

BOOK NO. _____

CONTRACT NO. _____

CITY OF CUYAHOGA FALLS
2310 SECOND STREET
CUYAHOGA FALLS, OH 44221
Phone (330) 971-8000
Fax (330) 971-8168



TO BE COMPLETED BY THE CITY OF CUYAHOGA FALLS

DATE OF BIDDING _____, 2021 CONTRACT PRICE \$ _____

DATE AWARDED BOARD OF CONTROL _____, 2021 DATE EXECUTED _____, 2021

DEPARTMENT: ENGINEERING

ORDINANCE To Award

**CUYAHOGA RIVER
BANK STABILIZATION**

THE FOLLOWING INFORMATION MUST BE COMPLETED FOR BID CONSIDERATION

COMPANY NAME _____

CONTACT PERSON _____ PHONE NO. (____) _____ FAX: _____

Email Address: _____ Alternate Phone No. _____

ADDRESS _____
STREET CITY STATE ZIP

Attach Bid Bond Here

CUYAHOGA RIVER BANK STABILIZATION
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* *These pages to be completely filled in, signed, notarized where required, and returned in the Proposal Book in its entirety at time of bid opening.*

τ *These pages to be inserted **after** bid awarded.*

INFORMATION AND INSTRUCTIONS

Section 1

LEGAL NOTICE

Sealed proposals will be received in the office of the Director of Public Service, Municipal Building, Cuyahoga Falls, Ohio, until 12:00 noon, **TUESDAY, DECEMBER 21, 2021**, with bids being opened in Conference Room "A", Second Floor, Municipal Building, 2310 Second Street, Cuyahoga Falls, Ohio, **for the Cuyahoga River Bank Stabilization project**.

Plans and proposals may be obtained on the City website, www.cityofcf.com, free of charge. The Acknowledgement of Receipt of Plans should be returned to Engineering@cityofcf.com for inclusion on the plan holders list. Please call 330-971-8180 with any questions.

There will be a pre-bid meeting on Monday, December 13, 2021, at 2:00 p.m., in Conference Room A at the Municipal Building. Anyone interested in submitting a proposal for this project is encouraged to attend.

Bidders must use the printed forms provided therefore, as none other will be accepted. Each proposal must contain the full name of the party or parties making the same, and all parties interested therein, and must be accompanied by a bond or certified check in the sum of five percent (5%) of the total amount of the bid, on a solvent bank, as a guarantee that if the bid is accepted, a contract will be entered into. The Director of Public Service reserves the right to reject any or all bids and to waive any informality in any proposal. Bids will be received only from parties that have obtained a recorded bid set of drawings and specifications as evidenced by returning the provided Acknowledgement of Receipt of Plans.

The successful bidder must post a Performance, Payment, Maintenance bond in the amount of one hundred percent (100%) of the total amount of the bid.

The City of Cuyahoga Falls shall apply a Local Bid Preference to this invitation as outlined in Section 181.08 of the Codified Ordinances.

"DOMESTIC STEEL USE REQUIREMENTS AS SPECIFIED IN SECTION 153.011 OF THE REVISED CODE APPLY TO THIS PROJECT. COPIES OF SECTION 153.011 OF THE REVISED CODE CAN BE OBTAINED FROM ANY OF THE OFFICES OF THE DEPARTMENT OF ADMINISTRATIVE SERVICES."

We are an Equal Opportunity Employer.

BY ORDER OF THE
DIRECTOR OF PUBLIC SERVICE
ANTHONY L. ZUMBO, P.E., P.S.

FALLS NEWS-PRESS: December 5, 2021
 December 12, 2021

**CITY OF
CUYAHOGA FALLS, OHIO**

**PRE-BID
CONSTRUCTION MEETING**

CUYAHOGA RIVER BANK STABILIZATION

A Pre-Bid Construction Meeting will be held to review bid documents and answer questions relative to the proposed project.

This meeting will be held in **Second Floor Conference Room 'A', 2310 Second Street, Cuyahoga Falls, Ohio, on Monday, December 13, 2021, at 2:00 p.m.**

Anyone obtaining the proposal book for stated project is invited to attend.

Contact person for this project is:

Tony Demasi, P.E., or Brian Zemanek
City Engineer's Office
971-8180

TONY DEMASI, P. E.
CITY ENGINEER

INFORMATION AND INSTRUCTIONS TO BIDDERS

1. In accordance with the advertised legal notice, sealed bids will be received by the City of Cuyahoga Falls, Ohio at the office of the Director of Public Service in the Municipal Building for certain material, equipment and/or labor services. The bids will be opened and read aloud at the time and place specified in the legal notice.
2. Bidders are advised to thoroughly examine the contract documents before submitting their bids. There may be changes in the specifications from those heretofore used. It is hereby understood that the bidder has read and fully understands each and every clause embodied therein.
3. All material, equipment and/or labor services proposed shall be in accordance with the attached specifications. Any exceptions are to be specifically noted herein.
4. Each proposal must contain the full name of the party or parties making the same and all persons interested therein.
5. All proposals or bids shall be signed and submitted on the printed blanks provided for that purpose and bound herewith. Except during the filling in of the proposal forms, no pages are to be removed from this binding. The complete set of contract documents must be submitted with the proposals. For clarity, uniformity and ease of tabulating bids all bidders are requested to TYPE their bids on the proposal forms.
6. The price bid for each unit of material equipment and/or service must be stated separately in figures in the proper column.
7. Each bidder shall submit on the proposal form the name of the manufacturer, type and catalog number of the equipment or material he proposed to furnish. He shall also submit all other data, statements and samples called for by the specifications and the data sheet forming a part of the proposal form.
8. Manufacturers or distributors failing to provide MSDS's will be considered as failing to meet contractual requirement. This statement shall appear on purchase orders or offers to bid.
9. Each bid shall be accompanied by a bond executed by the bidder and a surety company, per Ohio Revised Code, which the surety company shall be licensed to do business in the State of Ohio, in an amount not less than five (5) percent of the aggregate amount of the bid or proposal; or the bidder may submit with the bid, in lieu of such bond, a certified check on a solvent bank, payable to the order of the Director of Public Service, City of Cuyahoga Falls, Ohio, in an amount equal to the amount required in such bond. Said bond or certified check is required as a guarantee that should the said bid or proposal be accepted by the Director of Public Service, the bidder will, within ten (10) days from the time he shall have been notified of the acceptance of the same, enter into contract with the City of Cuyahoga Falls for the material, equipment and/or service bid upon.

10. Should any proposal be rejected, such check or bond will be returned to the bidder and should any proposal be accepted, such check or bond will be returned after proper execution of the contract documents. If the bidder, to whom the contract shall have been awarded shall refuse or neglect, within ten (10) days after due notice that the contract has been awarded to him, to execute the same, then the deposits shall be forfeited to the City as liquidate damages for such neglect or refusal.
11. Each proposal shall be accompanied by a non-conclusion affidavit executed on the form provided thereof.
12. When requested by the City of use in evaluation the bids submitted, the bidder must furnish satisfactory evidence of its ability, competency, facility and financial resource to furnish the material, equipment and/or labor services so bid. If the bidder represents a manufacturer, then he must submit similar data relating to the manufacturer.
13. Each bid on equipment, material and/or labor services shall contain a statement of the time, after the award of the contract, required by the bidder to deliver the equipment, material and/or labor services included in the bid.
14. Each bid shall be sealed and addressed to the Director of Public Service, City of Cuyahoga Falls, Ohio, and shall bear on its face, the name of the bidder, a statement that it is a sealed bid to be opened on the day and hour above mentioned, and statement of the item numbers on which the bid is made.
15. All bids shall be filed with the Director of Public Service, in that office in the Municipal Building, in the City of Cuyahoga Falls, Ohio, on or before the day and hour mentioned above and stated in the legal notice of advertisement. No proposal presented after that time will be accepted.
16. Permission will not be given for the modification of any proposal after the same has been filed. No bidder may withdraw his bid, for a period of thirty (30) days after the date of opening of same.
17. If any person contemplating submitting a bid for the proposed material, equipment and/or labor services is in doubt as to the true meaning of any part of the specifications or other proposed contract documents, he may submit to the Director of Public Service, a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents or changes therein will be made only by addendum duly issued and a copy of such addendum will be mailed or delivered to each person receiving a set of such documents. The Director of Public Service will not be responsible for any other explanation or interpretations of the proposed documents.
18. No bid will be accepted from, or contract awarded to, any person, firm or corporation that is in arrears to the City of Cuyahoga Falls, upon any debt or contract, or who has failed to execute, in whole or in part, in a satisfactory manner, any contract with the City; or who if a defaulter as to surety or otherwise upon any obligation to the City of Cuyahoga Falls.

19. Attention of the bidder is called to the statutory requirements of the State of Ohio relative to licensing of corporations organized under the laws of any other state.
20. Instructions must be adhered to; failure to strictly observe them shall constitute a sufficient cause of rejection of a bid.
21. the City shall not be liable for the payment of any material furnished under the contract except upon written order from the Director of Public Service supplementing this agreement, and no shipment of same shall be made under the contract except after receipt of such written order.
22. The Director of Public Service may consider bid specification items as distinct bids for each of the items such as material, equipment and/or labor services. However, all parts of any bid specification item must be bid to qualify that item for consideration.
23. After the public reading, all bids will be tabulated and upon completion of a report by the appropriate purchasing department on the bids received, the Director of Public Service will proceed, without unnecessary delay, to award contracts for the various times to the lowest and best bidders on materials, equipment and/or labor services, conforming to the specifications.
24. The Director of Public Service expressly reserves the right to reject any or all bids and to waive informalities and to judge the character and sufficiencies of equipment, apparatus, materials, and/or labor services bid upon. Bidders who are in sympathy with the purpose outlined above and prepared to act in accordance therewith, are invited to submit bids in accordance with these specifications.
25. A Performance Bond will be required (if indicated by the legal notice) of each successful bidder to assure the faithful completion of the contract that has been awarded.
26. The Performance Bond form and/or the Contract form are not to be executed by the bidder until a contract has been awarded.
27. The City expressly reserves the right to award more than one contract on any particular supply item to more than one bidder, if it is considered to be in the best interest of the City. Multiple contracts will not be considered on items obviously not suitable to such means of contracting.

End of Instructions

INSURANCE REQUIREMENTS - Amended 2/18/82

103.08 INSURANCE:

The Contractor shall not commence work under this contract until he has obtained all the insurance required under this paragraph and such insurance has been approved by the City nor shall the Contractor or any subcontractor to commence work on his subcontract until the insurance required of the subcontractor has been so obtained and approved.

1. COMPENSATION INSURANCE:

The Contractor shall procure, and shall maintain during the life of this contract, Workmen's Compensation Insurance as required by the State of Ohio for all of his employees to be engaged in work at the site of the project under this contract and, in case of any such work sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Workmen's Compensation Insurance. If any class of employees engaged in hazardous work on the project under this contract is not protected under the Workmen's Compensation Statute, the Contractor shall provide and shall cause each subcontractor to provide adequate employer's liability insurance for the protection of such of his employees as are not otherwise protected.

2. CONTRACTOR'S COMPREHENSIVE GENERAL LIABILITY INSURANCE AND AUTOMOBILE LIABILITY INSURANCE:

The Contractor shall procure and shall maintain, during the life of this contract, (1) Comprehensive General Liability Insurance including all Premises/Operations; Products/Completed Operations; and Broad Form Property Damage, and (2) Automobile Liability Insurance for all vehicles and equipment in the amount specified in subparagraph 2.

3. SUBCONTRACTOR'S COMPREHENSIVE GENERAL LIABILITY INSURANCE AND AUTOMOBILE LIABILITY INSURANCE:

The Contractor shall either (1) require of his subcontractors to procure and to maintain during the life OF HIS SUBCONTRACT, comprehensive, General Liability Insurance and Automobile Liability Insurance of the type and in the amount specified in Subparagraph 2 and 6 hereof or, (2) insure the activities of his policy, specified in Subparagraph 2 hereof.

4. SCOPE OF INSURANCE AND SPECIAL HAZARDS:

The insurance required under subparagraphs 2 and 3 hereof shall provide adequate protection for the Contractor and his Subcontractors, respectively, against claims which may arise from operations under this contract, whether such operations be by the insured or by anyone directly or indirectly employed by him and, also against any of the special hazards which may be encountered in the performance of this contract as enumerated in the SPECIAL PROVISIONS.

PAGE 2 – INSURANCE REQUIREMENTS – as amended.

1. BUILDER’S RISK INSURANCE (Fire and Extended coverage):

(Building Construction only) Until the project is completed and accepted by the City, the Contractor is required to maintain Builder’s Risk Insurance (fire and extended coverage) on a 100 percent completed value basis on the insurable portion of the project for the benefit of the City, the Contractor, Subcontractors as their interests may appear. The Contractor shall not include any costs for Builder’s Risk Insurance (fire and extended coverage) premiums during construction unless the Contractor is required to provide such insurance; however, this provision shall not release the Contractor from his obligation to complete, according to plans specifications, the project covered by the contract, and the Contractor and his Surety shall be obligated to full performance of the Contractor’s undertaking.

2. PROOF OF CARRIAGE OF INSURANCE:

The Contractor shall furnish the City with certificates showing the type, amount, class of operations covered, effective dates and date of expiration of policies. Such certificates shall also contain substantially the following statement: “The insurance covered by this certificate will not be canceled or materially altered, except after ten (10) days’ written notice has been received by the City.”

The minimum amount of such insurance including underlying and umbrella excess shall be as follows:

BODILY INJURY AND PROPERTY DAMAGE LIABILITY COMBINED SINGLE LIMIT

Each Occurrence	\$ 2,000,000.00
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INCOME TAX REQUIREMENTS

Employers doing business within Cuyahoga Falls are required to deduct at the time of payment of salaries, wages, commissions or other compensation the tax of two (2) percent of the gross amount earned in Cuyahoga Falls.

Every employer who is required to deduct the tax at the source is liable directly to the City of Cuyahoga Falls for payment of such tax whether actually collected from their employees or not.

Also, the net profit from income earned within Cuyahoga Falls is subject to the tax. Both withholding and tax on profits are due quarterly.

CONTACT THE INCOME TAX DIVISION FOR THE NECESSARY FORMS AND ANY ADDITIONAL INFORMATION.

City of Cuyahoga Falls

Office of the Mayor

Mayor Don Walters
2310 Second Street
Cuyahoga Falls OH 44221



Phone: 330-971-8200
Fax: 330-971-5696
mayor@cityofcf.com

Dear Employer:

In today's society, we all seem to face the dangers and consequences of alcohol and drug abuse. Studies have found the workplace is not exempt from this scourge that is threatening our nation. It is found that two-thirds of those entering the workplace for the first time have used illegal drugs. Up to twenty-three percent of employees abuse alcohol/drugs on the job. The figures are staggering. Up to 100 billion dollars a year are lost in productivity.

The City of Cuyahoga Falls has passed Ordinance 12-1990, which requires employers who are awarded competitively-bid City contracts to maintain a drug-free workplace.

I have enclosed an outline of the requirements that need to be met. You will also find a sample policy statement, a certification to be completed and returned in your bid packet. It is our hope that through education and awareness, we can be an effective part of the solution.

Please know this office and I are available to assist in any way we can.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Walters", written in a cursive style.

Don Walters
Mayor

Encl.

181.07 EMPLOYERS AWARDED CITY CONTRACTS TO MAINTAIN DRUG FREE WORKPLACE.

1. No contract awarded through the process of competitive bidding, other than contracts pursuant to Ohio R.C. 125.04, shall be awarded to any bidder who does not certify that the following requirements have been met:
 - a. A statement has been published and provided to employees notifying them that the manufacture, use, possession, or distribution of drugs in the work place is prohibited, as well as a specification of the disciplinary action that may be taken against employees who violate that prohibition.
 - b. Any employee convicted of violating a criminal drug statute occurring in the work place is required to notify the employer of said conviction within five days after such conviction.
 - c. Notice has been published specifying the sanctions for or requiring satisfactory participation in a drug abuse assistance or rehabilitation program by an employee convicted of violating a criminal drug statute occurring in the work place.
 - d. A program has been implemented for the distribution of information on drug abuse awareness and the availability of counseling and referral services.
2. The Board of Control may, for good cause shown, grant an extension of time for compliance of the above requirements.
3. The Drug control Coordinator be and hereby is directed to provide information and assistance necessary to facilitate compliance with the provisions of this section.

(Ord. 12-1990. Passed 1-22-90)

SEXUAL HARASSMENT POLICY

Employees of the City of Cuyahoga Falls have a right to work in an environment free of sexual harassment. The City will not tolerate any form of sexual harassment or any offensive conduct that has the effect of severely interfering with an employee's work performance or creating a pervasive intimidating, hostile, offensive work environment. Examples of sexual harassment include, but are not limited to, unwanted sexual advances; implicit or explicit demands for sexual favors in exchange for favorable treatment or continued employment; repeated sexual jokes, flirtations, advances or propositions; verbal abuse of a sexual nature; graphic, verbal commentary about an individual's body, sexual prowess or sexual deficiencies; leering; whistling; touching; pinching; assault; coerced sexual acts; suggestive insulting, obscene comments or gestures; and display in the work place of sexually suggestive objects or pictures.

It is the policy of the City of Cuyahoga Falls that any form of sexual harassment is unacceptable, either within the workplace or at City-sponsored events, whether on or off property owned by the City, and is subject to appropriate disciplinary action.

The City encourages individuals who believe they are being harassed to clearly and promptly notify the offender that his or her behavior is unwelcome. This procedure is not a required first step for reporting sexual harassment. If for any reason an individual does not wish to approach the offender directly or if such discussion does not successfully end the harassment, then the individual should notify their supervisor.

Additionally, any employee who observes harassment of any type is to report it to his or her supervisor.

All employees are expected to cooperate with an investigation of any type of harassment. Failure to do so may lead to discipline. False information provided in the course of any investigation may also lead to discipline.

The City will not retaliate against an individual who makes a report of sexual harassment, nor permit any employee to do so. Retaliation is a very serious violation of this policy and should be reported immediately. Any individual found to have retaliated against an individual for reporting sexual harassment, or against anyone participating in the investigation of a complaint, will be subject to appropriate disciplinary action.

FIREARMS POLICY

As a result of the General Assembly passing Am. Sub. House Bill 12 regarding “concealed carry” of firearms, the City of Cuyahoga Falls, Ohio, has adopted a policy. Each Bidder must review the policy and file the certification that is included in this bid packet. The policy can be accessed at the City’s website, www.cityofcf.com, or a copy can be obtained from the office of the Director of Public Service located on the 2nd floor of City Hall, 2310 Second Street, Cuyahoga Falls, Ohio. Upon request, the policy can be faxed or mailed.

A. PURPOSE

The purpose of this policy is to ensure a safe work environment, free of intimidation and threat of physical harm. This policy prohibits all employees, except law enforcement officers and security personnel, from carrying deadly weapons, including firearms, while acting in the course and scope of City employment.

No person shall knowingly possess, have under the person's control, convey or attempt to convey a deadly weapon onto City property except for those persons and circumstances specified in Section C., 2., below. This policy applies to employees, visitors, independent contractors, vendors and any other person on City property, including individuals with valid permits to carry deadly weapons and/or firearms.

B. DEFINITIONS

A "deadly weapon" is defined as any instrument, device or thing capable of inflicting death, and designed or specially adapted for use as a weapon. Examples of prohibited deadly weapons include, but are not limited to:

"Firearm" means any firearm capable of expelling or propelling one or more projectiles by the action of an explosive or combustible propellant. Firearm includes an unloaded firearm and a firearm that is inoperable but that can readily be rendered operable. Firearm includes, but is not limited to, handguns, pistols, rifles, shotguns, automatic and semi-automatic weapons and zip guns.

"Explosives" meaning any chemical compound, mixture, or device, the primary or common purpose of is to function by explosion. Explosive includes but is not limited to dynamite, black powder, pellet powders, blasting caps, fuse igniters and instantaneous fuses.

"Explosive devices" which are defined as any device designed or specially adapted to cause physical harm to persons or property by means of an explosion, and consisting of any explosive substance or agency and means to detonate it. Explosive devices include bombs, demolition devices, blasting caps or detonators containing an explosive charge and any pressurized vessel that has been knowingly tampered with or arranged so as to explode.

"Incendiary devices" which means any firebomb, and any device designed or specially adapted to cause physical harm to persons or property by means of fire and consisting of any incendiary substance or agency and means to ignite it.

Knives with a blade longer than 3.5".

"Ballistic knife" which means a knife with a detachable blade that is propelled by a spring-operated mechanism or other illegal knives.

“City property” means the vehicles, equipment, machinery, facilities and land owned, leased or under the primary control of the City of Cuyahoga Falls, including all Park and Recreation facilities and areas under construction.

“Visitor” means any person who is on City property, including independent contractors, vendors and visitors, and off-duty employees of the City of Cuyahoga Falls.

C. GENERAL PROVISIONS

No person is permitted to carry or possess a deadly weapon on City property except as provided in this policy.

1. Prohibition

Employees .Employees are prohibited from possessing or carrying a deadly weapon, including but not limited to a firearm, while acting in the course and scope of their employment, either on or off City property, regardless of whether the employee has a permit to carry a deadly weapon, except as otherwise provided in the policy.

Visitors .Visitors, vendors and independent contractors are prohibited from possessing or carrying a deadly weapon while on City property, or engaged in the course of City business or City activities, except as otherwise provided in this policy.

2. Exceptions

Law Enforcement .Law Enforcement officers, as defined in RC 2901 .01, acting within the scope of their duties, are exempt from this policy.

Security Officers .City of Cuyahoga Falls security officers and the head of security personnel, who are authorized to carry deadly weapons as a requirement of their duties, and who are acting within the scope of their duties at the time of that possession or control, are exempt from this policy.

Persons exempt pursuant to RC 2923.123

Parking Areas .This policy does not prohibit the lawful possession or carry of a concealed weapon in private vehicles in a City parking area or parking facility, provided the owner has obtained the appropriate permit(s) required under the law and stores the weapon in their own locked vehicle, either in a locked glove compartment (or other locked compartment), in the trunk, or locked inside a gun case.

Other Authorized Uses .Lawful possession or carry related to use at a City shooting range or other law-enforcement programs; Lawful discharge or possession of a deadly weapon for show or memorial purposes where no projectile is discharged; Lawful transport of an unloaded deadly weapon directly between a parking area or parking facility and the location authorized for its use, or transport of an unloaded deadly weapon directly between a parking area or parking facility and a storage facility provided by the City.

Other Authorized Persons . Individuals who have obtained written permission from the Mayor to carry or use deadly weapons or deadly weapons on City property to perform specific tasks for the City are exempt from this policy during the performance of those tasks.

D. DEADLY WEAPONS STORAGE

Deadly weapons are not permitted in any City vehicle. For purposes of this policy, City vehicles include any vehicle owned, leased or otherwise under the control of the City. City vehicles shall not be used to store or carry a deadly weapon, except as authorized for purposes under Section C. 2 above.

Nothing in this policy requires the City to provide storage facilities for employee's deadly weapon.

The City reserves the right to search all people and property in accordance with local, state and federal law.

E. VIOLATIONS BY EMPLOYEES

Violation of this policy by an employee while on duty or in the course of City business is grounds for immediate removal from City property and termination of employment. An employee who uses a deadly weapon while on duty or in the course of City business will not be defended or indemnified by the City of Cuyahoga Falls. Furthermore, the City may refer suspected violations to appropriate law enforcement authorities, as permitted by law.

Display of a deadly weapon while on or off duty on City property is considered a threat, and will subject the employee to disciplinary action up to and including termination of employment. An employee who displays an empty firearm holster while on duty, creates a physically intimidating and hostile work environment and will be subject to disciplinary action up to and including termination of employment.

F. REPORTING RESPONSIBILITY

If the employee believes that another person (visitor, independent contractor, vendor or another employee) is in possession of or carrying a deadly weapon in violation of this policy, the employee must report the suspected act immediately to the City Police Department and then his/her supervisor, unless reporting at that time would subject the employee or others to physical harm. The threat of physical harm may delay, but does not excuse this reporting requirement.

The City will not tolerate retaliation toward or harassment of any employee who, acting in good faith, reports violations of this policy.

Failure to Report . Failure to report knowledge the presence of any deadly weapon on City property in violation of this policy shall subject the employee to discipline up to and including termination of employment.

False Report .If an employee knowingly makes a false report of a suspected violation of this policy, the employee will be subject to disciplinary action, up to and including termination of employment.

G. SAFETY & ENFORCEMENT

Employees should be aware that the enforcement of this policy might deal with confronting individuals carrying potentially loaded deadly weapons. Under no circumstances should an employee take unnecessary risks or compromise his or her safety in order to enforce this policy. The Cuyahoga Falls Police Department should be contacted immediately if there is a possibility of imminent threat to the personal safety of an employee or others.

H. EMPLOYEE RESPONSIBILITY

Employees are responsible for making sure, in advance, that any potentially covered item in their possession is not prohibited by this policy. Questions regarding items covered in this policy should be directed to the City Police Department.

I. LIMITATIONS

In the event any other City policy or procedure is found to be in conflict with this policy, the terms of this policy shall govern. To the extent any federal, state or local law, rule or regulation limits or prohibits the application of any provision of this policy, then to the minimum extent necessary, this policy is deemed to be amended to be in compliance, pursuant to such law, rule or regulation.

CITY OF CUYAHOGA FALLS:

BIDS SUBJECT TO 60 DAY ACCEPTANCE

BECAUSE OF OUR DESIRE TO FAIRLY AND EQUABLY EVALUATE ALL COMPETITIVE BIDS, WE ARE SPECIFYING THAT ALL BIDS BE SUBJECT TO ACCEPTANCE BY THE CITY WITHIN 60 DAYS FROM THE DATE OF THE BID OPENING.

EXCEPTION BY THE BIDDER TO THIS REQUIREMENT MAY RESULT IN HAVING THE SUBJECT BID REJECTED BY THE CITY AS NOT HAVING MET THE CITY'S SPECIFICATIONS.

CONTRACTOR PERMIT/REGISTRATION REQUIREMENTS

The Contractor shall review and comply with the provisions of any and all permits issued for this work, including compliance with contractor registration, insurance and/or bonding provisions. Although City of Cuyahoga Falls permit fees for this work, if applicable, will be waived, costs for City of Cuyahoga Falls contractor registration, if applicable, will not.

INSURANCE

Section 2

CONTRACT FORMS

Section 3

(DIRECTOR OF PUBLIC SERVICE)

NOTE

The bidder hereby agrees that the Director of Public Service has the right to reject any or all bids and to waive informality in any bid and that the bidder shall not dispute the correctness of the quantities used in computing the lowest and best bid.

The bidder further agrees that the Director of Public Service may at his discretion award the contract on the basis of individual items taken separately in multiples or collectively for any or all items in this proposal and that he will not dispute the Director's judgment in his award upon this basis.

Signature of Officer, Partner or Owner

(Business address of bidder)

CERTIFIED CHECK OR BID BOND

Certified check or bid bond in the amount of:

_____ on
State Amount

Name of Bank or Bonding Company

_____ deposited herewith.

BIDDER

All bids not in conformity with these provisions will be rejected.

* *PLEASE PLACE BID BOND/CERTIFIED CHECK ON TOP OF THE BID PACKET WHEN SUBMITTING YOUR BID. ALSO, PLEASE HAVE NOTED THE ADDRESS OF WHERE THE BID BOND/CERTIFIED CHECK IS TO BE RETURNED. THANK YOU FOR YOUR COOPERATION.*

CERTIFICATION OF OSHA COMPLIANCE

I, _____, hereby certify that _____
Company Official) (Company)
will comply with all Federal, State and City of Cuyahoga Falls statutes, ordinances, rules and
regulations regarding job site safety, including but not limited to the Occupational Safety and
Health Act while engaged in this project. I understand that a failure of _____
(Company)
or its subcontractors to follow any safety regulation will result in the city, in its sole discretion
issuing a stop work order on the project until the violation is cured. Failure to stop work when
so ordered by the City may result in the immediate termination of the Agreement by the City.
The City may, in its sole discretion, notify OSHA of any violation of safety regulations by the
Company or its subcontractors. All fines and penalties that may result from any violation will be
borne by the Company or its subcontractor.

Signature

Title

State of Ohio)
)ss
County of _____)

Sworn to before me and subscribed in my presence this _____ of _____,
20_____.

Notary Public
My Commission Expires: _____

[seal]

CERTIFICATION

I, _____ certify that
(Company Official)

_____ has posted in the workplace and distributed
(Company)
to all employees our Drug-Free Workplace Policy Statement, a copy of which is attached hereto.

I further certify that _____ has made information on alcohol
(Employer)
and drug abuse awareness available to all employees and will provide information on the
availability of counseling and referral services to any employee requesting such information.

(Official Signature and Title)

State of Ohio)
County of Summit)ss
)

Sworn to before me and subscribed in my presence this ____ day of _____, 20____.

Notary Public

[Seal]

In accordance with City of Cuyahoga Falls Ordinance No. 12-1990, passed January 22, 1990:

DRUG FREE WORKPLACE POLICY STATEMENT

_____ hereby notifies all employees of our policy
(Employer)
regarding drugs in the workplace.

Without exception, the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance while in the workplace is strictly prohibited.

_____ requires that as a condition of employment,
(Employer)
any employee convicted of a drug violation occurring in the workplace must notify his or her employer within five (5) days after conviction.

Any employee found in violation of this policy is subject to appropriate personnel action, up to and including termination of employment. Continued employment may be conditioned upon successful completion of an acceptable drug rehabilitation program.

Any employee seeking information on drug or alcohol abuse awareness and the availability of counseling and referral services should contact:

(Name)

(Phone)

CERTIFICATION

I, _____ hereby certify that
(Company Official)

_____ has received, reviewed, and distributed the
(Company)

City of Cuyahoga Falls' policy regarding Sexual Harassment to all employees who will be working or involved with this project. I further certify that _____
(Company)

will indemnify the City of Cuyahoga Falls in any action brought against it alleging that an employee of _____ engaged in any conduct prohibited by the
(Company)

City's Sexual Harassment Policy while working or otherwise involved with this particular Project.

Signature

Title

State of Ohio)
)ss
County of _____)

Sworn to before me and subscribed in my presence this _____ day of _____, 20__.

Notary Public

My Commission Expires: _____

[Seal}

EQUAL EMPLOYMENT OPPORTUNITY

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

- a. The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin or handicap status. The CONTRACTOR will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, color, sex, national origin or handicap status. Such action shall include, but not be limited to the following: 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 setting forth the provision of this nondiscrimination clause.

- b. The CONTRACTOR will, in all applications 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, creed, color, sex, national origin or handicap status.
- c. The CONTRACTOR will cause the foregoing provisions to be inserted in all subcontractors for any work covered by this Contract so that such provisions will be binding upon each subcontractor, provided that foregoing provisions shall not apply to contractors or subcontracts for standard commercial supplies or raw materials.

PREVAILING WAGE CONTRACTOR RESPONSIBILITIES

This is a summary of prevailing wage contractors’ responsibilities. For more detailed information, please refer to Chapter 4115 of the Ohio Revised Code.

General Information

Ohio’s prevailing wage laws apply to all public improvements financed in whole or in part by public funds when the total overall project cost is fairly estimated to be more than the following:

“New” construction threshold for Building Construction:	\$250,000
“Reconstruction, enlargement, alteration, repair, remodeling, renovation or painting” threshold for Building Construction:	\$75,000

OR

As of January 1, 2020:

“New” construction that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction threshold level has been adjusted to:	\$93,292
“Reconstruction, enlargement, alteration, repair, remodeling, renovation or painting” that involves roads, streets, alleys, sewers, ditches and other works connected to road or bridge construction threshold has been adjusted to:	\$27,950

- a. Thresholds are to be adjusted biennially by the administrator of Ohio Bureau of Employment Services.
- b. Biennial adjustments to threshold levels are made according to the Building Cost for Skilled Labor Index published by McGraw-Hill’s Engineering News-Record, but may not increase or decrease more than 3% for any year.

Penalties for Violation

If an intentional violation is determined to have occurred, the Contractor is prohibited from contracting directly or indirectly with any public authority for the construction of a public improvement. Intentional violation means “a willful, knowing, or deliberate disregard for any provision” of the prevailing wage law and includes but is not limited to the following actions:

- a. Intentional failure to submit payroll reports as required, or knowingly submitting false or erroneous reports.
- b. Intentional misclassification of employees for the purpose of reducing wages.
- c. Intentional misclassification of employees as independent contractors or as apprentices.
- d. Intentional failure to pay the prevailing wage.
- e. Intentional failure to comply with the allowable ratio of apprentices to skilled workers as required by the regulations established by Ohio Bureau of Employment Services Wage and Hour Division.
- f. Intentionally employing an officer of a contractor or subcontractor that is known to be prohibited from contracting, directly or indirectly, with a public authority.

Responsibilities

A. Pay the prevailing rate of wages as shown in the wage rate schedules issued by the Ohio Bureau of Employment Services, Wage and Hour Division, for the classification of work being performed.

1. Wage rate schedules include all modifications, corrections, escalations, or reductions to wage rates issued for the project.
2. Overtime must be paid at time and one-half the employee’s base hourly rate. Fringe benefits are paid at straight time rate for all hours including overtime.
3. Prevailing wages must be paid in full without any deduction for food, lodging, transportation, use of tools, etc.; unless, the employee has voluntarily consented to these deductions in writing. The public authority and the Director of OBES Wage and Hour Division must approve these deductions as fair and reasonable. Consent and approval must be obtained before starting the project.

B. Use of Apprentices and helpers cannot exceed the rations permitted in the wage rate schedules.

1. Apprentices must be registered with the U.S. Department of Labor Bureau of Apprenticeship and Training.
2. Contractors must provide the Prevailing Wage coordinator a copy of the Apprenticeship Agreement for each apprentice on the project.

- C. Keep full and accurate payroll records available for inspection by any authorized representative of the Ohio Bureau of Employment Services or the contracting public authority, including the Prevailing Wage Coordinator. Records should include but are not limited to:
1. Time cards, time sheets, daily work records, etc.
 2. Payroll ledger/journals and cancelled checks/check register.
 3. Fringe benefit records must include program name, address, account number, and cancelled checks.
 4. Records made in connection with the public improvement must not be removed from the State for one year following the completion of the project.
 5. Out-of-State Corporations must submit to the Ohio Secretary of State the full name and address of their Statutory Agent on Ohio.
- D. Prevailing Wage Rate Schedule must be posted on the job site where it is accessible to all employees.
- E. Prior to submitting the initial payroll report, supply the Prevailing Wage Coordinator with your project dates to schedule reporting of your payrolls.
- F. Supply the Prevailing Wage Coordinator a list of all subcontractors including the name, address, and telephone number for each.
1. Contractors are responsible for their subcontractors' compliance with requirements of Chapter 4115 of the Ohio Revised Code.
- G. Before employees start work on the project, supply them with written notification of their job classification, prevailing wage rate, fringe benefit amounts, and the name of the Prevailing Wage Coordinator for the project. Copy of the completed signed notification should be submitted to Prevailing Wage Coordinator.
- H. Supply all subcontractors with the Prevailing Wage Rates and changes.
- I. Submit certified payrolls within two (2) weeks after the initial pay period. Payrolls must include the following information:
1. Employee's names, addresses, and social security numbers.
 - a. Corporate officers/owners/partners and any salaried personnel who do physical work on the project are considered employees. All rate and reporting requirements are applicable to these individuals.
 2. Employee's work classification.
 - a. Be specific about he laborers and/or operators.
 - b. For all apprentices, show level/year and percent of journeyman's rate
 3. Hours worked on the project for each employee.
 - a. The number of hours worked in each day and the total number of hours worked each week.
 4. Hourly rate for each employee.
 - a. The minimum rate paid must be the wage rate for the appropriate classification. The Department's Wage Rate Schedule sets this rate.

- b. When the amount contributed to the fringe benefit is documented but not the total hours worked, the hourly amount is calculated by dividing the total yearly contribution by 2080.
 - 5. Where fringes are paid into a bona fide plan instead of cash, list each benefit and amount per hour paid to program for each employee.
 - a. When the amount contributed to the fringe benefit plan and the total number of hours worked by the employee on all projects for the year are documented, the hourly amount is calculated by dividing the total contribution of the employer by the total number of hours worked by the employee.
 - b. When the amount contributed to the fringe benefit is documented but not the total hours worked, the hourly amount is calculated by dividing the total yearly contribution by 2080.
 - 6. Gross amount earned on all projects during the pay period.
 - 7. Total deductions from employee's wages.
 - 8. Net amount paid.
- J. The reports shall be certified by the contractor, subcontractor, or duly appointed agent stating that the payroll is correct and complete: and that the wage rates shown are not less than those required by the O.R.C. 4115.
- K. Send a Final Affidavit to the Prevailing Wage Coordinator upon the completion of the project.

COMPLETION TIME CERTIFICATION

The Contractor shall state the number of calendar days necessary for completion of this Contract after the date of Award of Contract.

Number of calendar days for _____ : _____ days.
(Name of Contract)

Signature of Bidder

Witness: By: _____

Address: _____

LOCAL BID PREFERENCE

The City of Cuyahoga Falls shall apply a Local Bid Preference to this invitation as outlined in Section 181.08 of the Codified Ordinances, including:

- a) In determining the low bid for supplies, commodities, materials, equipment, furnishings or general services, the Board of Control shall exercise a preference for local bidders as provided herein. The local preference shall also apply to contracts for the building, repair or renovation of public buildings or improvements.
- b) Bidders having established their principal place of business, defined as a business with a significant economic and physical presence in Cuyahoga Falls for two (2) successive calendar years prior to the bid opening date, shall be preferred as lowest if their bid does not exceed by more than three percent (3%), with an upper limit of ten thousand dollars (\$10,000.00), the apparent lowest bid.
- c) To qualify for local preference, bidders shall state on the bid documents their principal place of business, the business address where work will be administered (post office boxes will not be accepted in lieu of a street address) and the date of establishment. Each bidder shall have only one principal place of business.
- d) Local preferences shall not be applied as provided; herein for any bids where prohibited by federal or state laws or regulations.
- e) Local preferences shall only be applied in considering the lowest bid and shall not waive or nullify evaluation of which bidders are responsive and responsible. In no event shall any preference granted herein exceed a maximum of three percent (3%) or ten thousand dollars (\$10,000.00), whichever is less.
- f) The City shall indicate in all its invitations to bid and specifications for all public contracts for supplies, equipment and materials, excluding construction contracts and contracts financed in whole or in part by contributions or loans from any agency of the State of Ohio or United States Government, that it shall apply a local bid preference as outlined in this section in the evaluation and award of bids received.

Principal Place of Business:

Street Address	City	State	Zip
----------------	------	-------	-----

Address where work will be administered:

Street Address	City	State	Zip
----------------	------	-------	-----

Date Business Established (MM/DD/YYYY):

Findings of Recovery by Auditor of the State

Ohio law (ORC section 9.24) prohibits any state agency or political subdivision from awarding a contract for goods, services, or construction to any person against whom a finding for recovery has been issued by the Auditor of State, if that finding is unresolved. While there are additional criteria, the statute limits this prohibition to contracts which are paid in whole or in part with state funds and which exceed \$25,000.

The Auditor of State has established a database pursuant to ORC 9.24 in order to list all persons who have unresolved findings for recovery, dating back to January 1, 2001. Before entering into a public contract described above, a state agency or political subdivision is required to verify that the person does not appear in this database.

Each bidder shall log on to <http://www.auditor.state.oh.us/> and **provide a copy of a certified search of unresolved findings with your bid**. This requirement shall apply to all contracts awarded by the City of Cuyahoga Falls.

CERTIFICATION

I, _____ hereby certify that
(Company Official)

_____ does not have an unresolved finding of
(Company Official)

recovery issued by the Auditor of the State of Ohio as required by Ohio law (ORC section 9.24).

I further certify that _____ has provided a certified search of
(Company Official)

unresolved findings with this bid showing no unresolved findings in his/her name.

Signature

Title

State of Ohio)
)ss
County of _____)

Sworn to before me and subscribed in my presence this _____ day of _____, 20__.

Notary Public

My Commission Expires: _____

[Seal]

CERTIFICATION OF COMPLIANCE WITH O.R.C. 3517.13

The following certificates are required pursuant to Ohio's Campaign Finance Reform law.

One of the following two certificates shall be completed by any individual, partnership, unincorporated business, association, professional association, estate, trust, corporation, or business trust that has been awarded a contract by the City of Cuyahoga Falls.

It shall be the Contractor's responsibility to determine which of the two certificates applies and if compliance with R.C. 3517.13 has been achieved.

SPECIFICATIONS AND PROPOSALS

Section 4

PROPOSAL

DATE: _____

TO THE DIRECTOR OF PUBLIC SERVICE
CITY OF CUYAHOGA FALLS, OHIO

The undersigned proposes to:

Furnish labor, tools & materials for the Cuyahoga River Bank Stabilization project

all in accordance with the plans and specifications for the City of Cuyahoga Falls, Ohio.

The quantity in the column headed "ESTIMATED QUANTITY" is that which will be used in determining the total amount of the proposal for the purpose of determining the lowest bidder; but it is understood and agreed that this quantity is APPROXIMATE ONLY and that the Contractor to whom the Contract is awarded shall not be entitled to any claim for the loss of profits, or for other damages should the quantity prove to be greater or less than is herein given in said "ESTIMATED QUANTITY" column.

In the event that the amounts entered into the columns labeled "UNIT COST LABOR" and "UNIT COST MATERIAL" are inconsistent with the amounts entered in the column labeled "TOTAL UNIT COST", the bidder agrees that the amounts entered in the "UNIT COST LABOR" and "UNIT COST MATERIAL" shall control.

The bidder agrees further that if this proposal be accepted he will contract with the City to perform the work as outlined in the specifications in accordance with a work schedule that is agreeable to the Director of Public Service all for the following prices:

COMPANY

BY: _____

TITLE

ADDRESS

Zip Code

Phone

BASE BID CUYAHOGA RIVER BANK STABILIZATION

ITEM NO.	SPEC. REF.	ITEM DESCRIPTION	UNIT MEASURE	ESTIMATED QUANTITY	UNIT COST LABOR	UNIT COST MATERIAL	TOTAL UNIT COST	TOTAL COST	TOTAL AMOUNT WRITTEN OR TYPED WORDS
1		CLEARING AND GRUBBING	LS	1					
2		EXCAVATION	CY	433					
3		EMBANKMENT (COMPACTED GRANULAR FILL)	CY	34					
4		ROCK BANK STABILIZATION	CY	630					
5		ROCK TRENCH KEY	CY	20					
6		WATER DIVERSION PLAN	LS	1					
7		TOE ROCK TRENCH - NOT INCLUDING ROCK EXCAVATION	CY	231					
8		CONDUIT REPAIR	LS	1					
9		TOPSOIL	CY	19					
10		SEEDING AND MULCHING (ODOT CLASS 3B)	SY	400					
11		EROSION CONTROL MAT (ODOT TYPES C)	SY	95					
12		EROSION CONTROL MAT (ODOT TYPES F)	SY	305					
13		STORMWATER POLLUTION PREVENTION PLAN	LS	1					
14		EROSION AND SEDIMENT CONTROL MANAGEMENT AND IMPLEMENTATION	LS	1					
15		LIVE STAKES, COMPLETE	EACH	190					
16		SITE ACCESS AND HAUL ROAD (EXCAVATION AND SITE RESTORATION)	LS	1					
17		MAINTENANCE OF TRAFFIC	LS	1					
18		CONSTRUCTION STAKES AND SURVEYING	LS	1					
19		MOBILIZATION	LS	1					
20		MISC.: PRE-CONSTRUCTION VIDEO TAPING	LS	1					
21		AS-BUILT DRAWINGS	LS	1					
22		TOE ROCK TRENCH - BEDROCK ALLOWANCE	LS	1					
23		PAVEMENT RESTORATION ALLOWANCE	LS	1					
24		10% GENERAL CONTIGENCY ALLOWANCE	LS	1					

4.1.1*

RESOURCES AND EXPERIENCE OF BIDDER

THE BIDDER, in order to secure consideration of this proposal, shall complete the following:

A. State below work performed similar to that to be done under this proposed contract:

B. State below the larger items of owned equipment proposed for use under this proposed contract:

C. Submit evidence of financial ability to handle the work under this proposed contract. A statement such as “Adequate” will not be accepted by the Board of Control.

NOTE: NO PROPOSAL WILL BE CONSIDERED UNLESS THE ABOVE IS COMPLETED.

QUALIFICATION INFORMATION

The information contained herein is for the guidance of the Board of Control in awarding the Contract and will be regarded as confidential.

The undersigned bidder proposes to use the following entirely owned equipment on this project:

The undersigned bidder proposes to use the following rented equipment on this project:

The undersigned bidder agrees to maintain all owned or rented equipment used on this project in a workable and safe condition and further agrees that the director of public service (or a designee) shall have the right to inspect said equipment at any reasonable time.

THE UNDERSIGNED BIDDER HAS CONTRACTED WITH THE FOLLOWING GOVERNMENTAL AGENCIES FOR WORK OF A SIMILAR NATURE:

	LOCATION & TYPE	AGENCY	DATE (S)	\$ VALUE
1				
2				
3				
4				
5				

COMPANY

SIGNATURE

PRINT NAME AND TITLE

NOTICE OF SUBCONTRACTORS

Name of Bidder: _____

If you intend to have any portion of this contract performed by a subcontractor, list the subcontractor(s) below:

If you are the successful bidder, you will be fully responsible to the City of Cuyahoga Falls for the acts and omissions of all subcontractors, supplies and other persons performing or furnishing any portion of this contract. In addition, you must ensure that any warranties provided by or through any subcontractor, supplier, or other person are to the benefit of and enforceable by the City of Cuyahoga Falls, Ohio.

Acknowledged by:

Authorized Agent of Bidder

ATTENTION ALL BIDDERS

ATTENTION OF THE BIDDER is directed to general information relating to the PROPOSAL contained herein, all of which work shall be performed in accordance with the **Current Specifications for the City of Cuyahoga Falls** and any **Special Specifications** contained herein applicable to these improvements.

CURRENT CONSTRUCTION SPECIFICATIONS: (1976 Edition)

Bidders who do not have a copy of these specifications may obtain same from the office of the City Engineer at a cost of twenty dollars (\$20.00) per copy.

SPECIAL PROVISIONS:

This section of the Proposal contains any Addenda's, Supplemental Specifications and Special Specifications applicable to these improvement and should be carefully reviewed by the Bidder. (This section follows the Proposal of bid items).

QUALIFICATION INFORMATION:

This page follows the Proposal of Items of Work and shall be filled in by the bidder to be used by the Board of Control as a guide in awarding this contract. This information will NOT be read at the bid opening.

AWARD OF CONTRACT BY THE BOARD OF CONTROL:

The BOARD OF CONTROL proposes to award the contract for this Proposal based upon the summation of the individual total bid prices, however, the BOARD OF CONTROL reserves the right to REJECT ANY AND ALL BIDS.

LOCAL BID PREFERENCE

The City of Cuyahoga Falls shall apply a Local Bid Preference to this invitation as outlined in Section 181.08 of the Codified Ordinances.

LAWN RESTORATION

- 1) Perform lawn restoration and seeding work only after other work affecting ground surfaces have been completed. All existing lawn areas disturbed by the installation of this project shall be re-seeded to establish new lawn in these areas.
- 2) The Contractor shall be responsible for removal of all site debris, fine grading of the disturbed areas with four-inches (4") of new, clean, screened topsoil, and seeding new lawn areas with Fairlawn Brand Seed (Oliger) or equal at a rate of 5 lbs. per 1000 square feet.
- 3) To insure quick establishment of lawn areas the Contractor will apply Mil-Chem organic fertilizer (12-16-10) or approved equal at a rate of 40 lbs. per 5000 square feet and then install shredded wheat straw held in place with tackifier or green netting.
- 4) Seed shall be Fairlawn Brand as distributed by Oliger Seed or approved equal. Seed shall be clean and fresh, packed in sealed bags showing net weight, composition of mix, date of germination tests and supplier's name. Germination test shall be done within a nine (9) month period prior to sale of the seed.
- 5) Fertilizer shall be a granular, non-burning product composed of not less than 50% organic, slow acting, guaranteed analysis professional fertilizer. Included shall be starter fertilizer containing 13% nitrogen, 25% phosphoric acid and 12% potash by weight or approved similar composition.
- 6) Clean topsoil shall not contain glass, rocks, twigs, leaves or other unsuitable material. All topsoil shall be screened.

ATTENTION

GENERAL CONTRACTORS

PUBLIC IMPROVEMENT CONTRACTS ARE AWARDED BY THE BOARD OF CONTROL TO A GENERAL CONTRACTOR WHO IS ENTIRELY RESPONSIBLE TO THE CITY OF CUYAHOGA FALLS FOR THE WORK UNDER THE TERMS OF THE PROPOSAL CONTAINED HEREIN.

SUB-CONTRACTORS WORK DIRECTLY FOR THE GENERAL CONTRACTOR, WITH WHOM ALL PROBLEMS SHALL BE DISCUSSED, AND NO CONTACT SHALL BE MADE WITH THE DIVISION OF ENGINEERING EXCEPT THROUGH OR IN THE PRESENCE OF THE GENERAL CONTRACTOR.

PAYMENTS FOR THE WORK ARE MADE DIRECTLY TO THE GENERAL CONTRACTOR.

SPECIFICATION ADDENDUM

SECTIONS 109.08 & 109.09

109.08 Final Estimate

Before the final estimate is allowed, the Owner shall require the Contractor to submit an affidavit from each and every subcontractor showing that all claims and obligations arising in connection with the performance of his portion of the contract have been satisfactorily settled. The improvement shall be inspected by the Engineer, and if he finds the Work is completed according to the contract, shall, within 60 days after the completion of this contract, prepare a statement of the total cost of the Work done hereunder, and the Owner shall pay the entire sum so found to be due hereunder after deduction therefrom all previous payments under the provisions of this contract and ALSO DEDUCTING THE GUARANTEE AND RETAINAGE CHARGE AS SET FORTH IN SECTION 109.09 following.

109.09 Guarantee and Retainage

The Contractor shall guarantee all Materials and Equipment furnished and work performed for a period of one (1) year from the date of completion. The Contractor warrants and guarantees that the completed system is free from all defects due to faulty materials or workmanship and the Contractor shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The Owner will give notice of observed defects with reasonable promptness. In event that the Contractor should fail to make such repairs, adjustments, or other work that may be made necessary by such defects, the Owner may do so and charge the Contractor the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

Further the City will retain three percent (3%) of the entire cost of the work done by the Contractor for the above guarantee period of one year beginning on the date of the Engineer's final estimate payment sheet.

If the Contractor shall have complied with all the requirements of the contract in keeping said improvement in good and proper repair, at the end of his guarantee period upon order of the director the Contractor shall receive this retainer; but, if the Contractor shall fail to make all necessary repairs as indicated by said Engineer at any time during the above period, then the Engineer shall have power to expend all or such part of the amounts so retained as the said Engineer may see fit, and apply the same to making the necessary repairs.

Should the amount retained not be sufficient to make the required repairs, the contractor shall at once make good the deficiency. At the expiration of the guarantee period as above specified, whatever remains to the credit of the Contractor, provided all repairs shall have been made satisfactory to the said Engineer, shall be paid to the Contractor as full settlement of any balance due on said contract as herein provided whereupon and not until then, shall the Contractor be released from the obligation assumed in this contract and his bond discharged. The final acceptance of the work shall be the date when the guarantee is released.

SPECIFICATION ADDENDUM

SECTION 109.06

109.06 Partial Payments

(a) At least ten (10) days before each progress payment falls due (but not more often than once a month), the Contractor will submit to the Engineer a partial payment estimate filled out and signed by the Contractor covering the Work performed during the period covered by the partial payment estimate and supported by such data as the Engineer may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site, the partial payment estimate shall also be accompanied by supporting data, as follows: 1) waiver of lien, 2) proper invoice for material, 3) assurance of City's title to material, 4) proof of payment to vendor for material, 5) proof of applicable insurance on material is in effect. Payment for material stored on site shall be limited to major items of construction with a value exceeding one percent (1%) of contract value. The Engineer will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the Owner, or return the partial payment estimate to the Contractor indicated in writing his reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and resubmit the partial payment estimate. The Owner will, within thirty (30) days of presentation to him of an approved partial payment estimate, pay the Contractor a progress payment on the basis of the approved partial payment estimate. The Contractor will be paid the bid and stipulated unit and lump sum prices as set forth in his Proposal, for the amount of work approved for payment by the Engineer. The sum total for these items shall constitute full payment for the job complete, tested, and ready for use.

(b) The Owner shall retain ten percent (10%) of the amount of each partial payment until the work is complete. With the final payment the Owner shall pay the Contractor seventy percent (70%) of the retainage held.

Ord. 56-1990
4/9/90

GENERAL CONTRACTORS

IMPROVEMENT CONTRACTS FOR CURBING, PAVING, RESURFACING

THE CONTRACTOR TO WHOM THIS CONTRACT HAS BEEN AWARDED SHALL COMPLY WITH THE REQUIREMENTS OUTLINED HEREIN:

1. PLANS AND STANDARD DRAWINGS:
Prints shall be on the job and available at all times.

2. CONCRETE WORK INVOLVING FORM WORK:
No concrete work shall be placed until form work has been approved and accepted by the City Project Inspector.

Concrete work constructed in violation of this directive shall be subject to removal and replacement at the expense of the Contractor.

3. UNDERGROUND ELECTRIC AND COMMUNICATION WIRES, CONDUIT AND APPURTENANCES:
The Contractor shall be responsible for any damages.

4. LOCATION OF DOWN SPOUT DRAINS:
The Contractor shall be responsible for the location of all down spout drains. If a drain is inadvertently overlooked and it is necessary to drill a hole in the curb after it has been placed, the drilling shall be performed by the City's contractor at the expense of the Contractor.

5. LOCATING OF WATER SERVICE BOXES, WATER SHUT-OFF VALVE BOXES, AND SANITARY AND STORM SEWER MANHOLES:
The initial locating of these boxes and manholes will be performed by the City Water Utilities Department forces upon a one (1) week notice.

It will then be the responsibility of the Contractor to preserve the location stakes or log the points by another method. If it is necessary for the City Water Utilities Department forces to relocate these items, costs will be billed at the prevailing hourly rate at which the work is performed.

6. ADJUSTING WATER SERVICE BOXES TO GRADE:
The top of these curb boxes shall be either flush with or a maximum of 1/4" below the surface of the berm, drive approach, or sidewalk. These boxes will be replaced prior to adjusting as determined by the City Engineer. The Contractor will ensure that each box is in good condition and that the stem is operational.

All damaged or buried service boxes must be corrected within two (2) weeks following written notification by the City. All costs incurred by the City to correct damaged or buried service boxes will be billed at the prevailing hourly rate at which the work is performed.

7. ADJUSTING WATER SHUT-OFF BOXES TO GRADE:

The top of these water boxes shall be either flush with or a maximum of 1/4" below the final surface of pavement, berm, drive approach, or sidewalk. Measurement in excess of these limits shall be grounds for non-acceptance of this item.

The boxes shall be adjusted prior to addition of the final asphalt surface course. Riser rings are acceptable for water boxes, provided the top section is in good condition. The boxes will be replaced prior to adjusting as determined by the City Engineer.

All boxes found damaged, covered, or buried must be corrected within two (2) weeks following written notification by the City. All costs incurred by the City to expose or correct damaged boxes will be billed at the prevailing hourly rate at which the work is performed, minus the bid amount for items not performed.

8. ADJUSTING SANITARY AND STORM SEWER FRAMES AND LIDS TO GRADE:

The top of the sanitary and storm sewer frames and lids shall be either flush with or a maximum of 1/4" below the final surface of pavement, berm, drive approach, or sidewalk. Measurement in excess of these limits shall be grounds for non-acceptance of these items.

The frames and lids shall be adjusted prior to addition of the final asphalt surface course. The frames shall be replaced prior to adjusting as determined by the City Engineer. Riser rings are not acceptable for adjusting sanitary and storm sewer lids to grade.

Care must be exercised to prevent debris from falling into the base of the manhole during removal, loosening installation or adjusting of these frames and lids. All debris must be removed immediately to prevent restriction of flow. All damage or work incurred by the City or residents due to a plugged sewer caused by debris from this work will be at the expense of the Contractor.

The Water Utilities Department will provide all frames and lids needed to replace defective items. NOTE: All two-inch (2") frames and lids are to be replaced with Cuyahoga Falls Standard one-inch (1") frames and lids. All frames and lids needed will be picked up by the Contractor following coordination with the Water Utilities Superintendent. All items replaced are the property of the City and will be picked up by City forces.

All manhole frames and lids found damaged or buried must be corrected within two (2) weeks following written notification by the City. All costs incurred by the City to expose or adjust manhole frames and lids will be billed at the prevailing hourly rate at which the work is performed, minus the bid amount for items not performed.

SPECIAL PROVISIONS

ADDENDAS AND SUPPLEMENTAL SPECIFICATIONS
TO THE CURRENT CONSTRUCTION SPECIFICATIONS FOR
THE CITY OF CUYAHOGA FALLS.

THIS SECTION ALSO INCLUDES ANY SPECIAL
SPECIFICATIONS AND STANDARD CONSTRUCTION
DRAWINGS APPLICABLE TO THIS PROPOSAL.

SECTION 5

NOTICE TO CONTRACTOR:

“DOMESTIC STEEL USE REQUIREMENTS AS SPECIFIED IN SECTION 153.011 OF THE REVISED CODE APPLY TO THIS PROJECT. COPIES OF SECTION 153.011 OF THE REVISED CODE CAN BE OBTAINED FROM ANY OF THE OFFICES OF THE DEPARTMENT OF ADMINISTRATIVE SERVICES.”

RIVERFRONT PARKWAY CUYAHOGA RIVER BANK STABILIZATION

LOCATION OF WORK

This work shall consist of stabilization of the Cuyahoga River bank along Riverfront Parkway, behind the Ledgewater Falls Condominiums, in Cuyahoga Falls, Ohio.

SCOPE OF WORK

The Contractor shall furnish tools, equipment, materials, labor and services for the Riverfront Parkway Cuyahoga River Bank Stabilization, as shown on the project drawings, and all construction necessary and associated therewith.

The work shall include but not be limited to the following:

- 1) Clearing and grubbing
- 2) Excavation and embankment
- 3) Rock bank stabilization and trench key
- 4) Preparation and implementation of a Water Diversion Plan
- 5) Construction staking and surveying
- 6) Sediment and erosion control
- 7) Live stakes planting
- 8) Topsoil, seeding and mulching
- 9) Pavement restoration

SCHEDULES

At the pre-construction meeting the Contractor shall submit a proposed schedule for all work unless otherwise notified by the Engineer. Liquidated damages in accordance with ODOT 108 shall apply for failure to meet the approved schedule. No work is permitted to begin until the Nationwide Permit (NWP) is approved by the Army Corps of Engineers (ACOE). A copy of the NWP application is included in these documents. All cutting of trees must take place between October 1st and March 31st.



To:	Mr. Tony Demasi, PE – City Engineer Cuyahoga Falls, Ohio	No. of Pages: 4
From:	GPD Group	Prepared by: Jesse Rufener, PE, CFM
Cc:	Matthew Lascola, PE	
Date:	September 16, 2021	
Subject:	Technical Memorandum – Cuyahoga River Bank Stabilization	

Purpose:

The purpose of this technical memorandum (TM) is to summarize GPD Group’s efforts employed to evaluate the hydraulic characteristics of the Cuyahoga River Bank Stabilization project off of Riverfront Parkway, in Cuyahoga Falls, Ohio.

Existing Conditions:

The existing conditions model for the project was based on the model developed during the dam removal project that was completed in 2013. The upstream end of the model begins just downstream of Waterworks Park and the downstream end is near the pedestrian bridge over the river just south of the Sheraton Hotel. The cross-sections in the vicinity of the project were updated with field survey of the bank completed for the project and with current LiDAR. The cross-sections in the vicinity of the project that were updated are 10.565, 10.58, and 10.595 per the figure below.

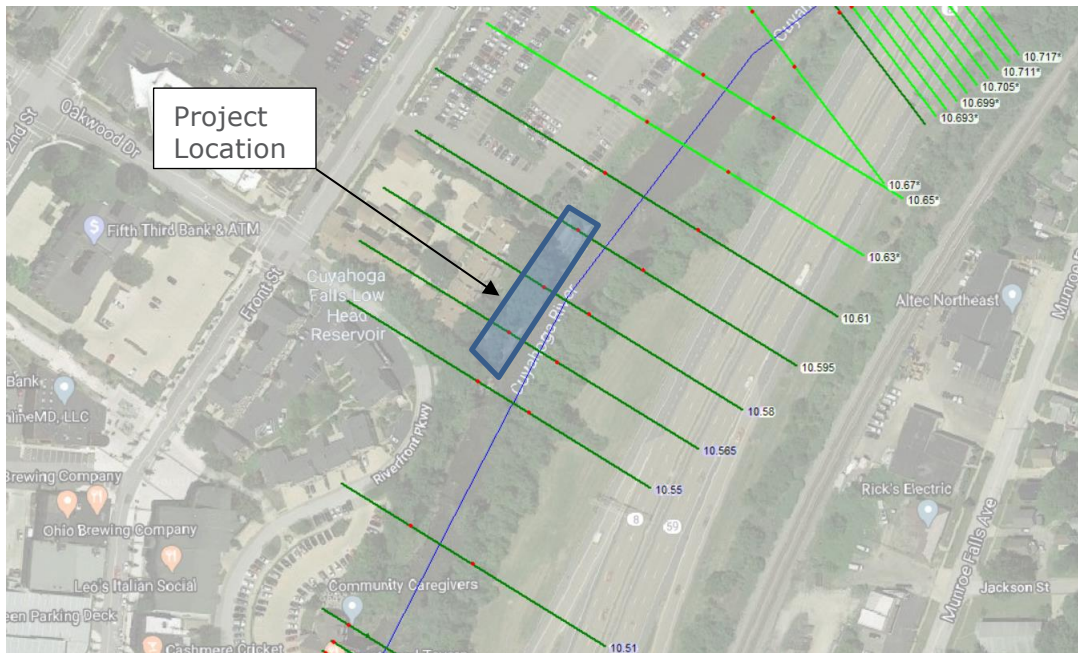


Figure 1: HEC-RAS Model Schematic at Project Site



The Manning's values in the model within the vicinity of the project were 0.03 for the channel and 0.037 for the overbanks. The peak flows that were modeled are displayed in the table below. The flows are the same that were used in the model for the dam removal project mentioned previously. It is unknown exactly where the peak flows came from, however, they are significantly larger than flows listed in the current FEMA Flood Insurance Study and as such we believe a degree of conservatism is provided. All flows, including the 100-year are generally contained within the channel.

Table 1: Peak Flows

Recurrence Interval	Peak Flow (cfs)
10-yr	7,140
25-yr	8,380
50-yr	9,290
100-yr	10,200

Proposed Conditions:

For the proposed conditions analysis, the only modification was to the cross-sections mentioned previously to match the proposed grade as indicated in the plans for the project. All other assumptions remained the same.

Model Results:

Table 2 below displays the shear stress and velocity results for the cross-sections within the vicinity of the project. The velocity and shear stress values for all sections but 10.565 and 10.55 remain close to same between the existing and proposed conditions. For sections, 10.565 and 10.55, there is a significant jump in velocity and shear stress. The shear stress values are manageable with standard sized rock material, however, velocities over 18 ft/s are generally considered to be too large for standard rock sizes. The area of increased velocity and shear stress is near the downstream end of the project due to a shrinking of the channel by the proposed stabilization grading. Thus, the stabilization design has been adjusted to utilize large anchor stone at toe in a stacked manner to minimize fill into the channel.

Table 2: HEC-RAS Model Results

Cross Section	Existing Channel Velocity (ft/s)	Existing Channel Shear Stress (lb/sq ft)	Proposed Channel Velocity (ft/s)	Proposed Channel Shear Stress (lb/sq ft)
10.61	4.86	0.25	4.42	0.21
10.595	7.24	0.58	6.82	0.50
10.58	11.63	1.59	10.79	1.33
10.565	13.86	2.40	16.28	3.46
10.55	14.46	2.70	21.17	5.96
10.51	10.18	1.25	10.18	1.25

Bank Stabilization:

The proposed bank stabilization consists of a five-foot thick layer of rock slope protection anchored by a toe rock trench that is proposed to be 5 ft deep to prevent it from being undermined by streambank scour (i.e., vertical channel degradation) in the future. In the event of existing underlying bedrock at the proposed toe of slope, the depth of toe rock trench may be reduced to minimum of 2 ft trench key into the existing bedrock. The rock for the slope protection and toe rock trench is detailed on the project plans.

Several different methods were utilized to determine the appropriate material size for the slope protection and toe rock. The 100-year output from the HEC-RAS model was then input into the following equations to determine the D_{50} size for the bank stabilization rock material.

$$D_{50} = \frac{C_f C_s V_a^3}{1000 \sqrt{d} K_1^{1.5}} - \text{HEC-11}$$

$$D_{50} = 0.0122 V_a^{2.06} - \text{USBR Equation}$$

$$D_{50} = 0.01 V_a^{2.44} - \text{USGS Equation}$$

$$D_{30} = S_f C_a C_v C_t d \left(\left(\frac{\gamma_w}{\gamma_s - \gamma_w} \right)^{0.5} \left(\frac{V_{SS}}{\sqrt{K_1 g d}} \right) \right)^{2.5} - \text{USACE Equation}$$

The result of the analysis is shown in Table 3 below. The material size suggested for the 100-year average velocity falls just beyond a standard size range, just larger than ODOT Type A rock, while the 100-year max velocity is beyond ODOT Type A Rock. It should be noted that the rock size suggested by the USGS equation is significantly larger than any of the other methodologies and as such skews the average.

Table 3 – Bank Stabilization D_{50} Rock Sizing

Method	100-Year Based on Avg. Velocity (ft)	100-Year Based on Max. Velocity (ft)
HEC-11	0.89	4.71
USBR	1.90	6.46
USGS	3.96	16.84
USACE	1.71	6.62
Average	2.12	5.83*

*The USGS value was removed as an outlier

The output for the sizing of the rock bank protection can be found in Appendix B. As stated previously, the rock size selected for the bank protection was ODOT Type A rock, which has a D_{50} size of 24 in. Type A rock can resist velocities and shears of up to 14 – 18 ft/s and 10.1 lbs/ft², respectively (Fischenich). Along the toe of the bank stabilization larger rock 3 ft by 3 ft by 6 ft minimum is shown on the plans to resist the maximum velocities and shear stresses predicted by the model.

Rock Trench Key Design:

A rock trench key is proposed near the upstream end of the proposed restoration project limit. The key is composed of ODOT Type A, B, and C rock and the purpose is to limit flanking of the stabilized area should the upstream banks begin to erode and migrate into the stabilized area. If the rock trench key becomes exposed in the future, it will continue to protect the stabilized area for a limited amount of time. However, the exposure of the rock trench key indicates that there is instability at the upstream end of the project area that should be addressed.

Conclusion:

The bank stabilization measures were sized based on the available peak flow data for the Cuyahoga River. Flows in excess of those evaluated or the presence of large debris in flood flows could influence the long-term stability of the project and as such maintenance periodic inspections after large flood events are critical. In addition, proper construction of the stabilization measures is as important as the design, and it is critical that inspection is completed during construction. We recommend that a qualified restoration practitioner be retained by the City for observation and contractor direction during the construction activity.

References:

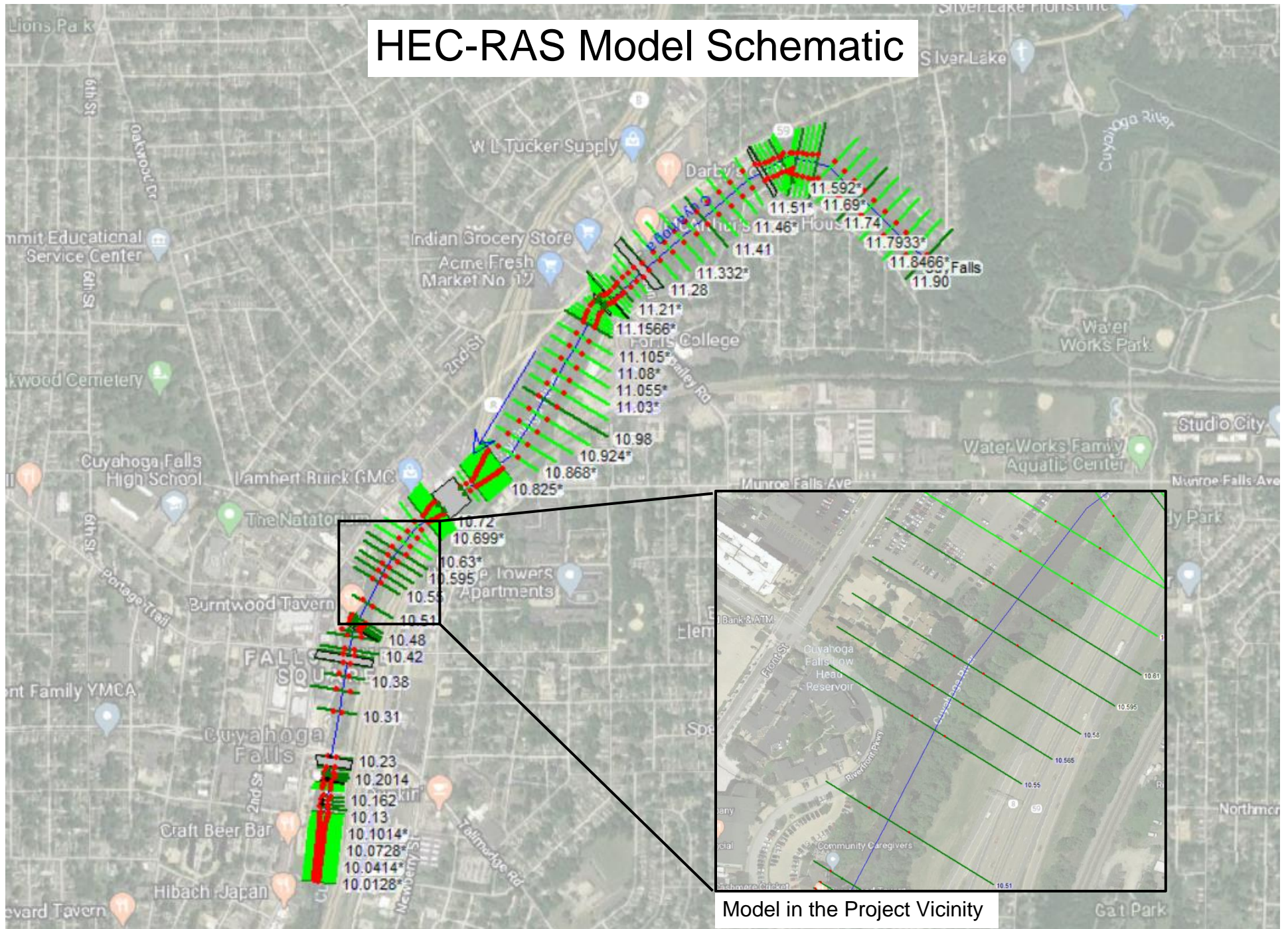
- Biedenharn, D.S., C.M. Elliot, and C.C. Watson (1997). WES Stream Investigation and Streambank Stabilization Handbook. U.S. Army Engineer, Waterways Experiment Station (WES), Vicksburg, MS.
- Federal Highway Administration (1989). "Design of Riprap Revetments," Report FHWA-IP-89-016, Hydraulic Engineering Circular No. 11, U. S. Department of Transportation, Washington, D.C. (Brown, S.A., E.S. Clyde).
- Fischenich, C. (2001). "Stability Thresholds for Stream Restoration Materials," EMRRP Technical Notes Collection (ERDC TNEMRRP-SR-29), U.S. Army Engineer Research and Development Center, Vicksburg, MS.

APPENDIX A

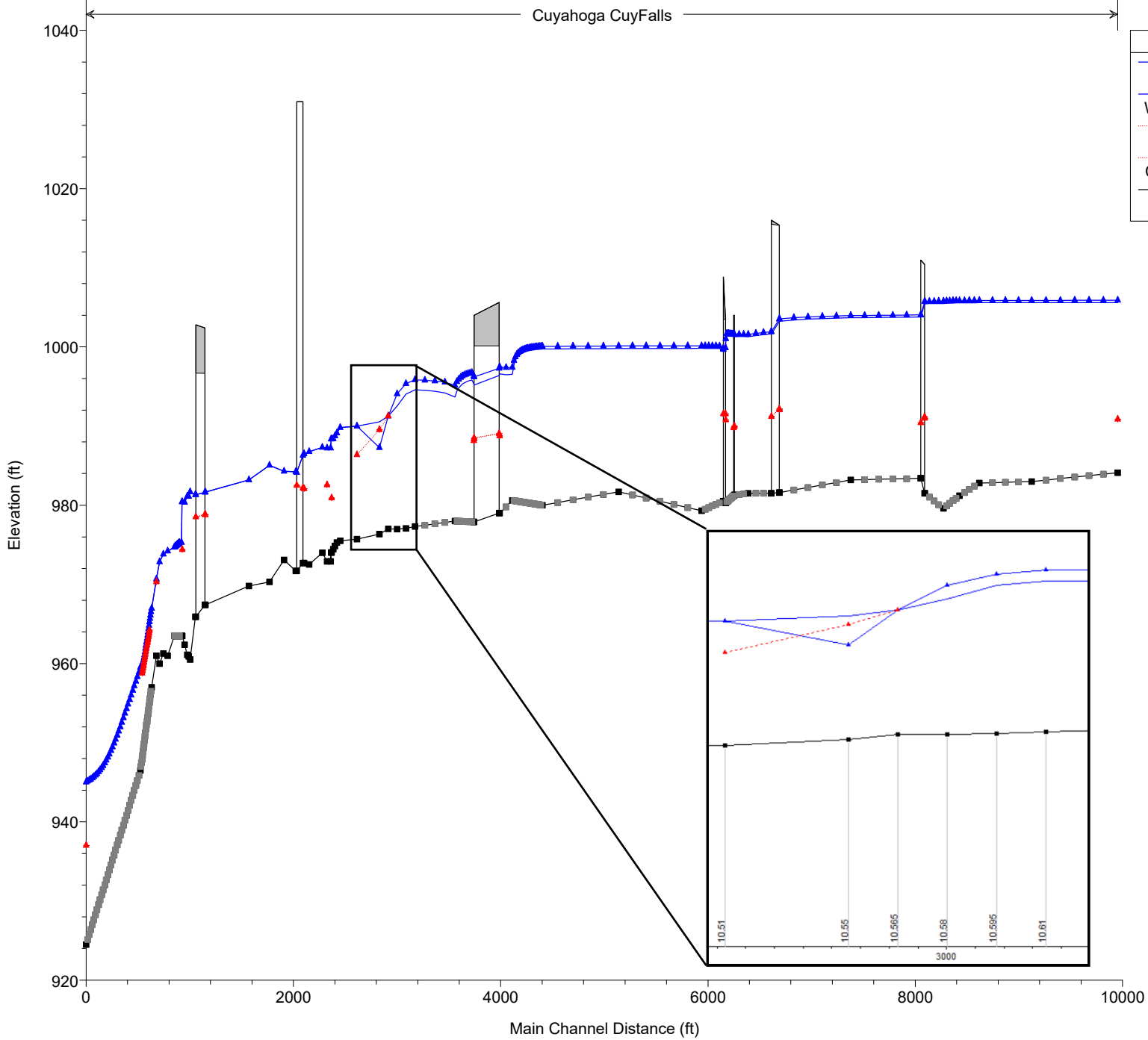
HEC-RAS OUTPUT



HEC-RAS Model Schematic

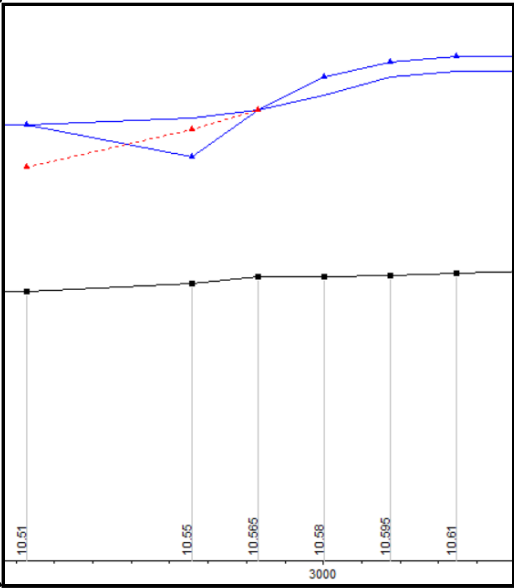


Cuyahoga CuyFalls



Legend

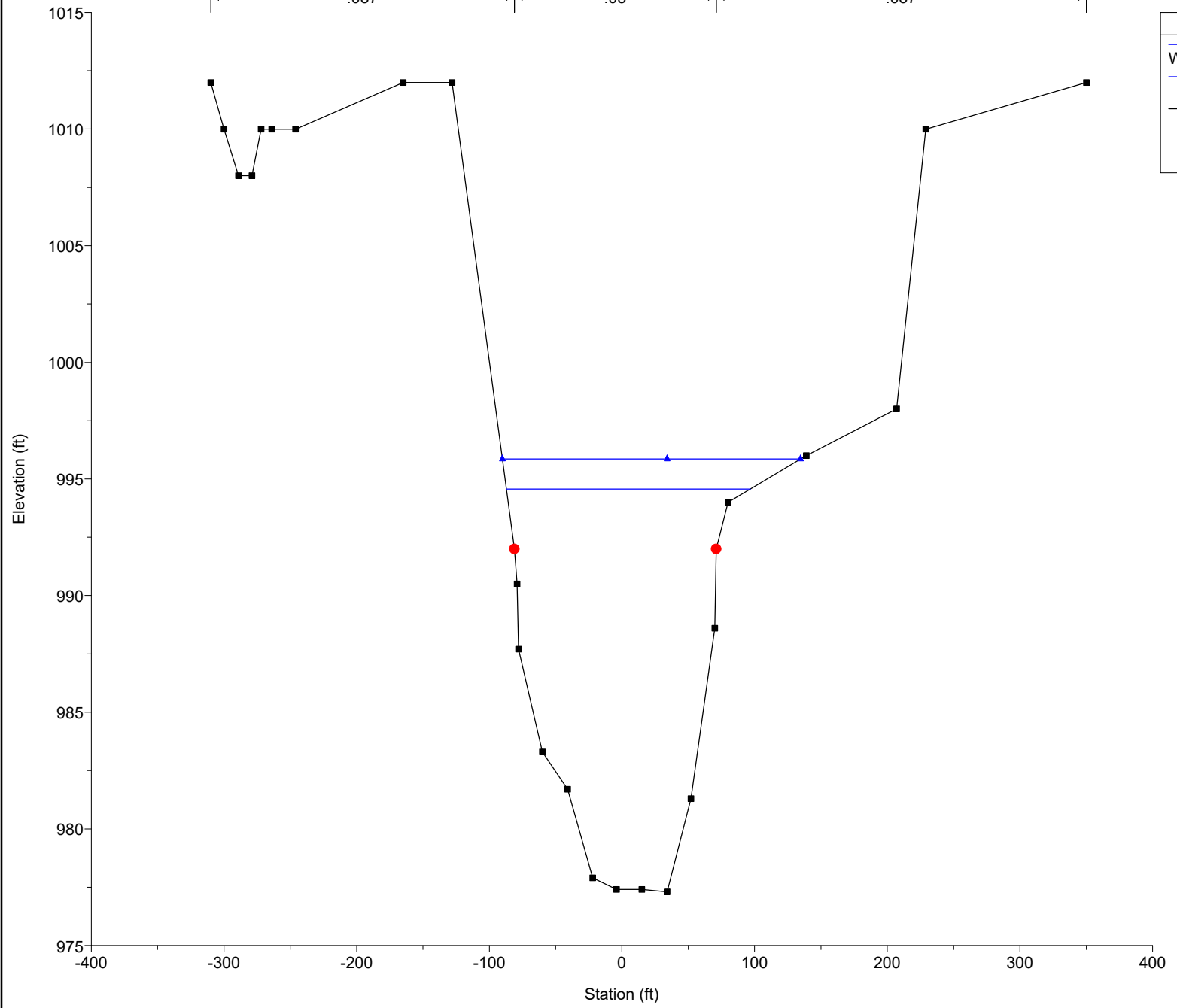
- WS 100-Year - Existing (Blue line with triangles)
- WS 100-Year - PROP_BANK_STAB (Red line with triangles)
- Crit 100-Year - Existing (Red dotted line with triangles)
- Crit 100-Year - PROP_BANK_STAB (Red dotted line with triangles)
- Ground (Grey line with squares)



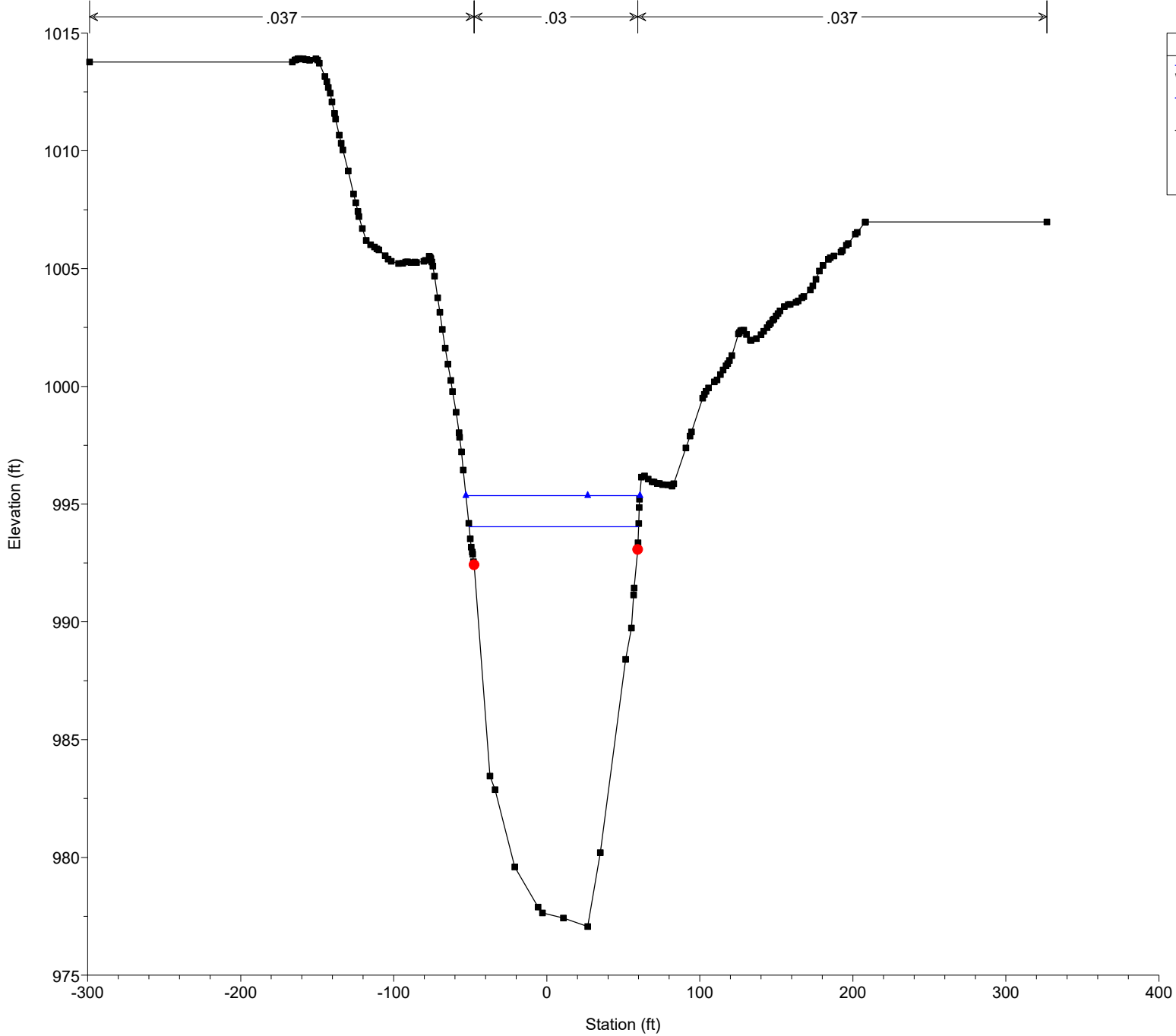
GPD Cuy River Final Model Plan: 1) Existing 3/17/2020 2) PROP_BANK_STAB 3/17/2020
 RS = 10.61

← .037 * .03 * .037 →

Legend	
WS 100-Year - PROP_BANK_STAB	▲
WS 100-Year - Existing	■
Ground	●
Bank Sta	●



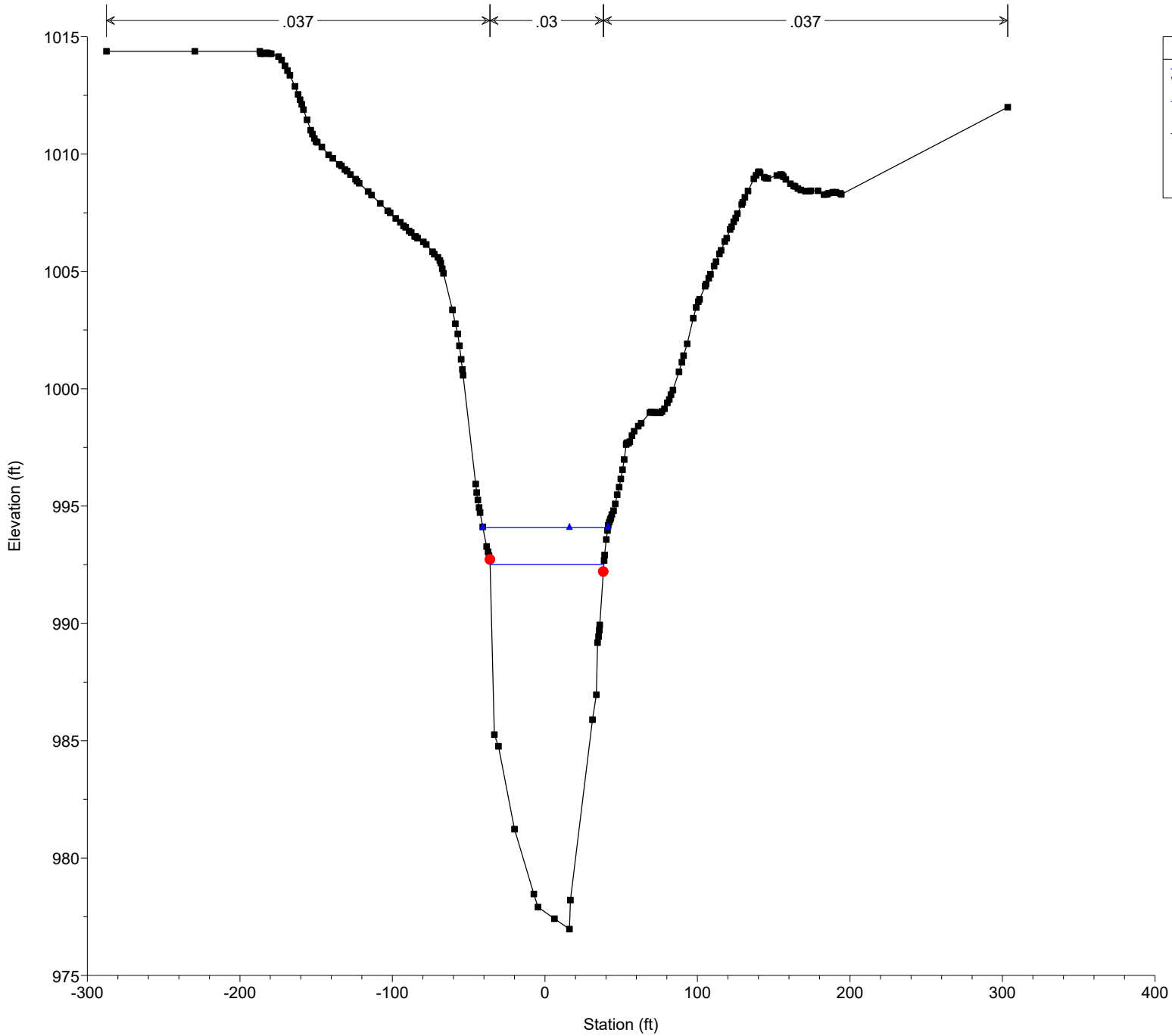
GPD Cuy River Final Model Plan: 1) Existing 3/17/2020 2) PROP_BANK_STAB 3/17/2020
RS = 10.595



Legend

- WS 100-Year - PROP_BANK_STAB (Blue line with triangle)
- WS 100-Year - Existing (Black line with square)
- Ground (Black line with square)
- Bank Sta (Red circle)

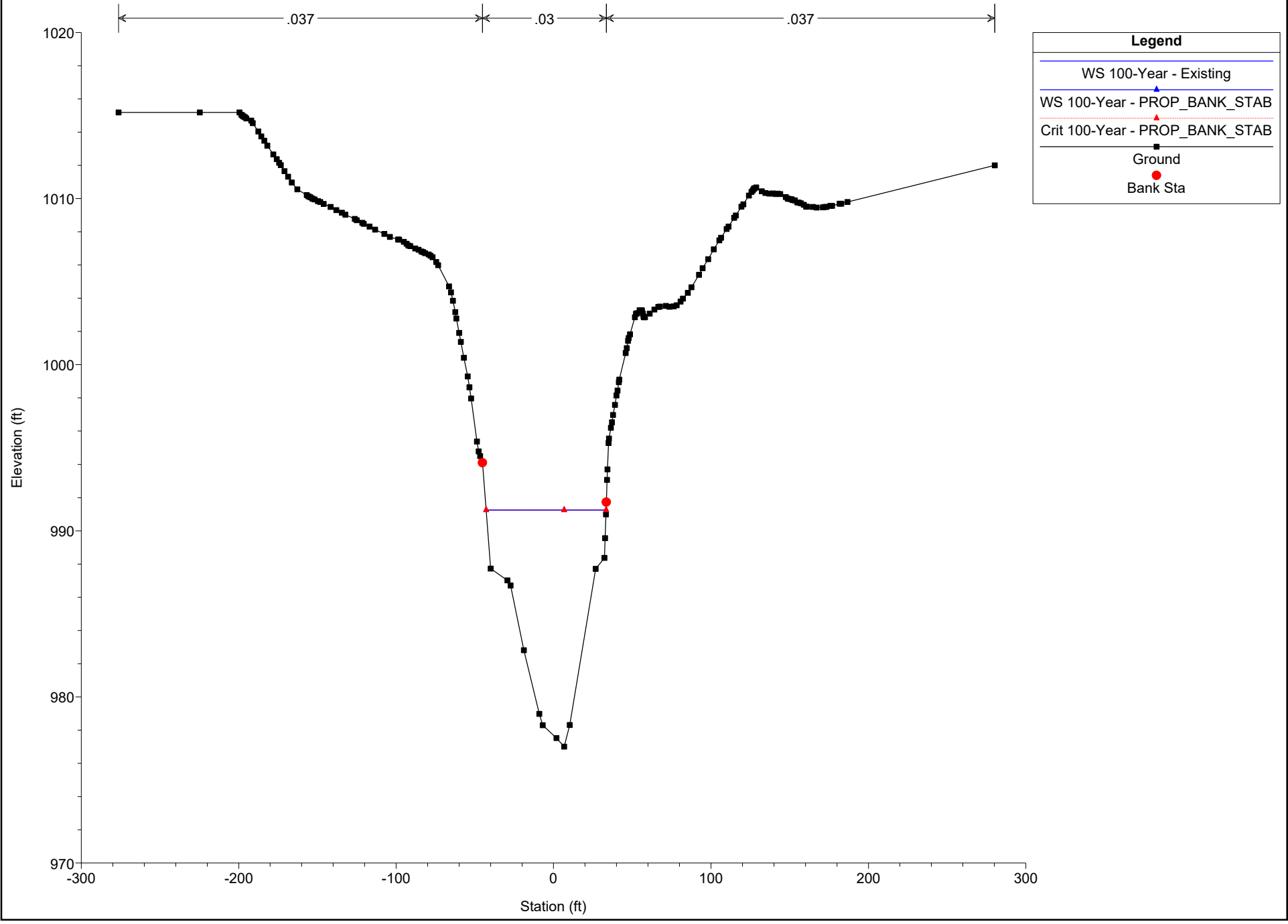
GPD Cuy River Final Model Plan: 1) Existing 3/17/2020 2) PROP_BANK_STAB 3/17/2020
RS = 10.58



Legend

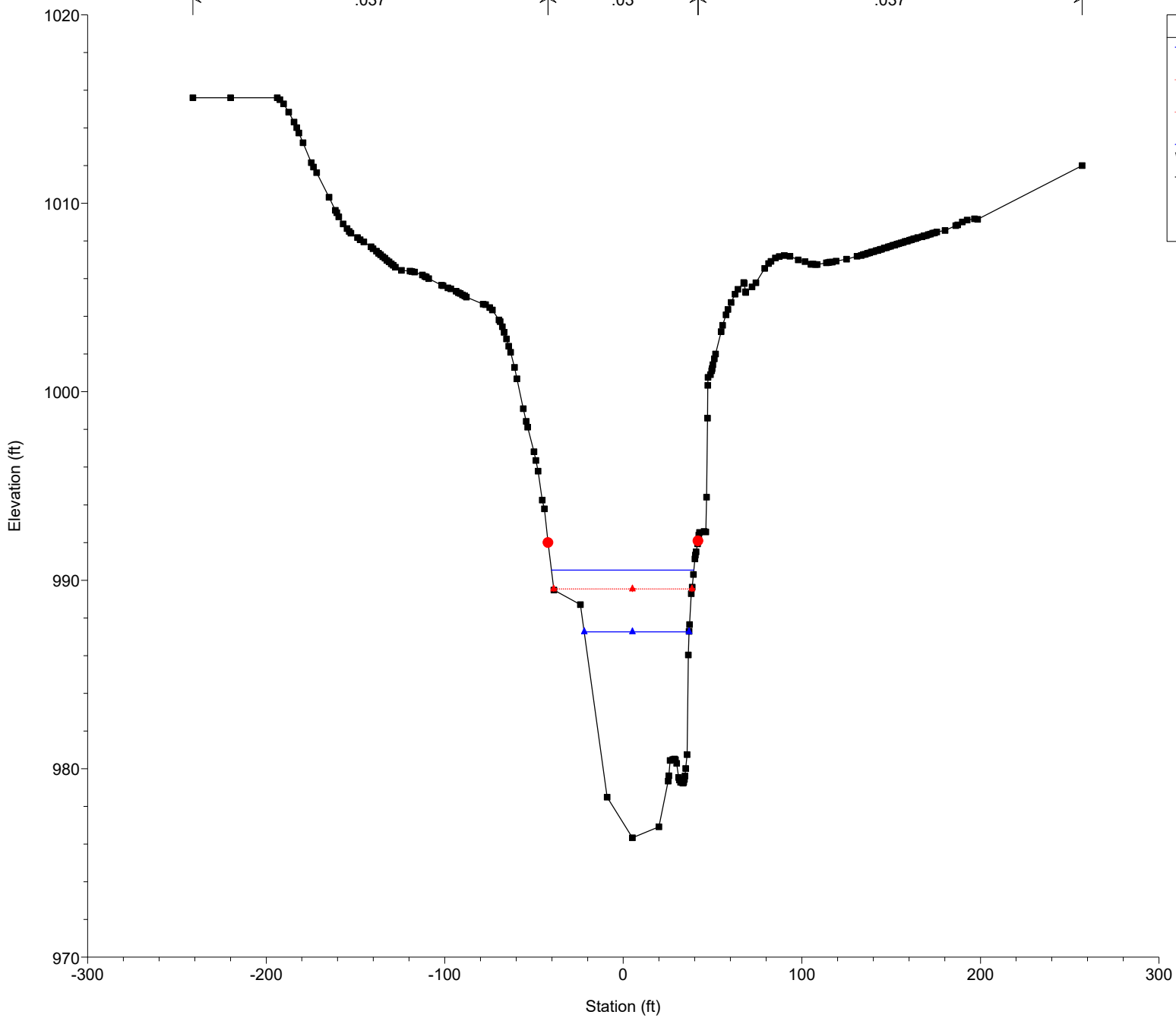
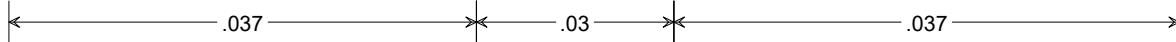
- WS 100-Year - PROP_BANK_STAB (Blue line with triangle)
- WS 100-Year - Existing (Black line)
- Ground (Black square)
- Bank Sta (Red circle)

GPD Cuy River Final Model Plan: 1) Existing 3/17/2020 2) PROP_BANK_STAB 3/17/2020
RS = 10.565



GPD Cuy River Final Model Plan: 1) Existing 3/17/2020 2) PROP_BANK_STAB 3/17/2020

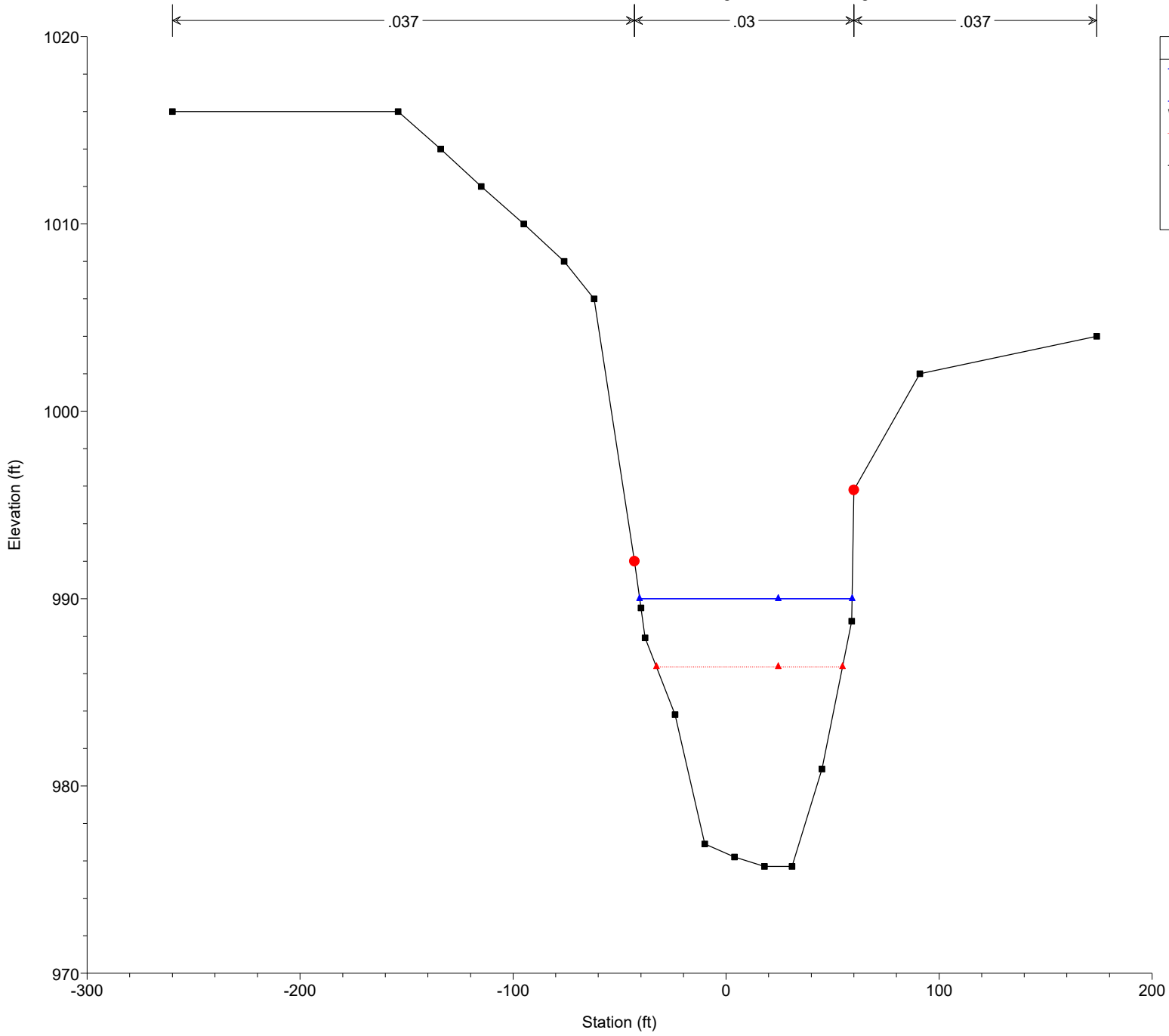
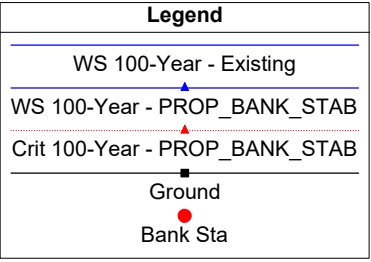
RS = 10.55



Legend

- WS 100-Year - Existing
- Crit 100-Year - Existing
- Crit 100-Year - PROP_BANK_STAB
- WS 100-Year - PROP_BANK_STAB
- Ground
- Bank Sta

GPD Cuy River Final Model Plan: 1) Existing 3/17/2020 2) PROP_BANK_STAB 3/17/2020
 RS = 10.51 At "Danger Dam Ahead" Sign



HEC-RAS River: Cuyahoga Reach: CuyFalls Profile: 100-Year

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CuyFalls	11.90	100-Year	Existing	10200.00	984.10	1005.61	990.87	1005.70	0.000061	2.78	5051.76	484.49	0.11
CuyFalls	11.90	100-Year	PROP_BANK_STAB	10200.00	984.10	1005.89	990.87	1005.98	0.000057	2.71	5188.16	485.00	0.11
CuyFalls	11.8733*	100-Year	Existing	10200.00	983.92	1005.60		1005.69	0.000055	2.65	5229.08	489.77	0.10
CuyFalls	11.8733*	100-Year	PROP_BANK_STAB	10200.00	983.92	1005.89		1005.97	0.000051	2.58	5367.05	490.29	0.10
CuyFalls	11.8466*	100-Year	Existing	10200.00	983.73	1005.60		1005.68	0.000049	2.52	5406.81	488.45	0.10
CuyFalls	11.8466*	100-Year	PROP_BANK_STAB	10200.00	983.73	1005.88		1005.96	0.000046	2.47	5544.97	493.62	0.10
CuyFalls	11.82*	100-Year	Existing	10200.00	983.55	1005.60		1005.67	0.000044	2.40	5596.89	479.12	0.09
CuyFalls	11.82*	100-Year	PROP_BANK_STAB	10200.00	983.55	1005.88		1005.95	0.000042	2.35	5732.38	483.92	0.09
CuyFalls	11.7933*	100-Year	Existing	10200.00	983.37	1005.60		1005.67	0.000040	2.28	5798.03	474.60	0.09
CuyFalls	11.7933*	100-Year	PROP_BANK_STAB	10200.00	983.37	1005.88		1005.94	0.000037	2.23	5932.07	477.98	0.09
CuyFalls	11.7666*	100-Year	Existing	10200.00	983.18	1005.60		1005.66	0.000036	2.18	6003.67	472.97	0.09
CuyFalls	11.7666*	100-Year	PROP_BANK_STAB	10200.00	983.18	1005.88		1005.94	0.000034	2.13	6137.24	476.05	0.08
CuyFalls	11.74	100-Year	Existing	10200.00	983.00	1005.60		1005.65	0.000033	2.08	6213.02	473.37	0.08
CuyFalls	11.74	100-Year	PROP_BANK_STAB	10200.00	983.00	1005.88		1005.93	0.000031	2.04	6346.68	475.90	0.08
CuyFalls	11.715*	100-Year	Existing	10200.00	982.95	1005.59		1005.65	0.000032	2.06	6237.55	493.80	0.08
CuyFalls	11.715*	100-Year	PROP_BANK_STAB	10200.00	982.95	1005.87		1005.93	0.000030	2.02	6377.21	497.22	0.08
CuyFalls	11.69*	100-Year	Existing	10200.00	982.90	1005.59		1005.64	0.000032	2.04	6316.19	527.91	0.08
CuyFalls	11.69*	100-Year	PROP_BANK_STAB	10200.00	982.90	1005.87		1005.92	0.000030	1.99	6465.79	532.47	0.08
CuyFalls	11.665*	100-Year	Existing	10200.00	982.85	1005.59		1005.64	0.000030	1.99	6458.49	558.81	0.08
CuyFalls	11.665*	100-Year	PROP_BANK_STAB	10200.00	982.85	1005.87		1005.92	0.000029	1.95	6617.14	565.43	0.08
CuyFalls	11.64	100-Year	Existing	10200.00	982.80	1005.58		1005.63	0.000029	1.92	6642.27	598.14	0.08
CuyFalls	11.64	100-Year	PROP_BANK_STAB	10200.00	982.80	1005.87		1005.91	0.000027	1.88	6812.33	606.19	0.07
CuyFalls	11.6325*	100-Year	Existing	10200.00	982.40	1005.58		1005.63	0.000031	2.00	6341.27	573.40	0.08
CuyFalls	11.6325*	100-Year	PROP_BANK_STAB	10200.00	982.40	1005.86		1005.91	0.000029	1.96	6504.70	582.68	0.08
CuyFalls	11.625*	100-Year	Existing	10200.00	982.00	1005.57		1005.63	0.000034	2.07	6079.65	538.26	0.08
CuyFalls	11.625*	100-Year	PROP_BANK_STAB	10200.00	982.00	1005.86		1005.91	0.000032	2.03	6233.57	549.27	0.08
CuyFalls	11.6175*	100-Year	Existing	10200.00	981.60	1005.57		1005.63	0.000036	2.12	5864.16	485.65	0.08
CuyFalls	11.6175*	100-Year	PROP_BANK_STAB	10200.00	981.60	1005.85		1005.91	0.000034	2.08	6003.51	499.92	0.08
CuyFalls	11.61	100-Year	Existing	10200.00	981.20	1005.56		1005.63	0.000038	2.16	5702.87	442.74	0.09
CuyFalls	11.61	100-Year	PROP_BANK_STAB	10200.00	981.20	1005.85		1005.91	0.000036	2.12	5828.67	445.50	0.08
CuyFalls	11.604*	100-Year	Existing	10200.00	980.88	1005.55		1005.62	0.000044	2.33	5317.82	431.33	0.09
CuyFalls	11.604*	100-Year	PROP_BANK_STAB	10200.00	980.88	1005.83		1005.91	0.000041	2.29	5440.92	435.91	0.09

HEC-RAS River: Cuyahoga Reach: CuyFalls Profile: 100-Year (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CuyFalls	11.598*	100-Year	Existing	10200.00	980.56	1005.54		1005.62	0.000050	2.49	4972.24	408.50	0.10
CuyFalls	11.598*	100-Year	PROP_BANK_STAB	10200.00	980.56	1005.82		1005.90	0.000047	2.44	5089.06	412.79	0.10
CuyFalls	11.592*	100-Year	Existing	10200.00	980.24	1005.52		1005.62	0.000057	2.66	4651.46	381.29	0.11
CuyFalls	11.592*	100-Year	PROP_BANK_STAB	10200.00	980.24	1005.81		1005.90	0.000054	2.61	4760.89	387.03	0.10
CuyFalls	11.586*	100-Year	Existing	10200.00	979.92	1005.51		1005.62	0.000065	2.84	4355.37	355.45	0.11
CuyFalls	11.586*	100-Year	PROP_BANK_STAB	10200.00	979.92	1005.79		1005.90	0.000062	2.79	4457.74	361.34	0.11
CuyFalls	11.58	100-Year	Existing	10200.00	979.60	1005.49		1005.61	0.000075	3.04	4075.79	330.99	0.12
CuyFalls	11.58	100-Year	PROP_BANK_STAB	10200.00	979.60	1005.77		1005.89	0.000071	2.98	4171.33	336.00	0.12
CuyFalls	11.5707*	100-Year	Existing	10200.00	980.07	1005.48		1005.61	0.000076	3.06	3950.66	304.48	0.12
CuyFalls	11.5707*	100-Year	PROP_BANK_STAB	10200.00	980.07	1005.76		1005.89	0.000072	3.01	4038.54	309.04	0.12
CuyFalls	11.5615*	100-Year	Existing	10200.00	980.55	1005.47		1005.60	0.000077	3.09	3830.95	282.40	0.12
CuyFalls	11.5615*	100-Year	PROP_BANK_STAB	10200.00	980.55	1005.76		1005.89	0.000073	3.04	3912.51	287.12	0.12
CuyFalls	11.5522*	100-Year	Existing	10200.00	981.03	1005.46		1005.60	0.000078	3.13	3709.03	262.69	0.12
CuyFalls	11.5522*	100-Year	PROP_BANK_STAB	10200.00	981.03	1005.75		1005.88	0.000074	3.07	3784.90	266.63	0.12
CuyFalls	11.543	100-Year	Existing	10200.00	981.50	1005.45	990.98	1005.60	0.000081	3.16	3588.62	242.52	0.13
CuyFalls	11.543	100-Year	PROP_BANK_STAB	10200.00	981.50	1005.74	990.98	1005.88	0.000076	3.11	3658.48	244.08	0.12
CuyFalls	11.539			Bridge									
CuyFalls	11.535	100-Year	Existing	10200.00	983.40	1003.77		1003.90	0.000075	2.91	3705.11	235.43	0.12
CuyFalls	11.535	100-Year	PROP_BANK_STAB	10200.00	983.40	1004.04		1004.16	0.000071	2.87	3768.27	236.14	0.12
CuyFalls	11.51*	100-Year	Existing	10200.00	983.36	1003.76		1003.89	0.000078	2.97	3645.11	234.78	0.12
CuyFalls	11.51*	100-Year	PROP_BANK_STAB	10200.00	983.36	1004.03		1004.15	0.000074	2.92	3708.28	235.63	0.12
CuyFalls	11.485*	100-Year	Existing	10200.00	983.32	1003.74		1003.88	0.000080	3.04	3581.75	234.04	0.13
CuyFalls	11.485*	100-Year	PROP_BANK_STAB	10200.00	983.32	1004.01		1004.14	0.000076	2.99	3644.96	235.12	0.12
CuyFalls	11.46*	100-Year	Existing	10200.00	983.28	1003.72		1003.87	0.000084	3.11	3514.45	233.20	0.13
CuyFalls	11.46*	100-Year	PROP_BANK_STAB	10200.00	983.28	1003.99		1004.13	0.000079	3.06	3577.66	234.60	0.12
CuyFalls	11.435*	100-Year	Existing	10200.00	983.24	1003.70		1003.85	0.000087	3.18	3443.33	232.19	0.13
CuyFalls	11.435*	100-Year	PROP_BANK_STAB	10200.00	983.24	1003.97		1004.12	0.000083	3.13	3506.52	234.02	0.13
CuyFalls	11.41	100-Year	Existing	10200.00	983.20	1003.68		1003.84	0.000091	3.27	3368.23	230.86	0.13
CuyFalls	11.41	100-Year	PROP_BANK_STAB	10200.00	983.20	1003.95		1004.11	0.000087	3.21	3431.37	233.32	0.13
CuyFalls	11.384*	100-Year	Existing	10200.00	982.88	1003.64		1003.82	0.000108	3.55	3105.48	212.64	0.15
CuyFalls	11.384*	100-Year	PROP_BANK_STAB	10200.00	982.88	1003.91		1004.09	0.000103	3.50	3164.00	214.69	0.14

HEC-RAS River: Cuyahoga Reach: CuyFalls Profile: 100-Year (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CuyFalls	11.358*	100-Year	Existing	10200.00	982.56	1003.58		1003.80	0.000131	3.90	2843.00	196.20	0.16
CuyFalls	11.358*	100-Year	PROP_BANK_STAB	10200.00	982.56	1003.85		1004.07	0.000124	3.83	2897.45	198.01	0.16
CuyFalls	11.332*	100-Year	Existing	10200.00	982.24	1003.50		1003.78	0.000162	4.32	2578.96	180.53	0.18
CuyFalls	11.332*	100-Year	PROP_BANK_STAB	10200.00	982.24	1003.78		1004.05	0.000153	4.25	2629.65	182.18	0.17
CuyFalls	11.306*	100-Year	Existing	10200.00	981.92	1003.40		1003.75	0.000207	4.85	2312.04	165.32	0.20
CuyFalls	11.306*	100-Year	PROP_BANK_STAB	10200.00	981.92	1003.68		1004.02	0.000195	4.77	2359.22	166.86	0.19
CuyFalls	11.28	100-Year	Existing	10200.00	981.60	1003.25	992.05	1003.70	0.000276	5.55	2040.48	150.29	0.23
CuyFalls	11.28	100-Year	PROP_BANK_STAB	10200.00	981.60	1003.54	992.05	1003.98	0.000260	5.45	2084.43	151.75	0.22
CuyFalls	11.27			Bridge									
CuyFalls	11.26	100-Year	Existing	10200.00	981.50	1001.64		1002.03	0.000252	5.02	2137.99	151.84	0.22
CuyFalls	11.26	100-Year	PROP_BANK_STAB	10200.00	981.50	1001.92		1002.29	0.000238	4.93	2180.36	152.79	0.21
CuyFalls	11.2466*	100-Year	Existing	10200.00	981.50	1001.54		1001.99	0.000310	5.43	1962.99	144.66	0.24
CuyFalls	11.2466*	100-Year	PROP_BANK_STAB	10200.00	981.50	1001.82		1002.25	0.000292	5.33	2004.16	145.73	0.23
CuyFalls	11.2333*	100-Year	Existing	10200.00	981.50	1001.42		1001.95	0.000386	5.88	1798.66	137.77	0.26
CuyFalls	11.2333*	100-Year	PROP_BANK_STAB	10200.00	981.50	1001.71		1002.22	0.000362	5.76	1838.74	139.07	0.26
CuyFalls	11.22	100-Year	Existing	10200.00	981.50	1001.28		1001.91	0.000489	6.38	1644.72	132.69	0.29
CuyFalls	11.22	100-Year	PROP_BANK_STAB	10200.00	981.50	1001.58		1002.18	0.000457	6.25	1684.49	134.74	0.28
CuyFalls	11.21*	100-Year	Existing	10200.00	981.43	1001.30		1001.88	0.000419	6.14	1699.16	126.96	0.27
CuyFalls	11.21*	100-Year	PROP_BANK_STAB	10200.00	981.43	1001.59		1002.15	0.000394	6.02	1737.17	130.06	0.26
CuyFalls	11.2*	100-Year	Existing	10200.00	981.37	1001.30		1001.85	0.000384	5.99	1731.91	112.76	0.25
CuyFalls	11.2*	100-Year	PROP_BANK_STAB	10200.00	981.37	1001.59		1002.13	0.000363	5.88	1765.39	114.69	0.25
CuyFalls	11.19	100-Year	Existing	10200.00	981.30	1001.29	989.97	1001.83	0.000373	5.93	1747.36	107.51	0.24
CuyFalls	11.19	100-Year	PROP_BANK_STAB	10200.00	981.30	1001.58	989.97	1002.11	0.000353	5.83	1779.17	108.54	0.24
CuyFalls	11.1894			Bridge									
CuyFalls	11.1888*	100-Year	Existing	10200.00	981.19	1001.30		1001.82	0.000396	5.79	1792.05	109.64	0.24
CuyFalls	11.1888*	100-Year	PROP_BANK_STAB	10200.00	981.19	1001.60		1002.10	0.000375	5.69	1824.42	110.61	0.23
CuyFalls	11.1877*	100-Year	Existing	10200.00	981.08	1001.31		1001.81	0.000396	5.66	1834.71	111.71	0.23
CuyFalls	11.1877*	100-Year	PROP_BANK_STAB	10200.00	981.08	1001.61		1002.09	0.000376	5.57	1867.68	112.97	0.23
CuyFalls	11.1866*	100-Year	Existing	10200.00	980.97	1001.32		1001.80	0.000423	5.55	1876.82	116.53	0.23
CuyFalls	11.1866*	100-Year	PROP_BANK_STAB	10200.00	980.97	1001.62		1002.08	0.000401	5.46	1911.29	118.49	0.22

HEC-RAS River: Cuyahoga Reach: CuyFalls Profile: 100-Year (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CuyFalls	11.1855*	100-Year	Existing	10200.00	980.86	1001.33		1001.79	0.000449	5.43	1950.62	159.09	0.22
CuyFalls	11.1855*	100-Year	PROP_BANK_STAB	10200.00	980.86	1001.63		1002.07	0.000424	5.34	1997.61	159.78	0.21
CuyFalls	11.1844*	100-Year	Existing	10200.00	980.74	1001.35		1001.78	0.000445	5.29	2037.50	158.94	0.21
CuyFalls	11.1844*	100-Year	PROP_BANK_STAB	10200.00	980.74	1001.64		1002.06	0.000420	5.19	2084.72	162.03	0.21
CuyFalls	11.1833*	100-Year	Existing	10200.00	980.63	1001.36		1001.77	0.000465	5.15	2114.47	162.28	0.21
CuyFalls	11.1833*	100-Year	PROP_BANK_STAB	10200.00	980.63	1001.66		1002.04	0.000439	5.05	2162.58	164.87	0.20
CuyFalls	11.1822*	100-Year	Existing	10200.00	980.52	1001.38		1001.75	0.000485	5.01	2177.47	160.07	0.20
CuyFalls	11.1822*	100-Year	PROP_BANK_STAB	10200.00	980.52	1001.67		1002.03	0.000458	4.92	2224.71	161.54	0.20
CuyFalls	11.1811*	100-Year	Existing	10200.00	980.41	1001.38		1001.74	0.000488	4.91	2219.23	154.51	0.20
CuyFalls	11.1811*	100-Year	PROP_BANK_STAB	10200.00	980.41	1001.68		1002.02	0.000461	4.82	2264.68	155.28	0.19
CuyFalls	11.18	100-Year	Existing	10200.00	980.30	1000.74	990.77	1001.68	0.001131	7.78	1311.15	118.92	0.32
CuyFalls	11.18	100-Year	PROP_BANK_STAB	10200.00	980.30	1001.05	990.77	1001.96	0.001070	7.65	1333.17	119.44	0.31
CuyFalls	11.175		Bridge										
CuyFalls	11.17	100-Year	Existing	10200.00	980.50	999.46		1000.58	0.000882	8.46	1206.21	96.70	0.36
CuyFalls	11.17	100-Year	PROP_BANK_STAB	10200.00	980.50	999.80		1000.87	0.000827	8.30	1229.53	97.21	0.35
CuyFalls	11.1633*	100-Year	Existing	10200.00	980.30	999.79		1000.22	0.000302	5.25	1965.73	123.63	0.22
CuyFalls	11.1633*	100-Year	PROP_BANK_STAB	10200.00	980.30	1000.12		1000.53	0.000283	5.15	2006.21	124.42	0.22
CuyFalls	11.1566*	100-Year	Existing	10200.00	980.10	999.80		1000.20	0.000280	5.09	2029.09	128.19	0.21
CuyFalls	11.1566*	100-Year	PROP_BANK_STAB	10200.00	980.10	1000.12		1000.51	0.000263	4.99	2071.08	129.19	0.21
CuyFalls	11.15*	100-Year	Existing	10200.00	979.90	999.80		1000.18	0.000262	4.95	2088.48	132.53	0.21
CuyFalls	11.15*	100-Year	PROP_BANK_STAB	10200.00	979.90	1000.13		1000.49	0.000246	4.85	2131.90	133.74	0.20
CuyFalls	11.1433*	100-Year	Existing	10200.00	979.70	999.81		1000.17	0.000248	4.82	2145.42	136.91	0.20
CuyFalls	11.1433*	100-Year	PROP_BANK_STAB	10200.00	979.70	1000.13		1000.48	0.000233	4.73	2190.32	138.36	0.20
CuyFalls	11.1366*	100-Year	Existing	10200.00	979.50	999.81		1000.15	0.000237	4.70	2201.75	141.96	0.20
CuyFalls	11.1366*	100-Year	PROP_BANK_STAB	10200.00	979.50	1000.14		1000.47	0.000223	4.61	2248.37	143.71	0.19
CuyFalls	11.13	100-Year	Existing	10200.00	979.30	999.81		1000.14	0.000229	4.59	2261.11	148.96	0.19
CuyFalls	11.13	100-Year	PROP_BANK_STAB	10200.00	979.30	1000.14		1000.46	0.000215	4.50	2310.09	151.16	0.19
CuyFalls	11.105*	100-Year	Existing	10200.00	979.70	999.81		1000.10	0.000202	4.33	2410.72	164.98	0.18
CuyFalls	11.105*	100-Year	PROP_BANK_STAB	10200.00	979.70	1000.14		1000.42	0.000189	4.24	2465.13	167.38	0.18
CuyFalls	11.08*	100-Year	Existing	10200.00	980.10	999.81		1000.07	0.000180	4.10	2559.17	180.74	0.18
CuyFalls	11.08*	100-Year	PROP_BANK_STAB	10200.00	980.10	1000.14		1000.38	0.000169	4.01	2618.92	183.09	0.17

HEC-RAS River: Cuyahoga Reach: CuyFalls Profile: 100-Year (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CuyFalls	11.055*	100-Year	Existing	10200.00	980.50	999.80		1000.04	0.000163	3.89	2706.43	196.98	0.17
CuyFalls	11.055*	100-Year	PROP_BANK_STAB	10200.00	980.50	1000.13		1000.36	0.000152	3.81	2771.77	199.53	0.16
CuyFalls	11.03*	100-Year	Existing	10200.00	980.90	999.80		1000.01	0.000149	3.71	2854.17	213.83	0.16
CuyFalls	11.03*	100-Year	PROP_BANK_STAB	10200.00	980.90	1000.13		1000.33	0.000139	3.63	2925.29	216.50	0.16
CuyFalls	11.005*	100-Year	Existing	10200.00	981.30	999.79		999.98	0.000137	3.55	3003.30	232.61	0.16
CuyFalls	11.005*	100-Year	PROP_BANK_STAB	10200.00	981.30	1000.12		1000.31	0.000128	3.47	3080.97	236.12	0.15
CuyFalls	10.98	100-Year	Existing	10200.00	981.70	999.78		999.96	0.000128	3.40	3160.69	256.30	0.15
CuyFalls	10.98	100-Year	PROP_BANK_STAB	10200.00	981.70	1000.12		1000.28	0.000119	3.32	3246.55	260.23	0.15
CuyFalls	10.952*	100-Year	Existing	10200.00	981.36	999.77		999.94	0.000117	3.28	3261.86	257.98	0.15
CuyFalls	10.952*	100-Year	PROP_BANK_STAB	10200.00	981.36	1000.11		1000.26	0.000109	3.21	3348.41	261.53	0.14
CuyFalls	10.924*	100-Year	Existing	10200.00	981.02	999.77		999.92	0.000108	3.18	3355.72	259.31	0.14
CuyFalls	10.924*	100-Year	PROP_BANK_STAB	10200.00	981.02	1000.10		1000.25	0.000101	3.10	3442.85	262.48	0.14
CuyFalls	10.896*	100-Year	Existing	10200.00	980.68	999.76		999.90	0.000101	3.08	3441.72	260.12	0.14
CuyFalls	10.896*	100-Year	PROP_BANK_STAB	10200.00	980.68	1000.09		1000.23	0.000094	3.01	3529.25	263.00	0.13
CuyFalls	10.868*	100-Year	Existing	10200.00	980.34	999.75		999.88	0.000096	3.00	3518.68	260.51	0.13
CuyFalls	10.868*	100-Year	PROP_BANK_STAB	10200.00	980.34	1000.08		1000.21	0.000089	2.93	3606.50	263.02	0.13
CuyFalls	10.84	100-Year	Existing	10200.00	980.00	999.74		999.87	0.000091	2.93	3583.58	258.58	0.13
CuyFalls	10.84	100-Year	PROP_BANK_STAB	10200.00	980.00	1000.07		1000.20	0.000085	2.86	3670.84	260.52	0.13
CuyFalls	10.8375*	100-Year	Existing	10200.00	980.03	999.72		999.87	0.000100	3.05	3437.06	250.46	0.14
CuyFalls	10.8375*	100-Year	PROP_BANK_STAB	10200.00	980.03	1000.06		1000.20	0.000093	2.98	3521.80	252.54	0.13
CuyFalls	10.835*	100-Year	Existing	10200.00	980.06	999.71		999.86	0.000111	3.19	3292.12	242.05	0.14
CuyFalls	10.835*	100-Year	PROP_BANK_STAB	10200.00	980.06	1000.05		1000.19	0.000103	3.12	3374.22	244.27	0.14
CuyFalls	10.8325*	100-Year	Existing	10200.00	980.09	999.69		999.86	0.000122	3.34	3148.58	233.31	0.15
CuyFalls	10.8325*	100-Year	PROP_BANK_STAB	10200.00	980.09	1000.03		1000.19	0.000114	3.26	3227.98	235.69	0.15
CuyFalls	10.83*	100-Year	Existing	10200.00	980.12	999.67		999.86	0.000136	3.50	3007.28	224.84	0.16
CuyFalls	10.83*	100-Year	PROP_BANK_STAB	10200.00	980.12	1000.01		1000.19	0.000126	3.42	3083.97	226.75	0.15
CuyFalls	10.8275*	100-Year	Existing	10200.00	980.15	999.65		999.85	0.000151	3.67	2867.09	216.69	0.17
CuyFalls	10.8275*	100-Year	PROP_BANK_STAB	10200.00	980.15	999.99		1000.18	0.000140	3.58	2941.27	218.41	0.16
CuyFalls	10.825*	100-Year	Existing	10200.00	980.18	999.62		999.85	0.000169	3.86	2728.61	208.71	0.18
CuyFalls	10.825*	100-Year	PROP_BANK_STAB	10200.00	980.18	999.96		1000.18	0.000157	3.77	2800.37	210.26	0.17
CuyFalls	10.8225*	100-Year	Existing	10200.00	980.21	999.59		999.84	0.000190	4.07	2591.77	200.78	0.19
CuyFalls	10.8225*	100-Year	PROP_BANK_STAB	10200.00	980.21	999.93		1000.18	0.000176	3.97	2661.18	202.34	0.18

HEC-RAS River: Cuyahoga Reach: CuyFalls Profile: 100-Year (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CuyFalls	10.72	100-Year	Existing	10200.00	977.90	995.34	988.15	996.64	0.000861	9.16	1113.01	77.89	0.41
CuyFalls	10.72	100-Year	PROP_BANK_STAB	10200.00	977.90	996.33	988.15	997.48	0.000704	8.63	1182.34	77.90	0.37
CuyFalls	10.717*	100-Year	Existing	10200.00	977.91	995.82		996.14	0.000251	4.54	2246.41	142.15	0.20
CuyFalls	10.717*	100-Year	PROP_BANK_STAB	10200.00	977.91	996.76		997.04	0.000207	4.29	2379.31	142.16	0.18
CuyFalls	10.714*	100-Year	Existing	10200.00	977.92	995.76		996.13	0.000300	4.90	2081.43	135.03	0.22
CuyFalls	10.714*	100-Year	PROP_BANK_STAB	10200.00	977.92	996.70		997.03	0.000246	4.62	2208.84	135.05	0.20
CuyFalls	10.711*	100-Year	Existing	10200.00	977.93	995.68		996.12	0.000364	5.31	1921.24	127.92	0.24
CuyFalls	10.711*	100-Year	PROP_BANK_STAB	10200.00	977.93	996.63		997.02	0.000296	4.99	2043.36	127.95	0.22
CuyFalls	10.708*	100-Year	Existing	10200.00	977.94	995.58		996.10	0.000447	5.78	1764.98	120.82	0.27
CuyFalls	10.708*	100-Year	PROP_BANK_STAB	10200.00	977.94	996.55		997.01	0.000361	5.42	1882.04	120.84	0.24
CuyFalls	10.705*	100-Year	Existing	10200.00	977.95	995.46		996.08	0.000556	6.32	1612.89	113.71	0.30
CuyFalls	10.705*	100-Year	PROP_BANK_STAB	10200.00	977.95	996.45		996.99	0.000444	5.91	1725.24	113.74	0.27
CuyFalls	10.702*	100-Year	Existing	10200.00	977.96	995.30		996.06	0.000705	6.97	1463.82	106.61	0.33
CuyFalls	10.702*	100-Year	PROP_BANK_STAB	10200.00	977.96	996.32		996.97	0.000556	6.49	1571.98	106.65	0.30
CuyFalls	10.699*	100-Year	Existing	10200.00	977.97	995.10		996.03	0.000915	7.74	1317.68	99.53	0.37
CuyFalls	10.699*	100-Year	PROP_BANK_STAB	10200.00	977.97	996.15		996.95	0.000709	7.17	1422.80	100.91	0.33
CuyFalls	10.696*	100-Year	Existing	10200.00	977.98	994.81		995.98	0.001229	8.70	1172.29	93.29	0.43
CuyFalls	10.696*	100-Year	PROP_BANK_STAB	10200.00	977.98	995.92		996.91	0.000928	8.00	1278.93	98.35	0.38
CuyFalls	10.693*	100-Year	Existing	10200.00	977.99	994.38		995.92	0.001735	9.95	1027.42	89.62	0.51
CuyFalls	10.693*	100-Year	PROP_BANK_STAB	10200.00	977.99	995.61		996.87	0.001252	9.01	1140.27	94.70	0.44
CuyFalls	10.69	100-Year	Existing	10200.00	978.00	993.68		995.82	0.002721	11.75	872.01	84.30	0.62
CuyFalls	10.69	100-Year	PROP_BANK_STAB	10200.00	978.00	995.15		996.80	0.001776	10.32	1000.85	89.87	0.51
CuyFalls	10.67*	100-Year	Existing	10200.00	977.83	994.19		995.35	0.001236	8.67	1184.93	105.80	0.44
CuyFalls	10.67*	100-Year	PROP_BANK_STAB	10200.00	977.83	995.54		996.47	0.000864	7.77	1331.55	111.57	0.37
CuyFalls	10.65*	100-Year	Existing	10200.00	977.65	994.40		995.14	0.000704	6.89	1491.16	126.70	0.34
CuyFalls	10.65*	100-Year	PROP_BANK_STAB	10200.00	977.65	995.71		996.31	0.000507	6.24	1661.33	133.90	0.29
CuyFalls	10.63*	100-Year	Existing	10200.00	977.47	994.51		995.01	0.000451	5.71	1800.87	147.86	0.28
CuyFalls	10.63*	100-Year	PROP_BANK_STAB	10200.00	977.47	995.80		996.21	0.000330	5.19	2003.33	171.72	0.24
CuyFalls	10.61	100-Year	Existing	10200.00	977.30	994.57		994.94	0.000311	4.86	2122.16	183.84	0.23
CuyFalls	10.61	100-Year	PROP_BANK_STAB	10200.00	977.30	995.85		996.15	0.000229	4.42	2384.05	224.67	0.20
CuyFalls	10.595	100-Year	Existing	10200.00	977.06	994.04		994.85	0.000763	7.24	1411.20	110.78	0.35

HEC-RAS River: Cuyahoga Reach: CuyFalls Profile: 100-Year (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CuyFalls	10.595	100-Year	PROP_BANK_STAB	10200.00	977.06	995.36		996.08	0.000618	6.82	1505.04	113.68	0.32
CuyFalls	10.58	100-Year	Existing	10200.00	976.97	992.51		994.61	0.002526	11.63	877.21	74.63	0.60
CuyFalls	10.58	100-Year	PROP_BANK_STAB	10200.00	976.97	994.08		995.89	0.001942	10.79	950.58	81.95	0.53
CuyFalls	10.565	100-Year	Existing	10200.00	977.01	991.26		994.24	0.004547	13.86	736.19	76.26	0.79
CuyFalls	10.565	100-Year	PROP_BANK_STAB	10200.00	977.01	991.25	991.25	995.36	0.007468	16.28	626.66	76.24	1.00
CuyFalls	10.55	100-Year	Existing	10200.00	976.34	990.54	989.55	993.79	0.005671	14.46	705.47	79.77	0.86
CuyFalls	10.55	100-Year	PROP_BANK_STAB	10200.00	976.34	987.27	989.54	994.23	0.013662	21.17	481.88	58.73	1.30
CuyFalls	10.51	100-Year	Existing	10200.00	975.70	989.99		991.60	0.002132	10.18	1002.25	99.76	0.57
CuyFalls	10.51	100-Year	PROP_BANK_STAB	10200.00	975.70	989.99	986.36	991.60	0.002132	10.18	1002.25	99.76	0.57
CuyFalls	10.485	100-Year	Existing	10200.00	975.50	989.82		991.23	0.001767	9.54	1069.00	136.29	0.53
CuyFalls	10.485	100-Year	PROP_BANK_STAB	10200.00	975.50	989.82		991.23	0.001767	9.54	1069.00	136.29	0.53
CuyFalls	10.48	100-Year	Existing	10200.00	975.30	989.11		991.11	0.002379	11.33	900.14	124.85	0.61
CuyFalls	10.48	100-Year	PROP_BANK_STAB	10200.00	975.30	989.11		991.11	0.002379	11.33	900.14	124.85	0.61
CuyFalls	10.473	100-Year	Existing	10200.00	974.85	988.75		991.03	0.003032	12.11	842.04	122.44	0.69
CuyFalls	10.473	100-Year	PROP_BANK_STAB	10200.00	974.85	988.75		991.03	0.003032	12.11	842.04	122.44	0.69
CuyFalls	10.466	100-Year	Existing	10200.00	974.46	988.39		990.95	0.003679	12.84	794.67	113.47	0.75
CuyFalls	10.466	100-Year	PROP_BANK_STAB	10200.00	974.46	988.39		990.95	0.003679	12.84	794.67	113.47	0.75
CuyFalls	10.46	100-Year	Existing	10200.00	974.02	988.36	980.91	989.16	0.000848	7.19	1419.41	99.00	0.33
CuyFalls	10.46	100-Year	PROP_BANK_STAB	10200.00	974.02	988.36	980.91	989.16	0.000848	7.19	1419.41	99.00	0.33
CuyFalls	10.459			Inl Struct									
CuyFalls	10.454	100-Year	Existing	10200.00	972.90	987.21	982.57	988.45	0.001710	8.95	1147.60	173.05	0.46
CuyFalls	10.454	100-Year	PROP_BANK_STAB	10200.00	972.90	987.21	982.57	988.45	0.001710	8.95	1147.60	173.05	0.46
CuyFalls	10.445	100-Year	Existing	10200.00	974.00	987.30		988.02	0.001142	6.80	1514.34	140.26	0.36
CuyFalls	10.445	100-Year	PROP_BANK_STAB	10200.00	974.00	987.30		988.02	0.001142	6.80	1514.34	140.26	0.36
CuyFalls	10.42	100-Year	Existing	10200.00	972.50	986.77		987.83	0.001375	8.36	1276.84	116.88	0.42
CuyFalls	10.42	100-Year	PROP_BANK_STAB	10200.00	972.50	986.77		987.83	0.001375	8.36	1276.84	116.88	0.42
CuyFalls	10.41	100-Year	Existing	10200.00	972.70	986.50	982.07	987.73	0.001805	9.05	1190.50	119.93	0.47
CuyFalls	10.41	100-Year	PROP_BANK_STAB	10200.00	972.70	986.50	982.07	987.73	0.001805	9.05	1190.50	119.93	0.47
CuyFalls	10.405			Bridge									
CuyFalls	10.40	100-Year	Existing	10200.00	971.70	984.21		986.90	0.003310	13.50	825.49	98.35	0.73
CuyFalls	10.40	100-Year	PROP_BANK_STAB	10200.00	971.70	984.21		986.90	0.003310	13.50	825.49	98.35	0.73

HEC-RAS River: Cuyahoga Reach: CuyFalls Profile: 100-Year (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CuyFalls	10.38	100-Year	Existing	10200.00	973.10	984.27		986.18	0.002525	11.17	956.92	117.96	0.62
CuyFalls	10.38	100-Year	PROP_BANK_STAB	10200.00	973.10	984.27		986.18	0.002525	11.17	956.92	117.96	0.62
CuyFalls	10.35	100-Year	Existing	10200.00	970.30	985.05		985.64	0.000551	6.21	1714.18	147.40	0.31
CuyFalls	10.35	100-Year	PROP_BANK_STAB	10200.00	970.30	985.05		985.64	0.000551	6.21	1714.18	147.40	0.31
CuyFalls	10.31	100-Year	Existing	10200.00	969.80	983.20		985.29	0.002283	11.64	903.05	88.22	0.60
CuyFalls	10.31	100-Year	PROP_BANK_STAB	10200.00	969.80	983.20		985.29	0.002283	11.64	903.05	88.22	0.60
CuyFalls	10.23	100-Year	Existing	10200.00	967.40	981.65	978.81	983.94	0.004653	12.18	852.27	83.69	0.64
CuyFalls	10.23	100-Year	PROP_BANK_STAB	10200.00	967.40	981.65	978.81	983.94	0.004653	12.18	852.27	83.69	0.64
CuyFalls	10.22			Bridge									
CuyFalls	10.21	100-Year	Existing	10200.00	965.90	981.32		983.59	0.002805	12.09	849.55	84.51	0.65
CuyFalls	10.21	100-Year	PROP_BANK_STAB	10200.00	965.90	981.32		983.59	0.002805	12.09	849.55	84.51	0.65
CuyFalls	10.203	100-Year	Existing	10200.00	960.50	981.68		983.08	0.000922	9.49	1079.60	89.55	0.40
CuyFalls	10.203	100-Year	PROP_BANK_STAB	10200.00	960.50	981.68		983.08	0.000922	9.49	1079.60	89.55	0.40
CuyFalls	10.2014	100-Year	Existing	10200.00	960.90	981.12		983.01	0.001410	11.04	927.99	92.79	0.50
CuyFalls	10.2014	100-Year	PROP_BANK_STAB	10200.00	960.90	981.12		983.01	0.001410	11.04	927.99	92.79	0.50
CuyFalls	10.20	100-Year	Existing	10200.00	961.10	981.10		982.99	0.001478	11.01	930.73	89.46	0.51
CuyFalls	10.20	100-Year	PROP_BANK_STAB	10200.00	961.10	981.10		982.99	0.001478	11.01	930.73	89.46	0.51
CuyFalls	10.1949	100-Year	Existing	10200.00	962.38	980.38		982.87	0.004236	12.66	810.33	91.23	0.73
CuyFalls	10.1949	100-Year	PROP_BANK_STAB	10200.00	962.38	980.38		982.87	0.004236	12.66	810.33	91.23	0.73
CuyFalls	10.19	100-Year	Existing	10200.00	963.50	980.41	974.38	982.64	0.002439	12.00	862.99	55.84	0.51
CuyFalls	10.19	100-Year	PROP_BANK_STAB	10200.00	963.50	980.41	974.38	982.64	0.002439	12.00	862.99	55.84	0.51
CuyFalls	10.189			Inl Struct									
CuyFalls	10.185	100-Year	Existing	10200.00	963.50	975.27		977.42	0.009773	12.13	909.11	98.50	0.64
CuyFalls	10.185	100-Year	PROP_BANK_STAB	10200.00	963.50	975.27		977.42	0.009773	12.13	909.11	98.50	0.64
CuyFalls	10.1846*	100-Year	Existing	10200.00	963.50	975.25		977.40	0.009808	12.14	908.49	98.60	0.64
CuyFalls	10.1846*	100-Year	PROP_BANK_STAB	10200.00	963.50	975.25		977.40	0.009808	12.14	908.49	98.60	0.64
CuyFalls	10.1843*	100-Year	Existing	10200.00	963.50	975.23		977.38	0.009837	12.14	908.06	98.71	0.64
CuyFalls	10.1843*	100-Year	PROP_BANK_STAB	10200.00	963.50	975.23		977.38	0.009837	12.14	908.06	98.71	0.64
CuyFalls	10.1839*	100-Year	Existing	10200.00	963.50	975.21		977.36	0.009869	12.15	907.54	98.82	0.64
CuyFalls	10.1839*	100-Year	PROP_BANK_STAB	10200.00	963.50	975.21		977.36	0.009869	12.15	907.54	98.82	0.64

HEC-RAS River: Cuyahoga Reach: CuyFalls Profile: 100-Year (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CuyFalls	10.1836*	100-Year	Existing	10200.00	963.50	975.19		977.34	0.009902	12.15	906.93	98.91	0.64
CuyFalls	10.1836*	100-Year	PROP_BANK_STAB	10200.00	963.50	975.19		977.34	0.009902	12.15	906.93	98.91	0.64
CuyFalls	10.1832*	100-Year	Existing	10200.00	963.50	975.16		977.32	0.009936	12.16	906.33	99.01	0.64
CuyFalls	10.1832*	100-Year	PROP_BANK_STAB	10200.00	963.50	975.16		977.32	0.009936	12.16	906.33	99.01	0.64
CuyFalls	10.1829*	100-Year	Existing	10200.00	963.50	975.14		977.31	0.009969	12.16	905.81	99.12	0.64
CuyFalls	10.1829*	100-Year	PROP_BANK_STAB	10200.00	963.50	975.14		977.31	0.009969	12.16	905.81	99.12	0.64
CuyFalls	10.1825*	100-Year	Existing	10200.00	963.50	975.12		977.29	0.010002	12.17	905.21	99.21	0.65
CuyFalls	10.1825*	100-Year	PROP_BANK_STAB	10200.00	963.50	975.12		977.29	0.010002	12.17	905.21	99.21	0.65
CuyFalls	10.1822*	100-Year	Existing	10200.00	963.50	975.10		977.27	0.010035	12.17	904.69	99.31	0.65
CuyFalls	10.1822*	100-Year	PROP_BANK_STAB	10200.00	963.50	975.10		977.27	0.010035	12.17	904.69	99.31	0.65
CuyFalls	10.1818*	100-Year	Existing	10200.00	963.50	975.08		977.25	0.010073	12.18	903.99	99.40	0.65
CuyFalls	10.1818*	100-Year	PROP_BANK_STAB	10200.00	963.50	975.08		977.25	0.010073	12.18	903.99	99.40	0.65
CuyFalls	10.1815*	100-Year	Existing	10200.00	963.50	975.06		977.23	0.010110	12.19	903.28	99.49	0.65
CuyFalls	10.1815*	100-Year	PROP_BANK_STAB	10200.00	963.50	975.06		977.23	0.010110	12.19	903.28	99.49	0.65
CuyFalls	10.1811*	100-Year	Existing	10200.00	963.50	975.04		977.21	0.010151	12.20	902.49	99.57	0.65
CuyFalls	10.1811*	100-Year	PROP_BANK_STAB	10200.00	963.50	975.04		977.21	0.010151	12.20	902.49	99.57	0.65
CuyFalls	10.1808*	100-Year	Existing	10200.00	963.50	975.01		977.19	0.010186	12.20	901.89	99.67	0.65
CuyFalls	10.1808*	100-Year	PROP_BANK_STAB	10200.00	963.50	975.01		977.19	0.010186	12.20	901.89	99.67	0.65
CuyFalls	10.1805*	100-Year	Existing	10200.00	963.50	974.99		977.17	0.010218	12.21	901.32	99.74	0.65
CuyFalls	10.1805*	100-Year	PROP_BANK_STAB	10200.00	963.50	974.99		977.17	0.010218	12.21	901.32	99.74	0.65
CuyFalls	10.1801*	100-Year	Existing	10200.00	963.50	974.97		977.15	0.010262	12.22	900.45	99.82	0.65
CuyFalls	10.1801*	100-Year	PROP_BANK_STAB	10200.00	963.50	974.97		977.15	0.010262	12.22	900.45	99.82	0.65
CuyFalls	10.1798*	100-Year	Existing	10200.00	963.50	974.95		977.13	0.010299	12.22	899.79	99.92	0.65
CuyFalls	10.1798*	100-Year	PROP_BANK_STAB	10200.00	963.50	974.95		977.13	0.010299	12.22	899.79	99.92	0.65
CuyFalls	10.1794*	100-Year	Existing	10200.00	963.50	974.92		977.11	0.010346	12.23	898.82	99.98	0.65
CuyFalls	10.1794*	100-Year	PROP_BANK_STAB	10200.00	963.50	974.92		977.11	0.010346	12.23	898.82	99.98	0.65
CuyFalls	10.1791*	100-Year	Existing	10200.00	963.50	974.90		977.09	0.010389	12.24	898.02	100.07	0.66
CuyFalls	10.1791*	100-Year	PROP_BANK_STAB	10200.00	963.50	974.90		977.09	0.010389	12.24	898.02	100.07	0.66
CuyFalls	10.1787*	100-Year	Existing	10200.00	963.50	974.88		977.07	0.010438	12.25	897.04	100.14	0.66
CuyFalls	10.1787*	100-Year	PROP_BANK_STAB	10200.00	963.50	974.88		977.07	0.010438	12.25	897.04	100.14	0.66
CuyFalls	10.1784*	100-Year	Existing	10200.00	963.50	974.85		977.06	0.010484	12.26	896.12	100.22	0.66
CuyFalls	10.1784*	100-Year	PROP_BANK_STAB	10200.00	963.50	974.85		977.06	0.010484	12.26	896.12	100.22	0.66

HEC-RAS River: Cuyahoga Reach: CuyFalls Profile: 100-Year (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CuyFalls	10.1780*	100-Year	Existing	10200.00	963.50	974.83		977.04	0.010531	12.27	895.24	100.30	0.66
CuyFalls	10.1780*	100-Year	PROP_BANK_STAB	10200.00	963.50	974.83		977.04	0.010531	12.27	895.24	100.30	0.66
CuyFalls	10.1777*	100-Year	Existing	10200.00	963.50	974.81		977.02	0.010579	12.28	894.29	100.38	0.66
CuyFalls	10.1777*	100-Year	PROP_BANK_STAB	10200.00	963.50	974.81		977.02	0.010579	12.28	894.29	100.38	0.66
CuyFalls	10.1773*	100-Year	Existing	10200.00	963.50	974.78		977.00	0.010629	12.29	893.27	100.44	0.66
CuyFalls	10.1773*	100-Year	PROP_BANK_STAB	10200.00	963.50	974.78		977.00	0.010629	12.29	893.27	100.44	0.66
CuyFalls	10.1770*	100-Year	Existing	10200.00	963.50	974.76		976.98	0.010680	12.30	892.31	100.52	0.66
CuyFalls	10.1770*	100-Year	PROP_BANK_STAB	10200.00	963.50	974.76		976.98	0.010680	12.30	892.31	100.52	0.66
CuyFalls	10.1766*	100-Year	Existing	10200.00	963.50	974.73		976.96	0.010735	12.31	891.20	100.59	0.66
CuyFalls	10.1766*	100-Year	PROP_BANK_STAB	10200.00	963.50	974.73		976.96	0.010735	12.31	891.20	100.59	0.66
CuyFalls	10.1763*	100-Year	Existing	10200.00	963.50	974.71		976.94	0.010791	12.33	890.05	100.64	0.67
CuyFalls	10.1763*	100-Year	PROP_BANK_STAB	10200.00	963.50	974.71		976.94	0.010791	12.33	890.05	100.64	0.67
CuyFalls	10.176	100-Year	Existing	10200.00	963.50	974.69		976.92	0.010843	12.34	889.03	100.72	0.67
CuyFalls	10.176	100-Year	PROP_BANK_STAB	10200.00	963.50	974.69		976.92	0.010843	12.34	889.03	100.72	0.67
CuyFalls	10.162	100-Year	Existing	10200.00	961.00	974.21		976.26	0.007862	11.74	928.40	86.38	0.58
CuyFalls	10.162	100-Year	PROP_BANK_STAB	10200.00	961.00	974.21		976.26	0.007862	11.74	928.40	86.38	0.58
CuyFalls	10.1537	100-Year	Existing	10200.00	961.25	973.82		975.86	0.012871	11.72	896.53	81.29	0.60
CuyFalls	10.1537	100-Year	PROP_BANK_STAB	10200.00	961.25	973.82		975.86	0.012871	11.72	896.53	81.29	0.60
CuyFalls	10.1461	100-Year	Existing	10200.00	960.00	972.86		975.31	0.014782	12.60	821.36	75.05	0.66
CuyFalls	10.1461	100-Year	PROP_BANK_STAB	10200.00	960.00	972.86		975.31	0.014782	12.60	821.36	75.05	0.66
CuyFalls	10.1399	100-Year	Existing	10200.00	961.00	970.68	970.31	974.26	0.104018	15.43	690.10	85.70	0.92
CuyFalls	10.1399	100-Year	PROP_BANK_STAB	10200.00	961.00	970.68	970.31	974.26	0.104018	15.43	690.10	85.70	0.92
CuyFalls	10.13	100-Year	Existing	10200.00	957.00	966.97		969.87	0.074840	13.79	765.45	89.20	0.79
CuyFalls	10.13	100-Year	PROP_BANK_STAB	10200.00	957.00	966.97		969.87	0.074840	13.79	765.45	89.20	0.79
CuyFalls	10.1290*	100-Year	Existing	10200.00	956.52	966.54		969.49	0.074863	13.93	758.65	88.41	0.80
CuyFalls	10.1290*	100-Year	PROP_BANK_STAB	10200.00	956.52	966.54		969.49	0.074863	13.93	758.65	88.41	0.80
CuyFalls	10.1281*	100-Year	Existing	10200.00	956.05	966.11		969.12	0.073659	14.07	752.12	87.63	0.81
CuyFalls	10.1281*	100-Year	PROP_BANK_STAB	10200.00	956.05	966.11		969.12	0.073659	14.07	752.12	87.63	0.81
CuyFalls	10.1272*	100-Year	Existing	10200.00	955.57	965.68		968.75	0.073556	14.20	745.76	86.86	0.81
CuyFalls	10.1272*	100-Year	PROP_BANK_STAB	10200.00	955.57	965.68		968.75	0.073556	14.20	745.76	86.86	0.81
CuyFalls	10.1263*	100-Year	Existing	10200.00	955.09	965.26	964.22	968.38	0.073201	14.33	740.25	86.11	0.82

HEC-RAS River: Cuyahoga Reach: CuyFalls Profile: 100-Year (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CuyFalls	10.1263*	100-Year	PROP_BANK_STAB	10200.00	955.09	965.26	964.22	968.38	0.073201	14.33	740.25	86.11	0.82
CuyFalls	10.1254*	100-Year	Existing	10200.00	954.61	964.83	963.85	968.01	0.072279	14.50	732.78	85.34	0.83
CuyFalls	10.1254*	100-Year	PROP_BANK_STAB	10200.00	954.61	964.83	963.85	968.01	0.072279	14.50	732.78	85.34	0.83
CuyFalls	10.1245*	100-Year	Existing	10200.00	954.14	964.41	963.47	967.65	0.072102	14.64	726.77	84.60	0.83
CuyFalls	10.1245*	100-Year	PROP_BANK_STAB	10200.00	954.14	964.41	963.47	967.65	0.072102	14.64	726.77	84.60	0.83
CuyFalls	10.1236*	100-Year	Existing	10200.00	953.66	963.98	963.11	967.29	0.071025	14.80	719.86	83.85	0.84
CuyFalls	10.1236*	100-Year	PROP_BANK_STAB	10200.00	953.66	963.98	963.11	967.29	0.071025	14.80	719.86	83.85	0.84
CuyFalls	10.1227*	100-Year	Existing	10200.00	953.18	963.58	962.73	966.94	0.070165	14.91	716.12	83.17	0.84
CuyFalls	10.1227*	100-Year	PROP_BANK_STAB	10200.00	953.18	963.58	962.73	966.94	0.070165	14.91	716.12	83.17	0.84
CuyFalls	10.1218*	100-Year	Existing	10200.00	952.70	963.16	962.37	966.58	0.070203	15.07	709.45	82.44	0.85
CuyFalls	10.1218*	100-Year	PROP_BANK_STAB	10200.00	952.70	963.16	962.37	966.58	0.070203	15.07	709.45	82.44	0.85
CuyFalls	10.1209*	100-Year	Existing	10200.00	952.23	962.73	962.00	966.23	0.068962	15.24	703.16	81.75	0.86
CuyFalls	10.1209*	100-Year	PROP_BANK_STAB	10200.00	952.23	962.73	962.00	966.23	0.068962	15.24	703.16	81.75	0.86
CuyFalls	10.12*	100-Year	Existing	10200.00	951.75	962.33	961.63	965.88	0.068542	15.38	698.06	81.06	0.86
CuyFalls	10.12*	100-Year	PROP_BANK_STAB	10200.00	951.75	962.33	961.63	965.88	0.068542	15.38	698.06	81.06	0.86
CuyFalls	10.1190*	100-Year	Existing	10200.00	951.27	961.91	961.27	965.53	0.068405	15.54	692.05	80.36	0.87
CuyFalls	10.1190*	100-Year	PROP_BANK_STAB	10200.00	951.27	961.91	961.27	965.53	0.068405	15.54	692.05	80.36	0.87
CuyFalls	10.1181*	100-Year	Existing	10200.00	950.80	961.48	960.91	965.19	0.067530	15.74	684.58	79.61	0.88
CuyFalls	10.1181*	100-Year	PROP_BANK_STAB	10200.00	950.80	961.48	960.91	965.19	0.067530	15.74	684.58	79.61	0.88
CuyFalls	10.1172*	100-Year	Existing	10200.00	950.32	961.08	960.55	964.85	0.067025	15.88	679.86	78.94	0.89
CuyFalls	10.1172*	100-Year	PROP_BANK_STAB	10200.00	950.32	961.08	960.55	964.85	0.067025	15.88	679.86	78.94	0.89
CuyFalls	10.1163*	100-Year	Existing	10200.00	949.84	960.76	960.19	964.52	0.064639	15.89	681.62	78.44	0.88
CuyFalls	10.1163*	100-Year	PROP_BANK_STAB	10200.00	949.84	960.76	960.19	964.52	0.064639	15.89	681.62	78.44	0.88
CuyFalls	10.1154*	100-Year	Existing	10200.00	949.36	960.47	959.82	964.20	0.060721	15.86	685.20	77.99	0.87
CuyFalls	10.1154*	100-Year	PROP_BANK_STAB	10200.00	949.36	960.47	959.82	964.20	0.060721	15.86	685.20	77.99	0.87
CuyFalls	10.1145*	100-Year	Existing	10200.00	948.89	960.23	959.47	963.90	0.057216	15.75	692.38	77.65	0.86
CuyFalls	10.1145*	100-Year	PROP_BANK_STAB	10200.00	948.89	960.23	959.47	963.90	0.057216	15.75	692.38	77.65	0.86
CuyFalls	10.1136*	100-Year	Existing	10200.00	948.41	960.02	959.12	963.61	0.052323	15.59	702.21	77.39	0.84
CuyFalls	10.1136*	100-Year	PROP_BANK_STAB	10200.00	948.41	960.02	959.12	963.61	0.052323	15.59	702.21	77.39	0.84
CuyFalls	10.1127*	100-Year	Existing	10200.00	947.93	959.85	958.77	963.33	0.048397	15.40	714.07	77.20	0.82
CuyFalls	10.1127*	100-Year	PROP_BANK_STAB	10200.00	947.93	959.85	958.77	963.33	0.048397	15.40	714.07	77.20	0.82

HEC-RAS River: Cuyahoga Reach: CuyFalls Profile: 100-Year (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CuyFalls	10.1118*	100-Year	Existing	10200.00	947.45	959.70		963.06	0.044428	15.17	728.07	77.08	0.79
CuyFalls	10.1118*	100-Year	PROP_BANK_STAB	10200.00	947.45	959.70		963.06	0.044428	15.17	728.07	77.08	0.79
CuyFalls	10.1109*	100-Year	Existing	10200.00	946.98	959.59		962.82	0.039804	14.92	743.65	77.04	0.77
CuyFalls	10.1109*	100-Year	PROP_BANK_STAB	10200.00	946.98	959.59		962.82	0.039804	14.92	743.65	77.04	0.77
CuyFalls	10.11	100-Year	Existing	10200.00	946.50	959.49		962.60	0.036164	14.66	761.09	77.03	0.74
CuyFalls	10.11	100-Year	PROP_BANK_STAB	10200.00	946.50	959.49		962.60	0.036164	14.66	761.09	77.03	0.74
CuyFalls	10.1071*	100-Year	Existing	10200.00	945.87	958.91		962.05	0.036300	14.72	757.18	76.23	0.74
CuyFalls	10.1071*	100-Year	PROP_BANK_STAB	10200.00	945.87	958.91		962.05	0.036300	14.72	757.18	76.23	0.74
CuyFalls	10.1042*	100-Year	Existing	10200.00	945.24	958.34		961.50	0.036287	14.75	754.49	75.47	0.74
CuyFalls	10.1042*	100-Year	PROP_BANK_STAB	10200.00	945.24	958.34		961.50	0.036287	14.75	754.49	75.47	0.74
CuyFalls	10.1014*	100-Year	Existing	10200.00	944.61	957.76		960.94	0.036385	14.80	751.06	74.72	0.75
CuyFalls	10.1014*	100-Year	PROP_BANK_STAB	10200.00	944.61	957.76		960.94	0.036385	14.80	751.06	74.72	0.75
CuyFalls	10.0985*	100-Year	Existing	10200.00	943.99	957.18		960.39	0.036476	14.86	747.72	73.99	0.75
CuyFalls	10.0985*	100-Year	PROP_BANK_STAB	10200.00	943.99	957.18		960.39	0.036476	14.86	747.72	73.99	0.75
CuyFalls	10.0957*	100-Year	Existing	10200.00	943.36	956.60		959.84	0.036505	14.90	744.91	73.27	0.75
CuyFalls	10.0957*	100-Year	PROP_BANK_STAB	10200.00	943.36	956.60		959.84	0.036505	14.90	744.91	73.27	0.75
CuyFalls	10.0928*	100-Year	Existing	10200.00	942.73	956.02		959.28	0.036571	14.94	741.99	72.58	0.75
CuyFalls	10.0928*	100-Year	PROP_BANK_STAB	10200.00	942.73	956.02		959.28	0.036571	14.94	741.99	72.58	0.75
CuyFalls	10.09*	100-Year	Existing	10200.00	942.10	955.44		958.73	0.036641	14.99	739.07	71.90	0.75
CuyFalls	10.09*	100-Year	PROP_BANK_STAB	10200.00	942.10	955.44		958.73	0.036641	14.99	739.07	71.90	0.75
CuyFalls	10.0871*	100-Year	Existing	10200.00	941.47	954.86		958.17	0.036670	15.02	736.48	71.23	0.75
CuyFalls	10.0871*	100-Year	PROP_BANK_STAB	10200.00	941.47	954.86		958.17	0.036670	15.02	736.48	71.23	0.75
CuyFalls	10.0842*	100-Year	Existing	10200.00	940.84	954.28		957.61	0.036701	15.06	733.98	70.59	0.75
CuyFalls	10.0842*	100-Year	PROP_BANK_STAB	10200.00	940.84	954.28		957.61	0.036701	15.06	733.98	70.59	0.75
CuyFalls	10.0814*	100-Year	Existing	10200.00	940.21	953.70		957.05	0.036769	15.10	731.26	69.95	0.75
CuyFalls	10.0814*	100-Year	PROP_BANK_STAB	10200.00	940.21	953.70		957.05	0.036769	15.10	731.26	69.95	0.75
CuyFalls	10.0785*	100-Year	Existing	10200.00	939.59	953.13		956.50	0.036705	15.13	729.47	69.35	0.75
CuyFalls	10.0785*	100-Year	PROP_BANK_STAB	10200.00	939.59	953.13		956.50	0.036705	15.13	729.47	69.35	0.75
CuyFalls	10.0757*	100-Year	Existing	10200.00	938.96	952.56		955.94	0.036645	15.15	727.72	68.73	0.75
CuyFalls	10.0757*	100-Year	PROP_BANK_STAB	10200.00	938.96	952.56		955.94	0.036645	15.15	727.72	68.73	0.75
CuyFalls	10.0728*	100-Year	Existing	10200.00	938.33	952.00		955.39	0.036463	15.16	726.90	68.15	0.75
CuyFalls	10.0728*	100-Year	PROP_BANK_STAB	10200.00	938.33	952.00		955.39	0.036463	15.16	726.90	68.15	0.75

HEC-RAS River: Cuyahoga Reach: CuyFalls Profile: 100-Year (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CuyFalls	10.07*	100-Year	Existing	10200.00	937.70	951.46		954.84	0.036051	15.14	727.64	67.62	0.74
CuyFalls	10.07*	100-Year	PROP_BANK_STAB	10200.00	937.70	951.46		954.84	0.036051	15.14	727.64	67.62	0.74
CuyFalls	10.0671*	100-Year	Existing	10200.00	937.07	950.94		954.31	0.035534	15.10	729.20	67.12	0.74
CuyFalls	10.0671*	100-Year	PROP_BANK_STAB	10200.00	937.07	950.94		954.31	0.035534	15.10	729.20	67.12	0.74
CuyFalls	10.0642*	100-Year	Existing	10200.00	936.44	950.42		953.77	0.034907	15.05	731.73	66.66	0.73
CuyFalls	10.0642*	100-Year	PROP_BANK_STAB	10200.00	936.44	950.42		953.77	0.034907	15.05	731.73	66.66	0.73
CuyFalls	10.0614*	100-Year	Existing	10200.00	935.81	949.93		953.25	0.034155	14.97	735.19	66.22	0.72
CuyFalls	10.0614*	100-Year	PROP_BANK_STAB	10200.00	935.81	949.93		953.25	0.034155	14.97	735.19	66.22	0.72
CuyFalls	10.0585*	100-Year	Existing	10200.00	935.19	949.45		952.73	0.033286	14.88	739.72	65.84	0.71
CuyFalls	10.0585*	100-Year	PROP_BANK_STAB	10200.00	935.19	949.45		952.73	0.033286	14.88	739.72	65.84	0.71
CuyFalls	10.0557*	100-Year	Existing	10200.00	934.56	949.00		952.22	0.032254	14.76	745.83	65.49	0.70
CuyFalls	10.0557*	100-Year	PROP_BANK_STAB	10200.00	934.56	949.00		952.22	0.032254	14.76	745.83	65.49	0.70
CuyFalls	10.0528*	100-Year	Existing	10200.00	933.93	948.57		951.73	0.031055	14.62	753.60	65.19	0.69
CuyFalls	10.0528*	100-Year	PROP_BANK_STAB	10200.00	933.93	948.57		951.73	0.031055	14.62	753.60	65.19	0.69
CuyFalls	10.05*	100-Year	Existing	10200.00	933.30	948.16		951.25	0.029757	14.45	762.77	64.92	0.68
CuyFalls	10.05*	100-Year	PROP_BANK_STAB	10200.00	933.30	948.16		951.25	0.029757	14.45	762.77	64.92	0.68
CuyFalls	10.0471*	100-Year	Existing	10200.00	932.67	947.78		950.79	0.028347	14.26	773.64	64.70	0.66
CuyFalls	10.0471*	100-Year	PROP_BANK_STAB	10200.00	932.67	947.78		950.79	0.028347	14.26	773.64	64.70	0.66
CuyFalls	10.0442*	100-Year	Existing	10200.00	932.04	947.44		950.35	0.026825	14.04	786.47	64.53	0.65
CuyFalls	10.0442*	100-Year	PROP_BANK_STAB	10200.00	932.04	947.44		950.35	0.026825	14.04	786.47	64.53	0.65
CuyFalls	10.0414*	100-Year	Existing	10200.00	931.41	947.11		949.94	0.025286	13.81	800.62	64.39	0.63
CuyFalls	10.0414*	100-Year	PROP_BANK_STAB	10200.00	931.41	947.11		949.94	0.025286	13.81	800.62	64.39	0.63
CuyFalls	10.0385*	100-Year	Existing	10200.00	930.79	946.82		949.54	0.023703	13.56	816.63	64.31	0.61
CuyFalls	10.0385*	100-Year	PROP_BANK_STAB	10200.00	930.79	946.82		949.54	0.023703	13.56	816.63	64.31	0.61
CuyFalls	10.0357*	100-Year	Existing	10200.00	930.16	946.55		949.16	0.022136	13.30	834.06	64.24	0.59
CuyFalls	10.0357*	100-Year	PROP_BANK_STAB	10200.00	930.16	946.55		949.16	0.022136	13.30	834.06	64.24	0.59
CuyFalls	10.0328*	100-Year	Existing	10200.00	929.53	946.31		948.81	0.020600	13.03	852.98	64.22	0.57
CuyFalls	10.0328*	100-Year	PROP_BANK_STAB	10200.00	929.53	946.31		948.81	0.020600	13.03	852.98	64.22	0.57
CuyFalls	10.03*	100-Year	Existing	10200.00	928.90	946.08		948.48	0.019126	12.75	873.11	64.21	0.55
CuyFalls	10.03*	100-Year	PROP_BANK_STAB	10200.00	928.90	946.08		948.48	0.019126	12.75	873.11	64.21	0.55
CuyFalls	10.0271*	100-Year	Existing	10200.00	928.27	945.89		948.18	0.017706	12.47	894.65	64.23	0.53

HEC-RAS River: Cuyahoga Reach: CuyFalls Profile: 100-Year (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CuyFalls	10.0271*	100-Year	PROP_BANK_STAB	10200.00	928.27	945.89		948.18	0.017706	12.47	894.65	64.23	0.53
CuyFalls	10.0242*	100-Year	Existing	10200.00	927.64	945.71		947.89	0.016369	12.19	917.22	64.28	0.52
CuyFalls	10.0242*	100-Year	PROP_BANK_STAB	10200.00	927.64	945.71		947.89	0.016369	12.19	917.22	64.28	0.52
CuyFalls	10.0214*	100-Year	Existing	10200.00	927.01	945.54		947.63	0.015123	11.91	940.72	64.34	0.50
CuyFalls	10.0214*	100-Year	PROP_BANK_STAB	10200.00	927.01	945.54		947.63	0.015123	11.91	940.72	64.34	0.50
CuyFalls	10.0185*	100-Year	Existing	10200.00	926.39	945.39		947.38	0.013957	11.63	965.11	64.42	0.48
CuyFalls	10.0185*	100-Year	PROP_BANK_STAB	10200.00	926.39	945.39		947.38	0.013957	11.63	965.11	64.42	0.48
CuyFalls	10.0157*	100-Year	Existing	10200.00	925.76	945.26		947.15	0.012891	11.37	990.06	64.50	0.46
CuyFalls	10.0157*	100-Year	PROP_BANK_STAB	10200.00	925.76	945.26		947.15	0.012891	11.37	990.06	64.50	0.46
CuyFalls	10.0128*	100-Year	Existing	10200.00	925.13	945.14		946.94	0.011903	11.11	1015.89	64.60	0.45
CuyFalls	10.0128*	100-Year	PROP_BANK_STAB	10200.00	925.13	945.14		946.94	0.011903	11.11	1015.89	64.60	0.45
CuyFalls	10.01	100-Year	Existing	10200.00	924.50	945.02	937.01	946.75	0.011001	10.85	1042.09	64.70	0.43
CuyFalls	10.01	100-Year	PROP_BANK_STAB	10200.00	924.50	945.02	937.01	946.75	0.011001	10.85	1042.09	64.70	0.43

APPENDIX B

ROCK CALCULATIONS



RIPRAP SIZING CALCULATIONS - AVERAGE VELOCITY

HEC-11 RipRap Sizing Method

$$D_{50} = C_S C_{SF} \frac{V_a^3}{1000 \sqrt{d} K_1^{1.5}}$$

USBR Method



$$D_{50} = 0.0122 V_a^{2.06}$$

USGS Method

$$D_{50} = 0.01 V_a^{2.44}$$

USACE Method

$$D_{30} = S_f C_a C_v C_t d \left(\left(\frac{\gamma_w}{\gamma_s - \gamma_w} \right)^{0.5} \left(\frac{V_{SS}}{\sqrt{K_1 g d}} \right) \right)^{2.5}$$

 Cell requiring input
 Cell contains formula, no input required

Where: D_{50} = Stone size (ft)

$C_S = (2.12/(G_s - 1)^{1.5})$ is the material density correction

$C_{SF} = (SF/1.2)^{1.5}$ is the safety correction factor

V_a = Average Channel Velocity (ft/s) (100 year from HEC-RAS model)

d = average flow depth (ft) (100 year from HEC-RAS model)

d_{max} = max flow depth (ft) (100 year from HEC-RAS model)

$K_1 = [1 - (\sin^2(\theta)/\sin^2(\phi))]^{(1/2)}$ is the bank angle correction factor

θ = Bank Angle ($^\circ$)

ϕ = Riprap angle of repose ($^\circ$)

SF = HEC-11 Safety Factor, 1 - 1.2 for $R/W > 30$, 1.3 - 1.6 for $10 < R/W < 30$, 1.6 - 2 for $R/W < 10$

R = Radius of curvature (ft)

W = Channel width (ft)

$G_s = (\gamma_s/\gamma_w)$ is the specific gravity of rip rap (lbs/ft^3) and γ_s and γ_w are the stone and water unit weights

S_f = USACE safety factor

C_a = Stability coefficient for incipient failure, thickness (0.3 for angular rock, 0.375 for rounded rock)

C_v = Vertical velocity distribution coef. (1 - straight, inside bends, or $R/W > 26$, else $1.283 - 0.2 \log(R/W)$)

C_t = Thickness coefficient

g = gravitational constant (ft/s^2)

V_{SS} = Characteristic side slope velocity, Eqn from Figure A.2a ($V_{SS}/V_a = 1.74 - 0.52 \log(R/W)$)

100-year

Job #: 2017064.00

Sheet No. : 2 of 4

Calculated by: JLR Date: 3/19/20

Checked by: _____ Date: _____

$\gamma_s = 160$ lbs/ft³
 $\gamma_w = 62.4$ lbs/ft³
 $W = 95$ ft
 $R = 1000$ ft
 $\theta = 30^\circ$
 $\phi = 41.9^\circ$
 $R/W = 10.52632$ ft
 $SF = 1.3$
 $G_s = 2.56$ lbs/ft³
 $K_1 = 0.66$
 $V_a = 11.6$ ft/s

$d = 15.6$ ft
 $d_{max} = 18.6$ ft
 $C_{SF} = 1.13$
 $C_S = 1.08$
 $S_f = 1.00$ ft/ft
 $C_a = 0.30$
 $C_v = 1.08$
 $C_t = 1$
 $g = 32.20$ ft/s²
 $V_{SS} = 14.02$

$D_{50} = 0.89$ HEC-11
 $D_{50} = 1.90$ USBR
 $D_{50} = 3.96$ USGS
 $D_{30} = 1.43$ USACE
 $D_{50} = 1.71$ USACE ($D_{50} \sim 1.2D_{30}$)

$D_{50 \text{ avg.}} = 2.12$ Use this value for
 riprap design mix

RIPRAP SIZING CALCULATIONS - MAXIMUM VELOCITY

HEC-11 RipRap Sizing Method

$$D_{50} = C_S C_{SF} \frac{V_a^3}{1000 \sqrt{d} K_1^{1.5}}$$

USBR Method



$$D_{50} = 0.0122 V_a^{2.06}$$

USGS Method

$$D_{50} = 0.01 V_a^{2.44}$$

USACE Method

$$D_{30} = S_f C_a C_v C_t d \left(\left(\frac{\gamma_w}{\gamma_s - \gamma_w} \right)^{0.5} \left(\frac{V_{SS}}{\sqrt{K_1 g d}} \right) \right)^{2.5}$$

 Cell requiring input
 Cell contains formula, no input required

Where: D_{50} = Stone size (ft)

$C_S = (2.12/(G_s - 1))^{1.5}$ is the material density correction

$C_{SF} = (SF/1.2)^{1.5}$ is the safety correction factor

V_a = Average Channel Velocity (ft/s) (100 year from HEC-RAS model)

d = average flow depth (ft) (100 year from HEC-RAS model)

d_{max} = max flow depth (ft) (100 year from HEC-RAS model)

$K_1 = [1 - (\sin^2(\theta)/\sin^2(\phi))]^{(1/2)}$ is the bank angle correction factor

θ = Bank Angle ($^\circ$)

ϕ = Riprap angle of repose ($^\circ$)

SF = HEC-11 Safety Factor, 1 - 1.2 for $R/W < 30$, 1.3 - 1.6 for $10 < R/W < 30$, 1.6 - 2 for $R/W < 10$

R = Radius of curvature (ft)

W = Channel width (ft)

$G_s = (\gamma_s/\gamma_w)$ is the specific gravity of rip rap (lbs/ft^3) and γ_s and γ_w are the stone and water unit weights

S_f = USACE safety factor

C_a = Stability coefficient for incipient failure, thickness (0.3 for angular rock, 0.375 for rounded rock)

C_v = Vertical velocity distribution coef. (1 - straight, inside bends, or $R/W > 26$, else $1.283 - 0.2 \log(R/W)$)

C_t = Thickness coefficient

g = gravitational constant (ft/s^2)

V_{SS} = Characteristic side slope velocity, Eqn from Figure A.2a ($V_{SS}/V_a = 1.74 - 0.52 \log(R/W)$)

100-year

Job #: 2017064.00

Sheet No. : 4 of 4

Calculated by: JLR Date: 3/19/20

Checked by: _____ Date: _____

$\gamma_s = 160$ lbs/ft³
 $\gamma_w = 62.4$ lbs/ft³
 $W = 75$ ft
 $R = 1000$ ft
 $\theta = 30^\circ$
 $\phi = 41.9^\circ$
 $R/W = 13.33333$ ft
 $SF = 1.2$
 $G_s = 2.56$ lbs/ft³
 $K_1 = 0.66$
 $V_a = 21$ ft/s

$d = 15.6$ ft
 $d_{max} = 18.6$ ft
 $C_{SF} = 1.00$
 $C_S = 1.08$
 $S_f = 1.00$ ft/ft
 $C_a = 0.30$
 $C_v = 1.06$
 $C_t = 1$
 $g = 32.20$ ft/s²
 $V_{SS} = 24.26$

$D_{50} = 4.71$ HEC-11
 $D_{50} = 6.46$ USBR
 $D_{50} = 16.84$ USGS
 $D_{30} = 5.52$ USACE
 $D_{50} = 6.62$ USACE ($D_{50} \sim 1.2D_{30}$)

$D_{50 \text{ avg.}} = 8.03$

$D_{50 \text{ avg.}} = 5.83$ W/O USGS Value



GEOTECHNICAL ENGINEERING REPORT

**CUYAHOGA RIVER BANK STABILIZATION
RIVERFRONT PARKWAY
SUMMIT COUNTY
CUYAHOGA FALLS, OHIO**

Prepared For:

The City of Cuyahoga Falls

**ATTENTION:
City of Cuyahoga Falls Engineering Department**

GPD Project No. 2017064.00
March 16, 2020

Delbert J. Channels, P.E.
Director of Geotechnical Engineering



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SECTION 1

1.0 Introduction

GPD Group is pleased to submit this Geotechnical Report for the aforementioned project. The purpose of this study was to obtain information on the subsurface conditions at the proposed project site and, based on this information, to provide geotechnical recommendations regarding the design and construction of slope stabilization for the Cuyahoga River Bank Stabilization along Riverfront Parkway in Cuyahoga Falls, Ohio. A total of three (3) borings extending to depths of 13.8 to 18.6 feet below the existing ground surface were drilled at the site. On completion of drilling, inclinometers were installed alongside the first two (2) borings. Individual logs and a Location Plan are attached.

1.1 Project Description

The site is the west riverbank of the Cuyahoga River located along 2321 and 2333 Riverfront Parkway in Cuyahoga Falls, Ohio. The Cuyahoga River flows south southwest along the site and through the downtown of Cuyahoga Falls. The site rises approximately 15 feet to 25 feet above the Cuyahoga River and is a greenspace with a sidewalk leading down to a prior observation area that has since been removed. The surrounding neighborhood has apartment buildings 40 feet west of the slope head and is a residential part of downtown Cuyahoga Falls. The slope of the west riverbank has mature trees and shows signs of progressive erosion. The erosion exposed sheer walls of existing fill soils with debris inclusions along most of the entire length of the riverbank.

Plans are to repair and stabilize the slope by construction of rock fill at the toe of the slope. The slope repair is to be a 1.75:1 to 2:1 (Horizontal:Vertical) slope with engineered granular fill and a rock toe key. The slope repair will build up the lower portions of the existing slope. The rock toe key is to be socketed a minimum of 1 foot into unweathered bedrock.

1.2 Purpose and Scope

The purposes of this report were to investigate subsurface conditions within the proposed work areas and to provide geotechnical engineering recommendations for earthwork and slope stability. Specifically, the scope of work included the following:

- ❖ Conducting a field exploration program consisting of site reconnaissance, drilling sample borings at selected locations within the proposed site to explore subsurface conditions, and collect soil samples.
- ❖ Conducting geotechnical engineering laboratory test on sampled soils to assist with soil classifications and estimation of engineering properties.
- ❖ Develop geotechnical engineering recommendations for the design and construction of earthwork for slope stability and site grading.

SECTION 2

2.0 Site Conditions

In general, the proposed work is located within a greenspace on the riverbank of the Cuyahoga River in the City of Cuyahoga Falls, Ohio with ground surface elevations ranging from approximately 980 to 1005 feet above sea level, as provided GPD Group. Surface water drainage is considered adequate.

2.1 Subsurface Exploration Program

The subsurface exploration consisted of drilling and sampling three (3) borings to depths of 13.8 to 18.6 feet. To monitor the riverbank slope for possible movement, inclinometers were installed to bedrock alongside borings B-1 and B-2. The boring test locations were laid out by GPD Group personnel using a handheld GPS unit. The locations of the borings should be considered accurate only to the degree implied by the means and methods used to define them.

The borings were drilled with a Simco 2400 ATV rotary drill rig using hollow stem augers and an automatic SPT hammer to advance the boreholes. Representative soil samples were obtained by the split-barrel sampling procedure in general accordance with the appropriate ASTM standards. In the split-barrel sampling procedure, the number of blows required to advance a standard 2-inch O.D. split-barrel sampler the last 12 inches of the total 18-inch penetration or the middle 12 inches of the total 24-inch penetration by means of a 140-pound hammer with a free fall of 30 inches, is the standard penetration resistance value (N-Value). This value is used to estimate the in-situ relative density of cohesion-less soils and the consistency of cohesive soils. The sampling depths and penetration distance, plus the standard penetration resistance values, are shown on the boring logs. The samples were sealed and returned to the laboratory for testing and classification.

Field logs of each boring were prepared by the drill crew. These logs included visual classifications of the materials encountered during drilling as well as the driller's interpretation of the subsurface conditions between samples. Final boring logs included with this report represent an interpretation of the field logs and include modifications based on observations made by a senior Geotechnical Engineer and the results of laboratory testing.

Initial readings of the inclinometers were performed on January 31, 2020. Additional readings are to occur approximately 3 months after the initial readings of the inclinometers to allow time for soil movement to become apparent. Graphs of the initial readings have been attached to this report for the purpose of establishing a baseline.

2.2 Laboratory Testing

The samples were classified in the laboratory based on visual observation, texture, and plasticity. The descriptions of the soils indicated on the boring logs are in accordance with the enclosed General Notes and the Unified Soil Classification System. A brief description of this classification system is attached to this report.

The laboratory testing program consisted of performing the following tests:

- ❖ Natural water content tests (ASTM D-2216)

Information from these tests was used in conjunction with field penetration test data to evaluate soil strength in-situ, volume change potential, and soil classification. Results of these tests are provided on the boring logs.

2.3 Subsurface Conditions

Fill Soils – The fill soils generally consisted of very loose to very dense granular materials including slag, construction debris, and organic silt. The encountered soils were generally dry to moist. The fill soils were to depths of approximately 8.5 to 18.5 feet below the existing grades and extended to bedrock at most locations.

Native Soils and Bedrock – The topsoil thickness at boring locations was between 0 to 8 inches. The native soils generally consisted of medium to very dense, fine to coarse sand, and were apparent at B-1 only. The encountered sand soils were generally dry to damp with minor gravel or some rock fragments. The sand soils were to depths of approximately 14.5 feet below the existing grade at boring B-1. The bedrock was found under the fill or native soils at all boring locations. The rock consists of compact weathered sandstone that likely transitioned within 1.5 feet or less to unweathered sandstone.

2.3.1 Groundwater Conditions

The borings were monitored for the presence and level of groundwater while drilling and immediately after completion of drilling. No groundwater was encountered whether on drilling or removing augers, with the possible exception of boring B-3. In boring B-3, groundwater was possibly found in the last sample of wet weathered sandstone at 13.5 to 13.8 feet. These water level observations provide an approximate indication of the groundwater conditions existing on the site at the time the borings were drilled. Fluctuations of the groundwater level can occur due to seasonal variations in the amount of rainfall, runoff, and other factors not evident at the time the borings were performed. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

2.4 Slope Stability Calculations

Geotechnical engineering observations of the current conditions found severe erosion and slope failures. The current conditions of the slope are failing with a safety factor at approximately 1.0. The required minimum safety factor for such slopes would be 1.3. The proposed repair to the riverbank of the Cuyahoga River was analyzed for long-term failure after construction at borings B-1 and B-3, near stations 8+25 and 6+25 respectively. The analysis locations were chosen for conditions where riverbank slopes were steep, eroded, and/or consisted of weak soil. The slopes were analyzed by the Discontinuity Layout Optimization method in modeling software. In addition, soil bearing capacity and groundwater were also considered within the modeling. The calculation results showed the slope to be stable after the riverbank is repaired to slopes of 1.75:1 (Horizontal:Vertical) at B-1 and 2:1 at B-3. The calculation data sheets for slope stability have been attached to this report. A summary table showing safety factors after slope repair follows:

Calculation Results Summary Table		
Analysis Location	Safety Factor	Criteria
B-1 (Station 8+25)	1.33	At Least 1.3
B-3 (Station 6+25)	1.33	At Least 1.3

SECTION 3

3.0 Engineering Recommendations

The following engineering recommendations are based on information pertaining to the intended extent of the proposed bank stabilization, the field and laboratory testing performed on the soil encountered at this site, and other information discussed in this report. This report does not reflect variations that may occur between test locations, across the site, or due to the modifying effects of weather. The nature and extent of such variations may not become evident until, during, or after construction. If variations appear, GPD should be immediately notified so that further evaluation and supplemental recommendations can be provided (if warranted).

3.1 Geotechnical Considerations

Based on the information obtained during the course of this study, the following geotechnical considerations should be taken into account during the planning, design, and construction phases of the project. These geotechnical considerations are provided as a summary of the primary issues we believe are associated with this site. This report must be read in its entirety for a full description of our geotechnical recommendations:

- ❖ The repair to the riverbank of the Cuyahoga River must be done as soon as possible to ensure the safe use of the greenspace existing along the top of the riverbank. The primary cause of the current failure appears to be ongoing erosion of soil due to both the granular nature of the soil and the poor placement of the existing fill soils along the entire extent of the proposed bank stabilization.
- ❖ The repair work for the riverbank of the Cuyahoga River, as described in the associated GPD Group plans, is to be coordinated with this report. Further, the engineered fill placed for the repair of the riverbank is to be a granular non-cohesive material to provide long-term durability of the repair at the slope stated on GPD Group plans.
- ❖ Contingent upon proper site preparation and thorough evaluation of the repair excavations, it is our opinion that the proposed work will allow for slope stability of the repaired riverbank.

The following report sections provide detailed recommendations regarding the geotechnical considerations presented above. In the event changes in the project design occur, GPD Group must review this report to determine if modifications to our recommendations are warranted.

3.2 Site Preparation

All surface vegetation should be removed and the topsoil should be stripped within work limits. All surfaces cut to subgrade elevation or subgrades to receive fill should be proof rolled under the direction of an on-site geotechnical engineer or their representative. If work limits are inaccessible to equipment for proof rolling (a likely condition for most of the area), the exposed subgrades should be examined by an on-site geotechnical engineer, their representative, or a qualified soils retained for the construction phase of the project. Any soft, loose, yielding, or obviously contaminated zones should either be undercut, or be improved in place as directed by the geotechnical engineer. One possible method of improving the subgrade material in place would be drying and re-compacting the material in place.

Any engineered fill or backfill required within work limits should be select material, as approved by a qualified geotechnical engineer. Only clean granular soils are acceptable as engineered fill material. Any cohesive soils are unacceptable as engineered fill material. For all filling operations, the following should be observed:

- ❖ Prior to use, the approved fill material should be tested as outlined in ASTM D-4253 and D-4254 for clean granular soils. For oversize granular fill material, a visual classification should be made based on observations made by a senior Geotechnical Engineer or geologist and the results of laboratory testing. For each change in borrow material, additional tests will be required.
- ❖ For all fill or backfill used, the fill material should be placed on the approved subgrade in controlled lifts, with each lift compacted to a stable condition. Controlled lifts of granular material should be compacted to 80% relative density per ASTM D-4254.

- ❖ All filling operations should be observed by a qualified soils technician with field density tests made, to assure compaction to specification. For oversize granular fill material, observation by a qualified soils technician would be performed without field density tests.
- ❖ Horizontal benches should be cut into the existing soil surface where practical.

Proper moisture control of fine grained silty soils is critical in attaining the required compaction. It should be noted that both in-situ soils and new fill composed of fine grained soils are susceptible to disturbance by construction equipment traffic when wet. Thus, construction operations should be planned to prevent such disturbance and the resulting weakening of the subgrade soils. Such precautions would include, but not be limited to grading the site to prevent ponding of water, sealing the subgrade soils at the end of operations each day, and allowing wet subgrades to dry before operating heavy equipment on the soil.

Erosion control of the finished slope surface will be required.

3.3 Excavations

Excavation walls shall be sloped or shored per the requirements of OSHA regulations. Based on the borings performed at this site, we recommend that the excavations be designed using an OSHA Type "C" soil classification. The excavation bottom shall be graded to provide a smooth, firm, and stable foundation that is free from rocks and other obstructions. Excavations that extend greater than 20 feet shall be designed and approved by a professional engineer.

SECTION 4

4.0 Additional Design and Construction Considerations

4.1 Subsurface Drainage

Groundwater is not expected to impact construction, unless seepage from the wet sand soils occurs. Water from the river will also need to be controlled. Conventional dewatering methods, such as pumping from sumps, should be adequate for temporary removal of any groundwater encountered during excavation at the site. If springs or other significant groundwater is exposed during the excavation process, it may be necessary to install permanent trench drains to remove this water away from the work limits, buildings, and pavements. The location and design of any trench drains should be determined at the time of construction, if warranted.

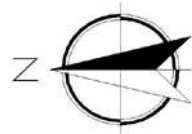
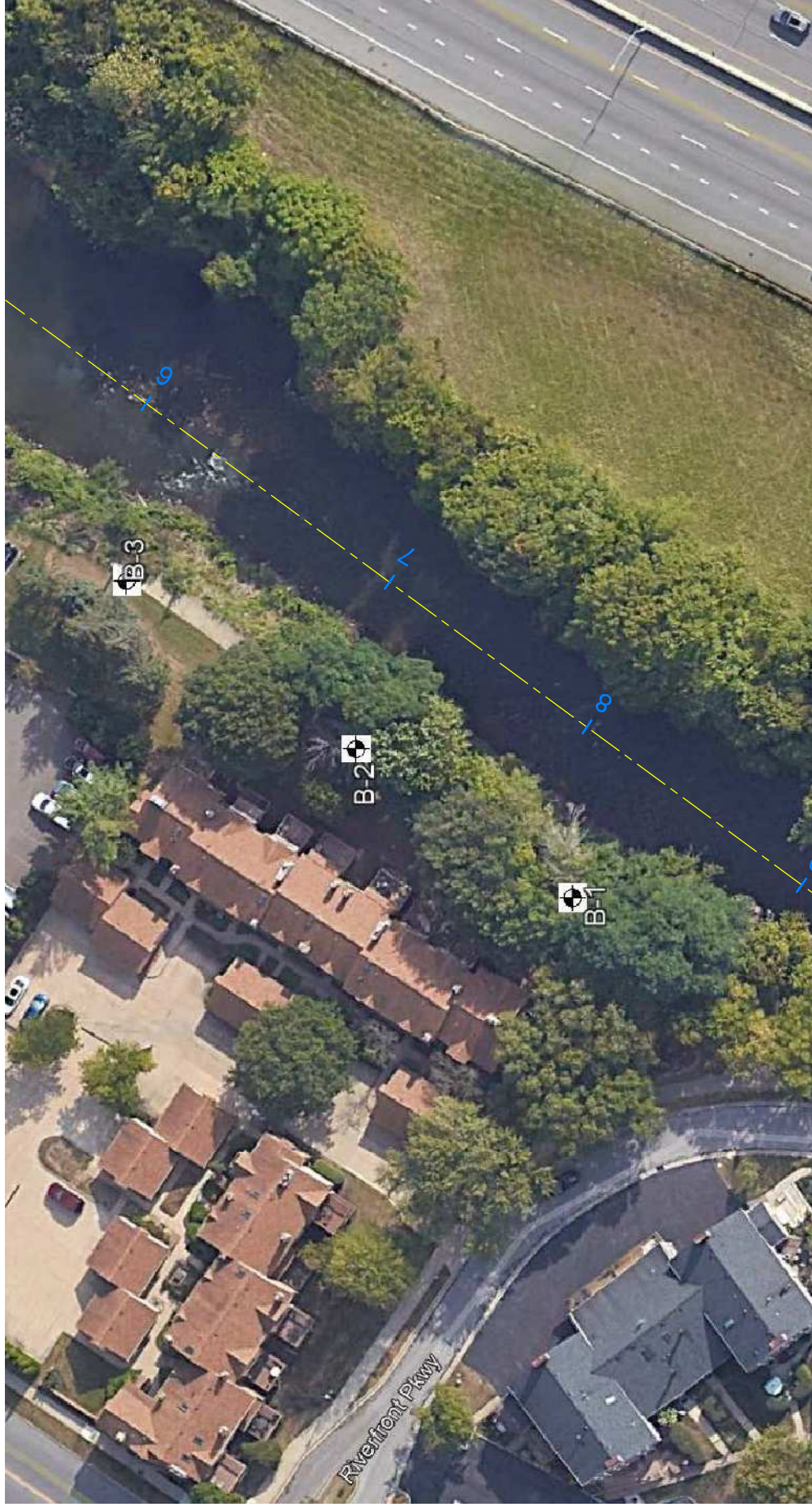
4.2 General Comments

GPD Group should be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications.

The analysis and recommendations presented in this report are based upon the data obtained from the test locations performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between test locations, across the site, or due to the modifying effects of weather. The nature and extent of such variations may not become evident until, during, or after construction. If variations appear, GPD should be immediately notified so that further evaluation and supplemental recommendations can be provided. The scope of services for this project does not include either specifically or by implication any environmental assessment of the site or identification of contaminated or hazardous materials or conditions. If the owner is concerned about the potential for such contamination, other studies should be undertaken.

This report has been prepared for the exclusive use of **The City of Cuyahoga Falls** for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless GPD Group reviews the changes and either verifies or modifies the conclusions of this report in writing.

LOCATION PLAN



Legend

Soil Boring: 

PROJECT: Cuyahoga River Bank Stabilization

PROJECT NUMBER: 2017064.00

DATE: 12/16/2019

LOCATION: Riverfront Parkway, Cuyahoga Falls, Ohio



**GPD GEOTECHNICAL
SERVICES, INC.®**

520 S Main St, Suite 2531 Akron, Ohio 44311 (330)733-6748

GENERAL NOTES

SAMPLE IDENTIFICATION

The Unified Soil Classification System (USCS), AASHTO 1988 and ASTM designations D2487 and D-2488 are used to identify the encountered materials unless otherwise noted. Coarse-grained soils are defined as having more than 50% of their dry weight retained on a #200 sieve (0.075mm); they are described as: boulders, cobbles, gravel or sand. Fine-grained soils have less than 50% of their dry weight retained on a #200 sieve; they are defined as silts or clay depending on their Atterberg Limit attributes. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size.

DRILLING AND SAMPLING SYMBOLS

SFA: Solid Flight Auger - typically 4" diameter flights, except where noted.	SS: Split-Spoon - 1 3/8" I.D., 2" O.D., except where noted.
HSA: Hollow Stem Auger - typically 3 1/4" or 4 1/4" I.D. openings, except where noted.	ST: Shelby Tube - 3" O.D., except where noted.
M.R.: Mud Rotary - Uses a rotary head with Bentonite or Polymer Slurry	BS: Bulk Sample
R.C.: Diamond Bit Core Sampler	PM: Pressuremeter
H.A.: Hand Auger	CPT-U: Cone Penetrometer Testing with Pore-Pressure Readings
P.A.: Power Auger - Handheld motorized auger	

SOIL PROPERTY SYMBOLS

N: Standard "N" penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2-inch O.D. Split-Spoon.
 N₆₀: A "N" penetration value corrected to an equivalent 60% hammer energy transfer efficiency (ETR)
 Q_u: Unconfined compressive strength, TSF
 Q_p: Pocket penetrometer value, unconfined compressive strength, TSF
 w%: Moisture/water content, %
 LL: Liquid Limit, %
 PL: Plastic Limit, %
 PI: Plasticity Index = (LL-PL), %
 DD: Dry unit weight, pcf
 ▼, ▼, ▼ Apparent groundwater level at time noted

RELATIVE DENSITY OF COARSE-GRAINED SOILS

<u>Relative Density</u>	<u>N - Blows/foot</u>
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	50 - 80
Extremely Dense	80+

ANGULARITY OF COARSE-GRAINED PARTICLES

<u>Description</u>	<u>Criteria</u>
Angular:	Particles have sharp edges and relatively plane sides with unpolished surfaces
Subangular:	Particles are similar to angular description, but have rounded edges
Subrounded:	Particles have nearly plane sides, but have well-rounded corners and edges
Rounded:	Particles have smoothly curved sides and no edges

GRAIN-SIZE TERMINOLOGY

<u>Component</u>	<u>Size Range</u>
Boulders:	Over 300 mm (>12 in.)
Cobbles:	75 mm to 300 mm (3 in. to 12 in.)
Coarse-Grained Gravel:	19 mm to 75 mm (3/4 in. to 3 in.)
Fine-Grained Gravel:	4.75 mm to 19 mm (No.4 to 3/4 in.)
Coarse-Grained Sand:	2 mm to 4.75 mm (No.10 to No.4)
Medium-Grained Sand:	0.42 mm to 2 mm (No.40 to No.10)
Fine-Grained Sand:	0.075 mm to 0.42 mm (No. 200 to No.40)
Silt:	0.005 mm to 0.075 mm
Clay:	<0.005 mm

PARTICLE SHAPE

<u>Description</u>	<u>Criteria</u>
Flat:	Particles with width/thickness ratio > 3
Elongated:	Particles with length/width ratio > 3
Flat & Elongated:	Particles meet criteria for both flat and elongated

RELATIVE PROPORTIONS OF FINES

<u>Descriptive Term</u>	<u>% Dry Weight</u>
Trace:	< 5%
With:	5% to 12%
Modifier:	>12%

GENERAL NOTES

(Continued)

CONSISTENCY OF FINE-GRAINED SOILS

<u>Q_u - TSF</u>	<u>N - Blows/foot</u>	<u>Consistency</u>
0 - 0.25	0 - 2	Very Soft
0.25 - 0.50	2 - 4	Soft
0.50 - 1.00	4 - 8	Firm (Medium Stiff)
1.00 - 2.00	8 - 15	Stiff
2.00 - 4.00	15 - 30	Very Stiff
4.00 - 8.00	30 - 50	Hard
8.00+	50+	Very Hard

MOISTURE CONDITION DESCRIPTION

<u>Description</u>	<u>Criteria</u>
Dry:	Absence of moisture, dusty, dry to the touch
Moist:	Damp but no visible water
Wet:	Visible free water, usually soil is below water table

RELATIVE PROPORTIONS OF SAND AND GRAVEL

<u>Descriptive Term</u>	<u>% Dry Weight</u>
Trace:	< 15%
With:	15% to 30%
Modifier:	>30%

STRUCTURE DESCRIPTION

<u>Description</u>	<u>Criteria</u>	<u>Description</u>	<u>Criteria</u>
Stratified:	Alternating layers of varying material or color with layers at least ¼-inch (6 mm) thick	Blocky:	Cohesive soil that can be broken down into small angular lumps which resist further breakdown
Laminated:	Alternating layers of varying material or color with layers less than ¼-inch (6 mm) thick	Lensed:	Inclusion of small pockets of different soils
Fissured:	Breaks along definite planes of fracture with little resistance to fracturing	Layer:	Inclusion greater than 3 inches thick (75 mm)
Slickensided:	Fracture planes appear polished or glossy, sometimes striated	Seam:	Inclusion 1/8-inch to 3 inches (3 to 75 mm) thick extending through the sample
		Parting:	Inclusion less than 1/8-inch (3 mm) thick

SCALE OF RELATIVE ROCK HARDNESS

<u>Q_u - TSF</u>	<u>Consistency</u>
2.5 - 10	Extremely Soft
10 - 50	Very Soft
50 - 250	Soft
250 - 525	Medium Hard
525 - 1,050	Moderately Hard
1,050 - 2,600	Hard
>2,600	Very Hard

ROCK BEDDING THICKNESSES

<u>Description</u>	<u>Criteria</u>
Very Thick Bedded	Greater than 3-foot (>1.0 m)
Thick Bedded	1-foot to 3-foot (0.3 m to 1.0 m)
Medium Bedded	4-inch to 1-foot (0.1 m to 0.3 m)
Thin Bedded	1¼-inch to 4-inch (30 mm to 100 mm)
Very Thin Bedded	½-inch to 1¼-inch (10 mm to 30 mm)
Thickly Laminated	1/8-inch to ½-inch (3 mm to 10 mm)
Thinly Laminated	1/8-inch or less "paper thin" (<3 mm)

ROCK VOIDS

<u>Voids</u>	<u>Void Diameter</u>
Pit	<6 mm (<0.25 in)
Vug	6 mm to 50 mm (0.25 in to 2 in)
Cavity	50 mm to 600 mm (2 in to 24 in)
Cave	>600 mm (>24 in)

GRAIN-SIZED TERMINOLOGY

<u>(Typically Sedimentary Rock)</u>	
<u>Component</u>	<u>Size Range</u>
Very Coarse Grained	>4.76 mm
Coarse Grained	2.0 mm - 4.76 mm
Medium Grained	0.42 mm - 2.0 mm
Fine Grained	0.075 mm - 0.42 mm
Very Fine Grained	<0.075 mm

ROCK QUALITY DESCRIPTION

<u>Rock Mass Description</u>	<u>RQD Value</u>
Excellent	90 -100
Good	75 - 90
Fair	50 - 75
Poor	25 -50
Very Poor	Less than 25

DEGREE OF WEATHERING

Slightly Weathered:	Rock generally fresh, joints stained and discoloration extends into rock up to 25 mm (1 in), open joints may contain clay, core rings under hammer impact.
Weathered:	Rock mass is decomposed 50% or less, significant portions of the rock show discoloration and weathering effects, cores cannot be broken by hand or scraped by knife.
Highly Weathered:	Rock mass is more than 50% decomposed, complete discoloration of rock fabric, core may be extremely broken and gives clunk sound when struck by hammer, may be shaved with a knife.

Unified Soil Classification System

Major Divisions			Letter	Symbol	Description	
Coarse-grained Soils More than ½ retained on the No. 200 Sieve	Gravels More than ½ coarse fraction retained on the No. 4 sieve	Clean Gravels	GW		Well-graded gravels and gravel-sand mixtures, little or no fines.	
		Gravels	GP		Poorly-graded gravels and gravel-sand mixtures, little or no fines.	
		Gravels With Fines	GM		Silty gravels, gravel-sand-silt mixtures.	
			GC		Clayey gravels, gravel-sand-clay mixtures.	
	Sands More than ½ passing through the No. 200 sieve	Clean Sands	SW		Well-graded sands and gravelly sands, little or no fines.	
			SP		Poorly-graded sands and gravelly sands, little or no fines.	
		Sands With Fines	SM		Silty sands, sand-silt mixtures	
			SC		Clayey sands, sandy-clay mixtures.	
	Fine-grained Soils More than ½ passing through the No. 200 Sieve	Silts and Clays Liquid Limit less than 50%		ML		Inorganic silts, very fine sands, rock flour, silty or clayey fine sands.
				CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
OL					Organic clays of medium to high plasticity.	
Silts and Clays Liquid Limit greater than 50%		MH		Inorganic silts, micaceous or diatomaceous fines sands or silts, elastic silts.		
		CH		Inorganic clays of high plasticity, fat clays.		
		OH		Organic clays of medium to high plasticity.		
Highly Organic Soils			PT		Peat, muck, and other highly organic soils.	
Consistency Classification						
<i>Granular Soils</i>			<i>Cohesive Soils</i>			
Description - Blows Per Foot (Corrected)			Description - Blows Per Foot (Corrected)			
	<u>MCS</u>	<u>SPT</u>		<u>MCS</u>	<u>SPT</u>	
Very loose	<5	<4	Very soft	<3	<2	
Loose	5 - 15	4 - 10	Soft	3 - 5	2 - 4	
Medium dense	16 - 40	11 - 30	Firm	6 - 10	5 - 8	
Dense	41 - 65	31 - 50	Stiff	11 - 20	9 - 15	
Very dense	>65	>50	Very Stiff	21 - 40	16 - 30	
			Hard	>40	>30	
MCS = Modified California Sampler			SPT = Standard Penetration Test Sampler			

Boring Number: B-1

CLIENT City of Cuyahoga Falls **PROJECT NAME** Cuyahoga River Bank Stabilization
PROJECT NUMBER 2017064.00 **PROJECT LOCATION** Riverfront Parkway, Cuyahoga Falls, Ohio
DATE STARTED December 16, 2019 **COMPLETED** December 16, 2019 **GROUND ELEVATION** 1004 ft **HOLE SIZE** _____
DRILLING CONTRACTOR GPD Geotechnical Services, Inc. **GROUND WATER LEVELS:**
DRILLING METHOD Hollow Stem Auger with Manual SPT Hammer **AT TIME OF DRILLING** ---
LOGGED BY Dave Campana **CHECKED BY** Amanda Idri **AT END OF DRILLING** ---
NOTES Simco 2400, ATV

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 3/4/20 14:40 - F:\GPD GILCHRIST\JOBS\2019\GPD\DRILLING\2017064.00 - RIVERFRONT PKWY STABILIZATION, CUYHOGA FALLS\B1 TO B3.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		6" Topsoil										
	[Cross-hatched pattern]	Damp, loose to very dense, black SLAG, minor silt & sand. (Fill)	SS 1	67	3-3-3 (6)			17				
5			SS 2	60	50/5"							
	[Dotted pattern]	Damp, medium dense, gray, fine to coarse SAND, some rock fragments.	SS 3	33	4-5-9 (14)			4				
10			SS 4	85	10-14- 50/1"							
15		Dry, very dense, brown, fine to coarse SAND, minor gravel.										
	[Dotted pattern]	Dry, compact, brown to gray, completely weathered SANDSTONE.										

Auger Refusal at 16.0 feet

Boring Number: B-2

CLIENT City of Cuyahoga Falls **PROJECT NAME** Cuyahoga River Bank Stabilization
PROJECT NUMBER 2017064.00 **PROJECT LOCATION** Riverfront Parkway, Cuyahoga Falls, Ohio
DATE STARTED December 16, 2019 **COMPLETED** December 16, 2019 **GROUND ELEVATION** 999 ft **HOLE SIZE** _____
DRILLING CONTRACTOR GPD Geotechnical Services, Inc. **GROUND WATER LEVELS:**
DRILLING METHOD Hollow Stem Auger with Manual SPT Hammer **AT TIME OF DRILLING** ---
LOGGED BY Dave Campana **CHECKED BY** Amanda Idri **AT END OF DRILLING** ---
NOTES Simco 2400, ATV

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 3/4/20 14:40 - F:\GPD GILCHRIST\JOBS\2019\GPD\DRILLING\2017064.00 - RIVERFRONT PKWY STABILIZATION, CUYHOGA FALLS\B1 TO B3.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		8" Topsoil										
		Moist, medium dense, brown & tan, clayey SILT, minor organics & sand. (Fill) Encountered hard layer causing crooked hole, had to re-drill.	SS 1	44	3-10 (10)			13				
		Moist, dense, brown, fine to coarse SAND, some silt, minor slag & brick fragments, trace of gravel & organics. (Fill)	SS 2	100	9-18-25 (43)							
5		Damp, medium dense, reddish brown, fine to coarse SAND, minor brick fragments. (Fill)										
		Dry, medium dense, gray, fine to coarse SAND, minor rock fragments. (Fill)	SS 3	39	6-9-5 (14)			11				
10		Damp, very loose, black SLAG, trace of silty clay. (Fill)	SS 4	6	2-2-1 (3)							
15		No recovery; Auger cutting probable SANDSTONE.										
Auger Refusal at 18.6 feet			SS 5	0	50/1"							

Boring Number: B-3

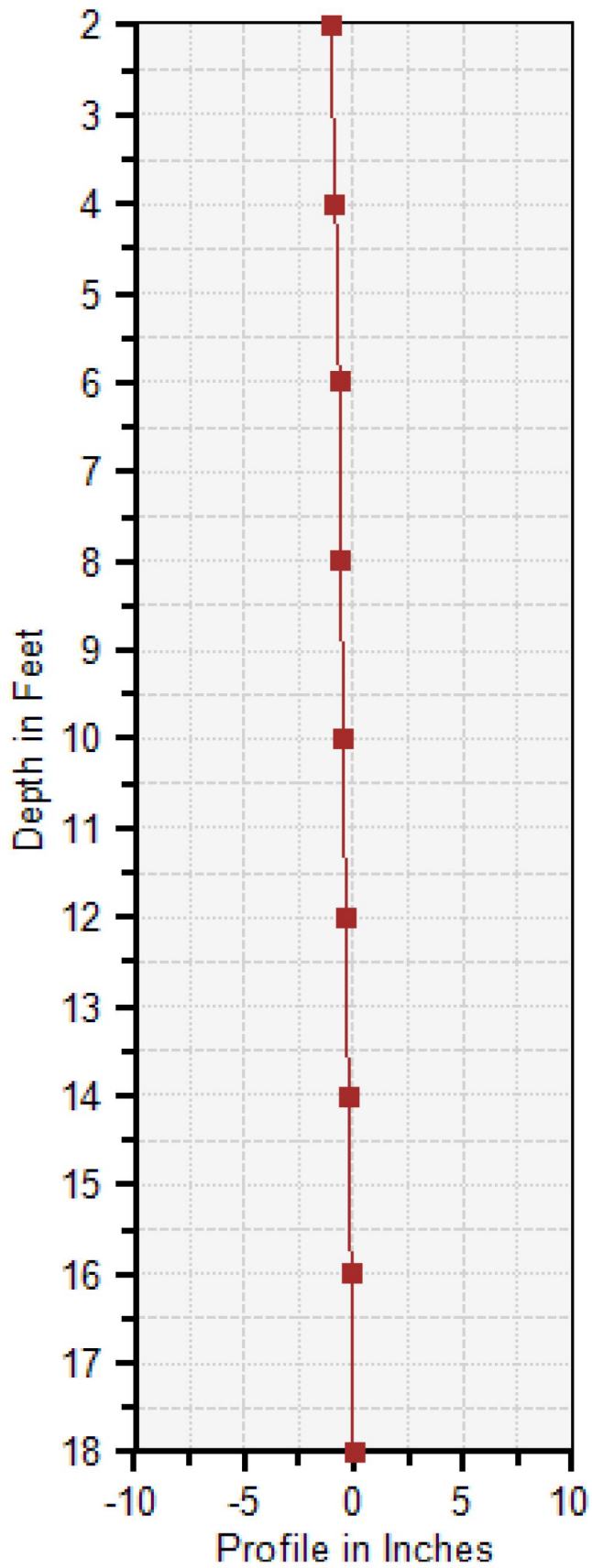
CLIENT City of Cuyahoga Falls **PROJECT NAME** Cuyahoga River Bank Stabilization
PROJECT NUMBER 2017064.00 **PROJECT LOCATION** Riverfront Parkway, Cuyahoga Falls, Ohio
DATE STARTED December 16, 2019 **COMPLETED** December 16, 2019 **GROUND ELEVATION** 996 ft **HOLE SIZE** _____
DRILLING CONTRACTOR GPD Geotechnical Services, Inc. **GROUND WATER LEVELS:**
DRILLING METHOD Hollow Stem Auger with Manual SPT Hammer **AT TIME OF DRILLING** ---
LOGGED BY Dave Campana **CHECKED BY** Amanda Idri **AT END OF DRILLING** ---
NOTES Simco 2400, ATV

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 3/4/20 14:40 - F:\GPD GILCHRIST\JOBS\2019\GPD\DRILLING\2017064.00 - RIVERFRONT PKWY STABILIZATION, CUYHOGA FALLS\B1 TO B3.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		Moist, medium dense, brown & tan, fine to coarse SAND, minor silt, trace of gravel. (Fill)	SS 1	72	10-9-6 (15)			12				
		Moist, very loose, black SLAG, trace of sand. (Fill)	SS 2	22	2-1-1 (2)			24				
5		Moist, very loose, black, organic SILT, minor slag. (Fill)	SS 3	72	1-1-1 (2)			19				
10		Wet, compact, brown, weathered SANDSTONE.										
		Auger Refusal at 13.8 feet	SS 4	100	50/3"							

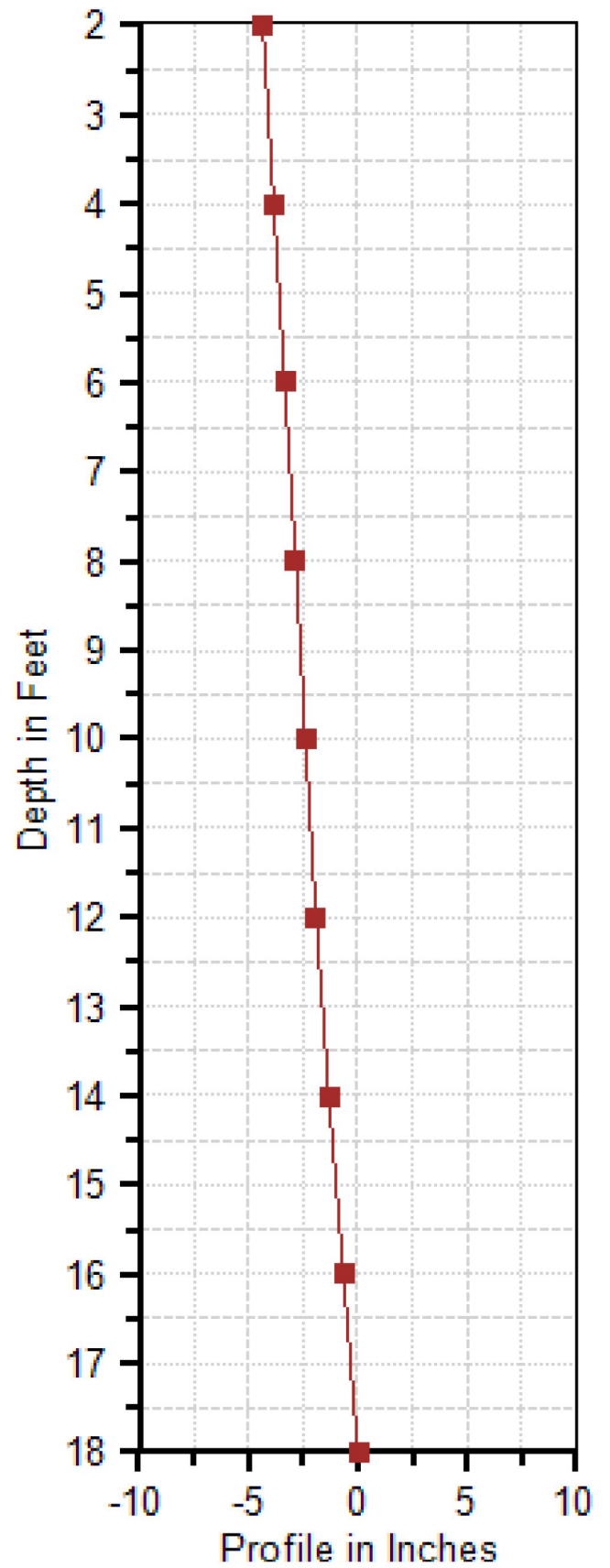
CF 1 A/SLP1

1/31/2020



CF 1 B/SLP2

1/31/2020



About this Report

This report has been generated using LimitState:GEO, a software application capable of directly identifying the critical collapse mechanism for a wide variety of geotechnical stability problems, including those involving slopes, retaining walls, footings etc.

The software utilizes the Discontinuity Layout Optimization (DLO) procedure to obtain a solution (Smith and Gilbert 2007). The main steps involved are: (i) distribution of nodes across the problem domain; (ii) connection of every node to every other node with potential discontinuities (e.g. slip-lines); (iii) application of rigorous optimization techniques to identify the critical subset of potential discontinuities, and hence also the critical failure mechanism and margin of safety.

The accuracy of the DLO solution is controlled by the specified nodal density. Within the set of all possible discontinuities linking pairs of nodes, all potential translational failure mechanisms are considered, whether anticipated or not by the engineer. Failure mechanisms involving rotations along the edges of solid bodies in the problem can also be identified. Thus in this case the solution identified by the DLO procedure is guaranteed to be the most critical solution for the problem posed. This means that there is no need to prescribe any aspect of the collapse mechanism prior to an analysis, or to separately consider different failure modes. The critical mechanism and collapse load factor are determined according to the well established upper bound theorem of plasticity.

LimitState:GEO reports the solution to a problem both visually as a collapse mechanism and numerically in terms of an Adequacy Factor, which is defined as the factor by which specified loads must be increased, or material strengths decreased, in order for the system under consideration to reach a collapse state.

REFERENCE

Smith, C.C. and Gilbert, M. (2007) Application of discontinuity layout optimization to plane plasticity problems, Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, Vol. 463, 2086, pp 2461-2484.

Summary

Name	Date of Analysis	Name of Engineer	Organization
Riverfront Pkwy Slope Stabilization	Fri Mar 6 2020	GPD Group	GPD Group

Reference #	Location	Map Reference	Tags
2017064.00	Riverfront Pkwy, Cuyahoga Falls, OH		

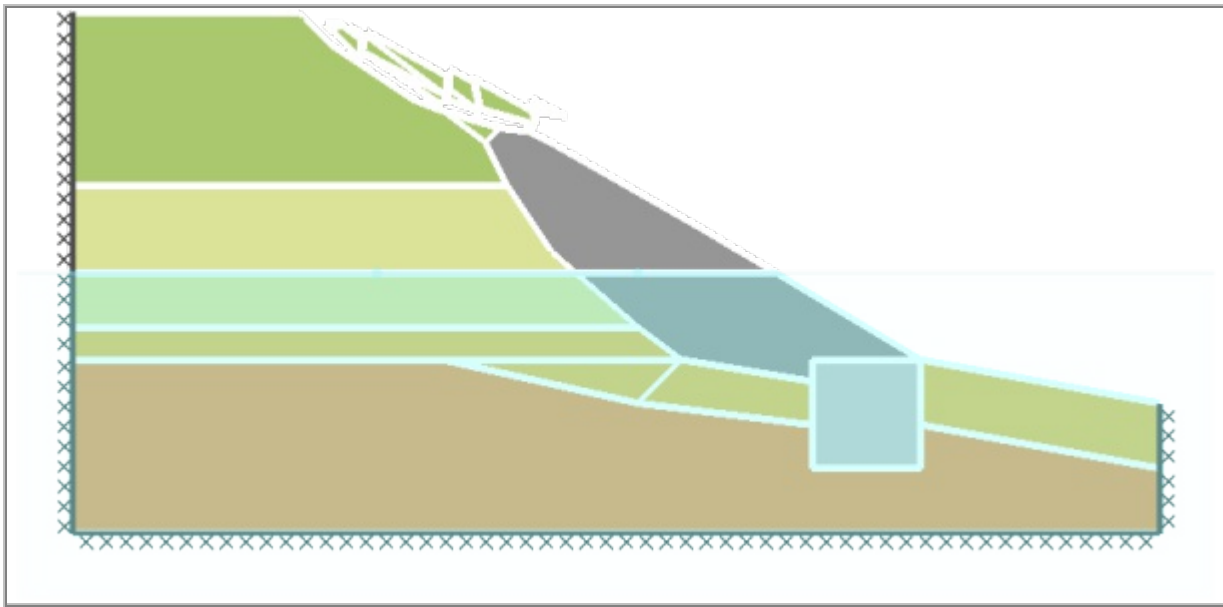
Comments

Target Nodal Density	Nodal Spacing Scale Factor	Water	Model Translational Failures?	Model Rotational Failures?	Seismic Accelerations: Horiz. / Vert. (g)
Fine (1000 nodes)	2.62763	Enabled	True	Along edges	None

Scenario	Partial Factor Set	Short / Long Term?*	Analysis Type	Adequacy Factor
1*	Unity	Long Term	Factor Strength(s)	1.328

*This report provides details of this scenario, which has been identified as the most critical. **For Mohr Coulomb materials with Drainage Behaviour specified as 'drained/undrained', undrained properties are used in a short term analysis, and drained properties are used in a long term analysis.

Failure Mechanism (Scenario 1)



Analysis Options

Factor Strength(s)

Solution Tolerance (%)	Automatic Adequacy on Load(s)	Factor on Load(s)	Artificial Cohesion (kN/m ² (kPa))
1	True	1	0.1

Geometry

(all distances in ft)

All Geometrical Objects

No. of Vertices (V)	No. of Boundaries (B)	No. of Solids (S)
31	42	10

Boundary Objects

ID	Start Vertex ID (x, y)	End Vertex ID (x, y)	Baseline Nodal Spacing	Support Type	Material(s)
B1	V2 (29.8556, 39.3701)	V3 (29.8556, 30.8399)	1.64042	Fixed	-
B2	V3 (29.8556, 30.8399)	V4 (49.2126, 30.8399)	1.64042	Free	-
B5	V4 (49.2126, 30.8399)	V23 (52.4934, 27.8871)	1.64042	Free	-
B6	V7 (55.7743, 24.6063)	V8 (29.8556, 24.6063)	1.64042	Free	-
B7	V3 (29.8556, 30.8399)	V147 (29.8556, 26.9029)	1.64042	Fixed	-
B15	V7 (55.7743, 24.6063)	V14 (59.0551, 22.9659)	1.64042	Free	-
B17	V8 (29.8556, 24.6063)	V15 (29.8556, 22.9659)	1.64042	Fixed	-
B18	V15 (29.8556, 22.9659)	V63 (45.9318, 22.9659)	1.64042	Free	-
B19	V17 (78.7402, 20.9974)	V64 (78.7402, 18.0446)	1.64042	Fixed	-
B20	V16 (78.7402, 15.0919)	V18 (29.8556, 15.0919)	1.64042	Fixed	-
B21	V15 (29.8556, 22.9659)	V18 (29.8556, 15.0919)	1.64042	Fixed	-
B22	V14 (59.0551, 22.9659)	V82 (65.6168, 21.9816)	1.64042	Free	-
B29	V23 (52.4934, 27.8871)	V148 (52.4934, 26.9029)	1.64042	Free	-
B86	V63 (45.9318, 22.9659)	V78 (55.7743, 20.9974)	1.64042	Free	-
B87	V63 (45.9318, 22.9659)	V14 (59.0551, 22.9659)	1.64042	Free	-
B88	V64 (78.7402, 18.0446)	V16 (78.7402, 15.0919)	1.64042	Fixed	-
B101	V2 (29.8556, 39.3701)	V77 (39.3701, 39.3701)	1.64042	Free	-
B102	V77 (39.3701, 39.3701)	V95 (49.2126, 32.8084)	1.64042	Free	-
B103	V14 (59.0551, 22.9659)	V78 (55.7743, 20.9974)	1.64042	Free	-

B104	V78 (55.7743, 20.9974)	V83 (65.6168, 20.0131)	1.64042	Free	-
B106	V80 (68.8976, 22.9659)	V17 (78.7402, 20.9974)	1.64042	Free	-
B107	V81 (68.8976, 20.0131)	V64 (78.7402, 18.0446)	1.64042	Free	-
B118	V89 (65.6168, 18.0446)	V90 (68.8976, 18.0446)	1.64042	Free	-
B121	V89 (65.6168, 18.0446)	V83 (65.6168, 20.0131)	1.64042	Free	-
B122	V91 (65.6168, 22.9659)	V80 (68.8976, 22.9659)	1.64042	Free	-
B123	V90 (68.8976, 18.0446)	V81 (68.8976, 20.0131)	1.64042	Free	-
B125	V81 (68.8976, 20.0131)	V80 (68.8976, 22.9659)	1.64042	Free	-
B126	V82 (65.6168, 21.9816)	V91 (65.6168, 22.9659)	1.64042	Free	-
B127	V83 (65.6168, 20.0131)	V82 (65.6168, 21.9816)	1.64042	Free	-
B129	V93 (52.4934, 32.8084)	V94 (59.0551, 28.8714)	1.64042	Free	-
B130	V94 (59.0551, 28.8714)	V150 (62.336, 26.9029)	1.64042	Free	-
B132	V95 (49.2126, 32.8084)	V96 (49.2126, 32.8084)	1.64042	Free	-
B133	V93 (52.4934, 32.8084)	V96 (49.2126, 32.8084)	1.64042	Free	-
B134	V95 (49.2126, 32.8084)	V4 (49.2126, 30.8399)	1.64042	Free	-
B135	V77 (39.3701, 39.3701)	V96 (49.2126, 32.8084)	1.64042	Free	-
B205	V147 (29.8556, 26.9029)	V8 (29.8556, 24.6063)	1.64042	Fixed	-
B206	V148 (52.4934, 26.9029)	V7 (55.7743, 24.6063)	1.64042	Free	-
B207	V147 (29.8556, 26.9029)	V149 (42.6509, 26.9029)	0.82021	Free	-
B208	V149 (42.6509, 26.9029)	V148 (52.4934, 26.9029)	0.82021	Free	-
B209	V150 (62.336, 26.9029)	V80 (68.8976, 22.9659)	1.64042	Free	-
B210	V148 (52.4934, 26.9029)	V151 (55.7743, 26.9029)	0.82021	Free	-
B211	V151 (55.7743, 26.9029)	V150 (62.336, 26.9029)	0.82021	Free	-

* Loaded boundary.

Solid Objects

ID	Vertex IDs (x, y)	Boundary IDs	Baseline Nodal Spacing (x / y)	Material(s)/Water Regime(s)
S10*	V8 (29.8556,24.6063) V7 (55.7743,24.6063) V14 (59.0551,22.9659) V63 (45.9318,22.9659) V15 (29.8556,22.9659)	B6 B15 B87 B18 B17	3.28084 / 3.28084	Weathered SS Bedrock
S60*	V2 (29.8556,39.3701) V3 (29.8556,30.8399) V4 (49.2126,30.8399) V95 (49.2126,32.8084) V77 (39.3701,39.3701)	B1 B2 B134 B102 B101	3.28084 / 3.28084	Granular Fill
S62*	V78 (55.7743,20.9974) V63 (45.9318,22.9659) V14 (59.0551,22.9659)	B86 B87 B103	3.28084 / 3.28084	Weathered SS Bedrock
S63*	V80 (68.8976,22.9659) V17 (78.7402,20.9974) V64 (78.7402,18.0446) V81 (68.8976,20.0131)	B106 B19 B107 B125	3.28084 / 3.28084	Weathered SS Bedrock
S65*	V83 (65.6168,20.0131) V78 (55.7743,20.9974) V14 (59.0551,22.9659) V82 (65.6168,21.9816)	B104 B103 B22 B127	3.28084 / 3.28084	Weathered SS Bedrock
S76*	V18 (29.8556,15.0919) V15 (29.8556,22.9659) V63 (45.9318,22.9659) V78 (55.7743,20.9974) V83 (65.6168,20.0131) V89 (65.6168,18.0446) V90 (68.8976,18.0446) V81 (68.8976,20.0131) V64 (78.7402,18.0446) V16 (78.7402,15.0919)	B21 B18 B86 B104 B121 B118 B123 B107 B88 B20	3.28084 / 3.28084	SS Bedrock
	V90 (68.8976,18.0446) V89 (65.6168,18.0446)	B118 B121		

S77*	V83 (65.6168,20.0131) V82 (65.6168,21.9816) V91 (65.6168,22.9659) V80 (68.8976,22.9659) V81 (68.8976,20.0131)	B127 B126 B122 B125 B123	3.28084 / 3.28084	Toe
S80*	V77 (39.3701,39.3701) V96 (49.2126,32.8084) V95 (49.2126,32.8084)	B135 B132 B102	3.28084 / 3.28084	Granular Fill
S12	V7 (55.7743,24.6063) V8 (29.8556,24.6063) V147 (29.8556,26.9029) V3 (29.8556,30.8399) V4 (49.2126,30.8399) V23 (52.4934,27.8871) V148 (52.4934,26.9029)	B6 B205 B7 B2 B5 B29 B206	3.28084 / 3.28084	MD Sands
S79	V93 (52.4934,32.8084) V94 (59.0551,28.8714) V150 (62.336,26.9029) V80 (68.8976,22.9659) V91 (65.6168,22.9659) V82 (65.6168,21.9816) V14 (59.0551,22.9659) V7 (55.7743,24.6063) V148 (52.4934,26.9029) V23 (52.4934,27.8871) V4 (49.2126,30.8399) V95 (49.2126,32.8084) V96 (49.2126,32.8084)	B129 B130 B209 B122 B126 B22 B15 B206 B29 B5 B134 B132 B133	3.28084 / 3.28084	Protection

* Loaded solid (self weight).

Water Table (all distances in ft)







Water Table Status	Vertices (x, y)
Enabled	(44, 27) (56, 27)

Water Regimes (potentials in ft, pressures in psf (lb/ft²))

(No water regime defined)

Materials (unit weights (weight densities) in pcf (lb/ft³), strengths in psf (lb/ft²), angles in degrees, datum level in ft, undrained strength gradient in psf (lb/ft²/ft)

Mohr-Coulomb Material(s)

Key	Name	Unit Weight (Saturated Unit Weight)	Drainage Behaviour	c' (φ')	c _u (datum) (gradient) (grid)
	Weathered SS Bedrock	162 (170)	Drained/undrained	10* (38*)	30 (0) (0) (-)
	Granular Fill	110 (125)	Drained/undrained	10* (28*)	100 (0) (0) (-)
	SS Bedrock	162 (170)	Drained/undrained	350* (45*)	4999.99 (0) (0) (-)
	Toe	110 (130)	Always drained	10* (42*)	0 (0) (0) (-)
	MD Sands	120 (135)	Drained/undrained	10* (31*)	100 (0) (0) (-)
	Protection	101 (125)	Always drained	10* (38*)	0 (0) (0) (-)

*Property used in Scenario 1 (described in this report).

Partial Factors

Factor	Unity*			
Unfavourable: permanent	1			
Unfavourable: variable	1			
Unfavourable: accidental	1			
Favourable: permanent	1			
Favourable: variable	1			

Favourable: accidental	1		
c'	1		
tanφ'	1		
c _u	1		

*These partial factors were used in Scenario 1 (described in this report).

Loads (normal and shear loads in psf (lb/ft²))

Solid Objects

Loaded Object	Type	Loading Type	Adequacy?
S10	Permanent (unfactored self weight: 170 pcf (lb/ft ³))	neutral	true
S60	Permanent (unfactored self weight: 110 pcf (lb/ft ³))	neutral	true
S62	Permanent (unfactored self weight: 170 pcf (lb/ft ³))	neutral	true
S63	Permanent (unfactored self weight: 170 pcf (lb/ft ³))	neutral	true
S65	Permanent (unfactored self weight: 170 pcf (lb/ft ³))	neutral	true
S76	Permanent (unfactored self weight: 170 pcf (lb/ft ³))	neutral	true
S77	Permanent (unfactored self weight: 130 pcf (lb/ft ³))	neutral	true
S80	Permanent (unfactored self weight: 110 pcf (lb/ft ³))	neutral	true
S121	Permanent (unfactored self weight: 135 pcf (lb/ft ³))	neutral	true
S122	Permanent (unfactored self weight: 120 pcf (lb/ft ³))	neutral	true
S123	Permanent (unfactored self weight: 125 pcf (lb/ft ³))	neutral	true
S124	Permanent (unfactored self weight: 101 pcf (lb/ft ³))	neutral	true



analysis & design software for engineers

About this Report

This report has been generated using LimitState:GEO, a software application capable of directly identifying the critical collapse mechanism for a wide variety of geotechnical stability problems, including those involving slopes, retaining walls, footings etc.

The software utilizes the Discontinuity Layout Optimization (DLO) procedure to obtain a solution (Smith and Gilbert 2007). The main steps involved are: (i) distribution of nodes across the problem domain; (ii) connection of every node to every other node with potential discontinuities (e.g. slip-lines); (iii) application of rigorous optimization techniques to identify the critical subset of potential discontinuities, and hence also the critical failure mechanism and margin of safety.

The accuracy of the DLO solution is controlled by the specified nodal density. Within the set of all possible discontinuities linking pairs of nodes, all potential translational failure mechanisms are considered, whether anticipated or not by the engineer. Failure mechanisms involving rotations along the edges of solid bodies in the problem can also be identified. Thus in this case the solution identified by the DLO procedure is guaranteed to be the most critical solution for the problem posed. This means that there is no need to prescribe any aspect of the collapse mechanism prior to an analysis, or to separately consider different failure modes. The critical mechanism and collapse load factor are determined according to the well established upper bound theorem of plasticity.

LimitState:GEO reports the solution to a problem both visually as a collapse mechanism and numerically in terms of an Adequacy Factor, which is defined as the factor by which specified loads must be increased, or material strengths decreased, in order for the system under consideration to reach a collapse state.

REFERENCE

Smith, C.C. and Gilbert, M. (2007) Application of discontinuity layout optimization to plane plasticity problems, Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, Vol. 463, 2086, pp 2461-2484.

Summary

Name	Date of Analysis	Name of Engineer	Organization
Riverfront Pkwy Slope Stabilization	Fri Mar 6 2020	GPD Group	GPD Group

Reference #	Location	Map Reference	Tags
2017064.00	Riverfront Pkwy, Cuyahoga Falls, OH		

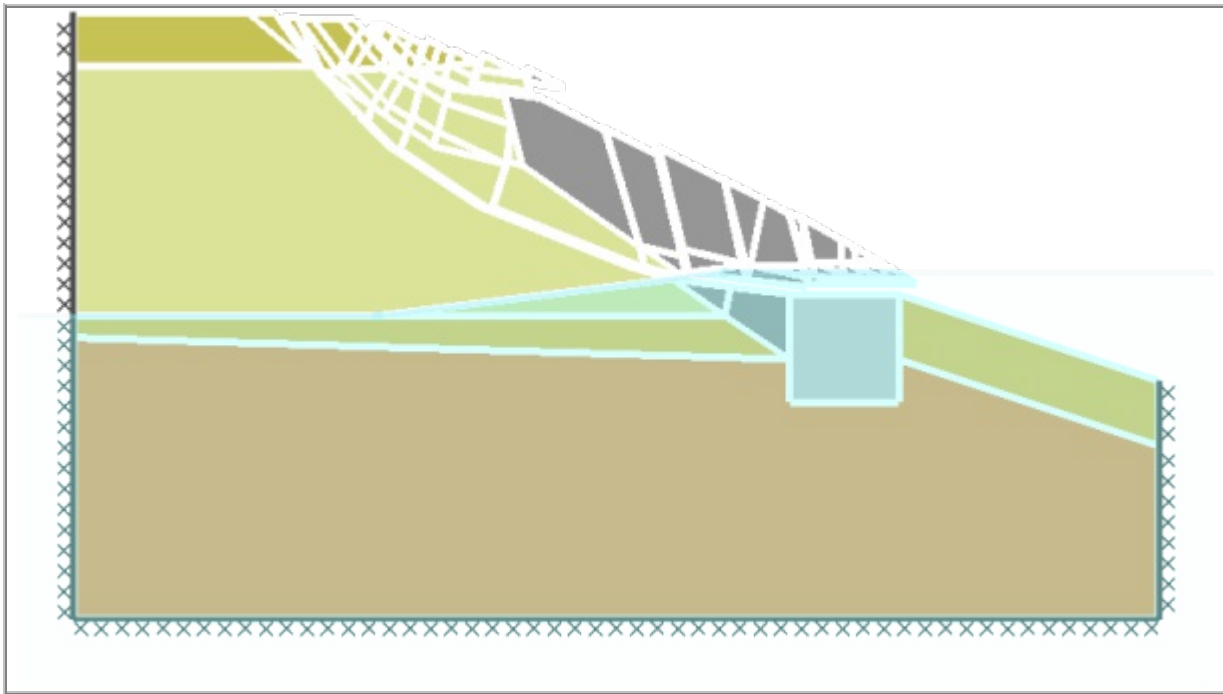
Comments

Target Nodal Density	Nodal Spacing Scale Factor	Water	Model Translational Failures?	Model Rotational Failures?	Seismic Accelerations: Horiz. / Vert. (g)
Fine (1000 nodes)	2.3575	Enabled	True	Along edges	None

Scenario	Partial Factor Set	Short / Long Term?*	Analysis Type	Adequacy Factor
1*	Unity	Long Term	Factor Strength(s)	1.33

*This report provides details of this scenario, which has been identified as the most critical. **For Mohr Coulomb materials with Drainage Behaviour specified as 'drained/undrained', undrained properties are used in a short term analysis, and drained properties are used in a long term analysis.

Failure Mechanism (Scenario 1)



Analysis Options

Factor Strength(s)

Solution Tolerance (%)	Automatic Adequacy on Load(s)	Factor on Load(s)	Artificial Cohesion (kN/m ² (kPa))
1	True	1	0.1

Geometry

(all distances in ft)

All Geometrical Objects

No. of Vertices (V)	No. of Boundaries (B)	No. of Solids (S)
28	41	11

Boundary Objects

ID	Start Vertex ID (x, y)	End Vertex ID (x, y)	Baseline Nodal Spacing	Support Type	Material(s)
B1	V2 (29.8556, 39.3701)	V3 (29.8556, 36.0892)	1.64042	Fixed	-
B2	V3 (29.8556, 36.0892)	V68 (39.3701, 36.0892)	1.64042	Free	-
B3	V4 (45.9318, 36.0892)	V5 (42.6509, 39.3701)	1.64042	Free	-
B6	V7 (62.336, 28.8714)	V219 (59.0551, 25.9186)	1.64042	Free	-
B7	V3 (29.8556, 36.0892)	V8 (29.8556, 23.9501)	1.64042	Fixed	-
B15	V7 (62.336, 28.8714)	V220 (65.6168, 25.9186)	1.64042	Free	-
B17	V8 (29.8556, 23.9501)	V15 (29.8556, 22.9659)	1.64042	Fixed	-
B18	V15 (29.8556, 22.9659)	V72 (62.336, 21.9816)	1.64042	Free	-
B19	V17 (78.7402, 20.9974)	V92 (78.7402, 18.0446)	1.64042	Fixed	-
B20	V16 (78.7402, 9.84252)	V18 (29.8556, 9.84252)	1.64042	Fixed	-
B21	V15 (29.8556, 22.9659)	V18 (29.8556, 9.84252)	1.64042	Fixed	-
B22	V14 (68.8976, 24.9344)	V17 (78.7402, 20.9974)	1.64042	Free	-
B29	V4 (45.9318, 36.0892)	V164 (49.2126, 36.0892)	1.64042	Free	-
B52	V2 (29.8556, 39.3701)	V149 (39.3701, 39.3701)	1.64042	Free	-
B89	V65 (62.336, 24.9344)	V14 (68.8976, 24.9344)	1.64042	Free	-

B90	V14 (68.8976, 24.9344)	V91 (68.8976, 21.9816)	1.64042	Free	-
B91	V66 (68.8976, 20.0131)	V67 (62.336, 20.0131)	1.64042	Free	-
B93	V68 (39.3701, 36.0892)	V74 (45.9318, 32.1522)	1.64042	Free	-
B94	V68 (39.3701, 36.0892)	V4 (45.9318, 36.0892)	1.64042	Free	-
B95	V69 (59.0551, 23.9501)	V217 (42.6509, 23.9501)	1.64042	Free	-
B96	V69 (59.0551, 23.9501)	V72 (62.336, 21.9816)	1.64042	Free	-
B97	V72 (62.336, 21.9816)	V65 (62.336, 24.9344)	1.64042	Free	-
B99	V72 (62.336, 21.9816)	V67 (62.336, 20.0131)	1.64042	Free	-
B100	V4 (45.9318, 36.0892)	V74 (45.9318, 32.1522)	1.64042	Free	-
B101	V74 (45.9318, 32.1522)	V165 (49.2126, 30.8399)	1.64042	Free	-
B122	V91 (68.8976, 21.9816)	V92 (78.7402, 18.0446)	1.64042	Free	-
B123	V91 (68.8976, 21.9816)	V66 (68.8976, 20.0131)	1.64042	Free	-
B124	V92 (78.7402, 18.0446)	V16 (78.7402, 9.84252)	1.64042	Fixed	-
B207	V68 (39.3701, 36.0892)	V149 (39.3701, 39.3701)	1.64042	Free	-
B208	V149 (39.3701, 39.3701)	V5 (42.6509, 39.3701)	1.64042	Free	-
B227	V164 (49.2126, 36.0892)	V165 (49.2126, 30.8399)	1.64042	Free	-
B228	V164 (49.2126, 36.0892)	V7 (62.336, 28.8714)	1.64042	Free	-
B229	V165 (49.2126, 30.8399)	V221 (59.0551, 25.5906)	1.64042	Free	-
B302	V217 (42.6509, 23.9501)	V8 (29.8556, 23.9501)	1.64042	Free	-
B303	V219 (59.0551, 25.9186)	V69 (59.0551, 23.9501)	1.64042	Free	-
B304	V220 (65.6168, 25.9186)	V14 (68.8976, 24.9344)	1.64042	Free	-
B305	V219 (59.0551, 25.9186)	V220 (65.6168, 25.9186)	0.82021	Free	-
B306	V221 (59.0551, 25.5906)	V69 (59.0551, 23.9501)	1.64042	Free	-
B307	V217 (42.6509, 23.9501)	V221 (59.0551, 25.5906)	0.82021	Free	-
B308	V221 (59.0551, 25.5906)	V222 (59.0551, 25.9186)	0.82021	Free	-
B309	V222 (59.0551, 25.9186)	V219 (59.0551, 25.9186)	0.82021	Free	-

* Loaded boundary.

Solid Objects

ID	Vertex IDs (x, y)	Boundary IDs	Baseline Nodal Spacing (x / y)	Material(s)/Water Regime(s)
S52*	V65 (62.336,24.9344) V14 (68.8976,24.9344) V91 (68.8976,21.9816) V66 (68.8976,20.0131) V67 (62.336,20.0131) V72 (62.336,21.9816)	B89 B90 B123 B91 B99 B97	3.28084 / 3.28084	Toe
S61*	V74 (45.9318,32.1522) V68 (39.3701,36.0892) V4 (45.9318,36.0892)	B93 B94 B100	3.28084 / 3.28084	VL Sands
S78*	V92 (78.7402,18.0446) V17 (78.7402,20.9974) V14 (68.8976,24.9344) V91 (68.8976,21.9816)	B19 B22 B90 B122	3.28084 / 3.28084	Weathered SS Bedrock
S79*	V91 (68.8976,21.9816) V66 (68.8976,20.0131) V67 (62.336,20.0131) V72 (62.336,21.9816) V15 (29.8556,22.9659) V18 (29.8556,9.84252) V16 (78.7402,9.84252) V92 (78.7402,18.0446)	B123 B91 B99 B18 B21 B20 B124 B122	3.28084 / 3.28084	SS Bedrock

S136*	V68 (39.3701,36.0892) V4 (45.9318,36.0892) V5 (42.6509,39.3701) V149 (39.3701,39.3701)	B94 B3 B208 B207	3.28084 / 3.28084	MD MS
S137*	V149 (39.3701,39.3701) V2 (29.8556,39.3701) V3 (29.8556,36.0892) V68 (39.3701,36.0892)	B52 B1 B2 B207	3.28084 / 3.28084	MD MS
S151*	V165 (49.2126,30.8399) V74 (45.9318,32.1522) V4 (45.9318,36.0892) V164 (49.2126,36.0892)	B101 B100 B29 B227	3.28084 / 3.28084	VL Sands
S57	V72 (62.336,21.9816) V15 (29.8556,22.9659) V8 (29.8556,23.9501) V217 (42.6509,23.9501) V69 (59.0551,23.9501)	B18 B17 B302 B95 B96	3.28084 / 3.28084	Weathered SS Bedrock
S56	V69 (59.0551,23.9501) V219 (59.0551,25.9186) V7 (62.336,28.8714) V220 (65.6168,25.9186) V14 (68.8976,24.9344) V65 (62.336,24.9344) V72 (62.336,21.9816)	B303 B6 B15 B304 B89 B97 B96	3.28084 / 3.28084	Protection
S54	V69 (59.0551,23.9501) V217 (42.6509,23.9501) V8 (29.8556,23.9501) V3 (29.8556,36.0892) V68 (39.3701,36.0892) V74 (45.9318,32.1522) V165 (49.2126,30.8399) V221 (59.0551,25.5906)	B95 B302 B7 B2 B93 B101 B229 B306	3.28084 / 3.28084	VL Sands
S150	V164 (49.2126,36.0892) V7 (62.336,28.8714) V219 (59.0551,25.9186) V69 (59.0551,23.9501) V221 (59.0551,25.5906) V165 (49.2126,30.8399)	B228 B6 B303 B306 B229 B227	3.28084 / 3.28084	Protection

* Loaded solid (self weight).

Water Table (all distances in ft)







Water Table Status	Vertices (x, y)
Enabled	(44, 24) (60, 26)

Water Regimes (potentials in ft, pressures in psf (lb/ft²))

(No water regime defined)

Materials (unit weights (weight densities) in pcf (lb/ft³), strengths in psf (lb/ft²), angles in degrees, datum level in ft, undrained strength gradient in psf (lb/ft²)/ft)

Mohr-Coulomb Material(s)

Key	Name	Unit Weight (Saturated Unit Weight)	Drainage Behaviour	c' (φ')	c _u (datum) (gradient) (grid)
	Toe	110 (130)	Always drained	10* (42*)	0 (0) (0) (-)
	VL Sands	105 (125)	Drained/undrained	4.99999* (23*)	49.9999 (0) (0) (-)
	Weathered SS Bedrock	162 (170)	Drained/undrained	200* (28*)	3000 (0) (0) (-)
	SS Bedrock	162 (170)	Drained/undrained	350* (30*)	5000 (0) (0) (-)
	MD MS	120 (130)	Drained/undrained	10* (33*)	100 (0) (0) (-)
	Protection	101 (125)	Always drained	10* (38*)	0 (0) (0) (-)

*Property used in Scenario 1 (described in this report).

Partial Factors

Factor	Unity*			
Unfavourable: permanent	1			
Unfavourable: variable	1			
Unfavourable: accidental	1			
Favourable: permanent	1			
Favourable: variable	1			
Favourable: accidental	1			
c'	1			
tanφ'	1			
c _u	1			

*These partial factors were used in Scenario 1 (described in this report).

Loads (normal and shear loads in psf (lb/ft²))

Solid Objects

Loaded Object	Type	Loading Type	Adequacy?
S52	Permanent (unfactored self weight: 130 pcf (lb/ft ³))	neutral	true
S61	Permanent (unfactored self weight: 105 pcf (lb/ft ³))	neutral	true
S78	Permanent (unfactored self weight: 170 pcf (lb/ft ³))	neutral	true
S79	Permanent (unfactored self weight: 170 pcf (lb/ft ³))	neutral	true
S136	Permanent (unfactored self weight: 120 pcf (lb/ft ³))	neutral	true
S137	Permanent (unfactored self weight: 120 pcf (lb/ft ³))	neutral	true
S151	Permanent (unfactored self weight: 105 pcf (lb/ft ³))	neutral	true
S204	Permanent (unfactored self weight: 170 pcf (lb/ft ³))	neutral	true
S205	Permanent (unfactored self weight: 125 pcf (lb/ft ³))	neutral	true
S206	Permanent (unfactored self weight: 101 pcf (lb/ft ³))	neutral	true
S207	Permanent (unfactored self weight: 125 pcf (lb/ft ³))	neutral	true
S208	Permanent (unfactored self weight: 105 pcf (lb/ft ³))	neutral	true
S209	Permanent (unfactored self weight: 125 pcf (lb/ft ³))	neutral	true
S210	Permanent (unfactored self weight: 101 pcf (lb/ft ³))	neutral	true



analysis & design software for engineers

October 1, 2021

Mark Scalabrino
Ohio Section Regulatory Section Chief
U.S. Army Corps of Engineers, Buffalo District
1776 Niagara Street
Buffalo, New York 14207

Re: *Nationwide Permit #13 Pre-Construction Notification
Cuyahoga River Bank Stabilization Project
City of Cuyahoga Falls, Ohio*

Dear Mr. Scalabrino;

On behalf of City of Cuyahoga Falls, EnviroScience, Inc. herein transmits one electronic copy of a Pre-Construction Notification for Nationwide Permit #13 (Bank Stabilization) for the Cuyahoga River Bank Stabilization Project. The project is located near Riverfront Parkway in the City of Cuyahoga Falls in Summit County, Ohio.

The components of this permit application package are attached and include:

- Complete Department of the Army Application Form (Appendix A)
- Proposed Impact Map (Appendix B)
- Construction Drawings (Appendix C)

A wetland delineation was not completed for this project as the project site is a severely eroded shear bank and no wetlands are within the project site. We respectfully request an expedited review of this permit application so that any needed tree clearing may be performed during the seasonal clearing window for federally protected bat species. If you have any questions of comment, please contact me with any questions or comments at (330) 217-2550 or tprewitt@EnviroScienceInc.com.

Sincerely,



Tom Prewitt
Restoration Biologist

Enclosures

cc: Tony Demasi, City of Cuyahoga Falls



5070 Stow Road
Stow, OH 44224

APPENDIX A
COMPLETE DEPARTMENT OF THE ARMY APPLICATION FORM

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY			
13. NAME OF WATERBODY, IF KNOWN (<i>if applicable</i>) Cuyahoga River		14. PROPOSED ACTIVITY STREET ADDRESS (<i>if applicable</i>) Riverfront Parkway	
15. LOCATION OF PROPOSED ACTIVITY (<i>see instructions</i>) Latitude °N Longitude °W 41.138373 -81.480553		City: Cuyahoga Falls	State: Zip: OH 44221
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (<i>see instructions</i>)			
State Tax Parcel ID		Municipality	
Section	Township	Range	
17. DIRECTIONS TO THE SITE. From Buffalo NY: From I-190, merge onto I-90W and follow through Pennsylvania and follow signs for I-90W towards Cleveland/I-271 S. Follow I-90W for 202 miles, then keep right at the fork to stay on I-90 W, following signs for I-271 S/Cleveland. Keep left at the fork to continue onto I-271 for approximately 21 miles and follow signs for Akron/Columbus. Take Exit 18A to merge onto OH-8 toward Boston Heights/Akron for 12 miles, then take Exit 6 to merge onto 2nd Street. Take 2nd Street for 0.4 miles then turn left onto Wadsworth Ave. for Follow Wadsworth for 400 feet then right onto Front Street before turning left into the parking lot. Arrive at the project area at the back of the parking lot.			
18. IDENTIFY THE SPECIFIC NATIONWIDE PERMIT(S) YOU PROPOSE TO USE: Nationwide Permit #13			
19. DESCRIPTION OF PROPOSED NATIONWIDE PERMIT ACTIVITY (<i>see instructions</i>) This project is a stream restoration project within the City of Cuyahoga Falls. The project goals are relieving impacts caused by significant bank erosion. The project activities include utilizing natural channel design and bioengineering to restore approximately 275 linear feet of river bank improving water quality by decreasing sediment load caused by erosion. To achieve these goals, objectives will be to stabilize stream banks through the addition of angular boulders to decrease the bank angle and promote a slope capable of vegetation. The project will address the full height of the slope but the toe stabilization is most important for success.			
20. DESCRIPTION OF PROPOSED MITIGATION MEASURES (<i>see instructions</i>) Impacts to stream will be offset by the restoration of a stabilized stream banks and enhancing the riparian corridor. The project area will be revegetated with native riparian plant species. This restoration effort will result in an overall improvement in stream bank stability and function, and reducing near bank stress causing erosion. Any temporary impacts to existing wildlife will be minimized or avoided according to ODNR and USFWS protocol.			
21. PURPOSE OF NATIONWIDE PERMIT ACTIVITY (<i>Describe the reason or purpose of the project, see instructions</i>) The purpose of the bank stabilization project is to create a stable foundation in the project area to stop further bank erosion and enhance the riparian corridor. Evaluation of the area suggests that the disturbance causing the erosion is likely due to highly dense urban and suburban development and fill placed along this bank when the dam was in place. The dam was removed in 2013 and the bank has been worsening since. Our team has developed a design which addresses the stability goal of the project using rock protection and the planting of native vegetation (Please refer to the Permit Plan Set in Appendix C). This restoration effort will result in significant overall improvement in stream stability and function, as well as water quality. The project will install large angular boulders of the size ODOT A+, A, B and C in a toe trench and up the bank slope. The toe trench is rock buried below the existing streambed to guard against downcutting and scour. The largest material A+ and A sized will be installed here for velocity and shear stress resistance. A mixture of the rock sizes A, B and C will then be installed up the slope in lifts to create the finish grade. At and above the OHWM elevation the voids and spaces of the rock will be filled and then topped with topsoil. Erosion fabric and straw mulch will be used to maintain soil while the temporary and native seed mixes grow. Live stakes will be used near the OHWM elevation to establish woody species.			
22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by Proposed Nationwide Permit Activity (<i>see instructions</i>)			
Acres	Linear Feet	Cubic Yards Dredged or Discharged	
0.088 acres		339 Cu. Yds.	
Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site.			

23. List 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 on any related activity (see instructions)

Ohio EPA - NOI /SWPPP- Construction General Permit

City of Cuyahoga Falls - Floodplain Permit

ODNR - Coordination - A request for Ohio Natural Heritage Database Review to be submitted

USFWS - Coordination - A request for finding regarding federally-listed species to be submitted

SHPO - Coordination - A request for finding regarding State historic properties to be submitted

24. If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and requires pre-construction notification, explain how the compensatory mitigation requirement in paragraph (c) of general condition 23 will be satisfied, or explain why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required for the proposed activity.

N/A

25. Is Any Portion of the Nationwide Permit Activity Already Complete? Yes No If Yes, describe the completed work:

26. List the name(s) of any species listed as endangered or threatened under the Endangered Species Act that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. (see instructions)

There are no known endangered or threatened species within the project area. An ODNR Ohio Natural Heritage Database Review to be submitted. A request for finding from USFWS regarding federally-listed species to be submitted.

27. List any historic properties that have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic property or properties. (see instructions)

A request for finding regarding State historic properties to be submitted.

28. For a proposed NWP 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, identify the Wild and Scenic River or the "study river":

N/A

29. If the proposed NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, have you submitted a written request for section 408 permission from the Corps district having jurisdiction over that project? Yes No

If "yes", please provide the date your request was submitted to the Corps District:

30. If the terms of the NWP(s) you want to use require additional information to be included in the PCN, please include that information in this space or provide it on an additional sheet of paper marked Block 30. (see instructions)

N/A

31. Pre-construction notification is hereby made for one or more nationwide permit(s) to authorize the work described in this notification. I certify that this information in this pre-construction notification is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

Tony V. Demasi Digitally signed by Tony V. Demasi
Date: 2021.09.30 15:13:43 -04'00'

2021-09-30

Thomas Prewitt Digitally signed by Thomas Prewitt
Date: 2021.10.01 07:44:07 -04'00'

2021-10-01

SIGNATURE OF APPLICANT

DATE

SIGNATURE OF AGENT

DATE

The Pre-Construction Notification must be signed by the person who desires to undertake the proposed activity (applicant) and, if the statement in block 11 has been filled out and signed, the authorized agent.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

**Instructions for Preparing a
Department of the Army
Nationwide Permit (NWP) Pre-Construction Notification (PCN)**

Blocks 1 through 4. To be completed by the Corps of Engineers.

Block 5. Applicant' Name. Enter the name and the e-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the preconstruction notification, please attach a sheet of paper with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the PCN. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant Telephone Number(s). Please provide the telephone number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, consultant, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by the applicant, if an agent is to be employed.

Block 12. Proposed Nationwide Permit Activity Name or Title. Please provide a name identifying the proposed NWP activity, e.g., Windward Marina, Rolling Hills Subdivision, or Smith Commercial Center.

Block 13. Name of Waterbody. Please provide the name (if it has a name) of any stream, lake, marsh, or other waterway to be directly impacted by the NWP activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Activity Street Address. If the proposed NWP activity is located at a site having a street address (not a box number), please enter it in Block 14.

Block 15. Location of Proposed Activity. Enter the latitude and longitude of where the proposed NWP activity is located. Indicate whether the project location provided is the center of the project or whether the project location is provided as the latitude and longitude for each of the "corners" of the project area requiring evaluation. If there are multiple sites, please list the latitude and longitude of each site (center or corners) on a separate sheet of paper and mark as Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality where the site is located.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide a description of the location of the proposed NWP activity, such as lot numbers, tract numbers, or you may choose to locate the proposed NWP activity site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed NWP activity site if known. If there are multiple locations, please indicate directions to each location on a separate sheet of paper and mark as Block 17.

Block 18. Identify the Specific Nationwide Permit(s) You Propose to Use. List the number(s) of the Nationwide Permit(s) you want to use to authorize the proposed activity (e.g., NWP 29).

Block 19. Description of the Proposed Nationwide Permit Activity. Describe the proposed NWP activity, including the direct and indirect adverse environmental effects the activity would cause. The description of the proposed activity 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. Identify the materials to be used in construction, as well as the methods by which the work is to be done.

Provide sketches when necessary to show that the proposed NWP activity complies with the terms of the applicable NWP(s). Sketches usually clarify the activity and result in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed NWP activity (e.g., a conceptual plan), but do not need to be detailed engineering plans.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 19.

Block 20. Description of Proposed Mitigation Measures. Describe any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed NWP activity. The description of 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 additional mitigation measures.

Block 21. Purpose of Nationwide Permit Activity. Describe the purpose and need for the proposed NWP activity. What will it be used for and why? Also include a brief description of any related activities associated with the proposed project. Provide the approximate dates you plan to begin and complete all work.

Block 22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by the Proposed Nationwide Permit Activity. For discharges of dredged or fill material into waters of the United States, provide the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained by the proposed NWP activity. For structures or work in navigable waters of the United States subject to Section 10 of the Rivers and Harbors Act of 1899, provide the amount of navigable waters filled, dredged, occupied by one or more structures (e.g., aids to navigation, mooring buoys) by the proposed NWP activity.

For multiple NWPs, or for separate and distant crossings of waters of the United States authorized by NWPs 12 or 14, attach an extra sheet of paper marked Block 21 to provide the quantities of wetlands, streams, or other types of waters filled, flooded, excavated, or drained (or dredged or occupied by structures, if in waters subject to Section 10 of the Rivers and Harbors Act of 1899) for each NWP. For NWPs 12 and 14, include the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained for each separate and distance crossing of waters or wetlands. If more space is needed, attach an extra sheet of paper marked Block 21.

Block 23. Identify Any Other Nationwide Permit(s), Regional General Permit(s), or Individual Permit(s) Used to Authorize Any Part of Proposed Activity or Any Related Activity. List 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. For linear projects, list other separate and distant crossings of waters and wetlands authorized by NWPs 12 or 14 that do not require PCNs. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 24. Compensatory Mitigation Statement for Losses of Greater Than 1/10-Acre of Wetlands When Pre-Construction Notification is Required. Paragraph (c) of NWP general condition 23 requires compensatory mitigation at a minimum one-for-one replacement 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 is more environmentally appropriate or the adverse environmental effects of the proposed NWP activity are no more than minimal without compensatory mitigation, and provides an activity-specific waiver of this requirement. Describe the proposed compensatory mitigation for wetland losses greater than 1/10 acre, or provide an explanation of why the district engineer should not require wetland compensatory mitigation for the proposed NWP activity. If more space is needed, attach an extra sheet of paper marked Block 23.

Block 25. Is Any Portion of the Nationwide Permit Activity Already Complete? Describe any work that has already been completed for the NWP activity.

Block 26. List the Name(s) of Any Species Listed As Endangered or Threatened under the Endangered Species Act that Might be Affected by the Nationwide Permit Activity. If you are not a federal agency, and if any listed species or designated critical habitat might be affected or is in the vicinity of the proposed NWP activity, or if the proposed NWP activity is located in designated critical habitat, list the name(s) of those endangered or threatened species that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 7 of the Endangered Species Act.

Block 27. List Any Historic Properties that Have the Potential to be Affected by the Nationwide Permit Activity. If you are not a federal agency, and if any historic properties have the potential to be affected by the proposed NWP activity, list the name(s) of those historic properties that have the potential to be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

Block 28. List the Wild and Scenic River or Congressionally Designated Study River if the Nationwide Permit Activity Would Occur in such a River. If the proposed NWP activity will occur in a river in the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" under the Wild and Scenic Rivers Act, provide the name of the river. For a list of Wild and Scenic Rivers and study rivers, please visit <http://www.rivers.gov/>

Block 29. Nationwide Permit Activities that also Require Permission from the Corps Under 33 U.S.C. 408. If the proposed NWP activity also requires permission from the Corps under 33 U.S.C. 408 because it will temporarily or permanently alter, occupy, or use a Corps federal authorized civil works project, indicate whether you have submitted a written request for section 408 permission from the Corps district having jurisdiction over that project.

Block 30. Other Information Required For Nationwide Permit Pre-Construction Notifications. The terms of some of the Nationwide Permits include additional information requirements for preconstruction notifications:

- * NWP 3, Maintenance –information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals.
- * NWP 31, Maintenance of Existing Flood Control Facilities –a description of the maintenance baseline and the dredged material disposal site.
- * NWP 33, Temporary Construction, Access, and Dewatering –a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions.
- * NWP 44, Mining Activities –if reclamation is required by other statutes, then a copy of the final reclamation plan must be submitted with the pre-construction notification.
- * NWP 45, Repair of Uplands Damaged by Discrete Events –documentation, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration.
- * NWP 48, Commercial Shellfish Aquaculture Activities –(1) a map showing the boundaries of the project area, with latitude and longitude coordinates for each corner of the project area; (2) the name(s) of the species that will be cultivated during the period this NWP is in effect; (3) whether canopy predator nets will be used; (4) whether suspended cultivation techniques will be used; and (5) general water depths in the project area (a detailed survey is not required).
- * NWP 49, Coal Remining Activities –a document describing how the overall mining plan will result in a net increase in aquatic resource functions to the district engineer and receive written authorization prior to commencing the activity.
- * NWP 50, Underground Coal Mining Activities –if reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre-construction notification.

If more space is needed, attach an extra sheet of paper marked Block 29.

Blocks 31 and 32. For bank stabilization activities, we are collecting information on the use of living shorelines in coastal waters and lakes to inform future NWP rulemaking efforts. If the PCN is for a proposed NWP 13 activity, and it is located in coastal waters or a lake, please check the appropriate box in block 31 to indicate whether you considered the use of a living shoreline to protect your property from erosion. If the PCN is for a proposed NWP 13 activity, and it is located in coastal waters or a lake, please check the appropriate box in block 32 to indicate whether there are contractors in your area that construct living shorelines.

Block 33. Signature of Applicant or Agent. The PCN must be signed by the person proposing to undertake the NWP activity, and if applicable, the authorized party (agent) that prepared the PCN. The signature of the person proposing to undertake the NWP activity shall be an affirmation that the party submitting the PCN possesses the requisite property rights to undertake the NWP activity (including compliance with special conditions, mitigation, etc.).

DELINEATION OF WETLANDS, OTHER SPECIAL AQUATIC SITES, AND OTHER WATERS

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current wetland delineation manual and regional supplement published 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. The 45 day PCN review period will not start until the delineation is submitted or has been completed by the Corps.

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross-Section Map. Identify each illustration with a figure or attachment number. For linear projects (e.g. roads, subsurface utility lines, etc.) gradient drawings should also be included. Please submit one original, or good quality copy, of all drawings on 8½x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations. Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross-section). While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.

ADDITIONAL INFORMATION AND REQUIREMENTS

For proposed NWP activities that involve discharges into waters of the United States, water quality certification from the State, Tribe, or EPA must be obtained or waived (see NWP general condition 25). Some States, Tribes, or EPA have issued water quality certification for one or more NWPs. Please check the appropriate Corps district web site to see if water quality certification has already been issued for the NWP(s) you wish to use. For proposed NWP activities in coastal states, state Coastal Zone Management Act consistency concurrence must be obtained, or a presumption of concurrence must occur (see NWP general condition 26). Some States have issued Coastal Zone Management Act consistency concurrences for one or more NWPs. Please check the appropriate Corps district web site to see if Coastal Zone Management Act consistency concurrence has already been issued for the NWP(s) you wish to use.

APPENDIX B
PROPOSED IMPACT MAP

APPENDIX C
CONSTRUCTION DRAWINGS

RIVERFRONT PARKWAY CUYAHOGA FALLS, OHIO CUYAHOGA RIVER BANK STABILIZATION



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CONSTRUCTION LIMITS
(WORK AREA)

ACCEPTED BY _____
DATE _____
TONY DEMASI, P.E.
CITY ENGINEER
CITY OF CUYAHOGA FALLS

ACCEPTED BY _____
DATE _____
MATTHEW A. LASCOLA, P.E.
GPD GROUP ENGINEER



DESIGNED BY:



GPD GROUP
520 SOUTH MAIN STREET,
SUITE 2531
AKRON, OHIO 44311
330-572-2100



ENVIROSCIENCE INC.
5070 STOW ROAD
STOW, OHIO 44224
330-688-0111

**100% SUBMITTAL
SEPTEMBER, 2021**

PLAN REPRODUCTION WARNING
THE PLANS HAVE BEEN CREATED ON ANSI D (22"x34") SHEETS. FOR REDUCTIONS, REFER TO GRAPHIC SCALE.

THE PLANS HAVE BEEN CREATED FOR FULL COLOR PLOTTING. ANY SET OF THE PLANS THAT IS NOT PLOTTED IN FULL COLOR SHALL NOT BE CONSIDERED ADEQUATE FOR CONSTRUCTION PURPOSES.

WARNING: INFORMATION MAY BE LOST IN COPYING AND/OR GRAY SCALE PLOTTING

REV.	DATE	DESCRIPTION
1	03/18/20	DRAFT
2	09/13/21	REVISIONS PER CITY COMMENTS

CUYAHOGA RIVER BANK STABILIZATION
RIVERFRONT PARKWAY
CUYAHOGA FALLS, OHIO

TITLE SHEET

ISSUED FOR:	
PERMIT	09/13/2021
BID	-
CONSTRUCTION	-
RECORD	-

JOB NO.
2017064.00

SHEET:
G-001

SHEET NO:
SHEET 1/11



LEGEND

Table with 2 columns: Symbol and Description. Includes R/W (Right of Way Line), Existing Contour, Proposed Contour, Property Line, Stream - Edge of Water, Existing Tree Limits, Existing Trees, Existing Control Point, Existing Benchmark, Geotechnical Boring, Rock Channel Protection, Toe Rock Trench (Plan), Toe Rock Trench (Cross Section), Prop. Engineered Fill, Rock Trench Key, Temporary Access Area, Seeding and Mulching, Erosion Control Mat, Project Limits/Construction Limits of Disturbance, Proposed Filter Sock, and Rock Bank Stabilization.

EXISTING UTILITIES

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITY FACILITIES ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF THE FIELD SURVEY IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE (O.R.C.). THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF THE EXISTING UTILITY OWNERS AND UTILITY PROTECTION SERVICE IN ACCORDANCE WITH SECTION 153.64 OF THE O.R.C. THE CONTRACTOR SHALL THOROUGHLY REVIEW THE SITE AND BECOME FAMILIAR WITH ALL UTILITIES (WATER, SANITARY, ELECTRIC, GAS, TELEPHONE, FIBER OPTIC CABLE, ETC.) WITHIN THE LIMITS OF THE PROJECT, WHICH MAY INTERFERE WITH THE PROPOSED CONSTRUCTION. THE DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING FACILITIES HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING FACILITIES AND DO NOT NECESSARILY REPRESENT AS-BUILT CONDITIONS.

BEFORE ANY WORK IS STARTED THAT WILL INTERFERE WITH THE EXISTING UTILITIES, THE CONTRACTOR SHALL CALL "OHIO 811", AT 1-800-362-2764, FORTY-EIGHT (48) HOURS IN ADVANCE OF THE WORK. NON-MEMBER UTILITIES MUST BE CONTACTED DIRECTLY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING UNDERGROUND AND OVERHEAD UTILITY LINES DURING THE ENTIRE PROJECT. IN THE EVENT OF DAMAGE TO EXISTING PUBLIC AND/OR PRIVATE UTILITIES, THE AGENCY CONCERNED SHALL BE NOTIFIED IMMEDIATELY AND ALL REPAIR WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE AGENCY AT NO ADDITIONAL EXPENSE TO THE CLIENT, INCLUDING ANY INSPECTION FEES OR MAINTENANCE CREWS.

WHERE EXISTING UTILITY POLES ARE IN CLOSE PROXIMITY TO WORK, THE CONTRACTOR SHALL COORDINATE HIS WORK EFFORTS WITH THOSE OF THE UTILITY COMPANIES SUCH THAT THE OPERATION OF THEIR EXISTING FACILITIES CAN BE MAINTAINED AND PROTECTED DURING THE TIME WORK IS GOING ON ADJACENT TO THE POLE.

AS-BUILT DRAWINGS

THIS ITEM SHALL INCLUDE ALL NECESSARY LABOR AND MATERIAL NEEDED TO PROVIDE THE CITY OF CUYAHOGA FALLS WITH ACCURATE AS-BUILT DRAWINGS. THESE DRAWINGS SHALL INCLUDE THE EXACT LOCATION OF ITEMS INVOLVING UTILITIES AND RIVER WORK. THE DATE OF ITEM INSTALLATION SHALL BE INDICATED ON THE DRAWINGS. ALL EXCAVATIONS AND MATERIALS PLACEMENT SHALL BE SHOWN ON THE AS-BUILT DRAWINGS WITH LOCATION AND DIMENSIONS, DATE OPENED, AND DATE BACKFILLED. CONTRACTOR SHALL RETAIN A REGISTERED OHIO PROFESSIONAL SURVEYOR TO CONDUCT AN AS-BUILT SURVEY AND PREPARE A PLAN FORM DRAWING SHOWING PHYSICAL FEATURES INSTALLED. AS-BUILTS WILL BE REQUIRED PRIOR TO PROJECT CLOSEOUT. THE CONTRACTOR SHALL PROVIDE THE CITY WITH ONE 22"x34" AND ONE 11"x17" HARD COPY SET OF THE DRAWINGS AS WELL AS A DVD WITH THE CAD FILES AND A PDF VERSION OF THE AS-BUILT DRAWINGS. ALL WORK REQUIRED SHALL BE INCLUDED IN THE LUMP SUM PRICE WITH PAY ITEM.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON THIS PROJECT. SEE SHEET 3 OF THE PLANS FOR PROJECT CONTROL INFORMATION. USE THE FOLLOWING VERTICAL AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

- POSITIONING METHOD: ODOT VRS

VERTICAL POSITIONING

- ORTHOMETRIC HEIGHT DATUM: NAVD88
- GEOD: 12B

HORIZONTAL POSITIONING

- REFERENCE FRAME: NAD83 (2011)
- ELLIPSOID: GRS80
- MAP PROJECTION: LAMBERT CONFORMAL CONIC
- COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE 3401

COMBINED SCALE FACTOR: 1.0000 (PROJECT IS IN GRID COORDINATES) [UNITS ARE IN U.S. SURVEY FEET]

EARTHWORK ACTIVITIES

THE CONTRACTOR SHALL PERFORM EARTHWORK GRADING IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT BY GPD GROUP, DATED MARCH 16, 2020 AND REFERENCED IN THIS PLAN SET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. UNLESS OTHERWISE SPECIFIED IN THE PLANS, SPECIFICATIONS, OR SOILS REPORT, THE SITE GRADING, EXCAVATION, AND EMBANKMENT SHALL BE IN ACCORDANCE WITH THE STATE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

CONTROLLED LIFTS OF GRANULAR MATERIAL SHALL BE COMPACTED TO 80% RELATIVE DENSITY PER ASTM D-4524. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND THE DIRECTION OF CONTRACTOR RETAINED SOILS ENGINEER REGISTERED WITHIN THE STATE TO ENSURE COMPLIANCE WITH THE GEOTECHNICAL REPORT. ENSURE THAT ALL SHORING AND DEWATERING MEANS AND METHODS WILL NOT COMPROMISE THE STABILITY OF EXISTING OR PROPOSED SOILS.

COHESIVE SOILS ARE NOT PERMITTED TO BE USED FOR EMBANKMENT CONSTRUCTION.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 7:00 PM (DUSK) AND 7:30 AM MONDAY-FRIDAY, DUSK - 8:00 AM SATURDAY, AND NO WORK ON SUNDAY. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

CONSTRUCTION STAKES AND SURVEYING

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AS PER PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROCURE THE SERVICES OF A SURVEYOR REGISTERED IN THE STATE OF OHIO TO PROVIDE ALL CONSTRUCTION STAKING.

THE ABOVE REQUIREMENTS SHALL NOT BE CONSTRUED TO REPLACE ANY REQUIREMENTS AS STATED IN THE CURRENT PUBLICATION OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION MANUAL SPECIFICATIONS.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

PRE-CONSTRUCTION VIDEO TAPING

THE CONTRACTOR SHALL RECORD AN AUDIO VISUAL TAPE OF THE PROJECT LIMITS AND ADJACENT AREAS, ESPECIALLY WITHIN THE VICINITY OF THE ADJACENT BUILDINGS AND ANY AREAS WHERE EXISTING CONDITIONS MAY BE DISTURBED. THE TAPE SHALL BE OF DIGITAL FORMAT AND A COPY SHALL BE MADE IN ACCORDANCE WITH THE CITY OF CUYAHOGA FALLS REQUIREMENTS.

CLEARING AND GRUBBING

REMOVE ALL TREE AND STUMPS NECESSARY WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR THIS ITEM. WHILE CLEARING AND GRUBBING LIMITS ARE IDENTIFIED AS THE ENTIRE AREA WITHIN THE CONSTRUCTION LIMITS, THE CONTRACTOR SHALL FIELD VERIFY WHICH TREES AND STUMPS NEED TO BE REMOVED.

THIS PROJECT SHOULD BE CONSIDERED TO BE WITHIN THE RANGE OF THE FEDERALLY ENDANGERED INDIANA BAT (MYOTIS SODALIST) AND NORTHERN LONG-EARED BAT (MYOTIS SEPTENTRIONALIS), ALL CUTTING OF TREES MUST TAKE PLACE BETWEEN OCTOBER 1 AND MARCH 31.

EXCAVATION

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OF ALL UNSUITABLE MATERIAL BY EXCAVATING BOTH THE EXISTING STREAM CHANNEL AND STREAM BANKS. THE CONTRACTOR SHALL STOCKPILE ANY EXISTING STREAM SUBSTRATE FOR USE IN FILLING THE VOIDS OF THE PROPOSED ROCK CHANNEL PROTECTION MATERIAL AND SHALL HAUL OFF ANY ADDITIONAL EXCAVATED MATERIAL. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

EMBANKMENT

THE PROPOSED GRADING FOR THE PROJECT, AS DETAILED ON SHEETS 5 THRU 8, SHALL BE ODOT GRANULAR MATERIAL TYPE F (ENGINEERED FILL). THE GRANULAR MATERIAL SHALL HAVE A MAX TOP SIZE OF 4 INCHES AND A MAXIMUM OF FINES (PASS #200 SIEVE) OF 10%. GRANULAR MATERIAL SHALL BE COMPACTED TO 80% RELATIVE DENSITY PER ASTM D-4524. THE COMPACTION TEST SHALL BE ACCOMPLISHED BY PLACING THE FILL IN SUCCESSIVE, HORIZONTAL, APPROXIMATELY 8 TO 10 INCH-THICK LOOSE LIFTS AND MECHANICALLY COMPACTING EACH LIFT TO AT LEAST THE SPECIFIED MINIMUM DRY DENSITY. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS, INCLUDING CONTRACTOR RETAINED SOILS ENGINEER, NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

TOE ROCK TRENCH

THE CONTRACTOR SHALL CONSTRUCT A TOE ROCK TRENCH ALONG THE TOE OF SLOPE ON THE PROPOSED WESTERN BANK. FOR TOE ROCK TRENCH LOCATION AND DETAILS, SEE SHEETS 5 AND 11. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

ROCK TRENCH KEY

THE CONTRACTOR SHALL CONSTRUCT A ROCK TRENCH KEY ON THE UPSTREAM WESTERN BANK. FOR APPROPRIATE LOCATION AND ADDITIONAL DETAILS, SEE SHEETS 5 AND 11. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

ROCK BANK STABILIZATION

THE CONTRACTOR SHALL PLACE ROCK BANK STABILIZATION ALONG THE WESTERN RIVER BANK BETWEEN THE PROPOSED GRADING AND CREEK CHANNEL, AS DETAILED ON SHEET 11 AND SHOWN ON SHEETS 5-8. ROCK BANK STABILIZATION SHALL EXTEND VERTICALLY UP THE PROPOSED WESTERN BANK AS INDICATED ON THE CROSS SECTIONS ON SHEETS 6-8. FOR ROCK BANK STABILIZATION MIX, SEE SHEET 11.

ROCK BANK STABILIZATION WITHIN 6" OF FINISHED GRADE SHALL BE CHOKED WITH BANKRUN MATERIAL OR NATIVE SUBSTRATE. BANKRUN SHALL BE DEFINED AS AN AGGREGATE CONSISTING OF A NATURAL NON CRUSHED SAND/GRAVEL, UNWASHED/UNSORTED MATERIAL COMPOSED OF A MIXTURE OF HARD, DURABLE PARTICLES OR FRAGMENTS OF STONE OR GRAVEL AND SAND, AND SMALL AMOUNTS OF SILT, CLAY OR OTHER SIMILAR BINDING MATERIAL, AND SHALL BE FREE OF EXCESSIVE OR DETRIMENTAL AMOUNTS OF CLAY, CLAY LUMPS, LOAM, ROOTS, VEGETABLE MATTER, RUBBISH, WOOD, MULCH OR OTHER NON-STABLE MATERIALS.

ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

SEEDING AND MULCHING

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL TO THE EDGE OF WATER WITHIN THE PROPOSED CONSTRUCTION LIMITS. REFER TO SHEET 9 FOR APPROPRIATE SEEDING AND MULCHING LIMITS.

ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE AND COMPLY TO THE ODOT SPECIFICATIONS FOR THE SEEDING AND MULCHING WITHIN THE PROJECT AREA SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

TOPSOIL

TOPSOIL SHALL BE APPLIED 4" - 6" THICK TO ALL AREAS WHERE SEEDING AND MULCHING IS PROPOSED WITHIN THE CONSTRUCTION LIMITS. THIS AREA INCLUDES THE AREA OVER THE ROCK CHANNEL PROTECTION WHERE TOPSOIL IS TO BE APPLIED TO THE TOP 6". REFER TO THE SHEET 9 FOR APPROPRIATE SEEDING AND MULCHING LIMITS WHERE TOPSOIL IS TO BE APPLIED.

ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE AND COMPLY TO THE ODOT SPECIFICATIONS FOR THE TOPSOIL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

EROSION CONTROL MAT, TYPE C

THE CONTRACTOR SHALL CONSTRUCT EROSION CONTROL MATTING, TYPE C (BIONET SC150BN OR EQUAL) ON THE SLOPE ALONG THE DISTURBED AREAS THAT ARE TO RECEIVE SEEDING AND MULCHING AND ARE ABOVE THE 100-YEAR ELEVATION INDICATED ON THE PLANS. TYPE C MATTING MUST BE ABLE TO RESIST VELOCITIES OF UP TO 8 FT/S AND SHEAR STRESSES OF UP TO 2 LBS/SQ. FT. FOR APPROPRIATE MATTING LOCATIONS, SEE SHEET 9. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

EROSION CONTROL MAT, TYPE F

THE CONTRACTOR SHALL CONSTRUCT EROSION CONTROL MATTING, TYPE F (ROLANKA BioD - MAT 90 OR EQUAL) ON THE SLOPE ALONG THE DISTURBED AREAS THAT ARE TO RECEIVE SEEDING AND MULCHING AND ARE BELOW THE 100-YEAR ELEVATION INDICATED ON THE PLANS. TYPE F MATTING MUST BE ABLE TO RESIST VELOCITIES OF UP TO 16 FT/S AND SHEAR STRESSES OF UP TO 5 LBS/SQ. FT. FOR APPROPRIATE MATTING LOCATIONS, SEE SHEET 9 ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

WATER DIVERSION PLAN

CONTRACTOR SHALL IMPLEMENT MEASURES TO KEEP THE WORK AREA FREE OF FLOWING WATER THAT MAY ADVERSELY IMPACT THE EXCAVATIONS REQUIRED FOR CONSTRUCTION. IT IS EXPECTED THAT THE WORK WILL BE PERFORMED DURING LOW FLOW PERIODS. THE CONTRACTOR MAY UTILIZE PORTABLE BARRIERS TO ISOLATE THE WORK AREA. THE MEANS AND METHODS TO IMPLEMENT SUCH MEASURES SHALL BE INCLUDED IN THE WATER DIVERSION PLAN SUBMITTAL. BASE FLOW CONDITIONS SHALL BE MAINTAINED DOWNSTREAM OF THE WORK AREA AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT THE WORK AREA AND LOCATE EQUIPMENT OUT OF THE ACTIVE WATERWAY DURING RAIN EVENTS THAT CAUSE AN INCREASE IN FLOW IN THE RIVER. THE CONTRACTOR SHALL PROVIDE A WATER DIVERSION PLAN SUBMITTAL FOR APPROVAL 14 DAYS PRIOR TO IMPLEMENTING THE WATER DIVERSION PLAN. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR THIS ITEM.

LIVE STAKES

THE CONTRACTOR SHALL INSTALL LIVE STAKE CUTTINGS DURING PLANT DORMANCY (FEBRUARY 1ST TO EARLY/MID APRIL). CUTTINGS SHOULD BE FROM 2-3 YEARS GROWTH WITH 1 INCH DIAMETER MINIMUM AND AVERAGE 4 FT IN LENGTH. LIVE STAKES SHOULD BE HARVESTED OR PURCHASED CLOSE TO INSTALLATION DATE, KEPT MOST AND OUT OF DIRECT SUNLIGHT. LIVE STAKES MUST BE KEPT COVERED AND MOIST DURING STORAGE AND TRANSPORT. THE LOWER 1/2 OF THE LIVE STAKES SHALL BE PRE-SOAKED IN WATER FOR 24 HOURS PRIOR TO INSTALLATION. INSTALL LIVE STAKES ON 3 FT C/C SPACING ALONG THE WEST BANK. IT MAY BE NECESSARY TO CREATE A PILOT HOLE PRIOR TO INSTALLING LIVE STAKE. TAP CUTTING TO A DEPTH 2/3 ITS LENGTH USING A RUBBER Mallet TO AVOID DAMAGE. CUT ANY DAMAGED PORTION OFF CLEANLY. CUTTING SHALL BE INSTALLED AT AN ANGLE DOWNSTREAM WITH FLOW OF THE STREAM. THE BASAL ENDS OF THE LIVE STAKES SHALL BE CUT AT A 45 DEGREE ANGLE SO THAT THE ROOTING END IS PLANTED IN THE SOIL. SPECIES TO BE INSTALLED SHALL BE SALIX SERICEA - SILKY WILLOW AND SALIX INTERIOR - SANDBAR WILLOW. INSTALL A MINIMUM OF TWO SPECIES AT A 1:1 RATIO OF THE QUANTITY SPECIFIED. ALL EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

EROSION AND SEDIMENT CONTROL MANAGEMENT AND IMPLEMENTATION

THIS WORK CONSISTS OF LOCATING, FURNISHING, INSTALLING, AND MAINTAINING TEMPORARY SEDIMENT AND EROSION CONTROL BEST MANAGEMENT PRACTICES FOR EACH DISTURBING ACTIVITY AREA BASED ON THE APPROVED STORMWATER POLLUTION PREVENTION PLAN. THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NEEDED TO COMPLETE THE EROSION CONTROL/ SEDIMENT CONTROL AND SHALL BE PAID UNDER THIS ITEM.

CONDUIT REPAIR

AS DEFINED ON SHEET 5, THE CONTRACTOR SHALL USE A MATERIAL MATCHING THE EXISTING CONDUIT TO REPAIR AND LENGTHEN THE EXISTING CONDUITS AS NECESSARY TO DRAIN ONTO THE PROPOSED GRADE AND ROCK CHANNEL PROTECTION. THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NEEDED SHALL BE PAID UNDER THIS ITEM.

SITE ACCESS AND HAUL ROAD (EXCAVATION AND SITE RESTORATION)

THE CONTRACTOR SHALL CREATE A HAUL ROAD FROM THE SELECTED STAGING AREA TO THE BANK STABILIZATION SITE. AS SHOWN ON SHEETS 4 AND 9. AFTER FINAL ACCEPTANCE BY THE ENGINEER AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL RESTORE THE HAUL ROAD TO IT'S EXISTING CONDITION. ALL EQUIPMENT, LABOR, TOOLS, AND AND INCIDENTALS NECESSARY TO CREATE THE HAUL ROAD AND RESTORE THE AREA TO IT'S EXISTING CONDITION SHALL BE PAID UNDER THIS ITEM.

TOE ROCK TRENCH-BEDROCK ALLOWANCE

THE CONTINGENCY ALLOWANCE IS INCLUDED FOR SUCH SITUATIONS WHEN BEDROCK IS ENCOUNTERED WITHIN 3' OF EXISTING GRADE WHEN EXCAVATING FOR THE TOE ROCK TRENCH. THE ENGINEER SHALL BE NOTIFIED OF THE LIMITS OF WHERE BEDROCK IS NOT ENCOUNTERED WITHIN 3' OF EXISTING GRADE. IF BEDROCK IS ENCOUNTERED WITHIN 3' FROM THE SURFACE, EXTEND TRENCH A MINIMUM OF 24" BELOW ROCK SURFACE.

THE LUMP SUM PRICE STIPULATED ON THE BID FORM FOR THIS ITEM SHALL BE ADDED TO THE CONTRACTOR'S BID AMOUNT FOR ALL OTHER BID ITEMS AND INCLUDED AS PART OF THE CONTRACTOR'S TOTAL AMOUNT OF BID. TOE ROCK TRENCH-BEDROCK NOT ENCOUNTERED ALLOWANCE SHALL ONLY BE USED AT THE DIRECTION AND APPROVAL OF THE ENGINEER.

10% GENERAL CONTINGENCY ALLOWANCE

THE CONTINGENCY ALLOWANCE IS INCLUDED FOR SUCH SITUATIONS WHEN, IN THE PROSECUTION OF THE WORK OR AT THE DIRECTION OF THE ENGINEER, IT BECOMES NECESSARY TO MAKE ALTERATIONS OR MODIFICATIONS FOR THE WORK OR CONDITIONS UNFORESEEN IN WHICH THE BID ITEMS CAN NOT BE APPLIED OR APPROXIMATE BID QUANTITIES ARE EXCEEDED.

WHERE LOCATED ON THE BID FORM, THE CONTRACTOR SHALL PROVIDE A SUBTOTAL FOR THE PROJECT AND MULTIPLY THAT SUBTOTAL BY 10 PERCENT. THE SUBTOTAL PLUS THE CALCULATED 10 PERCENT AMOUNT IS CONSIDERED THE TOTAL BID AMOUNT. THE CONTINGENCY ALLOWANCE SHALL ONLY BE USED AT THE DIRECTION AND APPROVAL OF THE ENGINEER.

PAVEMENT RESTORATION ALLOWANCE

IN THE EVENT PAVEMENT IS DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO RESTORE THE PAVEMENT TO ITS ORIGINAL CONDITIONS AT THE DIRECTION OF THE ENGINEER. ONCE RESTORED, THE CONTRACTOR SHALL GET APPROVAL FROM THE ENGINEER.

THE LUMP SUM PRICE STIPULATED ON THE BID FORM FOR THIS ITEM SHALL BE ADDED TO THE CONTRACTOR'S BID AMOUNT FOR ALL OTHER BID ITEMS AND INCLUDED AS PART OF THE CONTRACTOR'S TOTAL AMOUNT OF BID. PAVEMENT RESTORATION ALLOWANCE SHALL ONLY BE USED AT THE DIRECTION AND APPROVAL OF THE ENGINEER.

MAINTENANCE OF TRAFFIC

MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS SHALL BE IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, AND THE FOLLOWING:

1. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE DISRUPTION TO THE TRAVELING PUBLIC AND PRIVATE ACCESS ROUTE DURING THE CONSTRUCTION OF THIS PROJECT. REASONABLE PEDESTRIAN ACCESS SHALL BE MAINTAINED.
2. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL FLAGS, FLAGGERS, WATCHERS, AND INCIDENTALS RELATED TO TRAFFIC CONTROL.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH OHIO CMS ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NEEDED SHALL BE PAID UNDER THIS ITEM.



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Table with 4 columns: REV., DATE, DESCRIPTION, COMMENTS. Includes entries for 03/18/20 and 09/13/21.

CUYAHOGA RIVER BANK STABILIZATION
RIVERFORTH PARKWAY
CUYAHOGA FALLS, OHIO

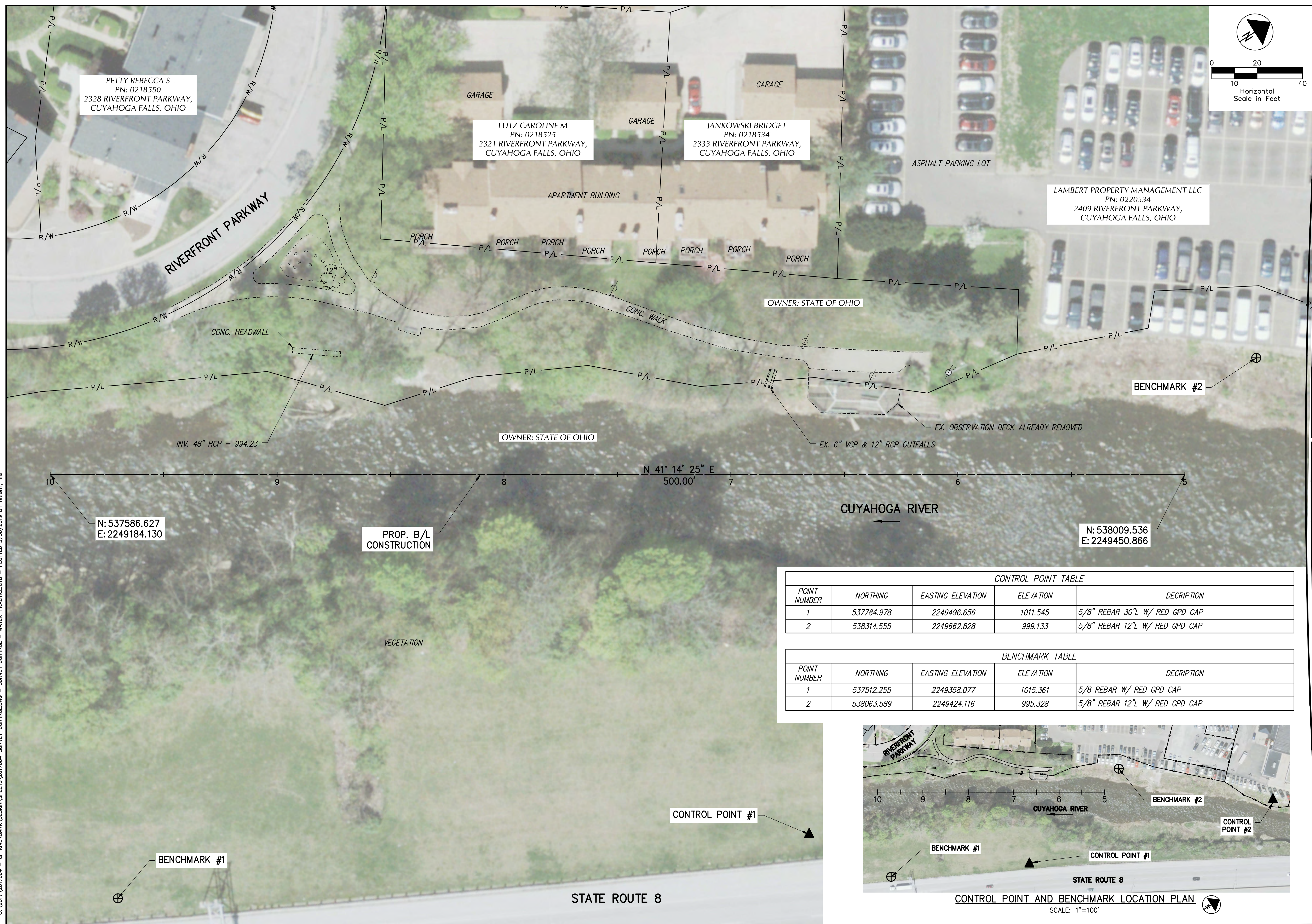
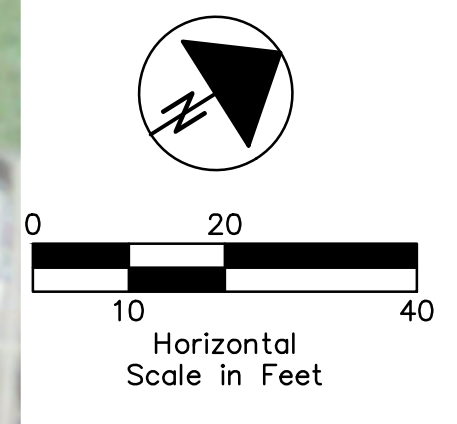
GENERAL NOTES AND LEGEND

Table with 2 columns: PERMIT, BID, CONSTRUCTION RECORD. Includes dates and values.

JOB NO.
2017064.00

SHEET:
G-002

SHEET NO:
SHEET 2/11



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REV.	DATE	DESCRIPTION
1	03/18/20	DRAFT
2	09/13/21	REVISIONS PER CITY COMMENTS

CUYAHOGA RIVER BANK STABILIZATION
 RIVERFRONT PARKWAY
 CUYAHOGA FALLS, OHIO

SURVEY CONTROL PLAN

ISSUED FOR:	
PERMIT	09/13/2021
BID	-
CONSTRUCTION	-
RECORD	-

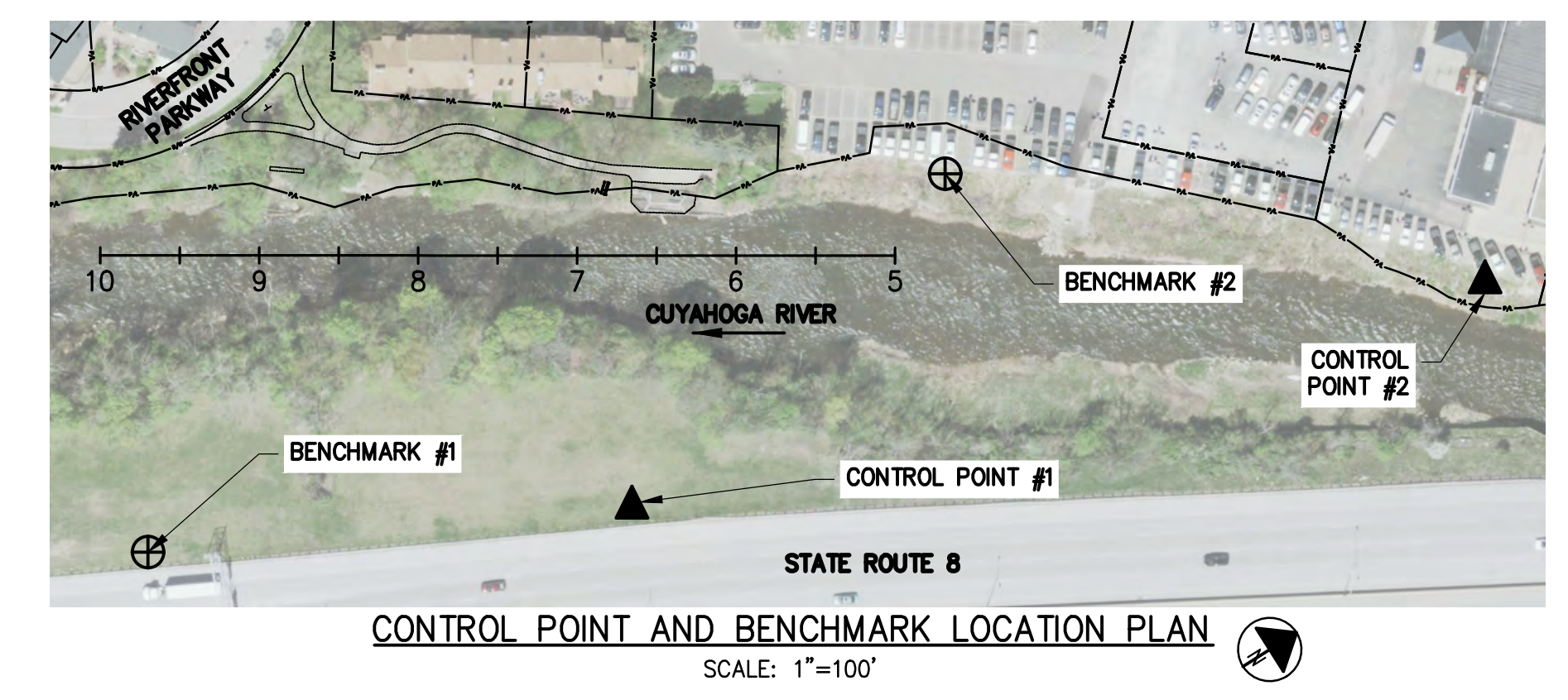
JOB NO.
2017064.00

SHEET:
C-101

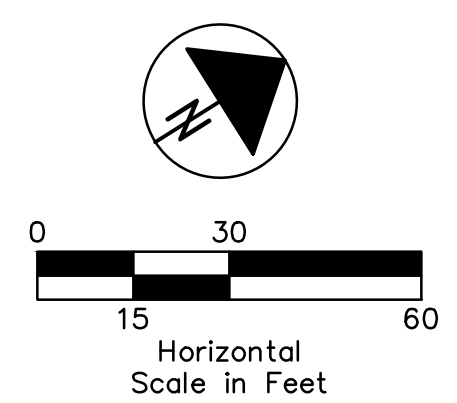
SHEET NO:
SHEET 3/11

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	537784.978	2249496.656	1011.545	5/8" REBAR 30"L W/ RED GPD CAP
2	538314.555	2249662.828	999.133	5/8" REBAR 12"L W/ RED GPD CAP

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	537512.255	2249358.077	1015.361	5/8 REBAR W/ RED GPD CAP
2	538063.589	2249424.116	995.328	5/8" REBAR 12"L W/ RED GPD CAP



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LEGEND

→ SITE ACCESS ROUTE

— PLAN SHEET LAYOUT

FOR SURVEY CONTROL, SEE SHEET 3

FOR COMPLETE LEGEND, SEE SHEET 2

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City of Cuyahoga Falls
 MAYOR DON WALLERS

REV.	DATE	DESCRIPTION
1	03/18/20	DRAFT
2	09/13/21	REVISIONS PER CITY COMMENTS

CUYAHOGA RIVER BANK STABILIZATION
 RIVERFRONT PARKWAY
 CUYAHOGA FALLS, OHIO

EXISTING CONDITIONS, SITE ACCESS, AND KEY PLAN

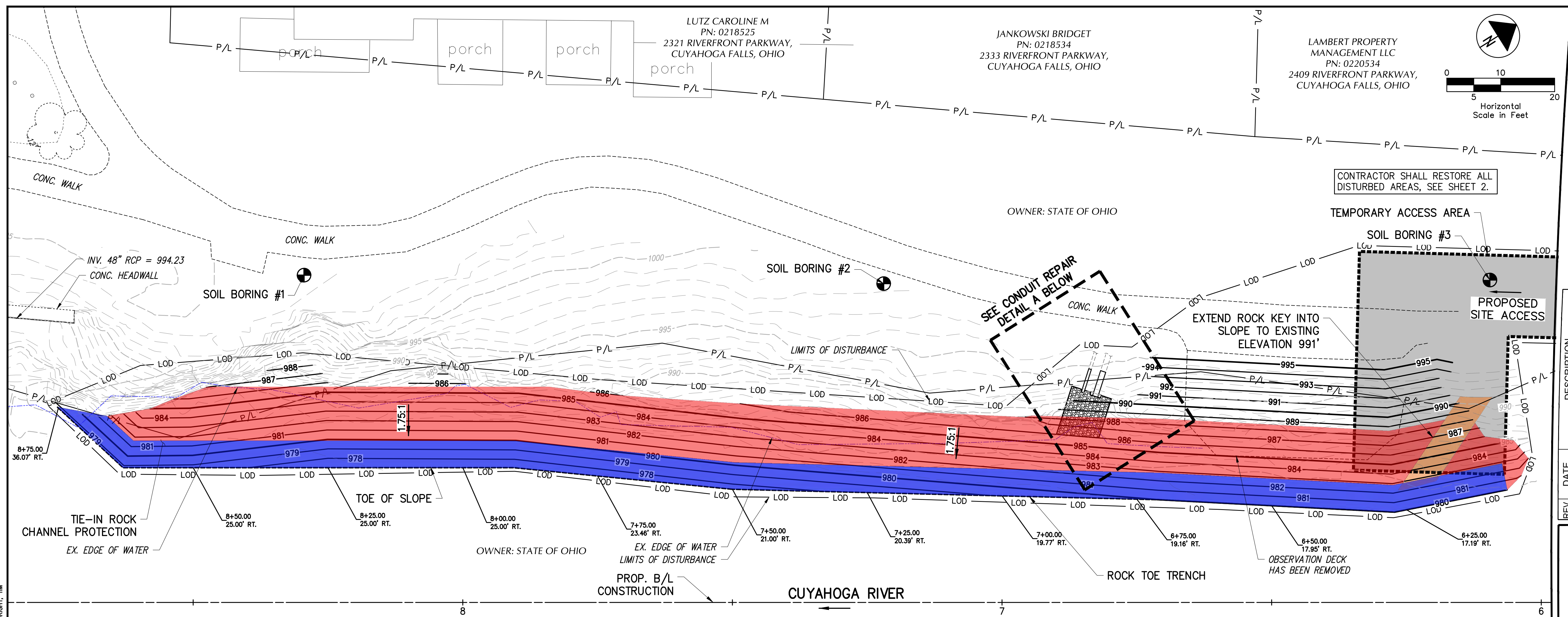
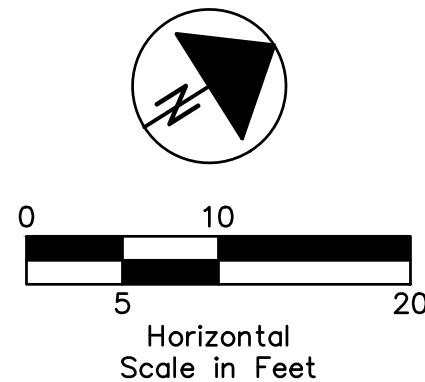
ISSUED FOR:	
PERMIT	09/13/2021
BID	-
CONSTRUCTION	-
RECORD	-

JOB NO.
2017064.00

SHEET:
C-102

SHEET NO:
SHEET 4/11

S.R. 8



CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS, SEE SHEET 2.

OWNER: STATE OF OHIO

TEMPORARY ACCESS AREA

SOIL BORING #3

PROPOSED SITE ACCESS

SEE CONDUIT REPAIR DETAIL A BELOW

EXTEND ROCK KEY INTO SLOPE TO EXISTING ELEVATION 991'

OWNER: STATE OF OHIO

CUYAHOGA RIVER

ROCK TOE TRENCH

OBSERVATION DECK HAS BEEN REMOVED

SHEET NOTES:
 FOR COMPLETE LEGEND, SEE SHEET 2
 FOR BENCHMARK LOCATION AND INFORMATION, SEE SHEET 3
 FOR EXISTING CONDITIONS AND KEY PLAN, SEE SHEET 4
 FOR BANK STABILIZATION DETAILS, SEE SHEET 11
 FOR EROSION AND SEDIMENT CONTROL PLANS AND DETAILS, SEE SHEETS 9 AND 10

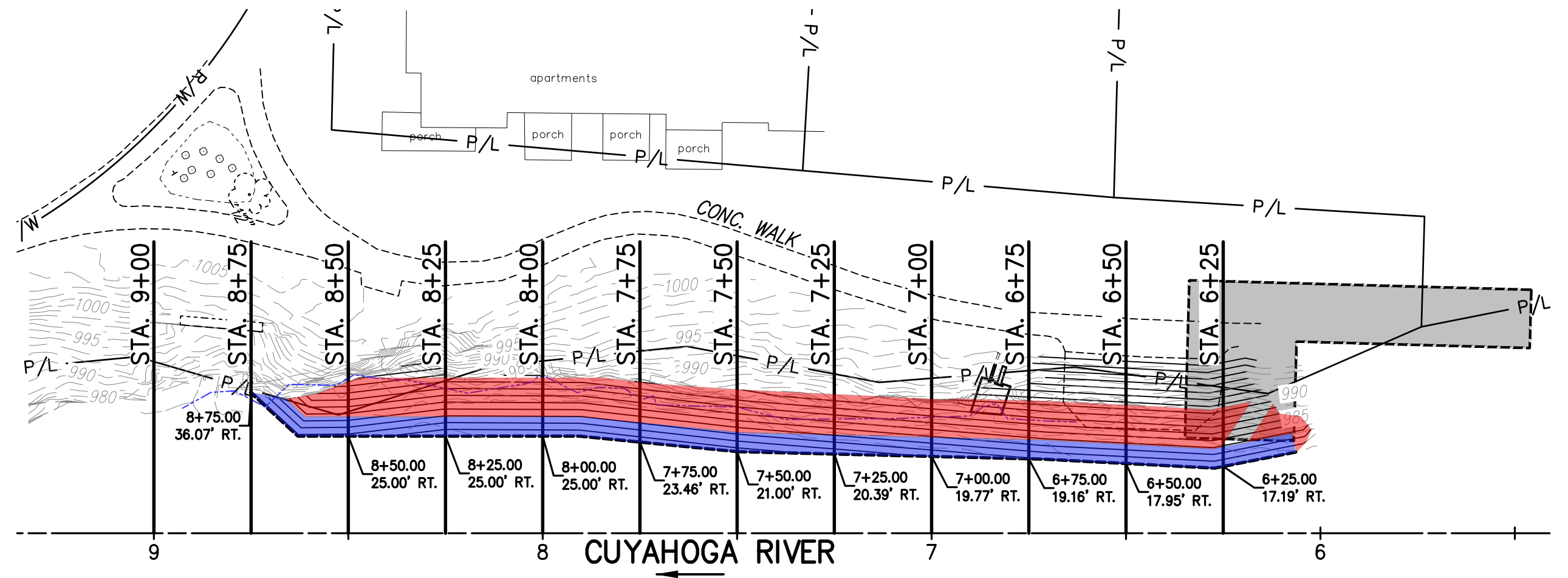
LEGEND

	ROCK BANK STABILIZATION
	TOE ROCK TRENCH
	ROCK TRENCH KEY
	TEMPORARY ACCESS AREA

- REPLACE ONE SECTION OF BOTH 6" VCP & 12" RCP TO NEAREST JOINT
- SALVAGE EXISTING CONCRETE HEADWALL ON 12" RCP
- PROP. ODOT TYPE C ROCK CHANNEL PROTECTION TO EXTEND 2' BEYOND EACH SIDE OF OUTFALLS
- MEET PROP. ROCK CHANNEL PROTECTION OFFSET = ±30.80' RT.

NOTES:
 1. INVERTS OF EXISTING OUTFALLS ARE UNKNOWN AND WILL NEED DETERMINED IN FIELD. CONTRACTOR TO NOTIFY CONSTRUCTION MANAGER IMMEDIATELY IF DESIGN INTENT IS NOT FEASIBLE.

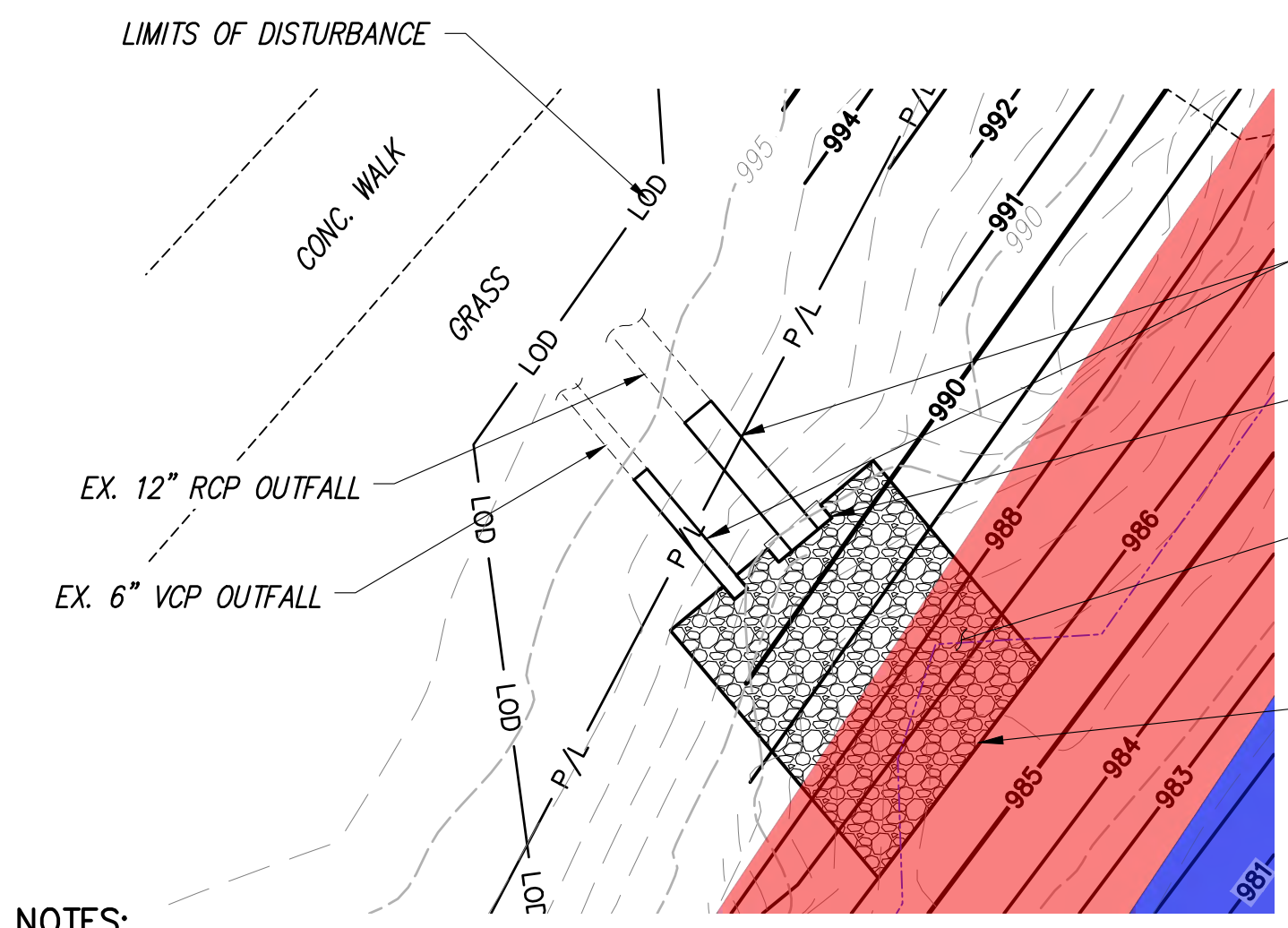
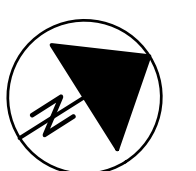
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NOTES:
 1. SEE SHEET 6 TO 8 FOR CROSS SECTIONS.

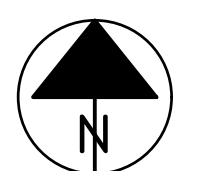
CROSS SECTION LOCATION PLAN

SCALE 1"=30'



CONDUIT REPAIR DETAIL A

SCALE 1"=5'



REV.	DATE	DESCRIPTION
1	03/18/20	DRAFT
2	09/13/21	REVISIONS PER CITY COMMENTS

CUYAHOGA RIVER BANK STABILIZATION
 RIVERFRONT PARKWAY
 CUYAHOGA FALLS, OHIO

GRADING PLAN

ISSUED FOR:

PERMIT	09/13/2021
BID	-
CONSTRUCTION	-
RECORD	-

JOB NO.
2017064.00

SHEET:
 C-201

SHEET NO:
 SHEET 5/11

ROCK CHANNEL PROTECTION		
X SECTION STATION	END AREA	VOLUME
6+00	0.0	25.7
6+25	55.6	51.5
6+50	55.6	53.7
6+75	60.3	59.3
7+00	67.7	59.7
7+25	61.2	61.0
7+50	70.5	68.8
7+75	78.0	73.5
8+00	80.8	76.6
8+25	84.7	69.4
8+50	65.2	30.2
8+75	0.0	0.0
9+00	0.0	0.0
TOTAL	629.4	

TOE ROCK TRENCH		
X SECTION STATION	END AREA	VOLUME
6+00	0.0	11.6
6+25	25.0	23.2
6+50	25.0	23.2
6+75	25.0	23.2
7+00	25.0	23.2
7+25	25.0	23.2
7+50	25.0	23.2
7+75	25.0	23.2
8+00	25.0	23.2
8+25	25.0	23.2
8+50	25.0	11.6
8+75	0.0	0.0
9+00	0.0	0.0
TOTAL	*232	

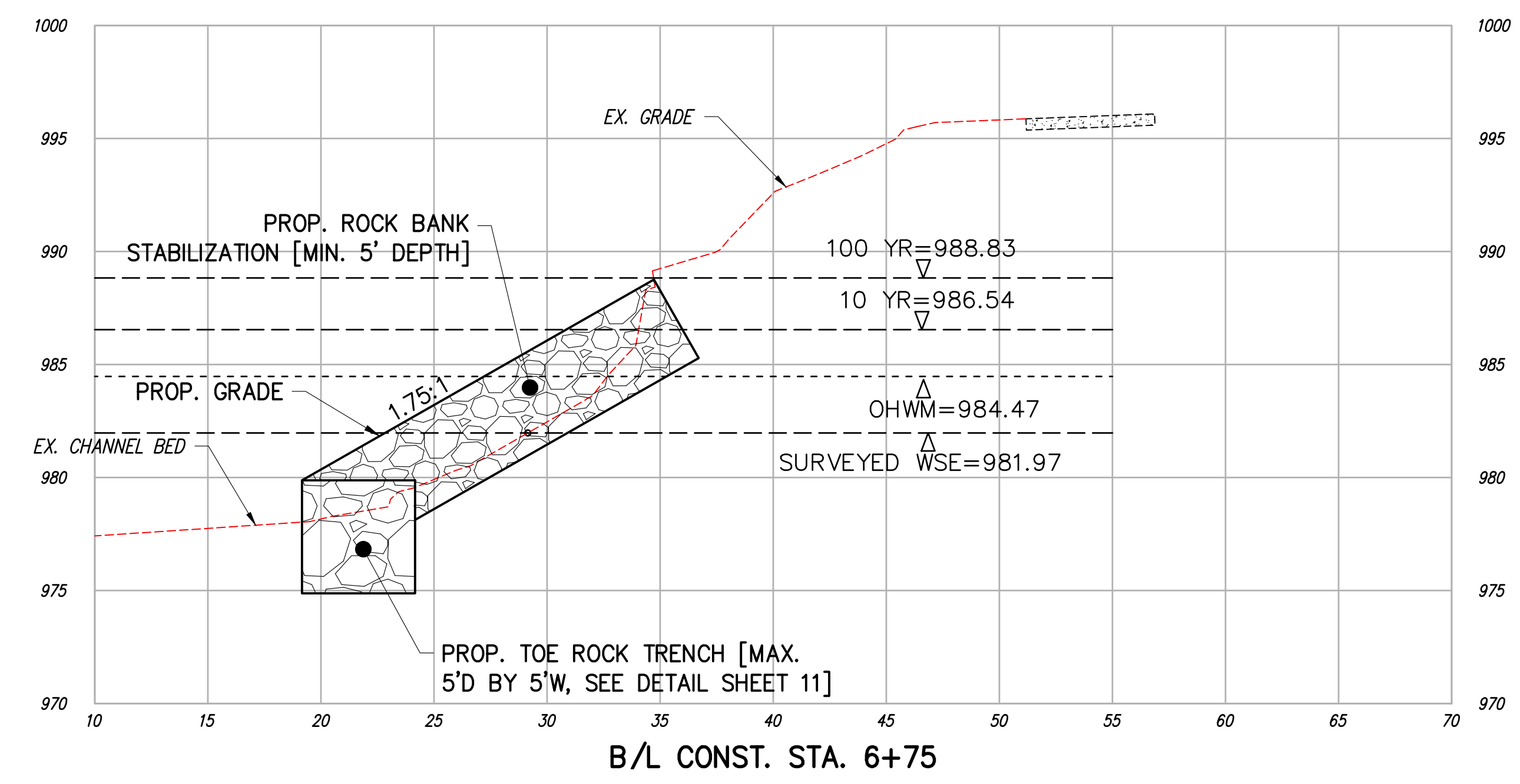
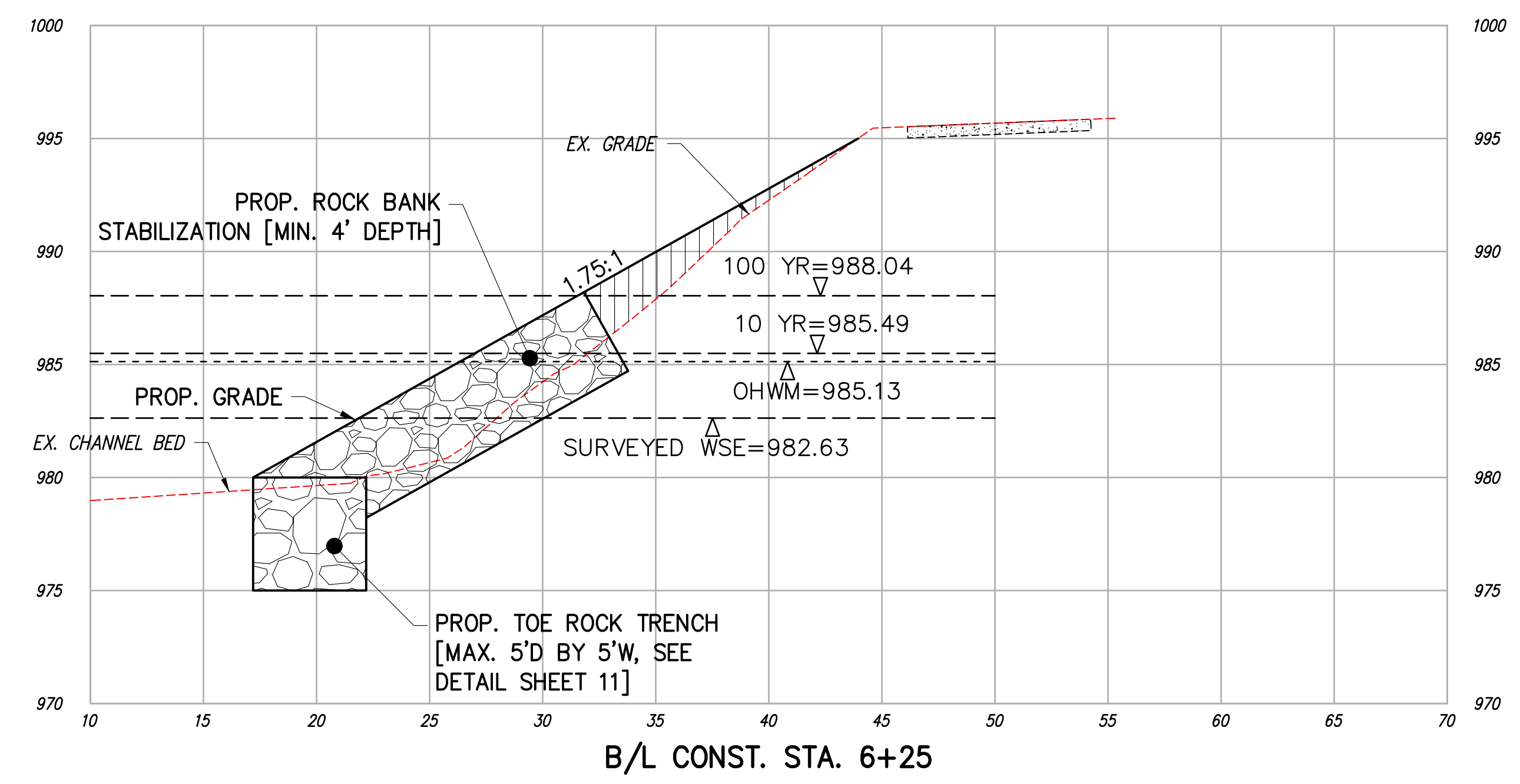
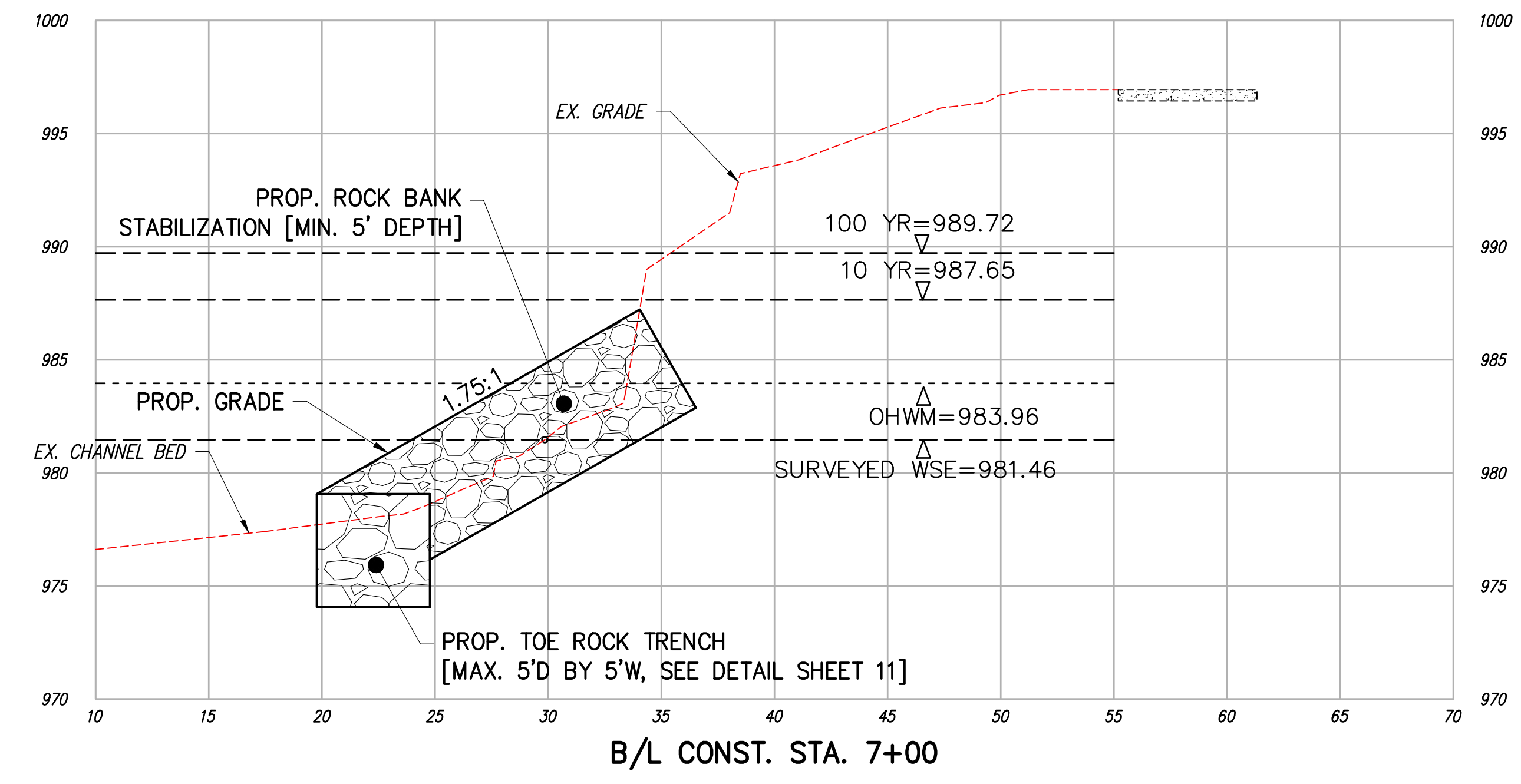
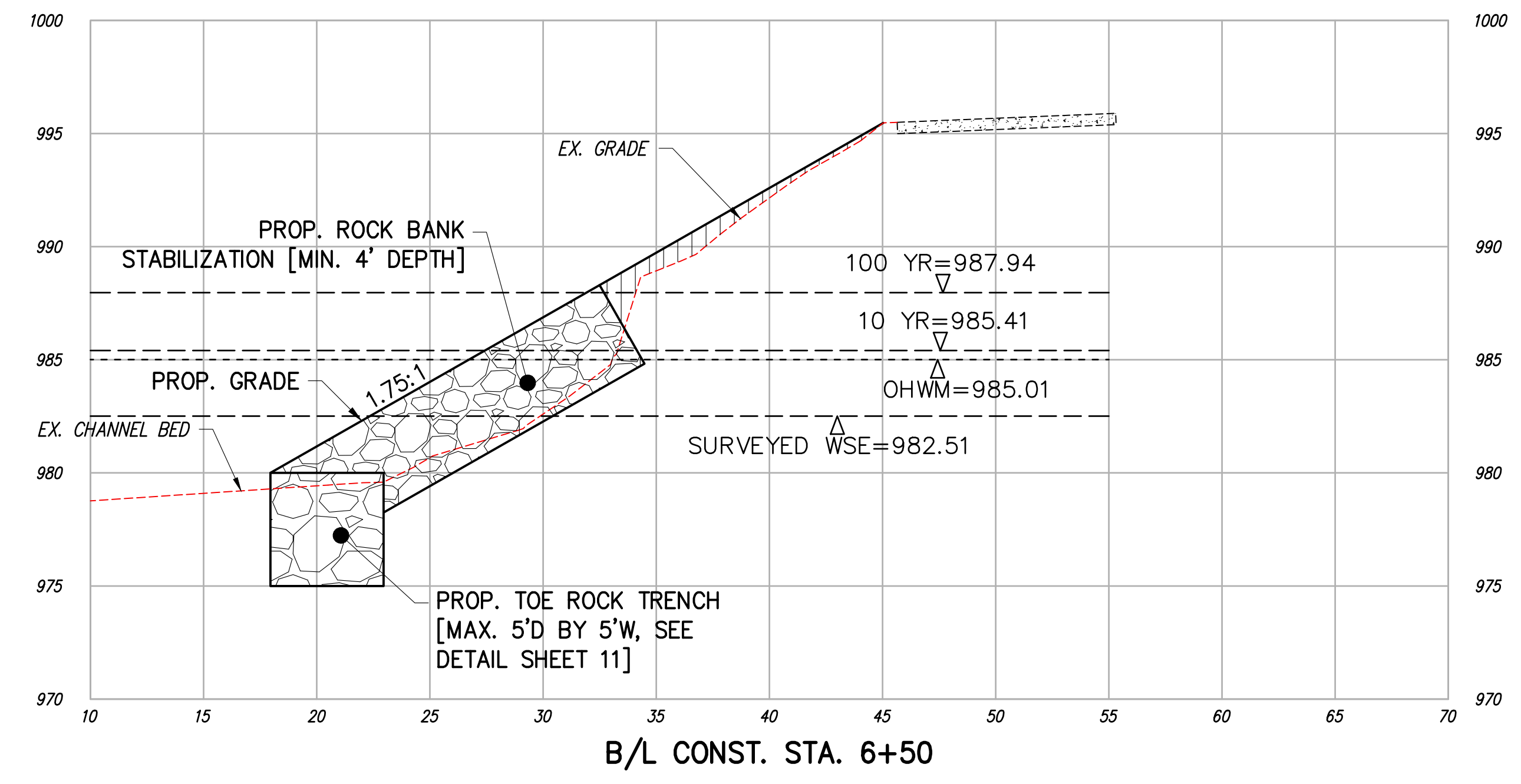
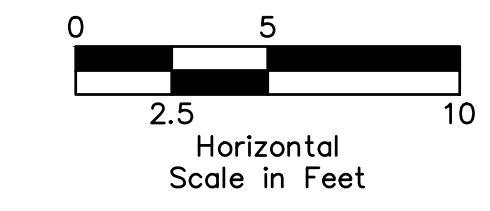
PROP. ENGINEERED FILL		
X SECTION STATION	END AREA	VOLUME
6+00	0.0	6.2
6+25	13.3	10.0
6+50	8.2	3.8
6+75	0.0	0.0
7+00	0.0	0.0
7+25	0.0	0.0
7+50	0.0	0.0
7+75	0.0	0.0
8+00	0.0	0.0
8+25	0.0	7.0
8+50	15.0	7.0
8+75	0.0	0.0
9+00	0.0	0.0
TOTAL	44	

EXCAVATION AND REMOVAL		
X SECTION STATION	END AREA	VOLUME
6+00	0.0	18.1
6+25	39.0	32.8
6+50	31.9	32.4
6+75	38	40.7
7+00	50.0	49.4
7+25	56.8	49.9
7+50	51.0	49.5
7+75	56.0	48.8
8+00	49.5	52.1
8+25	63.0	44.2
8+50	32.6	15.1
8+75	0.0	0.0
9+00	0.0	0.0
TOTAL	**433	

QUANTITY NOTES
 * TOE ROCK TRENCH QUANTITY IS MAX WITH USING 5' DEPTH.
 ** EXCAVATION VOLUME NUMBER INCLUDES TOE ROCK TRENCH OF USING MAX 5' DEPTH.

LEGEND

- ROCK BANK STABILIZATION PROTECTION
- TOE ROCK TRENCH
- PROP. ENGINEERED FILL



REV.	DATE	DESCRIPTION
1	03/18/20	DRAFT
2	09/13/21	REVISIONS PER CITY COMMENTS

CUYAHOGA RIVER BANK STABILIZATION
 RIVERFORD PARKWAY
 CUYAHOGA FALLS, OHIO

CROSS SECTIONS
 C-202

ISSUED FOR:	
PERMIT	09/13/2021
BID	-
CONSTRUCTION	-
RECORD	-

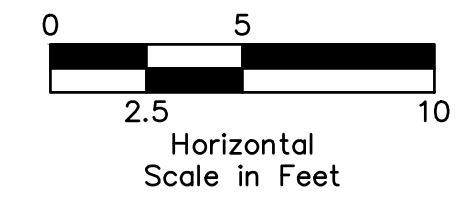
JOB NO.
2017064.00

SHEET:
C-202

SHEET NO:
SHEET 6/11

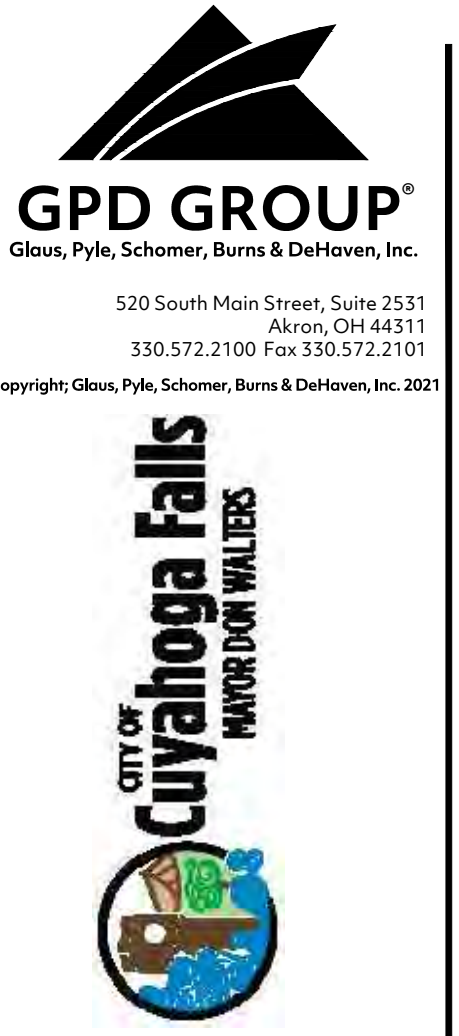
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NOTE:
SEE SHEET 6 FOR CROSS SECTION FOR QUANTITIES

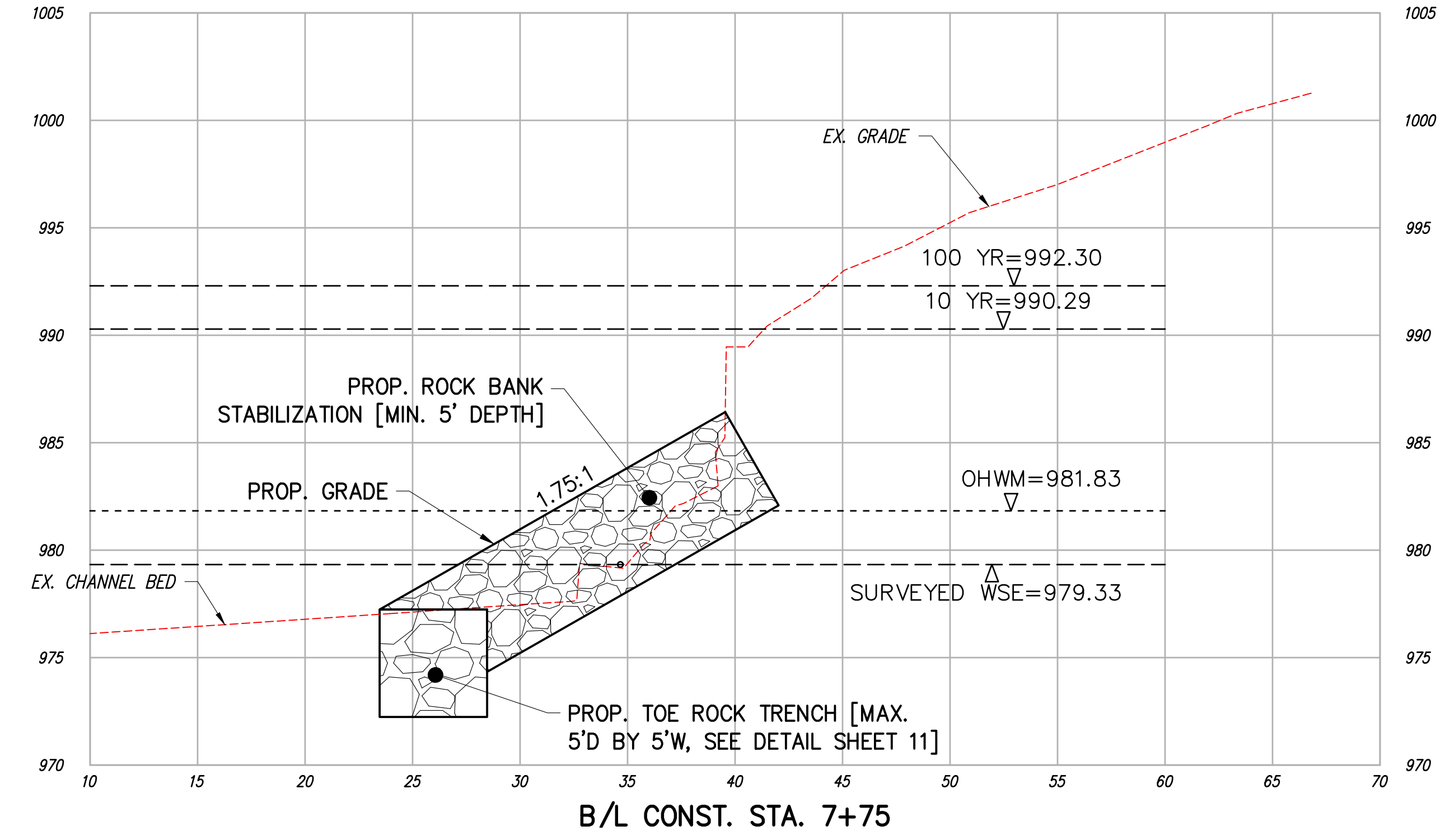
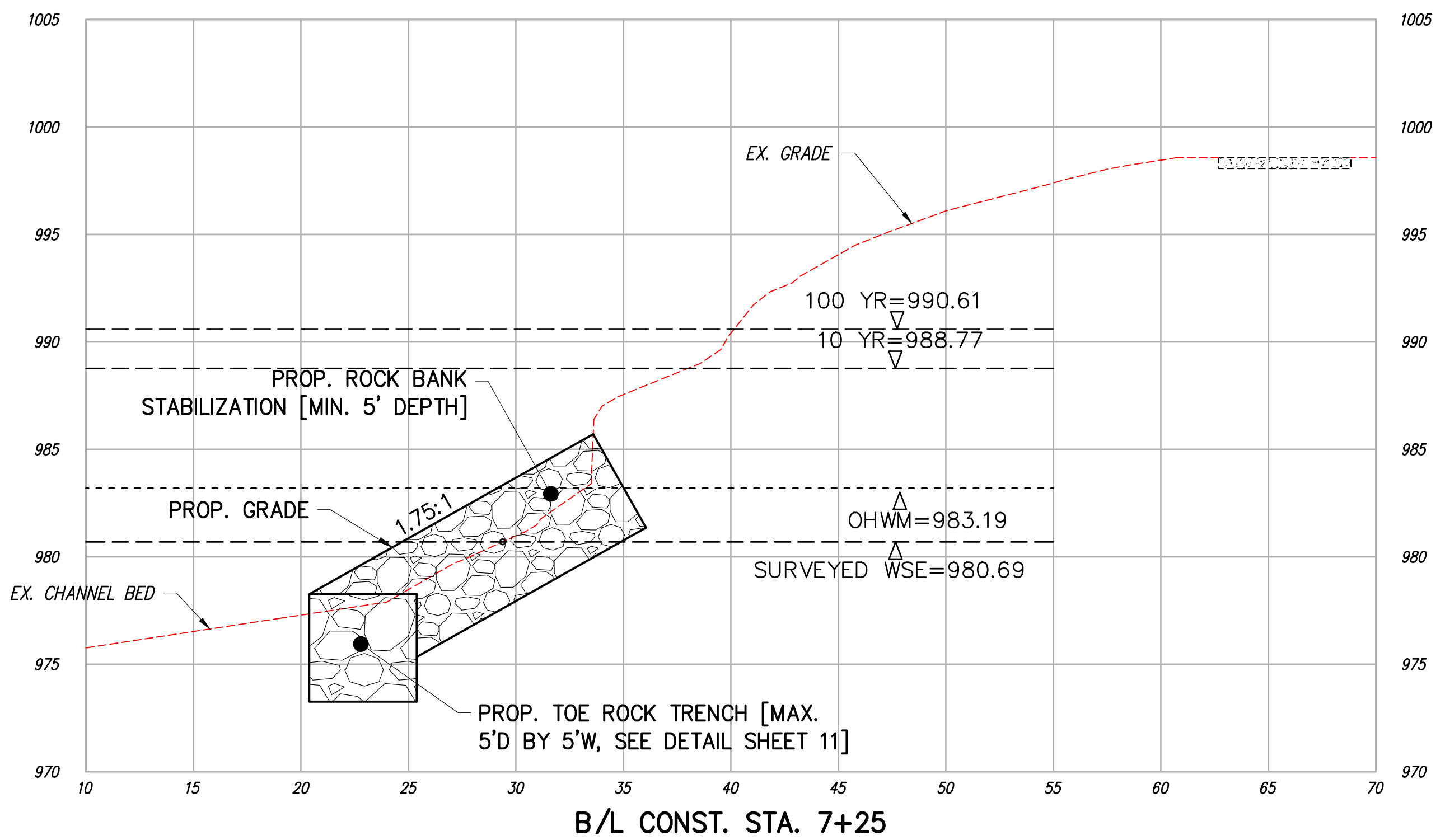
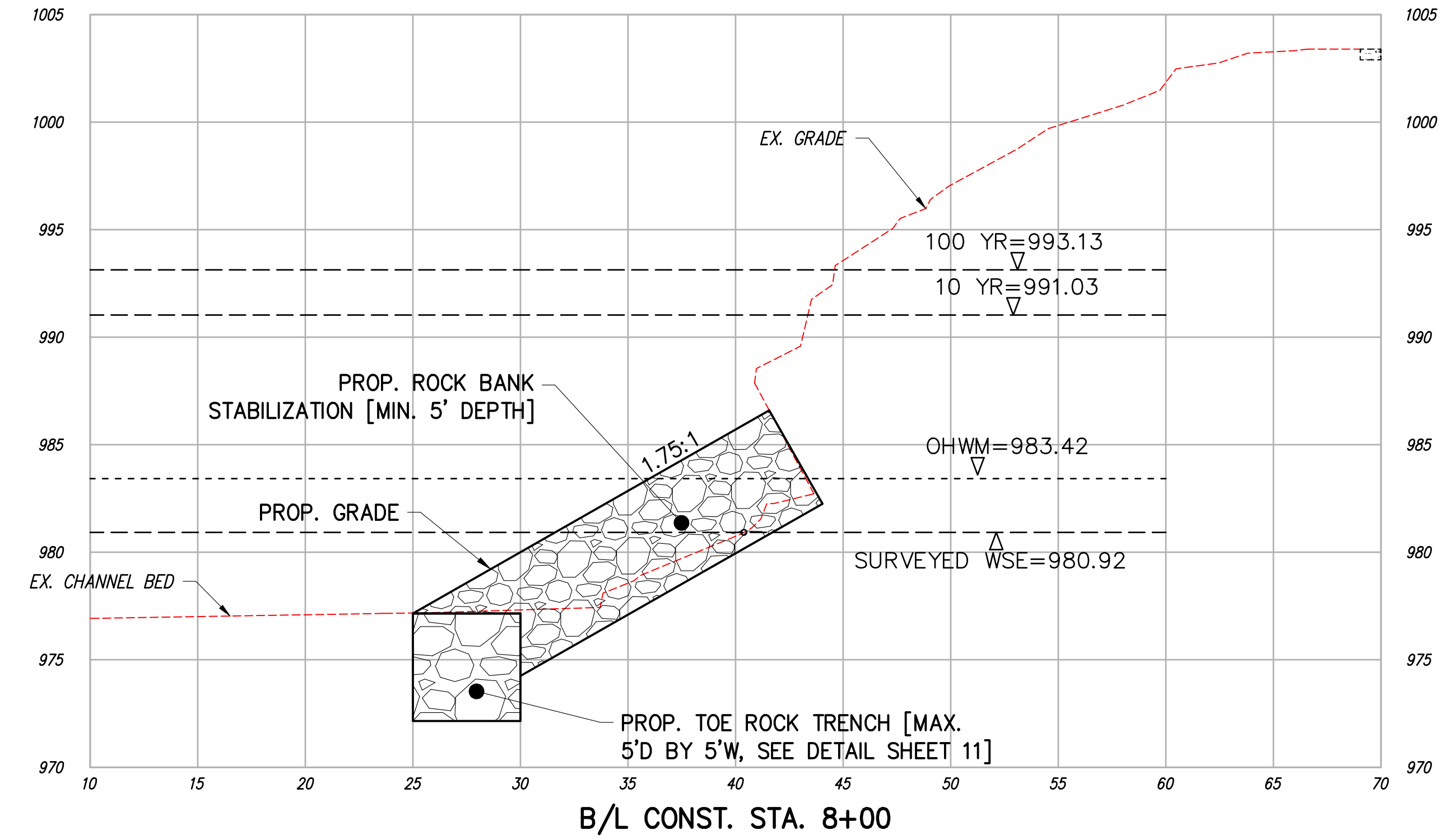
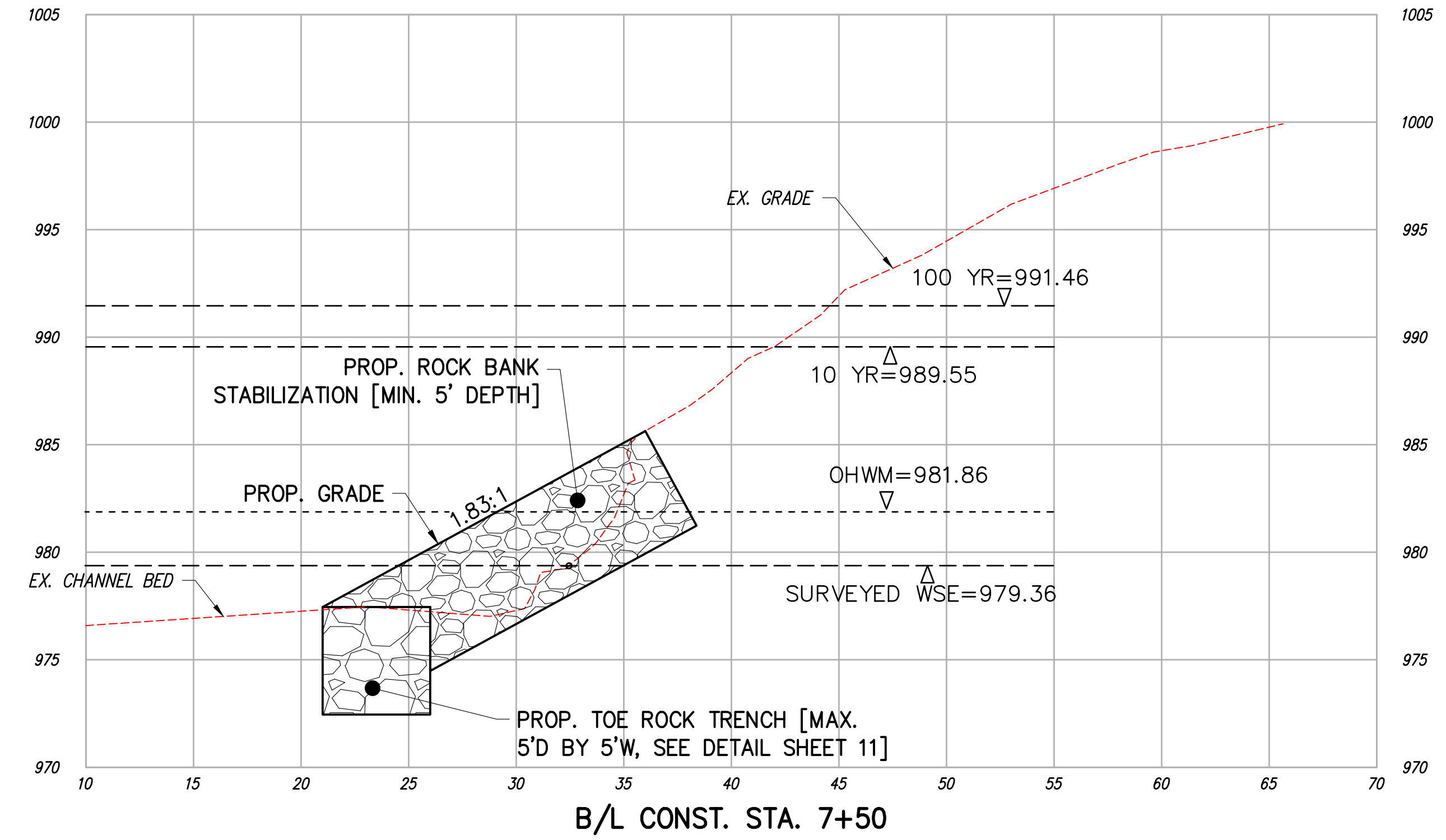


LEGEND

	ROCK BANK STABILIZATION PROTECTION
	TOE ROCK TRENCH
	PROP. ENGINEERED FILL



REV.	DATE	DESCRIPTION
1	03/18/20	DRAFT
2	09/13/21	REVISIONS PER CITY COMMENTS



CUYAHOGA RIVER BANK STABILIZATION
RIVERFORD PARKWAY
CUYAHOGA FALLS, OHIO

CROSS SECTIONS
C-203

ISSUED FOR:

PERMIT	09/13/2021
BID	-
CONSTRUCTION	-
RECORD	-

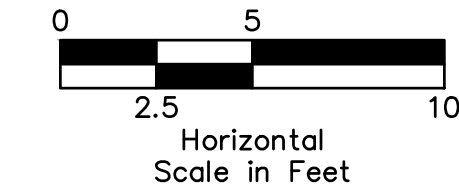
JOB NO.
2017064.00

SHEET:
C-203

SHEET NO:
SHEET 7/11

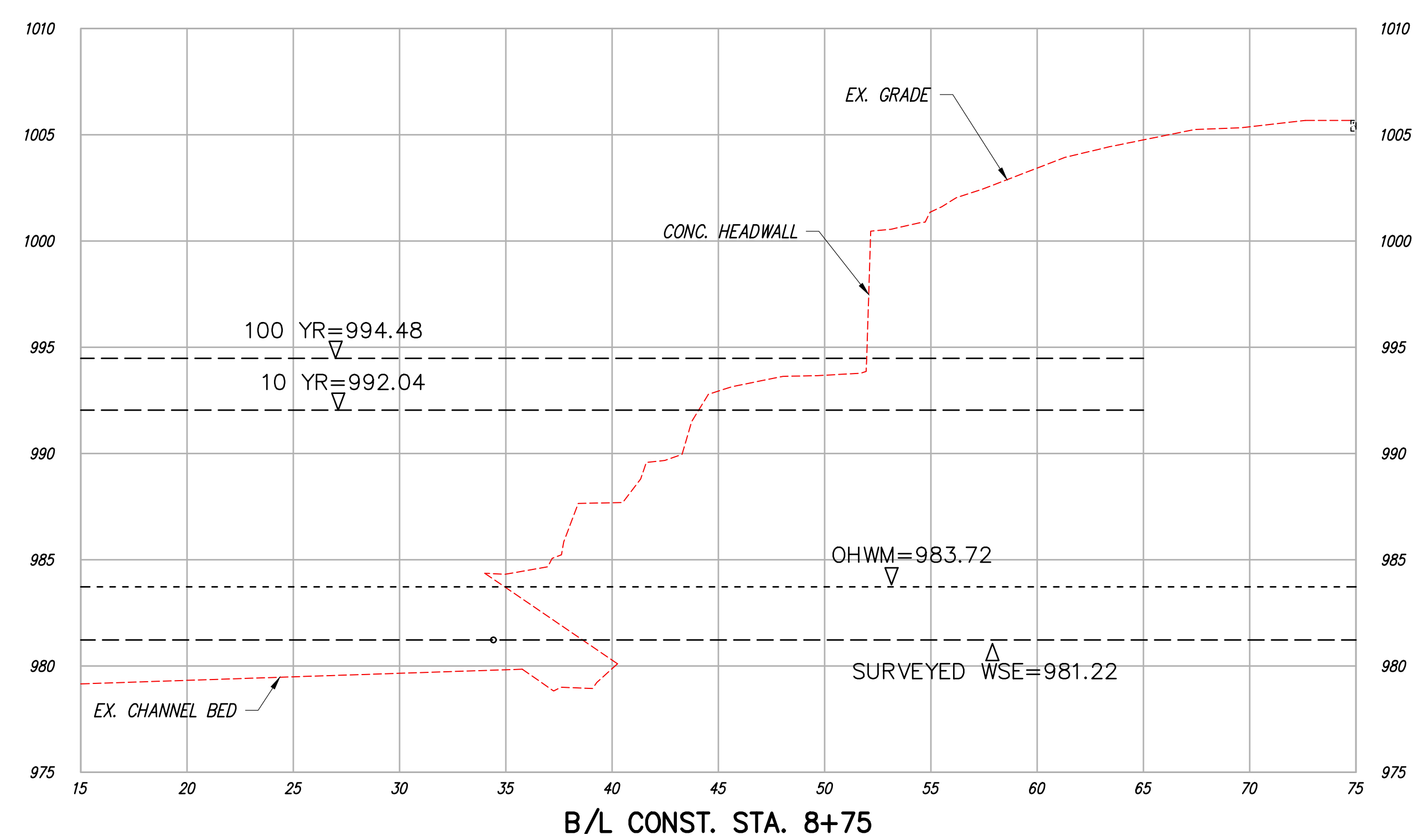
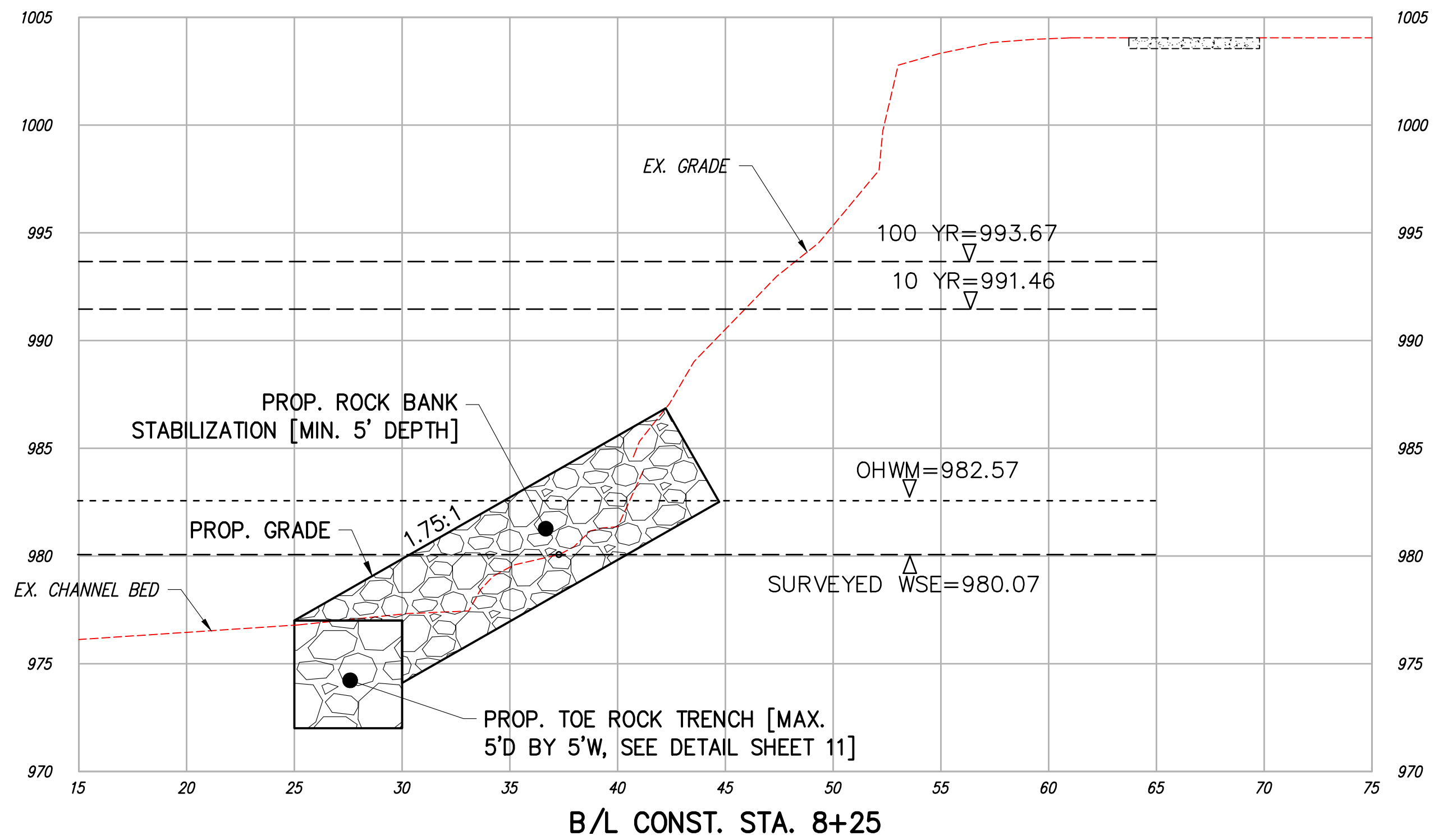
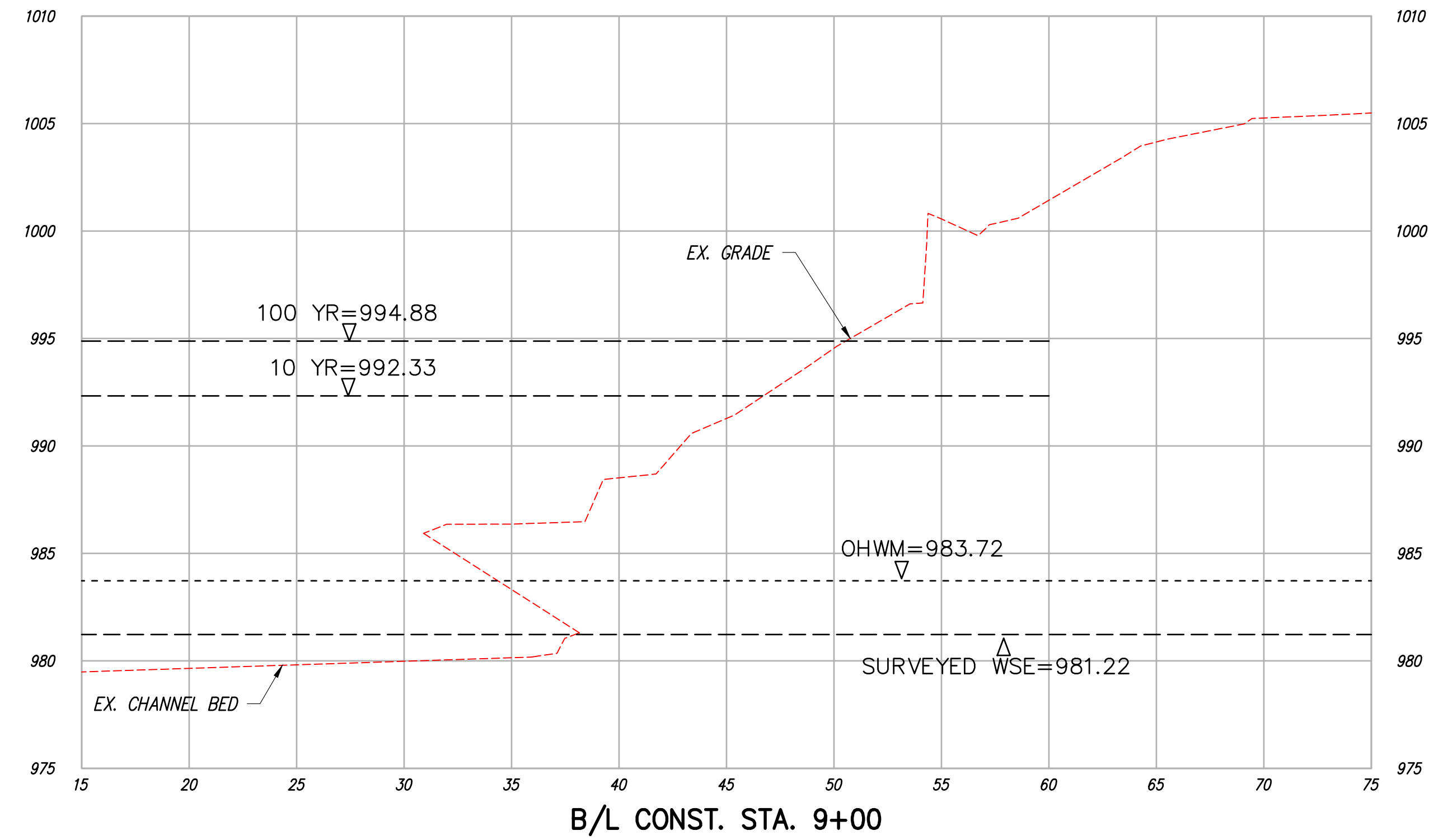
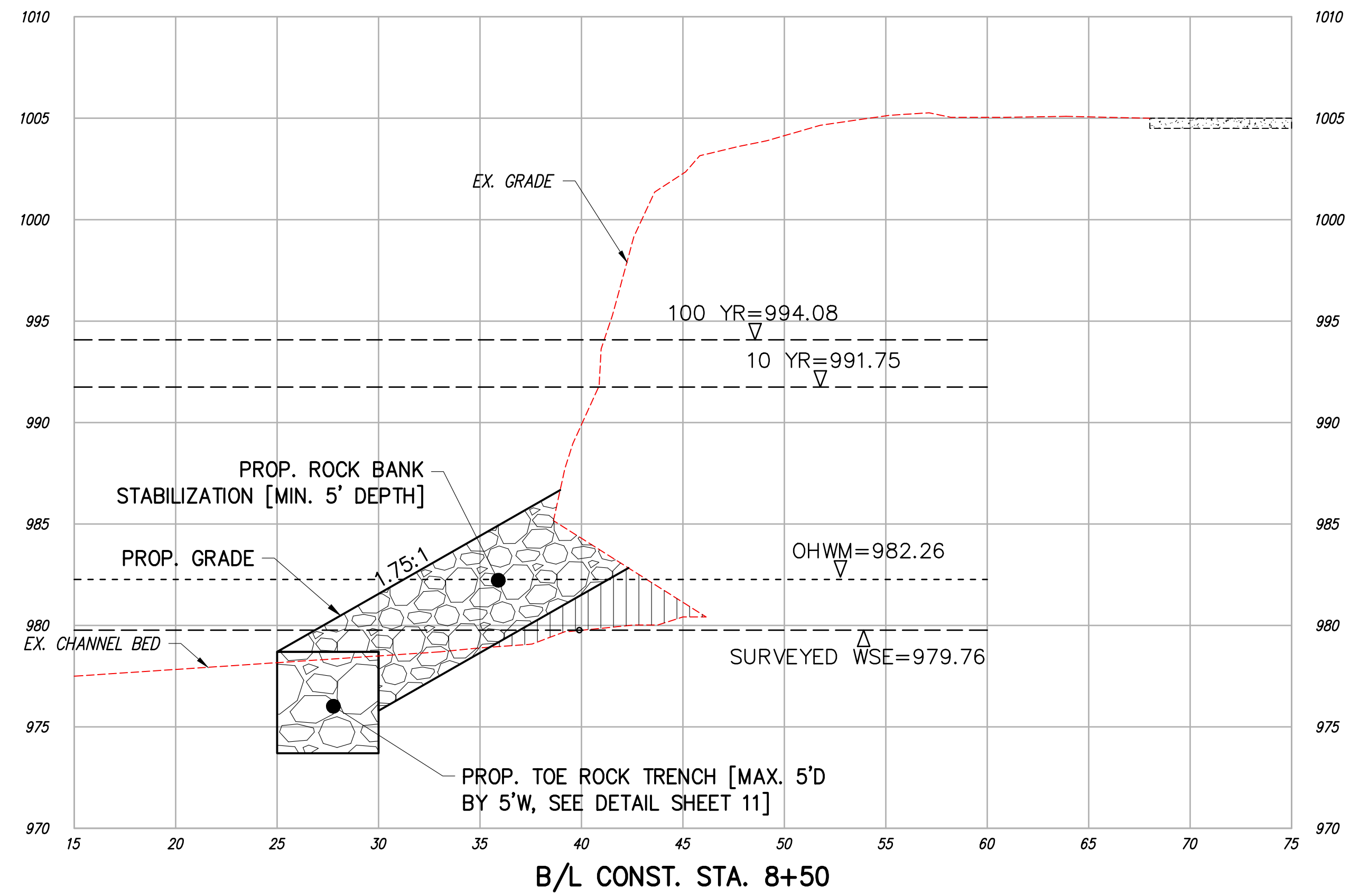
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NOTE:
SEE SHEET 6 FOR CROSS SECTION FOR QUANTITIES



LEGEND

	ROCK BANK STABILIZATION PROTECTION
	TOE ROCK TRENCH
	PROP. ENGINEERED FILL



REV.	DATE	DESCRIPTION
1	03/18/20	DRAFT
2	09/13/21	REVISIONS PER CITY COMMENTS

CUYAHOGA RIVER BANK STABILIZATION
RIVERFORD PARKWAY
CUYAHOGA FALLS, OHIO

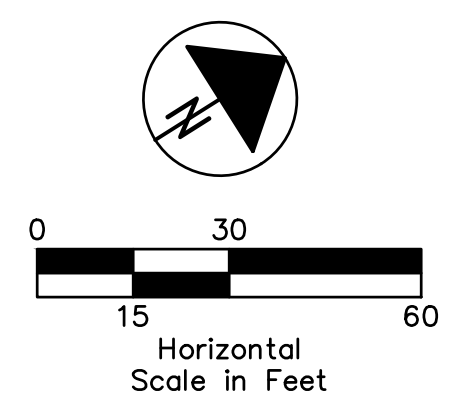
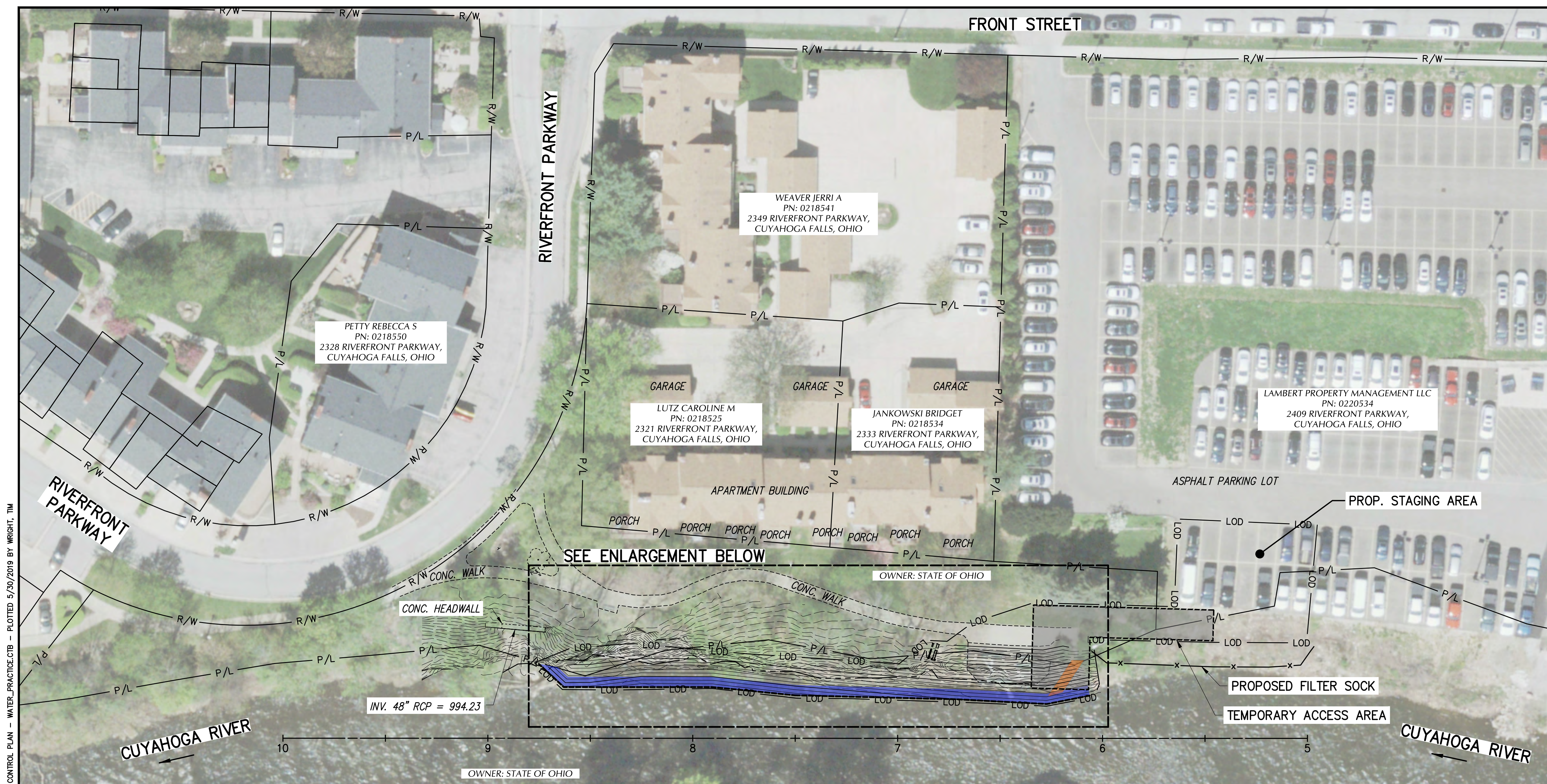
CROSS SECTIONS
C-204

ISSUED FOR:	
PERMIT	09/13/2021
BID	-
CONSTRUCTION	-
RECORD	-

JOB NO.
2017064.00

SHEET:
C-204

SHEET NO:
SHEET 8/11



- LEGEND**
- TEMPORARY ACCESS AREA
 - SEEDING AND MULCHING WITH EROSION CONTROL MAT, TYPE F
 - SEEDING AND MULCHING WITH EROSION CONTROL MAT, TYPE C
 - ROCK TOE BANK STABILIZATION
 - LOD — PROJECT LIMITS/ LIMITS OF DISTURBANCE
 - x — PROPOSED FILTER SOCK

- NOTES:**
1. SEE SHEET 2 FOR EROSION CONTROL MAT NOTES.
 2. SEE SHEET 10 FOR SEEDING AND MULCHING NOTES.

C:\2017\2017064 - CF RIVERBANK DESIGN SHEETS\9 EROSION AND SEDIMENT CONTROL PLANNING - 9 EROSION AND SEDIMENT CONTROL PLAN - WATER_PRACTICE.CTB - PLOTTED 5/20/2019 BY WRIGHT, TM

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City of Cuyahoga Falls
MAYOR DON WALLERS

REV.	DATE	DESCRIPTION
1	03/18/20	DRAFT
2	09/13/21	REVISIONS PER CITY COMMENTS

CUYAHOGA RIVER BANK STABILIZATION
RIVERFRONT PARKWAY
CUYAHOGA FALLS, OHIO

EROSION AND SEDIMENT CONTROL PLAN

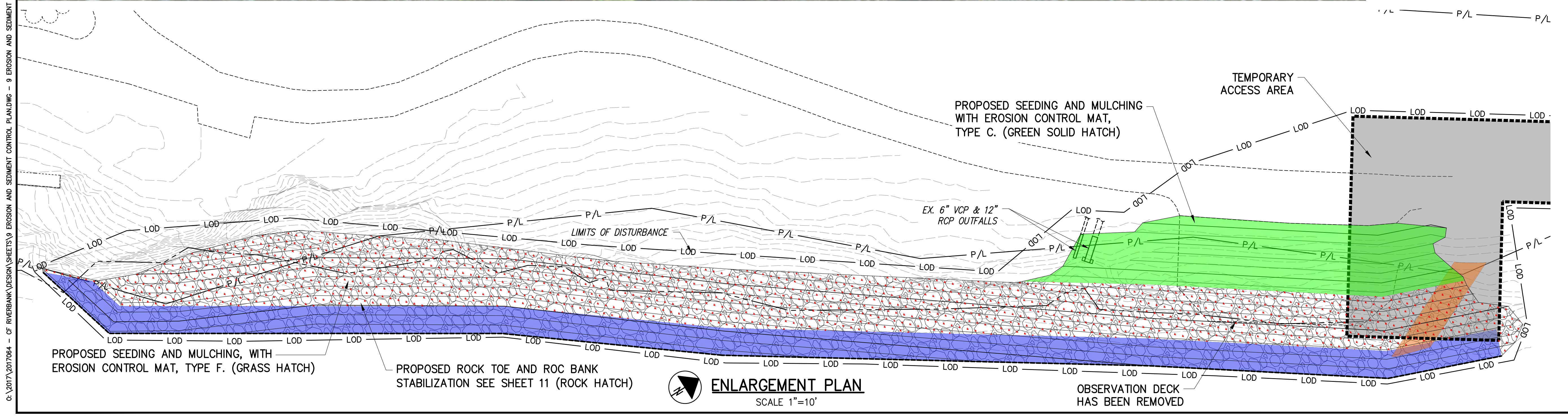
ISSUED FOR:

PERMIT	09/13/2021
BID	-
CONSTRUCTION	-
RECORD	-

JOB NO.
2017064.00

SHEET:
C-301

SHEET NO:
SHEET 9/11



ENLARGEMENT PLAN
SCALE 1"=10'

C:\2017\2017064 - CF RIVERBANK DESIGN SHEETS\9 EROSION AND SEDIMENT CONTROL PLANDING - TO EROSION AND SEDIMENT CONTROL NOTES & DETAILS - WATER PRACTICE.CTB - PLOTTED 5/20/2019 BY WRIGHT, TM

GENERAL NOTES

- ALL WORK SPECIFIED AS A DEPARTMENT OF TRANSPORTATION ITEM SHALL BE GOVERNED BY THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS AS WELL AS THE CURRENT EDITION OF THE LOCAL JURISDICTION STORM WATER MANAGEMENT POLICY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO POSSESS AND TO BE FAMILIAR WITH APPLICABLE SECTIONS.
- THESE CONTRACT DRAWINGS SHALL BE MADE AVAILABLE ON SITE AT ALL TIMES AND PRESENTED UPON REQUEST. IF UNFORESEEN EROSION IS ENCOUNTERED, ADDITIONAL EROSION AND SEDIMENT CONTROL (E&SC) MEASURES SHALL BE IMPLEMENTED TO MANAGE THE CURRENT SITE CONDITIONS WHICH MAY BE REQUESTED BY THE OWNER, COUNTY ENGINEER, PROJECT ENGINEER OR SOIL AND WATER CONSERVATION SERVICE REPRESENTATIVE AT ANYTIME. SUCH REQUESTS AND CHANGE IN SITE CONDITIONS SHALL BE IMPLEMENTED IMMEDIATELY AT CONTRACTOR'S EXPENSE.
- ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED AS PRACTICAL BEFORE ANY OTHER EARTH MOVING OCCURS.
- SEDIMENT BARRIERS SHALL BE INSTALLED DOWNSLOPE OF DISTURBED AREAS. SEDIMENT BARRIERS SHALL BE INSTALLED ALONG LEVEL CONTOURS. MAXIMUM CONTRIBUTING DRAINAGE AREA TO SEDIMENT BARRIERS SHALL BE PER THE CURRENT STATE'S EPA OR THE LOCAL AUTHORITY REQUIREMENTS. COMPOSITE FILTER SOCKS USED IN LIEU OF SILT FENCE SHALL BE A MINIMUM OF 12 INCHES IN DIAMETER.
- SILT BARRIERS SHALL BE INSTALLED AROUND ALL EXISTING AND NEW STORM INLETS, CATCH BASINS AND YARD DRAINS.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND ALL DIRT OR TOPSOIL STOCKPILES AND OTHER TEMPORARILY DISTURBED AREAS AS MAY BE SHOWN ON THESE PLANS AND/OR AS DIRECTED BY THE ENGINEER OR THE LOCAL AUTHORITY HAVING JURISDICTION.
- SILT BARRIERS AND SILT PERIMETER CONTROLS SHALL REMAIN IN PLACE UNTIL A GOOD STAND OF GRASS HAS BEEN OBTAINED AND/OR PAVING OPERATIONS ARE COMPLETE. CONTRACTOR SHALL KEEP SILT FROM ENTERING ANY STORM DRAINAGE SYSTEM. ONCE SITE HAS BEEN COMPLETELY STABILIZED, ANY SILT IN PIPES AND DRAINAGE SWALES SHALL BE REMOVED WITHIN 10 DAYS.
- IF FOR ANY REASON, THE PROJECT IS SUSPENDED, THE CONTRACTOR SHALL INSURE THAT ALL INSTALLED EROSION MEASURES ARE FUNCTIONING AND PROPERLY MAINTAINED DURING THIS PERIOD, AND THAT ALL BARE SOILS ARE SEEDED AND MULCHED WITH TEMPORARY SEED MIXTURE.
- IMPLEMENTATION OF EROSION AND SEDIMENT CONTROLS SHALL CONFORM TO THE CITY OF CUYAHOGA FALLS CODIFIED ORDINANCES.

INSPECTION NOTES

- CONTRACTOR SHALL INSPECT ALL E&SC MEASURES DAILY AND AFTER EVERY 1/2" RAIN EVENT. REPAIR AS NECESSARY TO PREVENT EROSION. SILTATION SHALL BE REMOVED FROM AREAS WHERE FAILURES HAVE OCCURRED AND CORRECTIVE ACTION TAKEN WITHIN 24 HOURS TO MAINTAIN ALL E&SC MEASURES.
- CONTRACTOR'S INSPECTOR SHALL BE A QUALIFIED INDIVIDUAL. ONLY A QUALIFIED INSPECTION PERSONNEL IS TO PERFORM THE INSPECTIONS. SITE INSPECTIONS SHALL BE DONE WEEKLY AND WITHIN 24 HRS AFTER EVERY RAINFALL EVENT EXCEEDING 1/2" OF RAINFALL. ALL NECESSARY REPAIRS SHOULD BE IMPLEMENTED IMMEDIATELY AFTER SUCH INSPECTIONS.
- FOR BMPS THAT REQUIRE REPAIR OR MAINTENANCE - BMPS ARE TO BE REPAIRED WITHIN 3 DAYS OF INSPECTION.
- FOR BMPS THAT DO NOT MEET THE INTENDED FUNCTION, A NEW BMP SHALL BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION.
- FOR MISSING BMPS REQUIRED, THE MISSING BMPS SHALL BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION.

TEMPORARY SEEDING

- STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION SITE.
- TEMPORARY SEEDING / STABILIZATION SHALL BE APPLIED WITHIN THE FOLLOWING TIME FRAMES FOR VARIOUS AREAS OF THE SITE:
 - ANY DISTURBED AREA WITHIN 50 FEET OF A WATERCOURSE AND NOT AT FINAL GRADE SHALL BE SEEDED AND MULCHED WITHIN 2 DAYS OF THE MOST RECENT DISTURBANCE, IF THAT AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS.
 - ALL CONSTRUCTION ACTIVITIES IN ANY DISTURBED AREA, INCLUDING SOIL STOCKPILES THAT WILL BE IDLE FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A WATERCOURSE SHALL BE SEEDED AND MULCHED WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE IN THE AREA.
 - DISTURBED AREAS THAT WILL BE IDLE OVER THE WINTER SHALL BE SEEDED AND MULCHED PRIOR TO NOVEMBER 1.
- THE SEED BED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. TEMPORARY SEEDING SHOULD NOT BE POSTPONED IF IDEAL SEED BED PREPARATION IS NOT POSSIBLE.
- TEMPORARY VEGETATION SEEDING RATES SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION, WHICH MAY REQUIRE USE OF SOIL AMENDMENTS. BASE RATES FOR LIME AND FERTILIZER SHALL BE USED.
- ALL SEED MIXES AND SEEDING RATES USED SHALL BE APPROVED BY THE LOCAL GOVERNING AUTHORITY AND THE OWNER.
- SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SPREADER, DRILL, CULTIPACKER, SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.
- APPLICATIONS OF TEMPORARY SEEDING SHALL INCLUDE MULCH, WHICH SHALL BE APPLIED DURING OR IMMEDIATELY AFTER SEEDING. SEEDINGS MADE DURING OPTIMUM SEEDING DATES ON FAVORABLE, VERY FLAT SOIL CONDITIONS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION. IF MULCH IS USED, FOLLOW THE REQUIREMENTS AND INSTRUCTIONS IN THE MULCH APPLICATION.

TEMPORARY SEEDING		
SEEDING DATES	SPECIES	SEEDING RATE LB./AC.
MARCH 1 TO AUGUST 15	ANNUAL RYEGRASS	30 - 50
AUGUST 16 TO OCTOBER 31	OATS	30 - 50
NOVEMBER 1 TO FEBRUARY 29	USE MULCH ONLY OR DORMANT SEEDING	

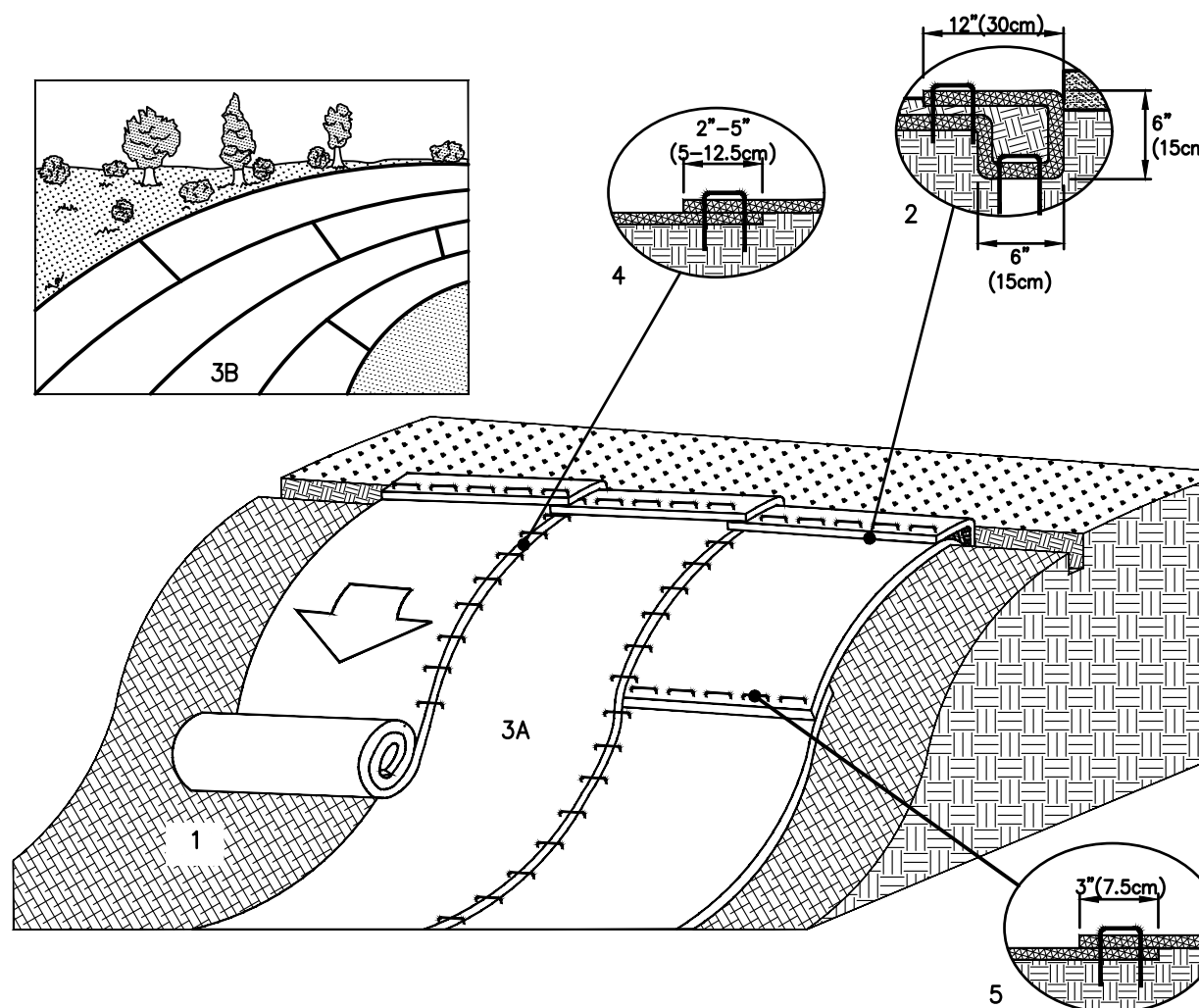
NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED

PERMANENT SEEDING

- PERMANENT SEEDING SHALL CONFORM TO ODOT CMS ITEM 659.
- PERMANENT SEED MIX SHALL CONFORM TO ODOT CLASS 3B.

MULCH

- MULCH AND OTHER APPROPRIATE VEGETATIVE PRACTICES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN 21 DAYS OR ON AREAS AND PORTIONS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.
- MULCH SHALL CONSIST OF ONE OF THE FOLLOWING:
 - STRAW SHALL BE UNROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 2 TONS/AC. OR 90 LB./1,000 SQ. FT. (TWO TO THREE BALES) THE STRAW MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQ. FT. SECTIONS AND PLACE TWO 45-LB BALES OF STRAW IN EACH SECTION.
 - WOOD CELLULOSE FIBER SHOULD BE USED AT 2,000 LB./AC. OR 46 LB./1,000 SQ. FT.
 - ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS AND ROLLED EROSION CONTROL PRODUCTS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD MULCH/CHIPS APPLIED AT 10-20 TONS/AC.
- MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. THE FOLLOWING ARE ACCEPTABLE METHODS FOR ANCHORING MULCH.
 - USE A DISK, CRIMPER, OR SIMILAR TYPE TOOL SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT BE LEFT GENERALLY LONGER THAN 6 INCHES.
 - USE MULCH NETTINGS ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, FOLLOWING ALL PLACEMENT AND ANCHORING REQUIREMENTS. USE IN AREAS OF WATER CONCENTRATION AND STEEP SLOPES TO HOLD MULCH IN PLACE.
 - FOR STRAW MULCH, SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER. ALL APPLICATIONS OF SYNTHETIC BINDERS MUST BE CONDUCTED IN SUCH A MANNER WHERE THERE IS NO CONTACT WITH WATERS OF THE STATE.
 - WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB./AC. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB./100 GAL. OF WOOD CELLULOSE FIBER.



- PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPs), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPs IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECPs EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECPs WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO THE COMPACTED SOIL AND FOLD THE REMAINING 12" PORTION OF RECPs BACK OVER THE SEED AND COMPACTED SOIL. SECURE RECPs OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECPs.
- ROLL THE RECPs (B) HORIZONTALLY ACROSS THE SLOPE. RECPs WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPs MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
- THE EDGES OF PARALLEL RECPs MUST BE STAPLED WITH APPROXIMATELY 2" - 5" OVERLAP DEPENDING ON THE RECPs TYPE.
- CONSECUTIVE RECPs SPICED DOWN THE SLOPE MUST BE END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECPs WIDTH.

NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S

EROSION CONTROL FABRIC DETAIL

SCALE: NTS
[DETAIL PER NORTH AMERICAN GREEN - EROSION CONTROL PRODUCTS]

COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS

MATERIAL TYPE	3 mil HDPE	5 mil HDPE	5 mil HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (MFPP)
MATERIAL CHARACTERISTICS	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	BIO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE
SOCK DIAMETERS	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH		26 PSI	26 PSI	44 PSI	202 PSI
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	% AT 1000 HR.	23% AT 1000 HR.		100% AT 1000 HR.	100% AT 1000 HR.
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS

TWO-PLY SYSTEMS

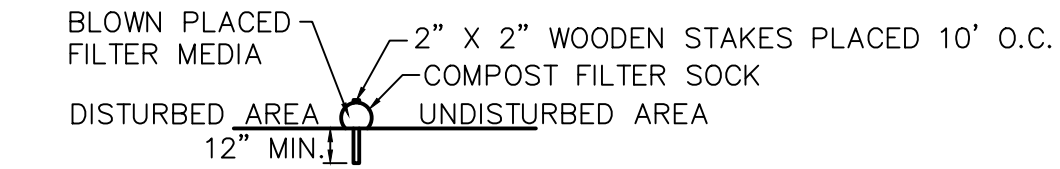
INNER CONTAINMENT NETTING	HDPE BIAXIAL NET
	CONTINUOUSLY WOUND FUSION-WELDED JUNCTURES
	3/4" X 3/4" MAX. APERTURE SIZE COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER & NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH)

3/16" MAX. APERTURE SIZE

SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MONTHS OR LESS

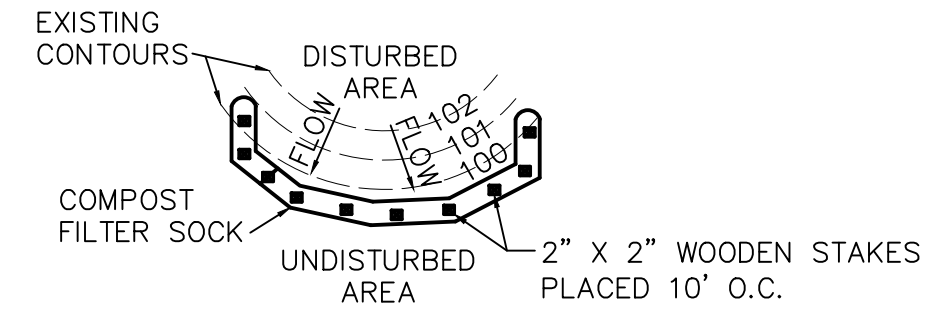
COMPOST SHALL MEET THE FOLLOWING STANDARDS:

ORGANIC MATTER CONTENT	80% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.0
MOISTURE CONTENT	35% - 55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS MAXIMUM



SECTION VIEW

NTS



PLAN VIEW

NTS
ADAPTED FROM FILTREXX

- COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT.
- TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
- SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH 1/2 INCH STORM RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
- BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

COMPOST FILTER SOCK

SCALE: NTS



REV.	DATE	DESCRIPTION
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CUYAHOGA RIVER BANK STABILIZATION
RIVERFORTH PARKWAY
CUYAHOGA FALLS, OHIO

EROSION AND SEDIMENT CONTROL NOTES & DETAILS

ISSUED FOR:	
PERMIT	09/13/2021
BID	-
CONSTRUCTION	
RECORD	-

JOB NO.
2017064.00

SHEET:
C-302

SHEET NO:
SHEET 10/11



Glaus, Pyle, Schomer, Burns & DeHaven, Inc.

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Akron, OH 44311
330.572.2100 Fax 330.572.2101

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REV.	DATE	DESCRIPTION
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CUYAHOGA RIVER BANK STABILIZATION
RIVERFORD PARKWAY
CUYAHOGA FALLS, OHIO

BANK STABILIZATION DETAILS

ISSUED FOR:	
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BID	-
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RECORD	-

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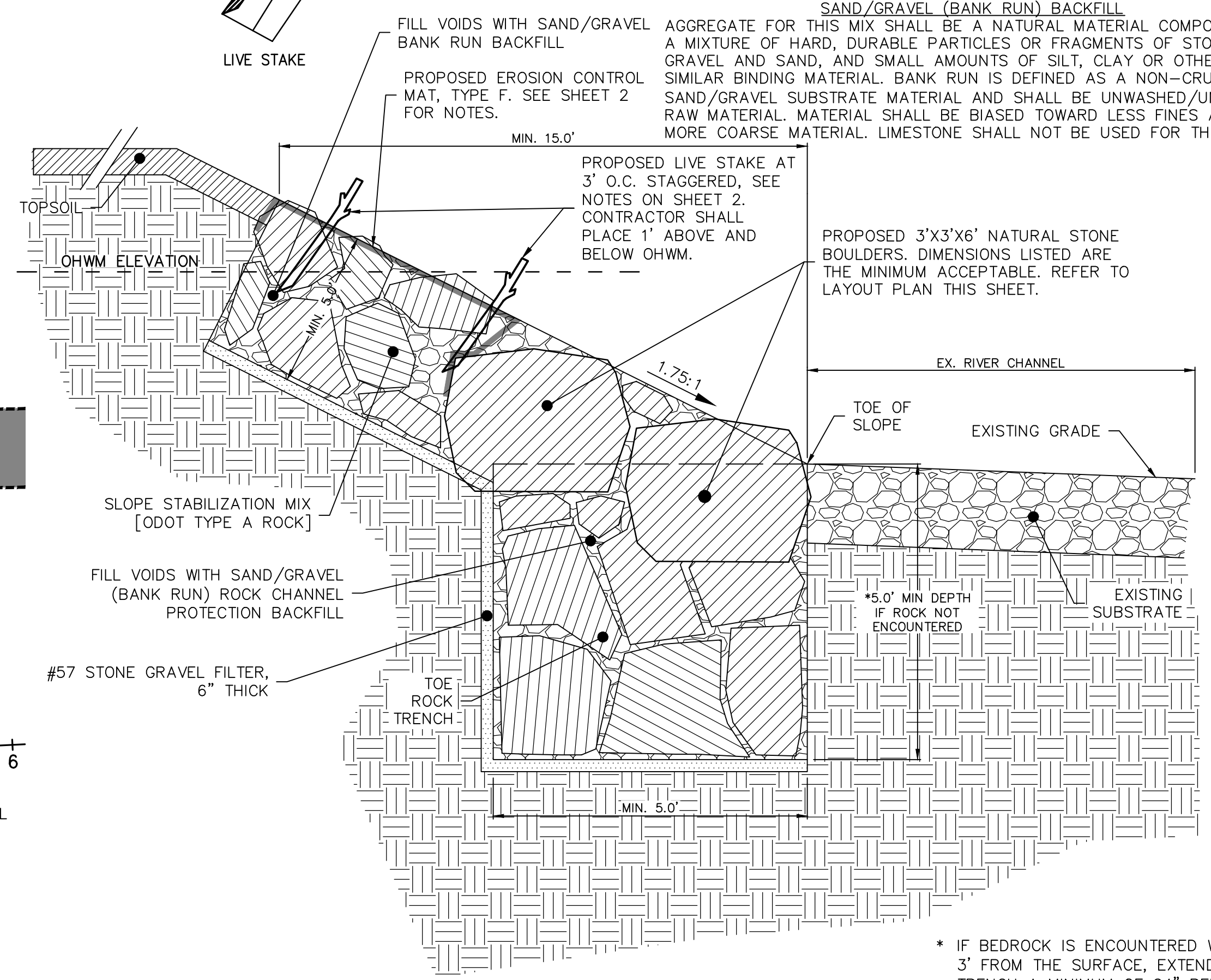
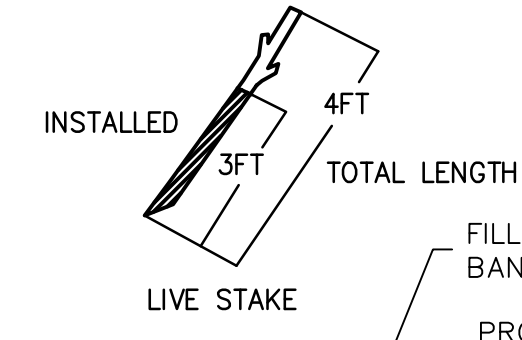
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SHEET NO:
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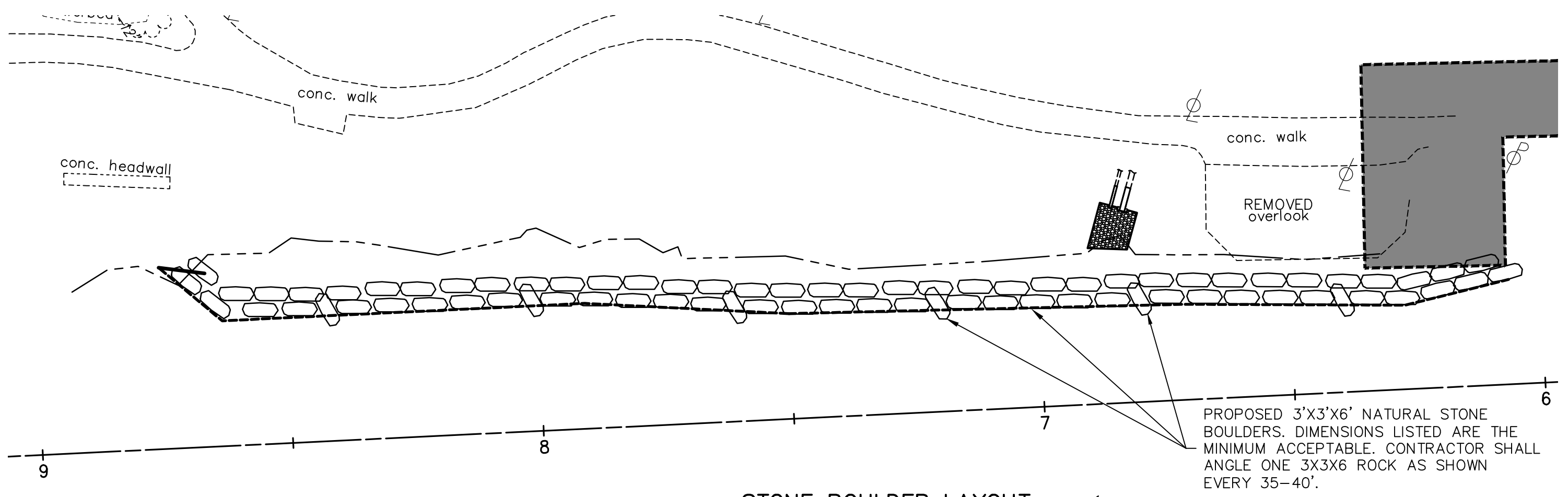
TOE ROCK TRENCH MIX		NO CONCRETE OR RECYCLED CONCRETE ALLOWED. NATURAL STONE ONLY.	SLOPE STABILIZATION MIX		NO CONCRETE OR RECYCLED CONCRETE ALLOWED. NATURAL STONE ONLY.
ROCK SIZES:			ROCK SIZES:		
A	50%		A	100%	
B	25%	FILL VOIDS WITH SAND/GRAVEL (BANK RUN)			
C	25%				

FILL VOIDS WITH SAND/GRAVEL (BANK RUN) BACKFILL

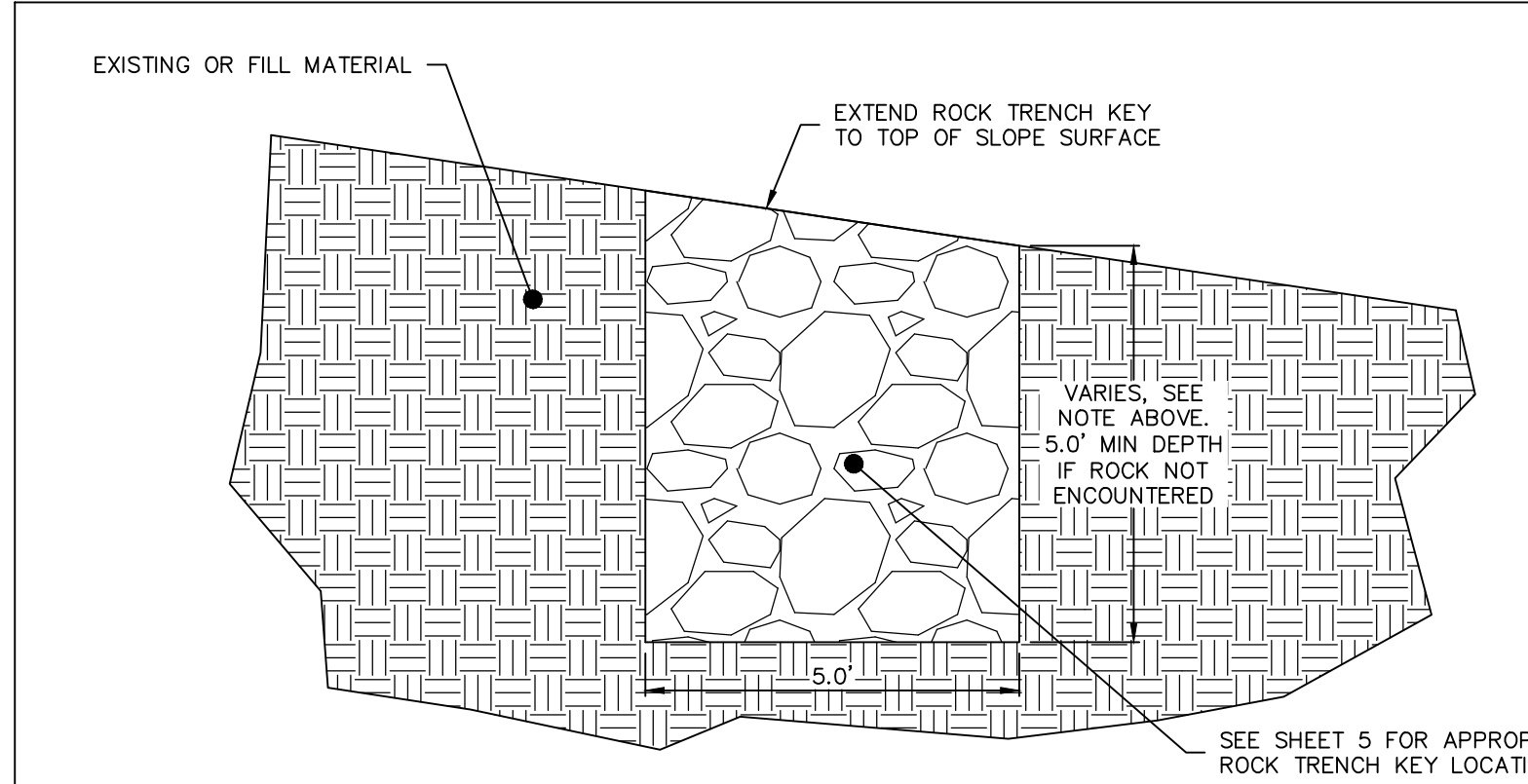
AGGREGATE FOR THIS MIX SHALL BE A NATURAL MATERIAL COMPOSED OF A MIXTURE OF HARD, DURABLE PARTICLES OR FRAGMENTS OF STONE OR GRAVEL AND SAND, AND SMALL AMOUNTS OF SILT, CLAY OR OTHER SIMILAR BINDING MATERIAL. BANK RUN IS DEFINED AS A NON-CRUSHED SAND/GRAVEL SUBSTRATE MATERIAL AND SHALL BE UNWASHED/UNSORTED RAW MATERIAL. MATERIAL SHALL BE BIASED TOWARD LESS FINES AND MORE COARSE MATERIAL. LIMESTONE SHALL NOT BE USED FOR THIS MIX.



ROCK TOE TRENCH & BANK STABILIZATION
SCALE: NTS



STONE BOULDER LAYOUT PLAN VIEW
SCALE: 1"=20'



ROCK TRENCH KEY DETAIL
SCALE: NTS

TYPICAL ROCK KEY MIX	
ROCK SIZE A	50%
ROCK SIZE B	25%
ROCK SIZE C	25%

NOTE:
1. FILL VOIDS WITH SAND/GRAVEL (BANK RUN) BACKFILL AS SPECIFIED ON THIS SHEET

C:\2017_2017064 - CF RIVERBANK DESIGN SHEETS\9 BANK STABILIZATION DETAILS.DWG - 11 BANK STABILIZATION DETAILS - PLOTTED 5/30/2019 BY WRIGHT, TM



**OHIO HISTORIC PRESERVATION OFFICE:
RESOURCE PROTECTION AND REVIEW**

Section 106 Review - Project Summary Form

For projects requiring a license from the Federal Communications Commission, please use FCC Forms 620 or 621. DO NOT USE THIS FORM.

SECTION 1: GENERAL PROJECT INFORMATION

All contact information provided must include the name, address and phone number of the person listed. Email addresses should also be included, if available. Please refer to the Instructions or contact an OHPO reviewer (mailto:Section106@ohiohistory.org) if you need help completing this Form. Unless otherwise requested, we will contact the person submitting this Form with questions or comments about this project.

Date:	01 November 2021
Name/Affiliation of person submitting form:	Tom Prewitt, EnviroScience, Inc. (on behalf of City of Cuyahoga Falls)
Mailing Address:	5070 Stow Road, Stow, OH 44224
Phone/Fax/Email:	Office: 330-688-0111 Cell: 330-217-2550 tprewitt@EnviroScienceInc.com

A. Project Info:

1. This Form provides information about:

New Project Submittal: **YES**

Additional information relating to previously submitted project: **NO**

OHPO/RPR Serial Number from previous submission: **N/A**

2. Project Name (if applicable):

Cuyahoga River Bank Stabilization Project

3. Internal tracking or reference number used by Federal Agency, consultant, and/or applicant to identify this project (if applicable): **N/A**

B. Project Address or vicinity:

The project area is located along Cuyahoga River between Riverfront Parkway and Ohio Highway 8 in the City of Cuyahoga Falls, Summit County, Ohio. The approximate center coordinates are 41.138373°, -81.480553°. Site maps are included in Attachment A.

C. City/Township: [City of Cuyahoga Falls, Ohio](#)

D. County: [Summit County](#)

E. Federal Agency and Agency Contact. *If you do not know the federal agency involved in your project, please contact the party asking you to apply for Section 106 Review, not OHPO, for this information. HUD Entitlement Communities acting under delegated environmental review authority should list their own contact information.*

The USACE, Buffalo District will be the lead federal agency for this project. To our knowledge, a regulatory agent has not been assigned to review the permit application yet. When a USACE agent is assigned to this project, their contact information will be forwarded to SHPO.

F. Type of Federal Assistance. *List all known federal sources of federal funding, approvals, and permits to avoid repeated reviews.*

There is no federal assistance associated with this project.

Based on the proposed restoration plan and construction drawings included in Attachment A, EnviroScience has submitted a pre-construction notification (PCN) for a Nationwide Permit (NWP) #13 – Bank Stabilization for the proposed restoration activities. This would satisfy any necessary permits associated with Section 404 of the Clean Water Act.

G. State Agency and Contact Person (if applicable):

The project area is located in a watershed that is “Eligible” for coverage under the 401 Water Quality Certification issued by the Ohio EPA for the 2017 Nationwide Permits. All onsite aquatic resources are understood to be jurisdictional features; proposed restoration activities follow the general and regional conditions outlined in NWP #13. We do not anticipate a need for additional authorization from Ohio EPA at this time. Furthermore, NWP #13 does not include the stream eligibility requirements. Given the above information and that water quality will be improved as a result of project activities we do not anticipate the need for an individual 401 WQC or Director’s Authorization from the Ohio EPA.

H. Type of State Assistance:

[N/A](#)

I. Is this project being submitted at the direction of a state agency **solely** under Ohio Revised Code 149.53 or at the direction of a State Agency? *Answering yes to this question means that you are sure that no federal funding, permits or approvals will be used for any part of your project, and that you are seeking comments only under ORC 149.53.*

[NO](#)

- J. Public Involvement- Describe how the public has been/will be informed about this project and its potential to affect historic properties. Please summarize how they will have an opportunity to provide comments about any effects to historic properties. (This step is required for all projects under 36 CFR § 800.2):

The adjacent landowners have been contacted through the design process and have been notified regarding the project. The public comment period for the 2017 NWP is closed; however, all activities proposed are within the conditions authorized under NWP #13. Other entities that have been, or will be contacted throughout the permitting and construction components of the project include: USFWS, ODNR, SHPO, FEMA, Summit SWCD and/or other municipality to review the SWPPP, USACE, and OEPA Division of Surface Water.

- K. Please list other consulting parties that you have contacted/will contact about this project, such as Indian Tribes, Certified Local Governments, local officials, property owners, or preservation groups. (See 36 CFR § 800.2 for more information about involving other consulting parties). Please summarize how they will have an opportunity to provide comments:

See section J above.

SECTION 2: PROJECT DESCRIPTION AND AREA OF POTENTIAL EFFECTS (APE)

Provide a description of your project, its site, and geographical information. You will also describe your project's Area of Potential Effects (APE). Please refer to the Instructions or contact an OHPO reviewer if you need help with developing the APE or completing this form.

For challenging projects, provide as much information as possible in all sections, and then check the box in Section 5.A. to ask OHPO to offer preliminary comments or make recommendations about how to proceed with your project consultation. This is recommended if your project involves effects to significant historic properties or if there may be challenging procedural issues related to your project. Please note that providing information to complete all Sections will still be required and that asking OHPO for preliminary comments may tend to delay completion of the review process for some projects.

- A. Does this project involve any Ground-Disturbing activity: **YES**
(If **Yes**, you must complete all of Section 2.A. If **No**, proceed directly to Section 2. B.)

1. General description of width, length and depth of proposed ground disturbing activity:

The purpose of this project is to remediate an approximately 275-foot reach of the Cuyahoga River that is experiencing significant bank erosion in the City of Cuyahoga Fall. Project activities include utilizing natural channel design and bioengineering to restore approximately 275 linear feet of river bank improving water quality by decreasing sediment load caused by erosion.

To achieve these goals, objectives will be to stabilize stream banks through the addition of angular boulders to decrease the bank angle and promote a slope capable of vegetation. The project will address the full height of the slope but the toe stabilization is most important for success. Live stakes will be installed during the appropriate season along the stream banks.

Approximately 275 linear feet (0.088 acres) of Cuyahoga River will be impacted in order to conduct project activities. This includes the placement of approximately 339 cubic yards of material to be utilized for bank stabilization. Further details are provided in the site construction drawings (Attachment C) and impacts mapping

(Attachment A).

2. Narrative description of previous land use and past ground disturbances, if known:

The project area is located on state of Ohio property along Cuyahoga River within an urban residential and commercial area. Onsite soils are non-hydric as there are no wetlands located on the site. Past ground disturbance associated with tree clearing can be inferred within the maintained lawn portions adjacent the project area. Ground disturbance associated with grading the residential maintained lawns and channelization of the adjacent portions of Cuyahoga River can be inferred along the project area. A known dam removal occurred downstream of the project area in recent years and associated eroded banks are indicative of such.

3. Narrative description of current land use and conditions:

Conditions are of a narrow upland riparian area along with maintained lawn, residential housing and paved parking lots. This maintained lawn is contiguous with an adjacent residential housing and extends all the way to the right descending bank of Cuyahoga River, where there is a gap in the riparian forested corridor. This gap is also where an observation deck has been recently removed. Surrounding land uses include urban residential, commercial properties, and a state highway.

4. Does the landowner know of any archaeological resources found on the property?

NO

- B. Submit the exact project site location on a USGS 7.5-minute topographic quadrangle map for all projects. Map sections, photocopies of map sections, and online versions of USGS maps are acceptable as long as the location is clearly marked. Show the project's Area of Potential Effects (APE). It should be clearly distinguished from other features shown on the map:

1. USGS Quad Map Name: Hudson, Ohio Quadrangle (see Figure 2, Attachment A)
2. Township/City/Village Name: City of Cuyahoga Falls (see Figure 1, Attachment A)

- C. Provide a street-level map indicating the location of the project site; road names must be identified and legible. Your map must show the exact location of the boundaries for the project site. Show the project's Area of Potential Effects (APE). It should be clearly distinguished from other features shown on the map:

Please refer to Figure 1 in Attachment A. Additionally, Figure 5 (Attachment A) contains a site map of the project area overlain on a recent aerial photograph. Direct project impacts will be limited to the depicted 0.088-acre project area. Potential indirect effects associated with the project include temporary audible and visual effects associated with construction activities; therefore, the extent of the map would be within the APE due to the likely audible effects of construction equipment.

- D. Provide a verbal description of the APE, including a discussion of how the APE will include areas with the potential for direct and indirect effects from the project. Explain the steps taken to identify the project's APE, and your justification for the specific boundaries chosen:

The project area designated for restoration activities is approximately 0.1 acres. The project area is located along Cuyahoga River east of the intersection between Riverfront Parkway and Front Street in the Cuyahoga Falls, Summit County, Ohio.

The project area detailed above consists of the construction footprint and allows space for access paths, staging, and a spoil placement area. The APE will be limited to areas temporarily and permanently impacted during project activities. Potential effects outside of the project area are limited to auditory and visual effects to properties near or adjacent to the project area during the period of active construction, as well as the potential for vehicles and/or equipment to be accessing the adjacent parking lot, which may result in minor impacts to traffic during construction.

A desktop review of the OHPO database was not completed as we are unaware of any potential historical structures in the near vicinity. Direct impacts to cultural resources are not expected as a result of project activities. All ground disturbance associated with construction activities will be temporary, no changes in land use will occur, and no new impervious surfaces will be created.

- E. Provide a detailed description of the project. This is a critical part of your submission. Your description should be prepared for a cold reader who may not be an expert in this type of project. The information provided must help support your analysis of effects to historic properties, not other types of project impacts. Do not simply include copies of environmental documents or other types of specialized project reports. If there are multiple project alternatives, you should include information about all alternatives that are still under active consideration:

The approximately 275-linear foot reach of Cuyahoga River located within the project area is experiencing significant bank erosion. The resulting sedimentation contributes to reduced water quality downstream. Erosion, sedimentation, and a lack of deep-rooted, diverse riparian vegetation are some of the most significant problems along Cuyahoga River, especially the reaches such as this that are surrounded by dense urban and suburban development.

The goals of the restoration activities within the project area include utilizing natural channel design and bioengineering to restore approximately 275 linear feet of channel, planting native vegetation and removing invasive vegetation to restore the riparian zone and improving water quality by decreasing sediment load caused by erosion through bank stabilization. These goals will be accomplished by stabilizing the riverbank through grading and decreasing bank height and slope, installing rock stabilizations to reduce erosion, and revegetating the stream banks. No changes in land use will occur as a result of project activities, and no new impervious surfaces will be created.

Based on the proposed restoration plan, we anticipate that authorization from the U.S. Army Corps of Engineers will be required. We are preparing a PCN for a NWP #13 (Bank Stabilization) for impacts associated with bank stabilization. The site is located within a watershed that is deemed "Eligible" for coverage under the 401 WQC issued by Ohio EPA for the 2017 NWPs; therefore, we do not anticipate the need for additional aquatic resource permits from the Ohio EPA. Furthermore, NWP #13 does not include the stream eligibility requirements. We are submitting this request to facilitate an expedited review of the project by the USACE.

No historic features were identified within the project area during the field visits and surveys. Potential effects outside of the project area are limited to auditory and visual effects to properties near or adjacent to the project area during the period of active construction, as well as the potential for vehicles and/or equipment to be accessing the adjacent parking lot, which may result in minor impacts to traffic during construction. Direct impacts to cultural resources are not expected as a result of project activities. All ground disturbance associated with construction activities will be temporary, no changes in land use will occur, and no new impervious surfaces will be created.

SECTION 3: IDENTIFICATION OF HISTORIC PROPERTIES

Describe whether there are historic properties located within your project APE. To make that determination, use information generated from your own Background Research and Field Survey. Then choose one of the following options to report your findings. Please refer to the Instructions and/or contact an OHPO reviewer if you are unsure about how to identify historic properties for your project.

If you read the Instructions and you're still confused as to which reporting option best fits your project, or you are not sure if your project needs a survey, you may choose to skip this section, but provide as much supporting documentation as possible in all other Sections, then check the box in Section 5.A. to request preliminary comments from OHPO. After reviewing the information provided, OHPO will then offer comments as to which reporting option is best suited to document historic properties for your project. Please note that providing information to complete this Section will still be required and that asking OHPO for preliminary comments may tend to delay completion of the review process for some projects.

Recording the Results of Background Research and Field Survey:

- A. **Summary of discussions and/or consultation with OHPO** about this project that demonstrates how the Agency Official and OHPO have agreed that no Field Survey was necessary for this project (typically due to extreme ground disturbance or other special circumstances). Please **attach copies** of emails/correspondence that document this agreement. You must explain how the project's potential to affect both archaeological and historic resources were considered.
- B. **A table that includes the minimum information** listed in the OHPO Section 106 Documentation Table (which is generally equivalent to the information found on an inventory form). This information must be printed and mailed with the Project Summary Form. To provide sufficient information to complete this Section, you must also include summary observations from your field survey, background research and eligibility determinations for each property that was evaluated in the project APE.
- C. **OHI (Ohio Historic Inventory) or OAI (Ohio Archaeological Inventory) forms**- New or updated inventory forms may be prepared using the OHI pdf form with data population capabilities, the Internet IForm, or typed on archival quality inventory forms. To provide sufficient information to complete this Section, you must include summary observations from your field survey and background research. You must also include eligibility determinations for each property that was evaluated in the project APE
- D. **A historic or archaeological survey report** prepared by a qualified consultant that meets professional standards. The survey report should meet the Secretary of the Interior's Standards and Guidelines for Identification and OHPO Archaeological Guidelines. You may also include new inventory forms with your survey, or update previous inventory forms. To complete this section, your survey report must include summary observations from your field survey, background research and eligibility determinations for each property that was evaluated within the APE.
- E. **Project Findings.** Based on the conclusions you reached in completing Section 3, please choose one finding for your project. There are (mark one):

During site visits and surveys there were no noticeable historical features identified. The immediate area consists of multi-unit residential housing units, a paved parking lot and State Highway 8. Due to this fact and the proposed minimal temporary impacts for the project, no additional review was conducted.

SECTION 4: SUPPORTING DOCUMENTATION

This information must be provided for all projects.

- A. Photographs must be keyed to a street-level map, and should be included as attachments to this application. Please label all forms, tables and CDs with the date of your submission and project name, as identified in Section 1. You must present enough documentation to clearly show existing conditions at your project site and convey details about the buildings, structures or sites that are described in your submission. Faxed or photocopied photographs are not acceptable. See Instructions for more info about photo submissions or 36 CFR § 800.11 for federal documentation standards.
1. Provide photos of the entire project site and take photos to/from historic properties from/towards your project site to support your determination of effect in Section 5.
 2. Provide current photos of all buildings/structures/sites described.

Representative photographs of the project area are included within Attachment B.

- B. Project plan, specifications, site drawings and any other media presentation that conveys detailed information about your project and its potential to affect historic properties.

Please see figures Attachment A, and the construction drawings in Attachment C.

- C. Copies or summaries of any comments provided by consulting parties or the public.

N/A

SECTION 5: DETERMINATION OF EFFECT

- A. **Request Preliminary Comments.** For challenging projects, provide as much information as possible in previous sections and ask OHPO to offer preliminary comments or make recommendations about how to proceed with your project consultation. This is recommended if your project involves effects to significant historic properties, if the public has concerns about your project's potential to affect historic properties, or if there may be challenging procedural issues related to your project. Please be aware that providing information in all Sections will still be required and that asking OHPO for preliminary comments may tend to delay completion of the review process for some projects.

1. We request preliminary comments from OHPO about this project:

NO

2. Please specify as clearly as possible the particular issues that you would like OHPO to examine for your project (for example- help with developing an APE, addressing the concerns of consulting parties, survey methodology, etc.):

N/A

- B. **Determination of Effect.** If you believe that you have gathered enough information to conclude the Section 106 process, you may be ready to make a determination of effect and ask OHPO for concurrence, while considering public comments. Please select and mark one of the following determinations, then

explain the basis for your decision on an attached sheet of paper:

No historic properties will be affected based on 36 CFR § 800.4(d) (1).
Please explain how you made this determination:

No Adverse Effect [36 CFR § 800.5(b)] on historic properties. This finding cannot be used if there are no historic properties present in your project APE. Please explain why the Criteria of Adverse Effect, [36 CFR Part 800.5(a) (1)], were found not to be applicable for your project:

Adverse Effect [36 CFR § 800.5(d) (2)] on historic properties. Please explain why the criteria of adverse effect, [36 CFR Part 800.5(a) (1)], were found to be applicable to your project. You may also include an explanation of how these adverse effects might be avoided, reduced or mitigated:

Based on our review of the project area and knowledge of the site, we anticipate no adverse effects to historic properties as a result of project activities. Direct effects of project activities will be limited to the project area. Potential indirect effects outside of the project area include auditory and visual effects to properties near or adjacent to the project area during the period of active construction, as well as the potential for vehicles and/or equipment to be accessing and using the adjacent paved parking lot, which may result in minor impacts to traffic during construction. These indirect effects will be temporary, as project activities will result in no changes in land use and no new impervious surfaces will be created for this project.

Concurrence from the SHPO is requested herein, to facilitate timely processing of the USACE permit application review. Please contact Tom Prewitt, EnviroScience, Inc. for any necessary additional information. Email: TPrewitt@EnviroScienceInc.com or via phone at 330-688-0111 (office), or 330-217-2550 (cell). Your review of the project will be forwarded to USACE Buffalo District for assistance with the permit application review.

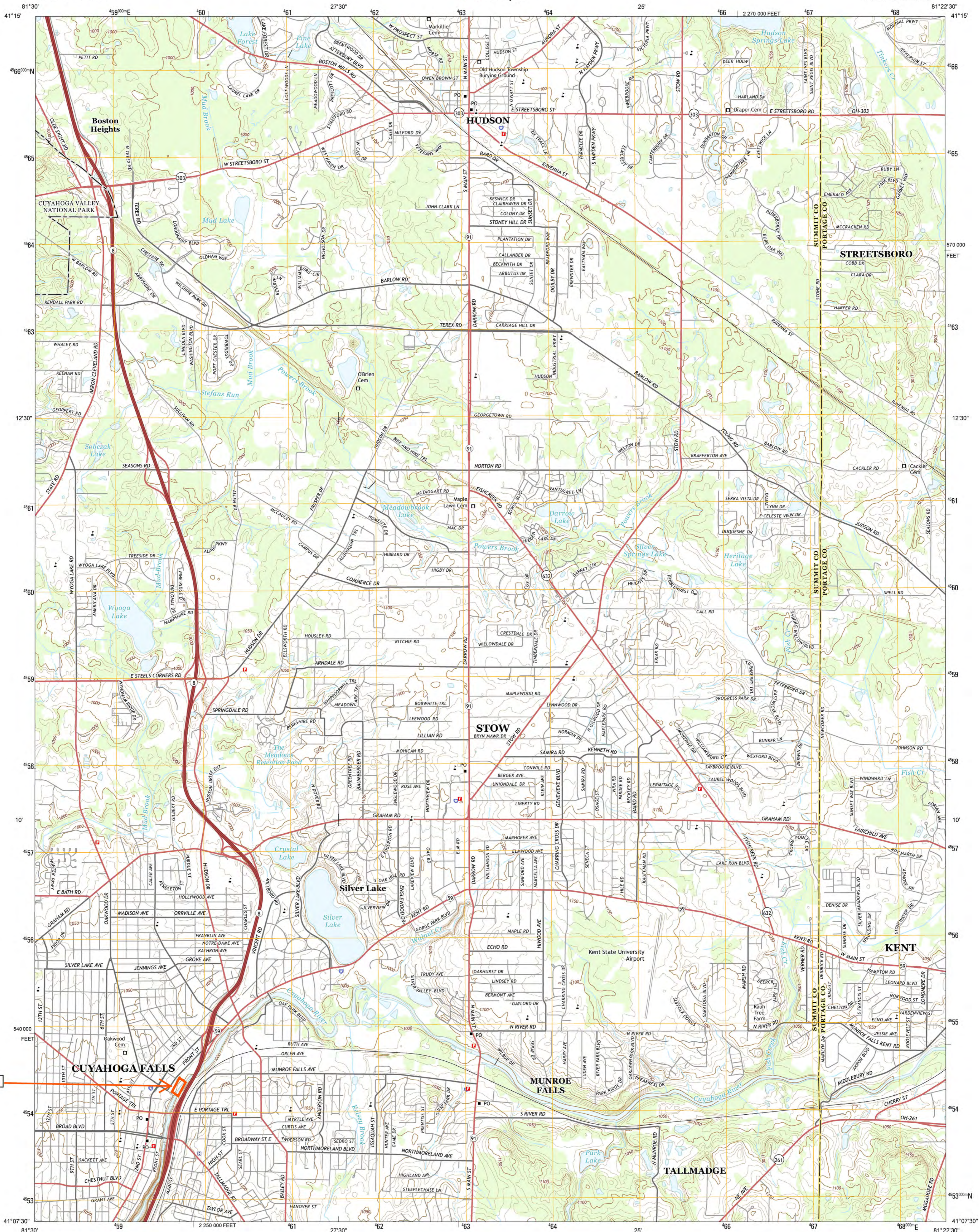
Enclosed: Attachment A: Figures
 Attachment B: Site Photographs
 Attachment C: Construction Drawings

Please print and mail completed form and supporting documentation to:

*State Historic Preservation Office
Resource Protection and Review Department
800 E. 17th Avenue
Columbus, OH 43211-2474*

Attachment A

Figures

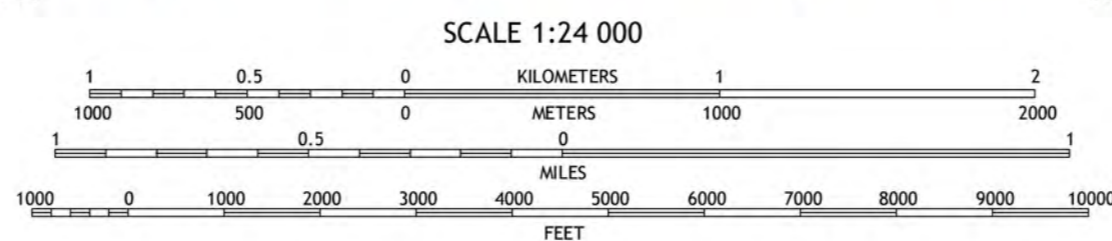
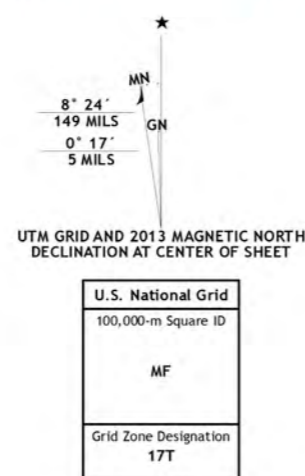


Project Location

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1000-meter grid: Universal Transverse Mercator, Zone 17T
10 000-foot ticks: Ohio Coordinate System of 1983 (north zone)

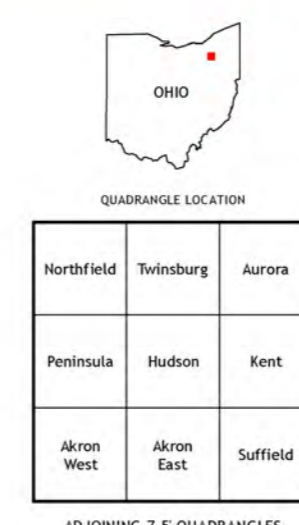
This map is not a legal document. Boundaries may be
generalized for this map scale. Private lands within government
reservations may not be shown. Obtain permission before
entering private lands.

Imagery: NADP, August 2011
Roads: ©2006-2013 TomTom
Names: GNS, 2013
Hydrography: National Hydrography Dataset, 2011
Contours: National Elevation Dataset, 2010
Boundaries: Census, IBWC, IBC, USGS, 1972 - 2012
Public Land Survey System: BLM, 2013



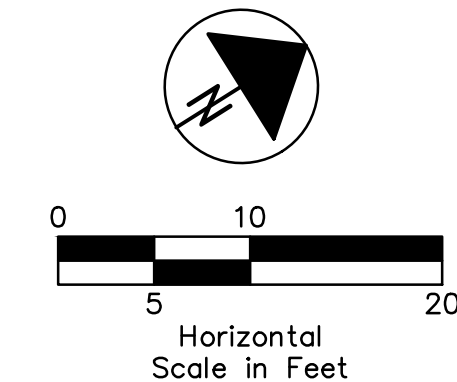
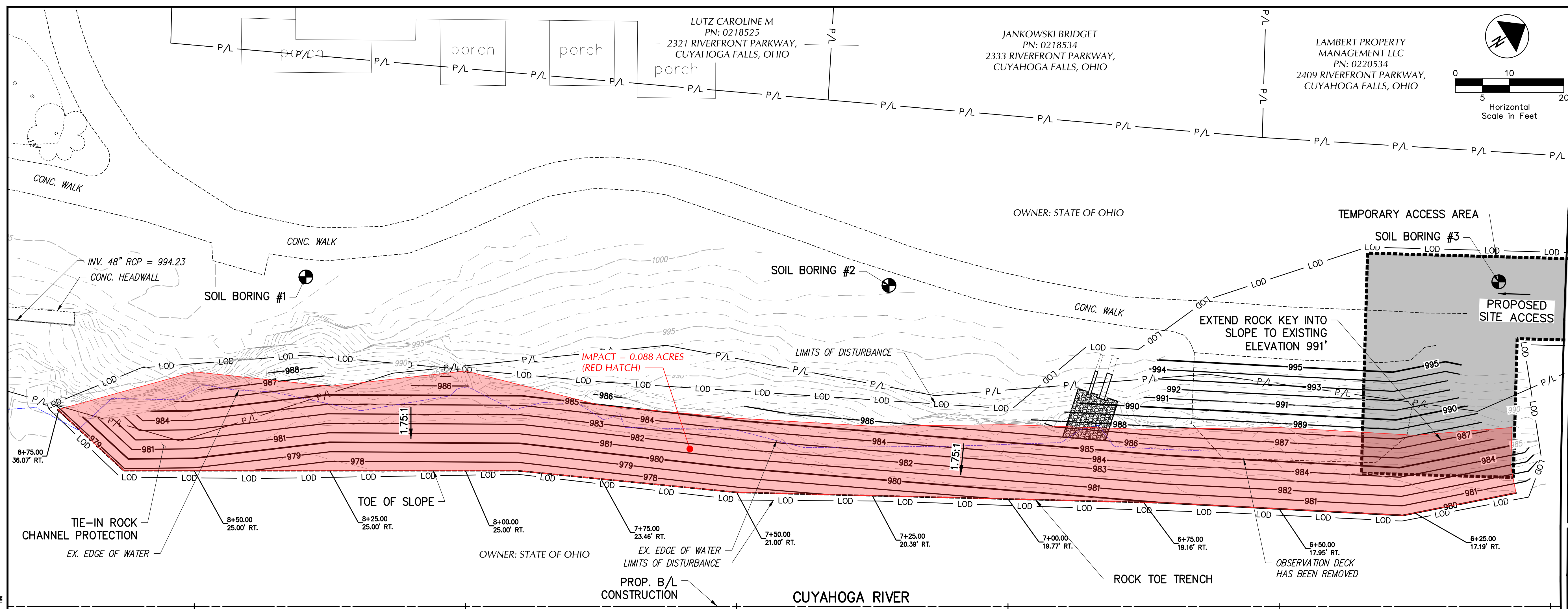
CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.15



HUDSON, OH
2013





REV.	DATE	DESCRIPTION
1	03/18/20	DRAFT
2	08/31/21	REVISIONS PER CITY COMMENTS

CUYAHOGA RIVER BANK STABILIZATION
 RIVERFRONT PARKWAY
 CUYAHOGA FALLS, OHIO

IMPACT MAP

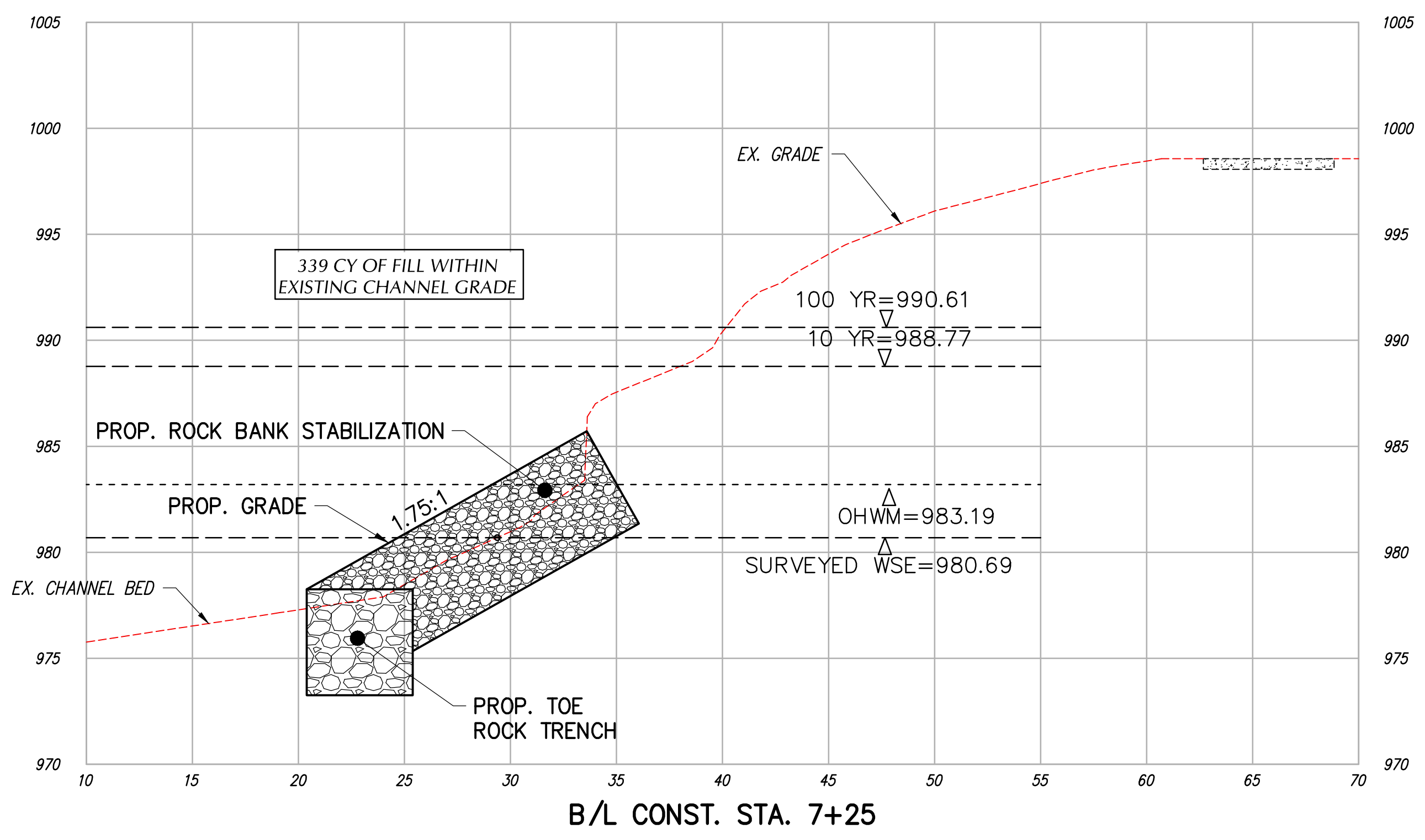
ISSUED FOR:	
PERMIT	08/31/21
BID	-
CONSTRUCTION	-
RECORD	-

JOB NO.
2017064.00

SHEET:
IMPACT

SHEET NO:

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Attachment B
Site Photographs

Photo Sheet
Cuyahoga River Bank Stabilization



Photo 1. View of project site and severe erosion from across the river.

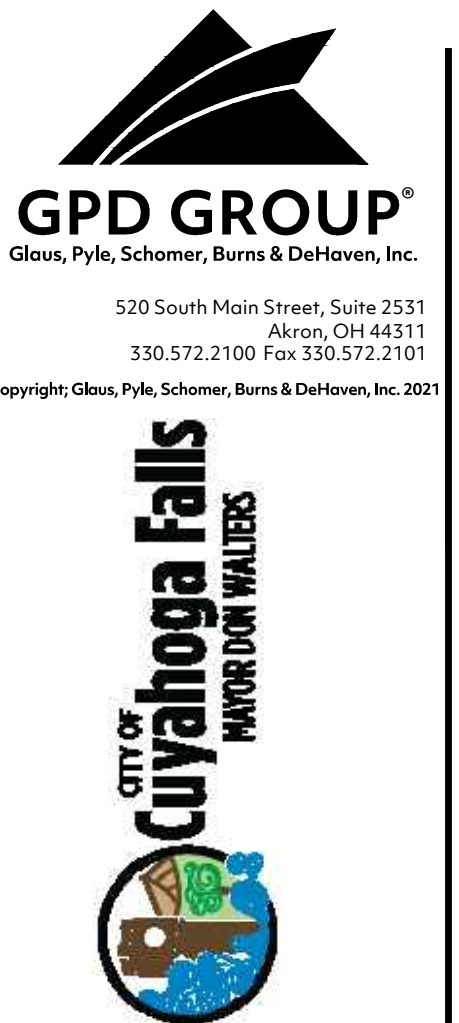
Photo Sheet
Cuyahoga River Bank Stabilization



Photo 2. Upstream view of the erosion within the project site.

Attachment C
Construction Drawings

RIVERFRONT PARKWAY CUYAHOGA FALLS, OHIO CUYAHOGA RIVER BANK STABILIZATION



INDEX OF SHEETS

TITLE SHEET	1
GENERAL NOTES AND LEGEND	2
SURVEY CONTROL PLAN	3
EXISTING CONDITIONS, SITE ACCESS, AND KEY PLAN	4
GRADING PLAN	5
CROSS SECTIONS	6-8
EROSION AND SEDIMENT CONTROL PLAN	9
EROSION AND SEDIMENT CONTROL NOTES & DETAILS	10
BANK STABILIZATION DETAILS	11



CONSTRUCTION LIMITS
(WORK AREA)

ACCEPTED BY _____
DATE _____
TONY DEMASI, P.E.
CITY ENGINEER
CITY OF CUYAHOGA FALLS

ACCEPTED BY _____
DATE _____
MATTHEW A. LASCOLA, P.E.
GPD GROUP ENGINEER



DESIGNED BY:



GPD GROUP
520 SOUTH MAIN STREET,
SUITE 2531
AKRON, OHIO 44311
330-572-2100



ENVIROSCIENCE INC.
5070 STOW ROAD
STOW, OHIO 44224
330-688-0111

**100% SUBMITTAL
SEPTEMBER, 2021**

PLAN REPRODUCTION WARNING
THE PLANS HAVE BEEN CREATED ON ANSI D (22"x34") SHEETS. FOR REDUCTIONS, REFER TO GRAPHIC SCALE.

THE PLANS HAVE BEEN CREATED FOR FULL COLOR PLOTTING. ANY SET OF THE PLANS THAT IS NOT PLOTTED IN FULL COLOR SHALL NOT BE CONSIDERED ADEQUATE FOR CONSTRUCTION PURPOSES.

WARNING: INFORMATION MAY BE LOST IN COPYING AND/OR GRAY SCALE PLOTTING

REV.	DATE	DESCRIPTION
1	03/18/20	DRAFT
2	09/13/21	REVISIONS PER CITY COMMENTS

CUYAHOGA RIVER BANK STABILIZATION
RIVERFRONT PARKWAY
CUYAHOGA FALLS, OHIO

TITLE SHEET

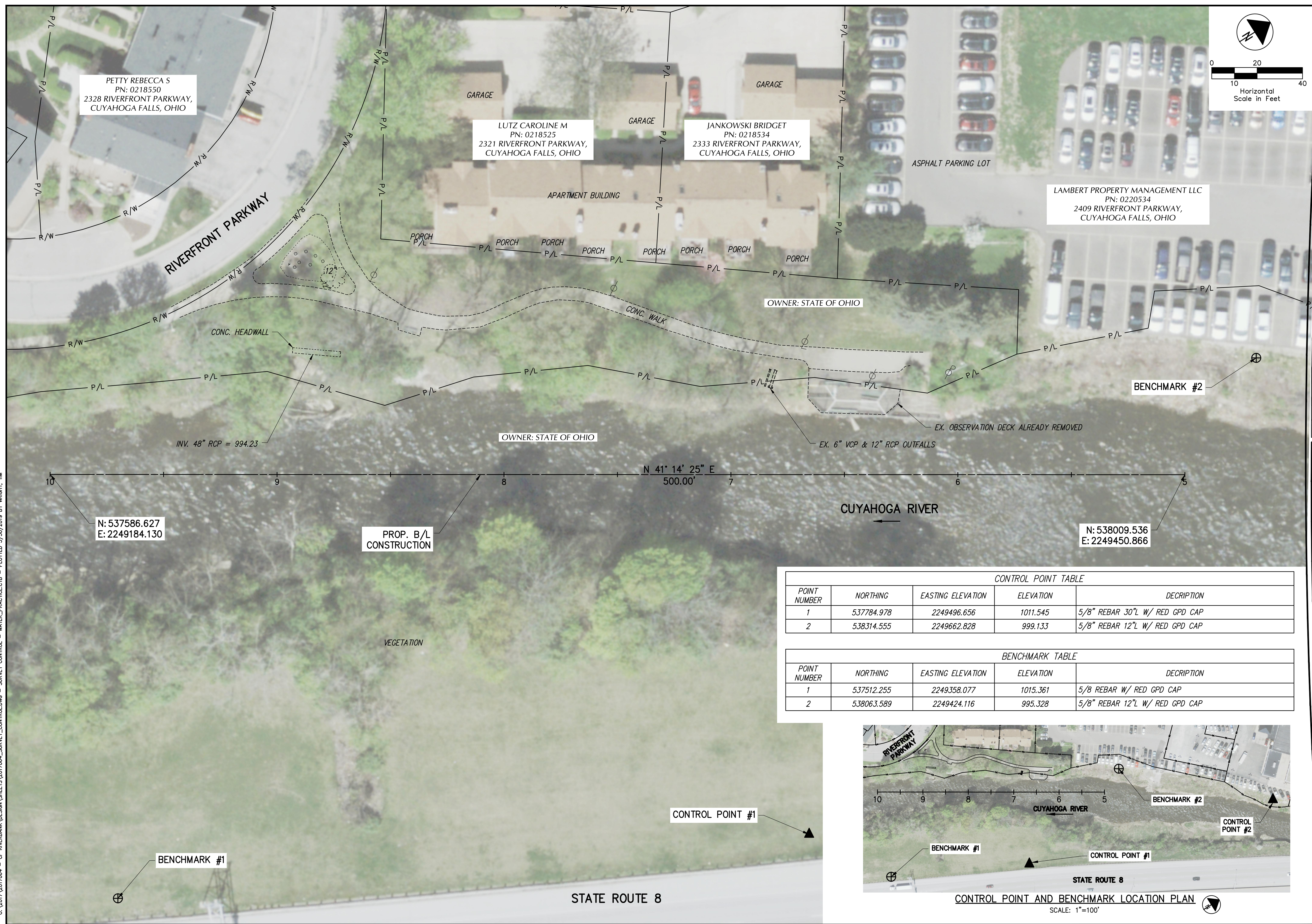
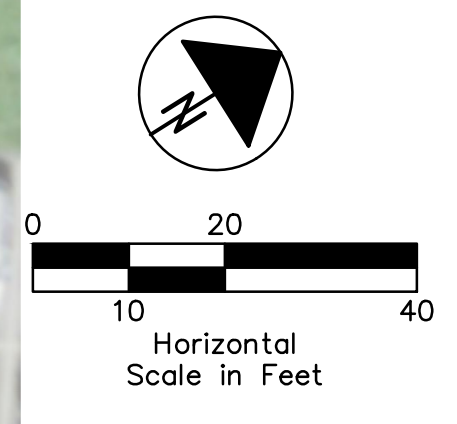
ISSUED FOR:	
PERMIT	09/13/2021
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CONSTRUCTION	-
RECORD	-

JOB NO.
2017064.00

SHEET:
G-001

SHEET NO:
SHEET 1/11





REV.	DATE	DESCRIPTION
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CUYAHOGA RIVER BANK STABILIZATION
 RIVERFRONT PARKWAY
 CUYAHOGA FALLS, OHIO

SURVEY CONTROL PLAN

ISSUED FOR:	
PERMIT	09/13/2021
BID	-
CONSTRUCTION	-
RECORD	-

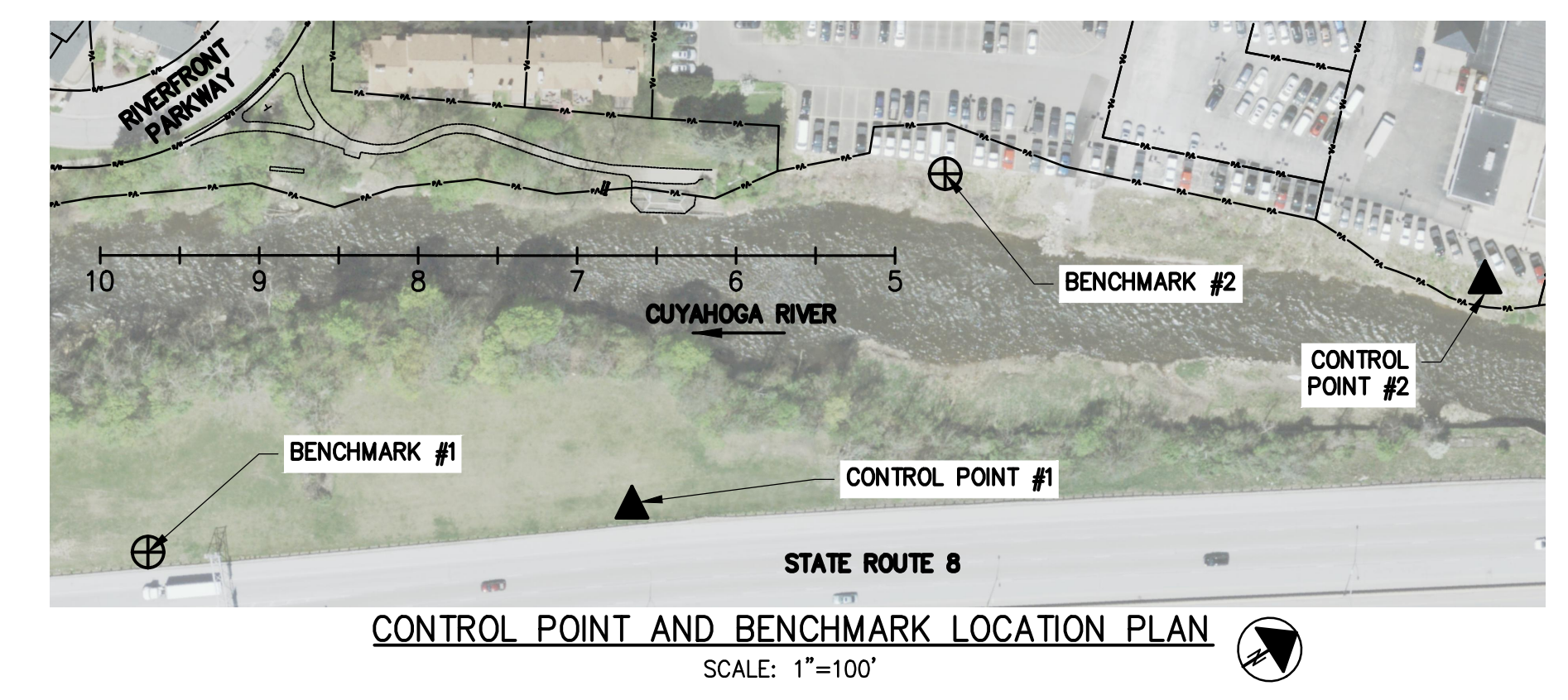
JOB NO.
2017064.00

SHEET:
C-101

SHEET NO:
SHEET 3/11

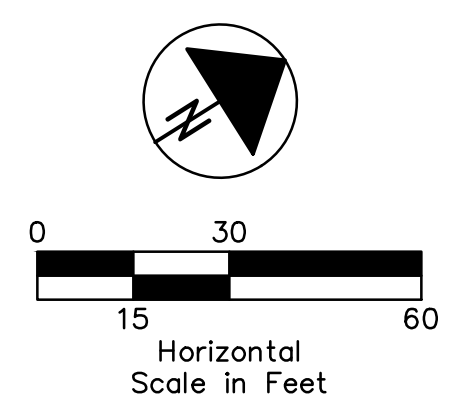
POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	537784.978	2249496.656	1011.545	5/8" REBAR 30"L W/ RED GPD CAP
2	538314.555	2249662.828	999.133	5/8" REBAR 12"L W/ RED GPD CAP

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	537512.255	2249358.077	1015.361	5/8 REBAR W/ RED GPD CAP
2	538063.589	2249424.116	995.328	5/8" REBAR 12"L W/ RED GPD CAP



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C:\2017_2017064 - CF RIVERBANK DESIGN SHEETS\2017064_EXISTING_CONDITIONS.DWG - 4 EXISTING CONDITIONS SITE ACCESS AND KEY PLAN - WATER_PRACTICE.DWG - PLOTTED 5/20/2019 BY WRIGHT, TM



LEGEND
 ———> SITE ACCESS ROUTE
 ——— PLAN SHEET LAYOUT
 FOR SURVEY CONTROL, SEE SHEET 3
 FOR COMPLETE LEGEND, SEE SHEET 2

GPD GROUP
 Glous, Pyle, Schomer, Burns & DeHaven, Inc.
 520 South Main Street, Suite 2531
 Akron, OH 44311
 330.572.2100 Fax 330.572.2101
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City of Cuyahoga Falls
 MAYOR DON WALLERS

REV.	DATE	DESCRIPTION
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CUYAHOGA RIVER BANK STABILIZATION
 RIVERFRONT PARKWAY
 CUYAHOGA FALLS, OHIO

EXISTING CONDITIONS, SITE ACCESS, AND KEY PLAN

ISSUED FOR:	
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BID	-
CONSTRUCTION	-
RECORD	-

JOB NO.
2017064.00

SHEET:
 C-102

SHEET NO:
 SHEET 4/11

ROCK CHANNEL PROTECTION		
X SECTION STATION	END AREA	VOLUME
6+00	0.0	25.7
6+25	55.6	51.5
6+50	55.6	53.7
6+75	60.3	59.3
7+00	67.7	59.7
7+25	61.2	61.0
7+50	70.5	68.8
7+75	78.0	73.5
8+00	80.8	76.6
8+25	84.7	69.4
8+50	65.2	30.2
8+75	0.0	0.0
9+00	0.0	0.0
TOTAL	629.4	

TOE ROCK TRENCH		
X SECTION STATION	END AREA	VOLUME
6+00	0.0	11.6
6+25	25.0	23.2
6+50	25.0	23.2
6+75	25.0	23.2
7+00	25.0	23.2
7+25	25.0	23.2
7+50	25.0	23.2
7+75	25.0	23.2
8+00	25.0	23.2
8+25	25.0	23.2
8+50	25.0	11.6
8+75	0.0	0.0
9+00	0.0	0.0
TOTAL	*232	

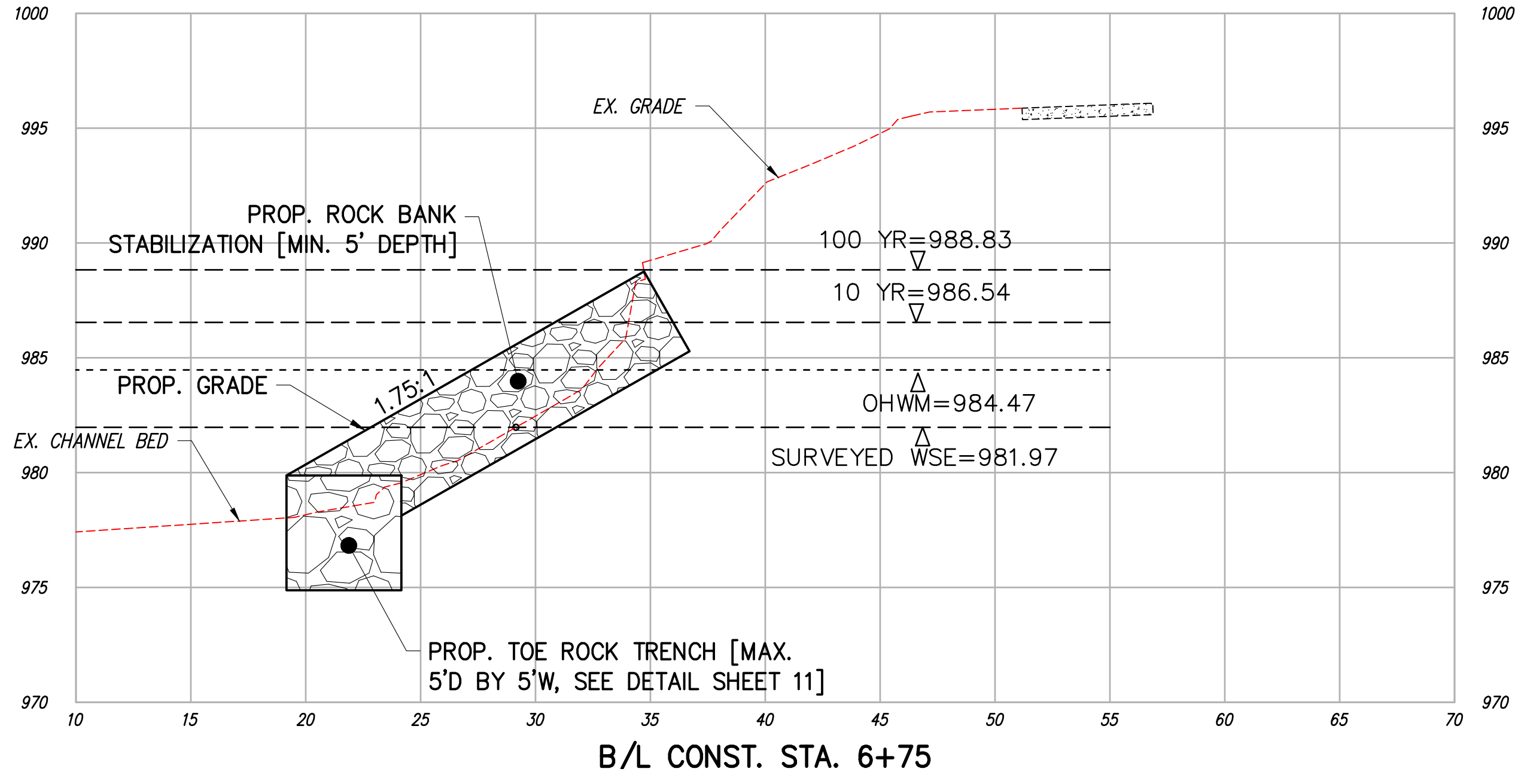
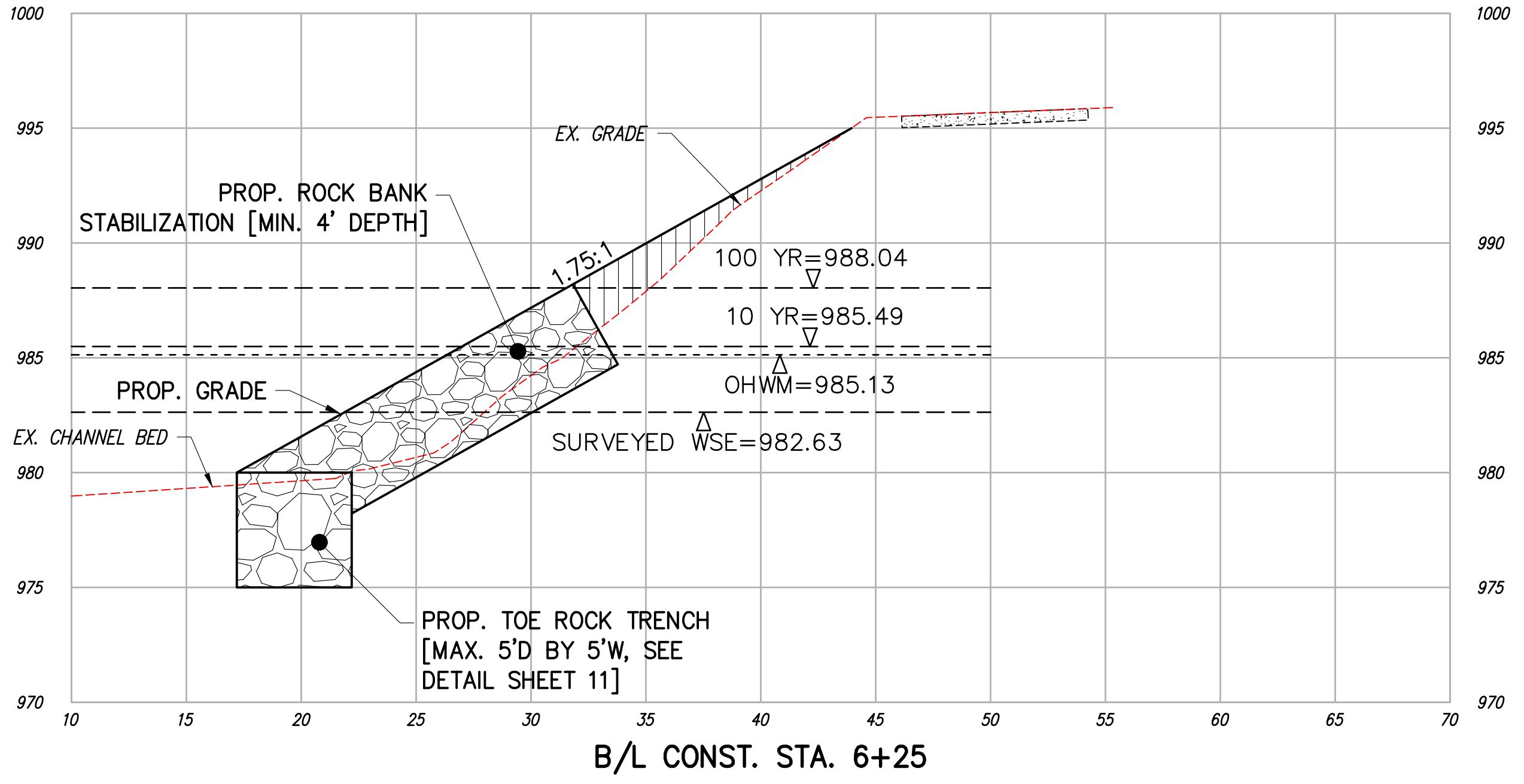
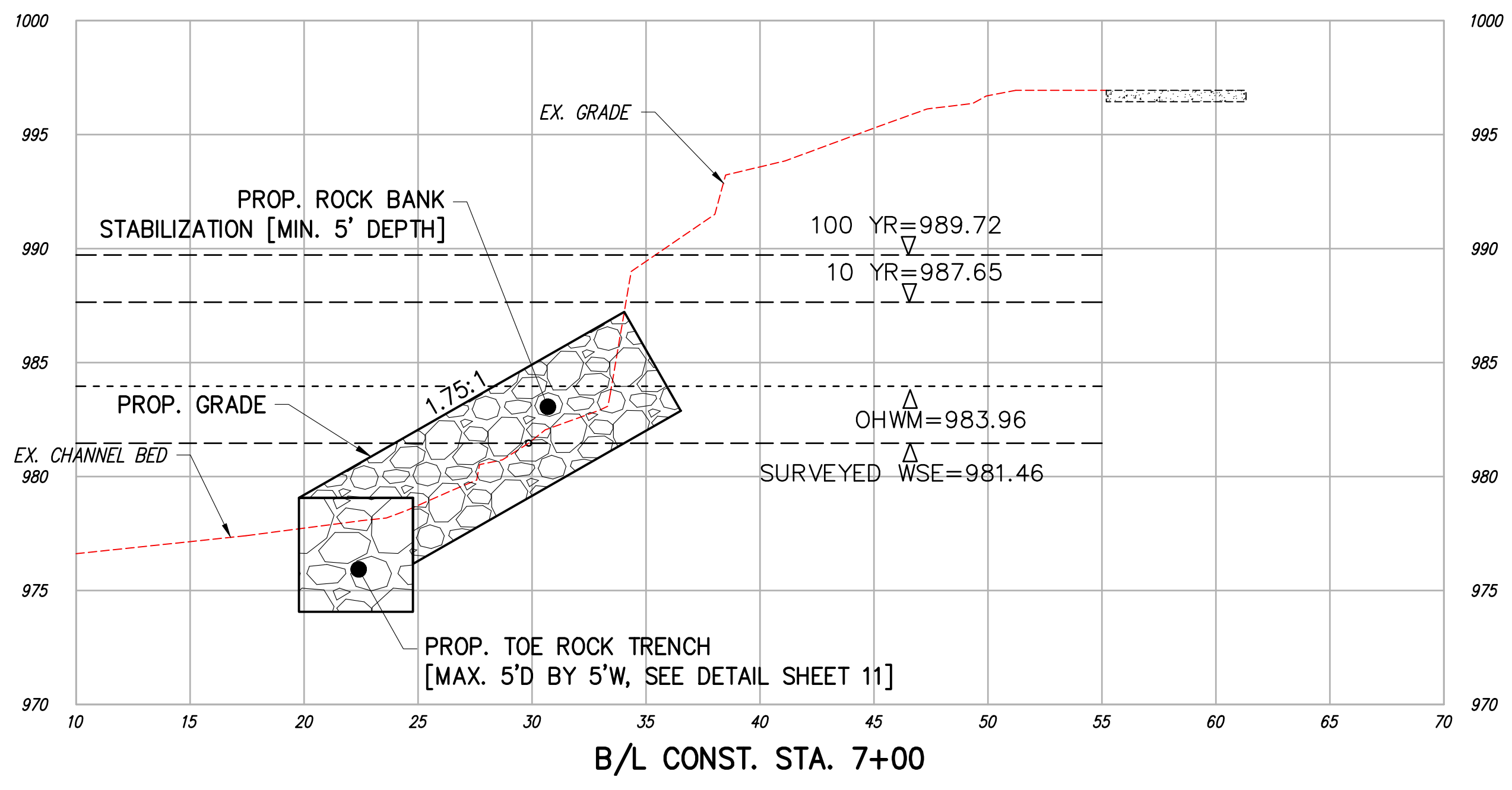
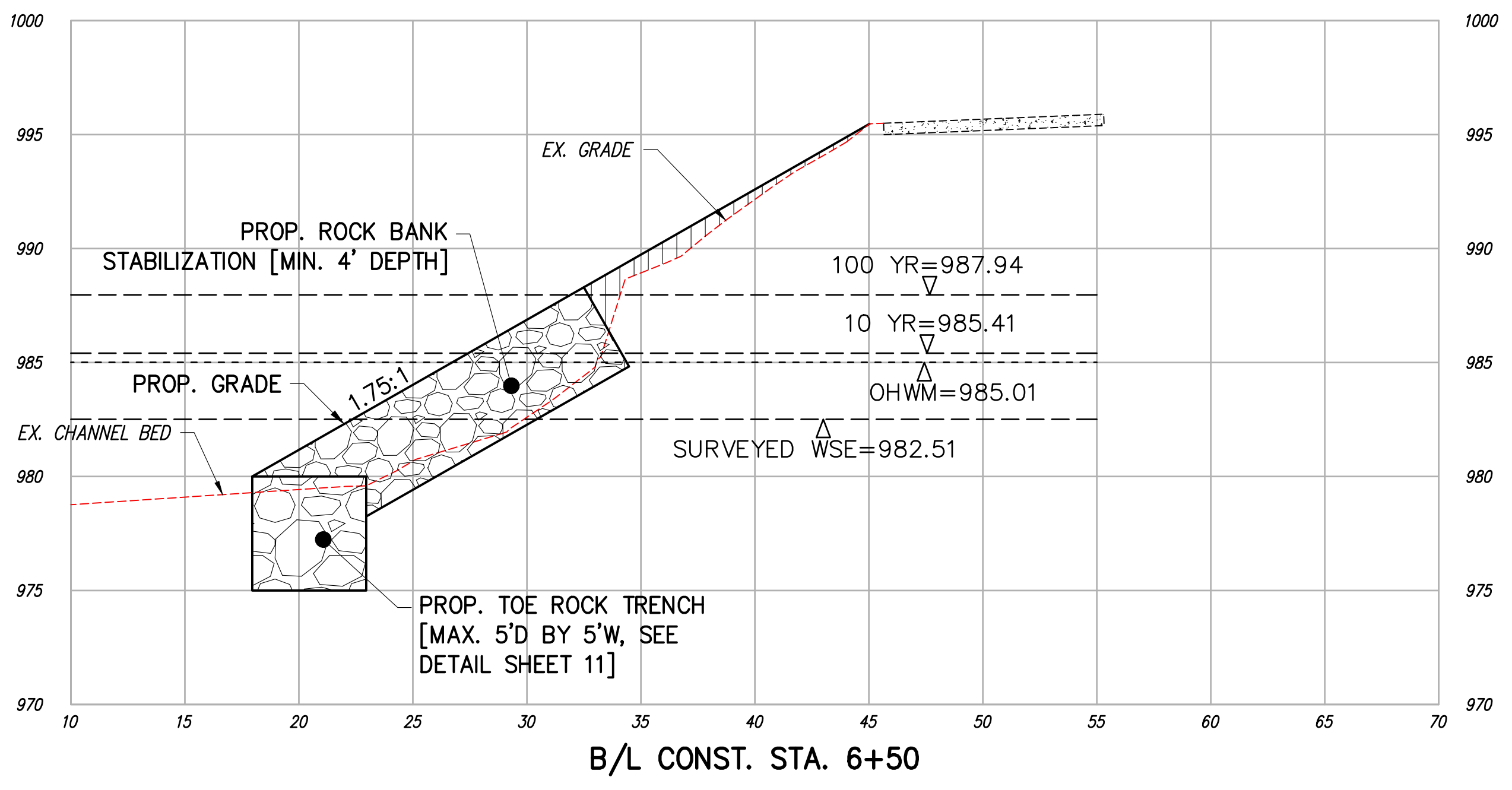
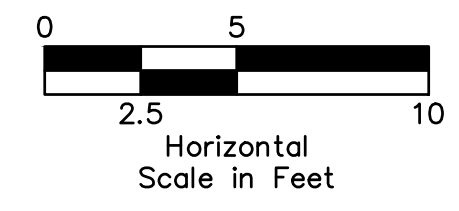
PROP. ENGINEERED FILL		
X SECTION STATION	END AREA	VOLUME
6+00	0.0	6.2
6+25	13.3	10.0
6+50	8.2	3.8
6+75	0.0	0.0
7+00	0.0	0.0
7+25	0.0	0.0
7+50	0.0	0.0
7+75	0.0	0.0
8+00	0.0	0.0
8+25	0.0	7.0
8+50	15.0	7.0
8+75	0.0	0.0
9+00	0.0	0.0
TOTAL	44	

EXCAVATION AND REMOVAL		
X SECTION STATION	END AREA	VOLUME
6+00	0.0	18.1
6+25	39.0	32.8
6+50	31.9	32.4
6+75	38	40.7
7+00	50.0	49.4
7+25	56.8	49.9
7+50	51.0	49.5
7+75	56.0	48.8
8+00	49.5	52.1
8+25	63.0	44.2
8+50	32.6	15.1
8+75	0.0	0.0
9+00	0.0	0.0
TOTAL	**433	

QUANTITY NOTES
 * TOE ROCK TRENCH QUANTITY IS MAX WITH USING 5' DEPTH.
 ** EXCAVATION VOLUME NUMBER INCLUDES TOE ROCK TRENCH OF USING MAX 5' DEPTH.

LEGEND

- ROCK BANK STABILIZATION PROTECTION
- TOE ROCK TRENCH
- PROP. ENGINEERED FILL



REV.	DATE	DESCRIPTION
1	03/18/20	DRAFT
2	09/13/21	REVISIONS PER CITY COMMENTS

CUYAHOGA RIVER BANK STABILIZATION
 RIVERFORD PARKWAY
 CUYAHOGA FALLS, OHIO

CROSS SECTIONS
 C-202

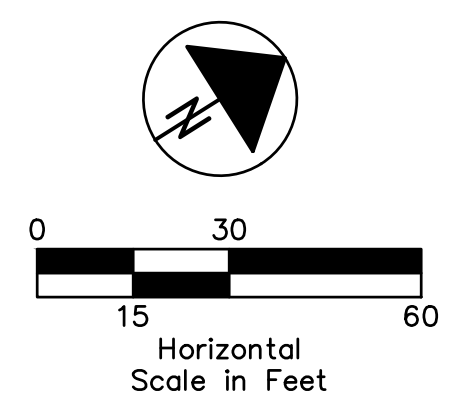
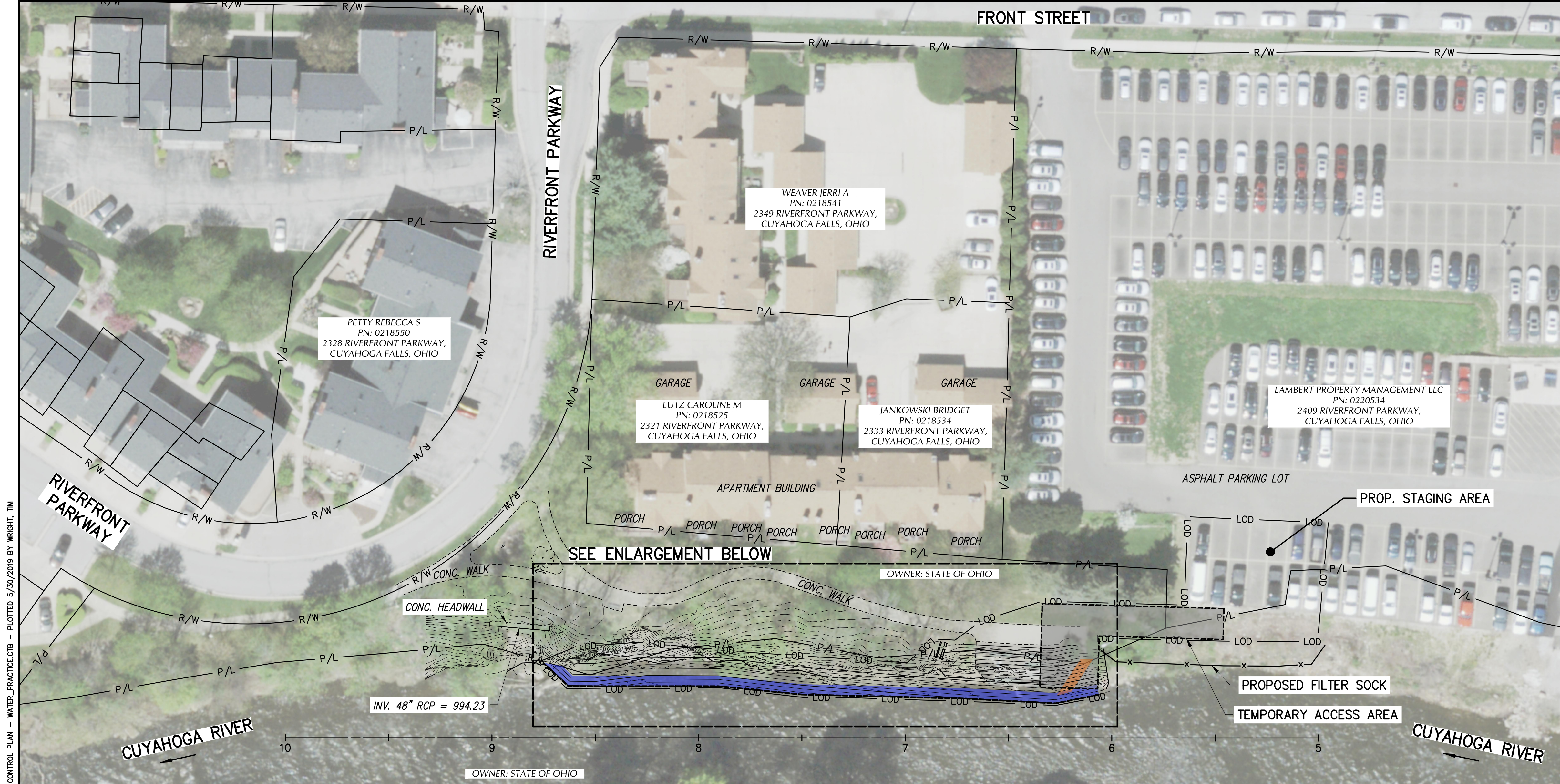
ISSUED FOR:	
PERMIT	09/13/2021
BID	-
CONSTRUCTION	-
RECORD	-

JOB NO.
2017064.00

SHEET:
 C-202

SHEET NO:
 SHEET 6/11

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- LEGEND**
- TEMPORARY ACCESS AREA
 - SEEDING AND MULCHING WITH EROSION CONTROL MAT, TYPE F
 - SEEDING AND MULCHING WITH EROSION CONTROL MAT, TYPE C
 - ROCK TOE BANK STABILIZATION
 - LOD — PROJECT LIMITS/ LIMITS OF DISTURBANCE
 - x — PROPOSED FILTER SOCK

- NOTES:**
1. SEE SHEET 2 FOR EROSION CONTROL MAT NOTES.
 2. SEE SHEET 10 FOR SEEDING AND MULCHING NOTES.

C:\2017\2017064 - CF RIVERBANK DESIGN SHEETS\9 EROSION AND SEDIMENT CONTROL PLANNING - 9 EROSION AND SEDIMENT CONTROL PLAN - WATER_PRACTICE.CTB - PLOTTED 5/30/2019 BY WRIGHT, TM

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City of Cuyahoga Falls
MAYOR DON WALTERS

REV.	DATE	DESCRIPTION
1	03/18/20	DRAFT
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CUYAHOGA RIVER BANK STABILIZATION
RIVERFRONT PARKWAY
CUYAHOGA FALLS, OHIO

EROSION AND SEDIMENT CONTROL PLAN

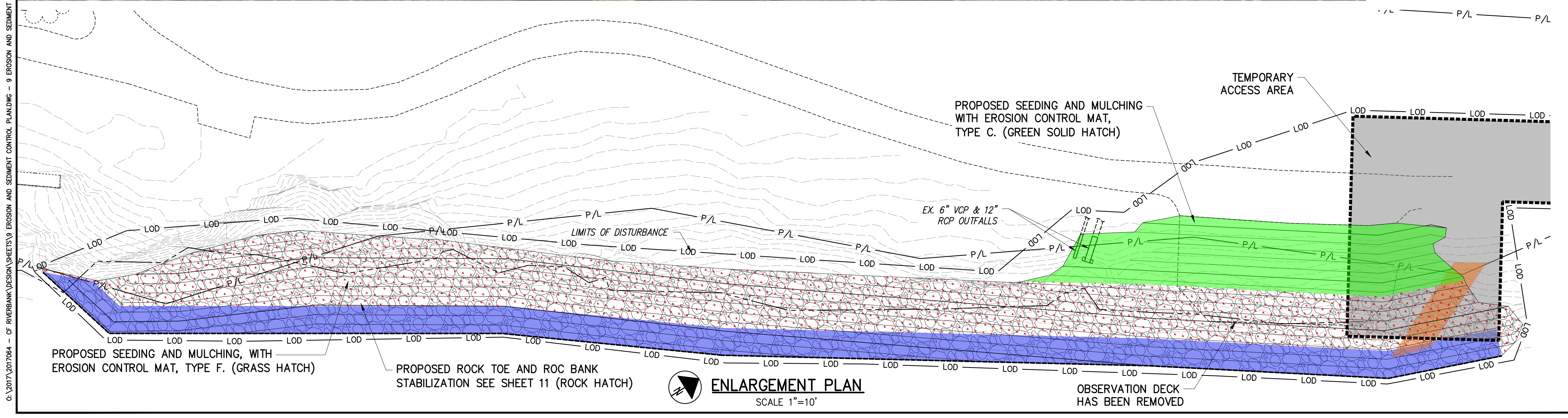
ISSUED FOR:

PERMIT	09/13/2021
BID	-
CONSTRUCTION	-
RECORD	-

JOB NO.
2017064.00

SHEET:
C-301

SHEET NO:
SHEET 9/11



C:\2017\2017064 - CF RIVERBANK DESIGN SHEETS\9 EROSION AND SEDIMENT CONTROL PLANDING - TO EROSION AND SEDIMENT CONTROL NOTES & DETAILS - WATER PRACTICE.CTB - PLOTTED 5/20/2019 BY WRIGHT, TM

GENERAL NOTES

- ALL WORK SPECIFIED AS A DEPARTMENT OF TRANSPORTATION ITEM SHALL BE GOVERNED BY THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS AS WELL AS THE CURRENT EDITION OF THE LOCAL JURISDICTION STORM WATER MANAGEMENT POLICY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO POSSESS AND TO BE FAMILIAR WITH APPLICABLE SECTIONS.
- THESE CONTRACT DRAWINGS SHALL BE MADE AVAILABLE ON SITE AT ALL TIMES AND PRESENTED UPON REQUEST. IF UNFORESEEN EROSION IS ENCOUNTERED, ADDITIONAL EROSION AND SEDIMENT CONTROL (E&SC) MEASURES SHALL BE IMPLEMENTED TO MANAGE THE CURRENT SITE CONDITIONS WHICH MAY BE REQUESTED BY THE OWNER, COUNTY ENGINEER, PROJECT ENGINEER OR SOIL AND WATER CONSERVATION SERVICE REPRESENTATIVE AT ANYTIME. SUCH REQUESTS AND CHANGE IN SITE CONDITIONS SHALL BE IMPLEMENTED IMMEDIATELY AT CONTRACTOR'S EXPENSE.
- ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED AS PRACTICAL BEFORE ANY OTHER EARTH MOVING OCCURS.
- SEDIMENT BARRIERS SHALL BE INSTALLED DOWNSLOPE OF DISTURBED AREAS. SEDIMENT BARRIERS SHALL BE INSTALLED ALONG LEVEL CONTOURS. MAXIMUM CONTRIBUTING DRAINAGE AREA TO SEDIMENT BARRIERS SHALL BE PER THE CURRENT STATE'S EPA OR THE LOCAL AUTHORITY REQUIREMENTS. COMPOSITE FILTER SOCKS USED IN LIEU OF SILT FENCE SHALL BE A MINIMUM OF 12 INCHES IN DIAMETER.
- SILT BARRIERS SHALL BE INSTALLED AROUND ALL EXISTING AND NEW STORM INLETS, CATCH BASINS AND YARD DRAINS.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AROUND ALL DIRT OR TOPSOIL STOCKPILES AND OTHER TEMPORARILY DISTURBED AREAS AS MAY BE SHOWN ON THESE PLANS AND/OR AS DIRECTED BY THE ENGINEER OR THE LOCAL AUTHORITY HAVING JURISDICTION.
- SILT BARRIERS AND SILT PERIMETER CONTROLS SHALL REMAIN IN PLACE UNTIL A GOOD STAND OF GRASS HAS BEEN OBTAINED AND/OR PAVING OPERATIONS ARE COMPLETE. CONTRACTOR SHALL KEEP SILT FROM ENTERING ANY STORM DRAINAGE SYSTEM. ONCE SITE HAS BEEN COMPLETELY STABILIZED, ANY SILT IN PIPES AND DRAINAGE SWALES SHALL BE REMOVED WITHIN 10 DAYS.
- IF FOR ANY REASON, THE PROJECT IS SUSPENDED, THE CONTRACTOR SHALL INSURE THAT ALL INSTALLED EROSION MEASURES ARE FUNCTIONING AND PROPERLY MAINTAINED DURING THIS PERIOD, AND THAT ALL BARE SOILS ARE SEEDED AND MULCHED WITH TEMPORARY SEED MIXTURE.
- IMPLEMENTATION OF EROSION AND SEDIMENT CONTROLS SHALL CONFORM TO THE CITY OF CUYAHOGA FALLS CODIFIED ORDINANCES.

INSPECTION NOTES

- CONTRACTOR SHALL INSPECT ALL E&SC MEASURES DAILY AND AFTER EVERY 1/2" RAIN EVENT. REPAIR AS NECESSARY TO PREVENT EROSION. SILTATION SHALL BE REMOVED FROM AREAS WHERE FAILURES HAVE OCCURRED AND CORRECTIVE ACTION TAKEN WITHIN 24 HOURS TO MAINTAIN ALL E&SC MEASURES.
- CONTRACTOR'S INSPECTOR SHALL BE A QUALIFIED INDIVIDUAL. ONLY A QUALIFIED INSPECTION PERSONNEL IS TO PERFORM THE INSPECTIONS. SITE INSPECTIONS SHALL BE DONE WEEKLY AND WITHIN 24 HRS AFTER EVERY RAINFALL EVENT EXCEEDING 1/2" OF RAINFALL. ALL NECESSARY REPAIRS SHOULD BE IMPLEMENTED IMMEDIATELY AFTER SUCH INSPECTIONS.
- FOR BMPS THAT REQUIRE REPAIR OR MAINTENANCE - BMPS ARE TO BE REPAIRED WITHIN 3 DAYS OF INSPECTION.
- FOR BMPS THAT DO NOT MEET THE INTENDED FUNCTION, A NEW BMP SHALL BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION.
- FOR MISSING BMPS REQUIRED, THE MISSING BMPS SHALL BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION.

TEMPORARY SEEDING

- STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION SITE.
- TEMPORARY SEEDING / STABILIZATION SHALL BE APPLIED WITHIN THE FOLLOWING TIME FRAMES FOR VARIOUS AREAS OF THE SITE:
 - ANY DISTURBED AREA WITHIN 50 FEET OF A WATERCOURSE AND NOT AT FINAL GRADE SHALL BE SEEDED AND MULCHED WITHIN 2 DAYS OF THE MOST RECENT DISTURBANCE, IF THAT AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS.
 - ALL CONSTRUCTION ACTIVITIES IN ANY DISTURBED AREA, INCLUDING SOIL STOCKPILES THAT WILL BE IDLE FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A WATERCOURSE SHALL BE SEEDED AND MULCHED WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE IN THE AREA.
 - DISTURBED AREAS THAT WILL BE IDLE OVER THE WINTER SHALL BE SEEDED AND MULCHED PRIOR TO NOVEMBER 1.
- THE SEED BED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. TEMPORARY SEEDING SHOULD NOT BE POSTPONED IF IDEAL SEED BED PREPARATION IS NOT POSSIBLE.
- TEMPORARY VEGETATION SEEDING RATES SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION, WHICH MAY REQUIRE USE OF SOIL AMENDMENTS. BASE RATES FOR LIME AND FERTILIZER SHALL BE USED.
- ALL SEED MIXES AND SEEDING RATES USED SHALL BE APPROVED BY THE LOCAL GOVERNING AUTHORITY AND THE OWNER.
- SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SPREADER, DRILL, CULTIPACKER, SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.
- APPLICATIONS OF TEMPORARY SEEDING SHALL INCLUDE MULCH, WHICH SHALL BE APPLIED DURING OR IMMEDIATELY AFTER SEEDING. SEEDINGS MADE DURING OPTIMUM SEEDING DATES ON FAVORABLE, VERY FLAT SOIL CONDITIONS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION. IF MULCH IS USED, FOLLOW THE REQUIREMENTS AND INSTRUCTIONS IN THE MULCH APPLICATION.

TEMPORARY SEEDING		
SEEDING DATES	SPECIES	SEEDING RATE
		LB./AC.
MARCH 1 TO AUGUST 15	ANNUAL RYEGRASS	30 - 50
AUGUST 16 TO OCTOBER 31	OATS	30 - 50
NOVEMBER 1 TO FEBRUARY 29	USE MULCH ONLY OR DORMANT SEEDING	

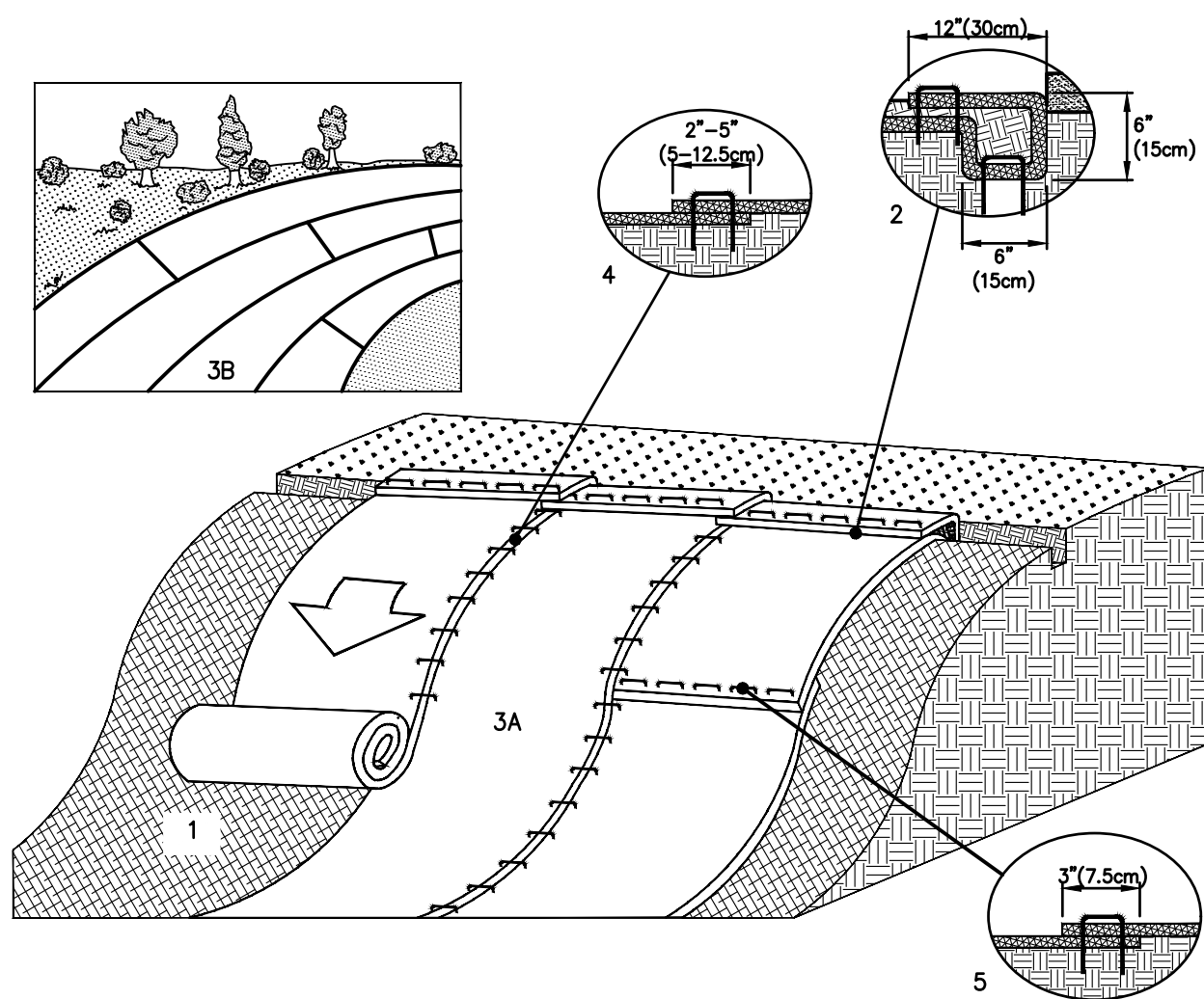
NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED

PERMANENT SEEDING

- PERMANENT SEEDING SHALL CONFORM TO ODOT CMS ITEM 659.
- PERMANENT SEED MIX SHALL CONFORM TO ODOT CLASS 3B.

MULCH

- MULCH AND OTHER APPROPRIATE VEGETATIVE PRACTICES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN 21 DAYS OR ON AREAS AND PORTIONS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.
- MULCH SHALL CONSIST OF ONE OF THE FOLLOWING:
 - STRAW SHALL BE UNROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 2 TONS/AC. OR 90 LB./1,000 SQ. FT. (TWO TO THREE BALES) THE STRAW MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQ. FT. SECTIONS AND PLACE TWO 45-LB BALES OF STRAW IN EACH SECTION.
 - WOOD CELLULOSE FIBER SHOULD BE USED AT 2,000 LB./AC. OR 46 LB./1,000 SQ. FT.
 - ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS AND ROLLED EROSION CONTROL PRODUCTS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD MULCH/CHIPS APPLIED AT 10-20 TONS/AC.
- MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. THE FOLLOWING ARE ACCEPTABLE METHODS FOR ANCHORING MULCH.
 - USE A DISK, CRIMPER, OR SIMILAR TYPE TOOL SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT BE LEFT GENERALLY LONGER THAN 6 INCHES.
 - USE MULCH NETTINGS ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, FOLLOWING ALL PLACEMENT AND ANCHORING REQUIREMENTS. USE IN AREAS OF WATER CONCENTRATION AND STEEP SLOPES TO HOLD MULCH IN PLACE.
 - FOR STRAW MULCH, SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER. ALL APPLICATIONS OF SYNTHETIC BINDERS MUST BE CONDUCTED IN SUCH A MANNER WHERE THERE IS NO CONTACT WITH WATERS OF THE STATE.
 - WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB./AC. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB/100 GAL. OF WOOD CELLULOSE FIBER.



- PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPs), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPs IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECPs EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECPs WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO THE COMPACTED SOIL AND FOLD THE REMAINING 12" PORTION OF RECPs BACK OVER THE SEED AND COMPACTED SOIL. SECURE RECPs OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECPs.
- ROLL THE RECPs (B) HORIZONTALLY ACROSS THE SLOPE. RECPs WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPs MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
- THE EDGES OF PARALLEL RECPs MUST BE STAPLED WITH APPROXIMATELY 2" - 5" OVERLAP DEPENDING ON THE RECPs TYPE.
- CONSECUTIVE RECPs SPICED DOWN THE SLOPE MUST BE END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECPs WIDTH.

NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S

EROSION CONTROL FABRIC DETAIL

SCALE: NTS
[DETAIL PER NORTH AMERICAN GREEN - EROSION CONTROL PRODUCTS]

COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS

MATERIAL TYPE	3 mil HDPE	5 mil HDPE	5 mil HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (MFPP)
MATERIAL CHARACTERISTICS	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	BIO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE
SOCK DIAMETERS	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH		26 PSI	26 PSI	44 PSI	202 PSI
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	% AT 1000 HR.	23% AT 1000 HR.		100% AT 1000 HR.	100% AT 1000 HR.
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS

TWO-PLY SYSTEMS

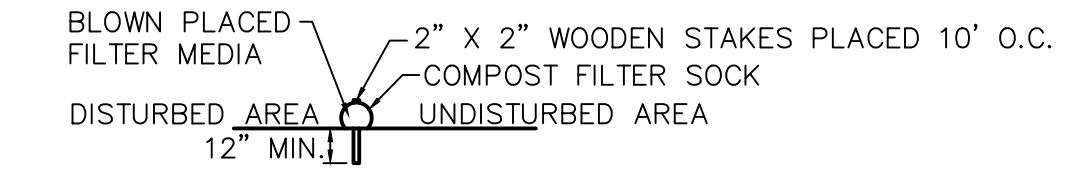
INNER CONTAINMENT NETTING	HDPE BIAXIAL NET CONTINUOUSLY WOUND
	FUSION-WELDED JUNCTURES
	3/4" X 3/4" MAX. APERTURE SIZE COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER & NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH)

3/16" MAX. APERTURE SIZE

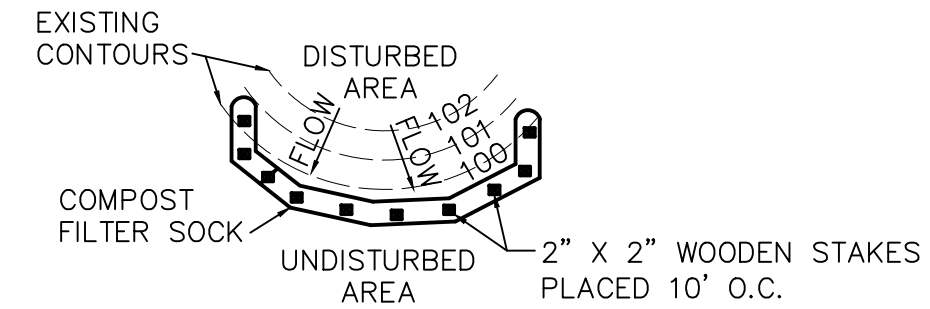
SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MONTHS OR LESS

COMPOST SHALL MEET THE FOLLOWING STANDARDS:

ORGANIC MATTER CONTENT	80% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.0
MOISTURE CONTENT	35% - 55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS MAXIMUM



SECTION VIEW
NTS



PLAN VIEW
NTS
ADAPTED FROM FILTREXX

- COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT.
- TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
- SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH 1/2 INCH STORM RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
- BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

COMPOST FILTER SOCK

SCALE: NTS



REV.	DATE	DESCRIPTION
1	03/18/20	DRAFT
2	09/13/21	REVISIONS PER CITY COMMENTS

CUYAHOGA RIVER BANK STABILIZATION
RIVERFORTH PARKWAY
CUYAHOGA FALLS, OHIO

EROSION AND SEDIMENT CONTROL NOTES & DETAILS

ISSUED FOR:	
PERMIT	09/13/2021
BID	-
CONSTRUCTION	-
RECORD	-

JOB NO.
2017064.00

SHEET:
C-302

SHEET NO:
SHEET 10/11

REV.	DATE	DESCRIPTION
1	03/18/20	DRAFT
2	09/13/21	REVISIONS PER CITY COMMENTS

CUYAHOGA RIVER BANK STABILIZATION
 RIVERFORD PARKWAY
 CUYAHOGA FALLS, OHIO

BANK STABILIZATION DETAILS

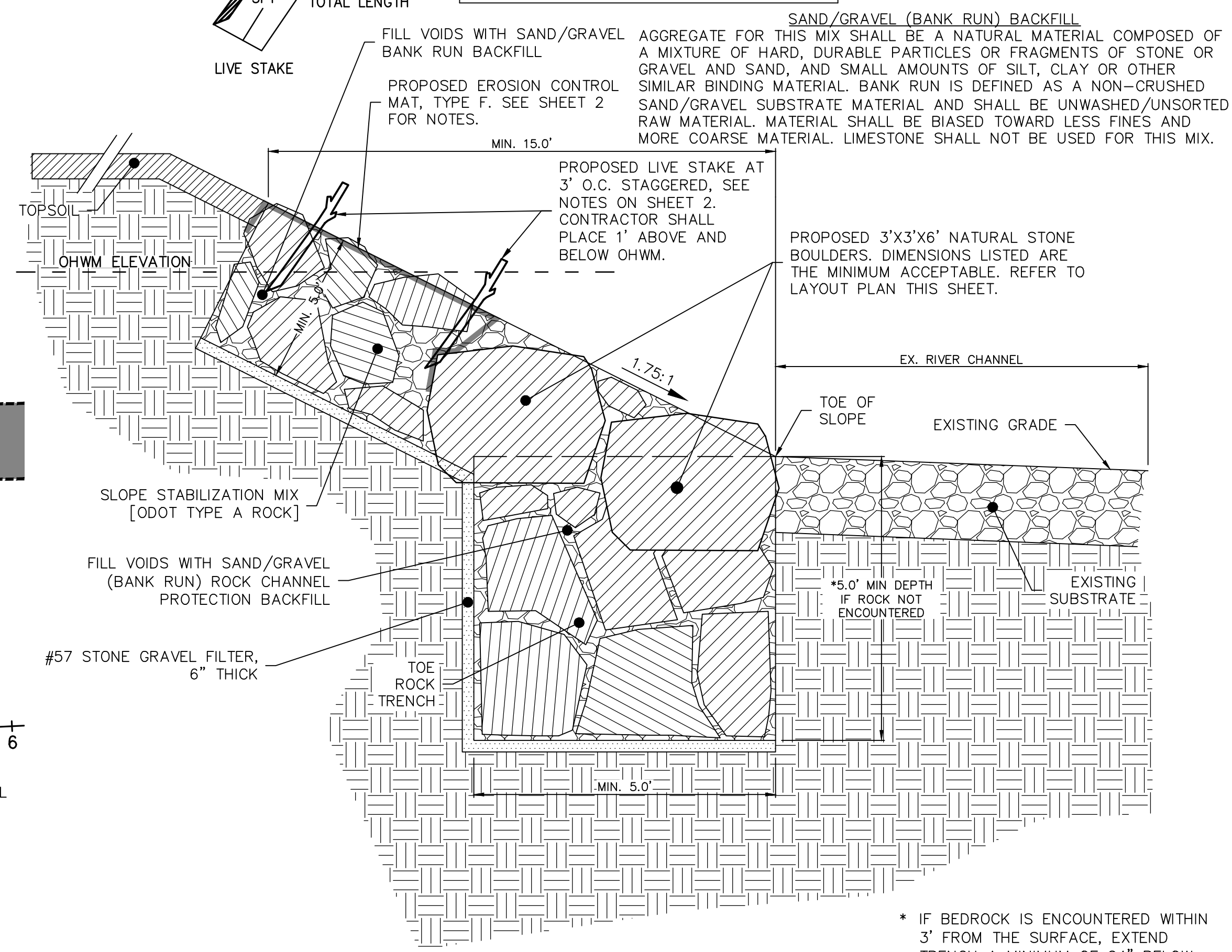
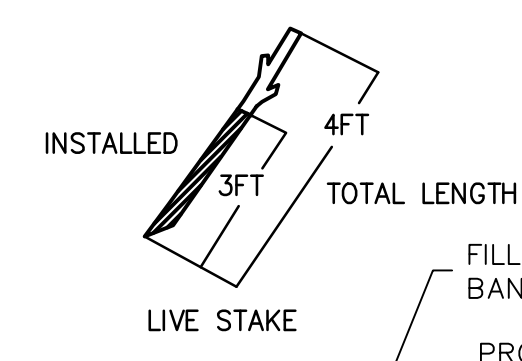
ISSUED FOR:	
PERMIT	09/13/2021
BID	-
CONSTRUCTION	-
RECORD	-

JOB NO.
2017064.00

SHEET:
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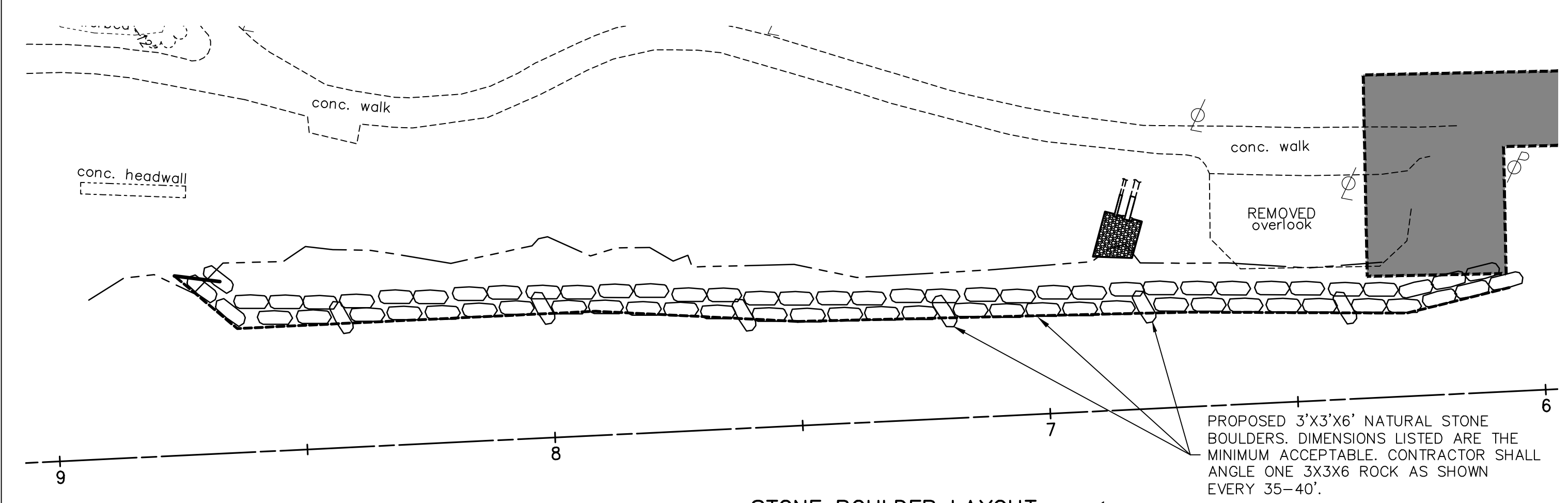
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SHEET 11/11

TOE ROCK TRENCH MIX		NO CONCRETE OR RECYCLED CONCRETE ALLOWED. NATURAL STONE ONLY.	SLOPE STABILIZATION MIX		NO CONCRETE OR RECYCLED CONCRETE ALLOWED. NATURAL STONE ONLY.
ROCK SIZES:			ROCK SIZES:		
A	50%		A	100%	
B	25%	FILL VOIDS WITH SAND/GRAVEL (BANK RUN)			
C	25%				

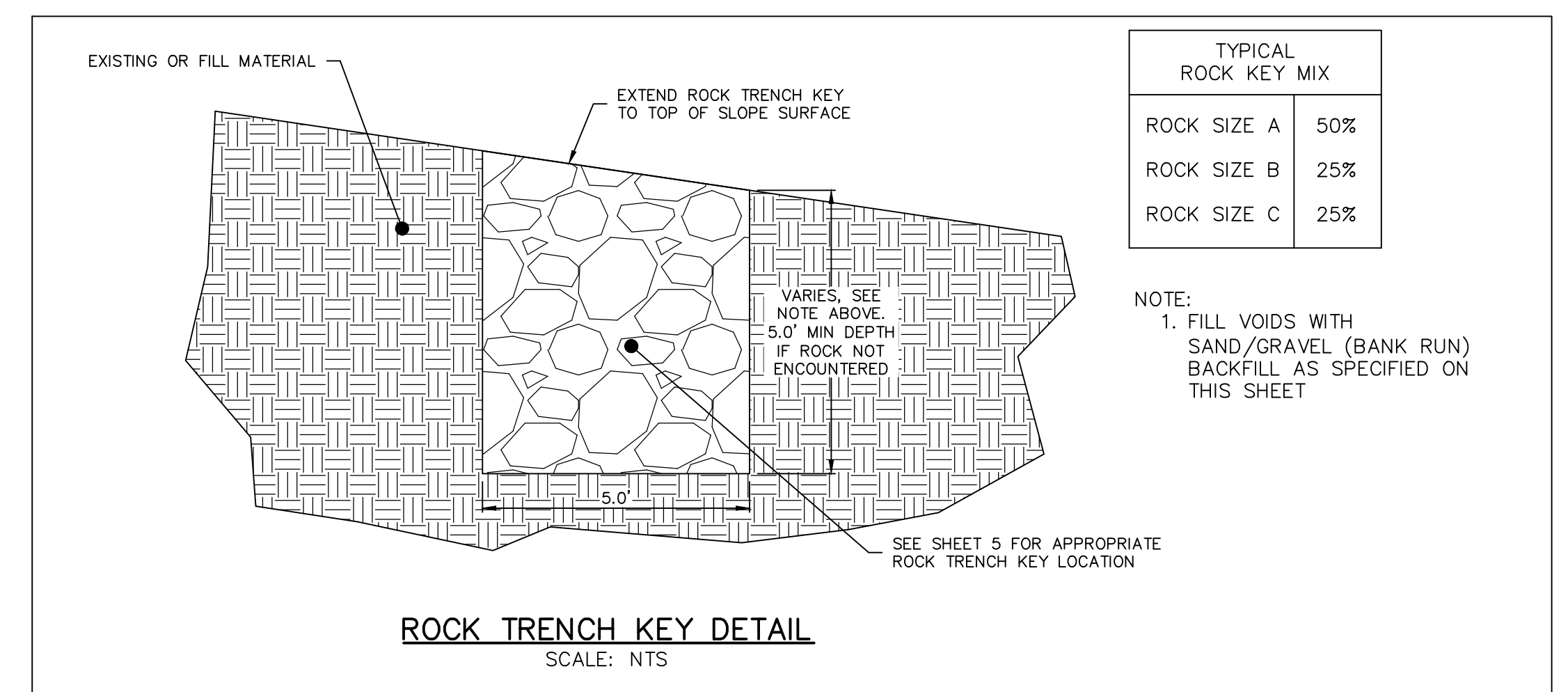


ROCK TOE TRENCH & BANK STABILIZATION
 SCALE: NTS

* IF BEDROCK IS ENCOUNTERED WITHIN 3' FROM THE SURFACE, EXTEND TRENCH A MINIMUM OF 24" BELOW ROCK.



STONE BOULDER LAYOUT PLAN VIEW
 SCALE: 1"=20'



ROCK TRENCH KEY DETAIL
 SCALE: NTS



Division of Engineering
City of Cuyahoga Falls, Ohio

DEVELOPMENT PERMIT

Permit No. 01-2021

For Construction or Development within
Areas of Special Flood Hazard

Date 11/30/2021

ISSUED TO:

Owner: City of Cuyahoga Falls

Street: 2310 Second Street

City, State: Cuyahoga Falls, OH

Zip: 44221 Phone: 330-971-8180

STRUCTURE OR DEVELOPMENT DATA:

Location or Address: Behind 2323 & 2333 Riverfront Parkway (0218526 & 0218532)

Lot No. & Allotment or Description: _____

Floodway Area Designation: Cuyahoga River
(Watercourse)

Type of Structure(s) or Development – Description:

Accompanying Site Plan By: Matt Lascola, PE, GPD Group
Architect, Engineer, Surveyor

SITE PLAN REVIEW COMMENTS:

BY: Tony V. Demasi DATE: 11/30/2021
Flood Plain Administrator

The acceptance of this permit shall constitute an agreement to abide by all conditions herein contained and to comply with all provisions of Chapter 1310, "Flood Plain Administration", of the Building Code of the City of Cuyahoga Falls.

Signed: Tony V. Demasi Date: 11/30/2021
Owner



Division of Engineering
City of Cuyahoga Falls, Ohio

SPECIAL FLOOD HAZARD AREA DEVELOPMENT PERMIT APPLICATION

Application is hereby made for a DEVELOPMENT PERMIT as required by the Flood Damage Prevention Ordinance 1310 of the City of Cuyahoga Falls for development in an identified flood hazard area. All activities shall be completed in accordance with the requirements of said ordinance. The development to be performed is described below and in attachments hereto. The applicant understands and agrees that:

- The permit applied for, if granted, is issued on the conditions and facts described herein;
- Any permit issued may be repealed if any conditions or facts change;
- If issued, the permit shall be considered void if the described activity has not begun within six months of the issuance date;
- The permit will remain valid for one year from date of issuance.

Owner's Name: City of Cuyahoga Falls

Builder: City of Cuyahoga Falls

Address: 2310 SECOND STREET, CUY FALLS OH 44221

Address: _____

Phone: 330-971-8180

Phone: _____

DESCRIPTION OF WORK

1. Location of proposed development site – address: Behind 2323 & 2333 Riverfront Parkway (0218526 & 0218532)

Legal description: Right Cuyahoga River Bank, approximate center coordinates 41.138373°, -81.480553°

2. Kind of development proposed:	new building _____	Manufact. Home install. _____
	Residential _____	single lot _____
	Non-residential <u>X</u> _____	Manufact. Home park _____

Alteration to existing structure _____ building addition _____ accessory structure _____ filling _____
Mining _____ dredging _____ watercourse alteration _____ other X (describe) River Bank Stabilization

3. If the proposed construction is an alteration, addition or improvement to an existing structure, indicate the cost of proposed construction \$ n/a.
What is the estimated market value of the existing structure \$ n/a?

Note – An existing structure must comply with the flood protection standards if it is substantially improved (an improvement equal to or greater than 50% of the market value of the structure).



Division of Engineering
City of Cuyahoga Falls, Ohio

4. Does proposed development involve a subdivision or other development containing at least 50 lots or 5 acres (whichever is less)? Yes _____ No X

Note – If yes, base flood elevation data is required from applicant if it has not been provided by FEMA.

I AGREE THAT ALL STATEMENTS IN AND ATTACHMENTS TO THIS APPLICATION ARE A TRUE DESCRIPTION OF THE EXISTING PROPERTY AND THE PROPOSED DEVELOPMENT ACTIVITY. I UNDERSTAND THE DEVELOPMENT REQUIREMENTS FOR SPECIAL FLOOD HAZARD AREA ACTIVITIES PER THE APPROPRIATE ORDINANCE (RESOLUTION) AND AGREE TO ABIDE THERETO.

Date: 11/30/2021 Applicant's Signature Tony V. Demasi

ADMINISTRATIVE

Note – the following is to be completed by the local flood plain administrator. All references to elevations are in feet mean sea level (m.s.l.)

5. Is proposed development located in an identified floodway? Yes X No _____

Note – if yes, a technical analysis is required with the application to show no increase in base flood elevation.

6. Structure will be flood protected by the following method:

_____ Fill added to construction site. Top of fill elevation must be _____ feet m.s.l.

_____ Floodproofing in accordance with ordinance criteria.

Note – This option is for nonresidential development only.

_____ Installation of manufactured home – anchored and elevated

n/a Other: Describe: The project is a river bank stabilization project designed to have stabilization material in the river

7. Base Flood Elevation (100-year) at proposed site 993 feet m.s.l.

Date source HEC-RAS

Map Effective Date _____

Note – An applicant receiving a variance to build a structure with a lowest floor elevation below the base flood (100-year) elevation is hereby notified that the reduced flood elevation will increase the risk of flooding and that the cost of flood insurance will be commensurate with the increased risk.



Division of Engineering
City of Cuyahoga Falls, Ohio

CERTIFICATION FORM

This form should be completed by a professional surveyor and returned to the Flood Plain Administrator. It is to certify that the completed construction meets the flood elevation standards of the City of Cuyahoga Falls. The completed original shall be kept on file by the Flood Plain Administrator. Copies shall be furnished to the owner upon request. The owner should provide a copy to their insurance agent.

I, the undersigned, do hereby certify to the following elevation at the referenced property in compliance with the permit requirements of the Flood Damage Prevention Ordinance 1310 of the City of Cuyahoga Falls.

Location of Property _____

Owner of Property _____

Lowest floor elevation,
Including basement
Including basement _____ feet

Above m.s.l. (mean sea level)

Signature of Surveyor

Professional Seal



Printed on Recycled Paper

PREVAILING WAGE

SECTION 6

INSTRUCTIONS FOR PREPARING CERTIFIED PAYROLL REPORTS

General:

Contractors and subcontractors are required by law to submit certified payroll reports for work on projects covered by Ohio's Prevailing Wage Law. This form meets the reporting requirements established by Ohio Revised Code Chapter 4115. The use of this form is not mandatory; employers may submit their own forms provided that all of the required information is included. This form may be reproduced, or additional copies obtained from:

Ohio Department of Commerce
Bureau of Wage and Hour Administration
6606 Tussing Road
Reynoldsburg, Ohio 43068 (614) 644-2239

Certified Payroll Heading:

Employer name and address: Company's full name and address. Indicate if the company is a subcontractor, if so; list the name of the General or Prime.

Project: Name and location of the project, including county.

Contracting Public Authority: Name and address of the contracting public authority.

Week Ending: Month, day, and year for last day of reporting period.

Payroll #: Indicates first, second, third, etc., payroll filed by the company for the project.

Page indicator: Number of pages included in the report.

Project Number: Determined by the public authority. If there is no number leave blank.

Payroll Information by column:

1. Employee Name, Address and Last Four Digits of Social Security Number: This information must be provided for all employees that perform physical labor on the project. Corporate officers, partners, and salaried employees are considered employees and must be paid the prevailing rate. Individual sole proprietors do not have to pay themselves prevailing rate but must report their hours on the project.
2. Work Class: List classification of work actually performed by employee. If unsure of work classification, consult the Ohio Bureau of Employment Services, Wage and Hour Division. Employees working more than one classification should have separate line entries for each classification. Indicate what year/level for Apprentices. Be specific when using laborer and operator classifications, for example, Backhoe Operator or Asphalt Laborer.
3. Hours Worked, Day & Date: In the first row of column 3 enter days of pay period example, M T W TH F S SU. The second row is for the date that corresponds with each day for the pay period. In the employee information section enter the number of hours worked on the prevailing wage project and which day the hours were worked. Separate rows are labeled for (ST) straight time hours and (OT) overtime hours. All hours worked after 40, must be paid at the appropriate overtime rate.
4. Project Total Hours: Total the hours entered for pay period.
5. Base Rate: Enter actual rate per hour paid to the employee. The overtime hourly rate is time and one-half the base rate listed in the prevailing wage schedule plus fringe benefits at straight time rate. The prevailing wage schedule lists the base rate plus fringe benefit amounts. These amounts added together equal the total prevailing wage rate. Employers must pay this total amount in one of three ways.
 - a) Total rate may be paid in entirety in the base rate to the employee; in which case, the cash designation will be checked for fringe benefits.
 - b) Total rate may be paid as listed in prevailing wage rate schedule with total fringe amounts paid approved plans.
 - c) Total rate may be paid with a combination of base rate and fringe payments to approved plans in amounts other than those listed in schedule.
6. Project Gross: Enter total gross wages earned on the project for straight time and overtime. Project hours X base rate should equal project gross.
7. Fringes: If fringe benefits are paid in the hourly base rate, indicate this by marking the cash space. If fringe benefits are paid to approved plans as listed in the prevailing wage rate schedule, mark the space Approved Plans. If fringe benefits are paid partially in the base rate and partially to approved plans, mark the space Cash & Approved plans. List the hourly amount paid to approved plans for each fringe. If payments are not made on a per hour basis, calculate the hourly fringe credit by dividing the yearly employer contribution by the lesser of: hours actually worked in the year (these must be documented) or 2080. Fringe benefits include: Employer's share of health insurance, life insurance, retirement plan, bonus/profit sharing, sick pay, holiday pay, personal leave, vacation, and education/training programs.
8. Total Hours All Jobs: Total all hours worked during the pay period including non-prevailing wage jobs.
9. Total Gross All Jobs: Gross amount earned in the pay period for all hours worked.
10. Self explanatory
11. Self explanatory
12. Self explanatory

CERTIFIED PAYROLL REPORT

Employer Name and Address			Name of General/Prime Contractor				Project Name and Location					Contracting Public Authority				
Check if Subcontractor <input type="checkbox"/>		Week Ending:			Payroll #:		Page ___ of ___			Project Number:						
1. Employee Name, Address SSN		2. Work Class	3. Hours Worked Day & Date			4. Project Total Hrs	5. Base Rate	6. Project Gross	7. Fringes: Cash ___ Appd Plans ___ Cash & Approved Plans			8. Total Hrs All Jobs	9. Total Gross All Jobs	10. Taxes Withheld	11. Other Deducts	12. Net Paid
									H & W	Pens	Vac	Apo	Other			
		OT														
		ST														
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Date _____ My signature on this form signifies that I pay, or supervise the payment of the employees shown above. I am certifying: 1) That during the pay period reported on this form, all hours worked on this project have been paid at the appropriate prevailing wage rate for the class of work done. 2) That fringe benefits have been paid as indicated above. 3) That no rebates or deductions have been or will be made, directly or indirectly from the total wages earned, other than permissible deductions as defined in the Ohio Revised Code Chapter 4115. 4) That apprentices are registered with the U.S. Department of Labor Bureau of Apprenticeship and Training. The willful falsification of any of the above statements may subject the contractor or subcontractor to civil or criminal prosecution.

NAME AND TITLE _____ SIGNATURE _____

PLEASE BE ADVISED THAT THIS FORM IS INTENDED TO BE USED AS A SAMPLE ONLY. IT IS NOT INTENDED TO BE THE ACTUAL PAYROLL REPORT TO BE FILED. IN ORDER TO COMPLY WITH THE STATE STATUTE REGARDING THE FILING OF CERTIFIED PAYROLL REPORTS, THE REPORT FILED BY YOUR COMPANY MUST INCLUDE A STATEMENT CERTIFYING THAT THE "PAYROLL IS CORRECT AND COMPLETE AND THE WAGES PAID ARE NOT LESS THAN THOSE REQUIRED BY THE CONTRACT". IF YOU HAVE ANY QUESTIONS REGARDING THE FILING OF CERTIFIED PAYROLL REPORTS, PLEASE CONTACT THE OHIO BUREAU OF EMPLOYMENT SERVICES, WAGE AND HOUR DIVISION AT (614)-644-2239.

CERTIFICATION

Date

I, _____ (Name of signatory part) _____ (Title)

do hereby certify:

(1) That I pay or supervise the payment of the persons employed by

_____ on the _____
(Contractor or subcontractor) (Building or work)

_____ ; that during payroll period

commencing on the _____ day of _____ 20__ and

ending the _____ day of _____ 20__ all laborers

and mechanics employed on said project have been paid at the prevailing rate of wages for laborers and mechanics for the class of work called for by said project, and that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____ (Contractor or subcontractor)

from the total wages earned by any person and that no deduction have been made either directly or indirectly from the total wages earned by any person, other than permissible deductions as defined in Chapter 4115. Ohio Revised Code, and described below:

(2) That this and all payrolls required to be submitted for the above period are correct and complete; that the prevailing wage rates for laborers and mechanics are not less than the prevailing wage rates then payable in the same trade or occupation in the locality where the work is being performed, as determined by the Ohio Department of Industrial Relations; and, that the classifications set forth for each laborer and mechanic conform with the work performed,

(3) That apprentices employed during the above period are duly registered in a bona fide apprenticeship program registered with the State Apprenticeship Council.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

- In addition to the base hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as determined by the Ohio Department of Industrial Relations have been made to

_____ in the amount of: \$ _____ for the benefit of such employees, except as noted in Section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

- Each laborer or mechanic listed in the above referenced payroll has been paid as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage ratio plus the amount of the required fringe benefits as determined by the Ohio Department of Industrial Relations, except as noted in Section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

Ohio Bureau of Employment Services
Wage and Hour Division

Remarks: 145 South Front Street
PO Box 1618
Columbus, Ohio 43216-1618

Name and Title	Signature
----------------	-----------

(SAMPLE)

AFFIDAVIT OF CONTRACTOR OR SUBCONTRACTOR

PREVAILING WAGES

Name of Company _____

I, _____, (Name of person signing affidavit) Title _____

do hereby certify that the wages paid to all employees for the full number of hours worked in connection with the Contract to the Improvement, Repair and Construction of:

(Project Name & Location)

during the following period from _____ to _____

is in accordance with the prevailing wage prescribed by the contractor document.

I further certify that no rebates or deductions for any wages due any person have been directly or indirectly made other than those provided by law.

(Signature of Officer or Agent)

Sworn to and subscribed in my presence this _____ day of _____, 20__.

(Notary Public)

The above affidavit must be executed and sworn to by the officer or agent or the Contractor or Subcontractor who supervises the payment of employees, before the owner will release the surety and/or make a final payment due under the terms of the Contract.

WAGE RATES

CURRENT PREVAILING
SUMMIT COUNTY

Prevailing Wage Rate Skilled Crafts

Name of Union: Asbestos Local 207 OH

Change # : LCN01-2018fbLoc207OH

Craft : Asbestos Worker Effective Date : 08/23/2018 Last Posted : 08/23/2018

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Asbestos Abatement	\$25.50	\$7.25	\$6.45	\$0.65	\$0.00	\$0.00	\$0.07	\$0.00	\$0.00	\$39.92	\$52.67
Trainee	\$16.50	\$7.25	\$1.50	\$0.65	\$0.00	\$0.00	\$0.07	\$0.00	\$0.00	\$25.97	\$34.22

Special Calculation Note :

Ratio :

3 Journeymen to 1 Trainee

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA*, ATHENS, AUGLAIZE, BROWN, BUTLER*, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GEAUGA, GREENE, GUERNSEY, HAMILTON, HARDIN, HARRISON, HIGHLAND, HOCKING, HOLMES, HURON, KNOX, LAKE, LICKING, LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA, MIAMI, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PORTAGE, PREBLE, RICHLAND, ROSS, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VINTON, WARREN*, WAYNE

Special Jurisdictional Note : Butler County:(townships of Fairfield,Hanover,Liberty,Milford,Morgan,Oxford,Ripley,Ross,StClair,Union & Wayne.) (Lemon & Madison) Warren County: (townships of: Deerfield, Hamilton, Harlan, Salem, Union & Washington). (Clear Creek, Franklin, Mossie, Turtle Creek & Wayney). Ashtabula County: (post offices & townships of Ashtabula, Austinburg, Geneva, Harperfield, Jefferson, Plymouth & Saybrook) (townships of Andover, Cherry Valley, Colbrook, Canneaut, Denmark, Dorset, East Orwell, Hartsgrove, Kingville, Lenox, Monroe,Morgan,New Lyme,North Kingsville, Orwell, Pierpoint, Richmond Rock Creek, Rome, Sheffield, Trumbull, Wayne, Williamsfield & Windsor) Erie County:(post offices & townships of Berlin, Berlin Heights,Birmingham,Florence ,Huron, Milan, Shinrock & Vermilion)

Details :

Asbestos & lead paint abatement including, but not limited to the removal or encapsulation of asbestos & lead paint, all work in conjunction with the preparation of the removal of same & all work in conjunction with the clean up after said removal. The removal of all insulation materials, whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) is recognized as being the exclusive work of the Asbestos Abatement Workers.

On all mechanical systems (pipes, boilers, ducts, flues, breaching, etc.) that are going to be demolished, the removal of all insulating materials whether they contain asbestos or not shall be the exclusive work of the Laborers.

An Abatement Journeyman is anyone who has more than 300 hours in the Asbestos Abatement field.

Prevailing Wage Rate Skilled Crafts

Name of Union: Boilermaker Local 744

Change # : LCNO1-2019fbLoc744

Craft : Boilermaker Effective Date : 04/03/2019 Last Posted : 04/03/2019

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Boilermaker	\$38.05		\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$67.76	\$86.78
Apprentice	Percent											
1st 6 months	70.02	\$26.64	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$56.35	\$69.67
2nd 6 months	72.52	\$27.59	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$57.30	\$71.10
3rd 6 months	75.00	\$28.54	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$58.25	\$72.52
4th 6 months	77.51	\$29.49	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$59.20	\$73.95
5th 6 months	80.00	\$30.44	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$60.15	\$75.37
6th 6 months	85.03	\$32.35	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$62.06	\$78.24
7th 6 months	90.00	\$34.25	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$63.96	\$81.08
8th 6 months	95.00	\$36.15	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$65.86	\$83.93
Helper	60.00	\$22.83	\$7.07	\$16.07	\$0.74	\$0.00	\$5.08	\$0.75	\$0.00	\$0.00	\$52.54	\$63.96

Special Calculation Note : Other is Supplemental Health

Ratio :

5 Journeymen to 1 Apprentice to 1 Helper

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CARROLL, COSHOCTON, CUYAHOGA, GEAUGA, HARRISON, HOLMES, LAKE, LORAIN, MAHONING, MEDINA, PORTAGE, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, WAYNE

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 36 Zone 2 Tile Finisher

Change # : LCN02-2021fbLoc7

Craft : Bricklayer Effective Date : 05/21/2021 Last Posted : 05/21/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Tile Finisher	\$24.55		\$8.64	\$3.83	\$0.59	\$0.00	\$1.50	\$0.00	\$0.00	\$0.00	\$39.11	\$51.39
Apprentice	Percent											
1st 6 months	60.00	\$14.73	\$8.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$23.37	\$30.73
2nd 6 months	70.00	\$17.18	\$8.64	\$3.83	\$0.59	\$0.00	\$1.50	\$0.00	\$0.00	\$0.00	\$31.75	\$40.34
3rd 6 months	75.00	\$18.41	\$8.64	\$3.83	\$0.59	\$0.00	\$1.50	\$0.00	\$0.00	\$0.00	\$32.97	\$42.18
4th 6 months	80.00	\$19.64	\$8.64	\$3.83	\$0.59	\$0.00	\$1.50	\$0.00	\$0.00	\$0.00	\$34.20	\$44.02
5th 6 months	85.00	\$20.87	\$8.64	\$3.83	\$0.59	\$0.00	\$1.50	\$0.00	\$0.00	\$0.00	\$35.43	\$45.86
6th 6 months	90.00	\$22.10	\$8.64	\$3.83	\$0.59	\$0.00	\$1.50	\$0.00	\$0.00	\$0.00	\$36.66	\$47.70

Special Calculation Note : Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.

Note that the classification description is clarified after the local union number at the top of the page.

Ratio :

- 1-4 Journeymen to 1 Apprentice
- 5-10 Journeymen to 2 Apprentices
- 11-16 Journeymen to 3 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

The rate of Sewer Bricklayer will be \$.50 cents per above the building bricklayer's rate. Men working from cable or rope hung scaffold shall receive .50 cents per hour above building bricklayer rate.

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 36 Zone 2 Tile Layer

Change # : LCN02-2021fbLoc7

Craft : Bricklayer Effective Date : 05/21/2021 Last Posted : 05/21/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Tile Layer	\$29.81		\$8.70	\$3.83	\$0.65	\$0.00	\$1.50	\$0.00	\$0.00	\$0.00	\$44.49	\$59.39
Tile Layer Apprentice	Percent											
1st 30 days	60.00	\$17.89	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$17.89	\$26.83
1st 6 months	60.00	\$17.89	\$8.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$26.59	\$35.53
2nd 6 months	65.00	\$19.38	\$8.70	\$3.83	\$0.65	\$0.00	\$1.50	\$0.00	\$0.00	\$0.00	\$34.06	\$43.74
3rd 6 months	70.00	\$20.87	\$8.70	\$3.83	\$0.65	\$0.00	\$1.50	\$0.00	\$0.00	\$0.00	\$35.55	\$45.98
4th 6 months	75.00	\$22.36	\$8.70	\$3.83	\$0.65	\$0.00	\$1.50	\$0.00	\$0.00	\$0.00	\$37.04	\$48.22
5th 6 months	80.00	\$23.85	\$8.70	\$3.83	\$0.65	\$0.00	\$1.50	\$0.00	\$0.00	\$0.00	\$38.53	\$50.45
6th 6 months	85.00	\$25.34	\$8.70	\$3.83	\$0.65	\$0.00	\$1.50	\$0.00	\$0.00	\$0.00	\$40.02	\$52.69
7th 6 months	90.00	\$26.83	\$8.70	\$3.83	\$0.65	\$0.00	\$1.50	\$0.00	\$0.00	\$0.00	\$41.51	\$54.92
8th 6 months	95.00	\$28.32	\$8.70	\$3.83	\$0.65	\$0.00	\$1.50	\$0.00	\$0.00	\$0.00	\$43.00	\$57.16

Special Calculation Note : Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.

Note that the classification description is clarified after the local union number at the top of the page.

Ratio :

- 1-4 Journeyman to 1 Apprentice
- 5-10 Journeymen to 2 Apprentice
- 11-16 Journeymen to 3 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 5 Marble Mason

Change # : LCN01-2021fbLoc5

Craft : Bricklayer Effective Date : 06/01/2021 Last Posted : 04/28/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Horizontal Marble Mason	\$25.58		\$8.59	\$9.45	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.26	\$57.05
Masonry Maintenance Specialist	\$12.79		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12.79	\$19.18
Apprentice	Percent											
1st 6 Months	60.00	\$15.35	\$8.59	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$23.94	\$31.61
2nd 6 Months	65.00	\$16.63	\$8.59	\$1.60	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.46	\$35.77
3rd 6 Months	70.00	\$17.91	\$8.59	\$9.45	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$36.59	\$45.54
4th 6 Months	75.00	\$19.18	\$8.59	\$9.45	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$37.86	\$47.46
5th 6 Months	80.00	\$20.46	\$8.59	\$9.45	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39.14	\$49.38
6th 6 Months	85.00	\$21.74	\$8.59	\$9.45	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.42	\$51.29
MASON TRAINEES												
1st 90 Days	45.00	\$11.51	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$11.51	\$17.27
1st year after 90 Days	45.00	\$11.51	\$8.59	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$20.10	\$25.86
2nd Year	50.00	\$12.79	\$8.59	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$21.38	\$27.77

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.

Ratio :

1-2 Journeyman to 1 Apprentice
3-4 Journeyman to 2 Apprentices
5-6 Journeyman to 2 Apprentices
6-10 Journeyman to 3 Apprentices

1 Apprentice permits 1 Mason Trainee
2 Apprentice permits 1 Mason Trainee
3 Apprentice permits 2 Mason Trainee
4 Apprentice permits 2 Mason Trainee

Special Jurisdictional Note :**Details :**

In the mutual interest of both Employer and Union and to promote the masonry industry, it is agreed that the Employer may work with the Union and the Local Educational Partners in the jurisdiction of this agreement to employ School to work students provided that no conflicts exist with any Federal or State Laws. Employer must be party to a bonified Apprenticeship and Training program registered with the State of Ohio (OSAC). It is further agreed by both parties that the wages for the Masonry Maintenance Specialist shall be forty-five percent (45%) of the journeyman rate with no fringe benefits or as specified by the Local Educational Partner in the jurisdiction of the agreement.

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE,
LORAIN, MEDINA, PORTAGE, SUMMIT

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 5 Marble, Terrazzo & Mosaic

Change # : LCN01-2021fbLoc5

Craft : Bricklayer Effective Date : 06/01/2021 Last Posted : 04/28/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Marble, Terrazzo, Mosaic	\$36.38		\$8.59	\$9.45	\$0.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.17	\$73.36
Swing Scaffold Workers	\$37.38		\$8.59	\$9.45	\$0.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$56.17	\$74.86
Stack	\$36.88		\$8.59	\$9.45	\$0.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$55.67	\$74.11
Masonry Maintenance	\$16.37		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$16.37	\$24.55
Apprentice	Percent											
1st 6 months	60.00	\$21.83	\$8.59	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30.42	\$41.33
2nd 6 months	65.00	\$23.65	\$8.59	\$9.45	\$0.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$42.44	\$54.26
3rd 6 months	70.00	\$25.47	\$8.59	\$9.45	\$0.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.26	\$56.99
4th 6 months	75.00	\$27.29	\$8.59	\$9.45	\$0.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$46.08	\$59.72
5th 6 months	80.00	\$29.10	\$8.59	\$9.45	\$0.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$47.89	\$62.45
6th 6 months	85.00	\$30.92	\$8.59	\$9.45	\$0.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$49.71	\$65.17
7th 6 months	90.00	\$32.74	\$8.59	\$9.45	\$0.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$51.53	\$67.90
8th 6 months	95.00	\$34.56	\$8.59	\$9.45	\$0.75	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$53.35	\$70.63
MASON TRAINEES 1st 90 Days	45.00	\$16.37	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$16.37	\$24.56
1st Year after 90 Days	45.00	\$16.37	\$8.59	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$24.96	\$33.15
2nd Year	50.00	\$18.19	\$8.59	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$26.78	\$35.88

Special Calculation Note : Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.

Ratio :

- 1-2 Journeyman to 1 Apprentice
- 3-4 Journeyman to 2 Apprentices
- 5-6 Journeyman to 3 Apprentices
- 7-10 Journeyman to 4 Apprentices

- 1 Apprentice permits 1 Mason Trainee
- 2 Apprentice permits 1 Mason Trainee
- 3 Apprentice permits 2 Mason Trainee
- 4 Apprentice permits 2 Mason Trainee

Special Jurisdictional Note :

Details :

In the mutual interest of both Employer and Union and to promote the masonry industry, it is agreed that the Employer may work with the Union and the Local Educational Partners in the jurisdiction of this agreement to employ School to work students provided that no conflicts exist with any Federal or State Laws. Employer must be party to a bonified Apprenticeship and Training program registered with the State of Ohio (OSAC). It is further agreed by both parties that the wages for the Masonry Maintenance Specialist shall be forty-five percent (45%) of the journeyman rate with no fringe benefits or as specified by the Local Educational Partner in the jurisdiction of the agreement.

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, GEAUGA, LAKE, PORTAGE,
SUMMIT

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 5 Tile & Marble Finisher

Change # : LCN01-2021fbLoc5

Craft : Bricklayer Effective Date : 05/01/2021 Last Posted : 04/28/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Tile Marble Finisher	\$29.60		\$8.59	\$4.77	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.60	\$58.40
Apprentice Tile Marble Finishers	Percent											
1st 6 months	60.00	\$17.76	\$8.59	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$26.35	\$35.23
2nd 6 months	70.00	\$20.72	\$8.59	\$4.77	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$34.72	\$45.08
3rd 6 months	75.00	\$22.20	\$8.59	\$4.77	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$36.20	\$47.30
4th 6 months	80.00	\$23.68	\$8.59	\$4.77	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$37.68	\$49.52
5th 6 months	85.00	\$25.16	\$8.59	\$4.77	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39.16	\$51.74
6th 6 months	90.00	\$26.64	\$8.59	\$4.77	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.64	\$53.96

Special Calculation Note : Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.

Note that the classification description is clarified after the local union number at the top of the page.

Ratio :

- 1-2 Journeymen to 1 Apprentice
- 3- 4 Journeymen to 2 Apprentice
- 5-6 Journeymen to 3 Apprentice
- 7-8 Journeymen to 4 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

- ASHTABULA, CUYAHOGA, GEAUGA, LAKE,
- LORAIN, MEDINA, PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

Tile Finishers:do all the cleaning, acid washing,grouting,by any methods or means. Also unpacking of all tiles,opening of all mastic containers,mixing of all mortar,thin-set and epoxy materials,also the distribution of it.

They shall handle and distribute all materials such as sand, cement, lime, tile, all types of tile panels, prefabricated tile units, plastic materials and protective covering of all tile. Clean up and removal of always used in connection of said work.

Terrazzo Finishers: Assisting in grinding, and handling of material whether by hand or wheel barrow, or power buggies, including sand Portland cement, resinous cement and admixtures, aggregates of marble, stone or other compositions, bonding adhesives, sealers, waxes, and coatings used for Terrazzo Mosaic work, preparing, mixing by hand or machine, and distributing (spreading) all kinds of underbed or underlayment necessary and all scratch coat used for terrazzo and mosaic work. Also the rubbing, grinding, cleaning, sealing and polishing same either by hand or machine. will assist in the installation of the sand bed, tar paper, wire lath, divider strips, and rolling procedures and acid etching of all concrete floors that require it before installation. Shall handle all materials and assist in the installation of all types of terrazzo floors whether conventional or thin-set variety.

Marble Finishers: Loading and unloading handling and distributing of marble materials including the mixing of all materials used for the installation of marble, such as cement underbeds for the floors, thin-set or epoxies including but not limited to plastic materials. Clean up and removal of all waster material of said work. Cleaning and grouting of all marble and slate, and all polishing of marble and slate floors.

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 5 Terrazzo Finisher

Change # : LCN01-2021fbLoc5

Craft : Bricklayer Effective Date : 05/01/2021 Last Posted : 04/28/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer Terrazzo Finisher	\$29.22		\$8.59	\$5.15	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.60	\$58.21
Apprentice Terrazzo Finishers	Percent											
1st 6 months	60.00	\$17.53	\$8.59	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$26.12	\$34.89
2nd 6 months	70.00	\$20.45	\$8.59	\$5.15	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$34.83	\$45.06
3rd 6 months	75.00	\$21.91	\$8.59	\$5.15	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$36.30	\$47.25
4th 6 months	80.00	\$23.38	\$8.59	\$5.15	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$37.76	\$49.44
5th 6 months	85.00	\$24.84	\$8.59	\$5.15	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39.22	\$51.64
6th 6 months	90.00	\$26.30	\$8.59	\$5.15	\$0.64	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40.68	\$53.83

Special Calculation Note : Classification title contains "Bricklayer" because contract originates within the Bricklayer Local.

Note that the classification description is clarified after the local union number at the top of the page.

Ratio :

- 1-2 Journeymen to 1 Apprentice
- 3- 4 Journeymen to 2 Apprentices
- 5- 6 Journeymen to 3 Apprentices
- 7- 8 Journeymen to 4 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, GEAUGA, LAKE,
LORAIN, MEDINA, PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

Tile Finishers:do all the cleaning, acid washing,grouting,by any methods or means. Also unpacking of all tiles,opening of all mastic containers,mixing of all mortar,thin-set and epoxy materials,also the distribution of it. They shall handle and distribute all materials such as sand,cement,lime,tile,all types of tile panels,prefabricated

tile units, plastic materials and protective covering of all tile. Clean up and removal of always used in connection of said work.

Terrazzo Finishers:Assisting in grinding, and handling of material whether by hand or wheel barrow, or power buggies, including sand Portland cement, resinous cement and admixtures, aggregates of marble, stone or other compositions, bonding adhesives, sealers, waxes, and coatings used for Terrazzo Mosaic work, preparing, mixing by hand or machine, and distributing (spreading) all kinds of underbed or underlayment necessary and all scratch coat used for terrazzo and mosaic work. Also the rubbing, grinding, cleaning, sealing and polishing same either by hand or machine. will assist in the installation of the sand bed, tar paper, wire lath, divider strips, and rolling procedures and acid etching of all concrete floors that require it before installation. Shall handle all materials and assist in the installation of all types of terrazzo floors whether conventional or thin-set variety.

Marble Finishers:Loading and unloading handling and distributing of marble materials including the mixing of all materials used for the installation of marble, such as cement underbeds for the floors, thin-set or epoxies including but not limited to plastic materials. Clean up and removal of all waster material of said work. Cleaning and grouting of all marble and slate, and all polishing of marble and slate floors.

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 7

Change # : LCN01-2010jcLoc7

Craft : Bricklayer Effective Date : 06/07/2010 Last Posted : 06/07/2010

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Bricklayer Tile Marble Terrazzo Finisher	\$23.70		\$5.80	\$2.45	\$0.60	\$0.00	\$0.00	\$0.00			\$32.55	\$44.40
Apprentice	Percent											
1st 6 Months	60.00	\$14.22	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			\$14.22	\$21.33
2nd 6 Months	70.00	\$16.59	\$5.80	\$2.45	\$0.60	\$0.00	\$0.00	\$0.00			\$25.44	\$33.74
3rd 6 Months	75.00	\$17.77	\$5.80	\$2.45	\$0.60	\$0.00	\$0.00	\$0.00			\$26.62	\$35.51
4th 6 Months	80.00	\$18.96	\$5.80	\$2.45	\$0.60	\$0.00	\$0.00	\$0.00			\$27.81	\$37.29
5th 6 Months	85.00	\$20.14	\$5.80	\$2.45	\$0.60	\$0.00	\$0.00	\$0.00			\$29.00	\$39.07
6th 6 Months	90.00	\$21.33	\$5.80	\$2.45	\$0.60	\$0.00	\$0.00	\$0.00			\$30.18	\$40.85

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

- 5 Journeymen to 1 Apprentice
- 10 Journeymen to 2 Apprentices
- 15 Journeymen to 2 Apprentices
- 20 Journeymen to 4 Apprentices
- 25 Journeymen to 5 Apprentices

Jurisdiction (* denotes special jurisdictional note) :

PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Bricklayer Local 7

Change # : LCR01-2021fbLoc7

Craft : Bricklayer Effective Date : 06/01/2021 Last Posted : 05/26/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Bricklayer	\$32.46		\$8.70	\$8.31	\$0.73	\$0.00	\$3.00	\$0.00	\$0.00	\$0.00	\$53.20	\$69.43
Pointer Caulker Cleaner	\$32.46		\$8.70	\$8.31	\$0.73	\$0.00	\$3.00	\$0.00	\$0.00	\$0.00	\$53.20	\$69.43
Swing Scaffold Workers	\$32.96		\$8.70	\$8.31	\$0.73	\$0.00	\$3.00	\$0.00	\$0.00	\$0.00	\$53.70	\$70.18
Sewer Stack	\$32.96		\$8.70	\$8.31	\$0.73	\$0.00	\$3.00	\$0.00	\$0.00	\$0.00	\$53.70	\$70.18
Hot Pay	\$33.46		\$8.70	\$8.31	\$0.73	\$0.00	\$3.00	\$0.00	\$0.00	\$0.00	\$54.20	\$70.93
Stone Mason	\$32.46		\$8.70	\$8.31	\$0.73	\$0.00	\$3.00	\$0.00	\$0.00	\$0.00	\$53.20	\$69.43
Apprentice	Percent											
1st 6 Months	60.00	\$19.48	\$8.70	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$28.18	\$37.91
2nd 6 Months	65.00	\$21.10	\$8.70	\$8.31	\$0.73	\$0.00	\$3.00	\$0.00	\$0.00	\$0.00	\$41.84	\$52.39
3rd 6 Months	70.00	\$22.72	\$8.70	\$8.31	\$0.73	\$0.00	\$3.00	\$0.00	\$0.00	\$0.00	\$43.46	\$54.82
4th 6 Months	75.00	\$24.34	\$8.70	\$8.31	\$0.73	\$0.00	\$3.00	\$0.00	\$0.00	\$0.00	\$45.09	\$57.26
5th 6 Months	80.00	\$25.97	\$8.70	\$8.31	\$0.73	\$0.00	\$3.00	\$0.00	\$0.00	\$0.00	\$46.71	\$59.69
6th 6 Months	85.00	\$27.59	\$8.70	\$8.31	\$0.73	\$0.00	\$3.00	\$0.00	\$0.00	\$0.00	\$48.33	\$62.13
7th 6 Months	90.00	\$29.21	\$8.70	\$8.31	\$0.73	\$0.00	\$3.00	\$0.00	\$0.00	\$0.00	\$49.95	\$64.56
8th 6 Months	95.00	\$30.84	\$8.70	\$8.31	\$0.73	\$0.00	\$3.00	\$0.00	\$0.00	\$0.00	\$51.58	\$67.00

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

- 5 Journeymen to 1 Apprentice
- 10 Journeymen to 2 Apprentice
- 15 Journeymen to 3 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

1 Journeymen to 1 Apprentice
5 Journeymen to 1 Apprentice
10 Journeymen to 2 Apprentice
15 Journeymen to 3 Apprentice

PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Commercial NE Zone 1A

Change # : LCN01-2021fbLocNEZone1A

Craft : Carpenter Effective Date : 05/21/2021 Last Posted : 05/21/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter	\$31.33		\$7.82	\$10.38	\$0.56	\$0.00	\$2.87	\$0.00	\$0.00	\$0.00	\$52.96	\$68.62
Apprentice	Percent											
1st 3 months	60.00	\$18.80	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$18.80	\$28.20
2nd 3 months	60.00	\$18.80	\$7.82	\$0.00	\$0.56	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.18	\$36.58
2nd 6 months is 1st year	60.00	\$18.80	\$7.82	\$0.00	\$0.56	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.18	\$36.58
3rd 6 months	60.00	\$18.80	\$7.82	\$0.00	\$0.56	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.18	\$36.58
4th 6 months	60.00	\$18.80	\$7.82	\$0.00	\$0.56	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.18	\$36.58
5th 6 months	70.00	\$21.93	\$7.82	\$7.27	\$0.56	\$0.00	\$2.01	\$0.00	\$0.00	\$0.00	\$39.59	\$50.56
6th 6 months	75.00	\$23.50	\$7.82	\$7.79	\$0.56	\$0.00	\$2.15	\$0.00	\$0.00	\$0.00	\$41.82	\$53.57
7th 6 months	80.00	\$25.06	\$7.82	\$8.30	\$0.56	\$0.00	\$2.30	\$0.00	\$0.00	\$0.00	\$44.04	\$56.58
8th 6 months	85.00	\$26.63	\$7.82	\$8.82	\$0.56	\$0.00	\$2.44	\$0.00	\$0.00	\$0.00	\$46.27	\$59.59

Special Calculation Note :

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

MEDINA, PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Floorlayer NE Zone 1A

Change # : LCN01-2021fbLocNEZone1A

Craft : Carpenter Effective Date : 05/21/2021 Last Posted : 05/21/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter Floorlayer	\$31.33		\$7.82	\$10.38	\$0.58	\$0.00	\$2.87	\$0.00	\$0.00	\$0.00	\$52.98	\$68.64
Apprentice	Percent											
1st 3 months	60.00	\$18.80	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$18.80	\$28.20
2nd 3 months	60.00	\$18.80	\$7.82	\$0.00	\$0.58	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.20	\$36.60
2nd 6 months	60.00	\$18.80	\$7.82	\$0.00	\$0.58	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.20	\$36.60
3rd 6 months	60.00	\$18.80	\$7.82	\$0.00	\$0.58	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.20	\$36.60
4th 6 months	60.00	\$18.80	\$7.82	\$0.00	\$0.58	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.20	\$36.60
5th 6 months	70.00	\$21.93	\$7.82	\$7.27	\$0.58	\$0.00	\$2.01	\$0.00	\$0.00	\$0.00	\$39.61	\$50.58
6th 6 months	75.00	\$23.50	\$7.82	\$7.79	\$0.58	\$0.00	\$2.15	\$0.00	\$0.00	\$0.00	\$41.84	\$53.59
7th 6 months	80.00	\$25.06	\$7.82	\$8.30	\$0.58	\$0.00	\$2.30	\$0.00	\$0.00	\$0.00	\$44.06	\$56.60
8th 6 months	85.00	\$26.63	\$7.82	\$8.82	\$0.58	\$0.00	\$2.44	\$0.00	\$0.00	\$0.00	\$46.29	\$59.61

Special Calculation Note :

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

MEDINA, PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Insulation NE Zone 1A

Change # : LCN01-2021fbLocNEZone1A

Craft : Carpenter Effective Date : 05/21/2021 Last Posted : 05/21/2022

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter Insulation	\$25.06		\$7.82	\$10.38	\$0.56	\$0.00	\$2.87	\$0.00	\$0.00	\$0.00	\$46.69	\$59.22
Apprentice	Percent											
1st 3 months	50.00	\$12.53	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12.53	\$18.79
2nd 3 months	50.00	\$12.53	\$7.82	\$0.00	\$0.56	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$20.91	\$27.17
2nd 6 months	50.00	\$12.53	\$7.82	\$0.00	\$0.56	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$20.91	\$27.17
3rd 6 months	55.00	\$13.78	\$7.82	\$0.00	\$0.56	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$22.16	\$29.05
4th 6 months	60.00	\$15.04	\$7.82	\$0.00	\$0.56	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$23.42	\$30.93
5th 6 months	70.00	\$17.54	\$7.82	\$7.27	\$0.56	\$0.00	\$2.01	\$0.00	\$0.00	\$0.00	\$35.20	\$43.97
6th 6 months	75.00	\$18.79	\$7.82	\$7.79	\$0.56	\$0.00	\$2.15	\$0.00	\$0.00	\$0.00	\$37.12	\$46.51
7th 6 months	80.00	\$20.05	\$7.82	\$8.30	\$0.56	\$0.00	\$2.30	\$0.00	\$0.00	\$0.00	\$39.03	\$49.05
8th 6 months	85.00	\$21.30	\$7.82	\$8.82	\$0.56	\$0.00	\$2.44	\$0.00	\$0.00	\$0.00	\$40.94	\$51.59

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

MEDINA, PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Millwright NE Zone M1

Change # : LCN01-2021fbLocNEZoneM1

Craft : Carpenter Effective Date : 05/21/2021 Last Posted : 05/21/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter Millwright	\$30.95		\$7.85	\$10.73	\$0.56	\$0.00	\$4.76	\$0.05	\$0.00	\$0.00	\$54.90	\$70.37
Certified Welder	\$31.95		\$7.85	\$10.73	\$0.56	\$0.00	\$4.76	\$0.05	\$0.00	\$0.00	\$55.90	\$71.87
Layout man on Monorail	\$32.70		\$7.85	\$10.73	\$0.56	\$0.00	\$4.76	\$0.05	\$0.00	\$0.00	\$56.65	\$73.00
Apprentice	Percent											
1st 6 months	60.00	\$18.57	\$7.85	\$10.73	\$0.56	\$0.00	\$4.76	\$0.05	\$0.00	\$0.00	\$42.52	\$51.81
2nd 6 months	60.00	\$18.57	\$7.85	\$10.73	\$0.56	\$0.00	\$4.76	\$0.05	\$0.00	\$0.00	\$42.52	\$51.81
3rd 6 months	62.00	\$19.19	\$7.85	\$10.73	\$0.56	\$0.00	\$4.76	\$0.05	\$0.00	\$0.00	\$43.14	\$52.73
4th 6 months	65.50	\$20.27	\$7.85	\$10.73	\$0.56	\$0.00	\$4.76	\$0.05	\$0.00	\$0.00	\$44.22	\$54.36
5th 6 months	69.00	\$21.36	\$7.85	\$10.73	\$0.56	\$0.00	\$4.76	\$0.05	\$0.00	\$0.00	\$45.31	\$55.98
6th 6 months	72.50	\$22.44	\$7.85	\$10.73	\$0.56	\$0.00	\$4.76	\$0.05	\$0.00	\$0.00	\$46.39	\$57.61
7th 6 months	76.00	\$23.52	\$7.85	\$10.73	\$0.56	\$0.00	\$4.76	\$0.05	\$0.00	\$0.00	\$47.47	\$59.23
8th 6 months	80.00	\$24.76	\$7.85	\$10.73	\$0.56	\$0.00	\$4.76	\$0.05	\$0.00	\$0.00	\$48.71	\$61.09

Special Calculation Note : Other \$0.05 is for UBC Millwright Promotional Fund

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHLAND, ASHTABULA, CUYAHOGA, ERIE, GEAUGA, HURON, LAKE, LORAIN, MEDINA, PORTAGE, RICHLAND, SUMMIT

Special Jurisdictional Note :

Details :

The term "Millwright and Machine Erectors" jurisdiction shall mean the unloading, hoisting, rigging, skidding, moving, dismantling, aligning, erecting, assembling, repairing, maintenance and adjusting of all structures, processing areas either under cover, under ground or elsewhere, required to process material, handle, manufacture or service, be it powered or receiving power manually, by steam, gas, electricity, gasoline, diesel, nuclear, solar, water, air or chemically, and in industries such as and including, which are identified for the purpose of description, but not limited to, the following: woodworking plants; canning industries; steel mills; coffee roasting plants; paper and pulp; cellophane; stone crushing; gravel and sand washing and handling; refineries; grain storage and handling; asphalt plants; sewage disposal; water plants; laundries; bakeries; mixing plants; can, bottle and bag packing plants; textile mills; paint mills; breweries; milk processing plants; power plants; aluminum processing or manufacturing plants; and amusement and entertainment fields. The installation of mechanical equipment in atomic energy plants; installation of reactors in power plants; installation of control rods and equipment in reactors; and installation of mechanical equipment in rocket missile bases, launchers, launching gantry, floating bases, hydraulic escape doors and any and all component parts thereto, either assembled, semi-assembled or disassembled. The installation of, but not limited to, the following: setting-up of all engines, motors, generators, air compressors, fans, pumps, scales, hoppers, conveyors of all types, sizes and their supports; escalators; man lifts; moving sidewalks; hoists; dumb waiters; all types of feeding machinery; amusement devices; mechanical pin setters and spotters in bowling alleys; refrigeration equipment; and the installation of all types of equipment necessary and required to process material either in the manufacturing or servicing. The handling and installation of pulleys, gears, sheaves, fly wheels, air and vacuum drives, worm drives and gear drives directly or indirectly coupled to motors, belts, chains, screws, legs, boots, guards, booth tanks, all bin valves, turn heads and indicators, shafting, bearings, cable sprockets, cutting all key seats in new and old work, troughs, chippers, filters, calendars, rolls, winders, rewinders, slitters, cutters, wrapping machines, blowers, forging machines, rams, hydraulic or otherwise, planing, extruder, ball, dust collectors, equipment in meat packing plants, splicing of ropes and cables. The laying-out, fabrication and installation of protection equipment including machinery guards, making and setting of templates for machinery, fabrication of bolts, nuts, pans, drilling of holes for any equipment which the Millwrights install regardless of materials; all welding and burning regardless of type, fabrication of all lines, hose or tubing used in lubricating machinery installed by Millwrights; grinding, cleaning, servicing and any machine work necessary for any part of any equipment installed by the Millwrights; and the break-in and trial run of any equipment or machinery installed by the Millwrights. It is agreed the Millwrights shall use the layout tools and optic equipment necessary to perform their work.

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter Pile Driver NE Zone P1

Change # : LCN01-2021fbLocNEZoneP1

Craft : Carpenter Effective Date : 05/21/2021 Last Posted : 05/21/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter Pile Driver	\$31.24		\$7.84	\$10.73	\$0.56	\$0.00	\$4.53	\$0.00	\$0.00	\$0.00	\$54.90	\$70.52
Diver	\$46.86		\$7.84	\$10.73	\$0.56	\$0.00	\$4.53	\$0.00	\$0.00	\$0.00	\$70.52	\$93.95
Certified Welder	\$32.29		\$7.84	\$10.73	\$0.56	\$0.00	\$4.53	\$0.00	\$0.00	\$0.00	\$55.95	\$72.10
Apprentice	Percent											
1st 6 months	60.00	\$18.74	\$7.84	\$10.73	\$0.56	\$0.00	\$4.53	\$0.00	\$0.00	\$0.00	\$42.40	\$51.78
2nd 6 months	60.00	\$18.74	\$7.84	\$10.73	\$0.56	\$0.00	\$4.53	\$0.00	\$0.00	\$0.00	\$42.40	\$51.78
3rd 6 months	62.00	\$19.37	\$7.84	\$10.73	\$0.56	\$0.00	\$4.53	\$0.00	\$0.00	\$0.00	\$43.03	\$52.71
4th 6 months	65.50	\$20.46	\$7.84	\$10.73	\$0.56	\$0.00	\$4.53	\$0.00	\$0.00	\$0.00	\$44.12	\$54.35
5th 6 months	69.00	\$21.56	\$7.84	\$10.73	\$0.56	\$0.00	\$4.53	\$0.00	\$0.00	\$0.00	\$45.22	\$55.99
6th 6 months	72.50	\$22.65	\$7.84	\$10.73	\$0.56	\$0.00	\$4.53	\$0.00	\$0.00	\$0.00	\$46.31	\$57.63
7th 6 months	76.00	\$23.74	\$7.84	\$10.73	\$0.56	\$0.00	\$4.53	\$0.00	\$0.00	\$0.00	\$47.40	\$59.27
8th 6 months	80.00	\$24.99	\$7.84	\$10.73	\$0.56	\$0.00	\$4.53	\$0.00	\$0.00	\$0.00	\$48.65	\$61.15

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

2 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHLAND, ASHTABULA, CUYAHOGA, ERIE, GEAUGA, HURON, LAKE, LORAIN, MEDINA, PORTAGE, RICHLAND, SUMMIT

Special Jurisdictional Note :

Details :

Pile Drivers duties shall include but not limited to: Pile driving, milling, fashioning, joining assembling, erecting, fastening, or dismantling of all material of wood, plastic, metal, fiber, cork and composition and all other substitute materials: pile driving, cutting, fitting and placing of lagging, and the handling, cleaning, erecting, installing and dismantling of machinery, equipment and erecting pre-engineered metal buildings. Pile Drivers work but not limited to: unloading, assembling, erection, repairs, operation, signaling, dismantling and reloading all equipment that is used for pile driving including pile butts is defined as sheeting or scrap piling. Underwater work that may be required in connection with the installation of piling. The driver and his tender work as a team and shall arrive at their own financial arrangements with the contractor. Any configuration of wood, steel, concrete or composite that is jettied, driven or vibrated onto the ground by conventional pile driving equipment for the purpose of supporting a future load that may be permanent or temporary. The construction of all wharves and docks, including the fabrication and installation of floating docks. Driving bracing, plumbing, cutting off and capping of all piling whether wood, metal, pipe piling or composite, loading, unloading, erecting, framing, dismantling, moving and handling of pile driving equipment piling used in the construction and repair of all wharves, docks, piers, trestles, caissons, cofferdams and erection of all sea walls and breakwaters. All underwater and marine work on bulkheads, wharves, docks, shipyards, caissons, piers, bridges, pipeline, work, viaducts, marine cable and trestles, as well as salvage and reclamation work where divers are employed. Rate shall include carpenters, acoustic and ceiling installers, drywall installers, pile drivers and floorlayers.

Prevailing Wage Rate Skilled Crafts

Name of Union: Carpenter NE District Industrial Dock & Door

Change # : LCN01-2014fbCarpNEStatewide

Craft : Carpenter Effective Date : 03/05/2014 Last Posted : 03/05/2014

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Carpenter	\$19.70		\$5.05	\$1.00	\$0.15	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$25.90	\$35.75
Trainee	Percent											
1st Year	60.00	\$11.82	\$5.05	\$1.00	\$0.15	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$18.02	\$23.93
2nd Year	80.20	\$15.80	\$5.05	\$1.00	\$0.15	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$22.00	\$29.90

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

1 Journeymen to 1 Trainee

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note : Industrial Dock and Door is the installation of overhead doors, roll up doors and dock leveling equipment

Details :

10/27/10 New Contract jc

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason Bricklayer Local 97 HevHwy A

Change # : LCN01-2021fbHvyHwy

Craft : Bricklayer Effective Date : 06/01/2021 Last Posted : 05/26/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Cement Mason Bricklayer Sewer Water Works A	\$30.40		\$9.50	\$7.57	\$0.48	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$47.95	\$63.15
Apprentice	Percent											
1st year	50.00	\$15.20	\$9.50	\$7.57	\$0.48	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$32.75	\$40.35
2nd year	70.00	\$21.28	\$9.50	\$7.57	\$0.48	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$38.83	\$49.47
3rd year	90.00	\$27.36	\$9.50	\$7.57	\$0.48	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.91	\$58.59

Special Calculation Note : NOT FOR BUILDING CONSTRUCTION.

Ratio :

- 3 Journeymen to 1 Apprentice
- 6 Journeymen to 2 Apprentice
- 9 Journeymen to 3 Apprentice
- 12 Journeymen to 4 Apprentice
- 15 Journeymen to 5 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

- (A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.
- (B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason Bricklayer Local 97 HevHwy B

Change # : LCN01-2021fbHvyHwy

Craft : Bricklayer Effective Date : 06/01/2021 Last Posted : 05/26/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Cement Mason Bricklayer Power Plants Tunnels Amusement Parks B	\$31.39		\$9.50	\$7.57	\$0.49	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$48.95	\$64.64
Apprentice	Percent											
1st year	50.00	\$15.70	\$9.50	\$7.57	\$0.49	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.26	\$41.10
2nd year	70.00	\$21.97	\$9.50	\$7.57	\$0.49	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39.53	\$50.52
3rd year	90.00	\$28.25	\$9.50	\$7.57	\$0.49	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$45.81	\$59.94

Special Calculation Note : NOT FOR BUILDING CONSTRUCTION.

Ratio :

- 3 Journeymen to 1 Apprentice
- 6 Journeymen to 2 Apprentice
- 9 Journeymen to 2 Apprentice
- 12 Journeymen to 4 Apprentice
- 15 Journeymen to 5 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

- ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

- (A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site Heavy Construction, Airport Construction Or Railroad Construction Work.
- (B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason Statewide HevHwy Exhibit A District II

Change # : OCN01-2021fbCementHevHwy

Craft : Cement Mason Effective Date : 05/01/2021 Last Posted : 04/23/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Cement Mason	\$31.15		\$8.25	\$7.35	\$0.65	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$49.72	\$65.29
Apprentice												
	Percent											
1st Year	70.00	\$21.80	\$8.25	\$7.35	\$0.65	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$40.37	\$51.28
2nd Year	80.00	\$24.92	\$8.25	\$7.35	\$0.65	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$43.49	\$55.95
3rd Year	90.00	\$28.03	\$8.25	\$7.35	\$0.65	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$46.60	\$60.62

Special Calculation Note : Other \$0.07 is for International Training Fund

Ratio :

1 Journeymen to 1 Apprentice
2 to 1 thereafter

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, BROWN, BUTLER, CARROLL, CLERMONT, COLUMBIANA, DEFIANCE, ERIE, HAMILTON, HARDIN, HIGHLAND, HOLMES, HURON, LOGAN, LORAIN, MAHONING, MEDINA, MERCER, OTTAWA, PAULDING, PORTAGE, SANDUSKY, SENECA, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, VAN WERT, WARREN, WAYNE, WILLIAMS

Special Jurisdictional Note : (A) Highway Construction, Sewer, Waterworks And Utility Construction, Industrial & Building Site, Heavy Construction, Airport Construction Or Railroad Construction Work.

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Cement Mason Statewide HevHwy Exhibit B District II

Change # : OCN01-2021fbCementHevHwy

Craft : Cement Mason Effective Date : 05/01/2021 Last Posted : 04/23/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Cement Mason	\$32.02		\$8.25	\$7.35	\$0.65	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$50.59	\$66.60
Apprentice	Percent											
1st Year	70.00	\$22.41	\$8.25	\$7.35	\$0.65	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$40.98	\$52.19
2nd Year	80.00	\$25.62	\$8.25	\$7.35	\$0.65	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$44.19	\$56.99
3rd Year	90.00	\$28.82	\$8.25	\$7.35	\$0.65	\$0.00	\$2.25	\$0.07	\$0.00	\$0.00	\$47.39	\$61.80

Special Calculation Note : Other \$0.07 is for International Training Fund.

Ratio :

1 Journeymen to 1 Apprentice
2 to 1 thereafter

Jurisdiction (* denotes special jurisdictional note) :

ALLEN, AUGLAIZE, BROWN, BUTLER, CARROLL, CLERMONT, COLUMBIANA, DEFIANCE, ERIE, HAMILTON, HARDIN, HIGHLAND, HOLMES, HURON, LOGAN, LORAIN, MAHONING, MEDINA, MERCER, OTTAWA, PAULDING, PORTAGE, SANDUSKY, SENECA, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, VAN WERT, WARREN, WAYNE, WILLIAMS

Special Jurisdictional Note : (B) Power Plant, Tunnels, Amusement Park, Athletic Stadium Site Work ,Pollution Control,Sewer Plant, Waste Plant, & Water Treatment Facilities, Construction.

Details :

Prevailing Wage Rate

Skilled Crafts

Name of Union: Cement Mason & Plasterer Local 109

Change # : LCN01-2020fbLoc109

Craft : Cement Effective Date : 07/09/2020 Last Posted : 07/09/2020

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Cement Mason	\$30.04		\$8.89	\$7.15	\$0.40	\$0.00	\$4.25	\$0.06	\$0.00	\$0.00	\$50.79	\$65.81
Plasterer	\$29.33		\$8.39	\$7.15	\$0.40	\$0.00	\$4.00	\$0.06	\$0.00	\$0.00	\$49.33	\$64.00
Apprentice Cement Mason	Percent											
1st year	70.52	\$21.18	\$8.89	\$7.15	\$0.40	\$0.00	\$4.25	\$0.06	\$0.00	\$0.00	\$41.93	\$52.53
2nd year	80.36	\$24.14	\$8.89	\$7.15	\$0.40	\$0.00	\$4.25	\$0.06	\$0.00	\$0.00	\$44.89	\$56.96
3rd year	90.18	\$27.09	\$8.89	\$7.15	\$0.40	\$0.00	\$4.25	\$0.06	\$0.00	\$0.00	\$47.84	\$61.39
Plasterer Apprentice												
1st year	68.89	\$20.69	\$8.39	\$7.15	\$0.40	\$0.00	\$4.00	\$0.06	\$0.00	\$0.00	\$40.69	\$51.04
2nd year	78.45	\$23.57	\$8.39	\$7.15	\$0.40	\$0.00	\$4.00	\$0.06	\$0.00	\$0.00	\$43.57	\$55.35
3rd year	88.05	\$26.45	\$8.39	\$7.15	\$0.40	\$0.00	\$4.00	\$0.06	\$0.00	\$0.00	\$46.45	\$59.68

Special Calculation Note : Other is for International Training.

Ratio :

Journeyman to 1 Apprentice
 Journeyman to 2 Apprentice

Jurisdiction (* denotes special jurisdictional note)

CARROLL, HOLMES, MEDINA, PORTAGE, STARK,
 SUMMIT, TUSCARAWAS, WAYNE

Special Jurisdictional Note :

Details :

Finishers when applying colorshake shall be paid an additional \$2.00 per DAY.
 Working Scaffolds up to 50 feet shall be paid \$0.25 above the Journeyman rate.
 Working Scaffolds over 50 feet shall be paid \$0.35 above the Journeyman rate.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 306 Inside

Change # : LCN01-2021fbLoc306in

Craft : Electrical Effective Date : 07/22/2021 Last Posted : 07/22/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrician	\$37.09		\$10.81	\$1.11	\$0.83	\$0.00	\$9.00	\$0.00	\$0.00	\$0.00	\$58.84	\$77.39
Electrician w/10 hrs JATC training in the past 12 months	\$37.59		\$10.81	\$1.13	\$0.85	\$0.00	\$9.00	\$0.00	\$0.00	\$0.00	\$59.38	\$78.17
Cable Splicer	\$40.80		\$10.81	\$1.22	\$0.92	\$0.00	\$9.00	\$0.00	\$0.00	\$0.00	\$62.75	\$83.15
Cable Splicer w/10 hrs JATC training in the past 12 months	\$41.35		\$10.81	\$1.24	\$0.93	\$0.00	\$9.00	\$0.00	\$0.00	\$0.00	\$63.33	\$84.01
Apprentice												
	Percent											
1st period	40.00	\$14.84	\$10.81	\$0.45	\$0.33	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$26.43	\$33.84
2nd period	45.00	\$16.69	\$10.81	\$0.50	\$0.38	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$28.38	\$36.73
3rd period	50.00	\$18.55	\$10.81	\$0.56	\$0.42	\$0.00	\$4.50	\$0.00	\$0.00	\$0.00	\$34.84	\$44.11
4th period	60.00	\$22.25	\$10.81	\$0.67	\$0.50	\$0.00	\$5.40	\$0.00	\$0.00	\$0.00	\$39.63	\$50.76
5th period	70.00	\$25.96	\$10.81	\$0.78	\$0.58	\$0.00	\$6.30	\$0.00	\$0.00	\$0.00	\$44.43	\$57.41
6th period	80.00	\$29.67	\$10.81	\$0.89	\$0.67	\$0.00	\$7.20	\$0.00	\$0.00	\$0.00	\$49.24	\$64.08

Special Calculation Note :

Ratio :

- 1 - 3 Journeymen to 2 Apprentice
- 4 - 6 Journeymen to 4 Apprentice
- 7 - 9 Journeymen to 6 Apprentice
- 10-12 Journeymen to 8 Apprentice
- 13-15 Journeymen to 10 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

MEDINA*, PORTAGE*, SUMMIT, WAYNE*

First person assigned to a job site shall be a Journeyman Wireman

Special Jurisdictional Note :

Medina County the following townships are included: (Brunswick, Chatham, Granger, Guilford, Harrisville, Hinckley, Homer, Lafayette, Medina, Montville, Sharon, Spencer, Wadsworth, Westfield and York).
 Portage County the following townships are included: (Atwater, Aurora, Brimfield, Deerfield, Franklin, Mantua, Randolph, Ravenna, Rootstown, Shalersville, Streetsboro and Suffield).
 Wayne County the following townships are included: (Baughman, Cannaan, Chester, Chippewa, Congress, Green, Milton, and Wayne).

Details :

This rate covers both Commercial and Industrial. High work a premium rate of shall be paid at (3%) per hour for all work performed over (30') free-fall and for work in a mine. Line work is excluded.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 306 Inside Lt Commercial Northern

Change # : LCN02-2021fbLoc306in

Craft : Electrical Effective Date : 07/22/2021 Last Posted : 07/22/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrician	\$37.09		\$9.90	\$1.11	\$0.83	\$0.00	\$9.00	\$0.91	\$0.00	\$0.00	\$58.84	\$77.39
Electrician w/10 hrs JATC training in the past 12 months	\$37.59		\$9.90	\$1.13	\$0.85	\$0.00	\$9.00	\$0.91	\$0.00	\$0.00	\$59.38	\$78.17
Cable Splicer	\$40.80		\$9.90	\$1.22	\$0.92	\$0.00	\$9.00	\$0.91	\$0.00	\$0.00	\$62.75	\$83.15
Cable Splicer w/10 hrs JATC training in the past 12 months	\$41.35		\$9.90	\$1.24	\$0.93	\$0.00	\$9.00	\$0.91	\$0.00	\$0.00	\$63.33	\$84.01
CE-3 12,001-14,000 Hrs	\$26.31		\$6.35	\$0.79	\$0.84	\$0.00	\$0.77	\$0.10	\$0.00	\$0.00	\$35.16	\$48.32
CE-2 10,001-12,000 Hrs	\$20.67		\$6.35	\$0.62	\$0.84	\$0.00	\$0.60	\$0.10	\$0.00	\$0.00	\$29.18	\$39.52
CE-1 8,001-10,000 Hrs	\$18.79		\$6.35	\$0.56	\$0.84	\$0.00	\$0.55	\$0.10	\$0.00	\$0.00	\$27.19	\$36.59
CW-4 6,001-8,000 Hrs	\$16.91		\$6.35	\$0.51	\$0.84	\$0.00	\$0.49	\$0.10	\$0.00	\$0.00	\$25.20	\$33.66
CW-3 4,001-6,000 Hrs	\$15.03		\$6.35	\$0.45	\$0.84	\$0.00	\$0.44	\$0.10	\$0.00	\$0.00	\$23.21	\$30.72
CW-2 2,001-4,000 Hrs	\$14.09		\$6.35	\$0.42	\$0.84	\$0.00	\$0.41	\$0.10	\$0.00	\$0.00	\$22.21	\$29.26
CW-1 0-2,000 Hrs	\$13.15		\$6.35	\$0.39	\$0.84	\$0.00	\$0.38	\$0.10	\$0.00	\$0.00	\$21.21	\$27.79
Apprentice	Percent											
1st period	40.00	\$14.84	\$9.90	\$0.45	\$0.33	\$0.00	\$0.00	\$0.91	\$0.00	\$0.00	\$26.43	\$33.84
2nd period	45.00	\$16.69	\$9.90	\$0.50	\$0.38	\$0.00	\$0.00	\$0.91	\$0.00	\$0.00	\$28.38	\$36.73
3rd period	50.00	\$18.55	\$9.90	\$0.56	\$0.42	\$0.00	\$4.50	\$0.91	\$0.00	\$0.00	\$34.83	\$44.11
4th period	60.00	\$22.25	\$9.90	\$0.67	\$0.50	\$0.00	\$5.40	\$0.91	\$0.00	\$0.00	\$39.63	\$50.76
5th period	70.00	\$25.96	\$9.90	\$0.78	\$0.58	\$0.00	\$6.30	\$0.91	\$0.00	\$0.00	\$44.43	\$57.41
6th period	80.00	\$29.67	\$9.90	\$0.89	\$0.67	\$0.00	\$7.20	\$0.91	\$0.00	\$0.00	\$49.24	\$64.08

Special Calculation Note : Other is for Retirement Health and Welfare and Administration Fund for CE/CW.

Ratio :

Jurisdiction (* denotes special jurisdictional note) :

Each job site

MEDINA*, PORTAGE*, SUMMIT, WAYNE*

2 Apprentices to 3 Journeymen or fraction thereof:

1 - 3 Journeymen to 2 Apprentice

4 - 6 Journeymen to 4 Apprentice

7 - 9 Journeymen to 6 Apprentice

10-12 Journeymen to 8 Apprentice

13-15 Journeymen to 10 Apprentice

First person assigned to a job site shall be a Journeyman Wireman

Construction Electrician and Construction Wireman Ratio

There shall be a minimum ratio of one inside Journeyman Wireman to every (4) employees of different classifications per jobsite. An Inside Journeyman Wireman is required on the project as the fifth (5th) worker or when apprentices are used.

Special Jurisdictional Note :

Medina County the following townships are included: (Brunswick, Chatham, Granger, Guilford, Harrisville, Hinckley, Homer, Lafayette, Medina, Montville, Sharon, Spencer, Wadsworth, Westfield and York).

Portage County the following townships are included: (Atwater, Aurora, Brimfield, Deerfield, Franklin, Mantua, Randolph, Ravenna, Rootstown, Shalersville, Streetsboro and Suffield).

Wayne County the following townships are included: (Baughman, Cannaan, Chester, Chippewa, Congress, Green, Milton, and Wayne).

The scope of work for the light commercial agreement shall apply to the following small medical clinics, stand-alone doctor and dentist offices with up to 600 amp service (not attached to a hospital), gas stations/convenience stores, fast food restaurants and franchised chain restaurants including independent bars and taverns, places of worship, funeral homes, nursing homes, assisted living facilities and day-care facilities under 15,000 sq ft, small office, retail/wholesale facilities under 15,000 sq ft with less than 10 units attached, storage units, car washes, express hotels and motels (4 stories or less) without conference or restaurants facilities, residential units (subject to Davis Bacon Rates) small stand-alone manufacturing facilities when free standing and not part of a larger facility (less than 15,000 sq ft) solar projects (500 panels or less) unless other wise covered under this agreement, lighting retrofits (when not associated with remodels involving branch re-circuiting) Lighting retrofits shall be defined as the changing of lamps and ballasts in existing light fixtures and shall also include the one for one replacement of existing fixtures.

Details :

This rate covers both Commercial and Industrial. High work a premium rate of shall be paid at (3%) per hour for all work performed over (30') free-fall and for work in a mine. Line work is excluded.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 306 Lightning Rod

Change # : LCN01-2021fbLoc306VDV

Craft : Voice Data Video Effective Date : 07/22/2021 Last Posted : 07/22/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrical Lightning Protection Installer	\$31.15		\$7.75	\$0.93	\$0.00	\$2.90	\$1.87	\$0.00	\$0.00	\$0.00	\$44.60	\$60.17
Apprentice	Percent											
1st Day- 6 months	50.00	\$15.58	\$7.75	\$0.47	\$0.00	\$0.42	\$0.93	\$0.00	\$0.00	\$0.00	\$25.14	\$32.93
2nd 6 months	55.00	\$17.13	\$7.75	\$0.51	\$0.00	\$0.46	\$1.03	\$0.00	\$0.00	\$0.00	\$26.88	\$35.45
3rd 6 months	60.00	\$18.69	\$7.75	\$0.56	\$0.00	\$0.91	\$1.12	\$0.00	\$0.00	\$0.00	\$29.03	\$38.37
4th 6 months	65.00	\$20.25	\$7.75	\$0.61	\$0.00	\$0.99	\$1.21	\$0.00	\$0.00	\$0.00	\$30.81	\$40.93
3rd Year	70.00	\$21.80	\$7.75	\$0.65	\$0.00	\$1.55	\$1.31	\$0.00	\$0.00	\$0.00	\$33.07	\$43.97
4th Year	80.00	\$24.92	\$7.75	\$0.75	\$0.00	\$1.77	\$1.49	\$0.00	\$0.00	\$0.00	\$36.68	\$49.14
5th Year	90.00	\$28.03	\$7.75	\$0.84	\$0.00	\$1.99	\$1.68	\$0.00	\$0.00	\$0.00	\$40.30	\$54.31

Special Calculation Note : Other is Holiday

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

MEDINA*, PORTAGE*, SUMMIT, WAYNE*

Special Jurisdictional Note : In Medina County the following townships are included: (Brunswick, Chatham, Granger, Guilford, Harrisville, Hinckley, Homer, Lafayette, Medina, Montville, Sharon, Spencer, Wadsworth, Westfield and York). In Portage County the following townships are included: (Atwater, Aurora, Brimfield, Deerfield, Franklin, Mantua, Randolph, Ravenna, Rootstown, Shalersville, Streetsboro and Suffield). In Wayne County the following townships are included: (Baughman, Cannaan, Chester, Chippewa, Congress, Green, Milton, and Wayne).

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 306 Voice Data Video

Change # : LCN01-2021fbLoc306VDV

Craft : Voice Data Video Effective Date : 01/27/2021 Last Posted : 01/27/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrical Installer Technician	\$25.25		\$8.62	\$0.79	\$0.40	\$1.14	\$2.75	\$0.51	\$0.00	\$0.00	\$39.46	\$52.08
Cable Puller	\$14.39		\$8.62	\$0.45	\$0.23	\$0.65	\$1.57	\$0.51	\$0.00	\$0.00	\$26.42	\$33.61
Journeyman/Tech with 10 Hrs of Journeyman Training	\$25.75		\$8.62	\$0.81	\$0.40	\$1.16	\$2.75	\$0.51	\$0.00	\$0.00	\$40.00	\$52.87
Apprentice	Percent											
1st Period	60.00	\$15.15	\$8.62	\$0.45	\$0.23	\$0.68	\$1.65	\$0.51	\$0.00	\$0.00	\$27.29	\$34.86
2nd Period	62.92	\$15.89	\$8.62	\$0.48	\$0.24	\$0.74	\$1.79	\$0.51	\$0.00	\$0.00	\$28.27	\$36.21
3rd Period	72.65	\$18.34	\$8.62	\$0.55	\$0.28	\$0.85	\$2.06	\$0.51	\$0.00	\$0.00	\$31.21	\$40.39
4th Period	77.48	\$19.56	\$8.62	\$0.59	\$0.29	\$0.97	\$2.34	\$0.51	\$0.00	\$0.00	\$32.88	\$42.67

Special Calculation Note : Other is Retiree Health Fund.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

MEDINA*, PORTAGE*, SUMMIT, WAYNE*

Special Jurisdictional Note : In Medina County the following townships are included: Brunswick, Chatham, Granger, Guilford, Harrisville, Hinckley, Homer, Lafayette, Medina, Montville, Sharon, Spencer, Wadsworth, Westfield and York.

In Portage County the following townships are included: Atwater, Aurora, Brimfield, Deerfield, Franklin, Mantua, Randolph, Ravenna, Rootstown, Shalersville, Streetsboro and Suffield.

In Wayne County the following townships are included: Baughman, Cannaan, Chester, Chippewa, Congress, Green, Milton, and Wayne.

Details :

The following work is EXCLUDED from the Teledata Technician scope of work:

Installation of computer systems in industrial applications such as assembly lines, robotics, computer controller manufacturing systems.

Installation of conduit and/or raceways shall be installed by Inside Wireman . On sites where there is no Inside Wireman employed, the Teledata Technician may install raceway or conduit not greater than 10 foot.

Fire Alarm work is excluded on all new construction sites or wherever the fire alarm system is installed in conduit.

All HVAC control work.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 High Tension Pipe Type Cable

Change # : LCN01-2021fbLoc7

Craft : Lineman Effective Date : 03/16/2021 Last Posted : 03/16/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrical Lineman	\$45.61		\$6.75	\$1.37	\$0.46	\$0.00	\$10.95	\$0.60	\$0.00	\$0.00	\$65.74	\$88.54
Certified Lineman Welder	\$45.61		\$6.75	\$1.37	\$0.46	\$0.00	\$10.95	\$0.60	\$0.00	\$0.00	\$65.74	\$88.54
Certified Cable Splicer	\$45.61		\$6.75	\$1.37	\$0.46	\$0.00	\$10.95	\$0.60	\$0.00	\$0.00	\$65.74	\$88.54
Operator A	\$40.88		\$6.75	\$1.23	\$0.41	\$0.00	\$9.81	\$0.60	\$0.00	\$0.00	\$59.68	\$80.12
Operator B	\$36.20		\$6.75	\$1.09	\$0.36	\$0.00	\$8.69	\$0.60	\$0.00	\$0.00	\$53.69	\$71.79
Operator C	\$29.12		\$6.75	\$0.87	\$0.29	\$0.00	\$6.99	\$0.60	\$0.00	\$0.00	\$44.62	\$59.18
Groundman 0-12 months Exp	\$22.81		\$6.75	\$0.68	\$0.23	\$0.00	\$5.47	\$0.60	\$0.00	\$0.00	\$36.54	\$47.94
Groundman 0-12 months Exp w/CDL	\$25.09		\$6.75	\$0.75	\$0.25	\$0.00	\$6.02	\$0.60	\$0.00	\$0.00	\$39.46	\$52.01
Groundman 1 yr or more	\$25.09		\$6.75	\$0.75	\$0.25	\$0.00	\$6.02	\$0.60	\$0.00	\$0.00	\$39.46	\$52.01
Groundman 1 yr or more w/CDL	\$29.65		\$6.75	\$0.85	\$0.28	\$0.00	\$6.50	\$0.60	\$0.00	\$0.00	\$44.63	\$59.46
Equipment Mechanic A	\$36.20		\$6.75	\$1.09	\$0.36	\$0.00	\$8.69	\$0.60	\$0.00	\$0.00	\$53.69	\$71.79
Equipment Mechanic B	\$32.66		\$6.75	\$0.98	\$0.33	\$0.00	\$7.84	\$0.60	\$0.00	\$0.00	\$49.16	\$65.49
Equipment Mechanic C	\$29.12		\$6.75	\$0.87	\$0.29	\$0.00	\$6.99	\$0.60	\$0.00	\$0.00	\$44.62	\$59.18
X-Ray Technician	\$45.61		\$6.75	\$1.37	\$0.46	\$0.00	\$10.95	\$0.60	\$0.00	\$0.00	\$65.74	\$88.54
Apprentice	Percent											
1st 1000	60.00	\$27.37	\$6.75	\$0.82	\$0.27	\$0.00	\$6.57	\$0.60	\$0.00	\$0.00	\$42.38	\$56.06

hrs													
2nd 1000 hrs	65.00	\$29.65	\$6.75	\$0.89	\$0.30	\$0.00	\$7.12	\$0.60	\$0.00	\$0.00	\$45.31	\$60.13	
3rd 1000 hrs	70.00	\$31.93	\$6.75	\$0.96	\$0.32	\$0.00	\$7.66	\$0.60	\$0.00	\$0.00	\$48.22	\$64.18	
4th 1000 hrs	75.00	\$34.21	\$6.75	\$1.03	\$0.34	\$0.00	\$8.21	\$0.60	\$0.00	\$0.00	\$51.14	\$68.24	
5th 1000 hrs	80.00	\$36.49	\$6.75	\$1.09	\$0.36	\$0.00	\$8.76	\$0.60	\$0.00	\$0.00	\$54.05	\$72.29	
6th 1000 hrs	85.00	\$38.77	\$6.75	\$1.16	\$0.39	\$0.00	\$9.30	\$0.60	\$0.00	\$0.00	\$56.97	\$76.35	
7th 1000 hrs	90.00	\$41.05	\$6.75	\$1.23	\$0.41	\$0.00	\$9.85	\$0.60	\$0.00	\$0.00	\$59.89	\$80.41	

Special Calculation Note : Other is Health Retirement Account

Operator "A"

John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater then 25 tons and less than 45 tons).

Operator "B"

Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger-wheeled or tracked, all Tension wire Stringing equipment.

Operator "C"

Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

*All Operators of cranes 45 ton or larger shall be paid the journeyman rate of pay. \$0.30 is for Health Retirement Account.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HARRISON, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, RICHLAND, ROSS, SCIOTO, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 Outside Utility Power

Change # : LCN01-2021fbLoc7

Craft : Lineman Effective Date : 03/16/2021 Last Posted : 03/16/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Electrical Lineman	\$43.22		\$6.75	\$1.30	\$0.43	\$0.00	\$10.37	\$0.60	\$0.00	\$0.00	\$62.67	\$84.28
Substation Technician	\$43.22		\$6.75	\$1.30	\$0.43	\$0.00	\$10.37	\$0.60	\$0.00	\$0.00	\$62.67	\$84.28
Cable Splicer	\$45.26		\$6.75	\$1.36	\$0.45	\$0.00	\$10.86	\$0.60	\$0.00	\$0.00	\$65.28	\$87.91
Operator A	\$38.75		\$6.75	\$1.16	\$0.39	\$0.00	\$9.30	\$0.60	\$0.00	\$0.00	\$56.95	\$76.32
Operator B	\$34.27		\$6.75	\$1.03	\$0.34	\$0.00	\$8.22	\$0.60	\$0.00	\$0.00	\$51.21	\$68.34
Operator C	\$27.54		\$6.75	\$0.83	\$0.28	\$0.00	\$6.61	\$0.60	\$0.00	\$0.00	\$42.61	\$56.38
Groundman 0-12 months Exp	\$21.61		\$6.75	\$0.65	\$0.22	\$0.00	\$5.19	\$0.60	\$0.00	\$0.00	\$35.02	\$45.82
Groundman 0-12 months Exp w/CDL	\$23.77		\$6.75	\$0.71	\$0.24	\$0.00	\$5.70	\$0.60	\$0.00	\$0.00	\$37.77	\$49.66
Groundman 1 yr or more	\$23.77		\$6.75	\$0.71	\$0.24	\$0.00	\$5.70	\$0.60	\$0.00	\$0.00	\$37.77	\$49.66
Groundman 1 yr or more w/CDL	\$28.09		\$6.75	\$0.84	\$0.28	\$0.00	\$6.74	\$0.60	\$0.00	\$0.00	\$43.30	\$57.35
Equipment Mechanic A	\$34.27		\$6.75	\$1.03	\$0.34	\$0.00	\$8.22	\$0.60	\$0.00	\$0.00	\$51.21	\$68.34
Equipment Mechanic B	\$30.91		\$6.75	\$0.93	\$0.31	\$0.00	\$7.42	\$0.60	\$0.00	\$0.00	\$46.92	\$62.38
Equipment Mechanic C	\$27.54		\$6.75	\$0.83	\$0.28	\$0.00	\$6.61	\$0.60	\$0.00	\$0.00	\$42.61	\$56.38
Line Truck w/uuger	\$30.44		\$6.75	\$0.91	\$0.30	\$0.00	\$7.31	\$0.60	\$0.00	\$0.00	\$46.31	\$61.53
Apprentice	Percent											
1st 1000	60.00	\$25.93	\$6.75	\$0.78	\$0.26	\$0.00	\$6.22	\$0.60	\$0.00	\$0.00	\$40.54	\$53.51

hrs												
2nd 1000 hrs	65.00	\$28.09	\$6.75	\$0.84	\$0.28	\$0.00	\$6.74	\$0.60	\$0.00	\$0.00	\$43.30	\$57.35
3rd 1000 hrs	70.00	\$30.25	\$6.75	\$0.91	\$0.30	\$0.00	\$7.26	\$0.60	\$0.00	\$0.00	\$46.07	\$61.20
4th 1000 hrs	75.00	\$32.42	\$6.75	\$0.97	\$0.32	\$0.00	\$7.78	\$0.60	\$0.00	\$0.00	\$48.84	\$65.04
5th 1000 hrs	80.00	\$34.58	\$6.75	\$1.04	\$0.35	\$0.00	\$8.30	\$0.60	\$0.00	\$0.00	\$51.62	\$68.90
6th 1000 hrs	85.00	\$36.74	\$6.75	\$1.10	\$0.37	\$0.00	\$8.82	\$0.60	\$0.00	\$0.00	\$54.38	\$72.75
7th 1000 hrs	90.00	\$38.90	\$6.75	\$1.17	\$0.39	\$0.00	\$9.34	\$0.60	\$0.00	\$0.00	\$57.15	\$76.60

Special Calculation Note : Other is Health Retirement Account

Operator "A"

John Henry Rock Drill, D-6 (or equivalent) and above, Trackhoe Digger, (320 Track excavator), Cranes (greater than 25 tons and less than 45 tons).

Operator "B"

Cranes (greater than 6 tons and up to 25 tons), Backhoes, Road Tractor, Dozer up to D-5, Pressure Digger- wheeled or tracked, all Tension wire Stringing equipment.

Operator "C"

Trench, Backhoe, Riding type vibratory Compactor, Ground Rod Driver, Boom Truck (6 ton & below), Skid Steer Loaders, Material Handler.

Ratio :

(1) Journeyman Lineman to (1) Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GEauga, GREENE, GUERNSEY, HAMILTON, HARRISON, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE, RICHLAND, ROSS, SCIOTO, SHELBY, STARK, SUMMIT, TRUMBULL, TUSCARAWAS, UNION, VINTON, WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note : 0.30 is for Health Retirement Account.

Details :

Heli - Arc Welding will be paid \$.30 above Journeyman rate. Additional compensation of 10% over the Journeyman Lineman and Journeyman Technician for performing work on structures outside of buildings such as water towers, smoke stacks, radio and television towers, more than 75' above the ground.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 Outside (North Central Ohio)

Change # : LCN01-2021fbLoc71CentralOhio

Craft : Lineman Effective Date : 03/16/2021 Last Posted : 03/16/2021

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Electrical Lineman	\$40.31	\$6.75	\$1.21	\$0.40	\$0.00	\$7.66	\$0.06	\$0.00	\$0.00	\$56.39	\$76.54
Traffic Signal & Lighting Journeyman	\$38.77	\$6.75	\$1.16	\$0.39	\$0.00	\$7.37	\$0.06	\$0.00	\$0.00	\$54.50	\$73.89
Equipment Operator	\$35.41	\$6.75	\$1.06	\$0.35	\$0.00	\$6.73	\$0.06	\$0.00	\$0.00	\$50.36	\$68.06
Groundman 0-12 months (W/O CDL)	\$21.47	\$6.75	\$0.64	\$0.21	\$0.00	\$4.08	\$0.06	\$0.00	\$0.00	\$33.21	\$43.95
Groundman 0-12 months (W/CDL) plus	\$23.46	\$6.75	\$0.70	\$0.23	\$0.00	\$4.46	\$0.06	\$0.00	\$0.00	\$35.66	\$47.39
Groundsman greater than 1 Year (W/CDL)	\$25.45	\$6.75	\$0.76	\$0.25	\$0.00	\$4.84	\$0.06	\$0.00	\$0.00	\$38.11	\$50.83
Traffic Signal Apprentices											
1st 1,000 hours	\$23.26	\$6.75	\$0.70	\$0.23	\$0.00	\$4.42	\$0.06	\$0.00	\$0.00	\$35.42	\$47.05
2nd 1,000 hours	\$25.20	\$6.75	\$0.76	\$0.25	\$0.00	\$4.79	\$0.06	\$0.00	\$0.00	\$37.81	\$50.41
3rd 1,000 hours	\$27.14	\$6.75	\$0.81	\$0.27	\$0.00	\$5.16	\$0.06	\$0.00	\$0.00	\$40.19	\$53.76
4th 1,000 hours	\$29.08	\$6.75	\$0.87	\$0.29	\$0.00	\$5.53	\$0.06	\$0.00	\$0.00	\$42.58	\$57.12
5th 1,000 hours	\$31.01	\$6.75	\$0.93	\$0.31	\$0.00	\$5.89	\$0.06	\$0.00	\$0.00	\$44.95	\$60.46
6th 1,000 hours	\$34.89	\$6.75	\$1.05	\$0.35	\$0.00	\$6.63	\$0.06	\$0.00	\$0.00	\$49.73	\$67.17

Apprentice Lineman	Percent												
1st 1,000 Hours	60.00	\$24.19	\$6.75	\$0.73	\$0.24	\$0.00	\$4.60	\$0.06	\$0.00	\$0.00	\$36.57	\$48.66	
2nd 1,000 Hours	65.00	\$26.20	\$6.75	\$0.79	\$0.26	\$0.00	\$4.98	\$0.06	\$0.00	\$0.00	\$39.04	\$52.14	
3rd 1,000 Hours	70.00	\$28.22	\$6.75	\$0.85	\$0.28	\$0.00	\$5.36	\$0.06	\$0.00	\$0.00	\$41.52	\$55.63	
4th 1,000 Hours	75.00	\$30.23	\$6.75	\$0.91	\$0.30	\$0.00	\$5.74	\$0.06	\$0.00	\$0.00	\$43.99	\$59.11	
5th 1,000 Hours	80.00	\$32.25	\$6.75	\$0.97	\$0.32	\$0.00	\$6.13	\$0.06	\$0.00	\$0.00	\$46.48	\$62.60	
6th 1,000 Hours	85.00	\$34.26	\$6.75	\$1.03	\$0.34	\$0.00	\$6.51	\$0.06	\$0.00	\$0.00	\$48.95	\$66.09	
7th 1,000 Hours	90.00	\$36.28	\$6.75	\$1.09	\$0.36	\$0.00	\$6.89	\$0.06	\$0.00	\$0.00	\$51.43	\$69.57	

Special Calculation Note : Other is Safety & Education Fund.

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

BELMONT, CARROLL, HARRISON, HOLMES, JEFFERSON, MEDINA, PORTAGE, STARK, SUMMIT, WAYNE

Special Jurisdictional Note :

Details :

A groundman when directed shall assist a Journeyman in the performance of his/her work on the ground, including the use of hand tools. A Groundman under no circumstances shall climb poles, towers, ladders, or work from an elevated platform or bucket truck.

No more than three (3) Groundmen shall work alone. Jobs with more than three Groundmen shall be supervised by a Groundcrew Foreman, Journeyman Lineman, Journeyman Traffic Signal Technician or an Equipment Operator.

Scope of Work: installation and maintenance of highway and street lighting, highway and street sign lighting, electronic message boards and traffic control systems, camera systems, traffic signal work, substation and line construction including overhead and underground projects for private and industrial work as in accordance with the IBEW Constitution. This Agreement includes the operation of all tools and equipment necessary for the installation of the above projects.

Prevailing Wage Rate Skilled Crafts

Name of Union: Electrical Local 71 Voice Data Video Outside

Change # : LCR01-2017fbLoc71VDV

Craft : Voice Data Video Effective Date : 10/18/2017 Last Posted : 10/18/2017

	BHR	Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
		H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification											
Electrical Installer Technician I	\$23.46	\$5.50	\$0.70	\$0.00	\$0.00	\$0.30	\$0.00	\$0.00	\$0.00	\$29.96	\$41.69
Installer Technician II	\$22.37	\$5.50	\$0.67	\$0.00	\$0.00	\$0.30	\$0.00	\$0.00	\$0.00	\$28.84	\$40.03
Equipment Operator I	\$22.37	\$5.50	\$0.67	\$0.00	\$0.00	\$0.30	\$0.00	\$0.00	\$0.00	\$28.84	\$40.03
Equipment Operator II	\$18.43	\$5.50	\$0.55	\$0.00	\$0.00	\$0.30	\$0.00	\$0.00	\$0.00	\$24.78	\$33.99
Installer /Repair Outside	\$22.37	\$5.50	\$0.67	\$0.00	\$0.00	\$0.30	\$0.00	\$0.00	\$0.00	\$28.84	\$40.03
Ground Driver W/CDL	\$15.83	\$5.50	\$0.47	\$0.00	\$0.00	\$0.30	\$0.00	\$0.00	\$0.00	\$22.10	\$30.01
Groundman	\$13.24	\$5.50	\$0.40	\$0.00	\$0.00	\$0.30	\$0.00	\$0.00	\$0.00	\$19.44	\$26.06
Cable Splicer	\$23.46	\$5.50	\$0.70	\$0.00	\$0.00	\$0.30	\$0.00	\$0.00	\$0.00	\$29.96	\$41.69

Special Calculation Note :

Ratio :

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, CUYAHOGA, DARKE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GEAUGA, GREENE, GUERNSEY, HAMILTON, HARRISON, HIGHLAND, HOCKING, HOLMES, JACKSON, JEFFERSON, KNOX, LAKE, LAWRENCE, LICKING, LOGAN, LORAIN, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY,

PICKAWAY, PIKE, PORTAGE, PREBLE, RICHLAND,
ROSS, SCIOTO, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION, VINTON,
WARREN, WASHINGTON, WAYNE

Special Jurisdictional Note :

Details :

Cable Splicer: Inspect and test lines or cables, analyze results, and evaluate transmission characteristics. Cover conductors with insulation or seal splices with moisture-proof covering. Install, splice, test, and repair cables using tools or mechanical equipment. This will include the splicing of fiber.

Journeyman Technician I: Must know all aspects of telephone and cable work. This is to include aerial, underground, and manhole work. Must know how to climb and run bucket. Must have all the tools required to perform these tasks. Must be able to be responsible for the safety of the crew at all times. Must also have CDL license and have at least 5 years experience.

Installer/Repairman: Perform tasks of repairing, installing, and testing phone and CATV services.

Technician II: Have at least three years of telephone and CATV experience. Must have the knowledge of underground, aerial, and manhole work. Must be able to climb and operate bucket. Must have CDL. Must have all tools needed to perform these tasks.

Equipment Operator I: Able to operate a digger derrick or bucket truck. Have at least 5 years of experience and must have a valid CDL license.

Equipment Operator II: Able to operate a digger derrick or bucket truck. Have at least 3 years of experience and must have a valid CDL license.

Groundman W/CDL: Must have a valid CDL license and be able to perform tasks such as: climbing poles, pulling downguys, making up material, and getting appropriate tools for the job. Must have at least 5 year's experience.

Groundman: Perform tasks such as: climbing poles, pulling downguys, making up material, and getting appropriate tools for the job. Experience 0-5 years.

Prevailing Wage Rate Skilled Crafts

Name of Union: Glazier Local 1162

Change # : LCN01-2021fbLoc1162

Craft : Glazier Effective Date : 05/21/2021 Last Posted : 05/21/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Glazier	\$27.77		\$6.88	\$6.79	\$0.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.79	\$55.68
Apprentice	Percent											
1st 6 months	50.00	\$13.89	\$6.88	\$6.79	\$0.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.91	\$34.85
2nd 6 months	55.00	\$15.27	\$6.88	\$6.79	\$0.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$29.29	\$36.93
3rd 6 months	60.00	\$16.66	\$6.88	\$6.79	\$0.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30.68	\$39.01
4th 6 months	65.00	\$18.05	\$6.88	\$6.79	\$0.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$32.07	\$41.10
5th 6 months	70.00	\$19.44	\$6.88	\$6.79	\$0.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33.46	\$43.18
6th 6 months	75.00	\$20.83	\$6.88	\$6.79	\$0.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$34.85	\$45.26
7th 6 months	80.00	\$22.22	\$6.88	\$6.79	\$0.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$36.24	\$47.34
8th 6 months	90.00	\$24.99	\$6.88	\$6.79	\$0.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39.01	\$51.51

Special Calculation Note :

Ratio :

1 Journeyman to 1 Apprentice
2 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ASHLAND, CARROLL, COSHOCTON, HOLMES, MEDINA, PORTAGE, RICHLAND, STARK, SUMMIT, TUSCARAWAS, WAYNE

Special Jurisdictional Note :

Details :

Add \$1.25 per hour for High Pay which is all work that requires the employee be supported by equipment which hangs or suspends from the roof of a building or structure including all repelling .

Prevailing Wage Rate Skilled Crafts

Name of Union: Ironworker Local 17

Change # : LCN01-2020fbLoc17

Craft : Ironworker Effective Date : 12/24/2020 Last Posted : 12/24/2020

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Ironworker	\$33.83		\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$59.04	\$75.95
Apprentice	Percent											
1st 6 Months	50.00	\$16.91	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$42.13	\$50.58
2nd 6 Months	55.00	\$18.61	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$43.82	\$53.12
2nd Year 1st 6 Months	70.00	\$23.68	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$48.89	\$60.73
2nd Year 2nd 6 Months	75.00	\$25.37	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$50.58	\$63.27
3rd Year 1st 6 Months	80.00	\$27.06	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$52.27	\$65.81
3rd Year 2nd 6 Months	85.00	\$28.76	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$53.97	\$68.34
4th Year 1st 6 Months	90.00	\$30.45	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$55.66	\$70.88
4th Year 2nd 6 Months	95.00	\$32.14	\$7.94	\$10.00	\$0.67	\$2.10	\$4.50	\$0.00	\$0.00	\$0.00	\$57.35	\$73.42

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

4 Journeymen to 1 Apprentice on Structural Work
 3 Journeymen to 1 Apprentice on Rod Work
 2 Journeymen to 1 Apprentice on Finishing, Steel Sash, Stairway and Ornamental Work

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, ERIE, GEAUGA, HURON, LAKE, LORAIN, MEDINA, PORTAGE, SUMMIT

1 Apprentice for every Sheeting Gang
1 Journeymen to 2 Apprentice Roadway Signage and
Sound Barriers
2 Journeymen to 2 Apprentice Unloading and
Erection of Light Gauge Metal Trusses

Special Jurisdictional Note : West Boundary Line :Sandusky, Ohio: Boundary lines between Local 17 & Local 55 are as follows: Columbus Ave north to Sandusky Bay (and/or Lake Erie): Columbus Ave South to present Route 4: Route 4 South to present Route 99: from Route 99 south to old Route 224-all territory to the west of the boundary line to be the jurisdiction of Local 55.All territory to the East of the boundary line to be the jurisdiction of Local 17.Kelly's Island to be within jurisdiction of Local 17.All bridges,tunnels,viaducts,etc, relative to these boundary lines shall be the jurisdiction of Local 17

South Boundary Line:Canton, Ohio: Boundary lines between Local 17 & Local 550 are as follows: All territory north of old Route 224 line to be the jurisdiction of Local 17. All bridges,tunnels,viaducts,signs,etc, relative to old Route 224 line to be within the jurisdiction of Local 17. All territory south of old Route 224 line is to be within the jurisdiction of Local 550, except for everything within the city limits of Barberton which shall be the jurisdiction of Local 17. Reading from West to East: Route old 224 line: Greenwich Ave-Wooster Road or East Ave. Route old 224 line: New 224 line including Cloverleaf: East Waterloo Road: New 224 line-Attwood Road-Old 224. This will be considered to be the old Route 224 line,except for the city limits of Barberton, Ohio which shall be the jurisdiction of Local 17

Southeast Boundary : Between local 17 and Local 207 are as follows: West of a line from Middlefield to Shalersville to Deerfield, shall be under the jurisdiction of local 17. East of a line from Middlefield, to Shalersville to Deerfield, shall be under the jurisdiction of Local 207.

Local 17 & Local 207 have agreed that the Ohio County of Ashtabula shall be as follows: Everything North of Route 6, starting at the Geauga County line, proceeding east to State Route 45, shall be under the jurisdiction of Local 17. Everything South, starting at the Geauga County line shall be under local 207.

North Boundary: The East boundary line and the West boundary line continuing North halfway across Lake Erie.

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Labor HevHwy 2

Change # : LCN01-2021fbLaborHevHwy2

Craft : Laborer Group 1 Effective Date : 05/01/2021 Last Posted : 04/21/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Laborer Group 1	\$33.70		\$7.50	\$3.90	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$45.65	\$62.50
Group 2	\$33.87		\$7.50	\$3.90	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$45.82	\$62.75
Group 3	\$34.20		\$7.50	\$3.90	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$46.15	\$63.25
Group 4	\$34.65		\$7.50	\$3.90	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$46.60	\$63.92
Watch Person	\$26.00		\$7.50	\$3.90	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$37.95	\$50.95
Apprentice	Percent											
0-1000 hrs	60.00	\$20.22	\$7.50	\$3.90	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$32.17	\$42.28
1001-2000 hrs	70.02	\$23.60	\$7.50	\$3.90	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$35.55	\$47.35
2001-3000 hrs	80.00	\$26.96	\$7.50	\$3.90	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$38.91	\$52.39
3001-4000 hrs	90.00	\$30.33	\$7.50	\$3.90	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$42.28	\$57.45
More Than 4000 hrs	100.00	\$33.70	\$7.50	\$3.90	\$0.45	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$45.65	\$62.50

Special Calculation Note : Watchman has no Apprentices. Tunnel Laborer rate with air-pressurized add \$1.00 to the above wage rate.

Ratio :

1 Journeymen to 1 Apprentice
3 Journeymen to 1 Apprentice thereafter

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, ERIE, HURON, LORAIN, LUCAS, MAHONING, MEDINA, OTTAWA, PORTAGE, SANDUSKY, STARK, SUMMIT, TRUMBULL, WOOD

Special Jurisdictional Note : Hod Carriers and Common Laborers - Heavy, Highway, Sewer, Waterworks, Utility, Airport, Railroad, Industrial and Building Site, Sewer Plant, Waste Water Treatment Facilities Construction

Details :

Group 1

Laborer (Construction); Plant Laborer or Yardman, Right-of-way Laborer, Landscape Laborer, Highway Lighting Worker, Signalization Worker, (Swimming) Pool Construction Laborer, Utility Man, *Bridge Man, Handyman, Joint Setter, Flagperson, Carpenter Helper, Waterproofing Laborer, Slurry Seal, Seal Coating, Surface Treatment or Road Mix Laborer, Riprap Laborer & Grouter, Asphalt Laborer, Dump Man (batch trucks), Guardrail & Fence Installer, Mesh Handler & Placer, Concrete Curing Applicator, Scaffold Erector, Sign Installer, Hazardous Waste (level D), Diver Helper, Zone Person and Traffic Control.

*Bridge Man will perform work as per the October 31, 1949, memorandum on concrete forms, by and between the United Brotherhood of Carpenters and Joiners of America and the Laborers' International Union of North America, which states in; "the moving, cleaning, oiling and carrying to the next point of erection, and the stripping of forms which are not to be re-used, and forms on all flat arch work shall be done by members of the Laborers' International Union of North America."

Group 2

Asphalt Raker, Screwman or Paver, Concrete Puddler, Kettle Man (pipeline), All Machine-Driven Tools (Gas, Electric, Air), Mason Tender, Brick Paver, Mortar Mixer, Skid Steer, Sheeting & Shoring Person, Surface Grinder Person, Screedperson, Water Blast, Hand Held Wand, Power Buggy or Power Wheelbarrow, Paint Striper, Plastic fusing Machine Operator, Rodding Machine Operator, Pug Mill Operator, Operator of All Vacuum Devices Wet or Dry, Handling of all Pumps 4 inches and under (gas, air or electric), Diver, Form Setter, Bottom Person, Welder Helper (pipeline), Concrete Saw Person, Cutting with Burning Torch, Pipe Layer, Hand Spiker (railroad), Underground Person (working in sewer and waterline, cleaning, repairing and reconditioning). Tunnel Laborer (without air), Caisson, Cofferdam (below 25 feet deep), Air Track and Wagon Drill, Sandblaster Nozzle Person, Hazardous Waste (level B), ***Lead Abatement, Hazardous Waste (level C)

***Includes the erecting of structures for the removal, including the encapsulation and containment of Lead abatement process.

Group 3

Blast and Powder Person, Muckers will be defined as shovel men working directly with the miners, Wrencher (mechanical joints & utility pipeline), Yarner, Top Lander, Hazardous Waste (level A), Concrete Specialist, Curb Setter and Cutter, Grade Checker, Concrete Crew in Tunnels. Utility pipeline Tappers, Waterline, Caulker, Signal Person will receive the rate equal to the rate paid the Laborer classification for which the Laborer is signaling.

Group 4

Miner, Welder, Guniting Nozzle Person

A.) The Watchperson shall be responsible to patrol and maintain a safe traffic zone including but not limited to barrels, cones, signs, arrow boards, message boards etc.

The responsibility of a watchperson is to see that the equipment, job and office trailer etc. are secure.

Prevailing Wage Rate Skilled Crafts

Name of Union: Labor Local 894 Building

Change # : LCN01-2021fbLoc894

Craft : Laborer Effective Date : 01/12/2021 Last Posted : 01/12/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Laborer Group 1	\$32.92		\$7.00	\$3.80	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$44.22	\$60.68
Laborer Group 2	\$33.07		\$7.00	\$3.80	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$44.37	\$60.91
Laborer Group 3	\$33.12		\$7.00	\$3.80	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$44.42	\$60.98
Laborer Group 4	\$33.42		\$7.00	\$3.80	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$44.72	\$61.43
Laborer Group 5	\$27.95		\$7.00	\$3.80	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$39.25	\$53.22
Apprentice	Percent											
1ST 1-1000 hrs	60.00	\$19.75	\$7.00	\$3.80	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$31.05	\$40.93
2nd 1000-2000 hrs	70.00	\$23.04	\$7.00	\$3.80	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$34.34	\$45.87
3rd 2000-3000 hrs	80.00	\$26.34	\$7.00	\$3.80	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$37.64	\$50.80
4th 3000-4000 hrs	90.00	\$29.63	\$7.00	\$3.80	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$40.93	\$55.74
More than 4000 hrs	100.00	\$32.92	\$7.00	\$3.80	\$0.40	\$0.00	\$0.00	\$0.00	\$0.10	\$0.00	\$44.22	\$60.68

Special Calculation Note : \$0.10 for LECET is for Labor Management

Ratio :

1 Apprentice to 1 Journeymen
1 Apprentice to 4 Journeymen

Jurisdiction (* denotes special jurisdictional note) :

MEDINA, PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

Group 1

Building & Construction Laborer, Welder Helper, Carpenter Tender, Landscape Laborer, Mason Tender, Concrete Bucket Tender, Concrete & Construction Specialist, Asbestos Laborer, Toxic/Hazardous Waste Laborer, Lead Removal, Level D

Group 2

Air Driven Boring Machine, Tamper Operator, Asphalt Raker, Paving Bed Maker, Concrete Puddler on Building Work, Concrete Batch Dumper, Materials Mixer, Wire Mesh Handler, Hook-up on Demolition Work, Scaffold Erector, Structural, Precast Erector, Power Tools - Air, Gas or Electric, Hazardous Waste Laborer, Lead Removal Level C

Group 3

Pipe Layer, Rock Driller, Mucker-Tunnel, Burner, Form Setter, Power Saw Jackhammer, Bottom Man, Hod Carrier, Power Buggy or Power Wheelbarrow, Bob Cat, Skid Steer Work and or similar, Hazardous Waste Laborer, Lead Removal Level B

Group 4

Gunnite Nozzle Man, Tunnel Miner, Water Link Caulker, Dynamite Man, Structural Precast Welder, Pump Hose Nozzle Man, Hazardous Waste Laborer, Lead Removal Level A

Group 5

Watchman

Hazardous Waste Removal and Lead Abatement:

For Laborers, working in an exclusive or "hot" area with toxic or hazardous materials, one of the following personal protective equipment ensembles will be required.

Level A

When the area has been determined to contain extremely toxic contaminants or contaminants unknown but may be expected to be extremely toxic and/or immediately dangerous to life and health. This ensemble includes a fully encapsulated chemical suit, self contained breathing apparatus (SCBA) or airline fed respirator, and various types and numbers of boots and gloves; cool vests and voice-activated radios are optional equipment sometimes worn.

Level B

Protective equipment includes a chemically resistant splash suit and a SCBA or airline respirator. This ensemble is required when the situation is very hazardous, such as oxygen deficient atmospheres, IDLH atmospheres, or confined space entries, but the risk of skin exposure is not as great as in Level A situation.

Level C

Protective equipment includes a protective suit and an air purifying respirator (APR) with the appropriate filter canisters. The ensemble is used when the contaminants are reliably known not to be hazardous to the skin and not IDLH (Immediately Dangerous to Life or Health) and correct filter protection is available.

Level D

Protective Equipment to be worn only in established "safe zones" may consist of, from normal work clothes to normal skin protection such as gloves, face shields goggles, coveralls and occasionally respiratory protection.

Prevailing Wage Rate Skilled Crafts

Name of Union: Operating Engineers - Building Local 18 - Zone I

Change # : LCN01-2021sksLoc18

Craft : Operating Engineer Effective Date : 08/13/2021 Last Posted : 08/13/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Group A	\$40.63		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$56.58	\$76.90
Group B	\$40.53		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$56.48	\$76.75
Group C	\$39.49		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$55.44	\$75.18
Group D	\$38.27		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$54.22	\$73.35
Group E	\$32.98		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$48.93	\$65.42
Master Mechanic	\$40.88		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$56.83	\$77.27
Crane 150'-180'	\$41.13		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$57.08	\$77.65
Crane 180'-249"	\$41.63		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$57.58	\$78.40
Crane 250' and over	\$41.88		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$57.83	\$78.77
Apprentice	Percent											
1st Year	50.00	\$20.32	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$36.27	\$46.42
2nd Year	60.00	\$24.38	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$40.33	\$52.52
3rd Year	70.00	\$28.44	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$44.39	\$58.61
4th Year	80.00	\$32.50	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$48.45	\$64.71
Field Mechanic Trainee												
1st Year	50.00	\$20.32	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$36.27	\$46.42
2nd Year	60.00	\$24.38	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$40.33	\$52.52
3rd Year	70.00	\$28.44	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$44.39	\$58.61
4th Year	80.00	\$32.50	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$48.45	\$64.71

Special Calculation Note : Other: Education & Safety Fund is \$0.09 per hour.

Ratio :

For every (3) Operating Engineer Journeymen employed by the company, there may be employed (1) Registered Apprentice or Trainee Engineer through the referral when they are available. An Apprentice, while employed as part of a crew per Article VIII, paragraph 65 will not be subject to the apprenticeship ratios in this collective bargaining agreement

Jurisdiction (* denotes special jurisdictional note) :

SUMMIT, PORTAGE

Special Jurisdictional Note :

Details :

****Apprentices will receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment. Mechanic Trainees will receive 10% if required to have a CDL.**

Group A- Barrier Moving Machines; Boiler Operators or Compressor Operators, when compressor or boiler is mounted on crane (Piggyback Operation); Boom Trucks (all types); Cableways Cherry Pickers; Combination - Concrete Mixers & Towers; All Concrete Pumps with Booms; Cranes (all types); Compact Cranes, track or rubber over 4,000 pounds capacity; Cranes self-erecting, stationary, track or truck (all configurations); Derricks (all types); Draglines; Dredges (dipper, clam or suction) 3-man crew; Elevating Graders or Euclid Loaders; Floating Equipment; Forklift (rough terrain with winch/hoist); Gradalls; Helicopter Operators, hoisting building materials; Helicopter Winch Operators, Hoisting building materials; Hoes (All types); Hoists (with two or more drums in use); Horizontal Directional Drill; Hydraulic Gantry (lift system); Laser Finishing Machines; Laser Screed and like equipment; Lift Slab or Panel Jack Operators; Locomotives (all types); Maintenance Operator/Technician(Mechanic Operator/Technician and/or Welder); Mixers, paving (multiple drum); Mobile Concrete Pumps, with booms; Panelboards, (all types on site); Pile Drivers; Power Shovels; Prentice Loader; Rail Tamper (with automatic lifting and aligning device); Rotary Drills (all), used on caissons for foundations and sub-structure; Side Booms; Slip Form Pavers; Straddle Carriers (Building Construction on site); Trench Machines (over 24" wide); Tug Boats.

Group B - Articulating/end dumps (minus \$4.00/hour from Group B rate); Asphalt Pavers; Bobcat-type and/or skid steer loader with hoe attachment greater than 7000 lbs.; Bulldozers; CMI type Equipment; Concrete Saw, Vermeer-type; Endloaders; Hydro Milling Machine; Kolman-type Loaders (Dirt Loading); Lead Greasemen; Mucking Machines; Pettibone-Rail Equipment; Power Graders; Power Scoops; Power Scrapers; Push Cats; Rotomills (all), grinders and planers of all types.

Group C - A-Frames; Air Compressors, Pressurizing Shafts or Tunnels; All Asphalt Rollers; Bobcat-type and/or Skid Steer Loader with or without attachments; Boilers (15 lbs. pressure and over); All Concrete Pumps (without booms with 5 inch system); Fork Lifts (except masonry); Highway Drills - all types (with integral power); Hoists (with one drum); House Elevators (except those automatic call button controlled), Buck Hoists, Transport Platforms, Construction Elevators; Hydro Vac/Excavator (when a second person is needed, the rate of pay will be "Class E"); Man Lifts; Material hoist/elevators; Mud Jacks; Pressure Grouting; Pump Operators (installing or operating Well Points or other types of Dewatering Systems); Pumps (4 inches and over discharge); Railroad Tie (Inserter/Remover); Rotovator (Lime-Soil Stabilizer); Submersible Pumps (4"and over discharge); Switch & Tie Tampers (without lifting and aligning device); Trench Machines (24" and under); Utility Operators.

Group D - Backfillers and Tampers; Ballast Re-locator; Batch Plant Operators; Bar and Joint Installing Machines; Bull Floats; Burlap and Curing Machines; Clefplanes; Compressors, on building construction; Concrete Mixers, more than one bag capacity; Concrete Mixers, one bag capacity (side loaders); All Concrete Pumps (without boom with 4" or smaller system); Concrete Spreader; Conveyors, used for handling building materials; Crushers; Deckhands; Drum Fireman (in asphalt plants); Farm type tractors pulling attachments; Finishing Machines; Form Trenchers; Generators; Gunite Machines; Hydro-seeders; Pavement Breakers (hydraulic or cable); Post Drivers; Post Hole Diggers; Pressure Pumps (over 1/2") discharge); Road Widening Trenchers; Rollers (except asphalt); Self-propelled sub-graders; Shotcrete Machines; Tire Repairmen; Tractors, pulling sheepsfoot post roller or grader; VAC/ALLS; Vibratory Compactors, with integral power; Welders.

Group E – Allen Screed Paver (concrete); Boilers (less than 15 lbs. pressure); Cranes-Compact, track or rubber (under 4,000 pounds capacity); Directional Drill "Locator"; Fueling and greasing +\$3.00; Inboard/outboard Motor Boat Launches; Light Plant Operators; Masonry Fork Lifts; Oilers/Helpers; Power Driven Heaters (oil fired); Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalperson, Submersible Pumps (under 4" discharge).

Master Mechanics - Master Mechanic

Cranes 150' – 180' - Boom & Jib 150 - 180 feet

Cranes 180' – 249' - Boom & Jib 180 - 249 feet

Cranes 250' and over - Boom & Jib 250-feet or over

Prevailing Wage Rate Skilled Crafts

Name of Union: Operating Engineers - HevHwy Zone I

Change # : LCN01-2021sksLoc18hevhwyl

Craft : Operating Engineer Effective Date : 08/13/2021 Last Posted : 08/13/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Class A	\$40.63		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$56.58	\$76.90
Class B	\$40.53		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$56.48	\$76.75
Class C	\$39.49		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$55.44	\$75.18
Class D	\$38.27		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$54.22	\$73.35
Class E	\$32.98		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$48.93	\$65.42
Master Mechanic	\$40.88		\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$56.83	\$77.27
Apprentice	Percent											
1st Year	50.00	\$20.32	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$36.27	\$46.42
2nd Year	60.00	\$24.38	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$40.33	\$52.52
3rd Year	70.00	\$28.44	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$44.39	\$58.61
4th Year	80.00	\$32.50	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$48.45	\$64.71
Field Mech Trainee			\$8.76	\$6.25	\$0.85			\$0.09				
1st year	50.00	\$20.32	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$36.27	\$46.42
2nd year	60.00	\$24.38	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$40.33	\$52.52
3rd year	70.00	\$28.44	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$44.39	\$58.61
4th year	80.00	\$32.50	\$8.76	\$6.25	\$0.85	\$0.00	\$0.00	\$0.09	\$0.00	\$0.00	\$48.45	\$64.71

Special Calculation Note : Other: Education & Safety Fund is \$0.09 per hour.

Ratio :

For every (3) Operating Engineer Journeymen employed by the company, there may be employed (1) Registered Apprentice or Trainee Engineer through the referral when they are available. An Apprentice, while employed as part of a crew per Article VIII, paragraph 69 will not be subject to the apprenticeship ratios in this collective bargaining agreement

Jurisdiction (* denotes special jurisdictional note) :

ASHTABULA, CUYAHOGA, ERIE, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, SUMMIT

Special Jurisdictional Note :

Details :

****Apprentices will receive a 10% increase on top of the percentages listed above provided they are operating mobile equipment. Mechanic Trainees will receive 10% if required to have a CDL.**

Class A - Air Compressors on Steel Erection; Asphalt Plant Engineers (Cleveland District Only); Barrier Moving Machine; Boiler Operators, Compressor Operators, or Generators, when mounted on a rig; Boom Trucks (all types); Cableways; Cherry Pickers; Combination- Concrete Mixers & Towers; Concrete Plants (over 4 yd capacity); Concrete Pumps; Cranes (all types); Compact Cranes track or rubber over 4,000 pounds capacity; Cranes self-erecting stationary, track or truck; Derricks (all types); Draglines; Dredges dipper, clam or suction; Elevating Graders or Euclid Loaders; Floating Equipment (all types); Gradalls; Helicopter Crew (Operator- hoist or winch); Hoes (all types); Hoisting Engines; Hoisting Engines, on shaft or tunnel work; Hydraulic Gantry (lifting system); Industrial-type Tractors; Jet Engine Dryer (D8 or D9) diesel Tractors; Locomotives (standard gauge); Maintenance Operators/Technicians (class A); Mixers, paving (single or double drum); Mucking Machines; Multiple Scrapers; Piledriving Machines (all types); Power Shovels, Prentice Loader; Quad 9 (double pusher); Rail Tamper (with automatic lifting and aligning device); Refrigerating Machines (freezer operation); Rotary Drills, on caisson work; Rough Terrain Fork Lift with winch/hoist; Side Booms; Slip Form Pavers; Survey Crew Party Chiefs; Tower Derricks; Tree Shredders; Trench Machines (over 24" wide); Truck Mounted Concrete Pumps; Tug Boats; Tunnel Machines and /or Mining Machines; Wheel Excavators.

Class B - Asphalt Pavers; Automatic Subgrade Machines, self-propelled (CMI-type); Bobcat-type and /or Skid Steer Loader with hoe attachment greater than 7000 lbs.; Boring Machine Operators (more than 48 inches); Bulldozers; Concrete Saws, Vermeer type; Endloaders; Horizontal Directional Drill (50,000 ft. lbs. thrust and over); Hydro Milling Machine; Kolman-type Loaders (production type-dirt); Lead Greasemen; Lighting and Traffic Signal Installation Equipment includes all groups or classifications; Maintenance Operators/Technicians, Class B; Material Transfer Equipment (shuttle buggy) Asphalt; Pettibone-Rail Equipment; Power Graders; Power Scrapers; Push Cats; Rotomills (all), Grinders and Planners of all types, Groovers (excluding walk-behinds); Trench Machines (24 inch wide and under).

Class C - A-Frames; Air Compressors, on tunnel work (low Pressure); Articulating/straight bed end dumps if assigned (minus \$4.00 per hour); Asphalt Plant Engineers (Portage and Summit Counties only); Bobcat-type and/or skid steer loader with or without attachments; Drones; Highway Drills (all types); HydroVac/Excavator (when a second person is needed, the rate of pay will be "Class E"); Locomotives (narrow gauge); Material Hoist/Elevators; Mixers, concrete (more than one bag capacity); Mixers, one bag capacity (side loader); Power Boilers (over 15 lbs. pressure); Pump Operators (installing or operating well Points); Pumps (4 inch and over discharge); Railroad Tie Inserter/Remover; Rollers, Asphalt; Rotovator (lime-soil Stabilizer); Switch & Tie Tampers (without lifting and aligning device); Utilities Operators, (small equipment); Welding Machines and Generators.

Class D – Backfillers and Tampers; Ballast Re-locator; Bar and Joint Installing Machines; Batch Plant Operators; Boring Machine Operators (48 inch or less); Bull Floats; Burlap and Curing Machines; Concrete Plants (capacity 4 yds. and under); Concrete Saws (multiple); Conveyors (highway); Crushers; Deckhands; Farm type tractors, with attachments (highway); Finishing Machines; Firemen, Floating Equipment (all types); Fork Lifts (highway), except masonry; Form Trenchers; Hydro Hammers; Hydro Seeders; Pavement Breakers (hydraulic or cable); Plant Mixers; Post Drivers; Post Hole Diggers; Power Brush Burners; Power Form Handling Equipment; Road Widening Trenchers; Rollers (brick, grade, macadam); Self-Propelled Power Spreaders; Self-Propelled Sub-Graders; Steam Firemen; Survey Instrument men; Tractors, pulling sheepsfoot rollers or graders; Vibratory Compactors, with integral power.

Class E - Compressors (portable, Sewer, Heavy and Highway); Cranes-Compact, track or rubber under 4,000 pound capacity; Drum Firemen (asphalt plant); Fueling and greasing (Primary Operator with Specialized CDL Endorsement Add \$3.00/hr); Generators; Inboard-Outboard Motor Boat Launches; Masonry Fork Lifts; Oil Heaters (asphalt plant); Oilers/Helpers; Power Driven Heaters (oil fired); Power Scrubbers; Power Sweepers; Pumps (under 4 inch discharge); Signalperson; Survey Rodmen or Chairmen; Tire Repairmen; VAC/ALLS. Master Mechanic - Master Mechanic

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 841

Change # : LCN01-2021sksLoc841

Craft : Painter Effective Date : 11/17/2021 Last Posted : 11/17/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Painter Brush Roll	\$28.18		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$43.53	\$57.62
Paperhanger	\$28.18		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$43.53	\$57.62
Painter Spray Gun Operator Any and All Coatings)	\$29.03		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$44.38	\$58.90
Swing Scaffold, Bosum Chair, & Window Jacks	\$28.93		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$44.28	\$58.75
Sandblast, Painting of Standpipes, etc. from Scaffolds Open Structural Steel, Standpipes and Water Towers	\$29.43		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$44.78	\$59.50
Epoxy Application	\$28.83		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$44.18	\$58.60
Synthetic Exterior, Lead Abatement, Asbestos Removal	\$29.43		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$44.78	\$59.50
Apprentice	Percent											
1st Year	53.24	\$15.00	\$6.85	\$2.72	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$25.57	\$33.07
2nd Year	60.00	\$16.91	\$6.85	\$3.14	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$27.90	\$36.35
3rd Year	70.00	\$19.73	\$6.85	\$3.57	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$31.15	\$41.01
4th Year	80.00	\$22.54	\$6.85	\$4.34	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$34.73	\$46.01

Special Calculation Note : Apprentice pay based on percentage of above appropriate classification.

Ratio :
1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :
CARROLL, COSHOCTON, HOLMES, MEDINA, PORTAGE*, STARK, SUMMIT*, TUSCARAWAS, WAYNE

Special Jurisdictional Note : Summit Cnty: South of and including the Ohio Turnpike, Portage Cnty: North to and including the Ohio Turnpike

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 841 Bridge Painter

Change # : LCN01-2021sksLoc841

Craft : Painter Effective Date : 11/17/2021 Last Posted : 11/17/2021

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Painter Bridge Blaster Class 1	\$37.85		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$53.20	\$72.12
Class 2 Bridge Painter, Rigger, Containment Builder, Spot Blaster	\$34.85		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$50.20	\$67.62
Class 3 Equipment Operator/Field Mechanic, Grit Reclamation, Paint Mixer, Traffic Control, Boat Person, Dive (0-5 Years Exp)	\$27.85		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$43.20	\$57.13
Class 3 Equipment Operator/Field Mechanic, Grit Reclamation, Paint Mixer, Traffic Control, Boat Person, Dive (5 plus Years Exp).	\$30.85		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$46.20	\$61.63
Class 4 Concrete Sealing, Concrete Blasting/Power Washing/Etc.	\$30.85		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$46.20	\$61.63
Class 5 Quality Control/Quality Assurance Traffic Safety, Competent Person.	\$30.85		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$46.20	\$61.63
Apprentice	Percent											
1st Year	50.01	\$18.93	\$6.85	\$2.72	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$29.50	\$38.96
2nd Year	60.00	\$22.71	\$6.85	\$3.14	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$33.70	\$45.06
3rd year	70.00	\$26.50	\$6.85	\$3.57	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$37.92	\$51.16
4th Year	80.00	\$30.28	\$6.85	\$4.34	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$42.47	\$57.61

Special Calculation Note : Apprentice pay based on percentage of above appropriate classification.

Ratio :

1 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

CARROLL, COSHOCTON, HOLMES, MEDINA, PORTAGE*, STARK, SUMMIT*, TUSCARAWAS, WAYNE

Special Jurisdictional Note : Summit County: South of and including the Ohio Turnpike, Portage County: North to and including the Ohio Turnpike

Details :

Class 1 – Abrasive blasting of any kind

Class 2 – Bridge painting, coating applications of any kind. All steel surface preparation other than abrasive blasting. All necessary rigging and containment building and all remedial/ spot blasting.

Class 3 – Tend to all equipment including but not limited to abrasive blasting, power washing, spray painting, forklifts, hoists, truck, etc. Load and unloading trucks, handle materials, man safety boats, handle traffic control, clean up/ vacuum abrasive blast materials and related tasks.

Class 4 – All aspects of concrete coating/ sealing including but not limited to preparation, containment, etc.

Class 5 – Verify and record that all work is completed according to job specifications. Assure that all health and safety standards are adhered to. Assure all traffic is safely handled.

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 841 (Finisher/Taper)

Change # : LCN01-2021sksLoc841

Craft : Drywall Finisher Effective Date : 11/17/2021 Last Posted : 11/17/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Painter Drywall Finisher/PainterTaper	\$29.43		\$6.85	\$7.50	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$44.78	\$59.50
Apprentice	Percent											
1st Year	50.98	\$15.00	\$6.85	\$2.72	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$25.57	\$33.08
2nd Year	65.00	\$19.13	\$6.85	\$3.52	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$30.50	\$40.06
3rd Year	80.00	\$23.54	\$6.85	\$4.34	\$0.35	\$0.00	\$0.65	\$0.00	\$0.00	\$0.00	\$35.73	\$47.51

Special Calculation Note : Apprentice pay based on percentage of above appropriate classification.

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

CARROLL, COSHOCTON, HOLMES, MEDINA, PORTAGE*, STARK, SUMMIT*, TUSCARAWAS, WAYNE

Special Jurisdictional Note : Summit County South of and including the Ohio Turnpike, Portage Cnty: North of and including the Ohio Turnpike

Details :

CLERMONT, CLINTON, COLUMBIANA,
 COSHOCTON, CRAWFORD, CUYAHOGA,
 DARKE, DEFIANCE, DELAWARE, ERIE,
 FAIRFIELD, FAYETTE, FRANKLIN, FULTON,
 GALLIA, GEauga, GREENE, GUERNSEY,
 HAMILTON, HANCOCK, HARDIN,
 HARRISON, HENRY, HIGHLAND, HOCKING,
 HOLMES, HURON, JACKSON, JEFFERSON,
 KNOX, LAKE, LAWRENCE, LICKING,
 LOGAN, LORAIN, LUCAS, MADISON,
 MAHONING, MARION, MEDINA, MEIGS,
 MERCER, MIAMI, MONROE,
 MONTGOMERY, MORGAN, MORROW,
 MUSKINGUM, NOBLE, OTTAWA,
 PAULDING, PERRY, PICKAWAY, PIKE,
 PORTAGE, PREBLE, PUTNAM, RICHLAND,
 ROSS, SANDUSKY, SCIOTO, SENECA,
 SHELBY, STARK, SUMMIT, TRUMBULL,
 TUSCARAWAS, UNION, VAN WERT,
 VINTON, WARREN, WASHINGTON, WAYNE,
 WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Top Helper: Shall perform the responsibilities of a Helper and be responsible for the setup, break down, safety and quality of the company's product.

Helper : Shall be responsible for performing tasks in refinishing, compliance with safety procedures, setting up and breaking down job sites, scaffolding and swing stages and preparing surfaces for refinishing including but not limited to, masking and stripping and cleaning, oxidizing, polishing and scratch removal on various surfaces

Class A Workers: Less than 1 Year of Service.

Class B Workers: More than 1 and less than 8 Years of Service.

Class C Workers: More than 8 Years of Service.

Metal Polisher Scope of Work: Polishing, buffing, stripping, coloring, lacquering, spraying, cleaning and maintenance of ornamental and architectural metals, iron, bronze, nickel, aluminum and stainless steel and in mental specialty work, various stone finishes, stone specialty work and any other work pertaining to the finishing of metal, stones, woods, and any window washing/cleaning done in conjunction with this work, using chemicals, solvents, coatings and hand applied lacquer thinner, removing scratches from mirror finished metals, burnishing of bronze, statuary finishes on exterior and interior surfaces and the use of all tools required to perform such work, including but not limited to polishes, spray equipment and scaffolding.

Swing State Rate: All work on scaffold 4 sections or higher, including any boom lifts and swing stage scaffolds including the rigging and derigging of hanging/suspended swing stage systems and rappelling/bolson chair work, ADD \$1.50 per hour.

Prevailing Wage Rate Skilled Crafts

Name of Union: Painter Local 639 Zone 1 Sign

Change # : LCN01-2021fbLoc639

Craft : Painter Effective Date : 06/29/2021 Last Posted : 06/29/2021

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Painter Sign Erector Service/Pattern/Metal Fab/Neon Class A	\$24.35		\$7.16	\$5.57	\$0.25	\$0.71	\$0.00	\$1.00	\$0.00	\$0.00	\$39.04	\$51.22
Painter Sign Erector/Service/Pattern/Metal Fab/Neon Class B	\$24.35		\$7.16	\$5.57	\$0.25	\$1.42	\$0.00	\$1.00	\$0.00	\$0.00	\$39.75	\$51.93
Painter Sign Erector/Service/Pattern/Metal Fab/Neon Class C	\$24.35		\$7.16	\$5.57	\$0.25	\$2.13	\$0.00	\$1.00	\$0.00	\$0.00	\$40.46	\$52.64
Painter Sign Erector/Service/Pattern/Metal Fab/Neon Class D	\$24.35		\$7.16	\$5.57	\$0.25	\$2.84	\$0.00	\$1.00	\$0.00	\$0.00	\$41.17	\$53.35
Computer Operator, Router, Spray Painter/Wood Class A	\$22.83		\$7.16	\$5.57	\$0.25	\$0.68	\$0.00	\$0.96	\$0.00	\$0.00	\$37.45	\$48.87
Computer Operator, Router, Spray Painter/Wood Class B	\$22.83		\$7.16	\$5.57	\$0.25	\$1.36	\$0.00	\$0.96	\$0.00	\$0.00	\$38.13	\$49.55
Computer Operator, Router, Spray Painter/Wood Class C	\$22.83		\$7.16	\$5.57	\$0.25	\$2.04	\$0.00	\$0.96	\$0.00	\$0.00	\$38.81	\$50.23
Computer Operator, Router, Spray Painter/Wood Class D	\$22.83		\$7.16	\$5.57	\$0.25	\$2.72	\$0.00	\$0.96	\$0.00	\$0.00	\$39.49	\$50.91
Final Assembly,Helper Class A	\$18.33		\$7.16	\$5.57	\$0.25	\$0.60	\$0.00	\$0.84	\$0.00	\$0.00	\$32.75	\$41.92
Final Assembly,Helper Class B	\$18.33		\$7.16	\$5.57	\$0.25	\$1.20	\$0.00	\$0.84	\$0.00	\$0.00	\$33.35	\$42.52
Final Assembly,Helper Class C	\$18.33		\$7.16	\$5.57	\$0.25	\$1.80	\$0.00	\$0.84	\$0.00	\$0.00	\$33.95	\$43.12
Final Assembly,Helper Class D	\$18.33		\$7.16	\$5.57	\$0.25	\$2.40	\$0.00	\$0.84	\$0.00	\$0.00	\$34.55	\$43.72
Apprentice	Percent											
1-2000 hrs	50.00	\$12.18	\$7.16	\$5.57	\$0.25	\$0.00	\$0.00	\$0.67	\$0.00	\$0.00	\$25.83	\$31.91
2001-3000 hrs	55.00	\$13.39	\$7.16	\$5.57	\$0.25	\$0.50	\$0.00	\$0.70	\$0.00	\$0.00	\$27.57	\$34.27
3001-4000 hrs	60.00	\$14.61	\$7.16	\$5.57	\$0.25	\$0.53	\$0.00	\$0.74	\$0.00	\$0.00	\$28.86	\$36.17
4001-5000 hrs	65.00	\$15.83	\$7.16	\$5.57	\$0.25	\$0.55	\$0.00	\$0.77	\$0.00	\$0.00	\$30.13	\$38.04
5001-6000 hrs	70.00	\$17.04	\$7.16	\$5.57	\$0.25	\$1.15	\$0.00	\$0.80	\$0.00	\$0.00	\$31.97	\$40.50
6001-7000 hrs	85.00	\$20.70	\$7.16	\$5.57	\$0.25	\$1.29	\$0.00	\$0.90	\$0.00	\$0.00	\$35.87	\$46.22
7001-8000 hrs	90.00	\$21.92	\$7.16	\$5.57	\$0.25	\$1.33	\$0.00	\$0.93	\$0.00	\$0.00	\$37.16	\$48.11

Special Calculation Note : Other is for paid holidays. Apprentice Pay Rate should be based on proper Classification.

Ratio :

Jurisdiction (* denotes special jurisdictional note) :

ASHLAND, ASHTABULA, CUYAHOGA, GEAUGA, LAKE, MEDINA, PORTAGE, RICHLAND, SUMMIT

Special Jurisdictional Note :

Details :

Class A Worker: More than 1 year but less that 2 years.

Class B Worker: More than 2 years but less than 10 years.

Class C Worker: More than 10 years but less that 20 years.

Class D Worker: More than 20 years

Prevailing Wage Rate Skilled Crafts

Name of Union: Plumber Pipefitter Local 219

Change # : LCN01-2021sksLoc219

Craft : Plumbers Effective Date : 09/15/2021 Last Posted : 09/15/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Plumber Pipefitter	\$40.42		\$8.46	\$11.95	\$1.38	\$1.25	\$4.00	\$0.00	\$0.00	\$0.00	\$67.46	\$87.67
Apprentice	Percent											
1st 6 months	40.00	\$16.17	\$8.46	\$0.00	\$1.38	\$1.25	\$1.50	\$0.00	\$0.00	\$0.00	\$28.76	\$36.84
2nd 6 months	45.00	\$18.19	\$8.46	\$11.95	\$1.38	\$1.25	\$1.50	\$0.00	\$0.00	\$0.00	\$42.73	\$51.82
3rd 6 months	50.00	\$20.21	\$8.46	\$11.95	\$1.38	\$1.25	\$4.00	\$0.00	\$0.00	\$0.00	\$47.25	\$57.36
4th 6 months	55.00	\$22.23	\$8.46	\$11.95	\$1.38	\$1.25	\$4.00	\$0.00	\$0.00	\$0.00	\$49.27	\$60.39
5th 6 months	60.00	\$24.25	\$8.46	\$11.95	\$1.38	\$1.25	\$4.00	\$0.00	\$0.00	\$0.00	\$51.29	\$63.42
6th 6 months	65.00	\$26.27	\$8.46	\$11.95	\$1.38	\$1.25	\$4.00	\$0.00	\$0.00	\$0.00	\$53.31	\$66.45
7th 6 months	70.00	\$28.29	\$8.46	\$11.95	\$1.38	\$1.25	\$4.00	\$0.00	\$0.00	\$0.00	\$55.33	\$69.48
8th 6 months	75.00	\$30.32	\$8.46	\$11.95	\$1.38	\$1.25	\$4.00	\$0.00	\$0.00	\$0.00	\$57.36	\$72.51
9th 6 months	80.00	\$32.34	\$8.46	\$11.95	\$1.38	\$1.25	\$4.00	\$0.00	\$0.00	\$0.00	\$59.38	\$75.54
10th 6 months	85.00	\$34.36	\$8.46	\$11.95	\$1.38	\$1.25	\$4.00	\$0.00	\$0.00	\$0.00	\$61.40	\$78.58

Special Calculation Note :

Ratio :

1 Apprentice for 2 Journeyman.

Jurisdiction (* denotes special jurisdictional note) :

MEDINA*, PORTAGE, SUMMIT*

Special Jurisdictional Note : Summit County: South of Route 303, except for the corporate limits of Hudson, Ohio, which shall be considered neutral territory, dependent on the contractor doing work from the jurisdiction of Local Unions #55 & #120 & 219.
Medina County: Route 18 from the eastern edge of Medina County west to eastern corporate limits of the City of Medina and on the county Road from the west corporate limits of the City of Medina, running due west to and through the community of Risley to the western edge of Medina County. All territory south of this line is the jurisdiction of Local #219. Work within the corporate limits of the City of Medina shall be neutral territory, dependent on the contractor doing the work from the jurisdiction of Locals #55, #120 & #219.

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Roofer Local 88

Change # : LCN01-2021fbLoc88

Craft : Roofer Effective Date : 06/09/2021 Last Posted : 06/09/2021

Classification	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Roofer	\$27.47		\$8.90	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$48.25	\$61.99
HELPERS												
Helper -500 Hrs. 1st 6 months	\$15.38		\$2.25	\$0.00	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$19.71	\$27.40
Helper - 500 Hrs. 2nd 6 months	\$17.03		\$8.90	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$37.81	\$46.33
2nd year Helper	\$18.68		\$8.90	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$39.46	\$48.80
3rd year Helper	\$20.33		\$8.90	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$41.11	\$51.27
4th year Helper	\$21.98		\$8.90	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$42.76	\$53.75
5th year Helper	\$23.62		\$8.90	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$44.40	\$56.21
6th year Helper	\$25.27		\$8.90	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$46.05	\$58.69
Apprentice	Percent											
1st 6 months w/500 hrs	56.00	\$15.38	\$8.90	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$36.16	\$43.85
2nd 6 months w/500 hrs	62.00	\$17.03	\$8.90	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$37.81	\$46.33
3rd 6 months w/500 hrs	68.00	\$18.68	\$8.90	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$39.46	\$48.80
4th 6 months w/500 hrs	74.00	\$20.33	\$8.90	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$41.11	\$51.27
5th 6 months w/500 hrs	80.00	\$21.98	\$8.90	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$42.76	\$53.74
6th 6 months w/500 hrs	86.00	\$23.62	\$8.90	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$44.40	\$56.22
7th 6 months w/500 hrs	92.00	\$25.27	\$8.90	\$9.80	\$0.40	\$0.00	\$1.50	\$0.18	\$0.00	\$0.00	\$46.05	\$58.69

Special Calculation Note : Roofers working in any form of coal tar pitch, whether hot or cold, installing and/or removing will be paid \$.25 more per hour.

Other \$0.18 is for C.I.D.B.

Ratio :

No helper shall be used on any one job unless 1 Journeymen, and 1 Apprentices are working on said job .One (1) Journeymen to One (1) Apprentice to One (1) Helper

Jurisdiction (* denotes special jurisdictional note) :

ASHLAND, CARROLL, COSHOCTON, CRAWFORD, HOLMES, HURON, LORAIN*, MEDINA, PORTAGE, RICHLAND, STARK, SUMMIT, TUSCARAWAS, WAYNE

Special Jurisdictional Note : In Lorain County (South of the Turnpike)

Details :

Prevailing Wage Rate Skilled Crafts

Name of Union: Sheet Metal Local 33 (Akron)

Change # : LCN02-2021fbLoc33Akron

Craft : Sheet Metal Worker Effective Date : 08/01/2021 Last Posted : 07/28/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Sheet Metal Worker	\$32.65		\$9.00	\$13.04	\$0.93	\$0.00	\$7.20	\$0.00	\$0.00	\$0.00	\$62.82	\$79.14
Industrial Door	\$23.36		\$8.27	\$5.44	\$0.17	\$0.00	\$2.15	\$0.00	\$0.00	\$0.00	\$39.39	\$51.07
Apprentice Helper Trainee												
1st 60 Days Probationary Period	\$12.15		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12.15	\$18.23
61 days-12 Months	\$13.55		\$8.27	\$1.88	\$0.17	\$0.00	\$1.41	\$0.00	\$0.00	\$0.00	\$25.28	\$32.06
2nd Year	\$15.89		\$8.27	\$1.88	\$0.17	\$0.00	\$1.59	\$0.00	\$0.00	\$0.00	\$27.80	\$35.75
3rd Year	\$17.05		\$8.27	\$1.88	\$0.17	\$0.00	\$1.69	\$0.00	\$0.00	\$0.00	\$29.06	\$37.59
4th Year	\$18.69		\$8.27	\$1.88	\$0.17	\$0.00	\$1.80	\$0.00	\$0.00	\$0.00	\$30.81	\$40.16
5th Year	\$20.09		\$8.27	\$1.88	\$0.17	\$0.00	\$1.91	\$0.00	\$0.00	\$0.00	\$32.32	\$42.37
Apprentice	Percent											
Apprentice												
1st year	45.00	\$14.69	\$9.00	\$3.54	\$0.17	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.40	\$34.75
2nd year	50.00	\$16.32	\$9.00	\$3.93	\$0.93	\$0.00	\$3.60	\$0.00	\$0.00	\$0.00	\$33.78	\$41.95
3rd year	55.00	\$17.96	\$9.00	\$4.32	\$0.93	\$0.00	\$3.60	\$0.00	\$0.00	\$0.00	\$35.81	\$44.79
4th year	65.00	\$21.22	\$9.00	\$5.11	\$0.93	\$0.00	\$3.60	\$0.00	\$0.00	\$0.00	\$39.86	\$50.47
5th year	80.00	\$26.12	\$9.00	\$6.29	\$0.93	\$0.00	\$3.60	\$0.00	\$0.00	\$0.00	\$45.94	\$59.00

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

- 1 Journeyman to 1 Apprentice
- 2 Journeyman to 1 Apprentice
- 3 Journeyman to 2 Apprentice
- 4 Journeyman to 2 Apprentice
- 5-7 Journeyman to 3 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

- ASHLAND, CARROLL, COSHOCTON,
- CRAWFORD, HOLMES, MEDINA, PORTAGE,
- RICHLAND, STARK, SUMMIT, TUSCARAWAS,
- WAYNE

8-10 Journeymen to 4 Apprentice
11-13 Journeymen to 5 Apprentice
14, 15 Journeymen to 6 Apprentice
and maintaining a three to one apprentice ratio
thereafter.

Special Jurisdictional Note :

Details :

Scope of Work: This Agreement covers the rates of pay and conditions of employment of all employees of the Employer engaged in, but not limited to, the a) manufacture, fabrication, assembling, handling, erection, installation, dismantling, conditioning, adjustment, alteration, repairing and servicing of all ferrous or non-ferrous metal work and all other materials used in lieu thereof and of all HVAC systems, air-veyor systems, exhaust systems, and air handling systems regardless of material used, including the setting of all equipment and all reinforcements in connection therewith; (b) all lagging over insulation and all duct-lining; (c) testing, servicing, and balancing of all air-handling equipment and duct work; (d) the preparation of all shop and field sketches, whether manually drawn or computer assisted, used in fabrication and erection, including those taken from original architectural and engineering drawings or sketches, and (e) metal roofing; and (f) all other work included in the jurisdictional claims of Sheet Metal Worker's International Association.

Industrial Door-Installation and service of overhead doors roll up doors, docks and dock leveling.

Prevailing Wage Rate Skilled Crafts

Name of Union: Sprinkler Fitter Local 669

Change # : LCN01-2021fbLoc669

Craft : Sprinkler Fitter Effective Date : 04/01/2021 Last Posted : 03/31/2021

	BHR		Fringe Benefit Payments						Irrevocable Fund		Total PWR	Overtime Rate
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Sprinkler Fitter	\$41.87		\$10.55	\$7.00	\$0.52	\$0.00	\$5.12	\$0.10	\$0.00	\$0.00	\$65.16	\$86.09
Apprentice Indentured after April 1, 2013	Percent											
CLASS 1	45.00	\$18.84	\$7.75	\$0.00	\$0.52	\$0.00	\$0.00	\$0.10	\$0.00	\$0.00	\$27.21	\$36.63
CLASS 2	50.00	\$20.93	\$7.75	\$0.00	\$0.52	\$0.00	\$0.00	\$0.10	\$0.00	\$0.00	\$29.30	\$39.77
CLASS 3	54.40	\$22.78	\$10.55	\$7.00	\$0.52	\$0.00	\$1.15	\$0.10	\$0.00	\$0.00	\$42.10	\$53.49
CLASS 4	59.40	\$24.87	\$10.55	\$7.00	\$0.52	\$0.00	\$1.15	\$0.10	\$0.00	\$0.00	\$44.19	\$56.63
CLASS 5	64.42	\$26.97	\$10.55	\$7.00	\$0.52	\$0.00	\$1.40	\$0.10	\$0.00	\$0.00	\$46.54	\$60.03
CLASS 6	69.40	\$29.06	\$10.55	\$7.00	\$0.52	\$0.00	\$1.40	\$0.10	\$0.00	\$0.00	\$48.63	\$63.16
CLASS 7	74.40	\$31.15	\$10.55	\$7.00	\$0.52	\$0.00	\$1.40	\$0.10	\$0.00	\$0.00	\$50.72	\$66.30
CLASS 8	79.42	\$33.25	\$10.55	\$7.00	\$0.52	\$0.00	\$1.40	\$0.10	\$0.00	\$0.00	\$52.82	\$69.45
CLASS 9	84.40	\$35.34	\$10.55	\$7.00	\$0.52	\$0.00	\$1.40	\$0.10	\$0.00	\$0.00	\$54.91	\$72.58
CLASS 10	89.40	\$37.43	\$10.55	\$7.00	\$0.52	\$0.00	\$1.40	\$0.10	\$0.00	\$0.00	\$57.00	\$75.72

Special Calculation Note : \$0.10 for Other is National Fire Sprinkler Association

Ratio :

1 Journeyman to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MAHONING, MARION, MEDINA, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW,

MUSKINGUM, NOBLE, OTTAWA, PAULDING,
PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE,
PUTNAM, RICHLAND, ROSS, SANDUSKY,
SCIOTO, SENECA, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE,
WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

Sprinkler Fitter work shall consist of the installation, dismantling, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems including the unloading, handling by hand, power equipment and installation of all piping or tubing, appurtenances and equipment pertaining thereto, including both overhead and underground water mains, fire hydrants and hydrant mains, standpipes and hose connections to sprinkler systems used in connection with sprinkler and alarm systems. Also all tanks and pumps connected thereto, also included shall be CO-2 and Cardox Systems, Dry Chemical Systems, Foam Systems and all other fire protection systems.

Prevailing Wage Rate

Skilled Crafts

**Name of Union: Truck Driver Bldg & HevHwy Class 1
Locals 20,40,92,92b,100,175,284,438,377,637,908,957**

Change # : LCRO1-2021fbBldgHevHwy

Craft : Truck Driver Effective Date : 05/21/2021 Last Posted : 05/21/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)			MISC (*)
Classification												
Truck Driver CLASS 1 4 wheel service, dump, and batch trucks, Oil Distributor - Asphalt Distributor-Tandems	\$29.24		\$7.50	\$8.50	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$45.44	\$60.06
Apprentice	Percent											
First 6 months	80.00	\$23.39	\$7.50	\$8.50	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39.59	\$51.29
7-12 months	85.00	\$24.85	\$7.50	\$8.50	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.05	\$53.48
13-18 months	90.00	\$26.32	\$7.50	\$8.50	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$42.52	\$55.67
19-24 months	95.00	\$27.78	\$7.50	\$8.50	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$43.98	\$57.87
25-30 months	100.00	\$29.24	\$7.50	\$8.50	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$45.44	\$60.06

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice

Jurisdiction (* denotes special jurisdictional note) :

ADAMS, ALLEN, ASHLAND, ASHTABULA, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COLUMBIANA, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, ERIE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE,

GUERNSEY, HAMILTON, HANCOCK, HARDIN,
HARRISON, HENRY, HIGHLAND, HOCKING,
HOLMES, HURON, JACKSON, JEFFERSON,
KNOX, LAWRENCE, LICKING, LOGAN, LORAIN,
LUCAS, MADISON, MAHONING, MARION,
MEDINA, MEIGS, MERCER, MIAMI, MONROE,
MONTGOMERY, MORGAN, MORROW,
MUSKINGUM, NOBLE, OTTAWA, PAULDING,
PERRY, PICKAWAY, PIKE, PORTAGE, PREBLE,
PUTNAM, RICHLAND, ROSS, SANDUSKY,
SCIOTO, SENECA, SHELBY, STARK, SUMMIT,
TRUMBULL, TUSCARAWAS, UNION, VAN WERT,
VINTON, WARREN, WASHINGTON, WAYNE,
WILLIAMS, WOOD, WYANDOT

Special Jurisdictional Note :

Details :

** Asphalt - Oil spray bar man when operating from cab shall receive \$0.20 cents per hour above their Basic Hourly Rate.

Prevailing Wage Rate

Skilled Crafts

Name of Union: Truck Driver Bldg & HevHwy Class 2
 Locals 20,40,92,92b,100,175,284,438,377,637,908,957

Change # : LCRO1-2021fbBldgHevHwy

Craft : Truck Driver Effective Date : 05/21/2021 Last Posted : 05/21/2021

	BHR		Fringe Benefit Payments					Irrevocable Fund		Total PWR	Overtime Rate	
			H&W	Pension	App Tr.	Vac.	Annuity	Other	LECET (*)	MISC (*)		
Classification												
Truck Driver CLASS 2 Tractor Trailer-Semi Tractor Trucks-Pole Trailers-Ready Mix Trucks-Fuel Trucks- Asphalt-Oil Spray bar men- 5 Axle & Over - Belly Dumps-End Dumps-Articulated Dump Trucks- Low boys-Heavy duty Equipment(irrespective of load carried) when used exclusively for transportation-Truck Mechanics (when needed)	\$29.66		\$7.50	\$8.50	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$45.86	\$60.69
Apprentice	Percent											
First 6 months	80.00	\$23.73	\$7.50	\$8.50	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$39.93	\$51.79
7-12 months	85.00	\$25.21	\$7.50	\$8.50	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41.41	\$54.02
13-18 months	90.00	\$26.69	\$7.50	\$8.50	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$42.89	\$56.24
19-24 months	95.00	\$28.18	\$7.50	\$8.50	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$44.38	\$58.47
25-30 months	100.00	\$29.66	\$7.50	\$8.50	\$0.20	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$45.86	\$60.69

Special Calculation Note : No special calculations for this skilled craft wage rate are required at this time.

Ratio :

3 Journeymen to 1 Apprentice

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GUERNSEY, HAMILTON, HANCOCK, HARDIN,
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Special Jurisdictional Note :

Details :

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