise noted.
- B. Basic design shall be as required by the Engineer or shown on the Drawings.
- C. Colors shall be as stated on the Drawings.
- D. Number Required: one (1)

2.02 SIGNS

- A. The following signs shall be provided with mounting frames and installed as directed by the Engineer.

Signs	Size		Quantity
	Horizontal	Vertical	
Authorized Personnel Only	14"	10"	1
No Trespassing	14"	10"	1

(Provide steel posts for these signs.)

- B. All informational signs shall meet applicable OSHA specifications. They shall be heavy-duty painted aluminum 1/16-inch thick, rust, weather, and sunlight resistant.

PART 3 - EXECUTION

3.01 INSTALLATIONS

- A. Signs shall be installed at locations specified by LFUCG. Project identification signs shall be located at the beginning of the project and the end of the project as decided by LFUCG. Sign shall be placed at the location as indicated on the Drawings.
- B. Project identification signs shall be in accordance with LFUCG Standard Drawing No. 32 attached at the end of this section.

3.02 MAINTENANCE

The signs shall be maintained in good condition until the completion of the project.

C:\ENG\DATA\Standard Drawings\DOT\SR32.Lwg, 9/20/2017 9:46:17 AM, AutoCAD PDF (NPP) and Model.pc3

2 1/2"

2 1/2"

2"

2"

1"

2"

2"

1"

2"

1"

36"

17"

1"

2"

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT

PROJECT TITLE XXXXXXXX

PROJECT COST \$XXXXXXXX

CONTRACT NO. XXXXXXXX



LEXINGTON

MAYOR'S NAME

URBAN COUNTY COUNCIL

DEPARTMENT OF

DIVISION OF

LOCATION MAP

18 1/2"

1 1/2"

2"

2"

2"

2"

2"

2"

2"

2"

72"



LEXINGTON

DIVISION OF ENGINEERING

PUBLIC IMPROVEMENT SIGN

323

4/24/17

2/24/17

DATE

NOTES:

THIS SIGN SHALL BE:

1. FURNISHED AND ERECTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, IN ADDITION TO THE NORMAL WARNING AND REGULATORY SIGNS.

2. OF GOOD QUALITY EXTERIOR PLYWOOD OR OTHER APPROVED MATERIAL.

3. PAINTED WITH SOLID BLUE LETTERS ON A WHITE BACKGROUND.

4. UPDATED AS NEEDED TO INDICATE THE APPROPRIATE MAYOR'S NAME.

5. FRAMED AND BRACED SO AS TO REMAIN VERTICAL AND PLAINLY VISIBLE TO THE TRAVELING PUBLIC.

6. ERECTED PRIOR TO STARTING CONSTRUCTION WORK.

7. ERECTED AT EACH END OF THE PROJECT AT LOCATIONS DIRECTED BY THE ENGINEER AND AT OTHER LOCATIONS SPECIFIED ON THE PLANS OR IN THE PROPOSAL.

8. KEPT CLEAN AND IN GOOD CONDITION FOR THE DURATION OF THE CONSTRUCTION AS DIRECTED BY THE ENGINEER.

9. THE COST SHOWN APPLIES ONLY TO THE PORTION OF PROJECT UNDER CONSTRUCTION IN A CONTINUOUS SECTION. IN THE EVENT THE PROJECT CONSISTS OF MORE THAN ONE CONTINUOUS SECTION THE COST SHOWN SHALL BE FOR THE PARTICULAR SECTION WHERE WORK IS IN PROGRESS.

10. NOT TO BE USED ON FEDERAL AID TRANSPORTATION PROJECTS

LEXINGTON -- FAYETTE URBAN COUNTY GOVERNMENT

END OF SECTION

Project Identification and Signs
01580-3

Pebble Creek Bank Stabilization November 21, 2023

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SECTION 01600

MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.01 STORAGE OF MATERIALS AND EQUIPMENT

All excavated materials and equipment to be incorporated in the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the Work. Materials and equipment shall be kept neatly piled and compactly stored in such locations as will cause a minimum of inconvenience to public travel and adjoining owners, tenants, and occupants.

1.02 HANDLING AND DISTRIBUTION

- A. The Contractor shall handle, haul, and distribute all materials and all surplus materials on the different portions of the Work, as necessary or required; shall provide suitable and adequate storage room for materials and equipment during the progress of the Work, and be responsible for the protection, loss of, or damage to materials and equipment furnished by him, until the final completion and acceptance of the Work.
- B. Storage and demurrage charges by transportation companies and vendors shall be borne by the Contractor.

1.03 MATERIALS, SAMPLES, INSPECTION

- A. Unless otherwise expressly provided on the Drawings or in any of the other Contract Documents, only new materials and equipment shall be incorporated in the Work. All materials and equipment furnished by the Contractor to be incorporated in the Work shall be subject to the inspection of the Engineer. No material shall be processed or fabricated for the Work or delivered to the Work site without prior concurrence of the Engineer.
- B. As soon as possible after execution of the Agreement, the Contractor shall submit to the Engineer the names and addresses of the manufacturers and suppliers of all materials and equipment he proposes to incorporate into the Work. When shop and working Drawings are required as specified below, the Contractor shall submit prior to the submission of such Drawings, data in sufficient detail to enable the Engineer to determine whether the manufacturer and/or the supplier have the ability to furnish a product meeting the Specification. As requested, the Contractor shall also submit data relating to the

Material and Equipment
01600-1

materials and equipment he proposes to incorporate into the Work in sufficient detail to enable the Engineer to identify and evaluate the particular product and to determine whether it conforms to the Contract requirements. Such data shall be submitted in a manner similar to that specified for submission of shop and working Drawings.

- C. Facilities and labor for the storage, handling, and inspection of all materials and equipment shall be furnished by the Contractor. Defective materials and equipment shall be removed immediately from the site of the Work.
- D. If the Engineer so requires, either prior to or after commencement of the Work, the Contractor shall submit samples of materials for such special tests as the Engineer deems necessary to demonstrate that they conform to the Specifications. Such samples, including concrete test cylinders, shall be furnished, taken, stored, packed, and shipped by the Contractor as directed.
- E. The Contractor shall furnish suitable molds for making concrete test cylinders. The Contractor shall have a minimum of four (4) concrete cylinders taken for every 25 cubic yards of concrete or discrete concrete delivery should the amount be less than 25 cubic yards even though placement may be at multiple locations. Cylinders shall be submitted to an independent laboratory for testing of strength by breaking at 7 days, 14 days, and 28 days. Additional cylinders may be taken as deemed necessary by Engineer and all costs associated with concrete testing shall be borne by the Contractor. Concrete sampling, cylinders, curing, and testing shall be accordance with respective ASTM standards, latest editions.
- F. All samples shall be packed so as to reach their destination in good condition, and shall be labeled to indicate the material represented, the name of the building or work and location for which the material is intended, and the name of the Contractor submitting the sample. To ensure consideration of samples, the Contractor shall notify the Engineer by letter that the samples have been shipped and shall properly describe the samples in the letter. The letter of notification shall be sent separate from and should not be enclosed with the samples.
- G. The Contractor shall submit data and samples, or place his orders, sufficiently early to permit consideration, inspection, and testing before the materials and equipment are needed for incorporation in the Work. The consequences of his failure to do so shall be the Contractor's sole responsibility.
- H. When required, the Contractor shall furnish to the Engineer triplicate sworn copies of manufacturer's shop or mill tests (or reports from independent testing laboratories) relative to materials, equipment performance ratings, and concrete data.

Material and Equipment
01600-2

- I. After review of the samples, data, etc., the materials and equipment used on the Work shall in all respects conform therewith.

1.04 IMPERFECT WORK OR MATERIALS

- A. Any defective or imperfect work or materials furnished by the Contractor which is discovered before the final acceptance of the work, as established by the Certificate of Substantial Completion, or during the subsequent guarantee period, shall be removed immediately even though it may have been overlooked by the Engineer and estimated for payment. Any materials condemned or rejected by the Engineer shall be tagged as such and shall be immediately removed from the site. Satisfactory work or materials shall be substituted for that rejected.
- B. The Engineer may order tests of imperfect or damaged work or materials to determine the required functional capability for possible acceptance, if there is no other reason for rejection. The cost of such tests shall be borne by the Contractor; and the nature, tester, extent and supervision of the tests will be as determined by the Engineer. If the results of the tests indicate that the required functional capability of the work or material was not impaired, consistent with the final general appearance of same, the work or materials may be deemed acceptable. If the results of such tests reveal that the required functional capability of the questionable work or materials has been impaired, then such work or materials shall be deemed imperfect and shall be replaced. The Contractor may elect to replace the imperfect work or material in lieu of performing the tests.

END OF SECTION

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SECTION 01631

PRODUCTS AND SUBSTITUTIONS

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. General: Substitution of materials and/or equipment is defined in the General Conditions and more fully hereinafter.
- B. Substitutions: The Contractor's requests for changes in the products, materials, equipment and methods of construction required by the Contract Documents are considered requests for "substitutions" and are subject to the requirements specified herein. The following are not considered as substitutions:
 - 1. Revisions to the Contract Documents, where requested by the Owner and Engineer are considered as "changes" not substitutions.
 - 2. Substitutions requested during the bidding period, which have been accepted prior to the Contract Date, are included in the Contract Documents and are not subject to the requirements for substitutions as herein specified.
 - 3. Specified Contractor options on products and construction methods included in the Contract Documents are choices available to the Contractor and are not subject to the requirements for substitutions as herein specified.
 - 4. Except as otherwise provided in the Contract Documents, the Contractor's determination of and compliance with governing regulations and orders as issued by governing authorities do not constitute "substitutions" and do not constitute a basis for change orders.

1.02 SUBMITTALS

- A. The information required to be furnished for evaluation of product substitution will be as follows:
 - 1. Performance capabilities, and materials and construction details will be evaluated based upon conformance with the Specifications. Products that do not conform with the Specification shall not be accepted.

2. Manufacturer's production and service capabilities, and evidence of proven reliability will be acceptable if the following is furnished.
 - a. Written evidence that the manufacturer has not less than three (3) years of experience in the design and manufacture of the substitute product.
 - b. Written evidence of at least one application, of a type and size similar to the proposed substitute product, in successful operation in a stormwater system for a period of at least one year.
 - c. In lieu of furnishing evidence of a manufacturer's Experience and successful operation of an application of the product to be substituted, the Contractor has the option of furnishing a cash deposit or bond which will guarantee replacement if the product the furnished does not satisfy the other requirements specified in this section. The amount of each deposit or bond will be subject to the approval.
3. Specific reference to characteristics either superior or inferior to specified requirements will be evaluated based on their net effect on the project. Products with any characteristics inferior to those specified will not be acceptable unless offset by characteristics that, in the opinion of the Engineer, will cause the overall effect of the product on the project to be at least equal to that of those specified.

1.03 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same generic kind, from a single source, for each unit of work.
- B. Compatibility of Options: Compatibility of products is a basic requirement of product selection. When the Contractor is given the option of selecting between two or more products for use on the project, the product selected must be compatible with other products previously selected, even if the products previously selected were also Contractor options. The complete compatibility between the various choices available to the Contractor is not assured by the various requirements of the Contract Documents, but must be provided by the Contractor.
- C. The detailed estimate of operating and maintenance costs will be evaluated based on comparison with similar data on the specified products. Proposed substitute products which have an operating and maintenance cost that, in the opinion of the Engineer, exceeds that of the specified products will not be considered equal and will not be acceptable.

Products and Substitutions
01631-2

- D. All equipment provided under this Contract shall meet all the requirements of the Federal and/or State Occupational Health Acts. Each equipment supplier shall submit to the Engineer certification that the equipment furnished is in compliance with OSHA.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. General: Deliver, store, and handle products in accordance with manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft. Control delivery schedules to minimize long-term storage at the site and to prevent overcrowding of construction spaces. In particular, coordinate delivery and installation to ensure minimum holding or storage times for items known or recognized to be flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other sources of loss.
1. Deliver products to the site in the manufacturer's sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
 2. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
 3. Store heavy materials away from the project construction in a manner that will not endanger the supporting construction.

PART 2 - PRODUCTS

2.01 GENERAL PRODUCT COMPLIANCE

- A. General: Requirements for individual products are indicated in the Contract Documents; compliance with these requirements is in itself a Contract Requirement. These requirements may be specified in any one of several different specifying methods, or in any combination of these methods. These methods include the following:
1. Proprietary
 2. Descriptive
 3. Performance
 4. Compliance with Reference Standards

Compliance with codes, compliance with graphic details and similar provisions of the Contract Documents also have a bearing on the review and approval outcome.

Products and Substitutions
01631-3

- B. Procedures for Selecting Products: Contractor's options in selecting products are limited by requirements of the Contract Documents and governing regulations. They are not controlled by industry traditions or procedures experienced by the Contractor on previous construction projects.

2.02 SUBSTITUTIONS

- A. Conditions: Contractor's request for substitution will be received and considered when extensive revisions to the Contract Documents are not required, when the proposed changes are in keeping with the general intent of the Contract Documents, when the request is timely, fully documented and properly submitted, and when one or more of the following conditions is satisfied, all as judged by the Engineer; otherwise the requests will be returned without action except to record non-compliance with these requirements.
1. The Engineer will consider a request for substitution where the request is directly related to an "or equal" clause or similar language in the Contract Documents.
 2. The Engineer will consider a request for substitution where the specified product or method cannot be provided within the Contract Time. However, the request will not be considered if the product or method cannot be provided as a result of the Contractor's failure to pursue the work promptly or to coordinate the various activities properly.
 3. The Engineer will consider a request for substitution where the specified product or method cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
 4. The Engineer will consider a request for a substitution where a substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. These additional responsibilities may include such considerations as additional compensation to the Engineer for redesign and evaluation services, the increased cost of other work by the Owner or separate contractors, and similar considerations.
 5. The Engineer will consider a request for substitution when the specified product or method cannot be provided in a manner which is compatible with other materials of the work, and where the Contractor certifies that the substitution will overcome the incompatibility.

6. The Engineer will consider a request for substitution when the specified product or method cannot be properly coordinated with other materials in the work, and where the Contractor certifies that the proposed substitution can be properly coordinated.
 7. The Engineer will consider a request for substitution when the specified product or method cannot receive a warranty as required by the Contract Documents and where the Contractor certifies that the proposed substitution receives the required warranty.
 8. The Contractor shall reimburse the Owner any costs for review by the Engineer of proposed product substitutions which require major design changes, as determined by the Owner, to related or adjacent work made necessary by the proposed substitutions.
- B. Work-Related Submittals: Contractor's submittal of and the Engineer's acceptance of shop drawings, product data or samples which relate to work not complying with requirements of the Contract Documents, does not constitute an acceptable or valid request for a substitution, nor approval thereof.

2.03 GENERAL PRODUCT REQUIREMENTS

- A. General: Provide products that comply with the requirements of the Contract Documents and that are undamaged and, unless otherwise indicated, unused at the time of installation. Provide products that are complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.
1. Standard Products: Where they are available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 2. Continued Availability: Where, because of the nature of its application, the Owner is likely to need replacement parts or additional amounts of a product at a later date, either for maintenance and repair or replacement, provide standard, domestically produced products for which the manufacturer has published assurances that the products and its parts are likely to be available to the Owner at a later date.

PART 3 - EXECUTION

3.01 INSTALLATION OF PRODUCTS

- A. General: Except as otherwise indicated in individual sections of these Specifications, comply with the manufacturer's instructions and
- Products and Substitutions

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recommendations for installation of the products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other work. Clean exposed surfaces and protect surfaces as necessary to ensure freedom from damage and deterioration at Time of Acceptance.

END OF SECTION

Products and Substitutions
01631-6

SECTION 01660

STORAGE

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. General Storage
- B. Enclosed Storage
- C. Exterior Storage
- D. Maintenance of Storage

1.02 RELATED REQUIREMENTS

Division 1 - General Requirements

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.01 GENERAL STORAGE

- A. Store products, immediately on delivery, in accordance with manufacturer's instructions, with seals and labels intact. Protect until installed.
- B. Arrange storage in a manner to provide access for maintenance of stored items and for inspection.
- C. Storage location shall be approved by the Owner.

3.02 ENCLOSED STORAGE

- A. Store products, subject to damage by the elements, in substantial weather-tight enclosures.

Storage
01660-1

- B. Maintain temperature and humidity within ranges stated in manufacturer's instructions.
- C. Provide humidity control and ventilation for sensitive products as required by manufacturer's instructions.
- D. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.

3.03 EXTERIOR STORAGE

- A. Provide substantial platforms, blocking, or skids, to support fabricated products above ground; slope to provide drainage. Protect products from soiling and staining.
- B. For products subject to discoloration or deterioration from exposure to the elements, cover with impervious sheet material. Provide ventilation to avoid condensation.
- C. Store loose granular materials on clean, solid surfaces such as pavement, or on rigid sheet materials, to prevent erosion and ponding of water.
- D. Provide surface drainage to prevent erosion and ponding of water.
- E. Prevent mixing of refuse or chemically injurious materials.

3.04 MAINTENANCE OF STORAGE

- A. Regularly inspect stored products on a scheduled basis. Maintain a log of inspections, make available to Engineer on request.
- B. Verify that storage facilities comply with manufacturer's product storage requirements.
- C. Verify that manufacturer required environmental conditions are maintained continually.
- D. Verify that surfaces of products exposed to the elements are not adversely affected; that any weathering of finishes is acceptable under requirements of Contract Documents.

3.05 MAINTENANCE OF EQUIPMENT STORAGE

- A. For mechanical and electrical equipment in long-term storage, provide manufacturer's service instructions to accompany each item, with notice of enclosed instructions shown on exterior of package.
- B. Service equipment on a regularly scheduled basis, in accordance with the manufacturer's recommendations, maintaining a log of services; submit as a record document.

END OF SECTION

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SECTION 01740

CLEANING

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. Maintain premises free from accumulations of waste, debris, and rubbish.
- B. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces. Leave project clean and ready for occupancy.

1.02 RELATED DOCUMENTS

- A. Contract Closeout: Section 01770.
- B. Cleaning for Specific Products of Work: Specification Section for that work.

1.03 SAFETY REQUIREMENTS

- A. Hazards Control:
 - 1. Store volatile wastes in covered metal containers and remove from premises daily.
 - 2. Prevent accumulation of wastes which create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile noxious substances.
- B. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1. Do not burn or bury rubbish and waste materials on project site.
 - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 3. Do not dispose of wastes into streams or waterways.

PART 2 - PRODUCTS

2.01 MATERIALS

Cleaning
01740-1

- A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
- B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 - EXECUTION

3.01 DURING CONSTRUCTION

- A. Execute cleaning to ensure that building, grounds, and public properties are maintained free from accumulations of waste materials and rubbish.
- B. Contractor shall maintain on-site a mechanical broom to immediately remove any material that may be deposited on adjacent parking lots, roads and drives.
- C. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- D. At reasonable intervals during progress of work, clean site and public properties, and dispose of waste materials, debris and rubbish.
- E. Provide on-site containers for collection of waste materials, debris and rubbish.
- F. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off Owner's property.
- G. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.
- H. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

3.02 FINAL CLEANING

- A. Employ experienced workmen, or professional cleaners, for final cleaning.
- B. In preparation for substantial completion or occupancy, conduct final inspection of sight-exposed interior and exterior surfaces, and of concealed spaces.
- C. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials, from sight-exposed interior or exterior finished surfaces; polish surfaces so designated to shine finish.

Cleaning
01740-2

- D. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.
- E. Broom clean paved surfaces; rake clean other surfaces of grounds.
- F. Maintain cleaning until project, or portion thereof, is occupied by Owner.

END OF SECTION

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SECTION 01770

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 RELATED REQUIREMENTS

- A. Section 01120 – Work Sequence

1.02 SUBSTANTIAL COMPLETION

- A. Contractor shall submit written certification to Engineer that project is substantially complete and includes a list of major items to be completed or corrected.
- B. Engineer will make an inspection within fourteen (14) days after receipt of certification, together with the Owner's representative.
- C. Should Engineer consider that work is substantially complete:
 - 1. Engineer will prepare and issue a certificate of substantial completion, containing:
 - a. Date of substantial completion.
 - b. Contractor's list of items to be completed or corrected, verified, and amended by Engineer.
 - c. The time within which Contractor shall complete or correct work of listed items.
 - 2. Contractor shall complete work listed for completion or correction, within designated time.
- D. Should Engineer consider that work is not substantially complete:
 - 1. He shall immediately notify Contractor, in writing, stating reasons.
 - 2. Contractor shall complete work, and send second written notice to Engineer, certifying that project, or designated portion of project is substantially complete.
 - 3. Engineer will re-review work.

Contract Closeout
01770-1

1.03 FINAL INSPECTION

- A. Contractor shall submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Project has been inspected for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents.
 - 4. Equipment and systems have been tested in presence of Owner's representative and are operational.
 - 5. Project is completed and ready for final inspection.
- B. Engineer will make final on-site observation/review within fourteen (14) days after receipt of certification.
- C. Should Engineer consider that work is finally complete in accordance with requirements of Contract Documents, he shall request Contractor to make Contract closeout submittals.
- D. Should Engineer consider that work is not finally complete:
 - 1. He shall notify Contractor, in writing, stating reasons.
 - 2. Contractor shall take immediate steps to remedy the stated deficiencies and send second written notice to Engineer certifying that work is complete.
 - 3. Engineer will re-review the work.

1.04 FINAL CLEANING UP

The work will not be considered as completed and final payment made until all final clean up has been done by the Contractor in a manner satisfactory to the Engineer.

1.05 CLOSEOUT SUBMITTALS

- A. Project Record Documents
- B. Operation and Maintenance Data
- C. Guarantees, Warranties, and Bonds

Contract Closeout
01770-2

1.06 INSTRUCTION

Instruct Owner's personnel in operation of all systems, mechanical, electrical, and other equipment.

1.07 FINAL APPLICATION FOR PAYMENT

Contractor shall submit final applications in accordance with requirements of general conditions.

1.08 FINAL CERTIFICATE FOR PAYMENT

- A. Engineer will issue final certificate in accordance with provisions of general conditions.
- B. Should final completion be materially delayed through no fault of Contractor, Engineer may issue a semi-final certificate for payment.

END OF SECTION

Contract Closeout
01770-3

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SECTION 01782

WARRANTIES AND BONDS

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. Compile specified warranties and bonds.
- B. Compile specified service and maintenance contracts.
- C. Co-execute submittals when so specified.
- D. Review submittals to verify compliance with Contract Documents.
- E. Submit to Engineer for review and transmittal to Owner.

1.02 RELATED DOCUMENTS

- A. Bid Bond: Information for Bidders.
- B. Performance and Payment Bonds: Bond and Certificates.
- C. Guaranty: General Conditions.
- D. General Warranty of Construction: General Conditions.
- E. Contract Closeout: Section 01770.
- F. Warranties and Bonds required for specific products: As listed herein.
- G. Provisions of Warranties and Bonds, Duration: Respective specification sections for particular products.

1.03 SUBMITTALS REQUIREMENTS

- A. Assemble warranties, bonds and service and maintenance contracts, executed by each of the respective manufacturers, suppliers and subcontractors.
- B. Furnish two (2) original signed copies.
- C. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.

Warranties and Bonds
01782-1

1. Product, equipment or work item.
2. Firm name, address and telephone number.
3. Scope
4. Date of beginning of warranty, bond or service and maintenance contract.
5. Duration of warranty, bond or service and maintenance contract.
6. Provide information for Owner's personnel:
 - a. Proper procedure in case of failure.
 - b. Instances which might affect the validity of warranty or bond.
7. Contractor name, address and telephone number.

1.04 FORM OF SUBMITTALS

- A. Prepare in duplicate packets.
- B. Format:
 1. Size 8-1/2 in. x 11 in., punch sheets for 3-ring binder.
 - a. Fold larger sheets to fit into binders.
 2. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS." List:
 - a. Title of Project
 - b. Name of Contractor
- C. Binders: Commercial quality, three-ring, with durable and cleanable plastic covers.

1.05 TIME OF SUBMITTALS

- A. For equipment or component parts of equipment put into service during progress of construction:
 1. Submit documents within 10 days after inspection and acceptance.

- B. Otherwise make submittals within 10 days after date of substantial completion, prior to final request for payment.
- C. For items of work, where acceptance is delayed materially beyond the Date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing the date of acceptance as the start of the warranty period.

1.06 SUBMITTALS REQUIRED

- A. Submit warranties, bonds, service and maintenance contracts as specified in the respective sections of the Specifications.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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SECTION 01785

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 MAINTENANCE OF DOCUMENTS

- A. Maintain at job site, one copy of:
 - 1. Contract Drawings
 - 2. Specifications
 - 3. Addenda
 - 4. Reviewed Shop Drawings
 - 5. Change Orders
 - 6. Other Modifications to Contract
- B. Store documents in approved location, apart from documents used for construction.
- C. Provide files and racks for storage of documents.
- D. Maintain documents in clean, dry, legible condition.
- E. Do not use record documents for construction purposes.
- F. Make documents available at all times for inspection by Engineer and Owner.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Submittals: Section 01300.

1.03 MARKING DEVICES

- A. Provide colored pencil or felt-tip marking pen for all marking.

1.04 RECORDING

- A. Label each document "PROJECT RECORD" in 2-inch high printed letters.

Project Record Documents
01785-1

- B. Keep record documents current.
- C. Do not permanently conceal any work until required information has been recorded.
- D. Contract Drawings: Legibly mark to record actual construction:
 - 1. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
 - 2. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
 - 3. Field changes of dimension and detail.
 - 4. Changes made by Change Order or Field Order.
 - 5. Details not on original Contract Drawings.
- E. Specifications and Addenda: Legibly mark up each section to record:
 - 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 - 2. Changes made by Change Order or Field Order.
 - 3. Other matters not originally specified.
- F. Shop Drawings: Maintain as record documents; legibly annotate shop drawings to record changes made after review.

1.05 SUBMITTALS

- A. At completion of project, deliver two hard copies and one CD with PDF of all record documents to Engineer.
- B. Accompany submittal with transmittal letter, in duplicate, containing:
 - 1. Date.
 - 2. Project Title and Number.
 - 3. Contractor's Name and Address.
 - 4. Title and Number of each Record Document.

Project Record Documents 01785-2

5. Certification that each Document as Submitted is Complete and Accurate.
6. Signature of Contractor, or His Authorized Representative.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

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DIVISION 02
SITE PREPARATION

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SECTION 02200

EARTHWORK

PART 1 - GENERAL

1.01 SUMMARY

- A. The Contractor shall furnish all labor, materials, and equipment necessary for the construction of the areas requiring the Earthwork in accordance with the Drawings and Specifications. This includes hauling, placing, compacting, screening, crushing, processing, moisture additions, diskings, scarification, and all other incidental items required in the work.

1.02 SUBMITTALS

- A. There are no submittals required for this section.

PART 2 - PRODUCTS

2.01 EQUIPMENT

- A. The equipment used for the earthwork will be of the Contractors option. The equipment used shall have sufficient capabilities to produce a product meeting the desired final performance of the product.

2.02 MATERIALS

- A. The material used for embankment fill shall be as designated or approved by the Engineer. Embankment shall be in accordance with Section 02223 – Embankment.

PART 3 - EXECUTION

3.01 SUBGRADE PREPARATION

- A. Areas to receive fill of overlying constructed materials shall be compacted by plate compactor or other means to a minimum of 95 percent standard Proctor density. The surface layers of the subgrade shall be void of topsoil or deleterious material such as vegetation, roots, or other debris.

Earthwork
02200-1

- B. Compaction of the subgrade shall be tested by the Engineer using a nuclear density meter a minimum of nine tests per acre, if practical, otherwise a proof roll as described in D below will suffice.
- C. The Contractor shall notify the Engineer prior to placement of fill material over the subgrade. The Engineer or his representative shall visually inspect the exposed surface to evaluate the suitability of the subgrade and ensure that the surface is properly compacted, smooth, uniform, and has positive surface drainage.
- D. The soil subgrade may be proof-rolled, at the discretion of the Engineer and in the presence of the Engineer or his representative, using a minimum 100,000-pound loaded four tire scraper (20 cubic yards in size), or an equivalent procedure and equipment.
- E. The Contractor shall remove any areas of the subgrade deemed to be soft or contain organic materials. These areas shall be over-excavated to suitable material as approved by the Engineer or his representative. The excavated area shall be brought up to grade using compacted fill and retested.
- F. Areas which pump, rut, or wave during proof-rolling may be required to be undercut.

3.02 TOLERANCES

- A. Bottom of Excavation: Plus or minus one-tenth (0.1) foot.

END OF SECTION

Earthwork
02200-2

SECTION 02223

EMBANKMENT

PART 1 - GENERAL

1.01 SUMMARY

- A. Embankment
- B. Compaction Requirements

1.02 RELATED SECTIONS

- A. Earthwork: Section 02200
- B. Seeding and Sodding: Section 02920

1.03 QUALITY ASSURANCES

- A. At the discretion of the Owner, the Owner's representative may perform soil testing and inspection service for quality control testing during earthwork operations.

1.04 REFERENCES

- A. Commonwealth of Kentucky, Standard Specifications for Road and Bridge Construction, latest edition.
- B. ANSI/ASTM D698 – Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort.
- C. ANSI/ASTM D1556 – Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method.
- D. ASTM D2922 – Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- E. ASTM D3017 – Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

Embankment
02223-1

1.05 TESTS

- A. Contractor shall provide laboratory tests and analysis of fill materials performed in accordance with applicable referenced standards and under provisions of Section 01400. Tests shall include, but not be limited to, gradation analysis, classification, liquid limit, plastic limit, plasticity index, and moisture/density relationships.
- B. If requested by Owner, field compaction testing will be performed in accordance with applicable referenced standards and under provisions of Section 01400.
- C. When ASTM D2922 is used, the calibration curves shall be checked and adjusted if necessary by the procedure described in ASTM D2922, paragraph ADJUSTING CALIBRATION CURVE. ASTM D2922 results in wet unit weight of soil; and when using this method, ASTM D3017 shall be used to determine the moisture content of the soil. The calibration checks of both the density and moisture gages shall be made at the beginning of a job on each different type of material encountered and at intervals as directed by the testing laboratory.
- D. Testing as required for verification of design bearing capacities.
- E. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.

1.06 SUBMITTALS

Testing agency shall submit reports directly to the Engineer in accordance with Section 01300, and copies to the Contractor. As a minimum, reports shall consist of the following:

- A. Field density test reports.
- B. One optimum moisture-maximum density curve for each type of soil encountered.

PART 2 - PRODUCTS

2.01 COMPACTED FILL MATERIALS

- A. Soils used for backfill and embankment shall be inorganic clayey soils free of deleterious debris or rocks whose largest dimension is no larger than three (3) inches. The soil shall have a liquid limit of less than 50, a plasticity index of

Embankment
02223-2

less than 30, and a maximum dry density, according to the standard Proctor compaction test, of at least 100 PCF.

- B. Open graded stone used for compacted trench backfill shall be Kentucky No. 2 size aggregate (1.5" – 3.0") per Kentucky Transportation Cabinet Standard Specifications for Road and Bridge Construction, current edition, unless otherwise shown on the Drawings.
- C. The on-site soils will not likely be suitable for use in compacted structural fill but may be used as non-structural fill to make grades. The testing agency shall determine that soils proposed for use as compacted non-structural fill are suitable for this use. If it is found that on-site soils are not suitable, then suitable borrow material shall be used.
- D. Frozen material shall not be placed in compacted fills.
- E. All material, whether from the excavations or from borrow, shall be of such nature that after it has been placed and properly compacted, it will make a dense suitable fill. It shall not contain vegetation, masses of roots, individual roots more than eighteen (18) inches long or more than 1/2-inch diameter, stones over six (6) inches in diameter, or porous matter.

2.02 TOPSOIL

- A. Topsoil shall be as specified in Section 02920 – Seeding and Sodding.

PART 3 – EXECUTION

3.01 GENERAL

- A. Fill shall be placed in maximum 8-inch loose lifts and compacted 95 percent of maximum dry density and within plus or minus three (3) percent of optimum moisture content as determined by the standard Proctor moisture density test. Any fill to be compacted with small compaction equipment (such as a plate compactor, trench compactor, or similar means) should be placed in maximum 4-inch loose lifts. Minimal vibration should be used in compaction equipment on silty soils existing on the site.
- B. Compaction of the subgrade shall be tested by the Engineer using a nuclear density meter a minimum of nine tests per acre, if practical, otherwise a proof roll as described in C below will suffice.
- C. The soil subgrade may be proof-rolled, at the discretion of the Engineer and in the presence of the Engineer or his representative, using a minimum 100,000-

Embankment
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pound loaded four tire scraper (20 cubic yards in size), or an equivalent procedure and equipment.

- D. Any area of the subgrade deemed to be soft, unsuitable material, or not readily capable of in-situ compaction, shall be removed. These areas shall be over-excavated to suitable material as approved by the Engineer or his representative. The over-excavated area shall be brought up to the desired grade using compacted soil fill as required by the Engineer or his representative. The fill material for the over-excavated area shall meet all compaction or strength requirements as specified herein. The Contractor shall be responsible for this work in areas where the Contractor has previously placed fill, no additional cost to the Owner.
- E. Maintain optimum moisture content of backfill material to attain required compaction density as specified. Material deposited on the fill that is too wet shall be removed or spread and permitted to dry, assisted by disking or blading, if necessary, until the moisture content is reduced to the specified limits.
- F. Backfill areas to contours and elevations. Use unfrozen materials. The Contractor shall keep the embankment free from water or unacceptable materials after the fill operations have started.
- G. Backfill systematically, as early as possible, to allow minimum time for natural settlement. Do not backfill over porous, wet, or spongy subgrade surfaces.
- H. Verify areas to be backfilled are free of debris, snow, ice, or water, and ground surfaces are not frozen. Previously frozen material shall be removed or otherwise treated as required before new backfill is placed.
- I. Employ a placement method so as not to disturb or damage piping.
- J. Make changes in grade gradual. Blend slopes into level areas.
- K. Remove surplus excavation materials.
- L. Tolerance for top surface of fill shall be plus or minus one (1) inch.
- M. Plow, strip, or break up existing sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.
- N. Maintain site grading during construction so that positive drainage of soils is promoted at all times.
- O. Maintain a subgrade free of standing or ponding water.

Embankment
02223-4

3.02 EMBANKMENT

- A. Embankment is considered to be fill areas of the site that do not support structures, piping, drives, or walks. This includes areas above piping elevations.
- B. Compact embankment areas which have surface slopes less than one (1) foot vertical to three (3) feet horizontal to a minimum of 95 percent of maximum dry density and within plus or minus three (3) percent of optimum moisture content.
- C. Compact embankment areas which have surface slopes greater than one (1) foot vertical to three (3) feet horizontal to a minimum of 100 percent of maximum dry density and within plus or minus two (2) percent of optimum moisture content.

3.03 TOPSOIL

- A. Topsoil shall be spread and lightly compacted in accordance with Section 02920 – Seeding and Sodding.

3.04 FIELD QUALITY CONTROL

- A. Quality Control Testing During Construction. The Owner may, at their option, require testing be provided by the Contractor of the placed materials. If requested, this will be at the cost of the Contractor.
 - 1. Testing service to perform field density tests in accordance with ASTM D1556 (Sand-Cone Method) or ASTM D2992 (Nuclear Density Method), as applicable.
 - a. Not used.
 - b. Embankment: Make at least one field density test for every 2000 square feet of each lift of compacted fill.
- B. If, in the opinion of the Engineer, based on testing service reports and inspection, subgrade or fills which have been placed are below specified density, provide additional compaction and testing at no additional cost to the Owner.

- C. Where settling is measurable or observable at filled areas during the general project warranty period, remove surface (pavement, sod, etc.), add and compact backfill material, and replace surface.

END OF SECTION

Embankment
02223-6

SECTION 02230

SITE CLEARING

PART 1 - GENERAL

1.01 SUMMARY

- A. Clear site within construction limits of plant life and grass.
- B. Remove root system of trees and shrubs.
- C. Remove surface debris.

1.02 REGULATORY COMPLIANCE

Conform to applicable local codes and ordinances for disposal of debris.

1.03 RELATED SECTIONS

- A. Section 02231 – Tree Protection and Trimming.

PART 2 - PRODUCTS

(NOT USED)

PART 3 - EXECUTION

3.01 REMOVAL OF EXISTING TREES AND OTHER VEGETATION

- A. Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees that receive damage to branches shall be trimmed of those branches to improve the appearance of the tree. Tree trunks receiving damage from equipment shall be treated with a tree dressing. The Contractor shall not cut or injure any trees or other vegetation outside right-of-way or easement line and outside areas to be cleared, as indicated on the drawings, without written permission from the Engineer. The Contractor shall be responsible for all damages outside these lines.
- B. The Engineer shall designate which trees are to be removed within permanent and temporary easement lines or right-of-way lines. All other trees are to be protected.

Site Clearing
02230-1

3.02 CLEARING

- A. From areas to be cleared, the Contractor shall cut or otherwise remove all trees, brush, and other vegetation such as snags, bark, and refuse. The ground shall be cleared to the width of the permanent easement or right-of-way unless otherwise directed by the Engineer.
- B. Except where clearing is performed by uprooting with machinery, trees, stumps, and stubs to be cleared shall be cut as close to the ground surface as practicable, but no more than six (6) inches above the ground surface for small trees and 12 inches for larger trees.
- C. Elm bark shall be either buried at least one (1) foot deep or burned in suitable incinerators off-site with satisfactory antipollution controls and fire prevention controls, to prevent the spread of Dutch Elm disease and as required by applicable laws.

3.03 GRUBBING

From areas to be grubbed, the Contractor shall remove completely all stumps, remove to a depth of 12 inches all roots larger than 3-inch diameter, and remove to a depth of six (6) inches all roots larger than 1/2-inch diameter. Such depths shall be measured from the existing ground surface or the proposed finished grade, whichever is lower.

3.04 STRIPPING OF TOPSOIL

Prior to starting general excavation, strip topsoil to a depth of six (6) inches or to depths required by the Engineer. Do not strip topsoil in a muddy condition and avoid mixture of subsoil. Stockpile the stripped topsoil within easement or right-of-way lines for use in finish grading and site restoration. Topsoil stockpiled shall be free from trash, brush, stones over two (2) inches in diameter and other extraneous material.

3.05 PROTECTION

- A. Protect plant growth and features remaining as final landscaping.
- B. Protect benchmarks and existing work from damage or displacement.
- C. Maintain designated site access for vehicle and pedestrian traffic.

3.06 DISPOSAL

- A. All materials resulting from clearing and grubbing and not scheduled for reuse shall become the property of the Contractor and shall be suitably disposed of off-

site, unless otherwise directed by the Engineer, in accordance with all applicable laws, ordinances, rules, and regulations.

- B. Such disposal shall be performed as soon as possible after removal of the material and shall not be left until the final period of cleaning up.

END OF SECTION

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SECTION 02231

TREE PROTECTION AND TRIMMING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

1.03 RELATED SECTIONS

- A. Section 02930 "Exterior Plants" for new plant materials and topsoil requirements not covered in this section.

1.04 DEFINITIONS

- A. Caliper: Diameter of a trunk measured by a diameter tape at 6 inches above the ground for trees up to, and including, 4-inch size; and 48-54 inches (DBH) above the ground for trees larger than 4-inch size.
- B. DBH: Diameter at breast height – typically a height of 48-54 inches above the ground. Used for measurement of tree caliper for trees over 4 inches.
- C. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, and indicated on Drawings.
- D. Tree-Protection Zone (TPZ): Area surrounding individual trees or groups of trees to be protected during construction, and indicated on Drawings defined by a circle concentric with each tree with a radius 1.5 times the diameter of the drip line unless otherwise indicated.
- E. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.05 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: For each type of the following:
 - 1. Organic Mulch: 1-quart volume of organic mulch; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch.
 - 2. Protection-Zone Fencing: Assembled Samples of manufacturer's standard size made from full-size components.
 - 3. Protection-Zone Signage: Full-size Samples of each size and text, ready for installation.
- C. Tree Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.
 - 1. Species and size of tree.
 - 2. Location on site plan. Include unique identifier for each.
 - 3. Reason for pruning.
 - 4. Description of pruning to be performed.
 - 5. Description of maintenance following pruning.

1.06 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified arborist and tree service firm.
- B. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- C. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.
- D. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.
 - 1. Use sufficiently detailed photographs or videotape.
 - 2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.

1.07 QUALITY ASSURANCE

- A. Arborist Qualifications: Certified Arborist as certified by ISA, Certified Arborist-Municipal Specialist as certified by ISA, Current member of ASCA, Registered Consulting Arborist as designated by ASCA.
- B. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed temporary tree and plant protection work similar to that required for this Project and that will assign an experienced, qualified certified arborist to Project site during execution of the Work.
- C. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review methods and procedures related to temporary tree and plant protection including, but not limited to, the following:
 - a. Construction schedule. Verify availability of materials, personnel, and equipment needed to make progress and avoid delays.
 - b. Enforcing requirements for protection zones.
 - c. Arborist's responsibilities.
 - d. Field quality control.

1.08 PROJECT CONDITIONS

- A. The following practices are prohibited within protection zones:
 - 1. Storage of construction materials, debris, or excavated material.
 - 2. Parking vehicles or equipment.
 - 3. Foot traffic.
 - 4. Erection of sheds or structures.
 - 5. Impoundment of water.
 - 6. Excavation or other digging unless otherwise indicated.
 - 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- B. Do not direct vehicle or equipment exhaust toward protection zones.
- C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Topsoil: Natural or cultivated top layer of the soil profile or manufactured topsoil; containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 1 inch in diameter; and free of weeds, roots, and toxic and other non-soil materials.
 - 1. Obtain topsoil only from well-drained sites where topsoil is 4 inches deep or more; do not obtain from bogs or marshes.
- B. Topsoil: Stockpiled topsoil from location shown on Drawings, Imported or manufactured topsoil complying with ASTM D5268.
- C. Organic Mulch: Free from deleterious materials and suitable as a top dressing for trees and shrubs, consisting of one of the following:
 - 1. Type: Shredded hardwood.
 - 2. Size Range: 3 inches maximum, 1/2 inch.
 - 3. Color: Natural – NO DYE.
- D. Protection-Zone Fencing: Fencing fixed in position and meeting one of the following requirements.
- E. Previously used materials may be used when approved by Engineer.
 - 1. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch maximum opening in pattern and weighing a minimum of 0.4 lb/ft.; remaining flexible from minus 60 to plus 200 deg F; inert to most chemicals and acids; minimum tensile yield strength of 2000 psi and ultimate tensile strength of 2680 psi; secured with plastic bands or galvanized-steel or stainless-steel wire ties; and supported by tubular or T-shape galvanized-steel posts spaced not more than 8 feet apart.
 - a. Height: 4 feet.
 - b. Color: High-visibility orange, nonfading.
- F. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes prepunched and reinforced; legibly printed with nonfading lettering and as follows:

1. Size and Text: As shown on Drawings or BMP booklet “Managing Trees During Construction” a companion publication to the ANSI A300 standard, Part 5: *Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices* – whichever is more stringent.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- B. For the record, prepare written report, endorsed by arborist, listing conditions detrimental to tree and plant protection.

3.02 PREPARATION

- A. Locate and clearly identify trees, shrubs, and other vegetation to remain or to be relocated. Flag or Tie a 1-inch colored-vinyl tape (do not use pink or orange) around each tree trunk at 54 inches above the ground.
- B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.
- C. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas indicated – verify the use of mulch within TPZ with Engineer.
 1. When applicable per drawings or written notification Apply 6-inch average thickness of organic mulch. Do not place mulch within 12 inches of tree trunks.

3.03 TREE- AND PLANT-PROTECTION ZONES

- A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people from easily entering protected area except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.

1. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Engineer.
- B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Engineer. Install one sign spaced approximately every 20 feet on protection-zone fencing, but no fewer than 2 signs with each facing a different direction.
- C. Maintain protection zones free of weeds and trash.
- D. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Engineer.
- E. Maintain protection-zone fencing and signage in good condition as acceptable to Engineer and remove when construction operations are complete and equipment has been removed from the site.
 1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
 2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

3.04 EXCAVATION

- A. Trenching near Trees: Where utility trenches are required within protection zones, hand excavate under or around tree roots or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots cleanly as required for root pruning.
- B. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches back from new construction and as required for root pruning.
- C. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

3.05 ROOT PRUNING

- A. Prune roots that are affected by temporary and permanent construction. Prune roots as follows:
1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
 2. Cut Ends: Do not paint cut root ends.
 3. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
 4. Cover exposed roots with burlap and water regularly.
 5. Backfill as soon as possible according to requirements in Section 02300 "Earthwork."
- B. Root Pruning at Edge of Protection Zone: Prune roots flush with the edge of the protection zone, by cleanly cutting all roots to the depth of the required excavation.
- C. Root Pruning within Protection Zone: Clear and excavate by hand to the depth of the required excavation to minimize damage to root systems. Use narrow-tine spading forks, comb soil to expose roots, and cleanly cut roots as close to excavation as possible.

3.06 CROWN PRUNING

- A. Prune branches that are affected by temporary and permanent construction. Prune branches as follows:
1. Provide subsequent maintenance during Contract period as recommended by arborist.
 2. Pruning Standards: Prune trees according to ANSI A300 (Part 1)
 3. Cut branches with sharp pruning instruments; do not break or chop.
 4. Cut plant materials with clean pruning instruments.
 5. Do not apply pruning paint to wounds.
- B. Chip removed branches and spread over areas identified by Engineer.

3.07 REGRADING

- A. Regrading within drip-line of trees is never recommended. If required, the following conditions may apply:
- B. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- C. Lowering Grade within Protection Zone: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by arborist unless otherwise indicated.
 - 1. Root Pruning: Prune tree roots exposed by lowering the grade. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots as required for root pruning.
- D. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- E. Minor Fill within Protection Zone: Where existing grade is 2 inches or less below elevation of finish grade, fill with topsoil tapered to existing grade at tree trunks. Place topsoil in a single uncompacted layer and hand grade to required finish elevations. Provide fill in a manner that will not cause excess water to accumulate at the base of the tree – create a channel in the finish grade to divert excess water.

3.08 FIELD QUALITY CONTROL

- A. Inspections: Engage a qualified certified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

3.09 REPAIR AND REPLACEMENT

- A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Engineer.
 - 1. Submit details of proposed root cutting and tree and shrub repairs.
 - 2. Have arborist perform the root cutting, branch pruning, and damage repair of trees and shrubs.
 - 3. Treat damaged trunks, limbs, and roots according to arborist's written instructions.

4. Perform repairs within 24 hours.
 5. Replace vegetation that cannot be repaired and restored to full-growth status, as determined by Engineer.
- B. Trees: Remove and replace trees indicated to remain that are more than 25 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that Engineer or arborist determines are incapable of restoring to normal growth pattern.
1. Provide new trees of same size and species as those being replaced for each tree that measures 4 inches or smaller in caliper size.
 - a. Species: Species selected by Engineer.
 2. Plant and maintain new trees as specified in Section 02930 "Exterior Plants."
- C. Soil Aeration: Where directed by Engineer, aerate surface soil compacted during construction. Aerate 10 feet beyond drip line and no closer than 48 inches to tree trunk. Drill 6-inch- diameter holes a minimum of 12 inches deep at 24 inches o.c. Backfill holes with an equal mix of loose, free-draining planting medium.

3.10 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove excess excavated material, displaced trees, trash and debris, and legally dispose of them off Owner's property.

- END OF SECTION -

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SECTION 02240

DEWATERING

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor and equipment required to dewater all excavations.
- B. Dewatering of all excavations shall be the responsibility of the Contractor, and no additional compensation will be allowed for same.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 GENERAL

- A. Dewatering equipment shall be of adequate size and quantity to assure maintaining proper conditions for installing pipe, concrete, backfill or other material or structure in the excavation.
- B. Dewatering shall include proper removal of any and all liquid, regardless of its source, from the excavation.
- C. The site shall be kept free of surface water at all times. The Contractor shall install stabilized drainage ditches, dikes, and shall perform all pumping and other work necessary to divert or remove rainfall and/or all other accumulations of water from the excavations. The diversion and removal of surface water shall be performed in a manner that will prevent flooding and/or damage to other locations within or beyond the construction limits where it may be detrimental.
- D. The Contractor shall provide, install, and operate sufficient trenches, sumps, pumps, hose piping, well points, deep wells, etc., necessary to depress and maintain the groundwater level below the base of the excavation during all stages of construction operations.
- E. No groundwater from the excavated area shall be discharged into the sanitary sewer system, and no dewatering flows shall be discharged directly to streams or other waterbodies without authorization from the Kentucky Division of Water and notification to the LFUCG Division of Water Quality.

Dewatering
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- F. Dewatering shall be in accordance with Chapter 11 of the LFUCG Stormwater Manual and all other state and local regulations/permits/plans.
- G. Trench shall be dewatered as required and never shall the trench accumulate groundwater to a depth that will cause pipe to float.

END OF SECTION

SECTION 02260

EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. This Section includes, but is not limited to, the following:

1. Shoring and bracing necessary to protect existing buildings, streets, walkways, utilities, and other improvements and excavation against loss of ground or caving embankments.
2. Maintenance of shoring and bracing.
3. Removal of shoring and bracing, as required.

B. Types of shoring and bracing systems include, but are not limited to, the following:

1. Steel H-section (soldier) piles.
2. Timber lagging.
3. Steel sheet piles.
4. Portable steel trench box.

C. Building excavation is specified in another Division 2 Section.

1.02 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.03 QUALITY ASSURANCE

- A. Engineer Qualifications: A professional engineer legally authorized to practice in jurisdiction where Project is located, and experienced in providing successful engineering services for excavation support systems similar in extent required for this Project.
- B. Supervision: Engage and assign supervision of excavation support system to a qualified professional engineer foundation consultant.

- C. Regulations: Comply with codes and ordinances of governing authorities having jurisdiction.
- D. Layout drawings for excavation support system shall be prepared by, or under the supervision of, a qualified professional engineer. System design and calculations must be acceptable to local authorities having jurisdiction.

1.04 JOB CONDITIONS

- A. Before starting work, verify governing dimensions and elevations. Verify condition of adjoining properties. Take photographs to record any existing settlement or cracking of structures, pavements, and other improvements. Prepare a list of such damages, verified by dated photographs, and signed by Contractor and others conducting investigation.
- B. Survey adjacent structures and improvements, employing qualified professional engineer, establishing exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.
- C. During excavation, resurvey benchmarks weekly, maintaining accurate log of surveyed elevations for comparison with original elevations. Promptly notify Engineer if changes in elevations occur or if cracks, sags, or other damage is evident.

1.05 EXISTING UTILITIES

- A. Protect existing active sewer, water, gas, electricity and other utility services and structures.
- B. Notify municipal agencies and service utility companies having jurisdiction. Comply with requirements of governing authorities and agencies for protection, relocation, removal, and discontinuing of services.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General: Provide adequate shoring and bracing materials which will support loads imposed. Materials need not be new, but should be in serviceable condition.
- B. Structural Steel: ASTM A 36.
- C. Steel Sheet Piles: ASTM A 328.
- D. Timber Lagging: Any species, rough-cut, mixed hardwood, nominal 3 inches thick,

unless otherwise indicated.

E. Portable Steel Trench Box shall be OSHA approved.

PART 3 - EXECUTION

3.01 SHORING

- A. Wherever shoring is required, locate the system to clear permanent construction and to permit forming and finishing of concrete surfaces. Provide shoring system adequately anchored and braced to resist earth and hydrostatic pressures.
- B. Shoring systems retaining earth on which the support or stability of existing structures is dependent must be left in place at completion of work.

3.02 BRACING

- A. Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move a brace, install new bracing prior to removal of original brace.
- B. Do not place bracing where it will be cast into or included in permanent concrete work, except as otherwise acceptable to Engineer.
- C. Install internal bracing, if required, to prevent spreading or distortion of braced frames.
- D. Maintain bracing until structural elements are supported by other bracing or until permanent construction is able to withstand lateral earth and hydrostatic pressures.
- E. Remove sheeting, shoring, and bracing in stages to avoid disturbance to underlying soils and damage to structures, pavements, facilities, and utilities.
- F. Repair or replace, as acceptable to Engineer, adjacent work damaged or displaced through installation or removal of shoring and bracing work.

END OF SECTION

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SECTION 02310

ROUGH GRADING AND CLEAN-UP

PART 1 - GENERAL

1.01 SUMMARY

- A. Remove topsoil and stockpile for later reuse.
- B. Excavate subsoil and stockpile for later reuse as directed in Section 02316, Excavating, Backfilling, and Compacting for Utilities
- C. Grade and rough contour site.
- D. Rough (preliminary) Clean-up
On a daily basis, maintain the work area free from accumulations of waste, debris, excess rock and excavated material, downed trees and brush resulting from line installation operations. Repair fences directly following backfilling of trench. Generally, restore contours as directed by Engineer.
- E. Final Clean-up
Fully restore contours, seed or sod, fertilize, and straw mulch as directed by Engineer. Restore property to original condition.

1.02 RELATED SECTIONS

- A. Section 02410 - Rock Removal
- B. Section 02315 - Excavation

1.03 PROTECTION

- A. Protect trees and other features remaining as portion of final landscaping.
- B. Protect benchmarks, existing structures, fences, roads, sidewalks, and other features not designated for demolition.
- C. Protect above or below grade utilities which are to remain.
- D. Contractor shall be responsible for repairing any damage to those items not designated for demolition or removal in a manner satisfactory to the Owner at no additional cost to the Owner.

Rough Grading and Clean-up
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PART 2 - PRODUCTS

2.01 MATERIALS

A. Topsoil

Topsoil shall be fertile, natural soil, typical of the locality, free from large stones, roots, sticks, peat, weeds, and sod, and obtained from naturally well-drained areas. It shall not be excessively acid or alkaline nor contain other toxic material harmful to plant growth. Topsoil stockpiled under other sections or divisions may be used, but the Contractor shall furnish additional topsoil at his own expense, if required.

B. Subsoil

Subsoil shall be excavated material, graded free of lumps larger than 12 inches, rocks larger than 12 inches, and debris.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Identify known below grade utilities. Stake and flag locations.
- C. Identify and flag above grade utilities.
- D. Maintain and protect existing utilities remaining which pass through work area.
- E. Upon discovery of unknown utility or concealed conditions, discontinue affected work; notify Engineer.

3.02 TOPSOIL EXCAVATION

- A. Excavate topsoil from areas to be further excavated, and stockpile in area designated on site by the Engineer.
- B. Do not excavate wet topsoil.
- C. Stockpile topsoil to depth not exceeding eight (8) feet.

3.03 SUBSOIL EXCAVATION

- A. Excavate subsoil from indicated areas and stockpile in area designated on site. Excess subsoil may be reused according to Section 02316, Excavating, Backfilling, and Compacting for Utilities.
- B. Do not excavate wet subsoil.
- C. Stockpile subsoil to depth not exceeding eight (8) feet.
- D. When excavation through roots is necessary, perform work by hand and cut roots with a sharp axe.

3.04 TOLERANCES

Top Surface of Subgrade: Plus or minus three (3) inches.

END OF SECTION

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SECTION 02311

LANDSCAPE GRADING

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Finish grade subsoil.
- B. Place, level, and compact topsoil.

1.02 RELATED SECTIONS

- A. Section 02200 – Earthwork
- B. Section 02223 – Embankment
- C. Section 02920 – Seeding and Sodding

1.03 PROTECTION

- A. Protect landscaping and other features remaining as final work.
- B. Protect existing structures, fences, roads, and paving.

PART 2 - PRODUCTS

2.01 MATERIALS

Topsoil: Reused.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify site conditions and note irregularities affecting work of this Section.
- B. Beginning work of this Section means acceptance of existing conditions.

3.02 SUBSOIL PREPARATION

- A. Eliminate uneven areas and low spots. Remove debris, roots, branches, stones,

Landscape Grading
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in excess of 1 inch in size. Remove subsoil contaminated with petroleum products.

- B. Scarify subgrade to depth of 3 inches where topsoil is scheduled. Scarify in areas where equipment used for hauling and spreading topsoil has compacted subsoil.

3.03 PLACING TOPSOIL

- A. Place topsoil in areas where seeding is scheduled.
- B. Use topsoil in relatively dry state. Place during dry weather.
- C. Fine grade topsoil eliminating rough or low areas. Maintain levels, profiles, and contours of subgrade.
- D. Remove stone, roots, grass, weeds, debris, and foreign material while spreading.
- E. Manually spread topsoil around structures to prevent damage.
- F. Roll placed topsoil.
- G. Leave stockpile area and site clean and raked, ready to receive landscaping.

3.04 TOLERANCES

Top of Topsoil: Plus or minus 1 inch.

3.05 SCHEDULE OF LOCATIONS

- A. The following paragraph identifies compacted topsoil thicknesses for various locations.
- B. Seeded Grass: 6 inches minimum.

END OF SECTION

SECTION 02315

EXCAVATION

PART 1 - GENERAL

1.01 SUMMARY

- A. The Contractor shall furnish all labor, materials, and equipment necessary for the unclassified excavation as shown on the Drawings.

1.02 RELATED SECTIONS

- A. Section 02200 – Earthwork
- B. Section 02410 – Rock Removal
- C. Section 02316 – Excavating, Backfilling, and Compacting for Utilities

1.03 SAFETY

- A. Conform to all federal, state, and local codes and regulations regarding safety.
- B. Protect excavations by shoring, bracing, sheet piling, underpinning, or other methods required to prevent cave-in or loose soil from falling into excavation. Trench boxes shall meet OSHA standards.
- C. Underpin adjacent structures which may be damaged by excavation work, including service utilities and pipe chases.
- D. Notify Engineer of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.
- E. Protect bottom of excavations and soil adjacent to and beneath foundations from frost.
- F. Grade excavation top perimeter to prevent surface water run-off into excavation.
- G. Contractor shall provide ample means and devices with which to intercept any water entering the excavation area.

1.04 ROCK EXCAVATION

Rock removal shall be in accordance with Section 02410.

Excavation
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PART 2 - PRODUCTS

2.01 MATERIALS

A. Subsoil

Excavated material, graded free of lumps larger than 12 inches, rocks larger than 12 inches, and debris.

B. Pea Gravel

Mineral aggregate grader ¼ inch to 5/8 inch, free of soil, subsoil, clay, shale, or foreign matter.

PART 3 - EXECUTION

3.01 CLASSIFICATION

- A. Without regard to the materials encountered, all trenching, roadway and drainage excavation is unclassified, and the Owner will consider it Unclassified Excavation. Any reference to rock, earth, or any other material on the Drawings or cross sections, whether in numbers, words, letters, or lines, is solely for the Owner's information and is not an indication of classified excavation or the quantity of either rock, earth, or any other material involved. The Bidder must draw his own conclusions as to the conditions to be encountered. The Owner does not give any guarantee as to the accuracy of the data and will not consider any claim for additional compensation when the materials encountered are not in accord with the classification shown.

3.02 PREPARATION

Identify required lines, levels, contours, and datum.

3.03 EXCAVATION

- A. All unclassified excavation shall be done in accordance with Section 204 – Roadway and Drainage Excavation in the Kentucky Transportation Cabinet's *Standard Specifications for Road and Bridge Construction*, Latest Edition.
- B. Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees that receive damage to branches shall be trimmed of those branches to improve the appearance of the

tree. Tree trunks receiving damage from equipment shall be treated with a tree dressing.

- C. Before excavation and grading is commenced for buildings, structures, roads, parking areas, or other work described hereinafter or before material is removed from borrow pits, the topsoil shall be removed from the areas affected and stockpiled.
- D. Excavate subsoil required for construction operations and other work.
- E. Contractor is responsible to adequately brace open cuts and protect workmen and equipment from cave-in, in accordance with all federal, state, and local regulations.
- F. Remove lumped subsoil, boulders, and rock up to 1/3 cu. yd., measured by volume.
- G. Correct unauthorized excavation at no cost to Owner.
- H. Fill over-excavated areas under structure bearing surfaces in accordance with Section 02316 – Excavating, Backfilling, and Compacting for Utilities or as directed by Engineer.
- I. Stockpile excavated material in area designated on site.

3.04 DEWATERING

- A. The Contractor, at his own expense, shall provide adequate facilities for promptly and continuously removing water from all excavation. Additionally, no additional payment will be made for dewatering associated with leakage from any existing facilities during the construction.
- B. To ensure proper conditions at all times during construction, the Contractor shall provide and maintain ample means and devices (including spare units kept ready for immediate use in case of breakdowns) with which to remove promptly and dispose properly of all water entering trenches and other excavations. Such excavation shall be kept dry until the structures, pipes, and appurtenances to be built therein have been completed to such extent that they will not be floated or otherwise damaged.
- C. All water pumped or drained from the work shall be disposed of in a suitable manner without undue interference with other work, damage to pavements, other surfaces, or property. Suitable temporary pipes, flumes, or channels shall be provided for water that may flow along or across the site of the work.

- D. If necessary, the Contractor shall dewater the excavations by means of an efficient drainage wellpoint system which will drain the soil and prevent saturated soil from flowing into the excavation. The wellpoints shall be designed especially for this type of service. The pumping unit shall be designed for use with the wellpoints, and shall be capable of maintaining a high vacuum and of handling large volumes of air and water at the same time.
- E. The installation of the wellpoints and pump shall be done under the supervision of a competent representative of the manufacturer. The Contractor shall do all special work such as surrounding the wellpoints with sand or gravel or other work which is necessary for the wellpoint system to operate for the successful dewatering of the excavation.

3.05 UNAUTHORIZED EXCAVATION

If the bottom of any excavation is taken out beyond the limits indicated or prescribed, the resulting void shall be backfilled at the Contractor's expense with thoroughly compacted crushed stone in accordance with Section 02376, or with 4000 psi concrete, if the excavation was for a structure.

3.06 EXCAVATION / DISPOSAL OF UNSUITABLE MATERIAL

- A. If material unsuitable for foundation (in the opinion of the Engineer) is found at or below the grade to which excavation would normally be carried in accordance with the drawings and/or specifications, the Contractor shall remove such material to the required width and depth and replace it with thoroughly compacted, screened gravel, select bank-run gravel, fine aggregate, or concrete as directed.
- B. No excavated materials shall be removed from the site of the work or disposed of by the Contractor except as directed or permitted.
- C. Surplus excavated materials suitable for backfill shall be used to backfill normal excavations in rock or to replace other materials unacceptable for use as backfill; shall be neatly deposited and graded so as to make or widen fills, flatten side slopes, or fill depressions. All work shall be as directed or permitted and without additional compensation.
- D. Surplus excavated materials not needed as specified above shall be hauled away and dumped by the Contractor, at his expense, at appropriate locations, and in accordance with arrangements made by him.

3.07 EXCESS MATERIAL

Excavation
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Disposal of excess material shall be the responsibility of the Contractor. The Contractor shall determine the best method and area for disposal and obtain all permits and required permission. Disposal on site will not be permitted unless specifically indicated on the Drawings.

3.08 EXISTING UTILITIES AND OTHER OBSTRUCTIONS

Prior to the commencement of construction on the project, the Contractor shall contact the Owner and utility companies whose lines, above and below ground, may be affected during construction and verify the locations of the utilities as shown on the drawings. The Contractor shall ascertain from said parties if he will be allowed to displace or alter, by necessity, those lines encountered or replace those lines disturbed by accident during construction, or if the parties themselves are only permitted by policy to perform such work. If the Contractor is permitted to perform such work, he shall leave the lines in as good condition as were originally encountered and complete the work as quickly as possible. All such lines or underground structures damaged or molested in the construction shall be replaced at the Contractor's expense, unless in the opinion of the Engineer, such damage was caused through no fault of the Contractor.

END OF SECTION

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SECTION 02370

EROSION AND SEDIMENT CONTROL

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall furnish all labor, materials, and equipment required for installing, maintaining, amending, and removing temporary soil erosion, sediment, and pollutant controls as shown in the Erosion and Sediment Control Plan or Stormwater Pollution Prevention Plan (hereinafter referred to generally as the SWPPP) and as specified herein and as required by the LFUCG Land Disturbance Permit, Chapter 16-Article X, Division 5 of the LFUCG Code of Ordinances, and the KPDES General Permit for Stormwater Discharges Associated with Construction Activities (KYR10).
- B. The Contractor shall take all site management measures necessary to minimize erosion and contain sediment, construction materials (including excavation and backfill), and pollutants (such as chemicals, fuels, lubricants, bitumen, raw sewage, and other harmful waste) on the site, and prevent them from being discharged offsite or into or alongside any body of water or into natural or man-made conveyances leading thereto.
- C. The Contractor shall at all times minimize land disturbance and the period of time that the disturbed area is exposed without stabilization practices. In “critical areas” (within 25 feet of a perennial or intermittent stream, wetland, sinkhole, inlet or other waterbody) erosion prevention measures such as working during dry periods, use of sediment controls, and use of erosion control mats/blankets, mulch, or straw blown in and stabilized with tackifiers or by treading, etc. shall be implemented on disturbed areas within 24 hours or “as soon as practical” after completion of disturbance/grading or following cessation of activities.
- D. Temporary erosion controls include, but are not limited to sodding, mulching, seeding, providing erosion control blankets and turf reinforcement mats on all disturbed surfaces including waste area surfaces and stockpile and borrow area surfaces; covering small disturbed areas with tarps or other materials; scheduling work to minimize erosion; and providing diversion or interceptor ditches to minimize the discharge of sediment.
- E. Temporary sedimentation controls include, but are not limited to, silt fences, rock check dams, berms, traps, barriers, fiber logs, storm drain inlet filters, and appurtenances on sloped surfaces to minimize the discharge of sediment.

- F. Contractor is responsible for providing and maintaining effective temporary erosion and sediment control measures prior to and during construction or until final controls become effective and the site is stabilized in accordance with state and local requirements.
- G. Prior to construction, the Contractor shall obtain an LFUCG Land Disturbance Permit and shall obtain coverage under the KPDES General Permit for Stormwater Discharges Associated with Construction Activities (KYR10) (see Article 3.24 in this Section) if required. The Contractor shall be responsible for placement of pollutant, erosion, and sedimentation controls as shown in the Stormwater Pollution Prevention Plan (SWPPP) prior to excavation, fill, or grade work. If during the course of construction, the state and/or LFUCG determine additional controls are required, the Contractor shall furnish, install, and maintain additional seeding, mulch, blankets, sediment barriers, diversion or other ditches, and/or other controls as necessary to control pollution, erosion, and sedimentation to the satisfaction of the regulatory agency.
- H. The Contractor shall inspect and repair all erosion and sedimentation controls as follows:
 - 1. At least once every seven (7) calendar days, and
 - 2. Within 24 hours after any storm event of 0.5 inch or greater.
- I. Final stabilization practices on those portions of the project where land disturbance activities have permanently ceased shall be initiated within fourteen (14) days of the date of cessation of land disturbance activities. Temporary stabilization for those portions of the project where land disturbance has temporarily ceased (e.g., temporary seeding, mulching, etc.) shall be initiated within fourteen (14) days of the date of cessation of land disturbance activities.
- J. Erosion and Sediment Control prevention measures shall be installed prior to removal of vegetation, grading, and/or stripping of topsoil. The Contractor is responsible for preparing and submitting the Kentucky Division of Water Notice of Intent and attachments and obtaining state permit approval, if applicable, prior to the beginning of any construction activities.

1.02 PERMITS AND NOTIFICATION REQUIREMENTS

- A. The Contractor is responsible to submit a Stormwater Pollution Prevention Plan (SWPPP) for inclusion with permit applications. The Contractor may elect one of the following options to meet this requirement:
 - 1. Utilize the SWPPP (which includes the Erosion and Sediment Control Plan) provided in the Construction Drawings and prepared by the Owner's Engineer

as a basis for an updated SWPPP, and take sole responsibility for updating and implementing the SWPPP, or

2. Provide a SWPPP, including an Erosion and Sediment Control Plan, prepared by a professional engineer licensed in the Commonwealth of Kentucky, meeting all of the requirements of KYR10, Chapter 11 of the LFUCG Stormwater Manual, and Chapter 16-Article X, Division 5 of the LFUCG Code of Ordinances.
- B. If applicable (i.e., for projects with a disturbed area of one acre or more), the Contractor shall submit a KPDES Notice of Intent specifically for Construction Activities (NOI-SWCA) and receive notification of coverage before beginning any site disturbance, and shall implement erosion, sediment, and pollution control measures as may be required by state, local and federal agencies. Contractor shall submit a signed Notice of Intent form and required attachments to the Division of Water at least seven (7) days prior to beginning of construction activity. See Article 3.24 in this Section for detailed requirements.
- C. A Land Disturbance Permit shall be obtained from the Lexington-Fayette Urban County Government Division of Engineering. See Article 3.25 in this Section for detailed requirements.
- D. The Contractor shall comply with all additional requirements of LFUCG. It is the Contractor's responsibility to provide evidence to the Owner that all permits, including those associated with construction across or along a stream channel, if applicable, have been obtained prior to initiation of construction. Some permits are obtained during the design phase of the project. Typically, they should be included in the contract documents.

1.03 RELATED WORK

- A. Section 02371 – Stormwater Pollution Prevention Plan (SWPPP)
- B. Section 02378 – Stream Crossings, Streambank Restoration, and Stream Buffer Restoration

PART 2 – PRODUCTS

2.01 MULCH

- A. Mulch or erosion control blankets / turf reinforcement mats (see Section 2.08) shall be used as a soil stabilization measure for any disturbed area inactive (i.e., not undergoing grading or excavation) for 14 days or longer. Areas requiring stabilization during December through February shall receive only mulch held in place with bituminous material. Mulching, blankets, or mats shall be used whenever

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permanent or temporary seeding is used. The anchoring of mulch, blankets, and mats shall be in accordance with the Construction Drawings except all mulch placed in December through February shall be anchored with bituminous materials regardless of the slope. Permanent mulches or mats shall be used in conjunction with planting trees, shrubs, and other ground covers that do not provide adequate soil stabilization.

- B. Straw shall come from wheat, rye, or barley and may be spread by hand or machine. Straw shall be anchored. Straw shall be applied at two tons per acre or 90 pounds per 1,000 square feet. Straw shall be free from weeds and coarse matter.
- C. Wood chips are appropriate for areas with less than five percent slopes, and do not require tacking. Wood chips shall be applied at 270 cubic yards per acre or 6 cubic yards per 1,000 square feet and approximately 2 inches deep. Wood chips shall be treated with 20 pounds of nitrogen per acre or shall be treated with 12 pounds slow-release nitrogen per ton to prevent nutrient deficiency in plants.
- D. Bark chips or shredded bark are appropriate for areas with less than five percent slopes, and shall be applied at 70 cubic yards per acre or 1.5 to 2 cubic yards per 1,000 square feet and about one-half inch thick. Bark does not require additional nitrogen fertilizer.
- E. Manufacturer's recommendations shall be followed during application of manufactured wood fiber and recycled paper sold as mulch materials applied in a hydroseeder slurry with binders/tackifiers. Recycled paper (newsprint) or wood fiber shall be mixed at 50 pounds per 100 gallons of water and applied according to manufacturer's recommendations and model of hydroseeder in use.
- F. Liquid mulch binders/tackifiers shall be applied according to manufacturer's recommendations. Chemical soil stabilizers or soil binders/tackifiers/emulsions shall not be used alone. Recommended buffer distances between applied products and waterbodies shall be strictly followed.
- G. Gravel or stone aggregate may be used in relatively small areas when incorporated into an overall landscaping plan. Before the gravel or crushed stone is applied, it shall be washed.

2.02 TEMPORARY SEED

- A. Temporary seeding shall be used for soil stabilization when grades are not ready for permanent seeding, except during December through February. The seed shall be applied within 14 days after grading has stopped. Only rye grain or annual rye grass seed shall be used for temporary seeding.

2.03 PERMANENT SEED

- A. Permanent seeding shall be applied within 14 days after final grade has been reached, except during December through February. Permanent seeding shall also be applied on any areas that will not be disturbed again for a year even if final grades have not been reached. The use of mulch and erosion control blanket or turf reinforcement matting with permanent seeding shall be in accordance with applicable sections of this Specification. "Seed mats" may be used for permanent seeding in accordance with manufacturers' recommendations.
- B. Permanent seeding shall be used on disturbed areas where permanent, long-lived vegetative cover is needed to stabilize the soil and on rough graded areas that will not be brought to final grade for one year or more.
- C. The area to be seeded shall be protected from excess run-on and runoff as necessary with diversions, grassed waterways, terraces, or sediment ponds.
- D. Contractor shall use the following Permanent Seed Mix, with the following exceptions:
 - a. If a property owner landscaping agreement differs from this specification, the property owner landscaping agreement shall be followed on that property, or
 - b. The area to be seeded is within 25 feet of a stream bank, in which case Contractor shall follow the seed mix provided in Section 02378, or
 - c. The Construction Drawings identify a different seed mix.

The Permanent Seed Mix shall consist of the following mix spread at a rate of 12.5 pounds/1,000 square feet:

Common Name	%	lbs per 1,000 sq. ft.
Tall Fescue (turf type)	75	3.75
Annual Rye	15	0.75
Bluegrass	10	0.50
TOTAL	100%	5

- E. Vegetative cover alone shall not be used to provide erosion control cover and prevent soil slippage on a soil that is not stable due to its structure, water movement, or excessive slope.
- F. Permanent seeding may be done at any time except December through February.

- G. Soil material shall be capable of supporting permanent vegetation and have at least 25 percent silt and clay to provide an adequate amount of moisture holding capacity. An excessive amount of sand will not consistently provide sufficient moisture for good growth regardless of other soil factors.
- H. Fertilizer shall be applied at a rate determined by a soil test obtained by the Contractor. Fertilizer shall not be applied within 50 feet of a stream or other waterbody. Lime shall be applied at a rate of 100 pounds per 1,000 square feet or two tons per acre of agricultural ground limestone, unless soil test results indicate differently.

2.04 SOD

- A. Sod shall be used for disturbed areas that require immediate vegetative cover, *e.g.*, the area surrounding a drop inlet in a grassed waterway, the design flow perimeter of a grassed waterway that will convey flow before vegetation can be established, and the inlet of a culvert. Sod may be installed throughout the year. "Seed mats" and seed with geotextiles may be used in place of sod when done in accordance with manufacturers' recommendations.
- B. Contractor shall use tall fescue sod, unless another species is specified in the Construction Drawings or unless the property owner landscaping agreement differs from this specification.
- C. Sod shall not be used to provide erosion control and prevent soil slippage on a soil that is not stable due to its structure, water movement, or excessive slope.
- D. Sod shall be installed within 48 hours of digging and removal from the field. Sod should not be used on slopes steeper than 2H:1V. If it is to be mowed, installation should be on slopes no greater than 3H:1V.
- E. Soil material shall be capable of supporting permanent vegetation and shall consist of at least 25 percent silt and clay to provide an adequate amount of moisture holding capacity. An excessive amount of sand will not consistently provide sufficient moisture for the sod regardless of other soil factors.
- F. Fertilizer shall be applied at a rate determined by a soil test obtained by the Contractor. Fertilizer shall not be applied within 50 feet of a stream or other waterbody. Lime shall be applied at a rate of 100 pounds per 1,000 square feet or two tons per acre of agricultural ground limestone, unless soil test results indicate differently.
- G. The sod shall consist of strips of live, vigorously growing grasses. The sod shall be free of noxious and secondary noxious weeds and shall be obtained from good, solid, thick-growing stands. The sod shall be cut and transferred to the job in the largest continuous pieces that will hold together and are practical to handle.

- H. The sod shall be cut with smooth clean edges and square ends to facilitate laying and fitting. The sod shall be cut to a uniform thickness of not less than three-fourth inch measured from the crown of the plants to the bottom of the sod strips for all grasses except bluegrass. Bluegrass sod shall be cut to a uniform thickness of not less than one and one-half inches.
- I. The sod shall be mowed to a height of not less than two inches and no more than four inches prior to cutting.
- J. The sod shall be kept moist and covered during hauling and preparation for placement on the sod bed.
- K. Sod shall be kept watered after installation until the project is considered substantially complete.

2.05 ROAD/PARKING STABILIZATION

- A. Gravel or paved material shall be used to stabilize permanent roads or parking areas or roads or parking areas used repeatedly by construction traffic. Stabilization shall be accomplished within 14 days of grading or initiation of use for construction traffic. Unstabilized roads are not acceptable except in instances where the road will be used less than one month.
- B. Road/parking stabilization shall be used wherever roads or parking areas are constructed, whether permanent or temporary, for use by construction traffic.
- C. Stabilization shall be accomplished with a minimum depth of six inches of crushed stone. Stabilized construction roadbeds shall be at least 14 feet wide for one-way traffic and at least 20 feet wide for two-way traffic.
- D. Temporary roads shall follow the contour of the natural terrain to the extent possible. Slopes shall not exceed 10 percent.
- E. Temporary parking areas shall be located on naturally flat areas to minimize grading. Grades shall be sufficient to provide drainage but shall not exceed 4 percent.
- F. All cuts and fills shall be 2H:1V or flatter.
- G. Drainage ditches shall be provided as needed.
- H. Crushed stone shall be KYTC aggregate No. 2 (1.5 to 3 inches in diameter), or equivalent.

2.06 CONSTRUCTION ENTRANCE

- A. A stabilized construction entrance shall be constructed wherever vehicles are leaving a construction site to enter a public road or at any unpaved entrance/exit location where there is a risk of transporting mud or sediment onto paved roads. A construction entrance shall be constructed at the beginning of the project before construction traffic begins to enter and exit the site.
- B. A stabilized construction entrance shall be constructed of crushed stone a minimum of 6 inches thick laid over geotextile (filter fabric).
- C. The width shall be at least 20 feet. At sites where traffic volume is high, the entrance shall be wide enough for two vehicles to pass safely. The length shall be at least 50 feet, and where practical, shall be extended to 100 feet. The entrance shall be flared where it meets the existing road to provide a turning radius.
- D. Stormwater and wash water runoff from a stabilized construction entrance shall drain to a sediment trap or sediment pond. If conditions on the site are such that the majority of the mud is not removed by the vehicles traveling over the gravel, then the tires of the vehicles shall be washed before entering a public road.
- E. Pipe placed under the entrance to handle runoff shall be protected with a mountable berm.
- F. Dust control shall be provided in accordance with the applicable sections of this Specification.
- G. Crushed stone shall be KYTC aggregate No. 2 (1.5 to 3 inches in diameter), or equivalent.
- H. Geotextile filter fabric shall be KYTC Type III.

2.07 DUST CONTROL

- A. Dust control measures shall be implemented on the site.
- B. Construction activities shall be phased to minimize the total area unstabilized at any given time, thereby reducing erosion due to air and water movement.
- C. Construction roads shall be watered as needed to minimize dust.
- D. Existing trees, shrubs, and ground cover shall be retained as long as possible during the construction. Initial land clearing should be conducted only in those areas to be regraded or where construction is to occur. Areas to be cleared only for new vegetation or landscaping shall be stabilized with seed and mulch immediately following clearing.

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- E. Vegetative cover is the most effective means of dust and erosion control, when appropriate. See sections on Temporary Seed, Permanent Seed, Mulch, and Sod of this Specification.
- F. When areas have been regraded and brought to final grade, they shall be stabilized using temporary or permanent seed and mulch or other measures.
- G. Mulch with mulch binders may be used as an interim dust control measure in areas where vegetation may not be appropriate.
- H. See sections on Temporary Seed, Permanent Seed, Sod, Mulch, Road/Parking Stabilization, and Construction Entrance of this Specification.

2.08 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS

- A. Mulch netting, erosion control blankets (ECBs), or turf reinforcement matting (TRM) shall be used on sloping areas as indicated in the Construction Drawings. Mats or nets and permanent seeding may be used as an alternate to sod for culvert entrances and grassed waterways when selected and installed in accordance with manufacturer's recommendations. TRMs shall be used at the water line to control toe erosion along stream banks and wave action in wet ponds. Erosion control blankets may be used to stabilize small ditches and swales and on recently planted slopes to protect seedlings until they become established.
- B. Effective ECB and TRM installation shall require firm, continuous contact between the materials and the soil. If there is no contact, the material will not hold the soil and erosion will occur underneath the material.
- C. ECBs or TRMs shall be used in critical areas such as banks along waterways where concentrated flows are expected. Manufacturer's specifications shall be followed.
- D. ECBs, TRMs, and netting shall be suitable for their intended purpose and shall be used as indicated in the Construction Drawings.
- E. The ECB shall have a minimum useful life span of two (2) years. The material shall consist of interlocking, curled wood fibers and be capable of withstanding shear stresses up to 2.25 pounds per square foot and a velocity of nine (9) feet per second. The acceptable ECB shall be Curlex II as manufactured by American Excelsior Company or approved equal.
- F. The TRM shall be a permanent application. The material shall consist of recycled fibers and be capable of withstanding water velocities up to eight (8) feet per second. The acceptable permanent turf reinforcement mat shall be Recyclex TRM, as manufactured by American Excelsior Company, or approved equal.

G. Product Documentation

The manufacturer shall provide the Engineer or other designated party with the QA/QC certifications for each shipment of ECB/TRM. The certification shall be signed by a responsible party employed by the manufacturer such as the QA/QC Manager, Production Manager, or Technical Services Manager. The QA/QC certifications shall include:

- a. ECB/TRM lot and roll numbers (with corresponding shipping information)
- b. Manufacturer's test data for raw materials used in the production
- c. Manufacturer's test data for finished production.

H. Product Labeling

- a. Prior to shipment, the Manufacturer shall affix a label to each roll identifying the following characteristics:
- b. Product identification information (manufacturer name and address, brand name, product code)
- c. Lot number and roll number
- d. Roll length and width
- e. Total roll weight.

I. Packaging

1. The ECB/TRM shall be wound around a cardboard core to facilitate handling. The core is not intended to support the roll for lifting but should be sufficiently strong to prevent collapse during transit.
2. All rolls shall be labeled and bagged in packaging that is resistant to photodegradation by ultraviolet light.

J. The Contractor shall furnish the following to the Engineer:

1. Manufacturer's quality assurance/quality control certifications for each shipment to verify that the materials supplied for the project are in accordance with the requirements of this specification.
2. Manufacturer's warranty covering materials and workmanship.

2.09 TEMPORARY DIVERSION DITCH

- A. Temporary diversion ditches shall be used to collect sediment-laden runoff from disturbed areas and direct it to a sediment pond where applicable. Temporary ditches are those expected to be in use for less than one year. Temporary diversion and/or other ditches require stabilization, with seed, blankets, mats, or mulch.

- B. Temporary diversion ditches shall have stable outlets. The combination of conditions of site, slopes, and soils should be so that the ditch can be maintained throughout its planned life.
- C. Temporary diversion ditches shall not be constructed below high sediment-producing areas unless land treatment practices or structural measures, designed to prevent damaging accumulations of sediment in the channels, are installed with or before the diversion.
- D. A typical diversion cross section consists of a channel and a supporting ridge. In the case of an excavated-type diversion, the natural ground serves as the diversion ridge. Diversion cross sections shall be adapted to the equipment that will be used for their construction and maintenance.
- E. The channel may be parabolic or trapezoidal in shape. V-shaped ditches shall not be constructed.
- F. Diversions shall be located so that water will empty onto an established area such as a stable watercourse, waterway, or structure.
- G. Any high sediment-producing area above a diversion shall be controlled by good land use management or by structural measures to prevent excessive sediment accumulation in the diversion channel.
- H. Temporary diversions above steep slopes or across graded rights-of-way shall have a berm with a minimum top width of 2 feet, side slopes of 2:1 or flatter and a minimum height of 18 inches measured from the channel bottom.
- I. Diversions installed to intercept flow on graded rights-of-way shall be spaced 200 to 300 feet apart.
- J. A level lip spreader shall be used at diversion outlets discharging onto areas already stabilized by vegetation.

2.10 LEVEL SPREADER

- A. Level spreaders shall be constructed at the outlets of temporary diversion ditches if they discharge to landscaped areas. Level spreaders shall also be constructed at outlets of permanent constructed waterways where they terminate on undisturbed areas.
- B. The length of the level spreader shall be constructed as shown on the Construction Drawings.

2.11 PERMANENT CONSTRUCTED WATERWAY

- A. Permanent constructed waterways shall be used to divert stormwater runoff from upland undisturbed areas around or away from areas to be disturbed during construction. A waterway expected to be in place for at least one year shall be considered permanent. Permanent waterways shall be lined with sod or permanent seeding and nets, ECBs, or TRMs.

2.12 PIPE SLOPE DRAIN

- A. Pipe slope drains shall be used whenever it is necessary to convey water down a steep slope, which is not stabilized or which is prone to erosion, unless a paved ditch (flume) is installed.
- B. Contractor shall use a 10-inch diameter pipe or larger to convey runoff from areas up to one-third acre; 12-inch or larger pipe for up to half-acre drainage areas; and 18-inch pipe for areas up to one acre, unless otherwise specified in the Construction Drawings. Multiple pipes shall be required for large areas, spaced as shown on the Construction Drawings.
- C. The pipe shall be heavy duty flexible tubing designed for this purpose, *e.g.*, non-perforated, corrugated plastic pipe, or specially designed flexible tubing.
- D. A standard flared end section or a standard T-section fitting secured with a watertight fitting shall be used for the inlet.
- E. Extension collars shall be 12-inch long sections of corrugated pipe. All fittings shall be watertight.

2.13 IMPACT STILLING BASIN

- A. Impact stilling basins or armoring shall be used at the outlet of culverts and storm sewers with calculated exit velocities greater than 15 feet per second when flowing full.

2.14 CHECK DAM

- A. Check dams shall be limited to use in small, open channels that drain 10 acres or less.
- B. Check dams shall not be used in streams.
- C. Check dams can be constructed of stones, coir logs, or wood fiber logs.
- D. If used, check dams shall be constructed prior to the establishment of vegetation.

- E. The maximum height at the center of a check dam shall be three feet above the ground on which the rock is placed.
- F. The center of the portion of the check dam above the flat portion of the channel shall be at least 1 foot lower than the outer edges. The outer edges of the check dam shall extend up the side slopes of the channel to a point 3 feet in elevation above the center portion of the check dam or to the top of the side slopes.
- G. The maximum spacing between rock check dams in a ditch should be such that the toe of the upstream dam is at the same elevation as the top of the next downstream dam.
- H. The spacing of coir and wood fiber check dams is one log every 100 feet for velocities of 5 fps, 50 feet for velocities between 5 and 7.5 fps, and 25 feet for velocities greater than 10 fps, unless otherwise shown in the Construction Documents.
- I. Stone check dams shall be constructed of KYTC Class II channel lining.
- J. Coir log or wood fiber log check dams shall be constructed of a single log with a diameter of at least 20 inches.

2.15 SEDIMENT TRAP

- A. Sediment traps shall be installed below all disturbed areas of less than 5 acres that do not drain to a sediment pond.
- B. Erosion control practices such as seeding, mulching, sodding, diversion dikes, etc., shall be used in conjunction with sediment traps to reduce the amount of sediment flowing into the trap. The amount of sediment entering a trap can be reduced by the use of stabilized diversion dikes and ditches.
- C. The trap shall not be located in a stream. It shall be located to trap sediment-laden runoff before it enters the stream.
- D. Trap depth shall be at least 2 feet at the inlet and 4 feet at the outlet. Effective trap width shall be at least 10 feet and trap length shall be at least 30 feet. Containment berms of earth or rock may be used. High velocity areas (e.g., overflows) shall be armored with rock, TRMs, or other suitable material.
- E. The Construction Drawings shall indicate the final disposition of the sediment trap after the upstream drainage area is stabilized. The Construction Drawings shall indicate methods for the removal of excess water lying over the sediment, stabilization of the pond site, and the disposal of any excess material.

2.16 SEDIMENT POND

- A. A sediment pond shall be installed at the outlet of a disturbed area of 5 acres or more. The maximum drainage area for a single pond is 100 acres.
- B. Design and construction shall comply with all federal, state, and local laws, ordinances, rules, and regulations regarding dams.
- C. Erosion control practices such as seeding, mulching, sodding, diversion dikes, etc., shall be used in conjunction with sediment ponds to reduce the amount of sediment flowing into the pond.
- D. The pond shall not be located in a stream. It shall be located to trap sediment-laden runoff before it enters the stream.
- E. Contractor shall construct the sediment pond as shown on the Construction Drawings.
- F. Permanent ponds designed for stormwater detention or water quality treatment may serve as temporary sediment ponds if site conditions make the use of these structures desirable. At the time of conversion from a sediment pond to a permanent stormwater management pond, excess sediment shall be cleaned from the pond. If the pond is converted to a water quality basin, the sand in the sand filter outlet shall be replaced with clean sand unless it is shown to be clean.
- G. The Construction Drawings shall indicate the final disposition of the sediment pond after the upstream drainage area is stabilized. The Construction Drawings shall indicate methods for the removal of excess water lying over the sediment, stabilization of the pond site, and the disposal of any excess material.
- H. Vegetation shall be established upon completion of construction of the embankment, emergency spillway and other areas disturbed by construction.

2.17 SILT FENCE

- A. Silt fence shall be installed down-slope of areas to be disturbed prior to clearing and grading. Silt fence shall be situated such that the total area draining to the fence is not greater than one-fourth acre per 100 feet of fence. Silt fence shall be used for storm drain drop inlet protection and around soil stockpiles.
- B. Under no circumstances shall silt fences be constructed in streams or in swales or ditch lines or any area of concentrated flow.
- C. Synthetic filter fabric shall be a pervious sheet of propylene, nylon, and polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

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PHYSICAL PROPERTY

Filtering Efficiency
Tensile Strength at 20%
Flow Rate

REQUIREMENTS

80% (minimum)
50 pounds/linear inch (minimum)
0.3 gallons/square foot/minute (minimum)

- D. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0°F to 120°F.
- E. Posts for synthetic fabric silt fences shall be either 2-inch by 2-inch wood or 1.33 pounds per linear foot steel with a minimum length of 5 feet. Steel posts shall have projections for fastening wire to them. Posts shall be no more than 6 feet apart.
- F. Wire fence reinforcement for silt fences shall be a minimum of 36 inches in height, a minimum of 14 gauge and shall have a mesh spacing of no greater than 6 inches.

2.18 STORM DRAIN INLET PROTECTION

- A. Storm drain inlet protection shall be utilized on drop inlets and curb inlets that receive sediment-laden runoff from disturbed areas.
- B. Storm drain inlet protection shall only be used around drop inlets when the up-slope area draining to the inlet has no other or inadequate sediment control.
- C. The drainage area shall be no greater than 1 acre.
- D. The inlet protection device shall be constructed in a manner that will facilitate cleanout and disposal of trapped sediment and minimize interference with construction activities.
- E. Inlet protection devices shall be constructed in such a manner that any resultant ponding of stormwater will not cause flooding or excessive inconvenience or damage to adjacent areas, roadways, properties, or structures.
- F. Inlet protection devices are low flow filter devices, and as such shall be constructed in such a manner as to allow for higher flows to bypass into the storm drain system to prevent flooding of the roadway or downstream properties.

2.19 FILTER STRIP

- A. Filter strips shall be used on each side of permanent constructed channels.
- B. Filter strips shall only be used to remove sediment from overland flow. Filter strips are not effective in removing sediment from concentrated flows.

- C. If vegetative filters are proposed as a sediment control device and they do not already exist, they shall be planted and established prior to initiating land disturbing activities.
- D. The minimum filter strip width shall be 50 feet for streams, wetlands, and sinkholes. The minimum filter strip width shall be ten feet for constructed waterways.
- E. Where a post development floodplain or wet weather conveyance is being protected, filter strips shall be provided on each side. When a wetland or sinkhole is being protected, filter strips shall be provided around the perimeter.
- F. Contractor shall construct the filter strips as shown on the Construction Drawings.
- G. Existing grass or grass/legume mixtures used as filter strips shall be dense and well established, with no bare spots. When establishing new seeding, consideration shall be given to wildlife needs and soil conditions on the site. The following chart provides a list of alternative grass and grass/legume mixtures:

SEEDING MIXTURE AND SITE SUITABILITY CHART

Seeding Mixture	Rate lbs/acre	Soil Suitability
Alfalfa <i>Or</i> Red Clover <i>Plus</i> Timothy <i>Or</i> Orchardgrass <i>Or</i> Bromegrass	10 10 4 6 6	Well-Drained
Ladino <i>Plus</i> Timothy <i>Or</i> Orchardgrass <i>Or</i> Bromegrass	0.5 4 6 8	Wet or Well-Drained

Notes:

1. All seeding shall be in accordance with the seeding sections of this Specification.

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2. Well-drained sites include sites that are drained with tile as well as naturally well-drained and droughty sites. Wet sites include sites that are excessively wet only a portion of the growing season.

2.20 STREAM CROSSING

- A. Stream crossings shall be used in cases where construction traffic, permanent traffic, or utilities must cross existing post development floodplains. If the drainage area exceeds 1 square mile and a structure is necessary, the structure shall be designed by a professional engineer licensed in Kentucky, and shall be considered a permanent structure. Stream crossings shall be as close to perpendicular to the stream flow as possible.
- B. Temporary stream crossings are applicable to flowing streams with drainage areas less than one square mile. Temporary stream crossings shall be planned to be in service for the shortest practical period of time and to be removed as soon as their function is completed.
- C. All such structures, whether temporary or permanent, are subject to the rules and regulations of the U.S. Army Corps of Engineers for in-stream modifications (404 Permitting) and the Kentucky Division of Water (401 Certification). No stream crossing shall be installed without first obtaining all applicable local, state, and federal permits.

Where culverts are to be installed, compacted soil or rock shall be used to form the crossing. The depth of soil or rock cover over the culvert shall be equal to one-half the diameter of the culvert or 12 inches, whichever is greater. The sides of the fill shall be protected from erosion using the mulching and seeding erosion control measures specified in this Specification.

- D. All stream crossings shall be constructed in such a manner as to avoid flooding or excessive inconvenience or damage to adjacent areas, roadways, properties, or structures.
- E. When using a culvert crossing, the top of the compacted earth fill shall be covered with at least six inches of KYTC No. 2 stone.
- F. KYTC No. 2 stone shall also be used for the stone pads forming the crossing approaches.

2.21 PUMP-AROUND FLOW DIVERSION

- A. A pump-around flow diversion shall be used to divert flow around construction activities occurring in a stream when those activities are reasonably expected to cause the erosion of sediment or deposition of sediment in the stream.

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- B. Check dams to form the diversion shall span the banks of the stream. Maintain 1-foot freeboard (minimum) on the upstream and downstream checks.
- C. Check dams may be constructed of sandbags or may be a water-filled bladder such as an Aqua-Barrier.
- D. The dewatering flow from the work area shall be treated in a sediment-trapping device prior to discharge to the stream.
- E. Sandbags shall be woven polypropylene bags with approximate dimensions of 18-1/2 inches by 28 inches. Contractor shall tie the ends of filled bags closed using either draw strings or wire ties.

2.22 CONSTRUCTION DEWATERING

- A. Sediment-laden water shall be pumped to a dewatering structure before it is discharged.

PART 3 – EXECUTION

3.01 GENERAL

- A. Erosion and sediment control practices shall be consistent with the requirements of Chapter 11 of the LFUCG Stormwater Manual and other state and local regulatory agencies and in any case shall be adequate to minimize erosion of disturbed and/or regraded areas and discharge of sediment from the site.
- B. Contractor is responsible for notifying and obtaining coverage from the Kentucky Division of Water concerning inclusion under the KPDES General Permit for Stormwater Discharges Associated with Construction Activities.
- C. Gravity sewer lines, force mains, and water lines that cross streams shall be constructed by methods that maintain normal stream flow and allow for a dry excavation. Water pumped from the excavation shall be contained and allowed to settle prior to reentering the stream, or filtered through a sediment removal device. Excavation equipment and vehicles shall operate outside of the flowing portion of the stream. Spoil material from the line excavation shall not be allowed to enter the flowing portion of the stream. Clean Water Act Section 401 and 402 requirements enforced by the US Army Corps of Engineers and the Kentucky Division of Water and the provisions of this condition shall apply to all types of utility line stream crossings.
- D. Removal of riparian vegetation in the utility line right-of-way shall be limited to that necessary for equipment access. Effective erosion and sedimentation control

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measures shall be employed at all times during the project to prevent degradation of Waters of the Commonwealth. Site regrading and reseeding shall be accomplished with 14 days after disturbance.

3.02 MULCH

- A. Seed shall be applied prior to mulching except where seed is to be applied as part of a hydroseeder slurry containing mulch.
- B. Lime and fertilizer (where needed) shall be incorporated and surface roughening accomplished as needed prior to mulching in accordance with applicable sections of this Specification.
- C. Mulch materials shall be spread uniformly by hand or mechanically so the soil surface is covered. During or immediately following application, the mulch shall be anchored or otherwise secured to the ground according to one of the following methods:
 - 1. Mechanical – Use a disk, crimper, or similar type tool set straight to punch or anchor the mulch material into the soil.
 - 2. Mulch Tackifiers/Nettings/Emulsions – Use according to the manufacturer's recommendations. This is a superior method in areas of water concentration to hold mulch in place.
 - 3. Wood Fiber – Wood fiber hydroseeder slurries may be used to tack straw mulch. This combination treatment is well suited to steep slopes and critical areas, and severe climate conditions.
- D. Mulch shall be anchored using a mulch anchoring tool, a liquid binder/tackifier, or mulch nettings. Nets and mats shall be installed to obtain firm, continuous contact between the material and the soil. Without such contact, the material is useless and erosion occurs.
- E. A mulch anchoring tool is a tractor-drawn implement that is typically used for anchoring straw and is designed to punch mulch approximately two inches into the soil surface. Machinery shall be operated on the contour and shall not be used on slopes steeper than 3H:1V.
- F. When using liquid mulch binders and tackifiers, application shall be heaviest around edges of areas and at crests of ridges and banks to prevent wind blow. Remainder of area shall have binders/tackifiers spread uniformly in accordance with manufacturer's recommendations.
- G. When using a mulch net, it shall be used in conjunction with an organic mulch and shall be installed immediately after the application and spreading of the mulch

- H. Erosion control blankets and turf reinforcement mats are considered protective mulches and may be used alone on erodible soils and during all times of year. Blankets and mats shall be installed in accordance with manufacturer's recommendations.
- I. Mulched areas shall be inspected at least weekly and after each rainfall of one-half inch or more. When mulch material is found to be loosened or removed, the mulch cover shall be replaced within 48 hours.

3.03 TEMPORARY SEED

- A. The site shall be graded as needed to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and anchoring.
- B. The needed erosion control practices, such as diversions, temporary waterways for diversion outlets, and sediment ponds, shall be installed prior to seeding.
- C. Prior to seeding, lime and fertilizer (if needed) shall be worked into the soil with a disk harrow, springtooth harrow, or similar tools to a depth of two inches. On sloping areas, the final operation shall be on the contour.
- D. The seed shall be applied uniformly with a cyclone seeder, drill, cultipacker, seeder, or hydroseeder (slurry may include seed and fertilizer) preferably on a firm, moist seedbed. Seed shall be sown no deeper than one-fourth inch to one-half inch.
- E. The seedbed shall be firmed following seeding operations with a cultipacker, roller, or light drag.
- F. On sloping land, seeding operations shall be on the contour wherever possible.
- G. Mulch shall be applied, in the amounts described in the mulch section of this Specification, to protect the soil and provide a better environment for plant growth.
- H. New seed shall have adequate water for growth, through either natural means or irrigation, until plants are firmly established.
- I. Seeded areas shall be inspected at least weekly after planting and after each rainfall of one-half inch or more. Areas requiring additional seed and mulch shall be repaired within 48 hours.
- J. If vegetative cover is not established within 21 days, the area shall be reseeded.

3.04 PERMANENT SEED

- A. During site preparation, topsoil shall be stockpiled for use in establishing permanent vegetation.
- B. The site shall be graded as needed to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and anchoring.
- C. The needed erosion control practices, such as diversions, temporary waterways for diversion outlets, and sediment ponds, shall be installed prior to seeding.
- D. Prior to seeding, lime and fertilizer shall be worked into the soil with a disk harrow, springtooth harrow, or similar tools to a depth of four inches. On sloping areas, the final operation shall be on the contour.
- E. Where compacted soils occur, they shall be broken up sufficiently to create a favorable rooting depth of six to eight inches.
- F. The seed shall be applied uniformly with a cyclone seeder, drill, cultipacker, seeder, or hydroseeder (slurry may include seed and fertilizer) preferably on a firm, moist seedbed. Seed shall be sown no deeper than one-fourth inch to one-half inch.
- G. The seedbed shall be firmed following seeding operations with a cultipacker, roller, or light drag.
- H. On sloping land, seeding operations shall be on the contour wherever possible.
- I. Mulch shall be applied, in the amounts described in the mulch section of this Specification, to protect the soil and provide a better environment for plant growth.
- J. New seed shall have adequate water for growth, through either natural means or irrigation, until plants are firmly established.
- K. Seeded areas shall be inspected at least weekly after planting and after each rainfall of 0.5 inches or more. Areas requiring additional seed and mulch shall be repaired within 48 hours.
- L. If vegetative cover is not established (>70%) within 21 days, the area shall be reseeded. If 40 to 70 percent groundcover is established, overseed and fertilize, using half of rates originally applied, and mulch. If less than 40 percent groundcover is established, follow original seedbed preparation methods, seeding and mulching specifications, and apply lime and fertilizer if needed according to soil tests.

3.05 SOD

- A. The area to be sodded shall be protected from excess runoff, as necessary, with appropriate BMPs.
- B. Prior to sodding, the soil surface shall be cleared of all trash, debris, and stones larger than one inch in diameter, and of all roots, brush, wire, and other objects that would interfere with the placing of the sod.
- C. Compacted soils shall be broken up sufficiently to create a favorable rooting depth of six to eight inches.
- D. Lime and fertilizer (if needed) shall be worked into the soil with a disk harrow, springtooth harrow, or other suitable field equipment to a depth of four inches.
- E. After the lime and fertilizer have been applied and just prior to the laying of the sod, the soil in the area to be sodded shall be loosened to a depth of one inch. The soil shall be thoroughly dampened immediately after the sod is laid if it is not already in a moist condition.
- F. No sod shall be placed when the temperature is below 32°F. No frozen sod shall be placed nor shall any sod be placed on frozen soil.
- G. When sod is placed during the periods of June 15 to September 1 or October 15 to March 1, it shall be covered immediately with a uniform layer of straw mulch approximately one-half inch thick or so the green sod is barely visible through the mulch.
- H. Sod shall be carefully placed and pressed together so it will be continuous without any voids between the pieces. Joints between the ends of strips shall be staggered.
- I. On gutter and channel sodding, the sod should be carefully placed on rows or strips at right angles to the centerline of the channel (*i.e.*, at right angles to the direction of flow). The edge of the sod at the outer edges of all gutters shall be sufficiently deep so that surface water will flow over onto the top of the sod.
- J. On steep graded channels, each strip of sod shall be staked with at least two stakes not more than 18 inches apart.
- K. On slopes 3H:1V or steeper, or where drainage into a sod gutter or channel is one-half acre or larger, the sod shall be rolled or tamped and then chicken wire, jute, or other netting shall be pegged over the sod for protection in the critical areas. The netting and sod shall be staked with at least two stakes not more than 18 inches apart. The netting shall be stapled on the side of each stake within two inches of the top of the stake. The stake should then be driven flush with the top of the sod.

- L. When stakes are required, the stakes shall be wood and shall be approximately ½ inch by ¾ inch by 12 inches. They shall be driven flush with the top of the sod with the flat side against the slope and on an angle toward the slope.
- M. Sod shall be tamped or rolled after placing and then watered. Watering shall consist of a thorough soaking of the sod and of the sod bed to a depth of at least 4 inches. The sod should be maintained in a moist condition by watering for a period of 30 days.
- N. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week to maintain moist soil to a depth of 4 inches. Watering shall be done during the heat of the day to prevent wilting. After the first week, sod shall be watered as necessary to maintain adequate moisture content.
- O. The first mowing of sod shall not be attempted until the sod is firmly rooted. No more than one-third of the grass leaf shall be removed by the initial and subsequent cuttings. Grass height shall be maintained between 2 inches and 3 inches.
- P. Where sod does not establish properly, the sod should be replaced immediately. Areas requiring resodding should be prepared in the same manner as the original installation.

3.06 ROAD/PARKING STABILIZATION

- A. The roadbed or parking surface shall be cleared of all vegetation, roots, and other objectionable material.
- B. All roadside ditches, cuts, fills, and disturbed areas adjacent to parking areas and roads shall be stabilized with appropriate temporary or permanent vegetation according to the applicable sections of this Specification.
- C. Geotextile filter fabric shall be applied beneath the stone for additional stability in accordance with fabric manufacturer's specifications.
- D. Both temporary and permanent roads and parking areas may require periodic top dressing with new gravel. Seeded areas adjacent to the roads and parking areas shall be checked regularly to ensure that a vigorous stand of vegetation is maintained. Roadside ditches and other drainage structures shall be checked once each week to ensure that they do not have silt or other debris that reduces their effectiveness.

3.07 CONSTRUCTION ENTRANCE

- A. Vegetation, roots, and all other obstructions shall be cleared in preparation for grading. Prior to placing geotextile (filter fabric), the entrance shall be graded and compacted to 80% of standard proctor density.

- B. To reduce maintenance and loss of aggregate, the geotextile shall be placed over the existing ground before placing the stone for the entrance. Stone shall be placed to depth of 6 inches or greater for the entire width and length of the stabilized construction entrance.
- C. If wash racks are used, they shall be installed according to manufacturer's specifications.
- D. The stabilized construction entrance shall be inspected once each week and after there has been a high volume of traffic or a storm event greater than 0.2 inches.
- E. The entrance shall be maintained in a condition that will prevent tracking or flow of sediments onto public rights-of-way. This may require periodic top dressing with additional stone, as conditions demand, and repair and/or cleanout of any structures used to trap sediment.
- F. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains shall be removed immediately.

3.08 DUST CONTROL

- A. See Articles on Temporary Seed, Permanent Seed, Sod, Mulch, Road/Parking Stabilization, and Construction Entrance of this Specification Section.
- B. When construction is active on the site, dust control shall be implemented as needed.
- C. When using tillage as a dust control measure, Contractor shall begin plowing on windward side of area. Chisel-type plows spaced about 12 inches apart, spring-toothed harrow, and similar plows are examples of equipment that may produce the desired effect.
- D. The site shall be observed daily for evidence of windblown dust and reasonable steps shall be taken to reduce dust whenever possible. When construction on a site is inactive for a period, the site shall be inspected at least weekly for evidence of dust emissions or previously windblown sediments. Dust control measures shall be implemented or upgraded if the site inspection shows evidence of wind erosion.

3.09 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS

- A. Blankets and mats shall be installed according to the manufacturer's recommendations. In the event that the manufacturer's recommendations conflict with any requirement of this Specification, the most conservative requirement, in terms of protection of public health and the environment, shall govern.
- B. Placement

1. The blankets and mats shall be unrolled in the direction of surface water flow.
2. When using two blankets or mats side by side, the seams shall not be placed in the center of a channel but shall be offset by a minimum of one (1) foot.
3. Blankets and mats shall be stapled in place using U-shaped staples of the size, and at the prescribed intervals and arrangement, specified by the manufacturer.
4. When blankets or mats are laid side by side, they shall be stapled so as to anchor the edge of each roll.
5. The overlap of blankets and mats shall be in accordance with the manufacturer's recommendations.
6. If blanket/mat is unrolled along (parallel) to the contour installation must begin at the lower elevation and progress up slope with the upper blanket overlapping the lower as with roofing shingles.

C. Damage Repair

1. The patch material used for the repair of a hole or tear shall be the same type of material as the damaged blanket/mat.
2. The patch shall extend at least 12 inches beyond any portion of the damaged blanket/mat.
3. The repair patch shall be stapled in place as per manufacturer's recommendations.

3.10 TEMPORARY DIVERSION DITCH

- A. All dead furrows, ditches or other depressions to be crossed shall be filled before construction begins, or as part of construction, and the earth fill used to fill the depressions shall be compacted using the treads of the construction equipment. All old terraces, fencerows, or other obstructions that will interfere with the successful operation of the diversion shall be removed.
- B. The base for the diversion ridge shall be prepared so that a good bond is obtained between the original ground and the fill material. Vegetation shall be removed and the base shall be thoroughly disked prior to placement of fill.
- C. The earth materials used to construct the earth fill portions of the diversions shall be obtained from the diversion channel or other approved source.

- D. The earth fill materials used to construct diversions shall be compacted by running the construction equipment over the fill in such a manner that the entire surface of the fill will be traversed by not less than one tread track of the equipment.
- E. When an excess of earth material results from cutting the channel cross section and grade, it shall be deposited adjacent to the supporting ridge unless otherwise directed.
- F. The completed diversion shall conform to the cross section and grade shown on the Construction Drawings.
- G. Temporary or permanent seeding and mulch (or blanket/mat) shall be applied to the berm or ditch immediately following its construction. Contractor shall triple-seed areas below the flow line, and shall use erosion control blankets or turf reinforcement mats as needed.
- H. Bare and vegetated diversion channels shall be inspected regularly to check for points of scour or bank failure; rubbish or channel obstruction; rodent holes, breaching, or settling of the ridge; and excessive wear from pedestrian or construction traffic.
- I. Damaged channels or ridges shall be repaired at the time damage is detected. Sediment deposits shall be removed from diversion channels and adjoining vegetative filter strips regularly.
- J. Diversions shall be reseeded as needed to establish vegetative cover.

3.11 LEVEL SPREADER

- A. The minimum acceptable width shall be 6 feet. The depth of the level spreader as measured from the lip shall be at least 6 inches and the depth shall be uniform across the entire length of the measure.
- B. The grade of the channel for the last 15 feet entering the level spreader shall be less than or equal to 1%.
- C. The level lip of the spreader shall be constructed on zero percent grade to ensure uniform conversion of channel flow to sheet flow.
- D. Level spreaders shall be constructed on undisturbed soil.
- E. The entrance to the spreader shall be graded in a manner to ensure that runoff enters directly onto the zero percent graded channel.
- F. Storm runoff converted to sheet flow shall discharge onto undisturbed areas stabilized with vegetation.

- G. All disturbed areas shall be stabilized immediately after construction is completed in accordance with the mulching and vegetation requirements of this Specification.
- H. The level spreader shall be inspected after each storm event and at least once each week. Any observed damage shall be repaired immediately.

3.12 PERMANENT CONSTRUCTED WATERWAY

- A. All ditches or other depressions to be crossed shall be filled before construction begins or as part of construction, and the earth fill used to fill the depressions shall be compacted using the treads of the construction equipment. All old terraces, fence rows, or other obstructions that will interfere with the successful operation of the channel shall be removed.
- B. The earth materials used to construct the earth fill portions of the channel shall be obtained from the excavated portion of the channel or other approved source.
- C. The earth fill materials used to construct the channel shall be compacted by running the construction equipment over the fill in such a manner that the entire surface of the fill will be traversed by at least one tread track of the equipment.
- D. The completed channel shall conform to the cross section and grade shown on the Construction Drawings.
- E. Channels shall be inspected regularly to check for points of scour or bank failure; rubbish or channel obstruction; rodent holes; breaching; and excessive wear from pedestrian or construction traffic.
- F. Channels shall be repaired at the time damage is detected. Sediment deposits shall be removed from adjoining vegetative filter strips when they are visible.
- G. Channels shall be seeded and mulched as needed to establish vegetative cover. Blankets or mats may be used instead of mulch, according to manufacturer's specifications.
- H. The subgrade of paved channels shall be constructed to the required elevations. All soft sections and unsuitable material shall be removed and replaced with suitable material. The subgrade shall be thoroughly compacted and shaped to a smooth, uniform surface. The subgrade shall be moist when pouring concrete.
- I. Before permanent stabilization of the slope, the structure shall be inspected after each rainfall. Any damages to the paved channel or slope shall be repaired immediately.

3.13 PIPE SLOPE DRAIN

- A. The pipe slope drain shall be placed on undisturbed or well-compacted soil.
- B. Soil around and under the entrance section shall be hand-tamped in 4-inch to 8-inch lifts to the top of the dike to prevent piping failure around the inlet.
- C. Filter fabric shall be placed under the inlet and extended 5 feet in front of the inlet and be keyed in 6 inches on all sides to prevent erosion.
- D. Backfilling around and under the pipe with stable soil material hand compacted in lifts of 4 inches to 8 inches shall be done to ensure firm contact between the pipe and the soil at all points.
- E. The pipe slope drain shall be secured to the slope using stakes at intervals of 10 feet or less.
- F. All slope drain sections shall be securely fastened together and have watertight fittings.
- G. The pipe shall be extended beyond the toe of the slope and discharged at a non-erosive velocity into a stabilized area or to a sediment trap or pond.
- H. The pipe slope drain shall have a minimum slope of 3 percent or steeper.
- I. The height at the centerline of the earth dike shall range from a minimum of 1.0 foot over the pipe to twice the diameter of the pipe measured from the invert of the pipe. It shall also be at least 6 inches higher than the adjoining ridge on either side. At no point along the dike will the elevation of the top of the dike be less than 6 inches higher than the top of the pipe.
- J. All areas disturbed by installation or removal of the pipe slope drain shall be immediately stabilized.
- K. The pipe slope drain shall be inspected after every rainfall and at least weekly. Any necessary repairs shall be made immediately.
- L. Contractor shall check to see that water is not bypassing the inlet and undercutting the inlet or pipe. If necessary, Contractor shall install headwall or sandbags.
- M. Contractor shall check for erosion at the outlet point and shall check the pipe for breaks or clogs. Contractor shall install additional outlet protection if needed and immediately repair the breaks and clean any clogs.
- N. Contractor shall not allow construction traffic to cross the pipe slope drain and shall

not place any material on it.

- O. If a sediment trap has been provided, it shall be cleaned out when the sediment level reaches 1/3 the design volume.
- P. The pipe slope drain shall remain in place until the slope has been completely stabilized or up to 30 days after permanent slope stabilization.

3.14 IMPACT STILLING BASIN

- A. Construction specifications for impact stilling basins are provided in the Construction Drawings.

3.15 CHECK DAM

- A. Stone shall be placed by hand or mechanically as necessary to achieve complete coverage of the ditch and to ensure that the center of the dam is at least 1 foot lower than the outer edges. Stone shall also be placed to extend 3 feet in elevation above the center portion of the check dam or to the top of the channel side slopes.
- B. Coir and wood fiber logs shall be laid on the channel bottom.
- C. Check dams shall be removed when their useful life has been completed. In temporary ditches and swales, check dams shall be removed and the ditch filled in when it is no longer needed. In permanent channels, check dams shall be removed when a permanent lining can be installed. In the case of grass-lined ditches, check dams shall be removed when the grass has matured sufficiently to protect the ditch or swale. The area beneath the check dams shall be seeded and mulched or sodded (depending upon velocity) immediately after check dams are removed.
- D. If stone check dams are used in grass-lined channels that will be mowed, care shall be taken to remove all stone from the channel when the dam is removed. This shall include any stone that has washed downstream.
- E. Regular inspections shall be made to ensure that the check dam is in good working order and the center of the dam is lower than the edges. Erosion caused by high flows around the edges of the dam shall be corrected immediately, and the dam shall be extended beyond the repaired area.
- F. Check dams shall be checked for sediment accumulation after each rainfall. Sediment shall be removed before or when it reaches one-third of the original height.
- G. Check dams shall remain in place and operational until the drainage area and channel are completely stabilized, or up to 30 days after the permanent site stabilization is achieved.

3.16 SEDIMENT TRAP

- A. The area to be excavated shall be cleared of all trees, stumps, roots, brush boulders, sod, and debris. All channel banks and sharp breaks shall be sloped to no steeper than 1:1. All topsoil containing excessive amounts of organic matter shall be removed.
- B. Seeding and mulching of the sediment trap berm and any material taken from the excavation shall comply with the applicable soil stabilization sections of this Specification.
- C. Construction specifications for sediment traps are provided in the Construction Drawings.
- D. Any material excavated from the trap shall be placed in one of the following ways so that it will not be washed back into the trap by rainfall:
 - 1. uniformly spread to a depth not exceeding 3 feet and graded to a continuous slope away from the trap
 - 2. uniformly placed or shaped reasonably well with side slopes assuming the natural angle of repose for the excavated material behind a berm width not less than 12 feet.
- E. Sediment shall be removed from the trap when the capacity is reduced to one third of the design volume. Contractor shall follow the methods for disposing of sediment removed from the trap as shown in the Construction Drawings.

3.17 SEDIMENT POND

- A. The foundation area shall be cleared of all trees, stumps, roots, brush boulders, sod, and debris. All channel banks and sharp breaks shall be sloped to no steeper than 1:1. All topsoil containing excessive amounts of organic matter shall be removed. The surface of the foundation area shall be thoroughly scarified before placement of the embankment material.
- B. A cutoff trench shall be backfilled with suitable material. The trench shall be kept free of standing water during backfill operations.
- C. The pipe conduit barrel shall be placed on a firm foundation. Selected backfill material shall be placed around the conduit in layers, and each layer shall be compacted to at least the same density as the adjacent embankment. All compaction within 2 feet of the pipe spillway shall be accomplished with hand-operated tamping equipment.
- D. All borrow areas outside the pond and in the drainage area shall be graded and left

in such a manner that water will not be ponded.

- E. The material placed in the fill shall be free of all sod, roots, frozen soil, stones more than 6 inches in diameter, and other objectionable material. The placing and spreading of the fill material shall occur in approximately 6-inch horizontal layers or of such thickness that the required compaction can be obtained with the equipment used. Each layer shall be compacted in a way that will result in achieving 95 percent of the maximum standard dry density.
- F. The distribution and gradation of materials throughout the fill shall be such that there will be no lenses, pockets, stakes, or layers of material differing substantially in texture or gradation from the surrounding material. Where it is necessary to use materials of varying texture and gradation, the more impervious material shall be placed in the upstream and center portions of the fill.
- G. The moisture content of fill material shall be such that the required degree of compaction can be obtained with the equipment used.
- H. Fill shall not be placed on frozen, slick, or saturated soil.
- I. The topsoil material saved in the site preparation shall be placed as a top dressing on the surface of the emergency spillways, embankments, and borrow areas. It shall be evenly spread.
- J. A protective cover of herbaceous vegetation shall be established on all exposed surfaces of the embankment, spillway, and borrow areas to the extent practical under prevailing soil and climatic conditions.
- K. Seedbed preparation, seeding, fertilizing, and mulching shall comply with the applicable sections of this Specification.
- L. Any material excavated from the pond shall be placed in one of the following ways so that its weight will not endanger the stability of the side slopes and where it will not be washed back into the pond by rainfall:
 - 1. uniformly spread to a depth not exceeding 3 feet and graded to a continuous slope away from the pond.
 - 2. uniformly placed or shaped reasonably well with side slopes assuming the natural angle of repose for the excavated material behind a berm width not less than 12 feet.
- M. Sediment shall be removed from the pond when the capacity is reduced to one third of the design volume. Contractor shall follow the methods for disposing of sediment removed from the pond as shown in the Construction Drawings.

3.18 SILT FENCE

- A. This Article provides construction specifications for silt fences using synthetic fabric. See the Construction Drawings for additional detail.
- B. Posts shall be spaced a maximum of 6 feet apart at the barrier location and driven securely into the ground (minimum of 12 inches). When necessary because of rapid runoff, post spacing shall not exceed 6 feet.
- C. A trench shall be excavated at least 6 inches wide and 6 inches deep along the line of posts and upslope from the barrier.
- D. Where used, the wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy-duty wire staples at least 1 inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of 2 inches and shall not extend more than 36 inches above the original ground surface.
- E. The filter fabric shall be stapled or wired to the fence, and 12 inches of the fabric shall be extended into the trench. The fabric shall not extend more than 30 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.
- F. At joints, filter fabric shall be lapped with terminating posts with a minimum overlap of 3 feet.
- G. The trench shall be backfilled and soil compacted over the filter fabric.
- H. Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.
- I. Silt fences and filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately. Knocked down fences shall be repaired at the end of each day.
- J. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and if the barrier is still necessary, the fabric shall be replaced promptly.
- K. Sediment deposits shall be removed after each storm event or when deposits reach approximately one-third the height of the barrier.
- L. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform to the existing grade, prepared, and seeded.
- M. Silt fences shall be replaced every 6 months.

N. Silt fence shall terminate in a “J” hook to prevent bypassing at the end of a row.

3.19 STORM DRAIN INLET PROTECTION

A. All storm drains receiving sediment-laden flows from disturbed areas shall be protected. Approved inlet protection methods include net or sand bags filled 2/3 with rock, geotextile filtration products, and Contractor-fabricated structures.

B. For a silt fence drop inlet protection structure, the following specifications apply:

1. For stakes, Contractor shall use 2 x 4-inch wood (preferred) or equivalent metal with a minimum length of 3 feet.
2. Stakes shall be evenly spaced around the perimeter of the inlet a maximum of 3 feet apart and securely driven into the ground, approximately 18 inches deep.
3. To provide needed stability to the installation, Contractor shall frame with 2 x 4-inch wood strips around the crest of the overflow area at a maximum of 1.5 feet above the drop inlet crest and shall brace diagonally.
4. Contractor shall place the bottom 12 inches of the fabric in a trench and backfill the trench with at least 4 inches of crushed stone or 12 inches of compacted soil.
5. Contractor shall fasten fabric securely to the stakes and frame. Joints shall be overlapped to the next stake.

C. For sod drop inlet protection, sod shall be placed to form a turf mat covering the soil for a distance of 4 feet from each side of the inlet structure. Soil preparation and sod placement shall be in accordance with the section entitled Sod.

D. For gravel curb inlet protection, the following specifications apply:

1. Wire mesh with ½-inch openings shall be placed over the curb inlet opening so that at least 12 inches of wire extends across the concrete gutter from the inlet opening.
2. KYTC No. 2 Coarse Aggregate shall be piled against the wire so as to anchor it against the gutter and inlet cover and to cover the inlet opening completely.
3. This type of device shall never be used where overflow may endanger an exposed fill slope. Consideration shall also be given to the possible effects of ponding on traffic movement, nearby structures, working areas, and adjacent property.

E. For block and gravel curb inlet protection, the following specifications apply:

1. Two concrete blocks shall be placed on their sides abutting the curb at either side of the inlet opening to act as spacer blocks.
 2. A 2-inch by 4-inch stud shall be cut and placed through the outer holes of each spacer block to help keep the front blocks in place.
 3. Concrete blocks shall be placed on their sides across the front of the inlet and abutting the spacer blocks.
 4. Wire mesh shall be placed over the outside of the concrete blocks to prevent stone from being washed through the holes in the blocks. Wire with ½-inch openings shall be used.
 5. KYTC No. 2 Coarse Aggregate shall be piled against the wire to the top of the barrier.
- F. For stone-filled corrugated pipe curb inlet protection, the following specifications apply:
1. Two concrete “L” blocks shall be placed on their sides, with one leg fitting into the mouth of the curb opening.
 2. A 6-inch corrugated pipe shall be filled with stone and covered with a filter sock.
 3. The stone-filled pipe will be placed in front of the two concrete “L” blocks, and extend a minimum of the width of the curb inlet opening on either side. The total length of the stone filled pipe shall be three times the width of the curb inlet opening.
- G. The inlet protection structure shall be inspected after each rain, and repairs made as needed.
- H. Sediment shall be removed and the device restored to its original dimensions when sediment has accumulated to one-third the design depth of the filter. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- I. If a stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone shall be pulled away from the blocks, cleaned, and replaced.
- J. Structures shall be removed after the area draining to the inlet protection structure has been properly stabilized.

3.20 FILTER STRIP

- A. When planting filter strips, Contractor shall prepare seedbed, incorporate fertilizer based on a soil test, and apply mulch consistent with the seeding sections of this Specification. Fertilizer shall not be applied within 50 feet of a stream or other waterbody. Filter strips using areas of existing vegetation shall be over seeded, as necessary, with the specified mixtures to obtain an equivalent density of vegetation. The over seeding shall be accomplished prior to any land disturbing activities.
- B. Filter strips shall be inspected regularly to ensure that a healthy vegetative growth is maintained. Any bare spots or spots where sediment deposition could lead to the destruction of vegetation shall be repaired.
- C. Filter strips shall be fertilized once each year in the fall.
- D. Irrigation shall be used as necessary to maintain the growth of the vegetation in the filter strip.
- E. Sediment shall be removed when it becomes visible in the filter.
- F. Construction traffic shall not be driven on or over filter strips.

3.21 STREAM CROSSING

- A. Clearing and excavation of the streambed and banks shall be kept to a minimum.
- B. The structure shall be removed as soon as it is no longer necessary for project construction.
- C. Upon removal of the structure, the stream shall immediately be reshaped to its original cross section and properly stabilized.
- D. The approaches to the structure shall consist of stone pads with a minimum thickness of 6 inches, a minimum width equal to the width of the structure, and a minimum approach length of 25 feet on each side.
- E. The structure shall be inspected after every rainfall and at least once a week and all damages repaired immediately.

3.22 PUMP-AROUND FLOW DIVERSION

- A. Operations shall be scheduled such that diversion installation, in-stream excavation, in-stream construction, stream restoration, and diversion removal are completed during low-flow conditions and as quickly as possible. Contractor shall not construct in a stream when rainfall is expected during the time excavation will be

occurring in the stream.

- B. Check dams shall be installed across the stream during low flow conditions.
- C. Stream flow shall be pumped around the check dams. Outlet protection shall be installed as required at the discharge point.
- D. Contractor shall dewater the work area and pump into a sediment trapping device.
- E. Contractor shall complete construction activities across the stream.
- F. Contractor shall restore the streambed and banks.
- G. Contractor shall remove sandbags and shut down pumping operation. (Salvage sandbags for future use if multiple stream crossings are required on the project.) Contractor shall remove all sandbags from the stream, including damaged and empty bags.
- H. Pumps shall be manned around-the-clock when the pump-around diversion is in the stream.
- I. This control provides short-term diversion of stream flow (typically 1 day to 3 days). Additional sandbags or pumps may be required to maintain 1-foot freeboard on the sandbag checks if flow conditions change.
- J. Contractor shall add sandbags as required to seal leaks in check dams.

3.23 CONSTRUCTION DEWATERING

- A. All dewatering discharges shall pass through a sediment removal device. Contractor shall follow the specifications for sediment traps and basins. The manufacturer's recommendations shall be followed for commercial products.
- B. The dewatering structure shall be inspected frequently to ensure it is functioning properly and not overtopping. Accumulated sediment shall be spread out on site and stabilized or disposed of offsite.

3.24 KPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

- A. The Contractor is responsible for electronically filing the appropriate state Notice of Intent (NOI-SWCA) letter at least seven (7) days prior to start of construction activity. The Notice of Intent (NOI) is a Kentucky Pollution Discharge Elimination System (KPDES) permit application as provided by the Kentucky Revised Statutes, Chapter 224. This application is required to be submitted for construction projects that disturb one or more acres of land.

- B. The NOI requires the inclusion of the descriptions of (but is not limited to) the following items:
1. Names and designated uses of any receiving waters
 2. Anticipated number and locations of discharge points
 3. Identification of planned construction in or along a waterbody
- C. A topographic map showing project boundaries, areas to be disturbed, locations of anticipated discharge points and receiving waters is also required to be submitted with the NOI.
- D. If the construction site is near a designated “High Quality/Impaired Waters” or a “Cold Water Aquatic Habitat Waters, Exceptional Waters, Outstanding National/State Resource Waters,” additional items and/or individual permits will be required.
- E. The NOI form requires an SIC code. The link to the SIC codes is <http://www.osha.gov/pls/imis/sicsearch.html>. The following are the typical construction SIC codes utilized:
- 1542 – Building Construction, nonresidential, except industrial and warehouses
 - 1623 – Water Main Construction, Sewer Construction
 - 1629 – Water and Wastewater Treatment Plant Construction
 - 1711 – Water Pump Installation
 - 1781 – Drilling Water Wells
- F. The Contractor is responsible for implementing the approved Stormwater Pollution Prevention Plan (SWPPP) prior to commencement of site disturbance. The SWPPP shall include erosion prevention measures and sediment and pollutant control measures which are installed and maintained to minimize discharges of sediments and other pollutants from a 2-year, 24-hour storm event. The SWPPP shall be kept at the site and available for review by LFUCG and state officials.
- G. The Contractor is responsible for the description of procedures to maintain erosion and sediment control measures during the period of construction.
- H. The Contractor is responsible for identifying each Contractor and Subcontractor who will install each SWPPP erosion and sediment control measure.
- I. Each Contractor and Subcontractor shall sign a statement certifying the awareness of the requirements of the SWPPP-related documents. Certification is attached at the end of this section.

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- J. The Contractor shall not start land disturbing activities until written permit coverage is obtained from the Kentucky Division of Water.
- K. The inspection by qualified personnel, provided by the Contractor, of the site as follows:
1. at least once every seven (7) calendar days, and
 2. within 24 hours after any storm event of 0.5 inch or greater
- L. The Contractor is responsible for completing and maintaining the required Self-Inspection Forms. A sample is included in this specification Section.
- M. Amendments to the approved SWPPP shall be made and implemented as necessary through the course of the construction project if inspections or investigations by the Contractor's inspector, site staff, or by local, state, or federal officials determine that the existing sediment control measures, erosion control measures, or other site management practices are ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the construction site. All plan amendments shall be noted on the copy of the SWPPP maintained at the project site. Plan amendments that involve engineering design shall be prepared by an engineer licensed in Kentucky.
- N. The Contractor shall submit the Notice of Termination (NOT) form to the Kentucky Division of Water, the LFUCG Division of Water Quality, and the LFUCG Division of Engineering when final stabilization has been achieved on all portions of the site and the erosion/sediment controls have been removed.
- O. All subcontractors shall be required to comply with the requirements of the state permit and the Stormwater Pollution Prevention Plan (SWPPP).
- P. Where to submit:
1. Complete KPDES FORM NOI-SW at the following website:
<https://dep.gateway.ky.gov/eForms/default.aspx?FormID=7>
 2. Do not initiate work until receiving approval from the Kentucky Division of Water.
 3. A complete copy of the NOI submittal shall also be provided to the following for approval/coverage verification:

Division of Water Quality
125 Lisle Industrial Avenue, Suite 180
Lexington, KY 40511

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Division of Engineering
Lexington-Fayette Urban County Government
101 E. Vine St.
4th Floor
Lexington, KY 40507

3.25 LFUCG Land Disturbance Permit

- A. The Contractor shall obtain a Land Disturbance Permit from the LFUCG Division of Engineering, after the LFUCG Division of Water Quality inspects the installation of the best management practices as required by the Stormwater Pollution Prevention Plan (SWPPP). The site grading plan shall show the original and finish grade contours. The grading plan shall be in conformance with the SWPPP and shall clearly show the initial phase of best management practices to be installed.
- B. The Land Disturbance Permit checklist appears on the following page. It can be obtained from:

Division of Engineering
Lexington-Fayette Urban County Government
101 E. Vine St.
4th Floor
Lexington, KY 40507
(859) 258-3410
Attn: Land Disturbance Permit Section
<https://www.lexingtonky.gov/new-development>

- C. All excess earthen/rock materials hauled off the site to a location in Fayette County shall be hauled to a site permitted by the Kentucky Division of Water and the LFUCG. The haul site shall be permitted in accordance with these specifications.

LFUCG Land Disturbance Permit Application & Erosion and Sediment Control Plan Checklist

v23Feb2018

Permittee (Owner or Contractor):					Date:
Contact Person:					Contact Phone:
Site Address:					Zone:
Contractor Name:			Reg #:	Contractor Phone:	
Mailing Address:					Email:

Permitting Information and ESC Plan Narrative	Yes	No	N/A	Page#	Notes
KY DOW Construction NOI / KYR10 Permit					Required for disturbance ≥ 1 acre
US ACE Section 404 Permit					Required for stream crossings, wetland fills
KY DOW Stream Construction Permit / WQ Certif.					Required for stream crossings / encroachment
FEMA LOMR or CLOMR					If applicable
Project description and purpose					Brief summary
Land cover, soils, percent impervious area					Pre and post construction
Land cover / land use of adjacent property					Can designate on plan sheets
Work schedule with start/end dates					Sequencing, clearing, grading, revegetation
Phasing plan for large projects					25 acre limit on total disturbed area
BMP installation schedule					Can be included on plan sheets (see below)
Inspection and BMP maintenance schedule					Every 7 days, or every 14 days and after $\frac{1}{2}$ " rain
Material storage, waste & litter pollution prevention					Covered, away from drainage system, etc.
Fueling / vehicle maintenance pollution prevention					Conducted away from drainage system, etc.
Spill prevention, control, and countermeasures					If reportable quantities present at the site
Dust control plan					Consider if neighbors are present
Stabilized site exit inspection plan					For keeping offsite pavement clear of soil/debris
Stabilization plan and schedule for site areas					Seed/mulch/etc. within 14 days of inactivity
ESC Plan Site Map and Drawing Detail (See LFUCG Stormwater Manual for BMP Design and Installation Information)					
Plans stamped by a licensed professional					Required for engineered plan components
Location of the project; property lines					Include small locational map; street address
Limits of construction, disturbed area location/size					Flag off "no disturbance" areas
Topography and drainage patterns (pre and post)					1" = 50 ft; 2 ft contours
Buildings, utilities, paved areas, ditches, culverts					Show stormwater inlets within 100 ft of site
Retention ponds, detention basins, sediment traps					Stabilize immediately after construction
Access and haul roads					Consider dust control where neighbors present
Stabilized exit (50 ft #2 rock pad, shaker rack, etc.)					Must drain to a sediment control BMP
Silt fence or etc. at downslope perimeters					Super silt fence along critical areas
Diversion ditches/berms above disturbed areas					Stabilize immediately after construction
Protection for post-construction BMPs					Keep sediment out of post-construction BMPs
Slope stabilization (seed with mulch/blanket/mat)					See Figure 11-1 in Stormwater Manual
Inlet protection measures					Specify type(s) and location(s)
Outlet erosion protection measures					Specify type(s) and location(s)
Ditch stabilization (sod, or seed with blanket/mat)					Stabilize immediately after construction
Sediment basins (> 5 ac) and traps (< 5 ac)					Stabilize immediately after construction
Dewatering sites and methods					Must use sediment controls
50 ft natural vegetated buffer for all critical areas					Applies to streams, wetlands, sinkholes
Stream crossings					Crossing type, detail; USACE 404 permit req'd
Stockpile areas, equipment storage/fueling areas					Keep away from drainage system if possible
Waste and concrete wash water storage/disposal					Show initial area; can be moved as needed
LFUCG Use Only: Review Date: _____ Status – In Compliance: Yes No Additional Info Needed: Yes No					
Reviewed By: _____					Department: DOE DWQ DES
Comments / Missing Items: _____					

Erosion and Sediment Control
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Kentucky Best Management Practices Plan • Construction Site Inspection Report

Company:	Site:	County:
Site Operator:		Date:
Receiving Water:	Total Site Area (acres):	# Disturbed Acres:
Inspector Name:	Inspector Qualifications:	
Inspection Type: Weekly or ½ Inch Rain	Days Since Last Rainfall _____	# Inches of Last Rainfall: _____

Field Inspection Observations

BMP Category	Compliance			Field Indicators for Compliance
	Yes	No	N/A	
Project Operations				Notice of Intent (KPDES permit) and other local/state permits on file BMP Plan on site and available for review Project timing/schedule and activities following BMP Plan Weekly inspection and rain-event reports on BMPs available for review Diversions, silt checks/traps/basins, and silt fences/barriers installed prior to clearing Grading and clearing conducted in phases to minimize exposed soil areas No vegetation removal or operations in stream or sinkhole buffer area (25-50 ft min) Rock pad in place on all construction site exits leading to paved roads No sediment, mud, or rock on paved public roads in project area Dust control if needed when working in residential areas during dry conditions
Drainage Management				Upland runoff diverted around bare soil areas with vegetated/lined ditches/berms Drainage channels exiting the site are lined with grass/blanket/rock and stabilized Discharges from dewatering operations cleaned in silt fence enclosure or other filter No muddy runoff leaving site after rains up to 1½ inches
Erosion Protection				Exposed soil seeded/mulched after 2 weeks if no work is planned for the next 7 days Soils on steep slopes seeded/mulched/blanketed as needed to prevent rutting
Sediment Barriers				Silt fence, rock filter, or other sediment barrier below all bare soil areas on slopes Barrier installed across slope on the contour, trenched in, posts on downhill side Multiple sediment barriers at least 125 ft apart on unseeded slopes steeper than 4:1 J-hook interceptors along silt fence where heavy muddy flows run along fencing No visible undercutting or bypassing or blowout of sediment barrier Accumulated sediment is less than halfway to the top of sediment barrier
Slope Protection				Slopes tracked, disked, or conditioned after final grade is established Slopes seeded, mulched, or blanketed within 21 days, no unmanaged rills or gullyng Heavy downslope flows controlled by lined downdrain channels or slope drain pipes No muddy runoff from slopes into streams, rivers, lakes, or wetlands
Inlet Protection				Inlet dam/device or filtration unit placed at all inlets receiving muddy flows No visible undercutting, bypassing, or blowout of inlet protection dam or device Accumulated sediment is less than halfway to the top of the inlet protection dam/device
Outlet Protection				High flow discharges have rock or other flow dissipaters of adequate sizing at outlet Culvert outlets show no visible signs of erosion/scour, bank failure, or collapse
Ditch and Channel Stabilization				No unmanaged channel bank erosion or bottom scouring visible within or below site Ditches with slopes more than 3% have check dams spaced as needed, if not grassed Ditch check dams tied in to banks, with center 4" lower than sides, and no bypassing Ditches with slopes of up to 5% are thickly seeded with grass (minimum requirement) Ditches 5% to 15% are lined with thick grass and erosion control blankets as needed Ditches 15% to 33% are lined with thick grass and matting or other approved product Ditches exceeding 33% are paved or lined with rock or other approved product

CONTRACTOR AND SUBCONTRACTOR CERTIFICATIONS

SWPPP Files, Updates, and Amendments

This SWPP Plan and related documents (e.g., NOI, inspection reports, US ACE permits, etc.) will be kept on file at the construction site by _____ (name and title). The SWPPP will be updated by the Owner and/or Site Manager to reflect any and all significant changes in site conditions, selection of BMPs, the presence of any unlisted potential pollutants on site, or changes in the Site Manager, contractor, subcontractors, or other key information. Updates and amendments will be made in writing within 7 days and will be appended to the original BMP Plan and available for review.

Stormwater Pollution Prevention Plan Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: _____ Date: _____

Title: _____

I certify under penalty of law that I understand the terms and conditions of the general KPDES permit that authorizes the storm water discharges associated with the construction site activity identified as part of this certification.

Subcontractor Certification

The subcontractors below certify under penalty of law that they understand the terms and conditions of the general KPDES permit that authorizes the storm water discharges associated with the construction site activity identified as part of this certification.

Signed: _____ Date: _____

Title: _____

Signed: _____ Date: _____

Title: _____

Signed: _____ Date: _____

Title: _____

Erosion and Sediment Control
02370-43

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SECTION 02371

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

PART 1 - GENERAL

1.01 GENERAL

- A. The Contract Documents include a preliminary Erosion and Sediment Control (ESC) Plan and a draft SWPPP. This ESC Plan/SWPPP may be used for establishing quantities and a lump sum price for providing the Erosion and Sediment Control Measures.
- B. The Contractor may use this ESC Plan/SWPPP, modified as necessary by the Contractor, to obtain the required permits, e.g., Land Disturbance Permit. If Contractor chooses to use this ESC Plan/SWPPP, the Contractor takes sole responsibility for the content of the ESC Plan/SWPPP and the implementation of the ESC Plan/SWPPP during construction. The Contractor acknowledges that this ESC Plan/SWPPP may not fully address any and all Erosion and Sediment Control Measures needed to comply with state and local requirements during construction and must be updated by the Contractor as appropriate. The Contractor acknowledges that he/she is responsible for addressing any Notices of Violation of the ESC Plan/SWPPP issued by any regulating authority. The Contractor shall be responsible for paying any fines or civil penalties for failure to comply with the ESC Plan/SWPPP or correcting deficiencies noted in Notice(s) of Violation.
- C. Contractor may also choose to prepare its own ESC Plan/SWPPP and submit it to LFUCG Division of Water Quality for acceptance. No additional payment will be allowed for the ESC Plan/SWPPP development and conformance with said ESC Plan/SWPPP pay item.
- D. Contractor is advised that compliance with LFUCG planning, permitting, and construction requirements does not imply compliance with Kentucky Division of Water requirements, which is also a condition of the Contract.
- E. It is the Contractor's sole responsibility to meet all requirements of the Kentucky General Permit for Stormwater Discharges Associated with Construction Activities (KYR10) and the LFUCG Land Disturbance Permit.
- F. The Contract Documents include a draft SWPPP and a preliminary Erosion and Sediment Control Plan, which shall be used for informational purposes only. The erosion control measures shown on the construction drawings and listed in the specifications herein are given as the minimum erosion control measures. It is the Contractor's sole responsibility to comply with KYR10 and the Land Disturbance

Stormwater Pollution Prevention Plan (SWPPP)

02371-1

Permit and to adapt the plan as necessary based on sequencing and construction means and methods.

- G. The Contractor shall provide to the Engineer for review and approval a sequenced SWPPP. The sequenced SWPPP must align with the Contractor's construction activities. Erosion control measures in each area must be in place prior to any soil disturbance.
- H. Any Erosion and Sediment Control measures required by Engineer or State and local agency inspections shall be provided by the Contractor at no additional cost to the Owner.
- I. The Contractor shall submit an updated SWPPP and implementation schedule with each pay application for review by the Engineer.

CONSTRUCTION SITE STORMWATER POLLUTION PREVENTION PLAN

DRAFT

This Stormwater Pollution Prevention Plan (SWPPP) narrative and the attached plan sheets address requirements of the Kentucky General Permit for Stormwater Discharges Associated with Construction Activities (KYR10) and the Lexington-Fayette Urban County Government's Erosion and Sediment Control Ordinance.

Plan Preparer: Contactor or Contractor's Engineer

Date: TBD **LFUCG Checklist and KY DOW NOI Attached:** Yes ____ No: ____

1. CONTACT INFORMATION AND SITE DESCRIPTION

Project Name and Location

Pebble Creek Bank Stabilization

Site Owner Name and Contact Information

Lexington-Fayette Urban County Government

Attn: Mark Sanders

125 Lisle Industrial Avenue, Suite 180

Lexington, Kentucky 40511

Construction Site SWPPP/BMP Plan Manager and Contact Information

Contractor

Project Start and End Dates

Start: TBD

End: TBD

Description – Existing Site Conditions, Purpose, and Types of Soil Disturbing Activities

The existing site is a residential area with no existing storm sewers. Soils are silty clays with poor drainage. The site ultimately drains to the Wilson Downing Tributary, a tributary of West Hickman Creek. The Wilson Downing Tributary is not an impaired waterbody according to the Kentucky Division of Water. The project will consist of regrading the stream bank and placing a turf reinforcement mat (TRM) to prevent erosion. Soil disturbing activities will include initial clearing and grubbing; installing down gradient silt fence and other erosion and sediment controls; grading; installing TRM; and preparation for final seeding.

Runoff Coefficient

Current Runoff Coefficient = 0.85; Final Runoff Coefficient = 0.85

Site Area and Disturbed Acreage

Less than one acre will be disturbed by construction activities for the project.

Sequence of Major Activities

Construction Activity	Schedule Considerations
Work crew orientation	Pre-project briefing to review permits, plans, schedule, and staffing.
Construction access – install entrance to site, initial construction routes, initial areas designated for vehicle parking	This is the first land-disturbing activity. Minimal clearing/grading will be done to install stabilized #2 rock site exit with geotextile underliner, at least 50 ft long. Downgradient silt fences will be installed below areas to be cleared, grubbed, graded, or cut/filled. Do-not-disturb areas will be marked off.
Sediment traps and barriers – basins, traps, sediment fences, outlet protection	ID locations and install temporary sediment traps as needed to intercept flow. Build traps prior to upgradient work where possible, and seed/mulch/blanket slopes immediately. Relocate and reinstall silt fences as necessary prior to upgradient work. Maintain and remove sediment as necessary.
Runoff and run-on controls – diversion ditches or berms, perimeter dikes	Install controls as needed to divert clean flows around or through site. Key practices will be installed after the installation of principal sediment traps and before land grading. Additional runoff control measures may be installed during grading.
Land clearing and grading—site preparation (cutting, filling, and grading, sediment traps, barriers, diversions, drains, surface roughening)	Major clearing and grading will begin after installation of principal sediment and runoff control measures, and additional control measures will be installed as grading continues. Borrow and disposal areas will be cleared as needed. Trees and buffer areas around streams, sinkholes, and other protected areas will be marked for preservation.

Runoff conveyance system - storm drains, channels, inlet and outlet protection, slope drains	Inlet and outlet protection measures will be installed as needed. Drainage ditches will be stabilized immediately with sod or seed with erosion control blanket. Slope drains will be installed as indicated on site drawings. A minimum 50 ft vegetated buffer will be maintained around all streams and sinkholes.
Surface stabilization—temporary and permanent seeding, mulching, sodding, riprap	All disturbed areas will be graded and stabilized as soon as possible. Stabilization will begin within 14 days on areas of the site where construction has permanently or temporarily ceased. Temporary and permanent stabilization will comply with the LFUCG Stormwater Manual. Erosion control blankets and turf reinforcement mats will be used on slopes in accordance with the LFUCG Stormwater Manual.
Building construction—buildings, utilities, paving	During construction, erosion and sedimentation control measures will be installed as needed, such as construction entrances and downgradient silt fences and sediment traps. Areas at final grade not in the immediate construction area will be seeded/mulched as soon as possible.
Landscaping and final stabilization—topsoiling, trees and shrubs, permanent seeding, mulching, sodding.	This is the last construction phase. All remaining disturbed areas will be stabilized, including borrow and spoil areas. Temporary control structures will be removed and the area will be seeded and mulched.

Stormwater Pollution Prevention Plan (SWPPP)

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2. SITE DESCRIPTION, MAPS, AND DRAWINGS

Drawings

See the Construction drawing sheets C-100 and C-101.

Name of Receiving Waters

The entire site of the Pebble Creek Bank Stabilization drains to the Wilson Downing Tributary, a tributary of West Hickman Creek. The tributary runs through the site.

Pollutants of Concern in Receiving Waters

The Wilson Downing Tributary is not listed on the 2018-2020 303(d) List of Waters.

Potential Sources of Pollutants

All Sites: Sediment from land clearing and grading; fertilizer; oil/fuel/grease from equipment; trash/debris; sediment from dewatering operations.

3. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES

Limits of Disturbance and Project Phasing

The site is less than one acre. Land disturbance activities will be conducted to minimize the amount of soil exposed and the length of exposure time. The overall objective will be to achieve final grades as quickly as possible, and to stabilize all areas with seed and blankets/mats within 14 days after final grade is achieved, or after grading work is suspended on that portion of the site. This section of the SWPPP will apply to the Pebble Creek site where indicated on the Construction Drawings.

Stabilization Practices

Temporary Stabilization – Topsoil stockpiles and disturbed portions of the site where construction activity stops for 14 days or more will be stabilized with temporary seed or straw mulch no later than 14 days from the last construction activity in that area (portion) of the site. Seeding rates will be consistent with the Kentucky Erosion Prevention and Sediment Control Field Guide. Lime and fertilizer will be applied only when necessary. After seeding, each area shall be mulched with at least 3,000 pounds per acre of blown or hand-scattered straw. The straw will be netted down or crimped into place by a disk harrow with the blades set straight. Slopes will be covered with blankets or mats consistent with the LFUCG Stormwater Manual. Areas of the site which are to be paved will be temporarily stabilized by applying geotextile and stone sub-base until bituminous pavement can be applied. Dust will be controlled by water sprayed from a tanker truck as needed during dry weather.

Permanent Stabilization – Disturbed portions of the site where construction activities are completed will be stabilized with permanent seed no later than 14 days after completion of grading in that area. Seed and mulch will be applied consistent with the Kentucky Erosion Protection and Sediment Control Field Guide. Lime and fertilizer will be applied only if needed. After seeding, each area will be covered with erosion control blankets or turf reinforcement mats consistent with the LFUCG Stormwater Manual. Ditches will be triple-seeded and lined with erosion control blanket or turf reinforcement matting.

Structural Practices

Sediment Traps – will be sited and constructed as needed, according to the attached drawings and through field adaptations to changing grades and emergence of gullies that need to be controlled. Traps will consist of rock or rock bag berms across concentrated flow areas and be designed to intercept, detain, and settle out these flows. Traps installed as field adaptations will be logged on the erosion control plan sheets.

Inlet Protection Measures – will be used to detain, pond, and settle (or filter) out sheet and concentrated flows moving toward curb, drop, or other inlets. Inlet protection structures will consist of rock bags, #2 rock berms, trenched in silt fence on framing, or commercial devices.

Outlet Protection Measures – will be used where culverts discharge to ditches or channels, and consist of turf reinforcement matting over triple seeding, erosion control blanket over triple seeding, or channel lining, depending on the scour flows and consistent with the Kentucky Division of Water's BMP Technical Specifications Manual.

Ditch Check Dams – will be installed as needed to control ditch downcutting, trap sediment, and stabilize ditches. Check dam installation will be consistent with the Kentucky Erosion Protection and Sediment Control Field Guide and BMP Technical Specifications Manual.

Site Runoff Management

Sediment will be prevented from leaving the sites to the maximum extent practicable. Stormwater drainage will be provided mostly by grassed swales. Runoff will be diverted onto undisturbed vegetated areas and revegetated areas where possible for infiltration. Landscaped areas with no buildings or roads will be brought to grade and seeded within 14 days. After seeding, disturbed areas will be covered with erosion control blankets or turf reinforcement mats consistent with the LFUCG stormwater manual. When construction is complete, the site will drain to the to a tributary of West Hickman Creek.

4. OTHER CONTROL MEASURES

Dewatering Operations

The Contractor shall prevent sediment and silt laden water from leaving the site to the maximum extent possible. The sediment-laden water must be pumped to a dewatering structure before it is discharged offsite. These structures may include sediment trap, sediment tank, straw bales, silt fence pit, a commercial sediment bag, or a combination of the listed structures. The structure must be sized to allow pumped water to flow through the structure without overtopping.

Offsite Vehicle Tracking

A stabilized #2 and larger rock construction exit with geotextile underliner will be installed to help reduce vehicle tracking of sediments at all exits onto paved roads. The stabilized exit will be at least 100 ft in length. The paved street adjacent to the site entrance will be swept/cleaned daily if necessary to remove any excess mud, dirt, or rock tracked from the site. The rock exit will be grubbed lightly or otherwise maintained as needed to clear (shake down) dry mud. Dump trucks hauling material from the construction site will be covered with a tarpaulin.

Waste Disposal

Waste Materials – All waste materials that may leach pollutants (paint and paint containers, caulk tubes, oil/grease containers, liquids of any kind, soluble materials, etc.) will be collected and stored in a covered metal dumpster. The dumpster will meet all LFUCG and state solid waste management regulations. Construction debris and other wastes that do not leach pollutants will be recycled or deposited in a covered or open-topped dumpster. The dumpster will be emptied when full, and the contents will be hauled to an approved site. No construction waste materials will be buried onsite. All personnel will be instructed regarding the correct procedure for waste disposal. Notices stating these practices will be posted in the office trailer and the superintendent will be responsible for seeing that these procedures are followed.

Hazardous Waste – All waste materials will be disposed of in the manner specified by local or state regulation or by the manufacturer. Site personnel will be instructed in these practices and an individual onsite daily will be responsible for seeing that these practices are followed.

Sanitary Waste – Portable toilets will be used on site for sanitary wastes. All sanitary waste will be collected from the portable units as needed to prevent excessive odors and overflows. Portable units will be placed away from storm drain inlets, ditches, creeks, and other water bodies

Timing of Control Measures

As indicated in the Sequence of Major Activities, the stabilized construction exits and silt fences / sediment barriers will be constructed prior to clearing or grading of any other portions of the site. Sediment traps will be constructed as needed in areas where gulying occurs. Areas where construction activity temporarily ceases for more than 14 days will be stabilized with temporary seed and/or mulch within 14 days of the last disturbance. Once construction activity ceases permanently in an area, that area will be seeded and restored with erosion control blankets or turf reinforcement mats within 14 days. Temporary controls in permanently stabilized areas, such as silt fences, sediment barriers, ditch checks, temporary sediment traps, etc., will be removed. Controls will remain in place until all vegetation is established.

5. OTHER STATE AND LOCAL PLANS

Certification of Compliance with Federal, State, and Local Regulations

This Stormwater Pollution Prevention Plan reflects Kentucky Division of Water and LFUCG requirements for stormwater management and erosion and sediment control, as established in LFUCG ordinances. To ensure compliance, this plan was prepared in accordance with the Kentucky BMP Planning and Technical Specifications Manual published by KY DOW and KY DOC and the LFUCG Stormwater Manual. The project will also be required to comply with the Clean Water Act Section 404 bank stabilization permit, the KY DOW Section 401 Water Quality Certification, and the KY DOW Stream Construction Permit.

6. MAINTENANCE PROCEDURES

Stormwater, Erosion, and Sediment Control Maintenance Practices

Maintenance of all BMPs at the site will be conducted by an individual who has been trained on construction site BMPs at workshops sponsored by the KY DOW and the Kentucky Erosion Prevention and Sediment Control (KEPSC) Program. Other workers on-site will be trained in BMP installation, maintenance, and good housekeeping. These are the inspection and maintenance practices that will be used to maintain erosion and sediment controls:

- Minimize the amount of will be cleared of vegetation at one time; areas at final grade will be seeded and mulched within 14 days.
- All Erosion and Sediment Control Measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported. This information will be logged on the SWPPP/BMP Plan
- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts. Bypasses will be repaired immediately.
- Built-up sediment will be removed from behind the silt fence before it has reached one-third the height of the fence.
- Diversion dikes and berms will be inspected, and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.

7. INSPECTION PROCEDURES

Stormwater, Erosion, and Sediment Control Inspection Practices

Inspection of all BMPs at the site will be handled by an individual who has been trained on inspecting construction site BMPs at workshops sponsored by the KY DOW and the Kentucky Erosion Prevention and Sediment Control (KEPSC) Program.

- All erosion prevention and sediment control measures will be inspected at least once each week and following any rain of one-half inch or more.
- Inspections will be conducted by an individual who has been trained by the KY DOW and KEPSC.
- Inspection reports will be written, signed, dated, and kept on file for two years.

8. NON-STORMWATER DISCHARGES

It is expected that the following non-storm water discharges will occur from the site during the construction period:

- Uncontaminated groundwater and rainwater (from dewatering during excavation).

All non-storm water discharges will be directed to a sediment trap, filter bag, or filter fence enclosure in a flat vegetated infiltration area prior to discharge, to remove sediment and other contaminants.

The materials or substances listed below are expected to be present at either site during construction:

- Fertilizers
- Petroleum Based Products

Spill Prevention and Material Management Practices

The following material management practices will be used to reduce the risk of spills or other accidental exposure of materials and substances to the weather and/or runoff.

Good Housekeeping

The following good housekeeping practices will be followed onsite during the construction project.

- An effort will be made to store only enough product required to do the job.
- Products and materials will be stored away from the surface drainage system.
- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
- Products will be kept in their original containers with the original manufacturer's label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of the product will be used up before disposing of the container.
- Manufacturers' recommendations for proper use and disposal will be followed.
- The site superintendent will inspect daily to ensure proper use and disposal of materials onsite.
- Dust will be controlled by water sprayed from a tanker truck as needed during dry weather.

Hazardous Products

These practices will be used to reduce the risks associated with any and all hazardous materials.

- Products will be kept in original containers unless they are not resealable.
- Original labels and material safety data sheets (MSDS) will be reviewed and retained.
- If surplus product must be disposed of, manufacturers' or state/local recommended methods for proper disposal will be followed.

Petroleum Products

All onsite vehicles will be fueled and maintained off-site, monitored for leaks, and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products stored onsite (oil, gas, etc.) will be stored in tightly sealed containers, which are clearly labeled. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations.

Fertilizers

If used, fertilizers used will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be covered with mulch or blankets or worked into the soil to limit exposure to stormwater. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

Concrete Truck Washout

Concrete truck mixers and chutes will not be washed on pavement, near storm drain inlets, or within 75 feet of any ditch, stream, wetland, lake, or sinkhole. Where possible, excess concrete and wash water will be discharged to areas prepared for pouring new concrete, flat areas to be paved that are away from ditches or drainage system features, or other locations that will not drain off site. Where this approach is not possible, a constructed wash basin lined with plastic sheeting will be installed away from ditches to receive the wash water.

Spill Control Practices

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup:

- Manufacturers' recommended methods for spill cleanup will be clearly posted. All personnel will be made aware of procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area. Equipment and materials will include but not limited to brooms, dust pans, mops, rags, gloves, kitty litter, sand, sawdust, and plastic and metal trash containers.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the appropriate state/local agency.
- The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
- The site superintendent will be the spill prevention and cleanup coordinator. He will designate at least one other person onsite to receive spill prevention/cleanup training and assist in cleanups. Their names will be posted in the site mailbox.

9. CONTRACTOR AND SUBCONTRACTOR CERTIFICATIONS

SWPPP Files, Updates, and Amendments

This SWPP Plan and related documents (e.g., Land Disturbance Permit, inspection reports, etc.) will be kept on file at the construction site. The SWPPP will be updated by the Contractor to reflect any and all significant changes in site conditions, selection of BMPs, the presence of any unlisted potential pollutants on site, or changes in the contractor, subcontractors, or other key information. Updates and amendments will be made in writing within 7 days and will be appended to the original BMP Plan and available for review.

Stormwater Pollution Prevention Plan Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: _____

Date: _____

I certify under penalty of law that I understand the terms and conditions of the general KPDES permit that authorizes the storm water discharges associated with the construction site activity identified as part of this certification.

Subcontractor Certification

The subcontractors below certify under penalty of law that they understand the terms and conditions of the general KPDES permit that authorizes the storm water discharges associated with the construction site activity identified as part of this certification.

Construction Site Inspection Report (SAMPLE – OR USE YOUR OWN)

Company:	Site:	County:
Site Operator:		Inspection Date:
Receiving Water:	Total Site Area (acres):	# Disturbed Acres:
Inspector Name:	Inspector Qualifications:	
Inspection Type: Weekly or ½ Inch Rain	Days Since Last Rainfall ____ # Inches of Last Rainfall: ____	

Field Inspection Observations

BMP Category	Compliance			Field Indicators for Compliance
	Poor	Fair	Good	
Project Operations				Notice of Intent (KPDES permit) and other local/state permits on file BMP Plan on site and available for review; project activities following BMP plan Weekly inspection and rain-event reports on BMPs available for review Diversions, silt checks/traps/basins, and silt fences/barriers installed prior to clearing Grading and clearing conducted in phases to minimize exposed soil areas No vegetation removal or operations in stream or sinkhole buffer area (25 ft min) Rock pad with underliner in place on all construction site exits leading to paved roads No sediment, mud, or rock on paved public roads in project area Dust control if needed when working in residential areas during dry conditions
Drainage Management				Upland runoff diverted around bare soil areas with vegetated/lined ditches/berms Drainage channels exiting the site are lined with grass/blanket/rock and stabilized Discharges from dewatering operations cleaned in silt fence enclosure or other filter No muddy runoff leaving site after rains up to 1½ inches
Erosion Protection				Exposed soil seeded/mulched after 2 weeks if no work is planned for the next 7 days Soils on steep slopes seeded/mulched/blanketed as needed to prevent rutting
Sediment Barriers				Silt fence, rock filter, or other sediment barrier below all bare soil areas on slopes Barrier installed across slope on the contour, trenched in, posts on downhill side Multiple sediment barriers at least 125 ft apart on unseeded slopes steeper than 4:1 J-hook interceptors along silt fence where heavy muddy flows run along fencing No visible undercutting or bypassing or blowout of sediment barrier Accumulated sediment is less than halfway to the top of sediment barrier

Slope Protection	Slopes tracked, disked, or conditioned after final grade is established Slopes seeded, mulched, or blanketed within 14 days, no unmanaged rills or gulying Heavy downslope flows controlled by lined downdrain channels or slope drain pipes No muddy runoff from slopes into streams, rivers, lakes, or wetlands
Inlet Protection	Inlet dam/device or filtration unit placed at all inlets receiving muddy flows No visible undercutting, bypassing, or blowout of inlet protection dam or device Accumulated sediment is less than halfway to the top of the inlet protection dam/device
Outlet Protection	High flow discharges have rock or other flow dissipaters of adequate sizing at outlet Culvert outlets show no visible signs of erosion/scour, bank failure, or collapse
Ditch and Channel Stabilization	No unmanaged channel bank erosion or bottom scouring visible within or below site Ditches with slopes more than 3% have check dams spaced as needed, if not grassed Ditch check dams tied in to banks, with center 4" lower than sides, and no bypassing Ditches with slopes of up to 5% are thickly seeded with grass (minimum requirement) Ditches 5% to 15% are lined with thick grass and erosion control blankets as needed Ditches 15% to 33% are lined with thick grass and matting or other approved product Ditches exceeding 33% are paved or lined with rock or other approved product
Sediment Traps and Basins	Storage volume is at least 134 cubic yards for each acre of bare soil area drained Trap or basin is seeded/mulched and stabilized; no collapsing sidewalls or banks Outlet structure is stable and consists of rock-lined notched overflow or outlet riser Rock overflow is 6" lower in center to control overflow discharge Outlet riser pipe has concrete & rock base, ½ inch holes every 3" to 6", and trash rack Area near pipe outlet or overflow is stable, with no scour or erosion Sediment removed before trap or basin is halfway full; disposal is away from ditches
Maintenance of EPSC Management Practices	Sediment behind silt fence and other filters does not reach halfway to top Sediment traps and basins are less than half full of sediment Gullies repaired, silt fences and other controls inspected and repaired/replaced Written documentation of controls installed, inspection results, and repairs performed All controls removed and areas graded, seeded, and stabilized before leaving site

Materials Storage, Handling, and Cleanup	Materials that may leach pollutants stored under cover and out of the weather Fuel tanks located in protected area with double containment system Fuel and/or other spills cleaned up promptly; no evidence of unmanaged spills No evidence of paint, concrete, or other material washouts near drain inlets No storage of hazardous or toxic materials near ditches or water bodies
Waste Disposal	Trash, litter, and other debris in proper containers or properly managed No litter or trash scattered around on the construction site Provisions made for restroom facilities and/or other sanitary waste management Sanitary waste facilities clean and serviced according to schedule No disposal of any wastes into curb or other inlets, ditches, streams, or water bodies

Inspection Notes and Key Observations

List of Stabilized Areas: Vegetation is Established; Ditches are Stabilized; No Exposed Soil
Other Notes or Observations:
Corrective Actions Taken and/or Proposed Revisions to BMP Plan:

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Signature of Inspector: _____ **Date:** _____

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SECTION 02372

ESC PERMITTING, INSPECTION, AND ENFORCEMENT PROCEDURES

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**Permitting, Inspection, and Enforcement Procedures for
Erosion and Sediment Control on Capital Projects**

Division of Water Quality

**Lexington-Fayette
Urban County Government**



September 2022

**Permitting, Inspection, and Enforcement Procedures
for Erosion and Sediment Control on Capital Projects**

Division of Water Quality

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This publication was developed by the Tetra Tech / Third Rock Consultants Stormwater Program Management Team under contract to LFUCG for purposes of implementing the stormwater provisions of its Clean Water Act Consent Decree and/or its Kentucky Division of Water (KDOW) Municipal Separate Storm Sewer System (MS4) Permit.

Permitting, Inspection, and Enforcement Procedures for Erosion, Sediment, and Stormwater Control on Division of Water Quality Capital Construction Projects

DWQ Remedial Measures Plan Projects

DWQ RMP Program Manager: Bob Peterson

DWQ Program Management Consultant: Hazen and Sawyer

Construction Contract Administrators (CA): DWQ Consultants

Resident Project Representative (RPR): DWQ Consultants

ESC Plan Reviewer: DWQ Stormwater Section – Amad Al-Humadi

Land Disturbance Permit (LDP) Issuer: DOE New Development

LFUCG Erosion and Sediment Control Compliance Inspector: RPR

Accela Data Entry: DWQ Compliance & Monitoring (C&M) – Kevin Lyne

Land Disturbance Permit (LDP) Permittee: Contractor

DWQ Wastewater Treatment Plant Capital Projects

DWQ Plant Engineer: Tiffany Rank

DWQ Project Manager: Varies

Construction Contract Administrators (CA): Rick Day, Rick Bowman

Resident Project Representatives (RPR): DWQ Consultant or DWQ Construction Management
(Rick Day, Bill Warren, Sam Futia)

ESC Plan Reviewer: DWQ Stormwater Section – Amad Al-Humadi

Land Disturbance Permit (LDP) Issuer: DOE New Development

LFUCG Erosion and Sediment Control Compliance Inspector: RPR

Accela Data Entry: DWQ Construction Management – Brenda Whittington

Land Disturbance Permit (LDP) Permittee: Contractor

DWQ Stormwater and Sanitary Sewer Projects:

DWQ Section Managers: Mark Sanders, Chris Dent, Tiffany Rank

Construction Contract Administrator (CA): Rick Day

Resident Project Representatives (RPR): DWQ Construction Management (Rick Day, Bill Warren, Sam Futia)

ESC Plan Reviewer: DWQ Stormwater Section – Rick Day or Amad Al-Humadi

Land Disturbance Permit (LDP) Issuer: DOE New Development

LFUCG Erosion and Sediment Control Compliance Inspector: RPR

Accela Data Entry: DWQ Construction Management – Brenda Whittington

Land Disturbance Permit (LDP) Permittee: Contractor

Permitting Procedures

1. Contractor shall develop a Stormwater Pollution Prevention Plan/Erosion and Sediment Control Plan (SWPPP/ESC Plan). A SWPPP/ESC Plan template is on the LFUCG website at <https://www.lexingtonky.gov/new-development>. On some projects, the construction contract documents may contain a SWPPP/ESC Plan prepared by LFUCG's consultant for purposes of establishing bid quantities. If the Contractor chooses to use this SWPPP/ESC Plan to obtain the required permits, the Contractor takes sole responsibility for the content of the SWPPP/ESC Plan and the implementation of the plan during construction.
2. Contractor must submit an application for a Land Disturbance Permit to the LFUCG Division of Engineering before beginning project construction. The permit application is available at <https://aca3.accela.com/lexky/>.
3. For projects with a disturbed area of ≥ 1 acre, the contractor must submit a Notice of Intent (NOI) to the KY Division of Water (KDOW) and obtain KYR10 Permit coverage before beginning construction of any kind on the site. The NOI can be submitted electronically at <http://dep.ky.gov/formslibrary/Documents/KYR10PermitPage.pdf>.
4. Contractor cannot start project work until they have obtained the LFUCG Land Disturbance Permit and KYR10 Permit coverage (if applicable – see above).
5. Amad Al-Humadi will review the SWPPP/ESC Plan, confirm that the Contractor has obtained KYR10 Permit coverage (if applicable – see above), and authorize the Contractor to install the initial BMPs.
6. Contractor then installs the initial BMPs, prior to project work (general excavation, grading, etc.).
7. Amad Al-Humadi inspects the installation of the initial BMPs and authorizes DOE New Development to issue the Land Disturbance Permit. Contractor then begins the project.

Contractor Responsibilities

Contractor shall:

1. Develop a SWPPP/ESC Plan, or review and agree to use the SWPPP/ESC Plan prepared by LFUCG's consultant, or amend it as needed.
2. Attend a pre-construction conference with LFUCG.
3. Post the LFUCG Land Disturbance Permit and KYR10 Permit (if applicable) on the project sign at the site, and keep a copy of the SWPPP/ESC Plan on site and available for review.
4. Follow the SWPPP/ESC Plan; revise and redline it as conditions change on the site.
5. Install and maintain BMPs to prevent sediment from washing into streets, storm sewers, and streams. All runoff from disturbed areas must pass through a BMP before leaving the site.
6. Maintain a 50-foot vegetative buffer strip along perennial and intermittent streams (including impounded streams), wetlands, sinkholes, and inlets.
7. If work must be done within 50 feet of a perennial or intermittent stream, wetland, sinkhole, or inlet, complete work as soon as possible and stabilize the area within 24 hours after completing work.
8. Conduct an ESC inspection at least once every 7 calendar days and within 24 hours after each rainfall of 0.5 inches or greater (or 4 inches of snow or greater).
9. Complete and sign the inspection form after each inspection. Keep the completed inspection forms on site and available for review.
10. Stabilize inactive portions of the site with straw, blanket, seed, or other cover within 14 days of no activity, and provide permanent stabilization within 14 days of reaching final grade.
11. If the project has a KYR10 Permit, file a Notice of Termination with the KY Division of Water and forward to the LFUCG Division of Engineering and LFUCG Division of Water Quality when construction has been completed and the site is stabilized. Final stabilization is defined as follows from KYR10: "All soil disturbing activities at the site have been completed and either of the two following criteria are met – a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed."
12. Respond promptly to Verbal Warnings and Notices of Violation from LFUCG regarding correcting ESC problems.

Inspection Procedures for the Resident Project Representative

Weekly Field Inspections

1. Inspect the site each week and the next working day after a storm event of 0.5 inches or greater
2. Ensure the LFUCG Land Disturbance Permit and KYR10 Permit are posted at the site
3. Ensure SWPPP/ESC Plan is available for review
4. Ensure that the weekly and rain event completed inspection forms are available for review
5. Walk the perimeter of the entire site
6. Note downgradient controls:
 - Inspect ditches and sheet flow areas
 - Silt fences working?
 - Ditches vegetated / stabilized?
 - Significant sediment discharges?
7. Walk around internal disturbed areas
 - Idle for more than 14 days . . . stabilized?
8. Inspect all inlets and ditches
 - Inlets protected, ditches stabilized?
9. Check out material / fuel storage areas
 - Spills? Leaks? Leaching pollutants? Litter / waste managed?
10. Inspect concrete washout(s)
11. Inspect the construction entrance / exit
12. Inspect the 50-foot vegetative buffer strip adjacent to waterways. The buffer strip must be stabilized within 24 hours of any approved construction activity in the buffer strip.
13. Communicate inspection findings to Contractor, note issues that need attention
14. Complete the LFUCG inspection checklist
15. Submit an electronic copy of the completed checklist to the Project Manager and the Accela Data Entry Contact person on page 1 **the week of the inspection.**

Important Items for the Permittee / Contractor / RPR to Verify:

- Posted permits, plans, and inspection reports
- Graded / inactive areas stabilized with seed, mulch, blankets, mats, etc.
- Stabilized, non-eroding ditches
- Maintained silt fences and protected curb / drop inlets
- No mud on the street
- Trash and litter managed
- No disturbance in the 50-foot buffer zone adjacent to streams, wetlands, sinkholes, and inlets, unless approved; areas within the 50-foot buffer must be stabilized within 24 hours

Enforcement Procedures

1. The Contractor will be paid for erosion and sediment control based upon a schedule of values established within the Measurement and Payment section of the specifications (e.g., 25% paid once initial ESCs have been installed and LDP obtained, 50% paid in equal monthly payments for maintenance over the construction period, 25% paid for removal of ESCs and final stabilization). The intent of this provision is to pay the Contractor for ESC maintenance for each month that the BMPs are maintained and functioning properly.
2. The RPR shall follow the attached ***Compliance Assistance Guidance for DWQ Capital Project RPRs*** and implement the **Escalating Enforcement Process** described below.

Table 1 – ESC Escalating Enforcement Process

DWQ Capital Project	Escalating Enforcement Process
Remedial Measures Program	The RPR shall escalate the issue to the RMP Program Manager and RMP Program Management Consultant's Project Manager
Wastewater Treatment Plants Stormwater Section MS4/Water Quality Section Sanitary Sewers Capacity Assurance Program	The RPR shall escalate the issue to the DWQ Section Manager and the DWQ Construction Contract Administrator

3. DWQ will use all available means in the contract to obtain compliance, including:
 - a. withholding payment
 - b. notifying the Contractor that LFUCG intends to initiate the process for declaring that the Contractor is in default of the contract and specifying a deadline for addressing the ESC deficiencies
 - c. initiating the process for calling the ESC Performance Bond
 - d. issuing Notices of Violation (NOVs)
 - e. stopping work

Compliance Assistance Guidance for DWQ Capital Project RPRs

Observed Condition	Verbal Warning to Correct within 3-5 days (See Note 1)	Verbal Warning to Correct within 24 hours (See Note 1)	Escalate the Issue Immediately in Accordance with Table 1
Construction Entrance to Public Road	Rock pad poorly installed/maintained	Rock pad not installed	
	Small amount of sediment on road	Rock pad completely covered with soil	
Unstabilized Areas		Significant amount of sediment on road	
	Flat inactive disturbed areas not stabilized in 14 days	Ditches not stabilized immediately after construction	
Inlet Protection		Disturbed, inactive slopes not stabilized within 14 days	Disturbed, inactive slopes above waterways, wetlands, floodplains, critical areas ² not stabilized within 24 hours
	Sediment needs to be removed around inlet protection	Curb inlet protection not in place or improperly installed	Discharge of concrete wash water, chemicals, other pollutants into inlets, streams, wetlands, etc.
Silt Fencing	Does not match SWPPP/ESC Plan but critical areas ² and roads are protected	Silt fence not installed per plan and critical areas ² and roads are not protected	
	Does not comply with Stormwater Manual but is functional	Blowouts have occurred with discharge of sediment to critical areas ²	Large quantities of sediment in critical areas ²
	Needs maintenance/repair, but is not near an inlet or surface water	Not trenched in, is not functional	
		Silt fence needs repairs in critical areas ²	
Soil Stockpiles	No perimeter controls, downstream BMPs in place	No perimeter controls, downstream BMPs not in place	
		Permit expired	Site not permitted (No LDP or KDOW NOI)
		Permit not posted or available on site	
		Contact name/phone not posted	
		No self-inspection reports; reports not on site	
		Self-inspection reports not current	
		SWPPP/ESC Plan not on site	
Permit Violations			Unapproved construction activities in 50-foot buffer zone around sinkholes, streams, wetlands, etc.
			Construction has started, BMPs not installed

1. Escalate the issue in accordance with Table 1 after the 2nd Verbal Warning.
2. Critical areas are areas within 25 feet of a stream, wetland, sinkhole, or inlet.

SECTION 02373

GEOTEXTILE FILTRATION MATERIAL

PART 1 - GENERAL

1.01 SUMMARY

- A. The Contractor shall furnish all labor, materials, and equipment necessary for the installation of the non-woven geotextiles in accordance with the Drawings and Specifications.

1.02 SYSTEM DESCRIPTION

- A. The non-woven geotextile is intended to act as a separation geotextile between soil and stone.

1.03 SUBMITTALS

The Contractor shall furnish the following information to the Engineer.

- A. Geotextile Manufacturer's affidavit providing assurance that the qualifications of the Geotextile Manufacturer have been achieved.
- B. Geotextile Manufacturer's Quality Assurance/Quality Control (QA/QC) certifications for each shipment of geotextile to verify that the materials supplied for the project are in accordance with the requirements of this specification. The certificates shall show the following:
 - 1. Unit weight per ASTM D-5261
 - 2. Grab tensile strength per ASTM D-4632
 - 3. Trapezoidal tear strength per ASTM D-4533
 - 4. Burst Strength per ASTM D-3786
 - 5. Puncture strength per ASTM D-4833
 - 6. Apparent opening size per ASTM D-4751
 - 7. Permittivity per ASTM D-4491
 - 8. Ultraviolet light resistance per ASTM D-4355
- C. Manufacturer's warranty covering materials and workmanship of the geotextile.

1.04 QUALIFICATIONS

- A. Geotextile Manufacturer must have produced at least 10 million square feet of non-woven geotextile, with at least 8 million square feet installed.
- B. Geotextile Contractor must either have installed at least one (1) million square feet of non-woven geotextile, or must provide to the Engineer satisfactory evidence, through similar experience in the installation of other types of geosynthetics, that the non-woven geotextile will be installed in a competent, professional manner.

PART 2 - PRODUCTS

2.01 NON-WOVEN GEOTEXTILE

A. Non-Woven Geotextile

The non-woven geotextile shall meet the physical requirements below. The geotextile shall be free of holes, tears, defects, and patch-repairs of defects. The geotextile shall be composed of a non-woven needle-punched, discontinuous fiber. Fibers used in manufacture of the geotextile, and threads used in joining the geotextiles by sewing, shall consist of long chain synthetic polymers composed of at least 95 percent by weight polyolefins, polyesters, or polyamides.

B. Materials

The non-woven geotextile shall be Type I Fabric and meet the Specifications set forth in Section 843 of the Kentucky Transportation Cabinet/Department of Highways *Standard Specifications for Road and Bridge Construction*, latest edition.

C. Product Documentation

The Contractor shall provide the Engineer with the QA/QC certifications for each shipment of non-woven geotextile. The certification shall be signed by a responsible party employed by the manufacturer such as the QA/QC Manager, Production Manager, or Technical Services Manager. The QA/QC certifications shall include:

1. Geotextile lot and roll numbers (with corresponding shipping information).
2. Manufacturer test data for raw materials used in the non-woven geotextile production, including those items listed in Article 1.03 B.

3. Manufacturer's test data for finished non-woven geotextile production, including those items listed in Article 1.03 B.

D. Product Labeling

Prior to shipment, the non-woven geotextile manufacturer shall affix a label to each roll identifying the following characteristics:

1. Product identification information (manufacturer name and address, brand name, product code).
2. Lot and roll number.
3. Roll length and width.
4. Total roll weight.

E. Packaging

1. The non-woven geotextile shall be wound around a cardboard core four (4) inches in diameter to facilitate handling. The core is not intended to support the roll for lifting, but shall be sufficiently strong to prevent collapse during transit.
2. All rolls shall be labeled and bagged in packaging that is resistant to photodegradation by ultraviolet light.

PART 3 - EXECUTION

3.01 SHIPPING AND HANDLING

- A. The manufacturer assumes responsibility for initial loading and shipping of the non-woven geotextile. Unloading, on-site handling, and storage are the responsibility of the Contractor.
- B. Handling of rolls of non-woven geotextiles shall be done in a competent manner, such that damage does not occur to the non-woven geotextile nor to its protective wrapping.
- C. The party responsible for unloading the non-woven geotextile shall contact the manufacturer prior to shipment to ascertain the appropriateness of the proposed unloading methods and equipment to be utilized.
- D. A visual inspection of each roll shall be made as it is unloaded to identify if any packaging has been damaged. Rolls with damaged packaging shall be marked

Geotextile Filtration Material
02373-3

and set aside for further inspection. The packaging shall be repaired prior to being placed in storage.

3.02 SITE STORAGE

- A. The location of field storage shall not be in areas where water can accumulate. The rolls shall be elevated off of the ground so as not to form a dam creating the ponding of water. A dedicated area shall be selected at the job site that is away from high traffic areas and well-drained.
- B. Unloading of rolls or pallets at the job site's temporary storage location shall be such that no damage to the geotextile occurs.
- C. Pushing, sliding, or dragging of rolls of non-woven geotextiles shall not be permitted.
- D. The rolls shall be stacked in such a manner as to prevent crushing of the cores, sliding or rolling from the stacks, or damage to the non-woven geotextile.
- E. Outdoor storage of rolls shall not exceed manufacturer's recommendations or longer than six (6) months, whichever is less. For storage periods longer than six (6) months a temporary enclosure shall be placed over the rolls, or they shall be moved within an enclosed facility.

3.03 PLACEMENT

- A. The non-woven geotextile shall be placed at the locations shown in the Drawings.
- B. Geotextiles shall be deployed free of wrinkles and folds.
- C. During installation on slopes, the geotextiles shall be anchored at the top and rolled down the slope.
- D. All geotextiles shall be weighted with sandbags or other material that will not damage the geotextile during the presence of wind. Geotextiles uplifted by wind may be reused upon approval by the Engineer.
- E. The Contractor shall take the necessary precautions to protect the underlying layers upon which the geotextile will be placed.
- F. Trimming of the geotextiles shall be performed using only an upward cutting hook blade. Trimming of the geotextile shall be performed in a manner that will not damage underlying materials.
- G. A visual examination shall be carried out over the installed non-woven geotextile

Geotextile Filtration Material
02373-4

to ensure that no potentially harmful objects are present such as small tools, sharp objects, or protruding stones.

3.04 SEAMING AND JOINING

- A. The non-woven geotextile shall be overlapped and sewn together per the manufacturer's recommendations. The minimum overlap shall be one (1) inch.
- B. All seams shall be continuously sewn. On slopes greater than 10:1, all seams shall be oriented parallel to the slope.
- C. On slopes less than or equal to 10:1, damaged areas of a size exceeding 10 percent of the roll width shall be removed and replaced across the entire roll width with new material. Damaged areas of a size less than 10 percent of the roll width may be patched.
- D. On slopes greater than 10:1, geotextile panels which require repair shall be removed and replaced with new material.
- E. The thread used shall consist of high strength polypropylene or polyester. The sewn thread shall be of contrasting color to the non-woven geotextile and of chemical and ultraviolet properties equal to or greater than that of the geotextile.

3.05 DAMAGE REPAIR

- A. Damaged non-woven geotextiles and non-woven geotextiles contaminated with dirt shall be repaired immediately at no additional cost to the Owner.
- B. The patch material used for the repair of a hole or tear shall be the same type of material as the damaged non-woven geotextile.
- C. All patches shall extend at least 12 inches in all directions beyond any portion of the damaged geotextile.
- D. The repair patch shall be sewn in place by hand or machine so as not to accidentally shift out of position or be moved during backfilling or covering operation.
- E. The sewn thread shall be of contrasting color to the geotextile and of chemical and ultraviolet light resistance properties equal to greater than that of the geotextile.
- F. The repair shall be reviewed by the Engineer.

3.06 BACKFILLING OR COVERING

- A. Covering of the non-woven geotextile shall be done in a controlled manner as to not shift the geotextile from its intended position.
- B. Covering material shall not be dropped on the non-woven geotextile in a manner that may puncture or damage the geotextile.

END OF SECTION

SECTION 02374

TURF REINFORCEMENT MAT

PART 1 - GENERAL

1.01 SUMMARY

The Contractor shall furnish all labor, materials, and equipment necessary for the installation of the turf reinforcement mat in accordance with the Drawings and Specifications.

1.02 SYSTEM DESCRIPTION

The turf reinforcement mat is intended to provide stability to vegetated earthen streambanks against the erosive forces of water.

1.03 SUBMITTALS

The Contractor shall furnish the following submittal to the Engineer in accordance with Section 01300:

- A. Permanent turf reinforcement mat manufacturer's quality assurance/quality control certifications for each shipment of turf reinforcement mat to verify that the materials supplied for the project are in accordance with the requirements of this specification.
- B. Manufacturer's warranty covering materials and workmanship of the turf reinforcement mat.
- C. Manufacturer's installation instructions.

PART 2 - PRODUCTS

2.01 PERMANENT TURF REINFORCEMENT MAT

A. General

The turf reinforcement mat shall be a permanent application. The mat shall provide the immediate finished look of natural grass along with high flow erosion protection, while establishing permanently reinforced vegetative cover. The mat shall consist of a geotextile or geogrid dense enough to retain fine soil particles and seed, yet open enough to allow seeding emergence. The mat shall have the following properties:

Turf Reinforcement Mat
02374-1

1. An unvegetated permissible shear stress rating, as determined by ASTM D6460 large-scale channel testing, of 10 lb/sf or greater for immediate as well as long-term erosion protection against high shear stress water flow.
2. A maximum Manning's n value of 0.40.
3. Suitable for slopes up to 1H:1V.
4. The color shall be grass green.

The acceptable permanent turf reinforcement mat shall be InstaTurf ShearForce 10, as manufactured by GrassWorx, LLC, or approved equal.

B. Product Documentation

The manufacturer shall provide the Engineer or other designated party with the QA/QC certifications for each shipment of turf reinforcement mat. The certification shall be signed by a responsible party employed by the manufacturer such as the QA/QC Manager, Production Manager, or Technical Services Manager. The QA/QC certifications shall include:

1. Turf reinforcement mat lot and roll numbers (with corresponding shipping information).
2. Manufacturer's test data for raw materials used in the turf reinforcement mat production.
3. Manufacturer's test data for finished turf reinforcement mat production.

C. Product Labeling

Prior to shipment, the turf reinforcement mat Manufacturer shall affix a label to each roll identifying the following characteristics:

1. Product identification information (manufacturer name and address, brand name, product code)
2. Lot number and roll number.
3. Roll length and width.
4. Total roll weight.

PART 3 - EXECUTION

3.01 PLACEMENT

- A.** Turf reinforcement mat shall be installed per manufacturer's specifications.

Turf Reinforcement Mat
02374-2

3.02 DAMAGE REPAIR

- A. Repairs of a hole or tear in the turf reinforcement mat shall be performed in accordance with the manufacturer's recommendations.

END OF SECTION

Turf Reinforcement Mat
02374-3

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SECTION 02375

EROSION CONTROL BLANKET

PART 1 - GENERAL

1.01 SUMMARY

The Contractor shall furnish all labor, materials, and equipment necessary for the installation of the erosion control blanket in accordance with the Drawings and Specifications.

1.02 SYSTEM DESCRIPTION

The erosion control blanket is intended to provide stability to vegetated earthen channels against the erosive forces of water.

1.03 SUBMITTALS

The Contractor shall furnish the following information to the Engineer in accordance with Section 01300:

- A. Erosion control blanket manufacturer's quality assurance/quality control (QA/QC) certifications for each shipment of erosion control blanket to verify that the materials supplied for the project are in accordance with the requirements of this specification.
- B. Manufacturer's installation instructions.
- C. Manufacturer's warranty covering materials and workmanship of the erosion control blanket.

PART 2 - PRODUCTS

2.01 EROSION CONTROL BLANKET

A. General

The erosion control blanket shall have a minimum useful life span of two (2) years. The material shall consist of completely biodegradable fibers and be capable of withstanding water velocities up to nine (9) feet per second. The acceptable erosion control blanket shall be Curlex II FibreNet, as manufactured by American Excelsior Company, or approved equal.

Erosion Control Blanket
02375-1

B. Product Documentation

The manufacturer shall provide the Engineer or other designated party with the QA/QC certifications for each shipment of erosion control blanket. The certification shall be signed by a responsible party employed by the manufacturer such as the QA/QC Manager, Production Manager, or Technical Services Manager. The QA/QC certifications shall include:

1. Erosion control blanket lot and roll numbers (with corresponding shipping information).
2. Manufacturer's test data for raw materials used in the erosion control blanket production, including those items listed above.
3. Manufacturer's test data for finished erosion control blanket production, including those items listed above.

C. Product Labeling

Prior to shipment, the erosion control blanket Manufacturer shall affix a label to each roll identifying the following characteristics:

1. Product identification information (manufacturer name and address, brand name, product code).
2. Lot number and roll number.
3. Roll length and width.
4. Total roll weight.

D. Packaging

1. The erosion control blanket shall be wound around a cardboard core to facilitate handling. The core is not intended to support the roll for lifting but should be sufficiently strong to prevent collapse during transit.
2. All rolls shall be labeled and bagged in packaging that is resistant to photodegradation by ultraviolet light.

PART 3 - EXECUTION

3.01 PLACEMENT

- A. The blankets shall be unrolled in the direction of surface water flow.
- B. When using two blankets side by side, the seams shall not be placed in the center of a drainway but shall be offset by a minimum of one (1) foot.

Erosion Control Blanket

02375-2

- C. Blankets shall be stapled in place by the use of U-shaped staples of the size and at the prescribed intervals and arrangement specified by the manufacturer.
- D. When blankets are laid side by side they shall be stapled so as to anchor the edge of each roll.
- E. The overlap of blankets shall be in accordance with the manufacturer's recommendations.

3.02 DAMAGE REPAIR

- A. The patch material used for the repair of a hole or tear shall be the same type of material as the damaged erosion control blanket.
- B. The patch shall extend at least 12 inches beyond any portion of the damaged erosion control blanket.
- C. The repair patch shall be stapled in place as per manufacturer's recommendations.

END OF SECTION

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SECTION 02376

CRUSHED STONE

PART 1 - GENERAL

1.01 SUMMARY

- A. The Contractor shall furnish all labor, equipment, and materials necessary for the installation of the crushed stone in accordance with the Drawings and Specifications.

1.02 SUBMITTALS

- A. There are no submittals required for this section.

PART 2 - PRODUCTS

2.01 CRUSHED STONE

The crushed stone shall meet the following requirements:

- A. Crushed stone shall be clean, hard, durable limestone and meet the Specifications and gradations set forth in Division 800 of the Kentucky Transportation Cabinet *Standard Specifications for Road and Bridge Construction*, latest edition.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. The crushed stone shall be placed in no greater than 6-inch lifts. Compaction shall be achieved by power equipment. The crushed stone shall be installed to the specified lines, grades, cross sections, and depths shown on the drawings.

END OF SECTION

Crushed Stone
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SECTION 02378

STREAM CROSSINGS, STREAMBANK RESTORATION, AND STREAM BUFFER RESTORATION

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall furnish all labor, materials, and equipment required for installing all structural and vegetative features associated with stream crossings, streambank restoration, and stream buffer restoration areas. Work in this section may include installation of Constructed Riffles, Temporary Stream Crossings, Streambank Restoration, and/or Stream Buffer Restoration.
- B. The Contractor shall take all measures necessary to minimize the use of equipment within the banks of a stream.

1.02 PERMIT REQUIREMENTS

- A. The Contractor is responsible to meet and follow all of the requirements and provisions in all project permits. A copy of applicable permits acquired by the Owner is included in Part VIII – Permits.

PART 2 - PRODUCTS

2.01 STREAM BUFFER PERMANENT SEEDING

- A. Stream buffer seeding shall be used for permanent seeding where land disturbance has occurred within 50 feet of the stream bank, with the following exceptions:
 - 1. If a property owner landscaping agreement differs from this specification, that has previously been approved by LFUCG, the property owner landscaping agreement shall be followed on that property, or
 - 2. The Construction Drawings identify a different location and/or seed mix.
- B. The Stream Buffer Permanent Seed Mix shall consist of the following mix spread at a rate of 20 lbs/acre:

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Common Name	Scientific Name	%	Lbs/ac
Redtop	<i>Agrostis alba</i>	10%	2
Elm-leaved Goldenrod	<i>Solidago ulmifolia</i>	5%	1
Big Bluestem	<i>Andropodon gerardii</i>	20%	4
Virginia Wild Rye	<i>Elymus virginicus</i>	20%	4
Prairie Switchgrass	<i>Panicum virgatum</i>	15%	3
Cutleaf Coneflower	<i>Rudbeckia laciniata</i>	5%	1
Ox Eye Sunflower	<i>Heliopsis helianthoides</i>	5%	1
River Oats	<i>Chasmanthium latifolium</i>	15%	3
Black-eyed Susan	<i>Rudbeckia hirta</i>	5%	1
TOTAL		100%	20

2.02 TURF REINFORCEMENT MAT

- A. Turf reinforcement mat (TRM) as specified on the construction drawings shall be used on stream and channel banks along and immediately above the waterline to armor against erosion caused by flowing water. The Contractor shall submit manufacturer's information or a shop drawing for the proposed TRM material for review and approval by the Owner's Engineer prior to placement.
- B. Unless shown otherwise on the Drawings, wooden stakes to fasten TRMs to the soil shall be hardwood stakes that are solid and free of rot, with the following approximate dimensions: 1" x 2" x 18" (tapered to a point). The Contractor shall submit manufacturer's information or a shop drawing for the proposed stakes for review and approval by the Owner's Engineer prior to placement.
- C. Sod staples for anchoring void spaces of the TRM shall be bio-degradable wooden stakes.
- D. Other stake types recommended by the TRM manufacturer may also be used if approved by the Owner's engineer.

2.03 CONTAINER PLANTS

- A. Tree and shrub plant species and quantities shall be in accordance with those listed or shown on the Construction Drawings. All trees and shrubs shall be in containers grown with air-root pruned technique, spin-out containers, or equivalent.
- B. Woody plants shall exhibit a fully developed fibrous root system that allows the root ball to remain intact after removal from the container. Roots shall not be pot-bound or spiraling in the container.
- C. Double shredded hardwood mulch shall consist of the bark from hardwood trees which has been milled and screened to a maximum 4-inch particle size. Mulch shall provide a uniform texture free from sawdust, weed seeds, foreign materials and any artificially introduced chemical compounds detrimental to plant life. Mulch shall be well aged (a minimum age of 6 months).
- D. Nursery stock material shall be identified with attached, durable, waterproof labels and weatherproof ink. Labels shall state the scientific name of the specified plants. Common names are not acceptable. The scientific names must match those in the project plans. Plants that are unlabeled or improperly labeled shall not be accepted. Plant material shall be protected during delivery to prevent desiccation and damage to branches, trunk, root system, or earth ball.
- E. Plant material shall be checked for unauthorized substitution and to establish nursery grown status. Plant material showing desiccation, abrasion, sun-scald injury, disfigurement, or unauthorized substitution shall be rejected. Container-grown plant material shall show new fibrous roots and the root mass shall contain its shape when removed from the container. Plant material with broken containers shall be rejected. All rejected plant material shall be removed from the project site by the Contractor by the close of each working day.
- F. Phosphorus based fertilizer shall not be used within the 50-foot stream buffer zone. Fertilizer for container plants shall be a non-phosphorus slow release mycorrhizal fertilizer tablet or equivalent.

2.04 LIVE STAKES

- A. Live stake plant species shall be native Kentucky species (e.g., silky dogwood) suitable for stream bank planting unless otherwise denoted in the Construction Drawings. Cuttings shall be alive, but dormant, with side branches removed and bark intact.
- B. Cuttings shall be ½ to 2-inch diameter stock and 3 feet in length.

- C. The basal ends of the cuttings shall be cut on an angle to facilitate insertion into the soil. The top end shall be cut across at a 90-degree angle.
- D. The materials may be collected or purchased.
- E. No species shall be substituted without prior written approval from the Owner.
- F. Cuttings shall be bagged and/or bundled by species and shall be identified with durable and waterproof labeling and/or weatherproof ink. Labels shall state the scientific name of the plant species grouping. Common names are not acceptable. The scientific names must match those in the specification. Plants that are unlabeled or improperly labeled shall not be accepted.
- G. Plant material that is damaged, desiccated, or does not meet the material specifications shall not be accepted. All rejected plant material shall be removed from the project site by the Contractor by the close of the working day.

2.05 BRANCH PACKING

- A. Material may consist of branches of silky dogwood species. Branches should be a minimum of 5 feet long and should be installed the same day that they are prepared, if harvested locally. Materials can be either harvested from existing living trees or purchased from a vendor. If immediate planting cannot be performed, the basal end of the plant shall be kept in water and the plant shall be refrigerated until planting occurs.

2.06 STONE

- A. All stone shall consist of clean limestone of the specified size; hard, durable, and angular in shape, and resistant to weathering. Stone shall not contain deleterious amounts of shale, as determined by the Engineer. Porous or friable stone shall not be accepted.
- B. Stone shall be of the size and quantity as shown on the Construction Drawings.

2.07 TOPSOIL

- A. Topsoil shall consist of the upper portion of the soil profile and shall be loose, friable soil that is free of stones larger than one inch (1"), sub-soil, refuse and other debris including stumps, roots, brush, weeds, and non-organic materials. The acceptable soil texture classification for topsoil, in accordance with the U.S. Department of Agriculture is: clay (40% maximum), silt (70% maximum), and sand (60% maximum). Manure and/or partially composted materials are not acceptable. Topsoil (both salvaged and furnished) shall meet

the following minimum standards through analytical testing, unless otherwise directed by LFUCG or the Owner's Engineer:

Organic Matter	> 3%
pH (range)	5.8 – 7.0
Soluble Salts	< 500 parts per million

The Owner's Engineer shall visually approve representative samples of topsoil. All operations involved in the placing, spreading, and rolling of the topsoil shall be subject to the approval of the Owner. Selected topsoil shall be obtained from approved stockpiles of materials from excavation, from stripping, from borrow areas, or from other approved sources.

PART 3 – EXECUTION

3.01 GENERAL

- A. All work within and along a stream shall be consistent with all federal, state, and local project permits.
- B. The Contractor shall take care to prevent the deposition of sediment into the stream.
- C. Stream diversion operations shall be scheduled such that work is completed during dry conditions and as quickly as possible. Contractor shall not construct in a stream when rainfall is expected during the time excavation will be occurring in the stream.
- D. Gravity sewer lines, force mains, and water lines that cross streams shall be constructed by methods that maintain normal stream flow and allow for a dry excavation. Water pumped from the excavation shall be contained and allowed to settle prior to reentering the stream, or filtered through a sediment removal device. Excavation equipment and vehicles shall operate outside of the flowing portion of the stream. Spoil material from the line excavation shall not be allowed to enter the flowing portion of the stream. Clean Water Act Section 401 and 402 requirements enforced by the US Army Corps of Engineers and the Kentucky Division of Water and the provisions of this condition shall apply to all types of utility line stream crossings.
- E. Removal of riparian vegetation in the stream buffer and on the stream banks shall be limited to that necessary for equipment access. Effective erosion and sedimentation control measures shall be employed at all times during the project to prevent degradation of Waters of the Commonwealth. Within 50 feet of a stream, site regrading and reseeding shall be accomplished within 24 hours after completion of work, and no later than 7 days after initial disturbance.

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3.02 STREAM BUFFER PERMANENT SEEDING

- A. Stream Buffer Permanent Seeding shall be conducted in accordance with the specifications of Section 02370, Article 3.04 - Permanent Seed using the seed mix listed in this Section 02378, Article 2.01 - Stream Buffer Permanent Seeding.

3.03 TURF REINFORCEMENT MAT

- A. When placing TRM, the surface of the soil should be smooth and free of rocks, roots, and other obstructions.
- B. Seed the prepared soil areas in accordance with Section 02370, Article 3.04 – Permanent Seed prior to the installation of the TRM.
- C. TRM shall be trenched, placed, and staked according to the Construction Drawings.
- D. Biodegradable wooden or other manufacturer approved stakes shall be inserted at space intervals specified by the manufacturer, within void spaces, and areas with puckers in the fabric.

3.04 CONTAINER PLANTS

- A. Planting operations shall be performed only during periods when successful results are likely. To minimize stress or transplant shock, no plants shall be installed when ambient temperatures are forecasted to rise above 90°F at any point during a forty-eight (48) hour period following installation. In addition, no plants shall be installed when ambient temperatures are forecasted to drop below freezing. In general, trees and shrubs do best when planted in early spring or fall.
- B. If trees and shrubs are not planted through erosion control blanket, then mulch in the form of hardwood mulch or mulch mats shall be used.
- C. The Contractor shall mulch and fertilize.
- D. All trees and shrubs within the 50-foot stream buffer should be fertilized with a non-phosphorus slow release mycorrhizal fertilizer tablet or equivalent. Each containerized plant should receive one 21-gram tablet. All fertilizer tablets are to be installed 4 inches below and 4 inches to the side of the plant roots.
- E. All plants shall be watered thoroughly once unloaded and immediately after planting. Water until saturated once per week for the first four to six weeks and

once every other week through the fall season. Water shall not contain elements toxic to plant life.

- F. Prior to shipping to the site, the Contractor shall request approval of trees, shrubs, and fertilizer ordered. A delivery schedule shall be provided at least 10 calendar days prior to the first day of delivery of trees and shrubs.
- G. If plants are not planted on the day of delivery, the plants shall be stored onsite in a shaded location and shall be kept moist and cool.
- H. Each root ball from containerized woody stock shall be carefully removed from the container without damaging the root system or plant.
- I. When digging a planting hole for containerized woody stock, the diameter of the planting hole shall be at least 30% greater than the diameter of the root ball.
- J. Trees and shrubs shall be placed in the center of the hole with top of root ball 1 inch above finished grades.
- K. Following planting, each hole shall be backfilled with soil removed from the hole when the hole was formed.
- L. Where the removed soil is unacceptable, a soil amendment shall be required.
- M. Each planted tree and shrub shall have a minimum cover depth of 6 inches of organic material.
- N. Organic soil amendment may consist of composted wood chips, composted leaf mulch, or other suitable and available natural organic material.
- O. If amending the planting areas with topsoil, acceptable topsoil shall meet the material requirements of this Section 02378, Article 3.08 - Topsoil.
- P. Containerized trees and shrubs planted through erosion control blanket shall be planted through clean incisions in the blanket. Incisions shall be parallel to the direction of flow in the stream.
- Q. Portions of the erosion control blanket shall not be removed.
- R. The blanket incision shall be securely closed with wire staples or stakes.
- S. Seeded areas shall be inspected at least weekly after planting and after each rainfall of one-half inch or more. Areas requiring additional seed and mulch shall be repaired within 48 hours.

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- T. If vegetative cover is not established within 21 days, the area shall be reseeded.

3.05 LIVE STAKES

- A. Live stakes shall be installed at any time during their dormant period when the ground is not frozen. Live stakes shall not be installed after dormancy is broken or after sprouting. Stakes that begin sprouting before planting will be rejected.
- B. Prior to shipping to the site, the Contractor shall request approval from the Owner's Engineer of live stakes ordered. A delivery schedule shall be provided at least 10 calendar days prior to the first day of delivery of live stakes.
- C. Plants shall be stored in a continuously cool, covered, and moist state.
- D. Live stakes shall be soaked for 24 hours prior to installation in clear water, with the basal end of the plant in the water and shall be removed from the water no more than 1 hour before planting.
- E. Live stakes shall not be soaked for a length greater than ten (10) days.
- F. The angled end of the live stakes shall be inserted into the soil manually or with the use of a dead blow hammer with the uncut end protruding for approximately 3/5 of the cutting length.
- G. In rock toe, live stakes shall be inserted to one-half their length into soil below stone fill with a minimum of two buds exposed above the stone fill. An iron bar or a stinger attached to a backhoe bucket can be used to make a pilot hole in firm or rocky soil.
- H. If a pilot hole is used, the diameter of the pilot hole shall be less than the diameter of the smallest live stake to ensure firm contact with the soil.
- I. Each live stake shall be positioned perpendicular to the slope at a 45° angle facing downstream followed by foot compaction around each cutting.
- J. Live stakes shall be installed in a random configuration.
- K. Live stakes that become split or "mushroomed" during installation shall be replaced at the Contractor's expense.

3.06 BRANCH PACKING

- A. Prior to shipping to the site, the Contractor shall request approval from the Owner's Engineer of branch packing or live branches/stakes ordered. A

delivery schedule shall be provided at least 10 calendar days prior to the first day of delivery of the branches.

- B. Plants shall be stored in a continuously cool, covered, and moist state.
- C. Branches not planted the same day as they are harvested shall be soaked prior to installation in clear water, with the basal end of the plant in the water and shall be removed from the water no more than 1 hour before planting.
- D. Branches shall not be soaked for a length greater than ten (10) days.
- E. The live branches should be placed in a crisscross configuration with the growing tips generally oriented toward the slope face.
- F. The density of the branches shall be 10-15 branches per linear foot.
- G. After the live branches are configured, cover with a thin layer of soil approximately 1" thick.

3.07 STONE

- A. Stone shall be of the size, quality, and quantity as shown on the Construction Drawings and shall be placed in the manner shown in the Construction Drawings.

3.08 TOPSOIL

- A. All proposed planted areas, not including stream banks, are to be covered with a minimum of 6 inches of topsoil prior to seeding or planting. Do not place topsoil within a stream channel or on a stream bank where full bank flow could erode and remove the material.
- B. Topsoil shall be evenly placed and spread over the graded area to a depth of 6 inches.
- C. Minimize compaction during all operations by utilizing equipment having low unit pressure ground contact and by limiting repeat passes over the same areas.

3.09 PUMP AROUND FLOW DIVERSION FOR STREAM CROSSINGS

- A. For stream crossings, the Contractor shall install, maintain, and operate all cofferdams, pumps, and protective works needed to divert stream flow and other surface water through and around the project work zone.
- B. The Contractor is responsible to determine the number and sizes of pumps necessary for dewatering needs.

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- C. The Contractor shall inform the Owner's Engineer of a plan for diverting the stream flow. The dewatering plan must be approved by the Owner prior to the start of work and it shall include information on the type, sizes of pumps, dam construction techniques, discharge outfall protection, and other relevant information.
- D. Operations shall be scheduled such that diversion installation, in-stream excavation, in-stream construction, stream restoration, and diversion removal are completed as quickly as possible.
- E. The Contractor shall not construct in a stream when rainfall is expected during the time excavation will be occurring in the stream.
- F. To capture or divert water flows, cofferdams can be used across the stream channel and secondary drainageways above (up-slope from) the work side as follows:
 - 1. Cofferdams shall be constructed of materials that will have a minimal impact on the stream system. Cofferdams constructed of soil or material from the site shall not be used unless specifically directed by the Owner's Engineer.
 - 2. Acceptable materials shall include stone, water structures, plastic barriers, or sand bags filled with clean and washed sand.
 - 3. Contractor shall add sandbags filled with clean and washed sand as required to seal leaks in rock cofferdams.
 - 4. The Contractor is responsible to install all cofferdams/diversion structures in a safe and correct manner. Cofferdams must be installed so as to withstand the pressures exerted by the stream flow or ponded water against the cofferdam.
 - 5. Commercial products used as cofferdams (i.e. water structures, plastic barriers) shall be installed in accordance with the manufacturer's specifications.
 - 6. The Contractor is permitted to make only minor disturbances to the streambed or banks as may be required to properly install the cofferdam.
- G. Stream flow shall be pumped around the cofferdams and discharged back into the same drainageway that the water was taken from.
- H. The Contractor shall be responsible to provide all pumps, hoses, pipelines, fuel

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tanks, and other items required to pump the stream flow around the work site, and for providing supervision of the pumping operation during all hours the pumps are running.

1. The Contractor shall be responsible for calculating the required pump capacity to handle the average stream flow in the area of the work.
 2. The Contractor shall provide pumps that are in good operating order and free of leaks. Pumps that are leaking fuel, lubricants, or other material, shall be immediately repaired or replaced as necessary. All pump equipment shall be properly equipped with mufflers and other noise suppression equipment to minimize noise impacts on the surrounding residences.
 3. Discharge hoses shall be reasonably free of leaks at either the fittings or the discharge hose casing. No leaks from discharge lines shall be allowed to cause erosion.
 4. The Contractor shall provide adequate suction hose length to allow the pumps to be placed back from the immediate edge of the stream. Electric sump type pumps are exempt from this requirement.
 5. Only clean water will be allowed to enter the storm system or stream. The pumping operation shall not allow for sediment from the stream bottom to be pulled into the pump.
- I. Contractor shall dewater the work area and pump the work zone dewatering water into a sediment trapping device.
 - J. Outlet protection shall be installed as required at the discharge point to prevent erosion of soils and the streambed or bank.
 - K. Contractor shall complete construction activities across the stream.
 - L. Contractor shall restore the streambed and banks.
 - M. Contractor shall remove all materials placed for the cofferdam and outfall protection and shut down pumping operation. (Salvage sandbags for future use if multiple stream crossings are required on the project.) Contractor shall remove all sandbags from the stream, including damaged and empty bags.

3.10 TEMPORARY STREAM CROSSING

- A. Clearing and excavation of the streambed and banks shall be kept to a minimum.

- B. The structure shall be removed as soon as it is no longer necessary for project construction.
- C. Upon removal of the structure, the stream shall immediately be reshaped to its original cross section and properly stabilized.
- D. The approaches to the structure shall consist of stone pads with a minimum thickness of 6 inches, a minimum width equal to the width of the structure, and a minimum approach length of 25 feet on each side. The structure shall be covered with a minimum of 6 inches of No. 2 stone.
- E. The structure shall be inspected after every rainfall and at least once a week and all damages repaired immediately.

END OF SECTION

SECTION 02410

ROCK REMOVAL

PART 1 - GENERAL

1.01 SUMMARY

- A. The Contractor shall excavate rock, if encountered, as required to perform the required work, and shall dispose of the excavated material, and shall furnish acceptable material for backfill in place of the excavated rock.
- B. Use of explosives for rock removal shall not be permitted. Rock shall be excavated by means of rock trencher, or by hoe ram in areas field approved by the Owner.

1.02 SAFETY

- A. Conform to all federal, state, and local codes and regulations regarding safety.

1.03 RELATED SECTIONS

- A. Section 02315 - Excavation

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Rock Definition
Solid mineral material that cannot be removed with a power shovel.

END OF SECTION

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SECTION 02750

PORTLAND CEMENT CONCRETE PAVING

PART 1 - GENERAL

1.01 SUMMARY

- A. Provide Portland cement concrete paving at following locations and prepared subbase and compacted base.

1. Driveways and vehicular entrances.
2. Walkways.
3. Curbs.

1.02 SUBMITTALS

Submit to Engineer product data, mix design, mock-ups, and test reports for approval.

1.03 QUALITY ASSURANCE

Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

Portland Cement Concrete Paving shall meet the Specifications and gradations set forth in Division 800 of the Kentucky Transportation Cabinet *Standard Specifications for Road and Bridge Construction*, latest edition.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Concrete Mix Design

Conform to specific mixes in Section 03300 as required for sidewalks, curbs, and vehicular ways.

- B. Exposed Aggregate Paving

1. Aggregate to match approved sample.

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2. Retarder.

C. Reinforcing

6 x 6, 2.9 x 2.9 welded flat wire mesh and ASTM A36 deformed steel bars.

D. Joints

Preformed joint fillers/sealers.

E. Finish

1. Paving: Fine bristled stiff broom.
2. Imprinting: Tools and hardeners by Bomanite Corp.
3. Curbs: Steel form finish.

F. Thickness

1. As indicated in Lexington-Fayette Urban County Government Standard Drawings, Latest Edition.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Proof roll subbase and check for unstable areas. Report unsatisfactory conditions in writing. Beginning paving work means acceptance of subbase.
- B. Comply with concrete section for concrete mix, testing, placement, joints, tolerances, curing, repairs, and protection.

END OF SECTION

SECTION 02920

SEEDING AND SODDING

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Landscape development work in this phase shall consist of the installation of ground cover and lawns. "Planting Area" means all areas to be planted with ground cover, erosion control plantings, and/or lawns.

1.02 RELATED WORK

- A. Subgrade elevations, excavation, fillings, and grading required to establish elevations shown on Drawings are not specified in this Section.

1.03 SCOPE

- A. Furnish all material, labor, transportation, and equipment to properly complete the landscaping and turfing of the planting areas, or reasonably implied to complete the construction. Included as a part of the work of this Section, but not necessarily limited by it, are the following items:
 - 1. Clear and remove from the planting areas all debris, surface growth, or other undesirable material.
 - 2. Fine grading of all turf and planting areas, including the addition of amended topsoil if required.
 - 3. Topsoil shall be placed to a minimum compacted depth of 6 inches and on all disturbed areas.
 - 4. Vinca and/or Vetch shall be planted on all slopes steeper than 4:1, or as otherwise shown on the Drawings.
 - 5. Furnishing and installation of all lawns and ground covers.
 - 6. Providing maintenance throughout establishment.
 - 7. Cleanup and weeding of all landscaped areas.
 - 8. Seed and mulch all disturbed areas with slopes shallower than 4:1 with grass seed.

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9. Seed and mulch all disturbed areas with slopes steeper than 4:1 with crown vetch.

10. Sod areas shown on Drawings.

1.04 SPECIAL REQUIREMENTS

A. All scaled dimensions on the Drawing are approximate. Before proceeding with any work, the Contractor shall carefully check and verify all dimensions, quantities and grade elevations, and shall immediately inform the Engineer of any discrepancies.

During the construction and maintenance period, the contractor shall take every precaution and avoid damage to any underground facilities. The Contractor shall be held responsible for any and all damage to such facilities and shall repair the same at no cost to the Owner.

B. When conditions are such, by reason of drought, high wind, excessive moisture, or other factors, that satisfactory results are not reasonably attainable, the work shall be stopped and shall be resumed only when conditions are again favorable.

Grading and soil preparation work shall be performed only during periods when beneficial and optimum results may be obtained. If the moisture content of the soil should reach such a level that working it would destroy the soil structure, spreading, grading and tilling operations shall be suspended until the moisture content reaches acceptable levels and the desired results are attainable.

PART 2 - MATERIALS

2.01 GENERAL

A. All materials shall be of standard, approved and first grade quality and shall be in prime condition when installed and accepted. Any commercially processed or packaged material shall be delivered to the site in the original unopened container bearing the manufacturer's guaranteed analysis.

2.02 TOPSOIL

A. Natural or cultivated top layer of the soil profile or manufactured topsoil; containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 1

inch in diameter; and free of weeds, roots, and toxic and other non-soil materials.

1. Obtain topsoil only from well-drained sites where topsoil is 4 inches deep or more; do not obtain from bogs or marshes.
- B. Stockpiled topsoil from location shown on Drawings, Imported or manufactured topsoil complying with ASTM D5268.

2.03 SOIL CONDITIONERS AND FERTILIZERS

- A. Soil conditioners may include any or all of the specific conditioners herein specified and shall be applied at rates indicated on the Drawings or in the Special Conditions.
- B. Manure: Manure shall consist of ground, well composted steer manure as taken from feeding pens, which is screened to pass through a one inch screen and which is free of weed seeds, dirt, sawdust, shavings, straw, refuse, harmful chemicals and other foreign matter. The material shall be composted no less than 180 days and no more than one year. The manure shall be subject to inspection prior to delivery.
- C. Lignin Based Soil Conditioners: Lignin based soil conditioners shall be an organic based soil conditioner manufactured under a process which by action of sulphuric acid and hot gases separates cellulose from wood, leaving long lasting lignin particles.

The material shall have the following analysis:

pH	5.5%
Moisture	15.5%
Ash	1.9%
Organic Matter	84.6%
Total Nitrogen	1.0%
Total Phosphoric Acid	0.05%
Total Potash	0.05%

As "Loamite Soil Amendment" or equal in quality.

- D. Redwood Shavings: Redwood shavings shall be leached and nitrogen fortified with the residual nitrogen content of 1%.
- E. Fertilizer: Fertilizer shall be a commercial grade pelleted or chip type, as "Agriform Blue Chip", or equal, uniform in composition, dry and free flowing, of the following analysis:

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Nitrogen	24.0% minimum
Nitroform	14.0% minimum
Phosphoric Acid	24.0% minimum
Potash	8.0% minimum
Iron (metallic)	0.4% minimum

Particle size not less than 2% through a number 48 mesh.

And/or

Commercial fertilizers with an analysis of 1584 or approved substitute as required by the specifications.

Fertilizer shall be delivered to the site in the original unopened container bearing the manufacturer's guaranteed analysis. Any fertilizer that becomes caked or damaged, making it unsuitable for use, will not be accepted.

- F. Peat Moss: Peat moss shall be a commercial baled Canadian sphagnum material with a pH of 4.5 to 5.5. The moss shall be free of woody material and minerals or foreign matter harmful to plant life. As "Sunshine" brand or equal.

2.04 GRASS SEED

- A. The seed mixture to be sown shall be in the following proportions:

Common Name	%	lbs per 1,000 sq. ft.
Bluegrass	24%	3
Perennial ryegrass (turf)	16%	2
+ bluegrass	20%	2.5
Tall fescue (turf type)	32%	4
+ bluegrass	8%	1
TOTAL	100%	12.5

- B. All seed shall be fresh and clean and shall be delivered mixed, in unopened packages, bearing a guaranteed analysis of the seed and mixture.
- C. Germination must be certified to conform to the following minimums: 90% pure and 85% germination.

2.05 CROWN VETCH (Crown vetch slopes of 3:1 or greater)

The seed mixture to be sown shall be in the following proportions:

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<u>Common Name</u>	<u>Proportion Botanical Name</u>	<u>Percent By Weight</u>	<u>Percent Of of Purity</u>	<u>Germination</u>
Penngift Crown Vetch (inoculated)	Coronilla Vetchii "Penngift"	75%	90%	90%

2.06 SOD

- A. Sod shall be well-rooted Kentucky Bluegrass (*Poa pratensis*) completely free of noxious weeds. It shall be mowed to a height not to exceed 3" before lifting, and shall be of uniform thickness, with not over 1-1/2" or less than 1" of soil.
- B. Nursery sod shall meet applicable requirements set out above and shall be a variety or blend of Kentucky Bluegrass. It shall comply with nursery inspections and plant quarantine regulations of the states of origin and destination as well as with Federal regulations governing interstate movement of nursery stock. A valid copy of the certification of nursery inspection shall accompany each shipment.

PART 3 - EXECUTION

3.01 GRADING AND SOIL PREPARATION

- A. Final Grades: After the foregoing specified deep watering, minor modifications to grade may be required to establish the final grade. These areas shall not be worked until the moisture content has been reduced to a point where working it will not destroy the soil structure.
 - 1. Finish grading shall insure proper drainage of the site.
 - 2. All areas shall be graded so that the final grades will be one inch below adjacent paved areas, sidewalks, valve boxes, headers, cleanouts, drains, manholes, etc.
 - 3. Surface drainage shall be away from all building foundations.
 - 4. Eliminate all erosion scars.
 - 5. The Contractor shall request an inspection by the Engineer for approval of the final grades and elevations before planting operations shall begin.
- B. Lawn: Lawns will be planted by sodding.

1. After preparation of soil in accordance with section on "Grading and Soil Preparation," the areas to be planted to lawn shall be rolled, raked, and floated to finish grade by any method acceptable to the Owner, with the finish grade being smooth and even, free of rocks and clods, and reasonably well firmed. Prior to planting, the surface of the area shall be sufficiently loose and friable to receive the seeds, or sod.

2. Pre-Fertilization

Just prior to the planting of turf, evenly broadcast 15 pounds per thousand square feet of commercial fertilizer, 24/24/8, as specified under materials.

3. Method

- a. This work consists of furnishing all labor, equipment and materials and in performing all operations in connection with the fertilizing and seeding of all the finished graded areas not specified to be sodded or occupied by structures, roads, concrete slabs, sidewalks, walls, etc., and including grassed areas destroyed or damaged by the Contractor.
- b. The areas to be seeded shall be thoroughly tilled to a depth of at least 4" by discing, harrowing, or other approved methods until the condition of the soil is acceptable to the Engineer. After harrowing or discing, the seed bed shall be dragged and/or hand raked to finished grade.
- c. Fertilizer shall be 25 lbs. of 10/20/10 or equivalent per 1,000 square feet. The incorporation of the fertilizer and the agricultural lime may be a part of the tillage operation and shall be applied to less than 24 hours nor more than 48 hours before the seed is to be sown.
- d. Seed shall be broadcast either by hand or approved sowing equipment at the rate of six pounds per 1,000 square feet, uniformly distributed over the area. Broadcasting seeding during high winds will not be permitted. The seed shall be drilled or raked into a depth of approximately 1/2 inch and the seeded areas shall be lightly raked to cover the seed and rolled. Drill seeding shall be done with approved equipment with drills not more than 3 inches apart. All ridges shall be smoothed out, and all furrows and wheel tracks likely to develop into washes, shall be removed.
- e. Seed may be sown during the following periods:

February 1 to April 15
August 15 to October 15

- f. Seed may not be sown at any other time except with the written Seeding and Sodding

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approval of the Engineer.

- g. After the seed has been sown, the areas so seeded shall be mulched with clean straw at the rate of one (1) bale per 2,000 feet (approximately 1 inch loose depth). Mulch on slopes shall be held in place with binder twine staked down at approximately 18 inch centers or by other equally acceptable means.
- h. Areas seeded shall be protected until a uniform stand develops, when it will be accepted and the Contractor relieved of further responsibility for maintenance. Displaced mulch shall be replaced or any damage to the seeded area shall be repaired promptly, both in a manner to cause minimum disturbance to the existing stand of grass. If necessary to obtain a uniform stand, the Contractor shall refertilize, reseed and remulch as needed. Scattered bare spots up to one (1) square yard in size will be allowed up to a maximum of 10 percent of any area.
- i. Payment for seeding and mulching shall be included in the lump sum bid.

4. Top Dressing

Top dressing may be applied at the option of the Contractor.

5. Initial Watering

Immediately following planting or top dressing, if applied, apply a light, fine mist spray to anchor the seed, stolons, and/or dressing to the soil, forming a protective crust to prevent wind erosion and drying of the seed or stolons. The lawn areas shall be kept moist, but not glistening wet, until full germination.

6. Final Compaction

Fully germinated lawn areas shall be allowed to dry sufficiently to permit rolling with approximately two hundred to three hundred pound water weighted roller to satisfactorily compact the soil around the grass roots and to provide a firm, smooth mowing surface.

C. Sodding: Sod shall be placed as shown on the Drawings.

- 1. Edges of sod shall be cut cleanly, either by hand or machine, to a uniform thickness of 1-1/2 inches or more, depending on the nature of the sod, so that practically all of the dense root system of the grasses is retained. The roots shall be exposed in the sod strip to allow the sod to be handled without undue tearing or breaking. The sod strip shall be of a uniform width of no less than 16 inches and no less than 2 feet in length. Sod shall be free from all primary noxious weeds in accordance with Section 913.04

Seeding and Sodding
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of IDOHSS. Acceptance in the field before cutting shall not preclude rejection when delivered to the site if such contamination is found.

3.03 ESTABLISHMENT AND MAINTENANCE PERIOD

- A. The Contractor shall continuously maintain all areas involved in this contract during the progress of the work and during the establishment period until final acceptance of the work by the Owner.
- B. The contractual establishment period shall be for no less than 30 continuous calendar days.
- C. The contractual establishment period begins on the first day after all planting in this project is completed and accepted and the planted areas are brought to a neat, clean and weed free condition.
- D. Any day upon which no work will be required, as determined by the Engineer will be credited as one of the plant establishment working days regardless of whether or not the Contractor performs plant establishment work.
- E. Any day when the Contractor fails to adequately maintain plantings, replace unsuitable plants or do weed control or other work, as determined necessary by the Engineer, will not be credited as one of the plant establishment working days.
- F. Improper maintenance or possible poor condition of any planting at the termination of the scheduled establishment period may cause postponement of the final completion date of the contract. Maintenance shall be continued by the Contractor until all work is acceptable.
- G. In order to carry out the plant establishment work, the Contractor shall furnish sufficient men and adequate equipment to perform the work during the plant establishment period.
- H. Maintenance shall be according to the following standards:
 - 1. All areas shall be kept free of debris and all planted areas shall be weeded and cultivated at intervals of not more than ten days. Watering, mowing, rolling, edging, trimming, fertilization, spraying and pest control, as may be required, shall be included in the establishment period.
 - 2. The Contractor shall be responsible for maintaining adequate protection of the area. Damaged areas shall be repaired at the Contractor's expense.
 - 3. Between the 15th day and the 20th day of the establishment period, the Contractor shall reseed or resod all spots or areas within the lawn where normal turf growth is not evident.
 - 4. Post fertilize all lawns in planted areas at the end of 30 days of maintenance at the rate of 13 pounds per thousand square feet using
Seeding and Sodding
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fertilizer with the analysis 1584 evenly applied and thoroughly watered in.

3.04 GUARANTEE AND REPLACEMENT

Note: The following guarantees have no effect on the one year guarantee on labor and workmanship.

- A. Any material found to be dead, missing, or in poor condition during the establishment period shall be replaced immediately. The Engineer shall be the sole judge as to the condition of material. Material found to be dead or in poor condition within the guarantee period shall be replaced by the Contractor within 15 days of written notification by the Owner.
- B. Replacement shall be made to the same specifications required for original plantings.
- C. Material and labor involved in the replacing of materials shall be supplied by the Contractor at no additional cost to the Owner.

3.05 INSPECTIONS

- A. Normal progress inspections shall be requested from the Engineer at least 48 hours in advance of an anticipated inspection. An inspection will be made by the Engineer on each of the steps listed below. The Contractor will not be permitted to initiate the succeeding steps of work until he has received written approval to proceed by the inspector.
 - 1. Immediately prior to the commencement of work of this section.
 - 2. Installation of all ground covers.
 - 3. Planting of all lawn areas.
 - 4. Final inspection.
 - 5. Final acceptance of the project.

END OF SECTION

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SECTION 02950

SITE RESTORATION

PART 1 - GENERAL

1.01 CLEAN-UP

- A. Upon completion of the installation of the structures, equipment, and appurtenances, the Contractor shall remove all debris and surplus construction materials resulting from his work. The Contractor shall grade the ground along each side of the pipe trench and/or structure in a uniform and neat manner leaving the construction area in a shape as near as possible to the original ground line.

PART 2 - PRODUCTS

2.01 SEEDING

- A. All graded areas shall be seeded or sod as specified in Section 02920.

PART 3 - EXECUTION

3.01 SITE RESTORATION

- A. After installation of lines, the construction site will be restored to its original condition or better. All paved streets, roads, sidewalks, curbs, etc. removed or disturbed during construction shall be replaced, and all materials and workmanship shall conform to standard practices and specifications of the Owner and/or to the Kentucky Transportation Cabinet requirements and specifications, whichever applies. Gravel, cinder or dirt streets, drives and shoulders shall be replaced and sufficiently compacted to provide a surface suitable for carrying the type of traffic normally imposed at that location.
- B. All seeded areas shall be watered daily during the germination period, unless rain supplies the required moisture. The Contractor shall replace, at his own expense, trees, shrubs, etc. disturbed during construction.
- C. The Contractor shall remove from the site all equipment, unused materials, and other items at his expense. The construction site shall be left in a neat, orderly condition, clear of all unsightly items, before the Work is finally accepted.

END OF SECTION

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LFUCG STANDARD DRAWINGS

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STORMWATER MANUAL

FIGURE 11-5

STAPLE PATTERN FOR STRAW
OR EXCELSIOR MATS

(EFFECTIVE DATE 8/29/11)

SLOPES UP TO 1.5H:1V

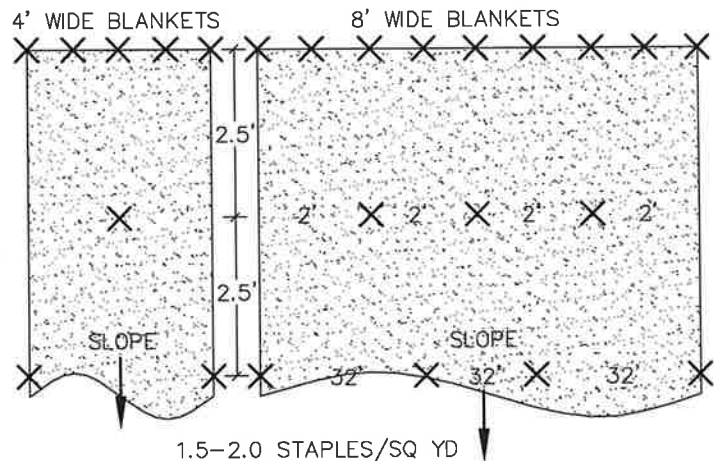
- INSTALL BLANKET VERTICALLY OR HORIZONTALLY
- USE 12" STAPLE SPACING ON STARTER ROW.

COHESIVE SOILS:

- NO OVERLAP REQUIRED ON SIDE SEAMS
- USE 6" STAPLE LENGTH

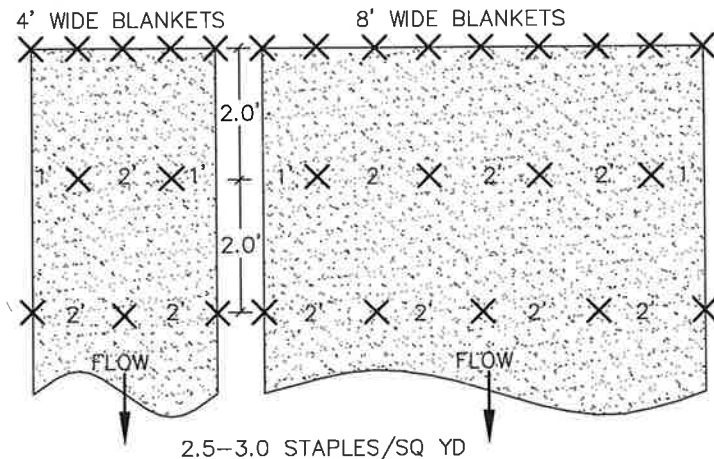
NON-COHESIVE SOILS:

- USE 6" SIDE SEAM OVERLAP
- USE 8" STAPLE LENGTH
- USE 6" ANCHOR TRENCH AT TOP OF SLOPE



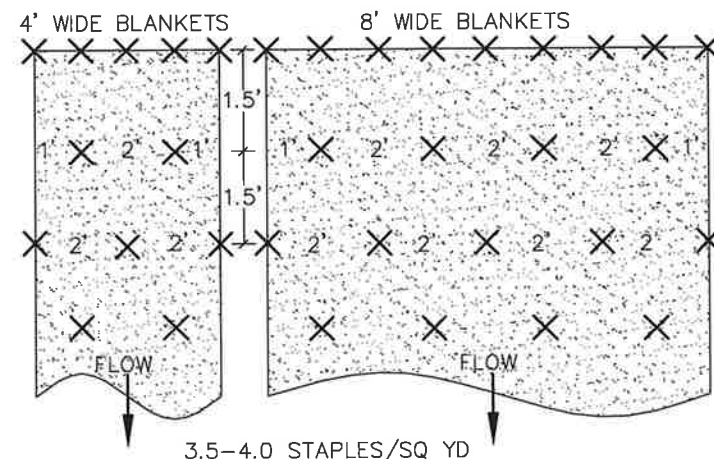
CHANNELS IN COHESIVE SOILS

- USE 6" SIDE SEAM OVERLAP
- USE 6" STAPLE LENGTH
- USE 6" TRANSVERSE ANCHOR TRENCH AT 100-FT. INTERVALS
- USE 12" STAPLE SPACING ON STARTER ROW.
- UPSTREAM BLANKET SHOULD OVERLAP DOWNSTREAM BLANKET A DISTANCE OF 12" IN A "SHINGLE" FASHION AND BURY THE FINISHED TOE AT LEAST 6".



CHANNELS IN NON-COHESIVE SOILS

- USE 6" SIDE SEAM OVERLAP
- USE 8" STAPLE LENGTH
- USE 6" TRANSVERSE ANCHOR TRENCH AT 50-FT. INTERVALS
- USE 12" STAPLE SPACING ON STARTER ROW.
- UPSTREAM BLANKET SHOULD OVERLAP DOWNSTREAM BLANKET A DISTANCE OF 12" IN A "SHINGLE" FASHION AND BURY THE FINISHED TOE AT LEAST 6".

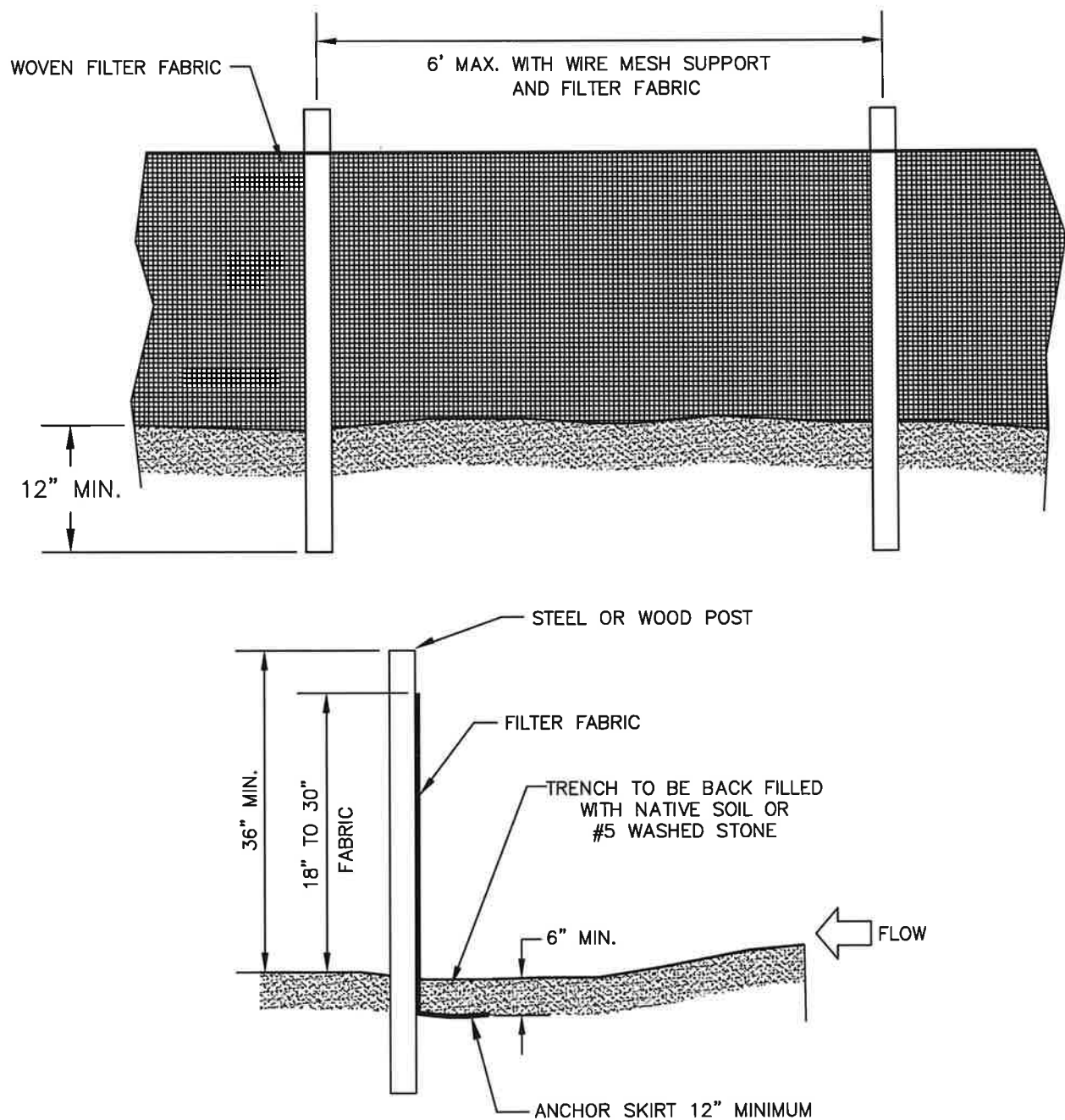


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STORMWATER MANUAL

FIGURE 11-21
TEMPORARY SILT FENCE
(OCTOBER 1, 2020)



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STORMWATER MANUAL

FIGURE 11-22 TEMPORARY SILT FENCE GENERAL NOTES (OCTOBER 1, 2020)

GENERAL NOTES

1. FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE BARRIER. WHEN JOINTS CANNOT BE AVOIDED, FILTER FABRIC SHALL BE SPLICED TOGETHER ONLY AT A POST WITH 3 FOOT MIN. OVERLAP, AND SECURELY SEALED.
2. POSTS SHALL BE SPACED AT 6 FOOT INTERVALS IN AREAS OF RAPID RUNOFF.
3. POSTS SHALL BE AT LEAST 5 FEET IN LENGTH.
4. STEEL POSTS SHALL HAVE PROJECTIONS FOR FASTENING WIRE AND FABRIC.
5. WOOD POSTS SHALL BE 2 INCHES BY 2 INCHES OR EQUIVALENT. STEEL POSTS SHALL BE 1.33 LBS PER LINEAR FOOT.
6. A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH IN LENGTH, WIRE TIES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
7. WASHED STONE SHALL BE USED TO BURY SKIRT WHEN SILT FENCE IS USED ADJACENT TO A CHANNEL, CREEK, OR POND.
8. TURN SILT FENCE UP SLOPE AT ENDS.

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