



ROANOKE COUNTY

Purchasing Division

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Roanoke, Virginia 24018-0798
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Buyer

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July 26, 2019

INVITATION TO BID #2020-008

Walking Trail of Lights
at
Roanoke County's Explore Park

Mandatory Pre-Bid Meeting:

August 1, 2019, 9:30 AM
Explore Park Visitor Center

Sealed Bids Due:

August 16, 2019

2:00 PM

(Local Prevailing Time)
One (1) Original
Two (2) Complete Copies
One (1) Electronic Copy

INVITATION TO BID #2020-008 EXPLORE PARK WALKING TRAIL OF LIGHTS

GENERAL INFORMATION

The County of Roanoke, Virginia, is requesting sealed bids from qualified firms to provide installation of electrical service conduits and service panels, and walking path installation at Roanoke County's Explore Park, as shown on the attached engineered drawings.

A MANDATORY pre-bid meeting will be held on August 1, 2019, at 9:30 AM (EST) to provide site visits and answer questions. This meeting will be held onsite at the Vistor Center at Roanoke County's Explore Park. This meeting is MANDATORY. *Only the Offerors that attend the meeting will be allowed to submit a proposal.* Offerors are not to visit the site or have conversations with personnel prior to or subsequent to this scheduled conference.

SUBMISSION OF THE BID

One (1) Original, three (3) complete copies and, one (1) Electronic Copy (USB preferred), of the sealed bid will be accepted at and until **2:00 PM (local prevailing time) on August 16, 2019**, at the Department of Finance, Purchasing Division, 5204 Bernard Drive, Suite 300F, Roanoke, VA 24018. As this is a sealed formal Invitation to Bid, faxed bids will NOT be accepted. Bids not received by the date and time listed above will be returned to the Offeror unopened. The bid package must be clearly marked with "**IFB #200-008 WALKING TRAIL OF LIGHTS.**"

It is not the intent of the specifications to be proprietary, nor to exclude any manufacturer or dealer. Deviations will be given consideration if they are considered to be suitable and acceptable for comparison. Any deviations must be submitted, in writing, with your bid. Deviations discovered after bid award or material receipt, not stated in your bid, shall be grounds for disqualification and nullification of order. It is the responsibility of the Offeror to prove that the deviation is equal to the product/service specified. The County of Roanoke will make the final determination as to whether the product is equivalent.

EVALUATION OF THE BID

The County of Roanoke shall provide the mechanism for the evaluation of all information received, the final determination of responsible Offerors, and reserves the right to waive informalities and irregularities and to accept or reject any or all bids. Roanoke County reserves the right to procure from State Contracts when it is in our opinion that the State Contract is in the best interest of Roanoke County. Roanoke County retains the right to split items to multiple suppliers.

Individuals with disabilities, who require assistance or special arrangements in order to participate in bidding, please contact us. We require that you provide at least 48 hours' notice so that reasonable efforts may be made to provide the proper arrangements. You may be requested to specify the nature of any accommodation or assistance, which may be required for your participation.

FOR QUESTIONS REGARDING THE BID, PLEASE CONTACT:

Kate Hoyt, Buyer
5204 Bernard Dr., SW, Suite 300F

Roanoke, VA 24018
Telephone: 540-283-8149

Email: khoyt@roanokecountyva.gov

Any inquiries or questions concerning specifications or bid submission should be submitted in writing. Written responses will be provided on our Purchasing Website in the form of an Addendum. It is the responsibility of the Offeror to periodically check our website for any addendum or sign up for email or text notification using the 'Notify Me' module.

NO CONTACT POLICY

Any contact initiated by any Offeror with any County representative, other than the purchasing representative listed herein, concerning this Invitation for Bids is prohibited. Any such unauthorized contact may cause disqualification of the Offeror from this procurement transaction.

SPECIFICATIONS

Project scope shall include installation of electrical service conduits and service panels, and walking path installation, as shown on the attached drawings (Attachment A to IFB 2020-008).

Attached plans have been approved by Roanoke County's Department of Community Development; plans will need to be permitted at the time of construction.

All work as shown in the attached plans must be completed no later than October 4, 2019.

Roanoke County shall provide the mechanism for the evaluation of all information received, the final determination of responsible bidders, and reserves the right to waive informalities and/or irregularities and to accept or reject any or all proposals. The County reserves the right to split awards if it is in the best interest of the County.

COOPERATIVE PROCUREMENT

The procurement of goods and/or services provided for in this Invitation for Bid is being conducted pursuant to Virginia Code, Section 2.2-4304.

Therefore, the Offeror or Bidder is advised, and by submitting a response to this procurement, such Offeror or Bidder agrees that any resulting contract from this procurement may in addition to the County of Roanoke, may also be extended to other public agencies or bodies in the Commonwealth of Virginia to permit those public agencies or bodies to purchase such goods and/or services at contract prices, in accordance with the terms, conditions, and specifications of this procurement. The successful Offeror or Bidder shall deal directly with each public agency or body seeking to obtain any goods and/or services pursuant to any contract that may result from this procurement and in accordance with Virginia Code, Section 2.2-4304.

The County of Roanoke shall not be responsible or liable for any costs, expenses, or any other matters of any type to either the successful Offeror or Bidder or the public agency or body seeking to obtain any goods and/or services pursuant to this cooperative procurement provision.

GENERAL TERMS, CONDITIONS, AND INSTRUCTIONS –IFB (Revised 04/2013)

READ CAREFULLY - FAILURE TO COMPLY WITH EACH AND EVERY PROVISION OF THIS INVITATION AND THE SPECIFICATIONS ARE GROUNDS TO DISQUALIFY A BIDDER

Wherever the term Roanoke County, County or Roanoke County Board of Supervisors is used it is understood to include the Roanoke County School Board, in addition, any contract awarded from this solicitation may be used by Roanoke County Public Schools and any other public entity for which the County of Roanoke acts as a fiscal or purchasing agent.

Individuals with disabilities, who require assistance or special arrangements in order to participate in bidding, please contact (540) 772-2061. We require that you provide at least 48 hours' notice so that reasonable efforts may be made to provide the proper arrangements. You may be requested to specify the nature of any accommodations or assistance, which may be required for your participation.

SUBMISSION AND RECEIPT OF BIDS:

- (a) To be considered, all bids must be delivered in a sealed envelope, clearly marked with the words "BID DOCUMENTS", bid number and the name of the item being bid and received in the Roanoke County Finance Department/Purchasing Division no later than the specified date and time for the bid opening. Failure to timely submit such bid shall disqualify the bidder and such bid will be returned to the bidder unopened. **NO FAXED BIDS WILL BE ACCEPTED.**
- (b) Unless otherwise specified, bidders must use the invitation to bid form furnished by the County. Failure to do so shall be grounds for rejection of the bid.
- (c) Bids having any erasures or corrections must be initialed in ink by the bidder. An authorized officer of the company must sign bids in ink. Such authorization shall be a part of the bid document. All bids must either be typewritten or printed in ink.
- (d) The original copy of the bid must not be permanently bound and one (1) electronic copy is preferred.

IMPORTANT NOTICE EFFECTIVE 3/14/2011 - ADDENDUMS, BIDS, RFPs, TABULATIONS AND NOTICES OF AWARD:

Vendors may visit <http://roanokecountyva.gov/list.aspx> to sign up to receive emails or text message notices about bids, proposals, addendums, bid tabulation and awards. Vendors can sign up to receive notification in selected commodity/service categories. It is the vendor's responsibility to keep information current in the system in order to receive the notifications. The sign up only requires an email address and/or a cell phone number for receiving text messages (if your phone is capable) and your choice of categories.

Although 'Notify Me' will be the only way to receive automatic notification, all BIDS/RFP Information will continue to be posted on our website, , and can be picked up at the Purchasing Division, 5204 Bernard Drive, Suite 300F, Roanoke, VA 24018. Phone # (540) 772-2061.

PRICES TO BE FIRM:

The bidder warrants, by virtue of bidding, that the prices, terms and conditions quoted in his bid will be firm for a period of 60 days from the date of the bid opening.

NET 30 after receipt of invoice. Price should include shipping.

INVOICES:

The contractor must send all invoices directly to the payment address shown on the purchase order/contract and must submit invoices for items ordered, delivered and accepted by Roanoke County. All invoices must show the purchase order/contract number. All contractors need to be properly registered as a payment vendor for the County in order to receive payment. All vendors previously registered are still in the system as a payment vendor. This system will no longer be used for notification of bids/RFPs.

PERFORMANCE BOND:

At the time of or prior to the execution of the contract, the County reserves the right to require the bidder or contractor to furnish a performance and/or labor and material payment bond with corporate surety, satisfactory to the County of Roanoke, in the amount of the contract price.

DELIVERY POINT:

Unless otherwise indicated, all items shall be delivered F.O.B. with destination and delivery charges included in the bid price. F.O.B. destination is interpreted to mean unloading and placing in the building or area as directed by the County.

CASH DISCOUNTS:

In determining the award of a bid, cash discounts for prompt payment will be considered. Discount time period computation shall commence from and after complete delivery, in satisfactory condition, and receipt of a properly documented invoice.

BRAND NAMES:

When a brand name appears in the specifications, it is solely for the purpose of establishing a grade or quality of material. The County does not wish to rule out other brands or manufacturers; therefore, the words "EQUIVALENT TO" are automatically included. However, if a product other than that specified is bid, it is the vendor's responsibility to prove to the County that said product is equivalent to that specified in the bid.

QUALITY:

All materials used for the manufacture or construction of any supplies, materials, or equipment covered by this bid shall be of the best quality available.

ACCEPTANCE OF MATERIAL:

Until such time as all the conditions in the contract are fulfilled, the County reserves the right to refuse and return material, at the seller's expense.

WARRANTY/RETURNS:

Clearly specify your warranty of product and handling of returns, including turnaround time on faulty equipment. Warranties and other technical data are to be included.

DELIVERY:

Time is of the essence for delivery of any items, products or service procured as a result of this bid. If delivery is not made at the time specified on the Invitation to Bid form, the County reserves the right to call in any and all bonds or other security given for performance, to cancel the order, or any part thereof, without obligation, to declare the seller in default, and to disqualify the seller from bidding on future County contracts.

DEFAULT PROVISION:

In case of default by the contractor, the County shall have the sole discretion to procure the articles or services from other sources. The defaulting contractor shall be liable for any and all costs in excess of the contract price occasioned by or resulting from such default whether directly or indirectly, which sums may be paid or credited from any forfeited bond or other security.

PRICING:

In the event of discrepancy between the total pricing and unit prices, the County in its sole discretion, shall determine the bid price.

Negotiation with lowest responsible Bidder: The County of Roanoke reserves the right to negotiate with the lowest responsible bidder if the low bid exceeds available funds. This provision will be used in accordance with County Code Chapter 17 (Ord. No. 3350, S2-30, 12-14-82). State Code 2.2.4318.

COPYRIGHTS OR PATENT RIGHTS:

The bidder warrants that there have been no violations of copyrights or patent rights in the manufacture, production or sale of the goods shipped or ordered as a result of this bid. The bidder agrees that the County of Roanoke shall be indemnified and held harmless from any and all liability or expense occasioned by any such violations.

FEES INCLUDED IN BID PRICE:

Submitted bids shall include in the price, the cost of any Business and/or Professional licenses, permits or fees as required by law.

TAX EXEMPTION:

The County of Roanoke is exempt from any taxes imposed by State and/or Federal Government. Upon notification, the County will furnish a certificate of tax exemption.

CERTIFICATION AND ABILITY:

The County of Roanoke reserves the right to request from the bidder, a separate manufacturer's certification of all statements made in the bid. The County may request any or all bidders to furnish proof of experience, ability and financial standing.

SIGNED BID CONSIDERED AN OFFER:

THIS INVITATION TO BID MUST BE SIGNED AS HEREIN PROVIDED. Submission of this signed invitation shall be considered an offer by the bidder or contractor to sell the items or services as required in the specifications. All bids are subject to approval by the County Board of Supervisors. In the case of default by the bidder or contractor after acceptance of a bid, the County of Roanoke may take such action, as it deems appropriate, including forfeiture of any and all bonds or other security and legal action for damages or specific performance.

NO BID:

To insure that your name remains on our bid listing, should you desire not to bid on a particular project, return the completed bid package marked with the words "NO BID". Failure to return to the County a bid or "NO BID" may cause your name to be removed from our listing.

COMPLIANCE WITH LAWS:

The bidder is responsible for compliance with all Local, State and/or Federal laws and regulations. The County of Roanoke shall be held harmless from any liability.

AUTHORITY TO TRANSACT BUSINESS IN VIRGINIA:

A Contractor organized as a stock or nonstock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the Code of Virginia or as otherwise required by law. Any business entity described herein that enters into a Contract with the County pursuant to the Virginia Public Procurement Act 2.2-4300 et seq. shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50 of the Code of Virginia, to be revoked or cancelled at any time during the term of the Contract. The County may void any Contract with a business entity if the business entity fails to remain in compliance with the provisions of this section. All corporations, LLC's and LLP's shall be registered with the State Corporation Commission. To determine whether your firm should register, please contact the SCC.

By my signature on this solicitation, I certify compliance with federal, state, and local laws and regulations applicable to the performance of the services described herein.

ACCEPTANCE OR REJECTION OF BIDS:

The County of Roanoke reserves the right to accept or reject any or all bids/offers. The County also reserves the right to award the contract for any such materials, goods or services the County deems will best serve its interests. It further reserves the right to award the contract on a split order basis, lump sum or individual basis, or such combinations as shall best serve the interest

of the County. Roanoke County reserves the right to make a site visit to the facility prior to bid award.

RULING LAW:

This invitation to bid and any contract executed pursuant hereto of which this invitation shall be an internal part shall be governed, controlled and interpreted in accordance with the laws of the Commonwealth of Virginia without reference to its conflict of law principles. Each party to such contract shall thereby submit to the exclusive jurisdiction of the Circuit Court of the County of Roanoke or, in the event that jurisdiction is authorized, to the United States District Court for the Western District of Virginia, sitting at Roanoke, Virginia.

NONDISCRIMINATION PROVISIONS:

During the performance of this contract, the contractor will not discriminate against any employee or applicant for employment because of age, race, religion, color, sex or national origin, except where religion, sex or national origin is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. The contractor, in all solicitations or advertisements for employees placed by or on behalf of the contractor, will state that such contractor is an equal opportunity employer.

INSURANCE

The CONTRACTOR shall purchase and maintain such insurance as will protect him from claims set forth below which may arise out of or result from the CONTRACTOR'S execution of the WORK, whether such execution be by himself or by any SUBCONTRACTOR or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

Claims under workmen's compensation, disability benefit and other similar employee benefit acts; and

Claims for damages because of bodily injury, occupational sickness or disease, or death of his employees; and

Claims for damages because of bodily injury, sickness liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the CONTRACTOR, or (2) by any other person; and

Claims for damages because of bodily injury, sickness, or disease, or death of any person other than his employees; and

Claims for damages because of injury in or destruction of tangible property, including loss of use resulting there from.

Certificates of insurance acceptable to the OWNER shall be filed with the OWNER prior to coverage's afforded under the policies will not be canceled unless at least fifteen (15) days prior WRITTEN NOTICE has been given to the OWNER.

The CONTRACTOR shall procure and maintain, at his own expense, during the CONTRACT TIME, liability insurance as hereinafter specified:

CONTRACTOR'S General Public Liability and Property Damage Insurance including vehicle coverage issued to the CONTRACTOR and protecting him from all claims for personal injury, including death, and all claims for destruction of or damage to property, arising out of or in connection with any operations under the CONTRACT DOCUMENTS, whether such operations be by himself or by any SUBCONTRACTOR under him, or anyone directly or indirectly employed by the CONTRACTOR or by a SUBCONTRACTOR under him. Insurance shall be written with a limit of liability of not less than \$1,000,000 for all damages arising out of bodily injury, including death, at any time resulting there from, sustained by any one person in any one accident; and a limit of liability of not less than \$1,000,000 aggregate for any such damages sustained by two or more persons in any one accident. Insurance shall be written with a limit of liability of not less than \$1,000,000 for all property damage sustained by any one person in any one accident; and a limit of liability of not less than \$1,000,000 aggregate for any such damage sustained by two or more persons in any one accident.

The CONTRACTOR shall procure and maintain, at his own expense, during the CONTRACT TIME, in accordance with the provisions of the laws of the state in which the WORK is performed. Workmen's Compensation Insurance, including occupational disease provisions, for all of his employees at the site of the PROJECT and in case any WORK is sublet, the CONTRACTOR shall require each SUBCONTRACTOR similarly to provide Workmen's Compensation Insurance, including occupational disease provisions for all of the latter's employees unless such employees are covered by the protection afforded by the CONTRACTOR. In case any class of employees engaged in hazardous WORK under this CONTRACT at the site of the PROJECT is not protected under Workmen's Compensation statute, the CONTRACTOR shall provide, and shall cause each SUBCONTRACTOR to provide, adequate and suitable insurance for the protection of his employees not otherwise protected.

QUESTIONS REGARDING THE BID:

Questions should be directed to:

Kate Hoyt, Buyer
5204 Bernard Dr., SW, Suite 300F
Roanoke VA 24018
Telephone: 540-283-8149
Email: khoyt@roanokecountyva.gov

SPECIAL INSTRUCTIONS:

ANTITRUST:

By entering into a contract, the bidder conveys, sells, assigns, and transfers to Roanoke County all rights, title, and interest in and to all causes of the action it may now or hereafter acquire

under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by Roanoke County under said contract.

ASSIGNMENT OF CONTRACT:

A contract shall not be assignable by the contractor in whole or in part without the written consent of Roanoke County.

AVAILABILITY OF FUNDS:

It is understood and agreed between the parties herein that Roanoke County shall be bound hereunder only to the extent of the funds available or which may hereafter become available for the purpose of this contract.

IMMIGRATION REFORM AND CONTROL ACT OF 1986:

By signing this bid, the bidder certifies that the firm does not and will not during the performance of this contract employ illegal alien workers or otherwise violate the Federal Immigration Reform and Control Act of 1986.

ANTI-COLLUSION CERTIFICATION:

By my signature on the face of this bid, I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a bid for the same materials, supplies, equipment, or services, and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of the Virginia Governmental Frauds Act and Federal Law and can result in fines, prison sentences, and civil damage awards. I agree to abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder.

KICKBACKS:

I certify and warrant that by my signature on this solicitation, neither I nor the bidder for whom I am authorized to act has offered or received any kickback from any other bidder, supplier, manufacturer, or subcontractor in connection with bid on this contract, subcontractor in order, in the form of any payment, loan, subscription, advance, deposit of money, services or anything, present or promised, unless consideration of substantially equal or greater value is exchanged. Further, no person shall demand or receive any payment, loan, subscription, advance, deposit of money, service, or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value is exchanged.

DEBARMENT:

By my signature on this solicitation, I certify that this person/firm/corporation is not currently barred from bidding on contracts by any agency of the Commonwealth of Virginia or the federal government of the United States of America, nor is this person/firm/corporation a part of any firm/corporation that is currently barred from bidding on contracts by any agency of the Commonwealth of Virginia or the federal government of the United States of America. I have attached an explanation of the previous debarment(s) and copies of notice(s) of reinstatement(s).

INDEMNIFICATION:

To the fullest extent permitted by law, the Vendor shall indemnify and hold harmless the County of Roanoke and their agents and employees from and against all claims, damages, losses and expenses, including but not limited to, attorneys' fees, arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting there from, and (2) is caused in whole or in part by any negligent act or omission of the Vendor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Paragraph.

The County cannot legally agree to any clause indemnifying the contractor from any damages arising out of the contract or holding the contractor harmless. The submission of a bid or proposal means that the contractor agrees not to request such language in the resulting contract.

CONTRACT:

Any contract resulting from his bid shall consist of the following documents: the General Terms and Conditions and the Specifications, both of which are contained in the Invitation for Bid, together with the bidders response, which consists of this document, the Price Schedule and other bid documents attached hereto or submitted with this document.

DRUG-FREE WORKPLACE:

During the performance of this contract, the contractor agrees to (i) provide a drug-free workplace for the contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in violation of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a contractor in accordance with this chapter, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

DATA ON CONVICTIONS FOR CERTAIN CRIMES AND CHILD ABUSE AND NEGLECT:

The contractor certifies that none of the persons who will provide services on school property or requiring direct contact with students has been convicted of any of the following felony or misdemeanor offenses: felony sex or violence offenses, other felony offenses or misdemeanor sex offenses within the past ten years.

The contractor further understands and acknowledges (1) that if he makes a materially false statement regarding any of the above offenses, he will be guilty of a Class 1 misdemeanor and may forfeit profits derived from the contract. Further, the contractor understands and acknowledges that before any person is permitted to provide such services subsequent to this certification, he must complete a new certification regarding such person in a form satisfactory to the School Board. The required certification form is attached hereto.

PROPRIETARY INFORMATION:

Ownership of all data, materials, and documentation originated and prepared for the County of Roanoke pursuant to the INVITAITON FOR BID shall belong exclusively to the County and be subject to public inspection in accordance with the Virginia Freedom of Information Act. Trade secrets or proprietary information submitted by a bidder shall not be subject to public disclosure under the Virginia Freedom of Information Act; however, the bidder must invoke the protections of Section 2.2-4342F of the Code of Virginia, in writing, either before or at the time the data or other material is submitted.

The bidder must specifically identify the data or materials to be protected and state the reasons why protection is necessary on the "Notice of Proprietary Information Form" below. In addition, the proprietary or trade secret material submitted must be identified by some distinct method such as highlighting or underlining in the Bid and must indicate only the specific words, figures, or paragraphs that constitute trade secret or proprietary information.

The classification of an entire bid document, line item prices, and/or total bid prices as proprietary or trade secrets is not acceptable and may result in rejection of the bid.

DATA ON CONVICTIONS FOR CERTAIN CRIMES AND CHILD ABUSE AND NEGLECT

CERTIFICATION OF CONTRACTOR

Full Name of Contractor: _____

Description of Contract: Walking Trail of Lights Installation

As required by Section 22.1-296.1 of the Code of Virginia, the undersigned hereby certifies that none of the persons who will provide services requiring direct contact with students on school property during school hours or during school-sponsored activities has been convicted of a felony or any offense involving the sexual molestation, physical or sexual abuse or rape of a child.

I further understand and acknowledge (1) that if I make a materially false statement regarding any of the above offenses, I will be guilty of a Class 1 misdemeanor and (2) that before any person is permitted to provide such services subsequent to this certification, I must complete a new certification regarding such person.

Date: _____

Name of Contractor

By: _____

TITLE

NOTICE OF PROPRIETARY INFORMATION FORM
INVITATION TO BID #2020-008 EXPLORE PARK WALKING TRAIL OF LIGHTS

Confidentiality References Protection in Accordance with the Code of Virginia, Section 2.2-4342

Section Title	Page #	Reason(s) for Withholding from Disclosure

INSTRUCTIONS: Identify the data or other materials to be protected and state the reasons by using the codes listed below. Indicate the specific words, figures, or paragraphs that constitute trade secrets or proprietary materials. The classification of an entire bid or proposal document, line item prices, and/or total bid or proposal prices as proprietary or trade secret is not acceptable and will result in rejection of the bid or proposal.

- A) This page contains information relating to "trade secrets", and "proprietary information" including processes. Operations, style of work, or apparatus. Identify confidential statistical data. Amount or source of any income...of any person (or) partnership. See Virginia Public Procurement Act. Section 2.2-4342. Unauthorized disclosure of such information would violate the Trade Secrets Act 18 U.S.C. 1905.
- B) This page contains proprietary information including confidential, commercial or financial information, which was provided to the Government on a voluntary basis and is of the type that would not customarily release to the public. See Virginia Public Procurement Act, Section 2.2-4342; 5 U.S.C. 552 (b) (4); 12 C.F.R. 309.5(c) (4).
- C) This page contains proprietary information including confidential, commercial or financial information. The disclosure of such information would cause substantial harm to competitive position and impair the Government's ability to obtain necessary information from contractors in the future. 5 U.S.C. See Virginia Public Procurement Act. Section 2.2-4342; 552 (b) (4)12 C.F.R. 309.5(c) (4).

PRICE FORM AND SIGNATURE PAGE
INVITATION TO BID #2020-008 EXPLORE PARK WALKING TRAIL OF LIGHTS

Total Project Cost (Lump Sum, per Attachment A): \$ _____

Estimated Completion Date: _____

BIDDERS SIGNING THE BID FORM AGREE THAT THE PRODUCT BEING BID CONFORMS TO ALL SPECIFICATIONS LISTED IN THE BID. BIDDER CERTIFIES THAT BY SUBMISSION OF THIS BID, HE HAS READ AND AGREES TO THE TERMS AND CONDITIONS SET FORTH IN THIS INVITATION TO BID.

DATE _____

PAYMENT TERMS NET 30

COMPANY NAME _____

ADDRESS _____ PHONE # _____

_____ FAX # _____

_____ EMAIL _____

FEIN _____ VA BUSINESS LICENSE NO. _____

VIRGINIA SCC # OR STATEMENT DESCRIBING WHY FIRM IS NOT REQUIRED TO BE SO AUTHORIZED PER VA CODE §2.2-4311.2 _____

SIGNATURE / TITLE _____

NAME / TITLE (please print) _____

To receive consideration for award, this signature sheet must be returned to the Purchasing Division, as it shall be a part of your response.

ATTACHMENT A TO IFB 2020-008

DRAWINGS: EXPLORE PARK TRAIL OF LIGHTS

GENERAL NOTES

PRE-CONSTRUCTION MEETING AND CONSTRUCTION COMMENCEMENT:

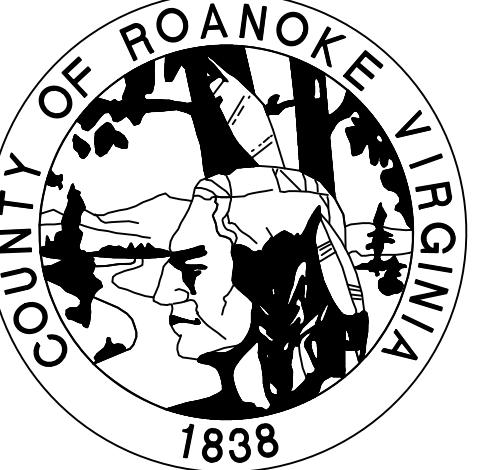
- All construction methods and materials shall conform to the Construction Standards and Specifications of Roanoke County, the Western Virginia Water Authority, and the Virginia Department of Transportation.
- Stormwater Management Agreement with an attached 8 1/2" x 11" or 8 1/2" x 14" plat must be approved and recorded prior to the pre-construction meeting.
- Once all required items are submitted to the County of Roanoke, the developer must contact the Development Review Coordinator to indicate that a pre-construction meeting needs to be scheduled. The pre-construction meeting will be scheduled with the owner/developer two (2) working days later.
- All land disturbing projects that require approval of an erosion and sediment control plan, grading or clearing permit shall require that the applicant provide the name of an individual who will be responsible for land disturbing activities and that this individual hold a Responsible Land Disturber (RLD) Certificate from the Department of Environmental Quality. The Responsible Land Disturber can be anyone from the Project team that is certified by the Commonwealth of Virginia to be in charge of carrying out the land disturbing activity for the project.
- It is the responsibility of the owner/developer to notify the certified Responsible Land Disturber and the Utility Contractor to attend the pre-construction meeting.
- The Development Review Coordinator will schedule the pre-construction meeting with the County Review Engineer, the County Inspector, and the Western Virginia Water Authority and the Town of Vinton Public Works Department if applicable.
- An approved set of plans, Storm Water Pollution Prevention Plan (SWPPP), VSMP coverage letter, and all permits must be available at the construction site at all times.
- The developer and/or contractor shall supply all utility companies with copies of approved plans, advising them that all grading and installation shall conform to approved plans.
- The project engineer will inform the owner/developer verbally and in writing of the County's obligation to perform inspections on site. Everyone in the meeting will be required to sign a pre-construction checklist indicating their knowledge of Roanoke County's obligation to perform inspections on site.
- The Erosion Control Permit or Combined Erosion Control & VSMP Permit is given to the developer at this pre-construction meeting.
- Notify the County of Roanoke prior to beginning installation of ESC measures. The County will inspect initial installations to ensure compliance with approved plan prior to start of grading. The developer SHALL contact the project inspector 24 hours before beginning any grading or construction on the property.
- County inspectors must inspect storm drain / stormwater management / BMP installations during the process of installation. Please contact the site inspector 24 hours in advance.
- All work shall be subject to inspection by Roanoke County, the Western Virginia Water Authority and the Virginia Department of Transportation Inspectors.
- Contractors shall notify utilities of proposed construction at least two (2), but not more than ten (10) working days in advance. Area public utilities may be notified thru "Miss Utility", 1-800-552-7001 or VA 811.
- The 100 year Floodway shall be staked prior to any construction.
- Grade stakes shall be set for all curb and gutter, culvert, sanitary sewer and storm sewer at all times of construction.
- The Department of Community Development shall be notified when a spring is encountered during construction.
- Construction debris shall be containerized in accordance with the Virginia Litter Control Act. No less than one litter receptacle shall be provided on site.
- The contractor shall provide adequate means of cleaning mud from trucks and/or other equipment prior to entering public streets or rights of ways. It is the contractors responsibility to insure that the streets are in a clean, mud and dust free condition at all times.
- Plan approval in no way relieves the developer or contractors of the responsibilities contained within the erosion and sediment control or stormwater management policies.
- Field construction shall honor proposed drainage divides as shown on plans.
- Field corrections shall be approved by the Roanoke County Engineering Division and/or the Western Virginia Water Authority and the Professional of Record, prior to such construction.
- The developer or contractor shall supply the County and the Western Virginia Water Authority with correct As-Built plans before final acceptance.

VIRGINIA DEPARTMENT OF TRANSPORTATION:

- Plan approval by Roanoke County does not guarantee issuance of any permits by the Virginia Department of Transportation.
- A permit must be obtained from the Virginia Department of Transportation, Salem Residency Office prior to construction in the highway right-of-way.
- The preliminary pavement designs should be based on a predicted sub-grade CBR value of 7.0 and with a Resiliency Factor (RF) of 2.0 as shown in Appendix I of the 2000 Virginia Department of Transportation Pavement Design Guide for Subdivision and Secondary Roads. The sub-grade soil is to be tested by an independent laboratory and the results submitted to the Virginia Department of Transportation prior to base construction. Should the sub-grade CBR value and/or the RF value be less than the predicted values, additional base material will be required in accordance with Departmental specifications. Refer to the same manual as the number and locations of the required soil samples to be tested. All pavement designs shall be submitted to the Department for review and approval. The sub-grade shall be approved by the Virginia Department of Transportation prior to placement of the base. Base shall be approved by the Virginia Department of Transportation for depth, template, and compaction before the surface is applied.
- Standard guardrail with safety end sections may be required on fills or in areas where hazards exist as deemed necessary. After completion of rough grading operations, the County Engineer and Virginia Department of Transportation shall be contacted to schedule a field review. Where guard rail is warranted, the standard shoulder width shall be provided and the guard rail shall be installed in accordance with the 2001 VDOT Road and Bridge Standards as part of this development.
- Standard street and traffic control signs shall be erected at each intersection by the developer prior to final street acceptance.
- All traffic devices shall be in accordance with current edition of the "Manual on Uniform Traffic Control Devices" (MUTCD).
- All unsuitable material shall be removed from the construction limits of the roadway before placing embankment.

See Sheet N/A for Stormwater Site Statistics Table.
See Sheet N/A for New BMP Information Table.

The Project Engineer shall provide electronic copies of the approved plans to the Development Review Coordinator within 5 working days of the pre-construction meeting.
The notes on this sheet shall not be modified.



COUNTY OF ROANOKE, VA

NOTE: THIS COST ESTIMATE TABLE IS PROVIDED FOR BONDING PURPOSES ONLY. VERIFICATION OF ALL QUANTITIES AND PRICES FOR BIDDING PURPOSES SHALL BE THE RESPONSIBILITY OF THE BIDDER.

QUANTITY & COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING		ACRES			
S.W.M. EXCAVATION		C.Y.			
S.W.M. EMBANKMENT		C.Y.			
DROP INLET DI-1		EACH			
VDOT STD DI-3B		EACH			
VDOT STD MH-2		LUMP SUM			
15" TYPE S HDPE PIPE		LIN. FT.			
15" HDPE PIPE		LIN. FT.			
36" TYPE S HDPE PIPE		LIN. FT.			
BOX CULVERT		LUMP SUM			
PAVED DITCH					
RIPRAP - CLASS		S.F.			
SODDED SWALE		S.Y.			
-IN. CONCRETE ENDWALL EW-		EACH			
PAVEMENT (INCLUDING SUB-BASE)					
CURB & GUTTER CG-6		LIN. FT.			
GRAVEL SHOULDER		S.Y.			
SURFACE TREATMENT		S.Y.			
-IN. BIT. CONC. TYPE B-		S.Y.			
-IN. BIT. CONC. TYPE S-		S.Y.			
-IN. BASE MATERIAL		C.Y.			
-IN. SUBBASE MATERIAL		C.Y.			
COMMERCIAL WATER METER (1") & Lateral		EACH			
FIRE HYDRANT ASSEMBLIES		EACH			
BLOW OFFS W/VAULT, FRAME & COVER		EACH			
8-IN. GATE VALVE, W/VAULT, FRAME & COVER		EACH			
-IN. GATE VALVE, W/VAULT, FRAME & COVER		EACH			
SANITARY SEWER MANHOLE		EACH			
8" PVC SANITARY SEWER MAIN		LIN. FT.			
6" SANITARY SEWER LATERAL & SAMPLING MANHOLE		EACH			
LANDSCAPING (SEE SHEET C-08)		LUMP SUM			
AS-BUILT PLANS - STORM SEWER		LUMP SUM			
SUB-TOTAL					
10% CONTINGENCY					
ESTIMATED TOTAL					
I HEREBY CERTIFY THAT THE FOREGOING ESTIMATE REFLECTS THE CURRENT IMPROVEMENT COSTS OF THIS PROJECT. SIGNED: _____ DATE: _____					

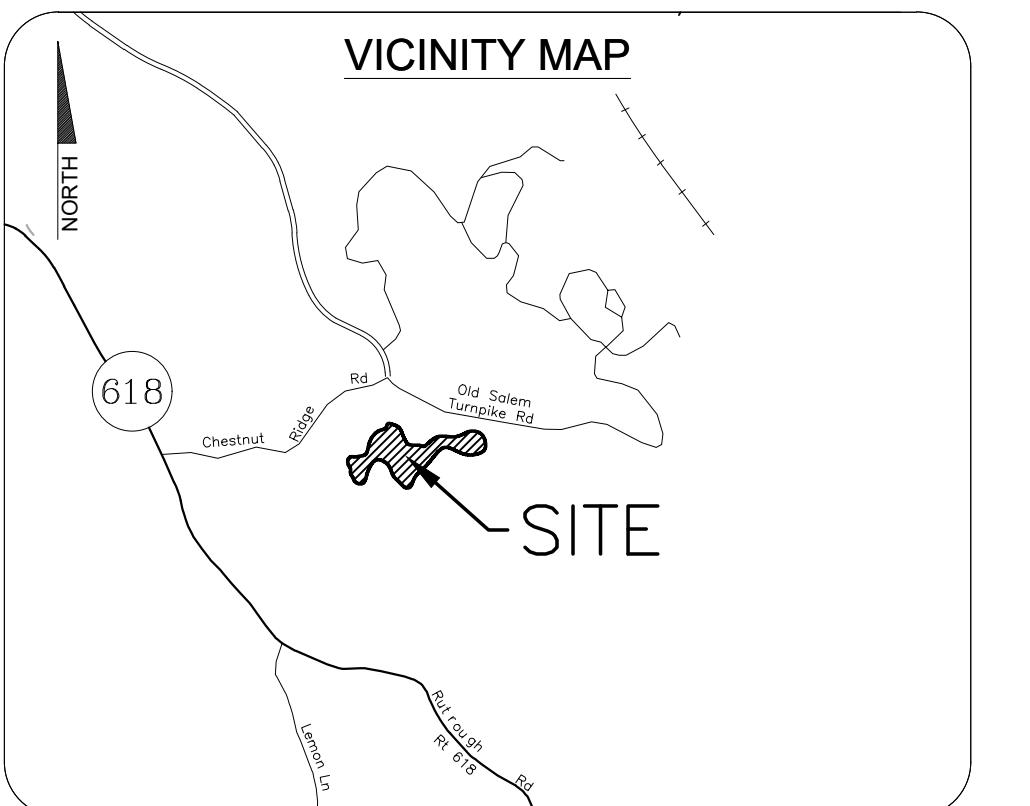
NOT APPLICABLE

NAME OF DEVELOPMENT	EXPLORE PARK - TRAIL OF LIGHTS	
MAGISTERIAL DISTRICT(S)	VINTON	
OWNER (name, address, telephone)	VIRGINIA RECREATIONAL FACILITY AUTH. P.O. BOX 29800 ROANOKE, VIRGINIA 24018	C/O BRIAN CARTER - FINANCE
DEVELOPER (name, address, telephone)	ROANOKE COUNTY PARKS, RECREATION, AND TOURISM 1206 KESSLER MILL ROAD SALEM, VIRGINIA 24153	
ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone)	BALZER AND ASSOCIATES, INC. 1208 CORPORATE CIRCLE ROANOKE, VA 24018	ATTN: CHRIS BURNS, P.E. 540-772-9580 FAX 540-772-8050
TAX MAP NO(S)	080.00-05-24.00-0000	

WATER NOTES

All water facilities shall be constructed according to the Western Virginia Regional Design and Construction Standards (Latest Edition).
A minimum cover of three (3) feet is required over proposed lines.
Contractor shall be responsible for locating and uncovering valve vaults after paving and adjustment to final grade if necessary.
All existing utilities may not be shown in their exact location. The contractor shall comply with the State Water Works Regulations, Section 12VAC5-590-1150, where lines cross.
All trenches in existing or future highway right-of-ways shall be compacted according to Virginia Department of Transportation standards.
Lines shall be staked prior to construction.
Water main shall be minimum Class 350 Ductile Iron in accordance to AWWA C151 or DR-14 PVC in accordance with AWWA C-900.
Ductile Iron pipe in accordance with the Western Virginia Regional Design and Construction Standards shall be required for all pipe with a working pressure equal to or greater than 100 p.s.i.

Western Virginia Water Authority
Availability letter number: N/A



LEGEND

Property Line	— - - - -
Right-of-way	— - - - -
Centerline	— - - - -
Minimum Building Line	— MBL —
Existing Storm Sewer	48" RCP 48" RCP
Existing Sanitary Sewer	8" SAN
Existing Water Main	8" WL
Existing Contour	1155
Proposed Contour	1155
Proposed Drainage Divide	— - - - -
Proposed Limits of Clearing	— - - - -
Proposed Storm Sewer	— - - - -
Proposed Sanitary Sewer	— - - - -
Proposed Water Main	8" SS
To Be Removed	T.B.R.

SEWER NOTES

All sanitary sewer facilities shall be installed according to the Western Virginia Regional Design and Construction Standards (Latest Edition).
A minimum cover of three (3) feet is required over proposed lines.
Contractor shall be responsible for locating and uncovering all manholes after paving. Manhole tops shall be leveled to grade if necessary.
All existing utilities may not be shown in their exact location. The contractor shall comply with (State Water Works Regulations, Section 12VAC5-590-1150, where lines cross.)
All trenches in existing or future rights-of-way shall be compacted according to Virginia Department of Transportation standards.
Lines shall be staked prior to construction.

PRIVATE UTILITIES

Underground utilities installed on private property or in private utility easements and building related storm drains shall be designed and installed per the current edition of the Virginia Uniform Statewide Building Code. Design and installation requirements issued by the Western Virginia Water Authority that meet or exceed the USEC requirements are acceptable for private utilities. All private utilities are to be permitted through inspection by the Roanoke County Inspections Office. Vaults, valves and other devices installed by order of the Western Virginia Water Authority may not be substituted for the code required devices.

C1	COVER SHEET
C2	LAYOUT, GRADING, & ESC PLAN
C3	E.S.C. NOTES
C4	E.S.C. DETAILS
E0.1	ELECTRICAL DETAILS & LEGEND
E1.1	ELECTRICAL SITE PLAN
E1.2	PANELBOARD SCHEDULES

Sheet Index

SURVEY INFORMATION

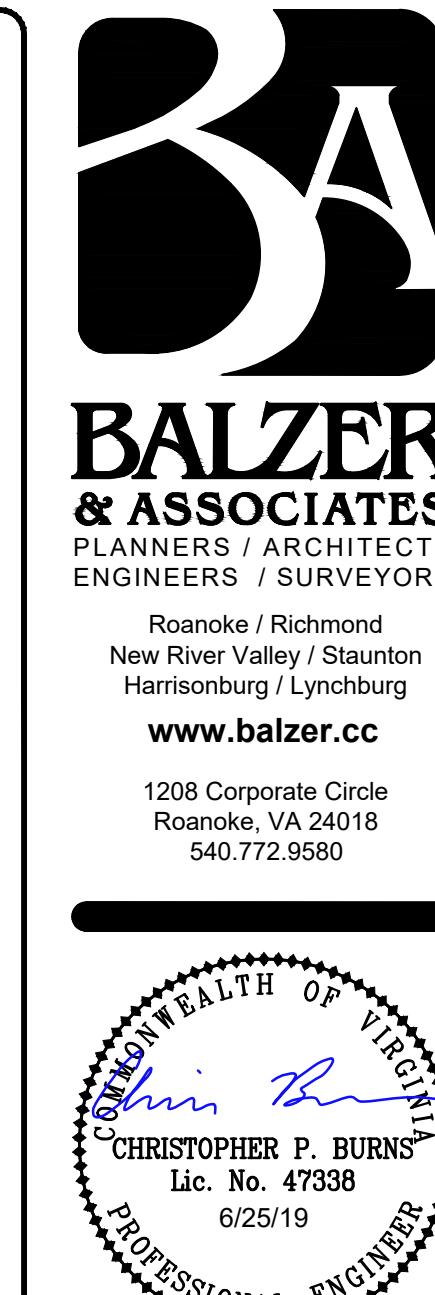
Horizontal and vertical control surveys were performed in year: 2019
By: BALZER & ASSOCIATES INC.
All vertical elevations must be referenced to the National Geodetic Vertical Datum of 1929 or 1988.
All horizontal elevations must be referenced to the North American Datum of 1927 or 1983.
Horizontal Datum: NAVD83 Vertical Datum: NAVD88
Source of topographic mapping is dated 2006
Boundary was performed by BALZER & ASSOCIATES, INC. dated: 2018
Benchmark Information: N/A

EXPLORE PARK
TRAIL OF LIGHTS
COVER SHEET
VINTON DISTRICT, ROANOKE COUNTY, VIRGINIA

DRAWN BY: EJP
DESIGNED BY: SMH
CHECKED BY: SMH
DATE: 5/24/2019
SCALE: N/A
REVISIONS: 6/25/2019
7/19/2019

C1

PROJECT NO. 0418001.00



SITE SUMMARY

OWNER: VIRGINIA RECREATIONAL FACILITIES AUTHORITY
 C/O BRIAN CARTER - FINANCE
 P.O. BOX 29800
 ROANOKE, VA 24018

DEVELOPER: ROANOKE COUNTY PARKS, RECREATION, & TOURISM
 1206 KESSLER MILL ROAD
 SALEM, VA 24153

TAX MAP NUMBER: 080.00-05-24.00-0000

SITE AREA: APPROX. 431 ACRES

ZONING: EP

DISTURBED AREA: APPROXIMATELY 0.94 AC.

GENERAL SITE NOTES:

1. NO CONSTRUCTION/FIELD CHANGES WITHOUT THE APPROVAL OF THE CONSULTING ENGINEER AND ROANOKE COUNTY.
2. ANY SITE FEATURES TO REMAIN THAT ARE DAMAGED OR DESTROYED DURING THE CONSTRUCTION PROCESS SHALL BE REPAIRED/REPLACED AS NECESSARY TO PRE-CONSTRUCTION CONDITIONS AT NO COST TO THE OWNER.
3. G.C. SHALL ENSURE THAT ALL APPROPRIATE PERMITS ARE IN HAND PRIOR TO ANY CONSTRUCTION.
4. G.C. TO CONFIRM ALL GRADES PRIOR TO CONSTRUCTION.
5. NO WATER/SEWER SERVICES ARE PROPOSED AS A PART OF THIS PROJECT.
6. G.C. SHALL BE RESPONSIBLE FOR DISPOSAL OF MATERIALS THAT MUST BE REMOVED FOR THE PROPOSED IMPROVEMENTS.
7. G.C. SHALL BE RESPONSIBLE FOR HAUL-OFF OF EXCESS MATERIAL FROM THE SITE AND DISPOSAL AT AN ACCEPTABLE LOCATION. ROANOKE COUNTY SHALL BE NOTIFIED OF THE LOCATION OF ANY OFF-SITE FILL OR BORROW AREAS. ANY OFF-SITE LOCATIONS MUST BE APPROVED BY ROANOKE COUNTY AND MUST BE A PERMITTED SITE.
8. SEE ELECTRICAL SHEETS FOR NEW SERVICE LOCATIONS AND DESIGN.
9. ELECTRICAL PULL BOXES TO BE PROVIDED AS NECESSARY BY THE CONTRACTOR.

ESC CONSTRUCTION SEQUENCE:

1. EXISTING GRAVEL PARKING AREA SHALL PROVIDE ACCESS AND SERVE AS THE CONSTRUCTION ENTRANCE.
2. AFTER THE SITE IS ACCESSED, SILT FENCE SHALL BE INSTALLED.
3. MINOR GRADING OPERATIONS SHALL BE PERFORMED AT THIS TIME AND NEW PATH AREAS EXCAVATED TO SUB-GRADE. CULVERTS TO BE INSTALLED AND CULVERT INLET AND OUTLET PROTECTION TO BE INSTALLED.
4. STONE BASE TO BE INSTALLED IN AREAS OF NEW PATH.
5. STONE DUST TOP COURSE SHALL BE INSTALLED AT THIS TIME.
6. ALL DENUDED AREAS SHALL BE SEDED AND STABILIZED AS NOTED ON PLANS.
7. SILT FENCE SHALL BE REMOVED, AS WELL AS CULVERT INLET PROTECTION.
8. ROANOKE COUNTY INSPECTION AND APPROVAL REQUIRED PRIOR TO REMOVAL OF ANY ESC MEASURES.

PATH CONSTRUCTION NOTES:

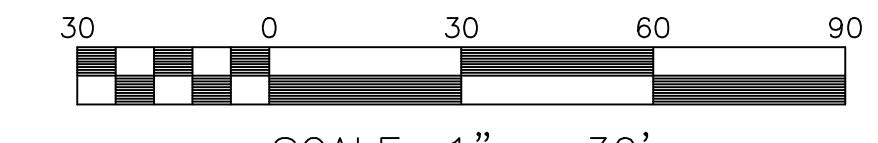
1. STONE TO BE PROVIDED AS NECESSARY TO PROVIDE A MINIMUM 2% CROSS SLOPE IN THE DIRECTION OF THE NATURAL GRADE TO PROVIDE SHEET FLOW ACROSS THE PATH AND TO PROVIDE SOLID BASE FOR SURFACE MATERIAL.
2. LONGITUDINAL SLOPE OF THE PATH IS TO BE LIMITED TO A MAXIMUM OF 10%.
3. MINOR GRADING OF SHOULders AS NECESSARY FOR DRAINAGE ACROSS THE PATH.
4. TREE CLEARING IS TO BE KEPT TO A MINIMUM THROUGHOUT THE SITE.
5. FINAL PATH LOCATION & ALIGNMENT TO BE COORDINATED WITH ROANOKE COUNTY PARKS, RECREATION, AND TOURISM BEFORE THE START OF CONSTRUCTION.
6. GRADED LIGHTING DISPLAY AREAS TO BE 8' X 8' WITH A MAXIMUM SLOPE OF 5%.

PATH LEGEND

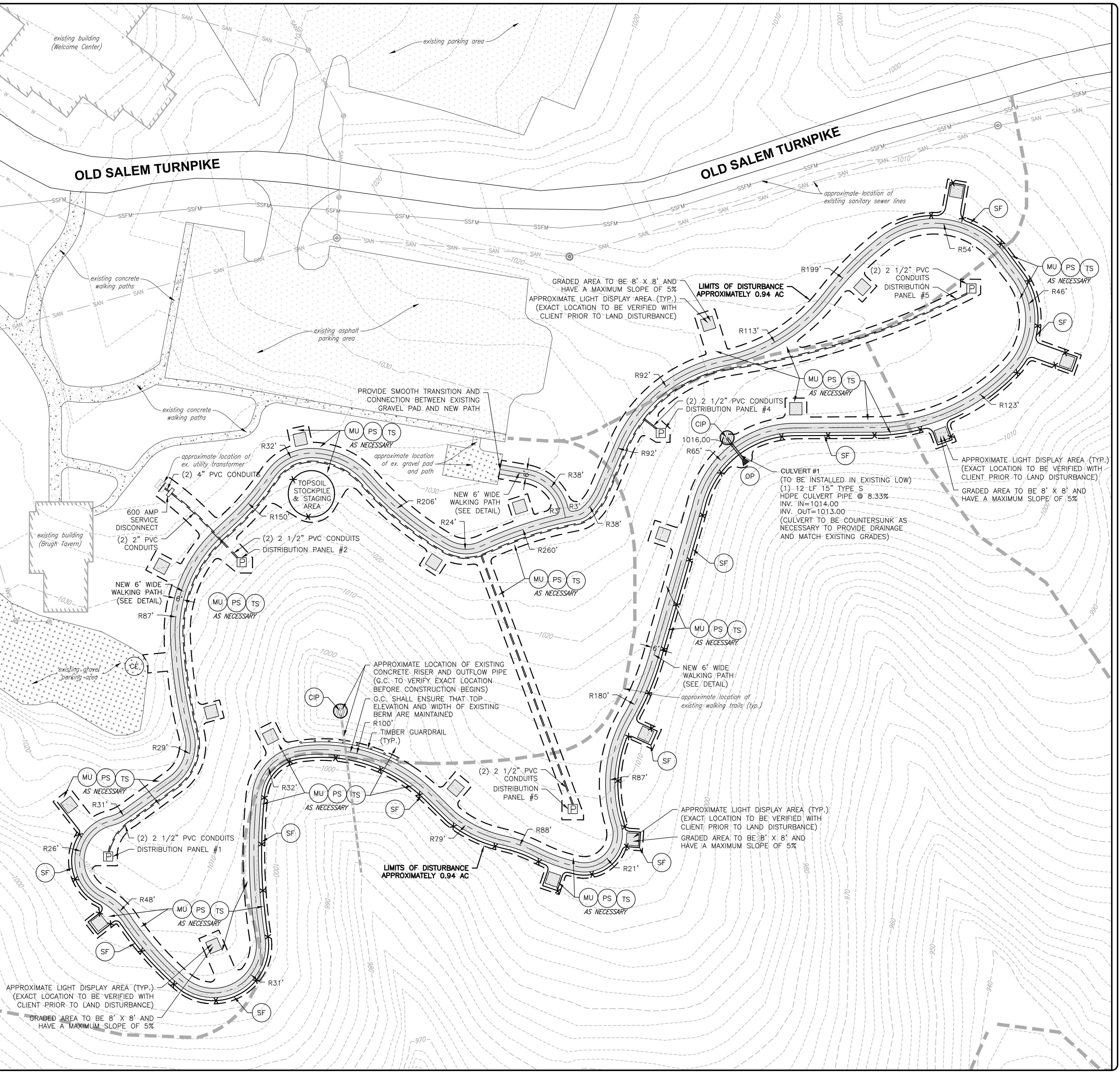
 NEW STONE DUST PATH

ESC LEGEND:

3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE
3.05	SILT FENCE	SF
3.08	CULVERT INLET PROTECTION	CIP
3.18	OUTLET PROTECTION	OP
3.31	TEMPORARY SEEDING	TS
3.32	PERMANENT SEEDING	PS
3.35	MULCHING	MU



SCALE: 1" = 30'



GENERAL EROSION AND SEDIMENT CONTROL NOTES

ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS

ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-5: PRIOR TO ISSUANCE OF A LAND DISTURBANCE PERMIT BY ROANOKE COUNTY, THE OWNER SHALL PROVIDE DOCUMENTATION OF AN EXISTING LAND DISTURBING PERMIT(S) THAT WOULD BE ASSOCIATED OR REQUIRED FOR ANY OFF-SITE BORROW OR WASTE AREAS; WHETHER LOCATED WITHIN THE COUNTY LIMITS OR NOT.

ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUN-OFF PRODUCING RAINFALL EVENT, ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

ES-10: ALL ASPHALT AREAS WILL BE STABILIZED WITH BASE STONE WITHIN 30 DAYS OF FINAL GRADING.

ES-11: PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

ES-12: THE LOCAL APPROVING AUTHORITY AND OTHER INTERESTED AGENCIES SHALL MAKE A CONTINUING REVIEW AND EVALUATION OF THE METHODS USED FOR THE OVERALL EFFECTIVENESS OF THE EROSION CONTROL PROGRAM. AN APPROVED EROSION AND SEDIMENT CONTROL PLAN MAY BE AMENDED BY THE APPROVING AUTHORITY ON THE BASIS OF NOTIFICATION INDICATED THAT THE APPROVED CONTROL MEASURES ARE NOT EFFECTIVE IN CONTROLLING EROSION AND SEDIMENTATION OR IF BECAUSE OF CHANGED CIRCUMSTANCES, THE APPROVED PLAN CANNOT BE CARRIED OUT.

ES-13: IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LEAVE THE SITE ADEQUATELY PROTECTED AGAINST EROSION, SEDIMENTATION, OR ANY DAMAGE TO ANY ADJACENT PROPERTY AT THE END OF EACH DAY'S WORK.

ES-14: ALL CONSTRUCTION TRAFFIC SHALL ENTER AND EXIT THE SITE VIA THE CONSTRUCTION ENTRANCES.

ES-15: FOR THE EROSION CONTROL KEY SYMBOLS SHOWN ON THE PLANS, REFER TO THE VIRGINIA UNIFORM CODING SYSTEM FOR EROSION AND SEDIMENT CONTROL PRACTICES CONTAINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. THESE SYMBOLS AND KEYS ARE TO BE UTILIZED ON ALL EROSION CONTROL PLANS SUBMITTED TO ROANOKE COUNTY.

TOTAL DISTURBED AREA = 0.94 AC. = 41,051 SQ. FT.

GRADING NOTES

REFER TO BUILDING PLANS FOR SUBGRADE AND UTILITY TRENCHES WITHIN 5' OF THE BUILDING ENVELOPE.

REMOVE TREES, SHRUBS, GRASS, AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS AS REQUIRED TO PERMIT INSTALLATION OF NEW CONSTRUCTION. REMOVE TREES AND OTHER VEGETATION, INCLUDING STUMPS AND ROOTS, COMPLETELY IN AREAS REQUIRED FOR SUBSEQUENT SEEDING. CUT OFF TREES AND STUMPS IN AREAS TO RECEIVE FILL MORE THAN THREE FEET IN DEPTH TO WITHIN EIGHT INCHES OF THE ORIGINAL GROUND SURFACE.

BARRICADE OPEN EXCAVATIONS OCCURRING AS PART OF THIS WORK AND OPERATE WARNING LIGHTS AS RECOMMENDED BY AUTHORITIES HAVING JURISDICTION.

EXCAVATION FOR STRUCTURES:

- a. CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN WITHIN A TOLERANCE OF 0.1'
- b. PROVIDE TRUE AND STRAIGHT FOOTING EXCAVATIONS WITH UNIFORM AND LEVEL BOTTOMS OF THE WIDTH INDICATED TO ENSURE PROPER PLACEMENT AND COVER OF ALL REINFORCEMENT.
- c. REMOVE ALL LOOSE MATERIALS FROM THE EXCAVATION PRIOR TO PLACEMENT OF CONCRETE.
- d. FOOTINGS WHICH SUPPORT CONCRETE MASONRY UNITS MAY BE STEPPED PROVIDED THE VERTICAL STEP DOES NOT EXCEED ONE HALF OF THE HORIZONTAL DISTANCE BETWEEN STEPS AND HORIZONTAL DISTANCE BETWEEN STEPS IS NOT LESS THAN TWO FEET.
- e. IF ROCK IS ENCOUNTERED IN A FOOTING EXCAVATION, UNDERCUT IT A MINIMUM EXCAVATION WITH CONTROLLED FILL.

CUT SURFACE UNDER PAVEMENTS TO COMPLY WITH CROSS SECTIONS, ELEVATIONS, AND GRADES AS INDICATED.

EXCAVATE TRENCHES TO UNIFORM WIDTH CONFORMING TO VDOT STANDARD PB-1 FOR STORM DRAINAGE PIPING.

PREVENT SURFACE WATER AND SUBSURFACE OR GROUND WATER FROM FLOWING INTO EXCAVATIONS AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING FOOTINGS, AND SOIL CHANGES DEDIMENTAL TO STABILITY OF SUBGRADES AND FOUNDATIONS. CONVEY WATER WHEN ATMOSPHERIC TEMPERATURE IS LESS THAN 35°F (1°C).

PROTECT EXCAVATED BOTTOMS OF ALL FOOTINGS AND TRENCHES AGAINST FREEZING WHEN ATMOSPHERIC TEMPERATURE IS LESS THAN 35°F (1°C).

BACKFILLING:

- a. COMPACT THE BACKFILL AROUND THE OUTSIDE OF EACH BUILDING TO A MINIMUM OF 85% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 STANDARD PROCTOR. DO NOT ALLOW HEAVY COMPACTION EQUIPMENT SUCH AS ROLLERS, ETC., CLOSER TO ANY FOOTING THAN THE HORIZONTAL DISTANCE SUBTENDED BY A 45° ANGLE WITH THE TOP EDGE OF THE FOOTINGS AND THE SURFACE OF THE GROUND.
- b. BACKFILL BEHIND WALLS AFTER PERMANENT CONSTRUCTION WHICH BRACES THE WALL IS IN PLACE OR TEMPORARY BRACING OF THE WALL IS PROPERLY INSTALLED, AND AFTER ACCEPTANCE OF CONSTRUCTION BELOW FINISH GRADE INCLUDING DAMP-PROOFING, REMOVAL OF CONCRETE FORMWORK, AND REMOVAL OF TRASH AND DEBRIS.

FINISH LAWN AREAS TO WITHIN ONE INCH ABOVE OR BELOW REQUIRED SUBGRADE ELEVATIONS. SHAPE SURFACE UNDER WALKS AND PAVEMENTS TO LINE, GRADE, AND CROSS SECTION, WITH NOT MORE THAN 1/2" ABOVE OR BELOW REQUIRED SUBGRADE ELEVATION.

GRADE SURFACE UNDER BUILDING SLABS SMOOTH AND EVEN, FREE OF Voids. PROVIDE FINAL GRADES WITHIN 1/2" OF THOSE INDICATED WHEN TESTED WITH A 10' STRAIGHT EDGE.

PROTECT GRADED AREAS FROM TRAFFIC AND EROSION. REPAIR AREAS WHICH HAVE SETTLED, ERODED, OR BECOME DAMAGED DUE TO CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO OWNER.

PLACE ALL FILL AND BACKFILL AS CONTROLLED FILL AS FOLLOWS:

- a. ESTABLISH SUITABLE SUBGRADE CONDITIONS PRIOR TO PLACING FILL BY PROOFROLLING, UNDERCUTTING AND COMPACTION AS NECESSARY.
- b. PLACE FILL MATERIALS IN LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR HEAVY COMPACTION EQUIPMENT, NOT MORE THAN 4" FOR HAND TAMPER.
- c. PRIOR TO COMPACTION, PROVIDE MOISTURE CONTENT TO WITHIN 3% OF OPTIMUM BY MOISTENING OR AERATING EACH LAYER. DO NOT PLACE FILL MATERIAL ON SURFACES WHICH ARE MUDDY, FROZEN OR CONTAIN FROST OR ICE.
- d. COMPACT SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 698 (STANDARD PROCTOR):
 - i. 95% UNDER PAVEMENT
 - ii. 85% UNDER LAWN OR UNPAVED AREAS

SPREAD TOPSOIL TO A DEPTH OF 4" OVER ALL DISTURBED AREAS NOT RECEIVING WALKS, PAVEMENT, WALLS OR BUILDING, INCLUDING TRENCHES. IMMEDIATELY FOLLOWING PLACEMENT OF TOPSOIL, DISK THE ENTIRE TOPSOILED AREA AND RAKE FREE OF STONES AND DEBRIS OVER 1/2" IN ANY DIMENSION. PROVIDE A FINISHED SURFACE FREE OF DEPRESSIONS OR HIGH SPOTS. SEED IMMEDIATELY.

OWNER (CONTRACTOR) SHALL EMPLOY QUALIFIED SOILS TESTING LABORATORY TO INSPECT EARTHWORK OPERATIONS. NOTIFY LABORATORY PRIOR TO PERFORMING EARTHWORK OPERATIONS.

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION:
THIS PROJECT CONSISTS OF THE CONSTRUCTION OF A WALKING TRAIL IN THE VICINITY OF THE WELCOME CENTER OF EXPLORE PARK. THIS SITE IS LOCATED WITHIN EXPLORE PARK IN ROANOKE COUNTY, VIRGINIA. THE DISTURBED AREA FOR THIS PROJECT IS APPROXIMATELY 0.94 ACRES.

EXISTING SITE CONDITIONS:
THE SITE CURRENTLY CONSISTS OF DENSELY WOODED AREA AND MANAGED TURF.

ADJACENT PROPERTY:
THE SITE IS BOUNDED ON ALL SIDES BY EXPLORE PARK PROPERTY.

OFF-SITE AREAS:
MATERIAL WILL NEED TO BE HAULED OFF-SITE FROM EXCAVATION FOR TRAIL SUBGRADE. THE COUNTY OF ROANOKE WILL BE NOTIFIED OF THE LOCATION OF ANY MATERIAL BEING TRANSPORTED FROM THE SITE TO ENSURE IT IS LOCATED WITHIN AN APPROVED AND PERMITTED LOCATION.

SOILS:
A SUBSURFACE INVESTIGATION HAS NOT BEEN PROVIDED. SOIL INFORMATION IS AVAILABLE ON THE RESIDUAL SOILS THAT IS SUGGESTED IN THE "SOIL SURVEY OF ROANOKE COUNTY AND THE CITIES OF ROANOKE AND SALEM, VIRGINIA" AS PREPARED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. THIS SURVEY IDENTIFIES THE ORIGINAL SOIL MATERIALS ON THE SITE AS 26C - HAYESVILLE FINE SANDY LOAM, 7 TO 15 PERCENT SLOPES & 28E - HAYESVILLE CHANNERY FINE SANDY LOAM, 25 TO 50 PERCENT SLOPES, VERY STONE.

Critical Erosion Areas:
SPECIAL CARE SHALL BE TAKEN TO ENSURE THAT NO SEDIMENT LADEN RUNOFF DRAINS TO THE EXISTING WETLANDS AREA.

Erosion and Sediment Control Measures:
UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, THIRD EDITION" (VESCH). THE MINIMUM STANDARDS OF THE VESCH SHALL BE ADHERED TO UNLESS OTHERWISE DIRECTED BY THE LOCAL PROGRAM ADMINISTRATOR.

Silt Fence-STD. 3.05....A TEMPORARY BARRIER CONSTRUCTED ALONG THE PERIMETER OF THE DISTURBED AREA AS REQUIRED TO INTERCEPT AND DETAIN SEDIMENT.

Culvert Inlet Protection-STD. 3.07....THE INSTALLATION OF VARIOUS KINDS OF SEDIMENT TRAPPING MEASURES AT CULVERT STRUCTURES PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA.

Outlet Protection-STD. 3.18....THE INSTALLATION OF A RIPPAP CHANNEL SECTIONS AND/OR STILLING BASINS BELOW STORM DRAIN OUTLETS TO REDUCE EROSION AND UNDER-CUTTING FROM SCOURING AT OUTLETS AND TO REDUCE FLOW VELOCITIES BEFORE STORMWATER ENTERS RECEIVING CHANNELS BELOW THESE OUTLETS.

Vegetative:
TEMPORARY SEEDING-STD. 3.31....ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR PERIODS OF 14 DAYS TO 1 YEAR BY SEEDING WITH AN APPROPRIATE RAPIDLY GROWING SEED MIXTURE.

Permanent Seeding-STD. 3.32....ESTABLISHMENT OF A VEGETATIVE COVER BY PLANTING SEED ON ALL FINAL GRADED AREAS THAT WILL NOT RECEIVE AN IMPERVIOUS COVER OR RECEIVE TOPSOIL MATERIAL TO PROVIDE A STABILIZED SITE AFTER THE PROJECT IS COMPLETE.

Mulching-3.35....MULCH SHALL BE APPLIED TO ALL TEMPORARY AND PERMANENT SEEDING OPERATIONS TO PROMOTE THE GROWTH OF VEGETATION AND TO PROTECT THE SOIL SURFACE FROM RAINDROP IMPACTS.

Management Strategies:
a) CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
b) SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING.
c) THE LOCAL PROGRAM ADMINISTRATOR RESERVES THE RIGHT TO ADD, TO, DELETE OR OTHERWISE CHANGE THE EROSION CONTROL MEASURES AS DEEMED NECESSARY DUE TO ACTUAL FIELD CONDITIONS BY WRITTEN NOTIFICATION TO THE CONTRACTOR.
d) ALL FILL AND CUT SLOPES SHALL BE SEDED WITHIN SEVEN (7) DAYS OF ACHIEVING FINAL GRADE.
e) ONLY AFTER INSPECTION AND APPROVAL FROM THE LOCAL PROGRAM ADMINISTRATOR MAY ITEMS BE REMOVED FOLLOWING THE STABILIZATION OF THE CONTRIBUTING AREAS.

Inspections:
THE GENERAL CONTRACTOR SHALL INSPECT DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED, AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, AND THE AREA OF CONSTRUCTION VEHICLE ACCESS AT LEAST EVERY FOURTEEN (14) CALENDAR DAYS, AND WITHIN 48 HOURS OF THE END OF A STORM EVENT PRODUCING 1/2" OR GREATER OF PRECIPITATION, WHERE AREAS HAVE BEEN FINALLY OR TEMPORARILY STABILIZED OR RUNOFF IS UNLIKELY DUE TO WINTER CONDITIONS (SITE COVERED WITH SNOW, ICE, OR FROZEN GROUND EXISTS). SUCH INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH.

a) INSPECT DISTURBED AREAS AND AREAS OF MATERIALS STORAGE THAT ARE EXPOSED TO PRECIPITATION FOR EVIDENCE OF, OR THE POTENTIAL FOR EROSION, EROSION, ERODED STREAM SYSTEMS, INSPECTION & CONTROLS IN ACCORDANCE WITH REQUIREMENTS STATED HEREIN AND INSPECT PORTS OF STORM DRAIN DISCHARGE FOR EXCESSIVE SEDIMENTATION. CORRECT SITE CONTROLS AS REQUIRED TO REDUCE SEDIMENTATION OF STORM DRAINS, CULVERTS, AND RECEIVING CHANNELS.

b) IF CONTROLS OR SEDIMENT PREVENTION AREAS ARE FOUND TO BE IN NEED OF REPAIR OR MODIFICATION, THE GENERAL CONTRACTOR SHALL PROVIDE ADDITIONAL MEASURES OR MODIFICATIONS TO EXISTING MEASURES AS REQUIRED. ANY ADDITIONAL MEASURES OR MODIFICATIONS TO EXISTING MEASURES SHALL BE RECORDED AS FIELD REVISIONS TO THESE PLANS. IN THE EVENT THAT ADDITIONAL CONTROLS ARE FOUND TO BE REQUIRED, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING THESE CONTROLS BEFORE THE NEXT ANTICIPATED STORM EVENT. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICAL, THEY SHALL BE IMPLEMENTED AS SOON AS PRACTICAL.

c) A REPORT SUMMARIZING THE SCOPE OF INSPECTIONS, NAME OF INSPECTOR, INSPECTOR'S QUALIFICATIONS, DATES OF INSPECTIONS, MAJOR OBSERVATIONS PERTAINING TO THE IMPLEMENTATION OF THESE EROSION CONTROL PLANS, AND ACTIONS TAKEN SHALL BE MADE AND RETAINED AS A PART OF THESE PLANS. MAJOR OBSERVATIONS OF THESE REPORTS SHALL INCLUDE: THE LOCATIONS OF EXCESSIVE SEDIMENTATION FROM THE SITE; LOCATIONS OF CONTROLS IN NEED OF REPAIR; LOCATIONS OF FAILED OR INADEQUATE CONTROLS; AND LOCATIONS WHERE ADDITIONAL CONTROLS ARE NEEDED.

Stormwater Management:

ALL STORM RUNOFF FROM THIS PROJECT TO REMAIN AS SHEET FLOW. DUE TO THE MINIMAL INCREASE IN IMPERVIOUS AREA AND THE LINEAR NATURE OF THE PROJECT, THIS PROJECT IS NOT ANTICIPATED TO HAVE ANY NOTICEABLE AFFECT ON EROSION, SEDIMENTATION, OR FLOODING.

This Project is part of a common plan of development and the stormwater quality requirements for the common plan are being addressed through the creation of a forested BMP easement.

PATH GRADING SECTION

NO SCALE

1. LONGITUDINAL SLOPE OF THE PATH IS TO BE LIMITED TO A MAXIMUM OF 10%.


STANDARD PATH SECTION

NO SCALE

1. 6" STONE BASE MUST BE PLACED IN TWO LIFTS OF NO MORE THAN 3" EACH. G.C. TO ENSURE A MINIMUM OF 95% COMPACTION OF THE SUB-GRADE PRIOR TO STONE PLACEMENT.

2. G.C. TO PROVIDE CROSS SLOPE IN DIRECTION OF NATURAL GRADE TO MAINTAIN SHEET FLOW ACROSS THE PATH.

MINIMUM STANDARDS

THE FOLLOWING STANDARDS ARE TO BE PROVIDED OR ADDRESSED ON EVERY DEVELOPMENT PROJECT EXCEEDING 5000 S.F. IN AREA OF DISTURBANCE. THESE STANDARDS ARE CONSIDERED A MINIMUM AND MAY REQUIRE ADDITIONAL MEASURES AS DEEMED NECESSARY BY THE LOCAL APPROVING AUTHORITY OR THE CONSULTING ENGINEER.

NO.	CRITERIA, TECHNIQUE OR METHOD	PRACTICES PROVIDED
1	PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE HAS BEEN REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN FOURTEEN (14) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE (1) YEAR.	TS PS MU
2	DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.	SF TS PS
3	A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE LOCAL PROGRAM ADMINISTRATOR OR DESIGNATED AGENT, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.	TS PS MU
4	SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER ME	

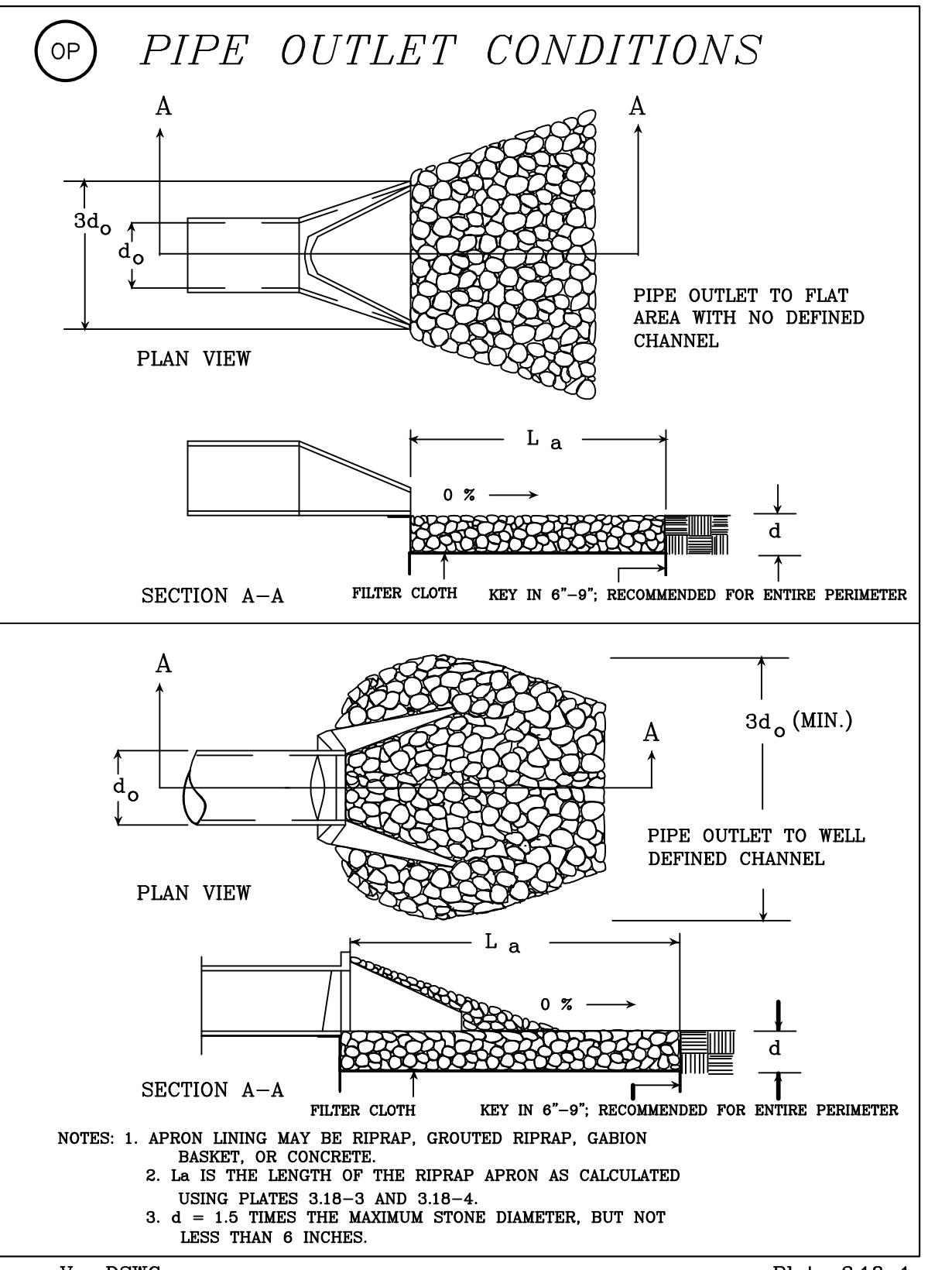


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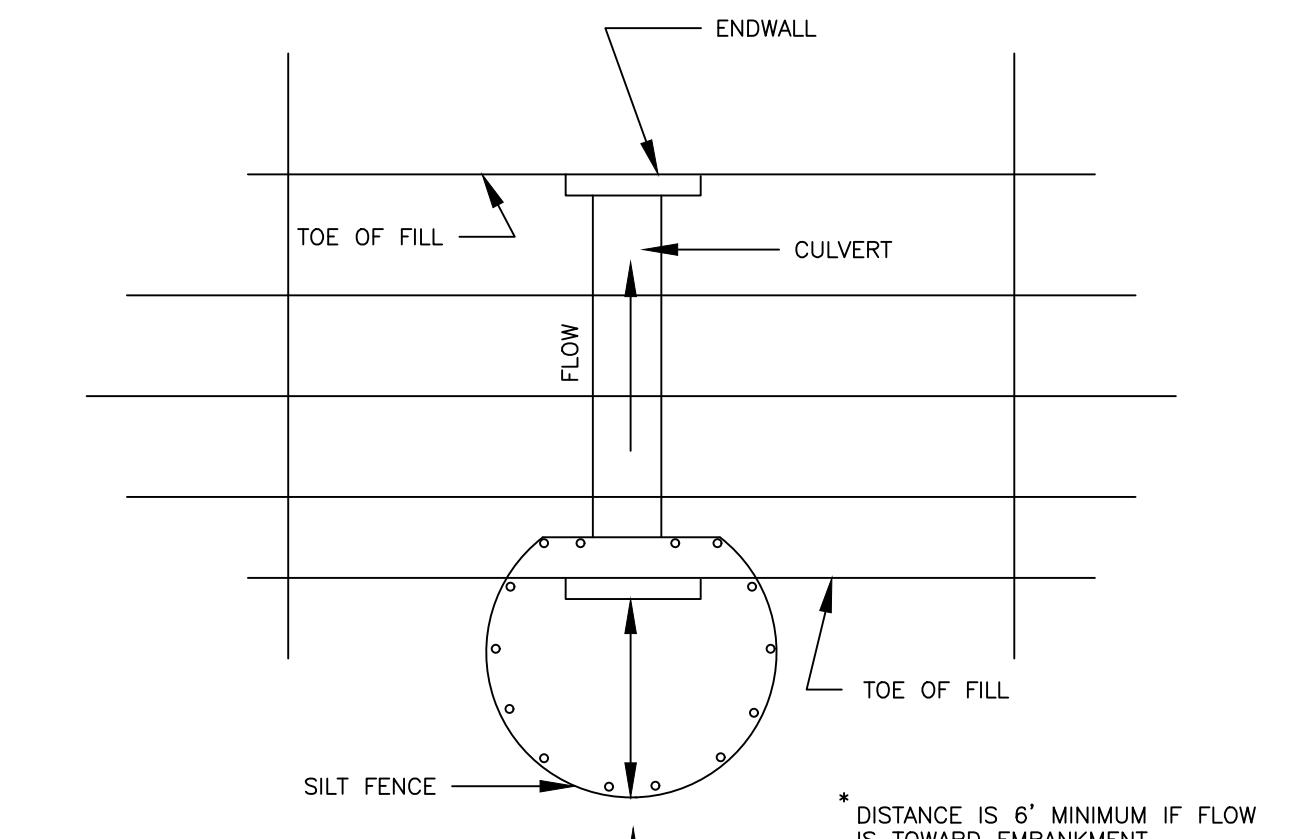
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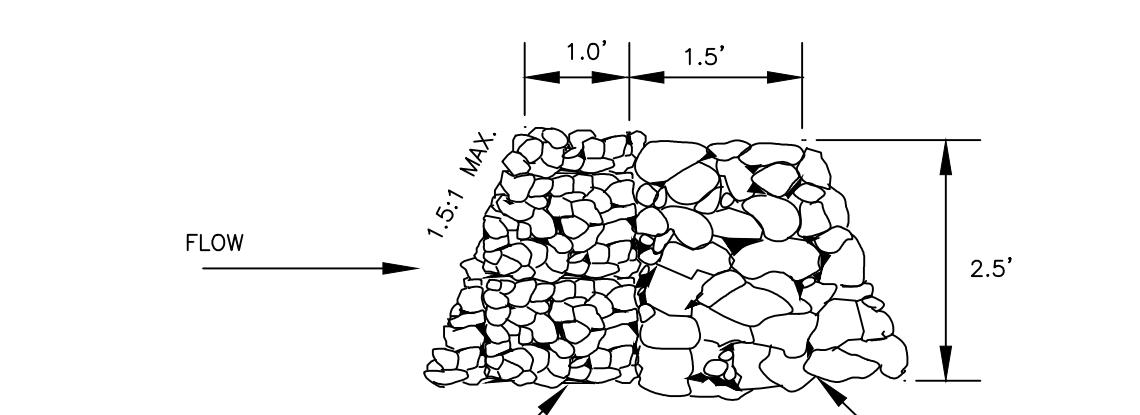
Source: Va. DSWC Plate 3.18-1

OUTLET PROTECTION CULVERT #1
EC-1 CLASS II RIP RAP
LENGTH OF APRON=3.75' (La)
WIDTH OF APRON=5.00' (Wa)
MIN. D50 STONE SIZE=6"

CIP SILT FENCE CULVERT INLET PROTECTION

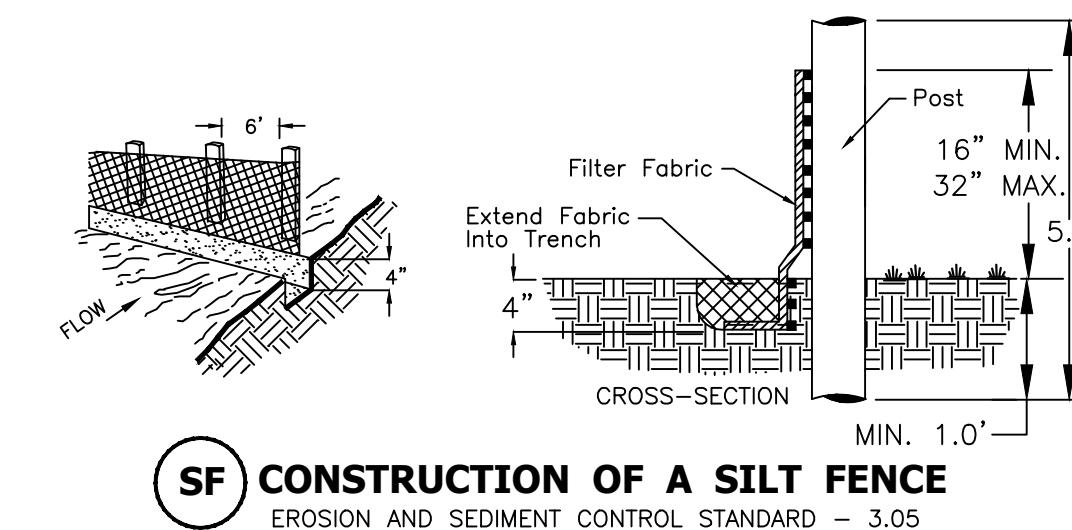


*** OPTIONAL STONE COMBINATION**



SOURCE: ADAPTED from VDOT Standard Sheets and Va. DSWC

PLATE. 3.08-1



EROSION AND SEDIMENT CONTROL STANDARD - 3.05

TABLE 3.31-B
(Revised June 2003)
TEMPORARY SEEDING SPECIFICATIONS
QUICK REFERENCE FOR ALL REGIONS

SEED		
APPLICATION DATES	SPECIES	APPLICATION RATES
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (Iolium multi-florum) & Cereal (Winter) Rye (Secale cereale)	50-100 (lbs/acre)
Feb. 16 - Apr. 30	Annual Ryegrass (Iolium multi-florum)	60-100 (lbs/acre)
May 1 - Aug. 31	German Millet	50 (lbs/acre)

FERTILIZER & LIME		
• Apply 10-10-10 fertilizer at a rate of 450 lbs. / acre (or 10 lbs. / 1,000 sq. ft.)		
• Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)		

NOTE:
1 - A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
2 - Incorporate the lime and fertilizer into the top 4-6 inches of the soil by disking or by other means.
3 - When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin #4, 2003 Nutrient Management for Development Sites at <http://www.dcr.state.va.us/sw/e&s.htm#pubs>

TS TEMPORARY SEEDING SPECIFICATIONS

TABLE 3.32-C
(Revised June 2003)
PERMANENT SEEDING SPECIFICATIONS FOR APPALACHIAN/MOUNTAIN AREA

SEED ¹		
LAND USE	SPECIES	APPLICATION RATES
Minimum Care Lawn (Commercial or Residential)	Tall Fescue ¹ Perennial Ryegrass ² Kentucky Bluegrass ¹	90-100% 0-10% 0-10% TOTAL: 200-250 lbs
High-Maintenance Lawn	Minimum of three (3) up to five (5) varieties of Kentucky Bluegrass from approved list for use in Virginia ¹	TOTAL: 125 lbs
General Slope (3:1 or less)	Tall Fescue ¹ Red Top Grass or Creeping Red Fescue Seasonal Nurse Crop ³	128 lbs 2 lbs 20 lbs TOTAL: 150 lbs
Low-Maintenance Slope (Steeper than 3:1)	Tall Fescue ¹ Red Top Grass or Creeping Red Fescue Seasonal Nurse Crop ³ Crownvetch ⁴	108 lbs 2 lbs 20 lbs 20 lbs TOTAL: 150 lbs

1 - When selecting varieties of turfgrass, use the Virginia Crop Improvement Association (VICA) recommended turfgrass variety list. Quality seed will be a label indicating that they are approved by VICA. A current turfgrass variety list is available from your local County Extension office or through VICA at 804-464-4884 or at <http://www.vica.vt.edu/html/publications/publications2.html>
2 - Perennial Ryegrass will germinate faster and at lower soil temperatures than Tall Fescues, thereby providing cover and erosion resistance for seedbed.

3 - Use seasonal nurse crop in accordance with seeding dates as stated below:

March, April - May 15th Annual Rye
May 15th - August 15th Foxtail Rye

August 15th - September, October Annual Rye
November - February Winter Rye

4 - All legume seed must be properly inoculated. If flatpea is used, increase to 30 lbs/acre. If Weeping Lovegrass is used, include in any slope or low maintenance mixture during warmer seeding periods; increase to 30-40 lbs/acre.

FERTILIZER & LIME		
• Apply 10-20-10 fertilizer at a rate of 500 lbs. / acre (or 12 lbs. / 1,000 sq. ft.)		
• Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)		

NOTE:
1 - A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
2 - Incorporate the lime and fertilizer into the top 4-6 inches of the soil by disking or by other means.
3 - When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin #4, 2003 Nutrient Management for Development Sites at <http://www.dcr.state.va.us/sw/e&s.htm#pubs>

PS PERMANENT SEEDING SPECIFICATIONS

Erosion & Sediment Control Technical Bulletin No. 4
Nutrient Management for Development Sites

C. When applying maintenance fertilizer on established sod,

Month	Type of Grass			
	Tall Fescue Perennial Rye	Kentucky Bluegrass	Bermudagrass	Zoysiagrass
September	1	1	0	0
October	1	1	0	0
Early November	0	0	0	0
April	0	0	0	0
May	0.05	0.05	1	1
June	0	0	1	0
July/August	0	0	0	1
Yearly Lbs. N/1000 sf	2.5	2.5	2	2

Month	Type of Grass			
	Tall Fescue Perennial Rye	Kentucky Bluegrass	Bermudagrass	Zoysiagrass
August 15	1.5	1.5	0	0
October 1	1.5	1.5	0	0
April	0	0	1.5	1.5
May 15	0	0	0	0
June	0	0	1.5	1.5
Yearly Lbs. N/1000 sf	3	3	3	3

FERTILIZER SPECIFICATIONS AND
RATES FOR MANAGEMENT

EXPLORE PARK
TRAIL OF LIGHTS
ESC DETAILS
VINTON DISTRICT, RONOM COUNTY, VIRGINIA

DRAWN BY: EJP
DESIGNED BY: SMH
CHECKED BY: SMH
DATE: 5/24/2019
SCALE: N/A
REVISIONS: 6/25/2019
7/19/2019

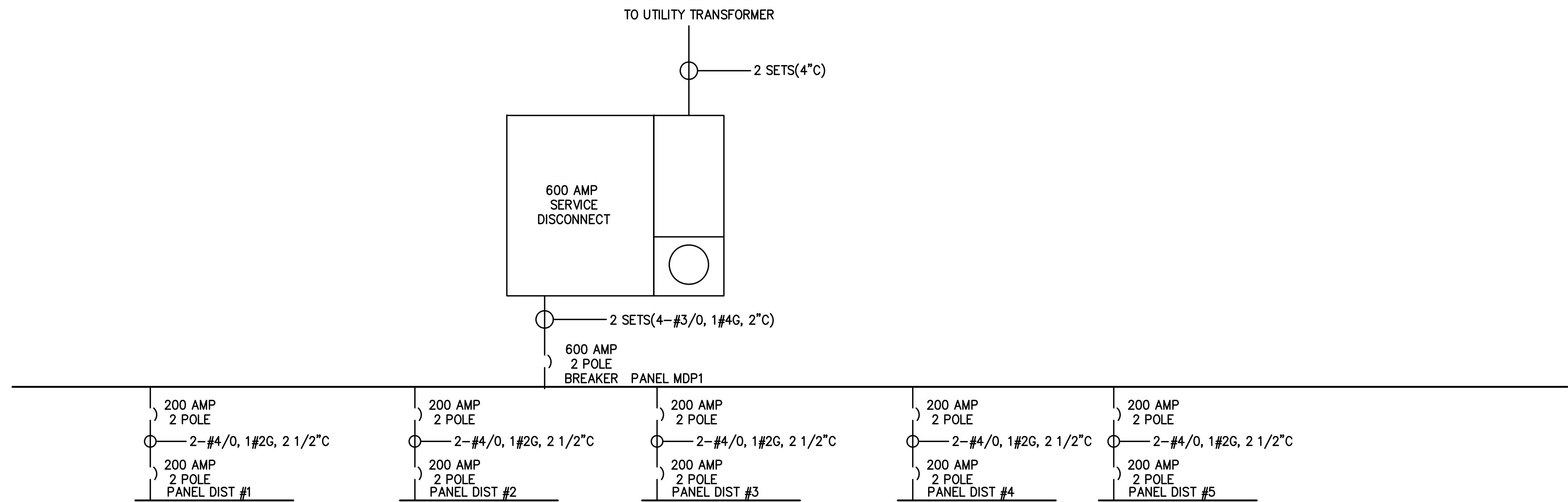
C4
PROJECT NO. 04180001

ELECTRICAL LEGEND

	CONDUCTORS IN CONDUIT CONCEALED BELOW GRADE
	PANELBOARD, 240Y/120-VOLT, 1-PHASE, 3-WIRE, MOUNTING HEIGHT=6'-0" TO TOP. SEE PANELBOARD SCHEDULES.
	DISCONNECT SWITCH, EXTERNALLY OPERATED, 240V, 3 Ø UNLESS OTHERWISE NOTED. NOTATION INDICATES NUMBER OF POLES AND AMPERAGE CAPACITY. 'NF' SUBSCRIPT INDICATES NON FUSED.
	PANELBOARD (ONE LINE ONLY)
	BREAKER (ONE LINE ONLY)

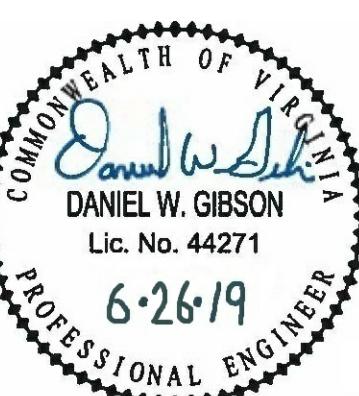
EXPLORE PARK – RIVERSIDE WALKING LOOP
EXPLORE PARK COUNTY OF ROANOKE, VIRGINIA

DETAILS AND LEGEND



No.	Date	Revision

Designed	DWG
Drawn	DWG
Checked	DWG
Date	6-26-2019
Project No.	



GIBSON
ENGINEERING

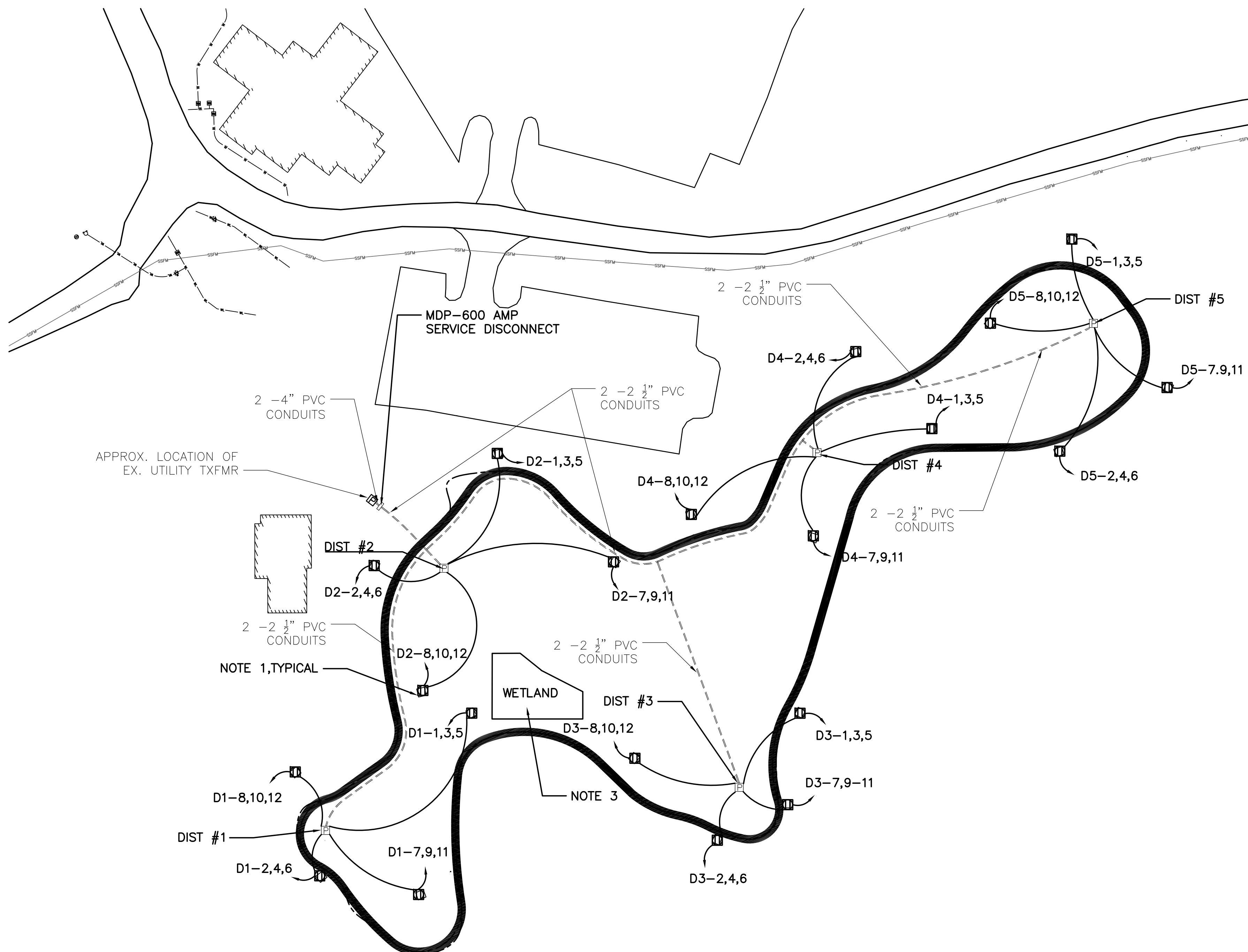
2100 LUBNA DR
CHRISTIANSBURG VA 24073
P. 540.998.6069

Sheet No.

E0.1

ELECTRICAL SITE PLAN

EXPLORE PARK – RIVERSIDE WALKING LOOP
EXPLORE PARK COUNTY OF ROANOKE, VIRGINIA



NOTES THIS SHEET:

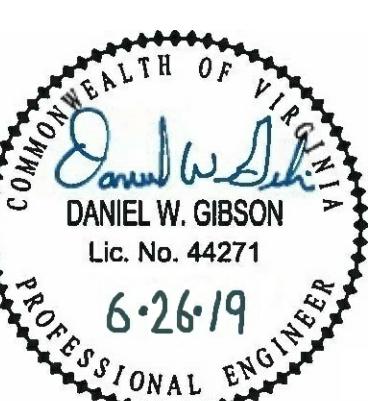
1. PROVIDE RECEPTACLES IN WEATHER PROOF WHILE IN USE BOXES MOUNTED BESIDE PANEL. PROVIDE A DEDICATED QUAD RECEPTACLE FOR EACH CIRCUIT INDICATED ON PANELBOARD SCHEDULE. RECEPTACLES ARE SHOWN IN APPROXIMATE LOCATIONS. COORDINATE AND LOCATE EXACT RECEPTACLE LOCATION IN THE FIELD WITH OWNER.
2. PROVIDE NEW 600 AMP, SINGLE PHASE, 120/240 ELECTRICAL SERVICE FROM EXISTING UTILITY TRANSFORMER. COORDINATE ROUTING WITH CIVIL AND NEW TRAIL.
3. DO NOT INSTALL ELECTRICAL EQUIPMENT/WIRING IN WETLAND AREA.

GENERAL NOTES:

1. ALL POWER PANELS ARE TO BE CONCEALED WITH WOODEN KIOSK. COORDINATE LOCATION AND CONSTRUCTION WITH CIVIL. MOUNT RECEPTACLES ON KIOSK AT ALL DIST. PANEL LOCATIONS.

No.	Date	Revision

Designed	DWG
Drawn	DWG
Checked	DWG
Date	5-2-2019
Project No.	



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ENGINEERING

2100 LUBNA DR
CHRISTIANSBURG VA 24073
P. 540.998.6069

Sheet No.
E 1 . 1

PANELBOARD SCHEDULES

EXPLORE PARK – RIVERSIDE WALKING LOOP
EXPLORE PARK COUNTY OF ROANOKE, VIRGINIA

DIST PANEL 1													
VOLTAGE: 120/240				PHASE: 1				BUS AMPS: 225A					
WIRE: 3				MAIN BREAKER AMPS: MLO				X SURFACE MOUNTED FLUSH MOUNTED					
CKT	BRKR	WIRE		CIRCUIT	LOAD - KVA	CKT	BRKR	WIRE					
NO.	P	AMPS	NO.	sz	DESCRIPTION	NO.	P	AMPS	sz				
1	1	20	2	10	LTG PEDASTAL 1A	1.5	2	1	20	2	10	LTG PEDASTAL 3A	1.5
3	1	20	2	10	LTG PEDASTAL 1B	1.5	4	1	20	2	10	LTG PEDASTAL 3B	1.5
5	1	20	2	10	LTG PEDASTAL 1C	1.5	6	1	20	2	10	LTG PEDASTAL 3C	1.5
7	1	20	2	10	LTG PEDASTAL 2A	1.5	8	1	20	2	10	LTG PEDASTAL 4A	1.5
9	1	20	2	10	LTG PEDASTAL 2B	1.5	10	1	20	2	10	LTG PEDASTAL 4B	1.5
11	1	20	2	10	LTG PEDASTAL 2C	1.5	12	1	20	2	10	LTG PEDASTAL 4C	1.5
13	1	20			SPACE		14	1	20			SPACE	
15	1	20			SPACE		16	1	20			SPACE	
17	1	20			SPACE		18	1	20			SPACE	
19	1	20			SPACE		20	1	20			SPACE	
21	1	20			SPACE		22	1	20			SPACE	
23	1	20			SPACE		24	1	20			SPACE	
25	1	20			SPACE		26	1	20			SPACE	
27	1	20			SPACE		28	1	20			SPACE	
29	1	20			SPACE		30	1	20			SPACE	
31	1	20			SPACE		32	1	20			SPACE	
33	1	20			SPACE		34	1	20			SPACE	
35	1	20			SPACE		36	1	20			SPACE	
37	1	20			SPACE		38	1	20			SPACE	
39	1	20			SPACE		40	1	20			SPACE	
41	1	20			SPACE		42	1	20			SPACE	
TOTAL LEFT SIDE				9.0	TOTAL RIGHT SIDE				9.0				
TOTAL RIGHT SIDE				9.0									
TOTAL				18.0	TOTAL CONNECTED LOAD				18.0				

* NOTES

DIST PANEL 4													
VOLTAGE: 120/240				PHASE: 1				BUS AMPS: 225A					
WIRE: 3				MAIN BREAKER AMPS: MLO				X SURFACE MOUNTED FLUSH MOUNTED					
CKT	BRKR	WIRE		CIRCUIT	LOAD - KVA	CKT	BRKR	WIRE					
NO.	P	AMPS	NO.	sz	DESCRIPTION	NO.	P	AMPS	sz				
1	1	20	2	10	LTG PEDASTAL 1A	1.5	2	1	20	2	10	LTG PEDASTAL 3A	1.5
3	1	20	2	10	LTG PEDASTAL 1B	1.5	4	1	20	2	10	LTG PEDASTAL 3B	1.5
5	1	20	2	10	LTG PEDASTAL 1C	1.5	6	1	20	2	10	LTG PEDASTAL 3C	1.5
7	1	20	2	10	LTG PEDASTAL 2A	1.5	8	1	20	2	10	LTG PEDASTAL 4A	1.5
9	1	20	2	10	LTG PEDASTAL 2B	1.5	10	1	20	2	10	LTG PEDASTAL 4B	1.5
11	1	20	2	10	LTG PEDASTAL 2C	1.5	12	1	20	2	10	LTG PEDASTAL 4C	1.5
13	1	20			SPACE		14	1	20			SPACE	
15	1	20			SPACE		16	1	20			SPACE	
17	1	20			SPACE		18	1	20			SPACE	
19	1	20			SPACE		20	1	20			SPACE	
21	1	20			SPACE		22	1	20			SPACE	
23	1	20			SPACE		24	1	20			SPACE	
25	1	20			SPACE		26	1	20			SPACE	
27	1	20			SPACE		28	1	20			SPACE	
29	1	20			SPACE		30	1	20			SPACE	
31	1	20			SPACE		32	1	20			SPACE	
33	1	20			SPACE		34	1	20			SPACE	
35	1	20			SPACE		36	1	20			SPACE	
37	1	20			SPACE		38	1	20			SPACE	
39	1	20			SPACE		40	1	20			SPACE	
41	1	20			SPACE		42	1	20			SPACE	
TOTAL LEFT SIDE				9.0	TOTAL RIGHT SIDE				9.0				
TOTAL RIGHT SIDE				9.0									
TOTAL				18.0	TOTAL CONNECTED LOAD				18.0				

DIST PANEL 5													
VOLTAGE: 120/240				PHASE: 1				BUS AMPS: 225A					
WIRE: 3				MAIN BREAKER AMPS: MLO				X SURFACE MOUNTED FLUSH MOUNTED					
CKT	BRKR	WIRE		CIRCUIT	LOAD - KVA	CKT	BRKR	WIRE					
NO.	P	AMPS	NO.	sz	DESCRIPTION	NO.	P	AMPS	sz				
1	1	20	2	10	LTG PEDASTAL 1A	1.5	2	1	20	2	10	LTG PEDASTAL 3A	1.5
3	1	20	2	10	LTG PEDASTAL 1B	1.5	4	1	20	2	10	LTG PEDASTAL 3B	1.5
5	1	20	2	10	LTG PEDASTAL 1C	1.5	6	1	20	2	10	LTG PEDASTAL 3C	1.5
7	1	20	2	10	LTG PEDASTAL 2A	1.5	8	1	20	2	10	LTG PEDASTAL 4A	1.5
9	1	20	2	10	LTG PEDASTAL 2B	1.5	10	1	20	2	10	LTG PEDASTAL 4B	1.5
11	1	20	2	10	LTG PEDASTAL 2C	1.5	12	1	20	2	10	LTG PEDASTAL 4C	1.5
13	1	20			SPACE		14	1	20			SPACE	
15													