

**INVITATION TO BID**

**NKU-64-18**



**NKU Parking Lot G Improvements**

**May 3, 2018**

**Proposal NO:** NKU-64-18  
**Issue Date:** May 3, 2018  
**Title:** (NKU Parking Lot G Improvements)  
**Purchasing Officer:** Blaine Gilmore  
**Phone:** 859.572.6449

**RETURN ORIGINAL COPY OF PROPOSAL TO:**

**Northern Kentucky University  
Procurement Services  
1 Nunn Drive  
617 Lucas Administrative Center  
Highland Heights, KY 41099**

**IMPORTANT: BIDS MUST BE RECEIVED BY: 05/17/2018 BEFORE 2:00 P.M. HIGHLAND HEIGHTS, KY time.****NOTICE OF REQUIREMENTS**

1. The University's General Terms and Conditions and Instructions to Bidders, viewable at <http://procurement.nku.edu/policies/terms-and-conditions.html>, apply to this Request for Proposal.
2. Contracts resulting from this RFP must be governed by and in accordance with the laws of the Commonwealth of Kentucky.
3. Any agreement or collusion among Offerors or prospective Offerors, which restrains, tends to restrain, or is reasonably calculated to restrain competition by agreement to bid at a fixed price or to refrain from offering, or otherwise, is prohibited.
4. Any person who violates any provisions of KRS 45A.325 shall be guilty of a felony and shall be punished by a fine of not less than five thousand dollars nor more than ten thousand dollars, or be imprisoned not less than one year nor more than five years, or both such fine and imprisonment. Any firm, corporation, or association who violates any of the provisions of KRS 45A.325 shall, upon conviction, may be fined not less than ten thousand dollars or more than twenty thousand dollars.

**AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND NON-CONFLICT OF INTEREST**

I hereby swear (or affirm) under the penalty for false swearing as provided by KRS 523.040:

1. That I am the offeror (if the offeror is an individual), a partner, (if the offeror is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the offeror is a corporation);
2. That the attached proposal has been arrived at by the offeror independently and has been submitted without collusion with, and without any agreement, understanding or planned common course of action with, any other Contractor of materials, supplies, equipment or services described in the Request for Proposal, designed to limit independent bidding or competition;
3. That the contents of the proposal have not been communicated by the offeror or its employees or agents to any person not an employee or agent of the offeror or its surety on any bond furnished with the proposal and will not be communicated to any such person prior to the official closing of the RFP;
4. That the offeror is legally entitled to enter into contracts with the Northern Kentucky University and is not in violation of any prohibited conflict of interest, including those prohibited by the provisions of KRS 45A.330 to .340, 164.390, and
5. That the Offeror, and its affiliates, are duly registered with the Kentucky Department of Revenue to collect and remit the sale and use tax imposed by Chapter 139 to the extent required by Kentucky law and will remain registered for the duration of any contract award
6. That I have fully informed myself regarding the accuracy of the statement made above.

**SWORN STATEMENT OF COMPLIANCE WITH FINANCE LAWS**

In accordance with KRS 45A.110 (2), the undersigned hereby swears under penalty of perjury that he/she has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky and that the award of a contract to a bidder will not violate any provision of the campaign finance laws of the Commonwealth of Kentucky.

**CONTRACTOR REPORT OF PRIOR VIOLATIONS OF KRS CHAPTERS 136, 139, 141, 337, 338, 341 & 342**

The Contractor by signing and submitting a proposal agrees as required by 45A.485 to submit final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341 and 342 that have occurred in the previous five (5) years prior to the award of a contract and agrees to remain in continuous compliance with the provisions of the statutes during the duration of any contract that may be established. Final determinations of violations of these statutes must be provided to the University by the successful Contractor prior to the award of a contract.

**CERTIFICATION OF NON-SEGREGATED FACILITIES**

The Contractor, by submitting a proposal, certifies that he/she is in compliance with the Code of Federal Regulations, No. 41 CFR 60-1.8(b) that prohibits the maintaining of segregated facilities.

**RECIPROCAL PREFERENCE**

- (1) Prior to a contract being awarded to the lowest responsible and responsive bidder on a contract by a public agency, a resident bidder of the Commonwealth shall be given a preference against a nonresident bidder registered in any state that gives or requires a preference to bidders from that state. The preference shall be equal to the preference given or required by the state of the nonresident bidder.
- (2) A resident bidder is an individual, partnership, association, corporation, or other business entity that, on the date the contract is first advertised or announced as available for bidding:
  - (a) Is authorized to transact business in the Commonwealth; and
  - (b) Has for one (1) year prior to and through the date of the advertisement, filed Kentucky corporate income taxes, made payments to the Kentucky unemployment insurance fund established in KRS 341.490, and maintained a Kentucky workers' compensation policy in effect.
- (3) A nonresident bidder is an individual, partnership, association, corporation, or other business entity that does not meet the requirements of subsection (2) of this section.
- (4) If a procurement determination results in a tie between a resident bidder and a nonresident bidder, preference shall be given to the resident bidder.
- (5) This section shall apply to all contracts funded or controlled in whole or in part by a public agency.
- (6) The Finance and Administration Cabinet shall maintain a list of states that give to or require a preference for their own resident bidders, including details of the preference given to such bidders, to be used by public agencies in determining resident bidder preferences. The cabinet shall also promulgate administrative regulations in accordance with KRS Chapter 13A establishing the procedure by which the preferences required by this section shall be given.
- (7) The preference for resident bidders shall not be given if the preference conflicts with federal law.
- (8) Any public agency soliciting or advertising for bids for contracts shall make KRS 45A.490 to 45A.494 part of the solicitation or advertisement for bids

**DEFINITIONS**

As used in KRS 45A.490 to 45A.494: (1) "Contract" means any agreement of a public agency, including grants and orders, for the purchase or disposal of supplies, services, construction, or any other item; and

(2) "Public agency" has the same meaning as in KRS 61.805.

**SIGNATURE REQUIRED:** This proposal cannot be considered valid unless signed and dated by an authorized agent of the offeror. Type or print the signatory's name, title, address, phone number and fax number in the spaces provided. Offers signed by an agent are to be accompanied by evidence of his/her authority unless such evidence has been previously furnished to the issuing office. Your signature is acceptance to the Terms and conditions above.

<b>DELIVERY TIME:</b>	<b>NAME OF COMPANY:</b>	<b>DUNS #</b>
<b>PROPOSAL FIRM THROUGH:</b>	<b>ADDRESS:</b>	<b>Phone/Fax:</b>
<b>PAYMENT TERMS:</b>	<b>CITY, STATE &amp; ZIP CODE:</b>	<b>E-MAIL:</b>
<b>SHIPPING TERMS: F.O.B. DESTINATION - PREPAID AND ALLOWED</b>	<b>TYPED OR PRINTED NAME:</b>	<b>WEB ADDRESS:</b>
<b>FEDERAL EMPLOYER ID NO.:</b>	<b>SIGNATURE:</b>	<b>DATE:</b>

## Contents

---

<b>Contract Document</b>	<b>Page</b>
NOTICE OF ADVERTISEMENT	4
SPECIAL CONDITIONS	6
SPECIFICATIONS / SCOPE OF SERVICES	Included in Drawings
REFERENCES	10
SUBCONTRACTORS	11
LIST OF MATERIALS AND EQUIPMENT	12
GENERAL SAFETY REQUIREMENTS	13
EXAMPLE OF BID BOND FORM	15
FORM OF PROPOSAL	16
APPENDIX 1 – SPECS / DRAWINGS	
GENERAL TERMS & CONDITIONS AND INSTRUCTIONS TO BIDDERS	(LINKED BELOW)
ADDENDA	(ISSUED AS REQUIRED)

### **General Terms and Conditions and Instructions to Proposers:**

<http://procurement.nku.edu/policies/terms-and-conditions.html>



**NOTICE OF ADVERTISEMENT****BRIEF SCOPE OF WORK:**

This project includes the demolition of the existing gravel Lot G and attached asphalt roadway. A new asphalt surface will be installed on both the lot and the attached roadway. This project also includes upgrades to the stormwater system and the lighting for the lot. In addition to these improvements, the adjacent sidewalks will be reworked to accommodate the new design.

**PROJECT TIMETABLE:**

Invitation for Bid Issued	May 3, 2018
Pre-Bid Meeting	May 8, 2018 at 1:00 PM EST
Last Day for Questions	May 9, 2018 at 12:00 pm EST
Addendum Issued (If Applicable)	May 10, 2018 by 4:30 pm
<b>BIDS DUE</b>	<b>May 17, 2018 at 2:00 PM EST</b>

**Pre Bid Conference:**

There will be a pre-bid meeting held on May 8, 2018 at 1:00 PM EST to discuss and address any concerns about the project. Please meet outside of the Kenton Parking Garage. Please email Ryan Straus, Bid Specialist, [strausr2@nku.edu](mailto:strausr2@nku.edu) with any questions.

**SUBMITTAL OF BID:**

The bidder shall submit, by the time and date specified via US Postal Service, courier or other delivery service, its bid response in a **sealed package** addressed to:

**Blaine Gilmore, MPA  
Interim Director, Procurement  
Lucas Administrative Center, Suite 617  
1 Nunn Drive  
Northern Kentucky University  
Highland Heights, KY 41099**

Both inner and outer envelopes/packages should bear respondent's name and address, and clearly marked on package(s) as follows:

**ITB NKU-64-18  
NKU Parking Lot G Improvements**

**Special Conditions to Proposers****QUESTIONS AND REQUESTS FOR INFORMATION**

Information relative to this project obtained from other sources, including other university administration, faculty or staff may not be accurate, will not be considered binding and could adversely affect the potential for selection of your bid. All requests for information, questions or comments relative to this project should be directed, in writing to:

**Ryan Straus**  
**Bid Specialist, Procurement Services**  
**Lucas Administrative Center, Suite 617**  
**Northern Kentucky University**  
**Highland Heights, KY 41099**  
[Strausr2@nku.edu](mailto:Strausr2@nku.edu)

**GENERAL TERMS AND CONDITIONS TO PROPOSERS:**

The general terms and conditions linked below shall be applicable to this Bid and take precedence over any Contractor terms and conditions:

<http://procurement.nku.edu/policies/terms-and-conditions.html>

**PARKING PERMITS:**

Contractor must obtain parking permits for all vehicles that will be parked on campus. Permits can be obtained at the welcome center for \$28.75/month.

<http://parking.nku.edu/rules/guidelines.html>

**GOVERNING LAW:**

Proposers shall conform to and observe all laws, ordinances, rules and regulations of the United States of America, Commonwealth of Kentucky, and all other local governments, public authorities, boards or offices relating to the Project Site or the improvements upon same, or the use thereof, and will not permit the same to be used for any illegal or immoral purposes, business or occupation. The resulting Contract shall be governed by Kentucky Law and any claim relating to this Contract shall only be brought in the Franklin Circuit Court in Accordance with KRS 45A-245.

**TOBACCO FREE CAMPUS**

Effective January 1st, 2014, NKU will be a tobacco free campus. The use of all tobacco products shall be prohibited in all campus buildings and outside areas on campus.

**STATUTORY AUTHORITY**

Selection of firms to provide professional services to Northern Kentucky University are governed by the provisions of the Kentucky Revised Statutes, KRS 45A.085, <http://www.lrc.ky.gov/KRS/045A00/085.PDF>

**FOREIGN CORPORATIONS**

Foreign corporations are defined as corporations that are organized under laws other than the laws of the commonwealth of Kentucky. Foreign corporations doing business within the commonwealth of Kentucky are required to be registered with the Secretary of State, New Capitol Building, Frankfort, Kentucky and must be in good standing.

The Foreign Corporate Proposer, if not registered with the Secretary of State at the time of the bid submittal, shall be required to become registered and be declared in good standing prior to the issuance or receipt of a contract.

**DOMESTIC CORPORATIONS**

Domestic corporations are required to be in good standing

**OCCUPATIONAL LICENCE**

Northern Kentucky University was annexed by the city of Highland Heights in 2008. All contractors performing work for NKU must possess a Campbell County Occupational License and a city of Highland Heights Occupational License (administered by Campbell County) and must also pay applicable payroll taxes. For further information, call 859-572-6605.

**PERMITS**

The Contractor shall obtain all permits necessary for any or all parts of the work from the authorities governing such work. The Contractor shall procure building permits, when required but no fee shall be applicable on projects for the Commonwealth. Evidence that such permits have been issued shall be furnished to the Owner before beginning work.

**BID BONDS:**

A 5% bid bond is required with submission of this ITB.

**COMPLETION DATES**

It is understood and agreed that time is of the essence. The Contractor will efficiently, diligently, and expeditiously conduct the work in a manner that will satisfy compliance with approved project schedules and completion by **August 1, 2018**, inclusive of ordinary weather delays.

**LIQUIDATED DAMAGES**

For every day after August 1, 2018, the contractor shall be subject to a charge of \$500 as liquidated damages and not as penalty.

**COORDINATION OF WORK**

The Vendor shall be responsible for coordinating all work with the **NKU Project Manager**. The Contractor shall cooperate completely with the Owner's security forces and measures.

**DAMAGE AND REPAIRS**

The Contractor shall exercise particular care to avoid damage to his own work, the Owner's property, and adjacent property of every description. He shall make good any damage resulting from or caused by the work under this contract at his sole expense in a manner satisfactory and without extra cost to the Owner including, but not limited to, finishes, furnishings, and landscaping.

**HAZARDOUS MATERIALS**

No asbestos containing materials, lead based paints, or other hazardous materials shall be furnished or installed in this work.

**PAYMENT AND PERFORMANCE BONDS:** 100% Payment and Performance Bonds will be required for work arising from this ITB.

**EXAMINATION OF SITE**

Each vendor shall fully acquaint and familiarize themselves with the conditions as they exist and the character of the operation to be carried on under the proposed contract and has made such investigation as may be reasonably necessary so that the vendor shall fully understand the facilities, physical conditions and restrictions attending to the work under the contract. The specifications furnished represent a fair approximation of the material needed but all quotations submitted should take into account knowledge gained as a result of the above referenced visual inspection.

**EXAMINATION OF CONTRACT**

Each vendor shall also thoroughly examine and become familiar with the specifications and associated contract documents. By submitting a bid, the vendor agrees that they have carefully examined the specifications and have

thereupon decided that from their own investigation Contractor has satisfied themselves as to the nature and location of work, the general and local conditions and all matters which may in any way affect the work or its performance and that as a result of such examination and investigation, vendor fully understands the intent and purpose of the documents and conditions of the bidding. Claims for additional compensation and/or extension of time because of the vendor's failure to follow the foregoing procedure and to familiarize themselves with the Contract Documents and all conditions which might affect work will not be allowed.

**FIELD VERIFICATION**

It is the Vendor's responsibility to verify all measurements.

**HOURS OF WORK**

Working days at Northern Kentucky University are Monday through Friday, 8:00am to 4:30pm. Deviation from these working hours must be approved by said project manager.

**WARRANTY**

Manufacturer shall stand behind installed system for period of 10 years from Date of Substantial Completion against all the conditions indicated below. When notified in writing from Owner, Manufacturer shall, promptly and without inconvenience and cost to Owner correct said deficiencies.

**CANCELLATION**

The resulting contract from this ITB may be cancelled by the University for non-compliance with the terms and conditions of any part of the agreement.

**TERMINATION FOR CONVENIENCE**

Northern Kentucky University reserves the right to terminate the resulting contract without cause with a 30-day written notice. Upon receipt by the Contractor of "notice of termination" the Contractor shall discontinue all services with respect to the applicable contract. The cost of any agreed upon services provided by the Contractor will be calculated at the agreed upon rate prior to "notice of termination" and a fixed fee contract will be pro-rated (as appropriate).

**INSURANCE**

If awarded, bidder / proposer must provide NKU with an insurance certificate listing NKU as a certificate holder and additionally insured.

**Northern Kentucky University  
617 Lucas Administrative Center  
1 Nunn Drive  
Highland Heights, KY 41099**

The Contractor shall furnish the University the Certificates of Insurance and guarantee the maintenance of such coverage during the term of the contract. The Contractor shall provide an original policy endorsement of its CGL insurance naming Northern Kentucky University and the directors, officers, trustees, and employees of the University as additional insured on a primary and non-contributory basis as their interest appears. Additionally, the Contractor shall provide an original policy endorsement for Waiver of subrogation in favor of the Northern Kentucky University its directors, officers, trustees, and employees as additional insured.

**Our basic insurance requirements are:**

Workers' Compensation insurance with Kentucky's statutory limits and Employers' Liability insurance with at least

\$100,000 limits of liability.

Comprehensive General Liability (CGL) Insurance the limits of liability shall not be less than \$500,000 each occurrence for bodily injury and \$250,000 property damage.

Comprehensive Automobile Liability Insurance: To cover all owned, hired, leased or non-owned vehicles used on the Project. Coverage shall be for all vehicles including off the road tractors, cranes and rigging equipment and include pollution liability from vehicle upset or overturn. Policy limits shall not be less than \$500,000 for bodily injury and \$100,000 for property damage.

Excess liability insurance in an umbrella form for excess coverages shall have a minimum of \$1,000,000 combined single limits for bodily injury and property damage for each.

***If accessing NKU Student, Employee, or other personal records, vendor needs Security and Privacy Liability Insurance with limits no less than \$1,000,000.***

***If accessing NKU Student, Employee, or other personal records, vendor needs Evidence Breach Response Services coverage with limits no less than \$5,000,000.***

**REFERENCES**

**Bidder Qualifications:** The bidder is required to submit a list of completed projects where he has performed similar work to that specified herein.

**Organization:** \_\_\_\_\_

**Contact Name:** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_

**Date Work Completed:** \_\_\_\_\_ **Value of Contract:** \_\_\_\_\_

**Project Manager assigned to this project:** \_\_\_\_\_

**Brief Project Description:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**Organization:** \_\_\_\_\_

**Contact Name:** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_

**Date Work Completed:** \_\_\_\_\_ **Value of Contract:** \_\_\_\_\_

**Project Manager assigned to this project:** \_\_\_\_\_

**Brief Project Description:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**Organization:** \_\_\_\_\_

**Contact Name:** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_

**Date Work Completed:** \_\_\_\_\_ **Value of Contract:** \_\_\_\_\_

**Project Manager assigned to this project:** \_\_\_\_\_

**Brief Project Description:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**SUBCONTRACTORS:** The following is a list of subcontractors proposed by the bidder to be used to complete the project. All subcontractors are subject to approval by Northern Kentucky University. Failure to submit this list completely filled out may invalidate bid. **SUBCONTRACTORS MAY NOT BE CHANGED AFTER CONTRACT AWARD WITHOUT APPROVAL BY NKU.**

[illegible]

**NKU-64-18**

### List of Materials and Equipment

**(Must be submitted within 24 hours after bid opening)**

Every item listed under the different phases of this project must be clearly identified so that Northern Kentucky University will definitely know what the bidder proposes to furnish. Bidders be hereby advised that this list shall be required to be filled out completely by the apparent low bidder within twenty-four (24) hours from the close of the official reading of the bids.

The above requirement does not preclude any bidder from submitting this list, fully executed, at the time the bids are submitted.

The use of the manufacturers' dealer's name only, or stating "as per plans and specifications", will not be considered as sufficient identification. Where more than one "Make or Brand" is listed for any one item, the Owner has the right to select the one to be used.

Failure to submit a proper list may result in rejection of the Bidder's Proposal.

[illegible]



**NKU GENERAL SAFETY & COORDINATION REQUIREMENTS**

1. The University strives to continuously maintain both a safe and secure work environment for its students, employees, and the employees of all Contractors assigned to our campus. Therefore, it is essential the following criteria be met by all Contractors (and all their subcontractors) working at NKU.
2. **BACKGROUND CHECKS:** The Contractor shall furnish the University upon request with written documentation that verifies each of their employees working on the property of the University has cleared a background check, has no felony convictions, is not a sex offender, and has the legal right to work in the United States.
3. **DRUG-FREE WORKPLACE:** Northern Kentucky University is a drug-free and alcohol-free workplace, and all employees of Contractors and subcontractors are subject to this policy while working on University property. If there is verifiable suspicion or probable cause that an employee of the contractor or subcontractor is under the influence of drugs or alcohol, the University reserves the right to require the Contractor to have the employee tested immediately at no expense to the University. If the test results are positive the employee will be prohibited from working on University property for a period of one (1) year from the positive test, or the duration of the project, whichever is longer. The banned employee of the Contractor must pass a drug and alcohol test before working again on university property. Effective January 1st, 2014, NKU will be a tobacco free campus. The use of all tobacco products shall be prohibited in all campus buildings and outside areas on campus.
4. **CONTRACTOR PRESENCE ON CAMPUS:** All persons working for (or on behalf of) the Contractor whose duties bring them on campus shall obey the rules and regulations that are established by the University and shall comply with the reasonable directions of the University representatives. Contractor's employees shall never enter or use existing areas of campus where they are not required to be performing work. Contractors and subcontractors are always responsible for providing and maintaining portable restroom facilities for all their workers working on the project. Contractor shall be responsible for the acts of his employees and agents while on campus. Accordingly, Contractor agrees to take all necessary measures to prevent injury and loss to persons or property located on campus. Contractor shall be responsible for all damages to persons or property caused by Contractor or any of his agents or employees. Contractor shall promptly repair any damage that he, or his employees or agent may cause to the campus or to the University equipment. Contractor agrees that in event of an accident of any kind on university property, Contractor will immediately notify the University's Department of Public Safety (859) 572-5770 and furnish a full written report of the accident. All Contractor employees and subcontractors shall present a neat and clean appearance while on University property, and be able to present proper identification upon request.
5. **PROJECT WORK SITE SAFETY & SECURITY:** The University does not, and will not, assume any responsibility for any tools, materials, equipment, or property belonging to the Contractor, his employees or agents, which may be lost or stolen from University property. All contractors and subcontractors are solely responsible for properly securing and protecting their tools and equipment. When working within or on top of an existing building, the Contractor shall work with the assigned University project manager in developing a strategy for securing the project work site and protecting the campus staff and community from the project work site. When working in an open area on campus, the Contractor shall provide securable barricades/fencing around the project site to protect the campus community from the dangers within the project work site. The Contractor shall maintain this project work site 24 hour a day, 7 days a week for the duration of the project.
6. **PARKING:** All Contractors and their subcontractors are required purchase a monthly parking pass from NKU at the rate of \$28.75/month, or at a daily rate of \$5.00/day. Weekly passes are also available. This will entitle workers to park at all NKU campus lots and garages, EXCEPT for faculty and staff lots which are noted accordingly. This pass also allows for parking in any of the garages if your vehicles will fit. Parking within the jobsite WILL NOT BE PERMITTED. Workers who do so will be subject to immediate towing, without warning, and at their cost. Vehicles may be parked near a worksite for reasonable times for loading and unloading, providing normal access and egress to buildings is not hindered. All workers shall park their personal vehicles in the Welcome Center parking garage, which is located just north of the Power Plant across from the Bank of Kentucky Center.
7. **GENERAL PROJECT COORDINATION:** All work and information requests by the Contractor shall be coordinated through the assigned NKU Project Manager. Any direction provided by the campus Operations & Maintenance Staff and/or the project user group shall NOT be considered official direction from the University unless authorized in writing from the assigned NKU Project Manager. Contractor will NOT be compensated for work performed without written authorization from the assigned NKU Project Manager.

8. **TEMPORARY USE OF CAMPUS UTILITIES:** As a general rule, utilities required by the Contractor to perform their work can be obtained from the University. However, the University reserves the right to require the Contractor to furnish a meter to record the usage of each provided utility for the duration of the project. For projects requiring utility metering, a deduct change order will be issued at the end of the Project to reimburse the University for the Contractor utility usage. The Contractor is responsible for determining and coordinating the procurement of any utility where the University cannot reasonably provide.
9. **CAMPUS UTILITY SHUTDOWNS:** Unless noted otherwise for a specific project, at least seven (7) calendar days notice is required for any campus utility shutdowns and/or any road/parking lot closures necessary for the Contractor to perform their work. All utility shutdowns and closures shall be coordinated with the assigned NKU Project Manager, and the University reserves the right to schedule these shutdowns and closures at night and/or on weekends to minimize disruptions to the campus community. All requests for assistance from NKU's Operations & Maintenance staff in locating existing utilities shall also be submitted to the assigned NKU project manager at least (7) calendar days in advance.

**Bid Bond**  
5% of Contract Price

**KNOW ALL MEN BY THESE PRESENTS**, that we \_\_\_\_\_ (here insert full name and address or legal title of Contractor)  
as Principal, hereinafter called the Principal, and \_\_\_\_\_ (here insert full name and address or legal title of Surety)  
a corporation duly organized under the laws of the State of Kentucky as Surety, hereinafter called  
Surety, are held and firmly bound unto **Northern Kentucky University** as Obligee, hereinafter  
called Obligee, in the sum of :  
\_\_\_\_\_ Dollars (\$ \_\_\_\_\_),  
representing 5% of the Principal's total bid price and for the payment of which sum well and truly  
to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors,  
administrators, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, the Principal has submitted a bid for \_\_\_\_\_ (Here insert full name, address and description of project)  
NOW THEREFORE, if the Obligee shall accept the bid of the Principal within the period specified, or if no period is  
specified, within 45 days after its opening, and the Principal shall enter into a Contract with the Obligee in accordance  
with the terms of such bid, and give such bid or bonds as may be specified in the bidding or Contract Documents with  
good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and  
material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and  
give such bonds or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof  
between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract  
with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to  
remain in full force and effect.

Signed and sealed this day of \_\_\_\_\_ 2018

\_\_\_\_\_  
(Principal) (Seal)

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Surety) (Seal)

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Title)

***THIS DOCUMENT MUST BE NOTORIZED***

**This is only an example. Other forms may be used.**

**FORM OF PROPOSAL**

**LUMP SUM BASE BID**

The Bidder agrees to furnish all labor, materials, supplies, supervision and services required to perform this contract in a workmanlike manner. These services to be provided in accordance with Specifications and Contract Documents, and any duly issued Addenda for the **LUMP SUM BASE BID** set forth below:

\_\_\_\_\_ Dollars \_\_\_\_\_ Cents  
(USE WORDS) (USE WORDS)

\$ \_\_\_\_\_  
(USE NUMBERS)

ADD – **Alternate 1** – \$ \_\_\_\_\_  
(USE NUMBERS)

**This offer is for, at minimum, \_\_\_\_\_ calendar days from the date this offer is opened. In submitting the above it is expressly agreed that upon proper acceptance by Northern Kentucky University of any or all items offered, a contract shall thereby be created with respect to the items accepted.**

THIS BID SUBMITTED BY:

\_\_\_\_\_  
(Name and Address of Bidder)

DATE: \_\_\_\_\_ AUTHORIZED SIGNATURE: \_\_\_\_\_

**NOTE:** *The Authentication of Bid and Statement of Non-Collusion and Non-Conflict of Interest must be properly executed for this Bid to be valid.*

*This Bidder, in compliance with this Request for Bid, and having carefully examined the complete contract documents, as well as the specifications for the work as prepared by Northern Kentucky University, hereby proposes to furnish all labor, supervision, materials, supplies and services required to perform the specifics of the Contract Documents, within the time set forth herein and for the final negotiated price.*

The Bidder, hereby acknowledges receipt of the following Addenda:

ADDENDUM NO. \_\_\_\_\_ DATED \_\_\_\_\_ ADDENDUM NO. \_\_\_\_\_ DATE \_\_\_\_\_

ADDENDUM NO. \_\_\_\_\_ DATED \_\_\_\_\_ ADDENDUM NO. \_\_\_\_\_ DATE \_\_\_\_\_





SD-1 STANDARD DRAWING

STM -01.1	DOUBLE INLET
STM -01.2	DOUBLE INLET GRATE
STM -07	STANDARD YARD DRAIN
STM -010	STANDARD INLET, AS PER PLAN

## STANDARD PROJECT SPECIFICATIONS

KENTUCKY TRANSPORTATION CABINET 2012  
SPECIFICATIONS FOR ROAD AND BRIDGE  
CONSTRUCTION

NORTHERN KENTUCKY REGIONAL STORM WATER  
MANAGEMENT PROGRAM RULES & REGULATIONS  
(AUGUST 2011)



NO.	DATE	DESCRIPTION
	04-20-18	Owner Review
	05-01-18	Bid Set

**NKU SOFTBALL  
LOT G  
IMPROVEMENTS**  
CITY OF HIGHLAND HEIGHTS  
CAMPBELL COUNTY  
COMMONWEALTH OF KENTUCKY

PROJECT NO:	080115.027
-------------	------------

DATE: 5/01/2018

**SALE:**

SHEET NAME:

# TITLE SHEET

SHEET NO.

# C100

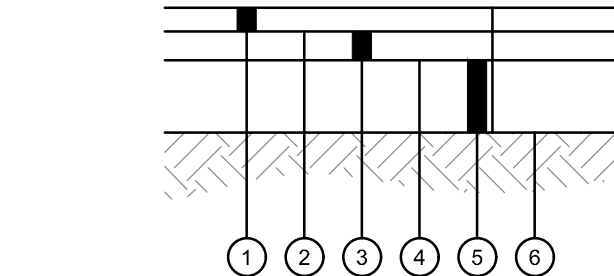


GENERAL NOTES

- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH LOCAL, STATE, & FEDERAL REGULATIONS.
- ITEM NUMBERS REFER TO THE KENTUCKY TRANSPORTATION CABINET CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND ALL CONSTRUCTION WORK SHALL BE DONE ACCORDING TO SAID SPECIFICATIONS AND IN ACCORDANCE WITH APPLICABLE STANDARDS OF CITY OF HIGHLAND HEIGHTS. WHEN IN CONFLICT, THE KYTC REQUIREMENTS SHALL PREVAIL.
- PROTECTION OF EXISTING TREES AND VEGETATION: PROTECT EXISTING TREES AND OTHER VEGETATION AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIALS WITHIN DRIP LINE, EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE. PROVIDE TEMPORARY GUARDS TO PROTECT TREES AND VEGETATION TO BE LEFT STANDING.
- ALL ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS, UNLESS OTHERWISE NOTED.
- SUBGRADE EXCAVATION AND CONSTRUCTION TO BE PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. SUBGRADE PREPARATION SHALL BEGIN BY CLEARING & STRIPPING UNSUITABLE MATERIAL FROM SITE, THEN PLACE & COMPACT BACKFILL MATERIAL AT GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. ALL BACKFILL MATERIAL MUST BE ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.
- ALL FILL UNDER PAVEMENT SHALL BE COMPACTED TO THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
- COMPACTED FILLS ARE TO BE MADE TO A MINIMUM OF THREE FEET ABOVE THE CROWN OF ANY PROPOSED SEWER PRIOR TO CUTTING OF TRENCHES FOR PLACEMENT OF SAID SEWERS. ALL FILLS SHALL BE CONTROLLED, COMPACTED, AND INSPECTED BY AN APPROVED TESTING LABORATORY OR AN INSPECTOR FROM THE APPROPRIATE GOVERNMENTAL AGENCY.
- ADJUST ALL EXISTING CASTINGS AND CLEANOUTS WITHIN PROJECT AREA TO GRADE AS REQUIRED.
- CONTRACTOR SHALL IMPLEMENT ALL SOIL AND EROSION CONTROL, PRACTICES REQUIRED BY CITY OF HIGHLAND HEIGHTS AND SD1.
- ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION SHALL BE SEEDED AS SOON AS PRACTICAL IN ACCORDANCE WITH SPECIFICATIONS.
- ALL PROPOSED STORM SEWERS, SURFACE OR OTHER DRAINAGE FACILITIES ARE PRIVATE AND MAINTAINED BY THE OWNER.
- THE CONTRACTOR IS TO CONSTRUCT CURBS, CATCH BASINS, DOWNSPOUTS, PIPING AND CONNECTION ETC. AS REQUIRED TO CONVEY THE PAVED SURFACE DRAINAGE TO THE EXISTING DRAINAGE SYSTEM.
- CONTRACTOR TO REMOVE & REPLACE PAVEMENT AS SPECIFIED.
- THE CONTRACTOR IS RESPONSIBLE FOR BALANCING THE SITE EARTHWORK BY IMPORTING OR EXPORTING AS NECESSARY TO ACHIEVE DESIGN GRADES AND SPECIFICATIONS.
- CONCRETE WALKS SHALL BE FORMED WITH CONTROL JOINTS EQUALLY SPACED AT NO MORE THAN 6' ON CENTER AND EXPANSION JOINTS SHALL BE INSTALLED EVERY 30' ON CENTER.
- ANY FIELD TILE CUT MUST BE TIED INTO THE STORM DRAINAGE SYSTEM.
- THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION OR EARTH MOVING OPERATIONS.
- ALL DIMENSIONS ARE TO THE OUTSIDE FACE OF BUILDING, EDGE OF PAVEMENT AND/OR FACE OF CURB, UNLESS OTHERWISE NOTED.
- FINAL SITE STABILIZATION IS CONSIDERED ACHIEVED ONCE ALL TEMPORARY EROSION AND SEDIMENT CONTROL PRACTICES ARE REMOVED AND AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT AND OTHER DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES WILL BE PERMANENTLY STABILIZED TO PREVENT EROSION AND SEDIMENTATION.
- ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES WILL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.
- DANDY BAGS TO BE USED AT ALL STORM INLETS FOR EROSION CONTROL.
- ALL END OF CURBS TAPER SIX INCHES IN TWELVE INCHES.
- SANITATION DISTRICT NO. 1 IS TO BE CONTACTED 72 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY AT (859)578-6880.

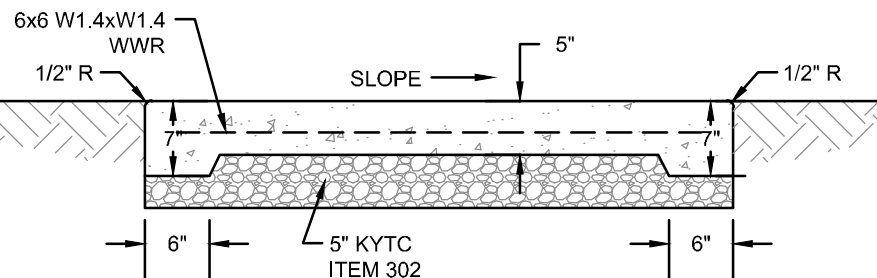
UTILITY NOTES

- ROOF DRAINS, FOUNDATION DRAINS AND ALL OTHER CLEAR WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
- ALL STORM STRUCTURES ARE KYTC TYPES UNLESS OTHERWISE INDICATED.
- CONTRACTOR SHALL SECURE ALL PERMITS AND FURNISH ALL DRAWINGS REQUIRED FOR UTILITY TAPS PRIOR TO STARTING CONSTRUCTION.
- PROVIDE MANUFACTURERS RECOMMENDED COVER OVER TOP OF STORM PIPE DURING CONSTRUCTION, UNTIL PAVING OPERATIONS BEGIN.
- FORTY-EIGHT HOURS BEFORE DIGGING IS TO COMMENCE, THE CONTRACTOR SHALL NOTIFY THE KENTUCKY UNDERGROUND PROTECTION SERVICE, AND ALL OTHER AGENCIES WHICH MAY HAVE UNDERGROUND UTILITIES INVOLVING THIS PROJECT AND ARE NON-MEMBERS OF THE KENTUCKY UNDERGROUND PROTECTION SERVICE.
- EXISTING UNDERGROUND UTILITIES AND SERVICES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ACCORDING TO THE BEST INFORMATION AVAILABLE. THE LOCATIONS SHOWN ARE INTENDED ONLY AS A GUIDE AND CANNOT BE GUARANTEED ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR:
  - CONTACTING THE INDIVIDUAL UTILITY OWNERS TEN DAYS PRIOR TO CONSTRUCTION AND ADVISING THEM OF THE WORK TO TAKE PLACE.
  - SOLICITING THEIR AID IN LOCATING AND PROTECTING ANY UTILITY WHICH MAY INTERFERE WITH CONSTRUCTION
  - EXCAVATING AND VERIFYING THE HORIZONTAL AND VERTICAL LOCATION OF EACH UTILITY.
  - ALL DAMAGE TO ANY EXISTING UTILITY.



- 1 1/2" KYTC ITEM 400 ASPHALT CONCRETE SURFACE COURSE
- KYTC ITEM 406 TACK COAT, APPLIED AT 0.10 GAL/SY
- 2" KYTC ITEM 400 ASPHALT CONCRETE INTERMEDIATE COURSE
- KYTC ITEM 406 PRIME COAT, APPLIED AT 0.50 GAL/SY
- 8" KYTC ITEM 302 DENSE GRADED AGGREGATE BASE
- SUBGRADE COMPACTION, KYTC ITEM 207

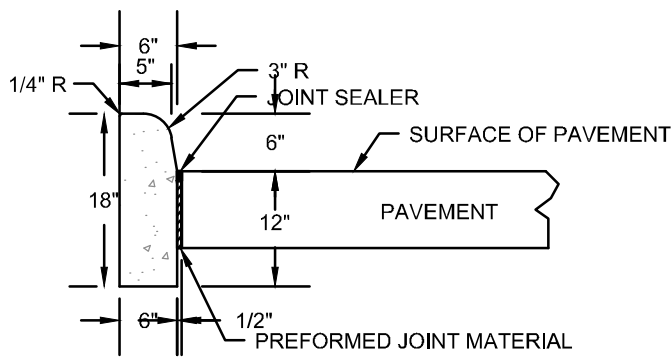
STANDARD DUTY ASPHALT PAVEMENT DETAIL  
N.T.S.



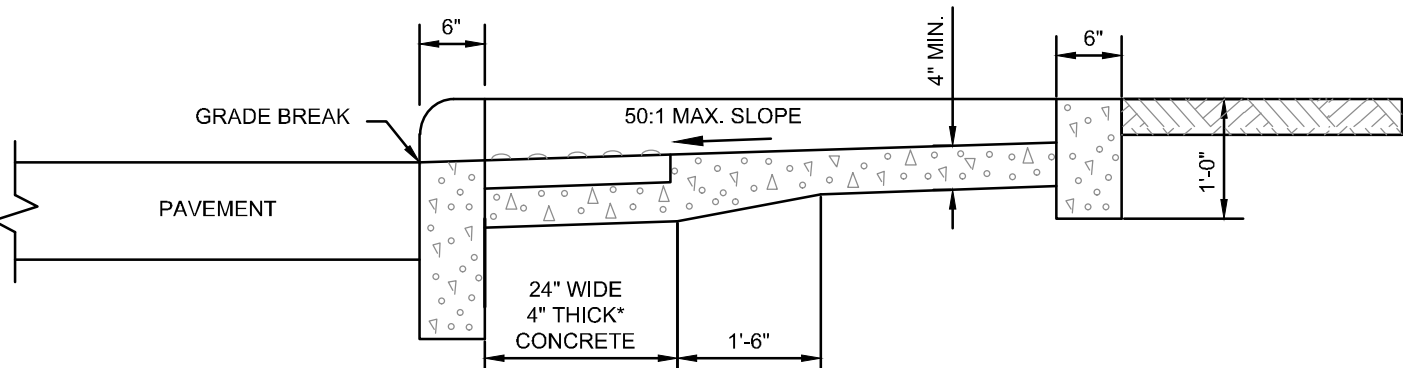
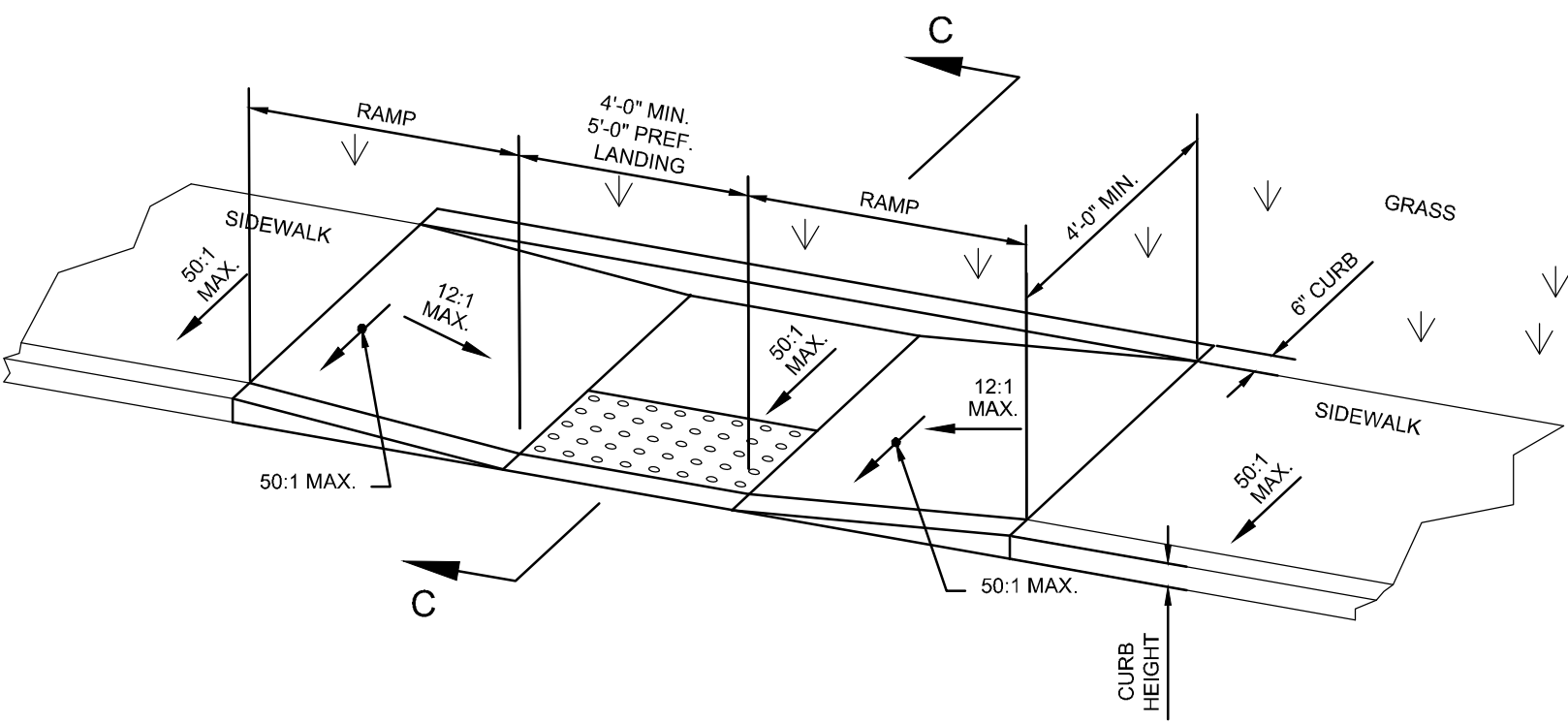
NOTES:

- INSTALL EXPANSION JOINTS AT 30' OC MAXIMUM AND WHERE SLAB ABUTS STRUCTURES. WHERE NEW WALK ABUTS ADJOINING WALK, SAWCUT EXISTING WALK TO NEAREST JOINT AND INSTALL EXPANSION JOINT. EXPANSION JOINTS SHALL BE 1/2" WIDE BY DEPTH OF SLAB. SEAL ALL EXPANSION JOINTS.
- INSTALL CONTROL JOINTS AT 6' OC MAXIMUM. CONTROL JOINTS SHALL BE 3/8" WIDE BY 1 1/2" DEEP AND TOOLED, SAWED JOINTS ARE NOT PERMITTED.
- WALK SHALL HAVE A MINIMUM CROSS SLOPE OF 1.00%, MAXIMUM CROSS SLOPE OF 2.00%.
- WATER AND UTILITY BOXES IN THE WALK AREA SHALL BE ADJUSTED FLUSH WITH THE FINAL SURFACE.
- REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL DETAIL AT ALL BUILDING DOORS.

EXTERIOR CONCRETE SLAB WALK DETAIL  
N.T.S.

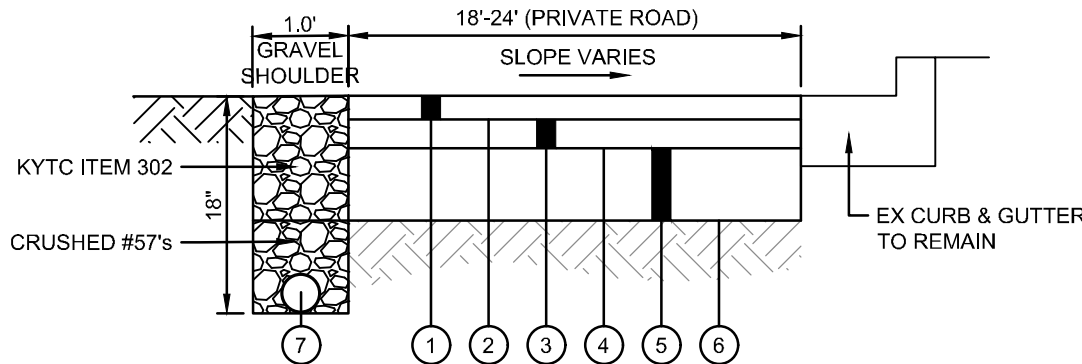


BARRIER CURB DETAIL  
N.T.S.



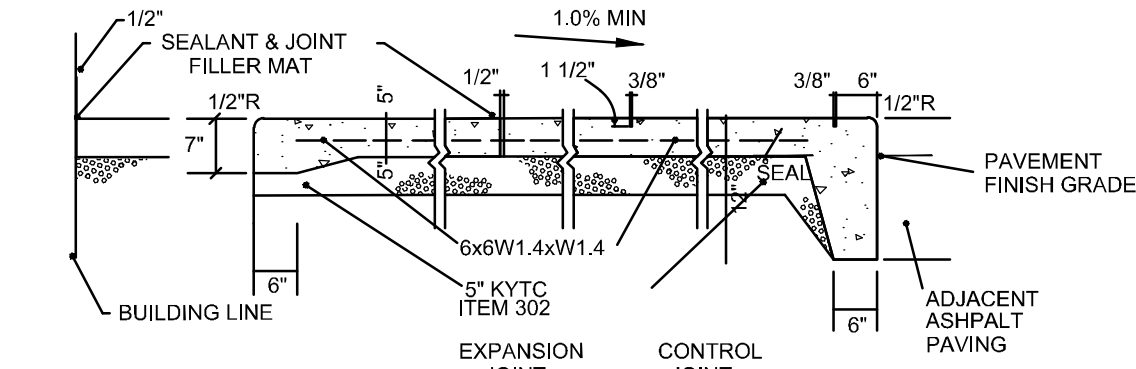
SECTION C-C

CURB RAMP DETAIL - DOUBLE SIDED PARALLEL  
N.T.S.

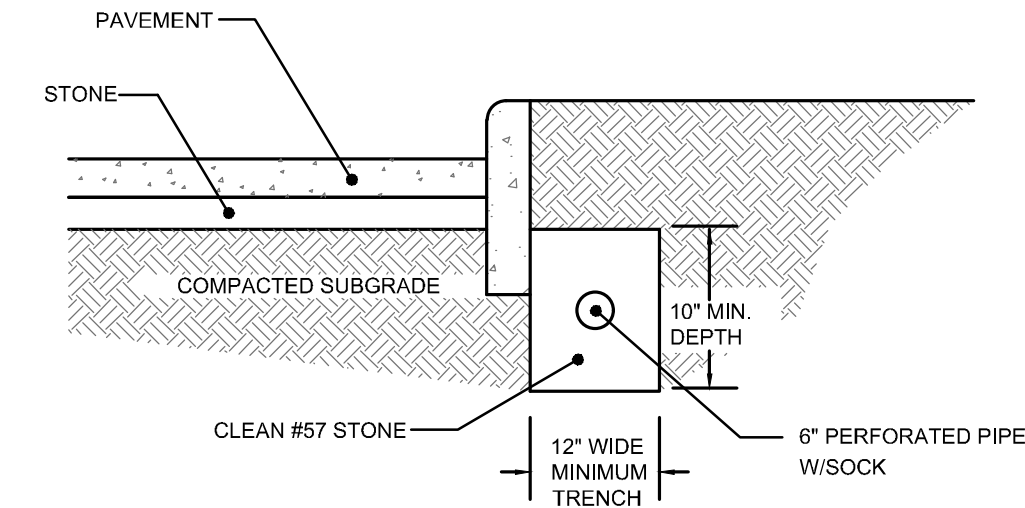


- 1 1/2" KYTC ITEM 400 ASPHALT CONCRETE SURFACE COURSE
- KYTC ITEM 406 TACK COAT, APPLIED AT 0.10 GAL/SY
- 2" KYTC ITEM 400 ASPHALT CONCRETE INTERMEDIATE COURSE
- KYTC ITEM 406 PRIME COAT, APPLIED AT 0.50 GAL/SY
- 8" KYTC ITEM 302 DENSE GRADED AGGREGATE BASE
- SUBGRADE COMPACTION, KYTC ITEM 207
- 6" PERFORATED UNDERDRAIN, KYTC ITEM 704

STANDARD DUTY ASPHALT PAVEMENT DETAIL  
N.T.S.



EXTERIOR CONCRETE SIDEWALK W/ INTEGRAL TURN DOWN CURB  
N.T.S.



UNDERDRAIN DETAIL  
N.T.S.

NOTES:

- WHILE RAMPS MAY BE SKEWED TO THE CROSSWALK, THE ENTIRE LOWER LANDING AREA MUST FALL WITHIN THE CROSS WALK THAT THE RAMP SERVES AND CANNOT BE LOCATED IN THE TRAVELED LANE OF OPPOSING TRAFFIC.
- THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE FOOT OF A CURB RAMP, LANDING, OR BLENDED TRANSITIONS SHALL BE 20:1 OR FLATTER.
- THE BOTTOM EDGE OF THE RAMP SHALL CHANGE PLANES PERPENDICULAR TO THE LANDING.
- THE EDGE OF THE CURB SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT AND GUTTER AND SURFACE SLOPES THAT MEET GRADE BREAKS SHALL ALSO BE FLUSH.
- RAMP LANDINGS SHALL BE 4' MIN. X 4' MIN. WITH A 50:1 OR FLATTER CROSS SLOPE AND RUNNING SLOPE.
- DETECTABLE WARNINGS:** INSTALL DETECTABLE WARNINGS ON EACH CURB RAMP WITH APPROVED MATERIALS. AS SHOWN IN SEPARATE DETAIL. INSTALL THESE PROPRIETY PRODUCTS AS PER MANUFACTURERS WRITTEN INSTRUCTIONS.
- DRAINAGE:** CONTRACTOR IS TO ENSURE THE BASE OF EACH CONSTRUCTED CURB RAMP ALLOWS FOR PROPER DRAINAGE, WITHOUT EXCEEDING ALLOWABLE CROSS SLOPE OR RAMP SLOPES. VERTICAL CHANGE IN LEVEL EXCEEDING 1/2" BETWEEN THE 1) PAVEMENT AND GUTTER, AND 2) GUTTER AND RAMP, ARE NOT ALLOWED.
- SURFACE TEXTURE:** TEXTURE CONCRETE SURFACES BY COARSE BROOMING TRANSVERSE TO THE RAMP SLOPES TO BE ROUGHER THAN THE ADJACENT WALK.
- JOINTS:** PROVIDE EXPANSION JOINTS IN THE CURB RAMP AS EXTENSIONS OF WALK JOINTS AND CONSISTENT WITH ITEM 608.03 REQUIREMENTS FOR A NEW CONCRETE WALK. PROVIDE A 1/2" ITEM 705.03 EXPANSION JOINT FILLER AROUND THE EDGE OF RAMPS BUILT IN EXISTING CONCRETE WALKS. LINES SHOWN ON THIS DRAWING INDICATE THE RAMP EDGES AND SLOPE CHANGES, AND DO NOT NECESSARILY INDICATE JOINT LINES.

\*WHERE POSSIBLE, POUR RAMP AREA INTEGRAL WITH THE CURB, OTHERWISE USE 6" THICK WALK.

NOTES:

GENERAL

- DETECTABLE WARNINGS ARE A DISTINCTIVE SURFACE PATTERN OF TRUNCATED DOMES WHICH ARE DETECTABLE BY CANE OR UNDERFOOT TO ALERT PEOPLE WITH VISION IMPAIRMENTS OF THEIR APPROACH TO STREETS AND HAZARDOUS DROP-OFFS.

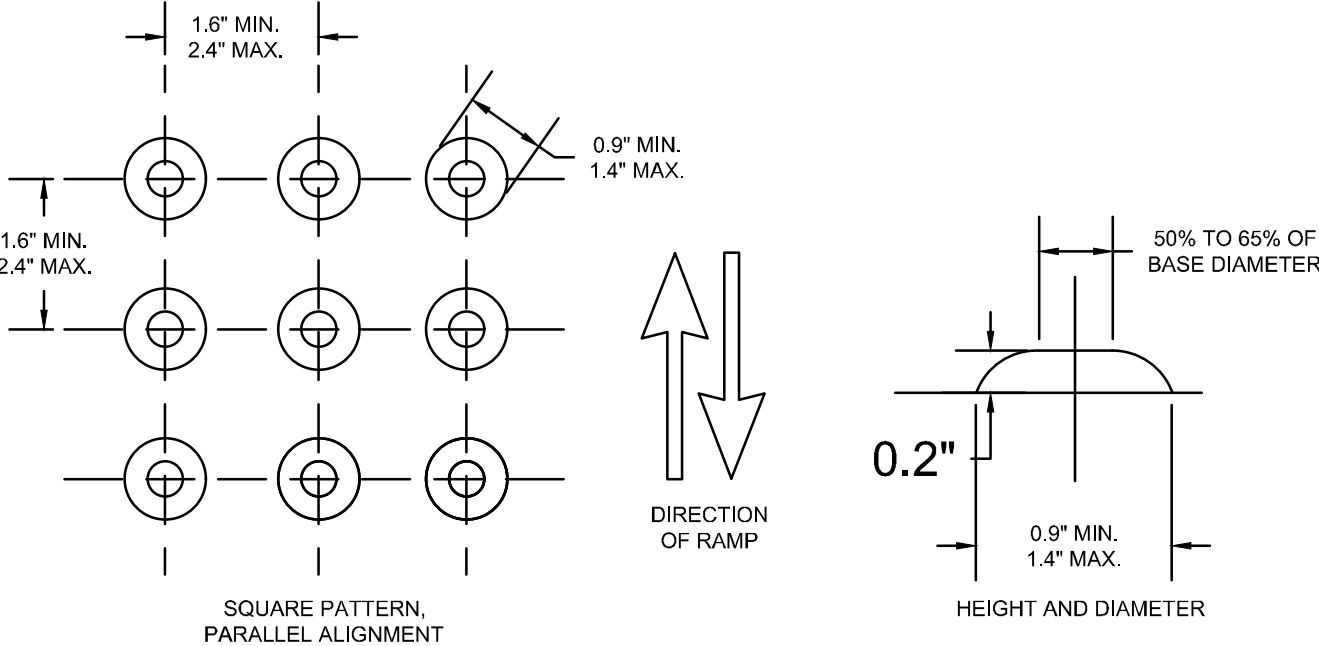
PLACEMENT

- DETECTABLE WARNINGS ARE TO BE INSTALLED AT ANY LOCATION WHERE PEDESTRIANS MIGHT CROSS PATHS WITH VEHICULAR TRAFFIC LANES, SUCH AS THE BASE OF CURB RAMPS OR AT BLENDED CURBS. A 24" STRIP OF DOMES IS TO BE INSTALLED FOR THE FULL WIDTH OF THE RAMP OR WALK.

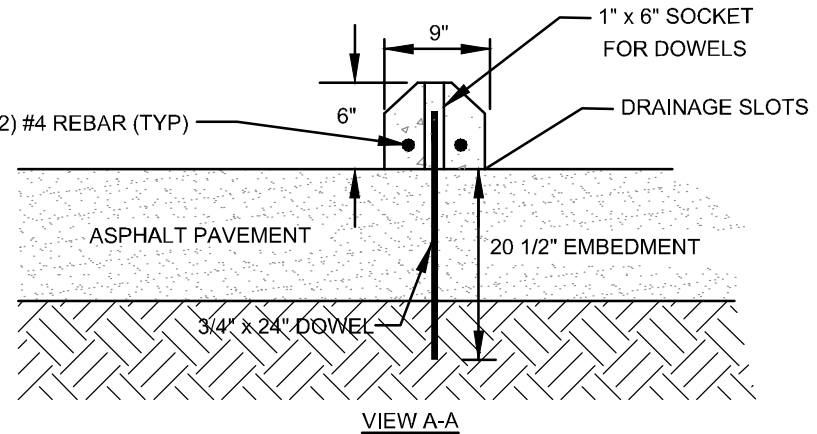
- THE DEPTH OF CONCRETE UNDERNEATH DETECTABLE WARNING PRODUCTS SHALL BE A MINIMUM OF 4".

PRODUCTS & COLORS

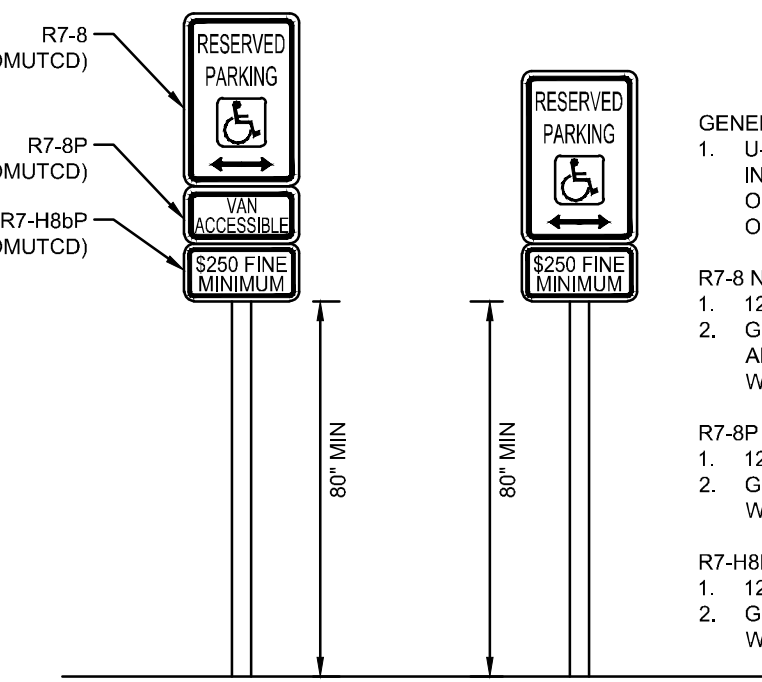
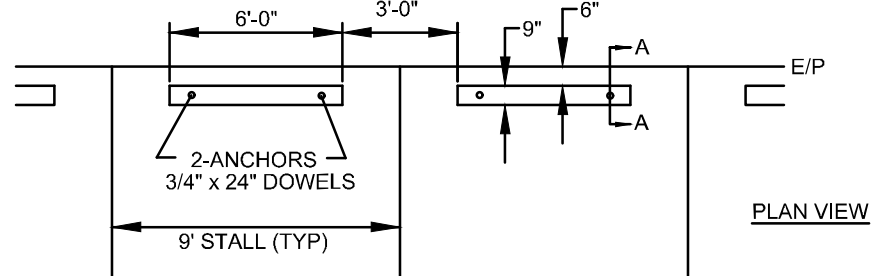
- COLOR OF THE DETECTABLE WARNINGS SHOULD CONTRAST WITH SURROUNDING CONCRETE WALK AND RAMP. BLACK IS NOT AN ACCEPTABLE COLOR. APPROVED PRODUCTS AND GUIDANCE ON COLOR MAY BE FOUND ON THE ODOT OFFICE OF ROADWAY ENGINEERING SERVICE'S DETECTABLE WARNINGS APPROVED LIST. INSTALL PRODUCTS AS PER MANUFACTURER'S PRINTED INSTRUCTIONS.



DETECTABLE WARNINGS DETAIL  
N.T.S.



PRE-CAST CONCRETE WHEEL STOPS  
N.T.S.



NOTE:

- ONE ACCESSIBLE PARKING SPACE FOR EVERY SIX OR FRACTION THERE OF SHALL BE DESIGNATED AS "VAN ACCESSIBLE". LOCATION AS NOTED ON THE DRAWINGS.
- ONE SIGN TO BE INSTALLED AT EACH ACCESSIBLE PARKING SPACE

ACCESSIBLE PARKING SIGN DETAIL  
N.T.S.

- GENERAL NOTES:
- U-TYPE FLANGED STEEL SIGN POST SET IN EARTH IF OUTSIDE PAVEMENT EDGE, OR IN CONCRETE TO A MINIMUM DEPTH OF 3'-0" IF WITHIN PAVEMENT.
- R7-8 NOTES:
- 12"X18"X16 GA. STEEL SIGN
  - GREEN LETTERING, BORDER, AND ARROW WITH WHITE BACKGROUND. WHITE HANDICAP SYMBOL IN BLUE BOX.
- R7-8P NOTES:
- 12"X8"X16 GA. STEEL SIGN
  - GREEN LETTERING AND BORDER WITH WHITE BACKGROUND.
- R7-H8pP NOTES:
- 12"X8"X16 GA. STEEL SIGN.
  - GREEN LETTERING AND BORDER WITH WHITE BACKGROUND.

THE  
**KLEINGERS**  
GROUP

CIVIL ENGINEERING  
SURVEYING  
LANDSCAPE  
ARCHITECTURE

6305 Centre Park Dr.  
West Chester, OH 45069  
513.779.7851

www.kleingers.com

SEAL:



NO.	DATE	DESCRIPTION
1	04-20-18	Owner Review
2	05-01-18	Bid Set

NKU SOFTBALL  
LOT G  
IMPROVEMENTS  
CITY OF HIGHLAND HEIGHTS  
CAMPBELL COUNTY  
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.027

DATE: 5/01/2018

SCALE:




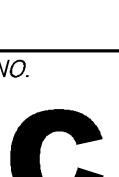
SHEET NAME:

GENERAL  
NOTES &  
DETAILS

SHEET NO.

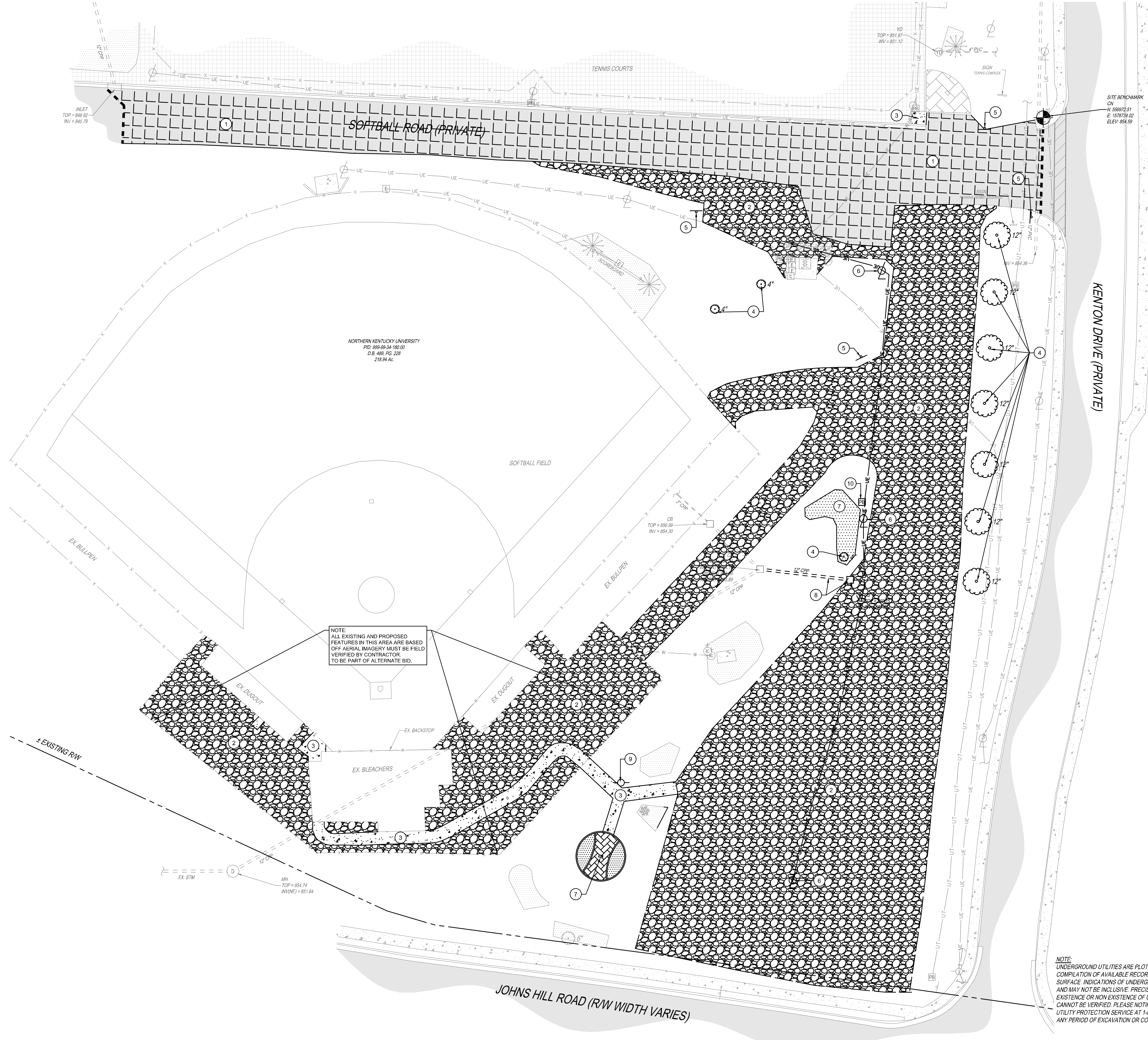
C101



 <p><b>THE KLEINGERS GROUP</b></p>										
<b>CIVIL ENGINEERING</b> <b>SURVEYING</b> <b>LANDSCAPE ARCHITECTURE</b>	<a href="http://www.kleingers.com">www.kleingers.com</a> 6305 Centre Park Dr. West Chester, OH 45069 513.779.7851									
SEAL: <div style="text-align: center; margin-top: 10px;">  </div>										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">NO.</th> <th style="width: 25%;">DATE</th> <th style="width: 60%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>04-20-18</td> <td>Owner Review</td> </tr> <tr> <td>2</td> <td>05-01-18</td> <td>Bid Set</td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION	1	04-20-18	Owner Review	2	05-01-18	Bid Set
NO.	DATE	DESCRIPTION								
1	04-20-18	Owner Review								
2	05-01-18	Bid Set								
<p><b>NKU SOFTBALL</b></p> <p><b>LOT G</b></p> <p><b>IMPROVEMENTS</b></p> <p>CITY OF HIGHLAND HEIGHTS</p> <p>CAMPBELL COUNTY</p> <p>COMMONWEALTH OF KENTUCKY</p>										
<table style="width: 100%;"> <tr> <td style="width: 60%;">PROJECT NO:</td> <td style="text-align: right;">080115.027</td> </tr> <tr> <td>DATE:</td> <td style="text-align: right;">5/01/2018</td> </tr> </table>		PROJECT NO:	080115.027	DATE:	5/01/2018					
PROJECT NO:	080115.027									
DATE:	5/01/2018									
SCALE: <div style="text-align: center; margin-top: 10px;">  </div>										
<p><b>SURVEY</b></p> <p><b>BASEMAP</b></p>										
SHEET NO. <div style="text-align: center; margin-top: 10px;">  </div>										

**NOTE:**  
UNDERGROUND UTILITIES ARE PLOTTED FROM A  
COMPILATION OF AVAILABLE RECORD INFORMATION AND  
SURFACE INDICATIONS OF UNDERGROUND STRUCTURES  
AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND  
THE EXISTENCE OR NON EXISTENCE OF UNDERGROUND UTILITIES  
CANNOT BE VERIFIED. PLEASE NOTIFY THE KENTUCKY  
UTILITY PROTECTION SERVICE AT 1-800-752-6007 BEFORE  
ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.





**CODING NOTES**

- 1 REMOVE EXISTING PAVEMENT
- 2 REMOVE EXISTING GRAVEL
- 3 REMOVE EXISTING CONCRETE
- 4 REMOVE/RELOCATE EXISTING TREE
- 5 RELOCATE EXISTING SIGN
- 6 RELOCATE EXISTING LIGHT POLE
- 7 RELOCATE EXISTING LANDSCAPING/FEATURE
- 8 REMOVE EXISTING STORM SEWER
- 9 RELOCATE EXISTING CALL BOX (LOCATION TO BE DETERMINED BY NKU)
- 10 RELOCATE EXISTING PULL BOX/ELECTRIC

**DEMOLITION PLAN LEGEND**

- REMOVE EXISTING PAVEMENT
- REMOVE EXISTING CONCRETE
- SAWCUT LINE



CIVIL ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE  
www.kleingers.com  
6305 Centre Park Dr. West Chester, OH 45069  
513.779.7851

SEAL:



NO.	DATE	DESCRIPTION
1	04-20-18	Owner Review
2	05-01-18	Bid Set

**NKU SOFTBALL LOT G IMPROVEMENTS**  
CITY OF HIGHLAND HEIGHTS  
CAMPBELL COUNTY  
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.027

DATE: 5/01/2018

SCALE:



SHEET NAME:

**DEMOLITION PLAN**

SHEET NO:

**C111**





PROJECT DESCRIPTION

PROJECT INCLUDES THE CONSTRUCTION OF: A NEW ASPHALT PARKING LOT, RECONSTRUCTION OF A SERVICE DRIVE, NEW CONCRETE WALKS, GRAVEL SERVICE DRIVE AND NEW LIGHT POLES. SOIL DISTURBING ACTIVITIES WILL INCLUDE: CLEARING AND GRUBBING, INSTALLATION OF EROSION AND SEDIMENT CONTROLS, GRADING, INSTALLATION OF THE STORM SEWERS AND UNDERGROUND DETENTION FACILITIES, INSTALLATION OF ASPHALT PAVEMENT AND CONCRETE WALKS, CURBING AND THE PREPARATION FOR FINAL SEEDING.

PROJECT DATA

TOTAL SITE AREA:	218.94 ACRES
TOTAL DISTURBED AREA:	1.48 ACRES
PROPOSED IMPERVIOUS AREA:	0.688 ACRES
PERCENTAGE OF CREATED IMPERVIOUS AREA:	62%
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION:	C=0.40-0.90
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION*:	C=0.40-0.90
PRIOR LAND USE:	EXISTING SOFTBALL COMPLEX AND GRAVEL PARKING LOT
RECEIVING WATER:	UNNAMED TRIBUTARY TO LICKING RIVER
ESTIMATED CONSTRUCTIONS DATES:	SPRING 2018-FALL 2018
SOIL TYPES, DESCRIPTIONS:	NIB-NICHOLSON SILT LOAMS

GENERAL NOTES

THE CONTRACTOR IS HEREBY ADVISED THAT STRICTER POLLUTION CONTROL STANDARDS AND ENFORCEMENT HAVE BEEN IMPOSED BY THE KENTUCKY DEP. ALSO, MANY PRIVATE CITIZEN ENVIRONMENTAL GROUPS, WHO HAVE BEEN KNOWN TO FILE CIVIL LEGAL ACTIONS, ARE PRESENT IN THE AREA AND OBSERVE ALL CONSTRUCTION OPERATIONS.

THE CONTRACTOR WILL BE REQUIRED TO PARTICIPATE IN SEDIMENT AND EROSION CONTROL INSPECTIONS ON A WEEKLY BASIS AND SIGN AN APPROVED INSPECTION SHEET THAT SHALL BE KEPT ON FILE AT THE JOB SITE.

UNLESS OTHERWISE NOTED, STANDARDS AND SPECIFICATIONS ESTABLISHED IN THE LATEST EDITION OF THE SD-1 "STORM WATER BEST MANAGEMENT PRACTICES MANUAL" SHALL GOVERN THE EROSION AND SEDIMENT CONTROL INSTALLATIONS SPECIFIED ON THIS PLAN.

THIS PROJECT WILL INVOLVE SEVERAL CONSTRUCTION PHASES AND SEQUENCING THROUGHOUT ITS LIFETIME. IT IS VERY IMPORTANT THAT ALL TEMPORARY SEDIMENT AND EROSION CONTROL (S&EC) FIELD METHODS ALONG WITH THIS PLAN, ARE UPDATED TO REFLECT THE ACTUAL FIELD CONDITIONS, CURRENT WEATHER CONDITIONS AND SITE GRADE CHANGES. THE CONTRACTOR, OWNER, ENGINEER OR THE KENTUCKY DEP CAN AND WILL MODIFY THIS PLAN AS NECESSARY.

THE CONTRACTOR WILL VOLUNTARILY SELF-REPORT ANY POTENTIAL VIOLATIONS OF THE KENTUCKY KPDES PERMIT TO THE OWNER, ENGINEER AND THE KENTUCKY DEP.

THE CONTRACTOR SHALL REMOVE EXISTING GROUND COVER ONLY AS NECESSARY FOR THE PROJECT PHASE CURRENTLY UNDER CONSTRUCTION.

CONSTRUCTION AND DEMOLITION DEBRIS SHALL BE PROPERLY DISPOSED OF ACCORDING TO KENTUCKY DEP REQUIREMENTS.

THE CONTRACTOR WILL BE REQUIRED TO BUILD SEDIMENT BASINS OR SEDIMENT TRAPS OR USE EQUAL METHODS TO DETAIN AND CLEAN WATER TO ACCEPTABLE EPA STANDARDS BEFORE RELEASING THE WATER BACK INTO THE STREAM.

THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS, RESULTING FROM DEWATERING ACTIVITIES. SEDIMENT-LADEN WATER MUST PASS THROUGH A SETTLING POND, FILTER BAG, OR OTHER COMPARABLE PRACTICE, PRIOR TO DISCHARGE.

NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF.

ALL PROCESSED WASTEWATER (EQUIPMENT WASHING, LEACHATE FROM ON-SITE WASTE DISPOSAL, ETC.) SHALL BE COLLECTED AND DISPOSED OF AT A PUBLICLY OWNED TREATMENT WORKS.

ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH ALL LOCAL EROSION/SEDIMENT CONTROL, WASTE DISPOSAL, SANITARY AND HEALTH REGULATIONS.

OTHER EROSION CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND IMPLEMENTATION OF ADDITIONAL EROSION CONTROL ITEMS, AT THE ENGINEER'S DISCRETION.

NO SOIL, ROCK, DEBRIS OR OTHER MATERIAL SHALL BE DUMPED OR PLACED IN ANY AREAS NOT ADEQUATELY PROTECTED BY EROSION CONTROL INSTALLATIONS.

IT IS PREFERRED TO USE PERMANENT EROSION CONTROL ITEMS AS SHOWN IN THE PLANS TO CONTROL CONSTRUCTION POLLUTION WHEN POSSIBLE. OTHERWISE, THE TEMPORARY POLLUTION PREVENTION ITEMS ARE TO BE USED.

MOST TEMPORARY S&EC METHODS, INCLUDING BUT NOT LIMITED TO, SILT FENCE AND DITCH CHECKS MAY ALL HAVE TO BE PERIODICALLY REMOVED AND REPLACED, OR MOVED FROM THE EXISTING ROAD DITCH OR STRIPPED AREAS AS WORK PROGRESSES. ANY CHANGES SHALL BE NOTED IN THE PLAN BY RED LINE AND DATED ON A CORRECTIVE ACTION LOG.

ALL TEMPORARY SEDIMENT CONTROLS AND STORM WATER QUALITY METHODS WILL BE BUILT/INSTALLED AS THE PROJECT PROGRESSES TO ELIMINATE UNNECESSARY DISTURBANCE AND REDUNDANCY. ALL TEMPORARY CONTROLS SHALL BE IN PLACE AND FUNCTIONING PROPERLY WHEN THREATENING WEATHER IS IMMINENT.

\*TEMPORARY STABILIZATION\* MEANS THE ESTABLISHMENT OF TEMPORARY VEGETATION, MULCHING, GEOTEXTILES, SOD, PRESERVATION OF EXISTING VEGETATION AND OTHER TECHNIQUES CAPABLE OF QUICKLY ESTABLISHING COVER OVER DISTURBED AREAS TO PROVIDE EROSION CONTROL BETWEEN CONSTRUCTION OPERATIONS.

\*PERMANENT STABILIZATION\* MEANS THE ESTABLISHMENT OF PERMANENT VEGETATION, DECORATIVE LANDSCAPE MULCHING, MATTING, SOD, RIP RAP AND LANDSCAPING TECHNIQUES TO PROVIDE PERMANENT EROSION CONTROL ON AREAS WHERE CONSTRUCTION OPERATIONS ARE COMPLETE OR WHERE NO FURTHER DISTURBANCE IS EXPECTED FOR AT LEAST A YEAR.

OFF-SITE TRACKING OF SEDIMENTS SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. ALL PAVED STREETS ADJACENT TO THE SITE WILL BE SWEEPED DAILY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARP.

OPERATION SEQUENCE FOR TEMPORARY AND PERMANENT BMP INSTALLATION

TO COMPLETE THE EXCAVATION AND CONSTRUCTION OF THE PROPOSED JOB IMPROVEMENTS, COORDINATION OF THE CONTRACTOR'S WORK CREWS WILL BE REQUIRED. THE EXISTING DITCHES WILL PERFORM TEMPORARY SEDIMENT CONTROL AND STORAGE DURING THE PROPOSED CONSTRUCTION, WORK WILL GENERALLY PROCEED FROM DOWNSTREAM TO UPSTREAM IN THESE WORK AREAS. THE GENERAL CONSTRUCTION SEQUENCE IS AS FOLLOWS:

- A) INSTALL EROSION CONTROL ITEMS.

B) STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL THROUGH THE INCREMENTAL WORK AREA.

D) IF U/G PIPE IS CALLED FOR IN THIS PORTION OF WORK AREA, PIPE CREW WILL INSTALL PIPE AS WELL AS MANHOLES.

E) AS PIPE INSTALLATION PROGRESSES, REPAIR OF THE ROADWAY WILL PROCEED BEHIND IT.

F) ANY DISTURBED OR EXPOSED AREAS SHALL BE STABILIZED PER KENTUCKY EPA TEMPORARY AND PERMANENT STABILIZATION REGULATIONS INCLUDING:

1. SEEDING

2. DITCH MATTING

3. INLET PROTECTION

4. MULCHING

5. WATERING

STABILIZATION PRACTICES

PERMANENT SEEDING AND MULCHING STABILIZATION SHALL BE PROVIDED PER KENTUCKY EPA GUIDELINES.

TABLE 1: PERMANENT STABILIZATION	
AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

TEMPORARY SEEDING AND MULCHING STABILIZATION SHALL BE PROVIDED PER KENTUCKY EPA GUIDELINES.

TABLE 2: TEMPORARY STABILIZATION	
AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREAS WITH 50 FEET OF A SURFACE WATER OF THE STATE AND NOT AT FINAL GRADE	WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A SURFACE WATER OF THE STATE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA  FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S).
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER

ALL TEMPORARY EROSION AND SEDIMENT CONTROL INSTALLATIONS SHALL BE REMOVED WHEN 70% VEGETATION HAS BEEN REACHED.

SEEDING & MULCHING

MULCH AND/OR 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 14 DAYS OR ON AREAS AND PORTIONS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.

MULCH SHALL CONSIST OF UNROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 3 TONS/AC. OR 138 LB./1000 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 1000-SQ.-FT. SECTIONS AND PLACE THREE 45-LB. BALES OF STRAW IN EACH SECTION.

MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. THE FOLLOWING ARE ACCEPTABLE METHODS FOR ANCHORING MULCH:

- 1) MECHANICAL-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 IN.
- 2) MULCH NETTINGS-USE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, FOLLOWING ALL PLACEMENT AND ANCHORING SUGGESTIONS. USE IN AREAS OF WATER CONCENTRATION AND STEEP SLOPES TO HOLD MULCH IN PLACE.
- 3) ASPHALT EMULSION-FOR STRAW MULCH, APPLY AT THE RATE OF 160 GAL./AC. (0.1 GAL./SY) INTO THE MULCH AS IT IS BEING APPLIED OR AS RECOMMENDED BY THE MANUFACTURER.
- 4) SYNTHETIC BINDERS-FOR STRAW MULCH, SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (ACRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.

TEMPORARY SEEDING & MULCHING FOR EROSION CONTROL		
SEED TYPE	PER 1000 SQ FT	PER ACRE
PERENNIAL RYEGRASS	1 POUND	40 POUNDS
TALL FESCUE	1 POUND	40 POUNDS
ANNUAL RYEGRASS	1 POUND	40 POUNDS
SMALL GRAIN STRAW	90 POUNDS	2 TONS
FERTILIZER	6 POUNDS OF 10-10-10 OR 12-12-12	250 POUNDS OF 10-10-10 OR 12-12-12

NOTE: OTHER APPROVED SPECIES MAY BE SUBSTITUTED

WINTER SEEDING & MULCHING

WINTER SEED AND MULCH IS REQUIRED FOR EARTH DISTURBANCE ACTIVITY OPERATIONS OCCURRING BETWEEN OCTOBER 15 AND MARCH 15 AND CAN ONLY BE INSTALLED DURING THAT TIME. ALL STRAW MULCH INCLUDED IN THIS WORK MUST BE EITHER CRIMPED IN PLACE OR INSTALLED WITH A BIODEGRADABLE BONDED FIBER MATRIX. CRIMPED MULCH IS REQUIRED TO BE ANCHORED INTO THE SOIL SURFACE WITH A MECHANICAL CRIMPING IMPLEMENT OR OTHER SUITABLE IMPLEMENT APPROVED BY THE ENGINEER. THE MULCH INCLUDED IN THIS WORK MUST BE CAPABLE OF PROVIDING SUFFICIENT DURABLE PROTECTIVE COVER THAT PROVIDES KENTUCKY DEP KPDES PERMIT COMPLIANT EROSION CONTROL FOR A MINIMUM OF 6 MONTHS. THE USE OF OTHER SEED AND/OR MULCH MATERIALS IN THIS TIME PERIOD REQUIRES SPECIFIC APPROVAL BY THE ENGINEER. THE USE OF WINTER SEEDING AND MULCHING IS NOT AN ACCEPTABLE PRACTICE FOR PROTECTING THE SUBGRADE SURFACE.

STOCKPILE

SILT FENCING SHALL BE INSTALLED AROUND TEMPORARY SPOIL STOCKPILES. THESE STOCKPILES SHALL BE STRAW MULCHED AND/OR TEMPORARILY SEEDED WITHIN 7 WORKING DAYS IF LEFT DORMANT FOR 14 DAYS OR LONGER.

TIMING OF CONTROL MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, CONSTRUCTION ENTRANCE(S) AND SILT FENCE WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. SEDIMENT CONTROL DEVICES SHALL BE IMPLEMENTED FOR ALL AREAS REMAINING DISTURBED LONGER THAN 14 DAYS AND/OR WITHIN 7 DAYS OF ANY GRUBBING ACTIVITIES. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 14 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 2 DAYS OF THE LAST DISTURBANCE IF THE AREA IS WITHIN 50 FEET OF A STREAM, AND WITHIN 7 DAYS OF THE LAST DISTURBANCE IF THE AREA IS MORE THAN 50 FEET AWAY FROM A STREAM. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED WITH PERMANENT SEED AND MULCH. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE BASIN.

STABILIZATION TYPE	J	F	M	A	M	J	J	A	S	O	N	D	
PERMANENT SEEDING			●	●	●	●	●	●	●	●	●	●	*
DORMANT SEEDING		●	●	●	●	●	●	●	●	●	●	●	**
TEMPORARY SEEDING			●	●	●	●	●	●	●	●	●	●	
SODDING			●	●	●	●	●	●	●	●	●	●	
MULCHING	●	●	●	●	●	●	●	●	●	●	●	●	

INSPECTIONS

ALL BMPS ON THIS SITE SHALL BE INSPECTED BY THE CONTRACTOR OR DESIGNATED REPRESENTATIVE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES PER 24 HOUR PERIOD. A RECORD OF THESE INSPECTIONS SHALL BE MAINTAINED IN THE CONSTRUCTION OFFICE WITH THE SWPPP FOR PUBLIC VIEWING. ANY VIOLATIONS WILL BE REPORTED THROUGH THE PROJECT PERSONNEL. A RAIN GAUGE WILL BE LOCATED WITHIN THE PROJECT LIMITS.

FOLLOWING EACH INSPECTION, A CHECKLIST MUST BE COMPLETED AND SIGNED BY THE QUALIFIED INSPECTION PERSONNEL REPRESENTATIVE. AT A MINIMUM, THE INSPECTION REPORT SHALL INCLUDE:

1. THE INSPECTION DATE;
2. NAMES, TITLES, AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION;
3. WEATHER INFORMATION FOR THE PERIOD SINCE THE LAST INSPECTION (OR SINCE COMMENCEMENT OF CONSTRUCTION ACTIVITY IF THE FIRST INSPECTION) INCLUDING A BEST ESTIMATE OF THE BEGINNING OF EACH STORM EVENT, DURATION OF EACH STORM EVENT, APPROXIMATE AMOUNT OF RAINFALL FOR EACH STORM EVENT (IN INCHES), AND WHETHER ANY DISCHARGES OCCURRED;
4. WEATHER INFORMATION AND A DESCRIPTION OF ANY DISCHARGES OCCURRING AT THE TIME OF THE INSPECTION;
5. LOCATION(S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE;
6. LOCATION(S) OF BMPS THAT NEED TO BE MAINTAINED;
7. LOCATION(S) OF BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION;
8. LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION; AND
9. CORRECTIVE ACTION REQUIRED INCLUDING ANY CHANGES TO THE SWPS NECESSARY AND IMPLEMENTATION DATES.

THE PERMITTEE SHALL MAINTAIN A RECORD OF ALL INSPECTIONS FOR A PERIOD OF 3 YEARS FOLLOWING THE SUBMITTAL OF THE NOTICE OF TERMINATION.

SPILL PREVENTION

MATERIAL MANAGEMENT PRACTICES:

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING:

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

1. AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
2. ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
3. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
4. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
5. WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
6. MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
7. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.

HAZARDOUS PRODUCTS:

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

1. PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
2. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
3. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURERS' OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

1. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY. MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
2. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
3. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
4. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE. SPILLS OF 25 OR MORE GALLONS OF PETROLEUM WASTE MUST BE REPORTED TO KENTUCKY EPA, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MINUTES OF THE SPILL.
5. SOILS CONTAMINATED BY PETROLEUM OR OTHER CHEMICAL SPILLS MUST BE TREATED/DISPOSED AT A KENTUCKY EPA APPROVED SOLID WASTE MANAGEMENT FACILITY OR HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITY (TSDF).
6. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.
7. THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE WILL DESIGNATE SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ONSITE.

PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

PETROLEUM PRODUCTS - ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FUEL STORAGE TANKS SHALL BE LOCATED AWAY FROM SURFACE WATERS AND STORM SEWER SYSTEM INLETS. FUEL TANKS SHALL BE STORED IN A DIKED AREA CAPABLE OF HOLDING 150% OF THE TANK CAPACITY.

FERTILIZERS - FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER, ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.


PAINTS - ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

DUST CONTROL

DUST CONTROL INVOLVES PREVENTING OR REDUCING DUST FROM EXPOSED SOILS OR OTHER SOURCES DURING LAND DISTURBING, DEMOLITION AND CONSTRUCTION ACTIVITIES TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS OR HARM ANIMAL OR PLANT LIFE.

THE FOLLOWING SPECIFICATIONS FOR DUST CONTROL SHALL BE FOLLOWED ONSITE:

1. VEGETATIVE COVER AND MULCH - APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 14 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING; PERMANENT SEEDING; MULCHING PRACTICES; AND TREE AND NATURAL AREA PROTECTION PRACTICES.
2. WATERING - SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS INSTRUCTIONS.
3. SPRAY-ON ADHESIVES - APPLY ADHESIVE ACCORDING TO THE FOLLOWING TABLE OR MANUFACTURERS' INSTRUCTIONS.




THE  
**KLEINGERS**  
GROUP

CIVIL ENGINEERING  
SURVEYING  
LANDSCAPE  
ARCHITECTURE

www.kleingers.com  
6305 Centre Park Dr.  
West Chester, OH 45069  
513.779.7851

SEAL:



NO.	DATE	DESCRIPTION
1	04-20-18	Owner Review
2	05-01-18	Bid Set

**NKU SOFTBALL  
LOT G  
IMPROVEMENTS**

**CITY OF HIGHLAND HEIGHTS  
CAMPBELL COUNTY  
COMMONWEALTH OF KENTUCKY**

PROJECT NO: **080115.027**

DATE: **5/01/2018**

SCALE:

SHEET NAME:

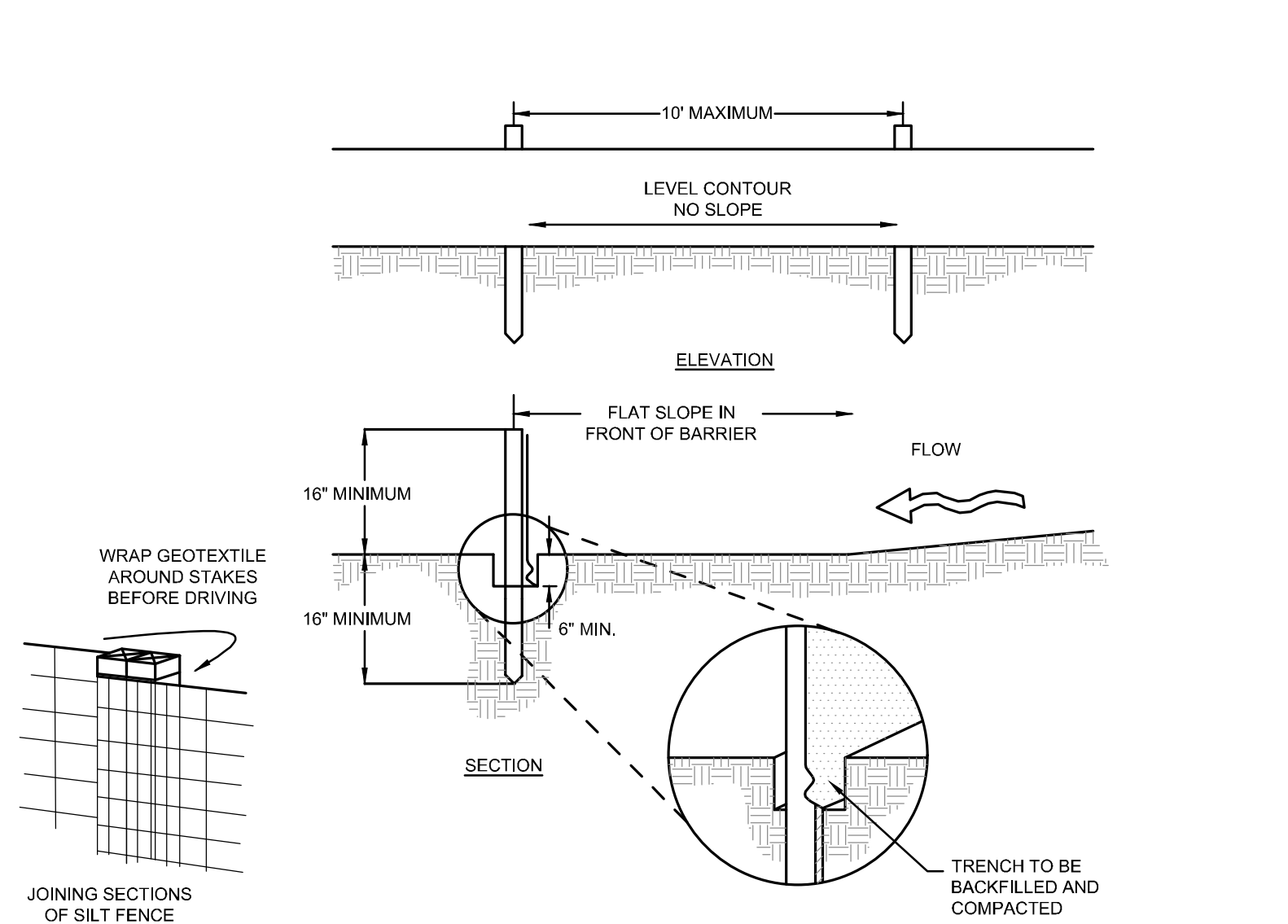
**EROSION  
CONTROL  
NOTES**

SHEET NO.

**C112**

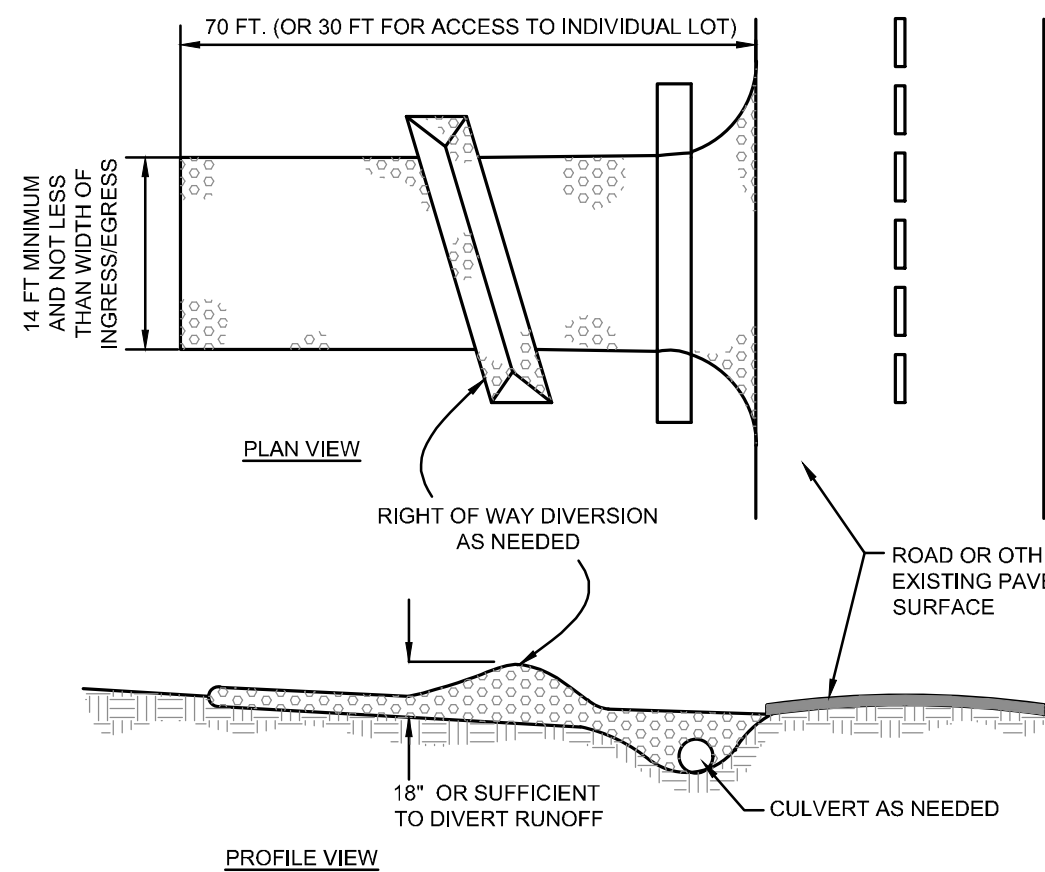
11/20/2017 2:08PM P:\080115\080115\027\Sheets\080115\027\080115-027.dwg, 4/19/2018 12:24:03 PM, mney





- NOTES:
- SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
  - ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS THAT MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
  - ENDS OF THE SILT FENCES SHALL BE BROUGHT UPSLOPE SLIGHTLY SO THAT WATER PONDED BY THE SILT FENCE WILL BE PREVENTED FROM FLOWING AROUND THE ENDS.
  - SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
  - WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FEET (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
  - THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
  - THE SILT FENCE SHALL BE PLACED IN AN EXCAVATED OR SLICED TRENCH CUT A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE MADE WITH A TRENCHER, CABLE LAYING MACHINE, SLICING MACHINE, OR OTHER SUITABLE DEVICE THAT WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
  - THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE. A MINIMUM OF 8 INCHES OF GEOTEXTILE MUST BE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6-INCH DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED ON BOTH SIDES OF THE FABRIC.
  - SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE SPICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-IN. OVERLAP PRIOR TO DRIVING INTO THE GROUND.
  - MAINTENANCE—SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER THE FABRIC OR AROUND THE FENCE ENDS, OR IN ANY OTHER WAY ALLOWS A CONCENTRATED FLOW DISCHARGE, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED; 2) ACCUMULATED SEDIMENT SHALL BE REMOVED; OR 3) OTHER PRACTICES SHALL BE INSTALLED.
  - SEDIMENT DEPOSITS SHALL BE ROUTINELY REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE-HALF OF THE HEIGHT OF THE SILT FENCE.
  - SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING A PROLONGED RAINFALL. THE LOCATION OF EXISTING SILT FENCE SHALL BE REVIEWED DAILY TO ENSURE ITS PROPER LOCATION AND EFFECTIVENESS. IF DAMAGED, THE SILT FENCE SHALL BE REPAIRED IMMEDIATELY.
- CRITERIA FOR SILT FENCE MATERIALS
- | FABRIC PROPERTIES              | VALUES                   | TEST METHOD |
|--------------------------------|--------------------------|-------------|
| MINIMUM TENSILE STRENGTH       | 120 LBS. (55 N)          | ASTM D 4632 |
| MAXIMUM ELONGATION AT 60 LBS   | 50%                      | ASTM D 4632 |
| MINIMUM PUNCTURE STRENGTH      | 50 LBS. (220 N)          | ASTM D 4633 |
| MINIMUM TEAR STRENGTH          | 40 LBS. (180 N)          | ASTM D 4533 |
| APPARENT OPENING SIZE          | <0.04 MM                 | ASTM D 4751 |
| MINIMUM PERMITTIVITY           | 1X10 <sup>-2</sup> SEC-1 | ASTM D 4491 |
| UV EXPOSURE STRENGTH RETENTION | 70%                      | ASTM G 4355 |

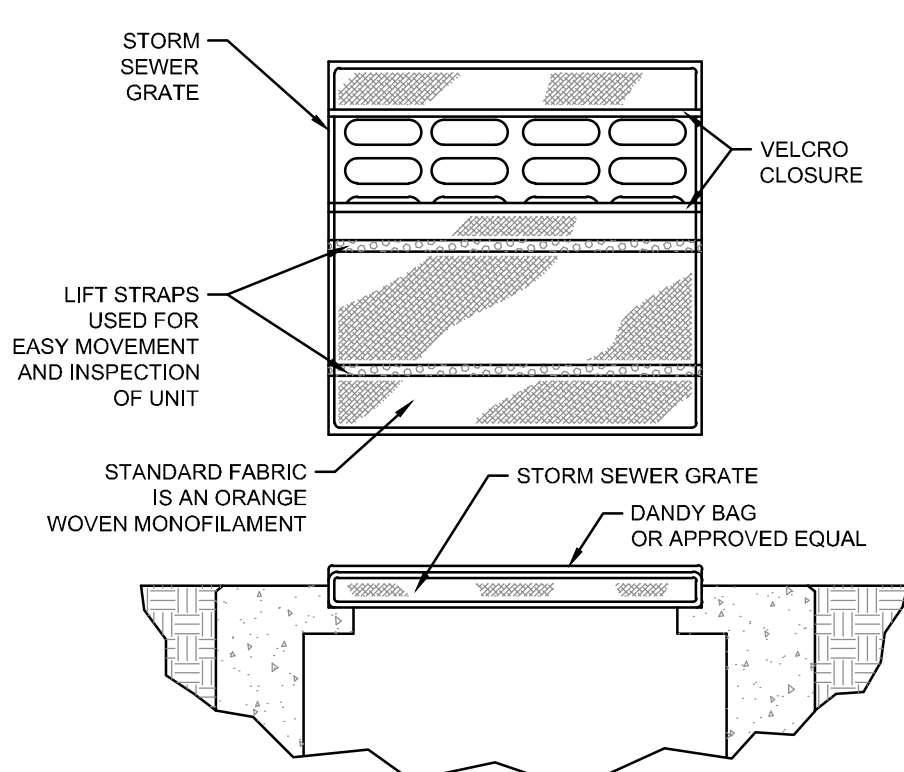
SILT FENCE DETAIL  
N.T.S.



- NOTES:
- STONE SIZE - ODOT #2 (1.5-2.5 INCH) STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
  - LENGTH - THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70 FT. (EXCEPTION: APPLY 30 FT. MINIMUM TO SINGLE RESIDENCE LOTS).
  - THICKNESS - THE STONE LAYER SHALL BE AT LEAST 6 INCHES THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10 INCHES FOR HEAVY DUTY USE.
  - WIDTH - THE ENTRANCE SHALL BE AT LEAST 14 FEET WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
  - GEOTEXTILE - A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:

MINIMUM TENSILE STRENGTH	200 LBS
MINIMUM PUNCTURE STRENGTH	80 LBS
MINIMUM TEAR STRENGTH	50 LBS
MINIMUM BURST STRENGTH	320 PSI
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EQS: 0.06 MM
PERMITTIVITY	1X10 <sup>-2</sup> CM/SEC
  - TIMING - THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
  - CULVERT - A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FROM FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
  - WATER BAR - A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
  - MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRAFFIC OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKING OF EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. THE USE OF WATER TRUCKS TO REMOVE MATERIALS DROPPED, WASHED, OR TRACKED ONTO ROADWAYS WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES. TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
  - CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-ROAD TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION-SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
  - REMOVAL - THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.

CONSTRUCTION ENTRANCE DETAIL  
N.T.S.

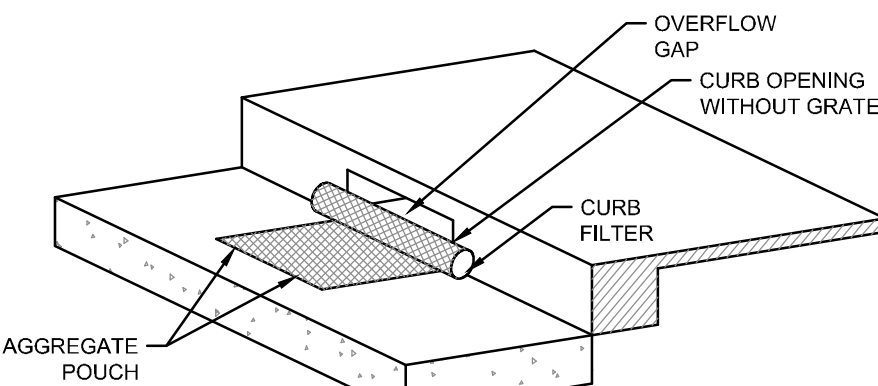


SPECIFICATIONS			
MECHANICAL PROPERTIES	TEST METHOD	UNITS	MARV
GRAB TENSILE STRENGTH	ASTM D 4632	KN (LBS)	1.62 (365) X 0.89 (200)
GRAB TENSILE ELONGATION	ASTM D 4632	%	24 X 10
PUNCTURE STRENGTH	ASTM D 4633	KN (LBS)	0.40 (90)
MULLEN BURST STRENGTH	ASTM D 3786	KPA (PSI)	3097 (450)
TRAPEZOID TEAR STRENGTH	ASTM D 4533	KN (LBS)	0.51 (115) X 0.33 (75)
UV RESISTENCE	ASTM D 4355	%	90
APPARENT OPENING SIZE	ASTM D 4751	MM (US STD SIEVE)	0.425 (40)
FLOW RATE	ASTM D 4491	1/MIN (GAL/MIN/FT)	5907 (145)
PERMITTIVITY	ASTM D 4491	SEC <sup>-1</sup>	2.1

INSTALLATION: THE EMPTY DANDY BAG SHOULD BE PLACED OVER THE GRATE AS THE GRATE STANDS ON END. IF USING OPTIONAL OIL ABSORBENTS: PLACE ABSORBENT PILL OW IN POUCH, ON THE BOTTOM (BELOW-GRADE SIDE) OF THE UNIT. ATTACH ABSORBENT PILL OW TO TETHER LOOP. TUCK THE ENCLOSURE FLAP INSIDE TO COMPLETELY ENCLOSE THE GRATE. HOLDING THE LIFTING DEVICES (DO NOT RELY ON LIFTING DEVICES TO SUPPORT THE ENTIRE WEIGHT OF THE GRATE), PLACE THE GRATE INTO ITS FRAME.

MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE AND VICINITY OF UNIT AFTER EACH STORM EVENT. REMOVE SEDIMENT THAT HAS ACCUMULATED WITHIN THE CONTAINMENT AREA OF THE DANDY BAG AS NEEDED. IF USING OPTIONAL OIL ABSORBENTS: REMOVE AND REPLACE ABSORBENT PILL OW WHEN NEAR SATURATION.

DANDY BAG DETAIL  
N.T.S.

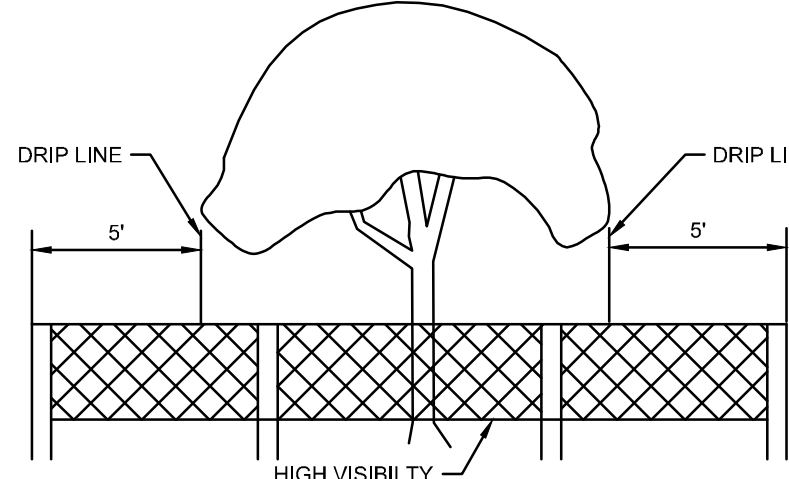


SPECIFICATIONS			
MECHANICAL PROPERTIES	TEST METHOD	UNITS	MARV
GRAB TENSILE STRENGTH	ASTM D 4632	KN (LBS)	1.62 (365) X 0.89 (200)
GRAB TENSILE ELONGATION	ASTM D 4632	%	24 X 10
PUNCTURE STRENGTH	ASTM D 4633	KN (LBS)	0.40 (90)
MULLEN BURST STRENGTH	ASTM D 3786	KPA (PSI)	3097 (450)
TRAPEZOID TEAR STRENGTH	ASTM D 4533	KN (LBS)	0.51 (115) X 0.33 (75)
UV RESISTENCE	ASTM D 4355	%	90
APPARENT OPENING SIZE	ASTM D 4751	MM (US STD SIEVE)	0.425 (40)
FLOW RATE	ASTM D 4491	1/MIN (GAL/MIN/FT)	5907 (145)
PERMITTIVITY	ASTM D 4491	SEC <sup>-1</sup>	2.1

INSTALLATION: PLACE DANDY CURB INLET PROTECTION UNIT ON GROUND WITH AGGREGATE POUCH ON STREET SIDE NEAR INLET IT WILL BE INSTALLED ON. TO INSTALL ABSORBENT PLACE ABSORBENT SOCK IN POUCH, FILL POUCH WITH AGGREGATE SUCH AS #5-7, 8'S OR SIMILAR TO A LEVEL (AT LEAST 1/2 FULL) THAT WILL KEEP UNIT IN PLACE DURING A RAIN EVENT AND CREATE A SEAL BETWEEN THE DANDY CURB AND THE SURFACE OF THE STREET. RESEAL VELCRO ACCESS. CENTER THE UNIT AGAINST THE CURB OR MEDIAN INLET OPENING SO THAT THE CURB SIDE OF THE UNIT CREATES A SEAL WITH THE CURB OR MEDIAN BARRIER AND INLET STRUCTURE.

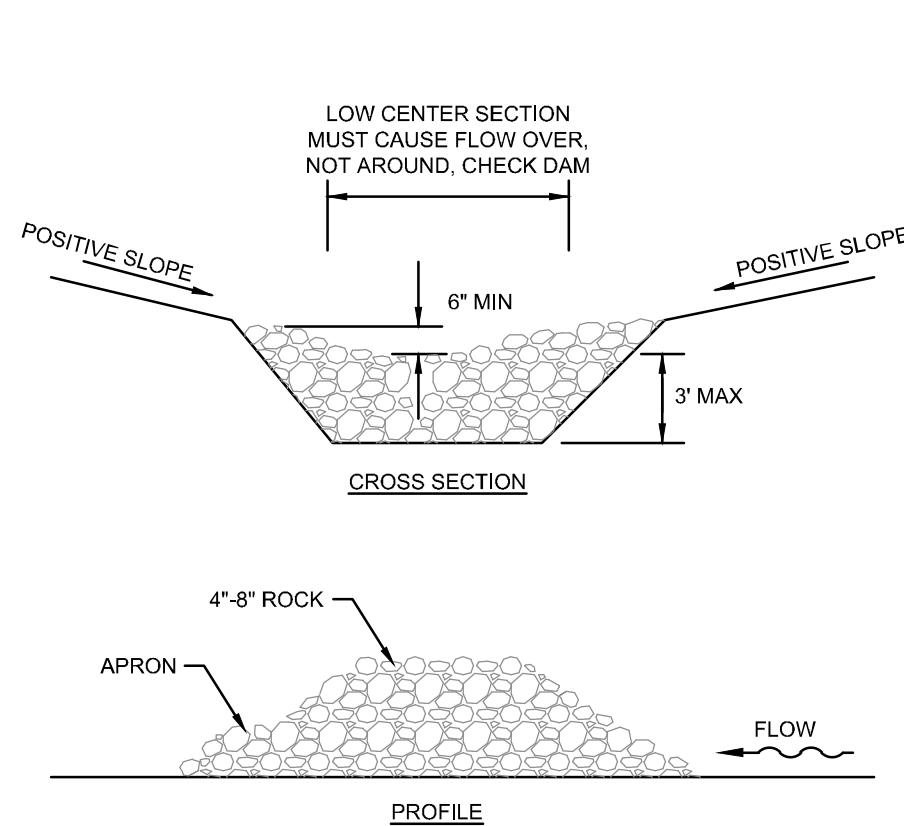
MAINTENANCE: WITH A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL REMOVE SILT & OTHER DEBRIS OFF SURFACE AFTER EACH EVENT. REMOVE FINE MATERIAL FROM INSIDE ENVELOPE AS NEEDED. REMOVE AND REPLACE ABSORBENT WHEN NEAR SATURATION.

DANDY CURB DETAIL  
N.T.S.



- NOTES:
- PROTECT EXISTING TREES AND OTHER VEGETATION INDICATED TO REMAIN IN PLACE AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, SKINNING OR BRUSHING OF BARK. SMOOTHING OF TREES BY STOCKPILING CONSTRUCTION MATERIALS OR EXCAVATED MATERIALS WITHIN DRIP LINE. EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE. PROVIDE TEMPORARY GUARDS TO PROTECT TREES AND AND VEGETATION TO BE LEFT STANDING.
  - SIGNAGE SHALL CLEARLY IDENTIFY THE TREE AND NATURAL PRESERVATION AREA AND STATE THAT NO CLEARING OR EQUIPMENT IS ALLOWED WITHIN IT.
  - TREE AND NATURAL PRESERVATION AREA SHALL BE FENCED PRIOR TO BEGINNING CLEARING OPERATIONS.
  - FENCE MATERIALS SHALL BE METAL FENCE POSTS WITH SNOW FENCE.
  - FENCE SHALL BE PLACED AS SHOWN ON PLANS AND BEYOND THE DRIP LINE OR CANOPY OF TREES TO BE PROTECTED.
  - IF ANY CLEARING IS DONE AROUND SPECIMEN TREES IT SHALL BE DONE BY CUTTING AT GROUND LEVEL WITH HAND HELD TOOLS AND SHALL NOT BE GRUBBED OR PULLED OUT. NO CLEARING SHALL BE DONE IN BUFFER STRIPS OR OTHER PRESERVED FORESTED AREAS.
  - NO FILLING OR STOCKPILING OF MATERIALS SHALL OCCUR WITHIN THE TREE PROTECTION AREA, INCLUDING DEPOSITION OF SEDIMENT.
  - WHERE UTILITIES MUST RUN THROUGH A TREE'S DRIP LINE, TUNNELING SHOULD BE USED TO MINIMIZE ROOT DAMAGE. TUNNELING SHOULD BE AT A MINIMUM DEPTH OF 24 INCHES FOR TREES LESS THAN 12 INCHES IN DIAMETER OR AT A MINIMUM DEPTH OF 36 INCHES FOR LARGER DIAMETER TREES.
  - WHERE TUNNELING WILL BE PERFORMED WITHIN THE DRIP LINE OF A TREE, THE TUNNEL SHOULD BE PLACED A MINIMUM OF 2 FEET AWAY FROM THE TREE TRUNK TO AVOID TAPROOTS.
  - MINIMIZE EXCAVATION OR TRENCHING WITHIN THE DRIP LINE OF THE TREE. ROUTE TRENCHES AROUND THE DRIP LINE OF TREES.
  - ROOTS 2 INCHES OR LARGER THAT ARE SEVERED BY TRENCHING SHOULD BE SAWN OFF NEATLY IN ORDER TO ENCOURAGE NEW GROWTH AND DISCOURAGE DECAY.
  - SOIL EXCAVATED DURING TRENCHING SHALL BE PILED ON THE SIDE AWAY FROM THE TREE.
  - ROOTS SHALL BE KEPT MOIST WHILE TRENCHES ARE OPEN AND REFILLED IMMEDIATELY AFTER UTILITIES ARE INSTALLED OR REPAIRED.

TREE PROTECTION DETAIL  
N.T.S.



- NOTES:
- THE CHECK DAM SHALL BE CONSTRUCTED OF 4-8 INCH DIAMETER STONE, PLACED SO THAT IT COMPLETELY COVERS THE WIDTH OF THE CHANNEL. ODOT TYPE D STONE IS ACCEPTABLE, BUT SHOULD BE UNDERLAIN WITH A GRAVEL FILTER CONSISTING OF ODOT NO. 3 OR 4 OR SUITABLE FILTER FABRIC.
  - MAXIMUM HEIGHT OF CHECK DAM SHALL NOT EXCEED 3.0 FEET.
  - THE MIDPOINT OF THE ROCK CHECK DAM SHALL BE A MINIMUM OF 6 INCHES LOWER THAN THE SIDES IN ORDER TO DIRECT ACROSS THE CENTER AND AWAY FROM THE CHANNEL SIDES.
  - THE BASE OF THE CHECK DAM SHALL BE ENTRENCHED APPROXIMATELY 6 INCHES.
  - SPACING OF CHECK DAMS SHALL BE IN A MANNER SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.
  - A SPLASH APRON SHALL BE CONSTRUCTED WHERE CHECK DAMS ARE EXPECTED TO BE IN USE FOR AN EXTENDED PERIOD OF TIME. A STONE APRON SHALL BE CONSTRUCTED IMMEDIATELY DOWNSTREAM OF THE CHECK DAM TO PREVENT FLOWS FROM UNDERCUTTING THE STRUCTURE. THE APRON SHOULD BE 6 IN. THICK AND ITS LENGTH TWO TIMES THE HEIGHT OF THE DAM.
  - STONE PLACEMENT SHALL BE PERFORMED EITHER BY HAND OR MECHANICALLY AS LONG AS THE CENTER OF CHECK DAM IS LOWER THAN THE SIDES AND EXTENDS ACROSS ENTIRE CHANNEL.
  - SIDE SLOPES SHALL BE A MINIMUM OF 2:1.

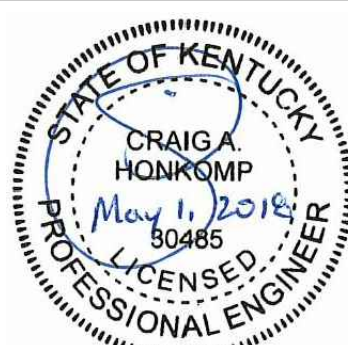
MAINTENANCE

- SEDIMENT SHALL BE REMOVED FROM BEHIND CHECK DAM ONCE IT ACCUMULATES TO ONE-HALF THE ORIGINAL HEIGHT OF THE CHECK DAM.

ROCK CHECK DAM DETAIL  
N.T.S.

  
**THE KLEINGERS GROUP**  
CIVIL ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE  
www.kleingers.com  
6305 Centre Park Dr. West Chester, OH 45069  
513.779.7851

SEAL:



NO.	DATE	DESCRIPTION
1	04-20-18	Owner Review
2	05-01-18	Bid Set

**NKU SOFTBALL  
LOT G  
IMPROVEMENTS**  
CITY OF HIGHLAND HEIGHTS  
CAMPBELL COUNTY  
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.027

DATE: 5/01/2018

SCALE:

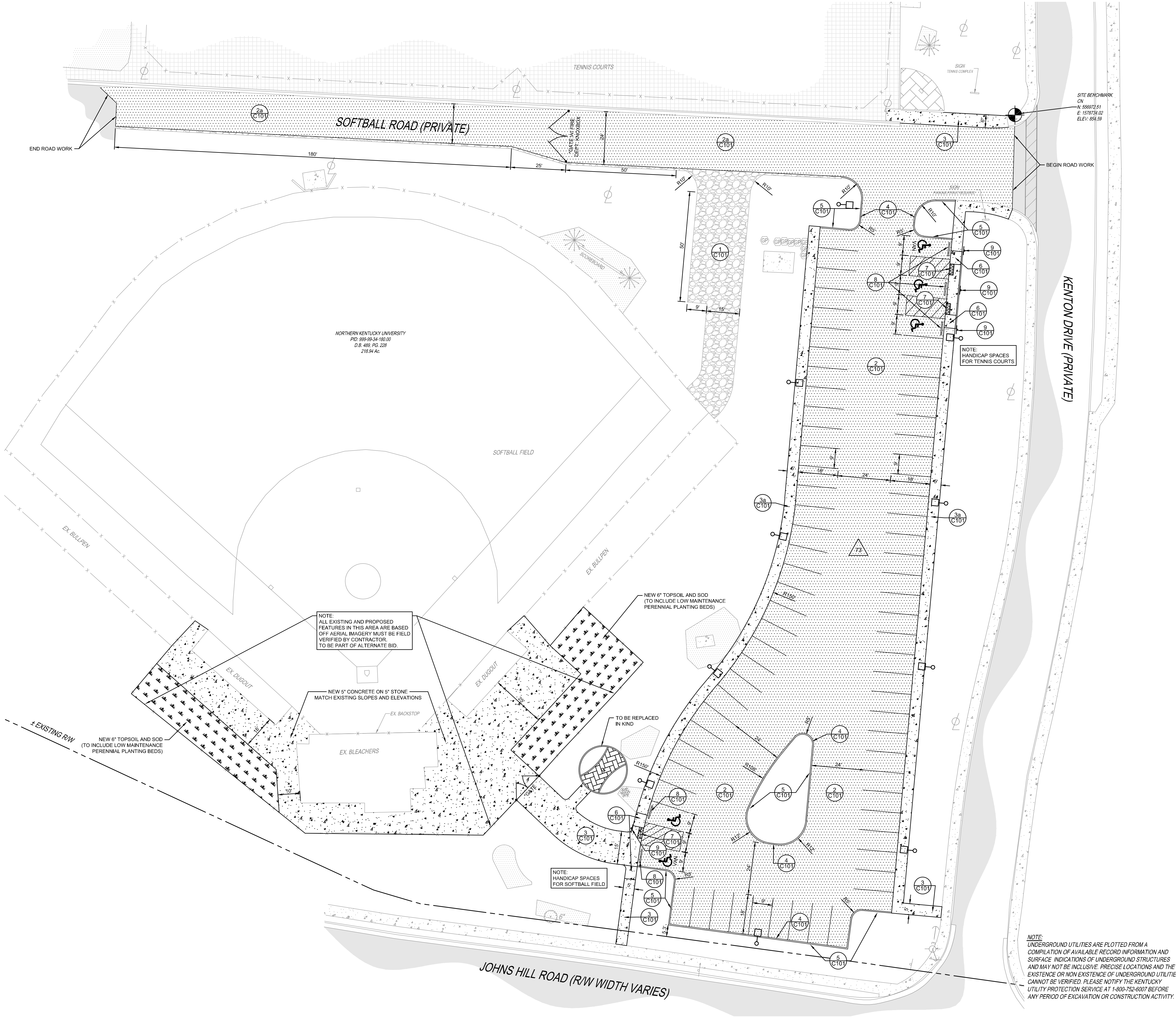
SHEET NAME:

**EROSION  
CONTROL  
DETAILS**


SHEET NO.

**C113**






**LEGEND**

 PROPOSED NUMBER OF PARKING STALLS

**\*NOTE:**  
NKU TO APPROVE GATE/FENCING MATERIAL,  
COLOR, HEIGHT AND TYPE PRIOR TO  
PROCUREMENT AND/OR INSTALLATION.

**811**  
Know what's below.  
Call before you dig.






**THE KLEINGERS GROUP**

CIVIL ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE

www.kleingers.com

6305 Centre Park Dr.  
West Chester, OH 45069  
513.779.7851

SEAL:



NO.	DATE	DESCRIPTION
1	04-20-18	Owner Review
2	05-01-18	Bid Set


**NKU SOFTBALL LOT G IMPROVEMENTS**

CITY OF HIGHLAND HEIGHTS  
CAMPBELL COUNTY  
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.027

DATE: 5/01/2018

SCALE:



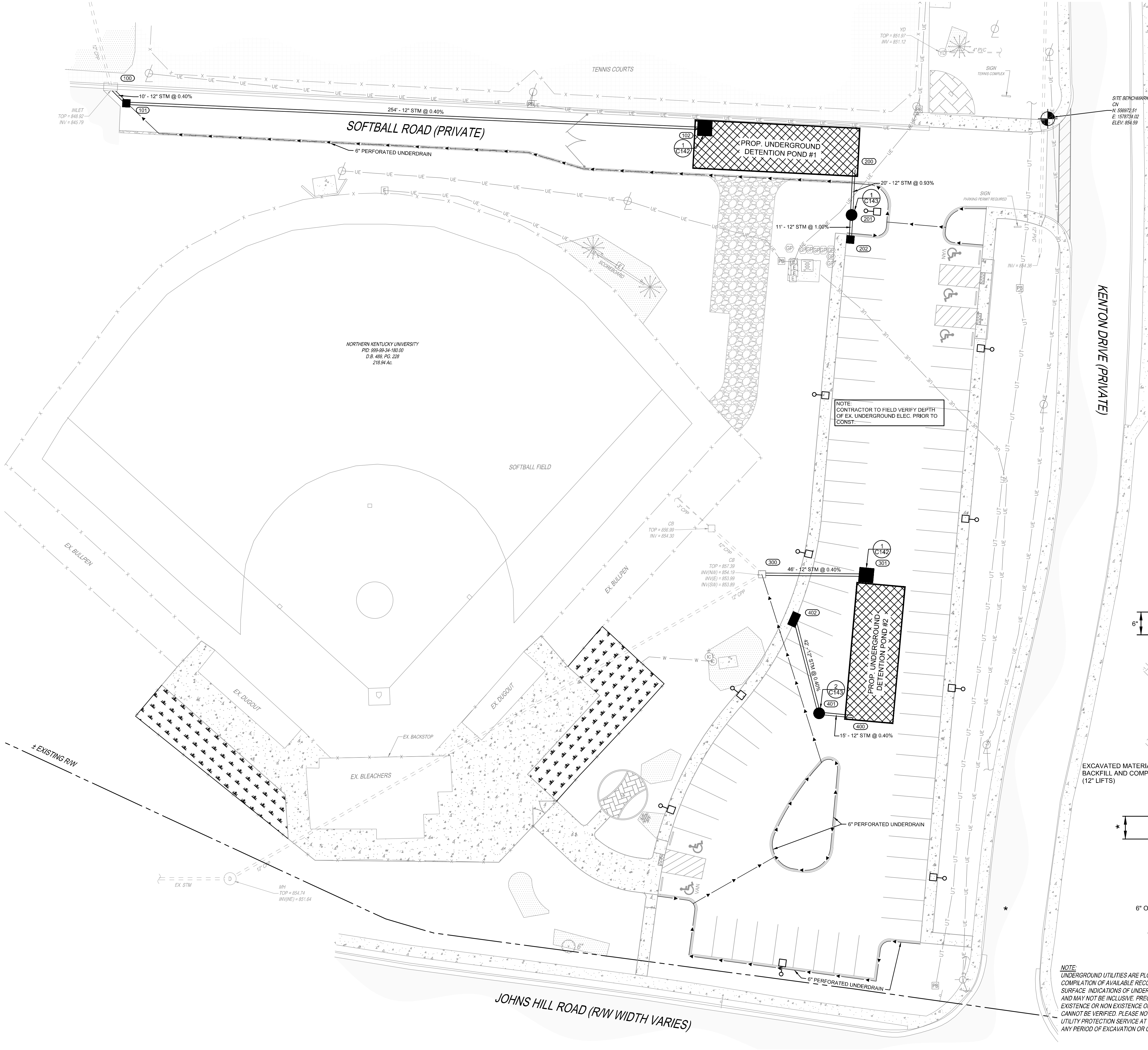
SHEET NAME:

**LOCATION PLAN**

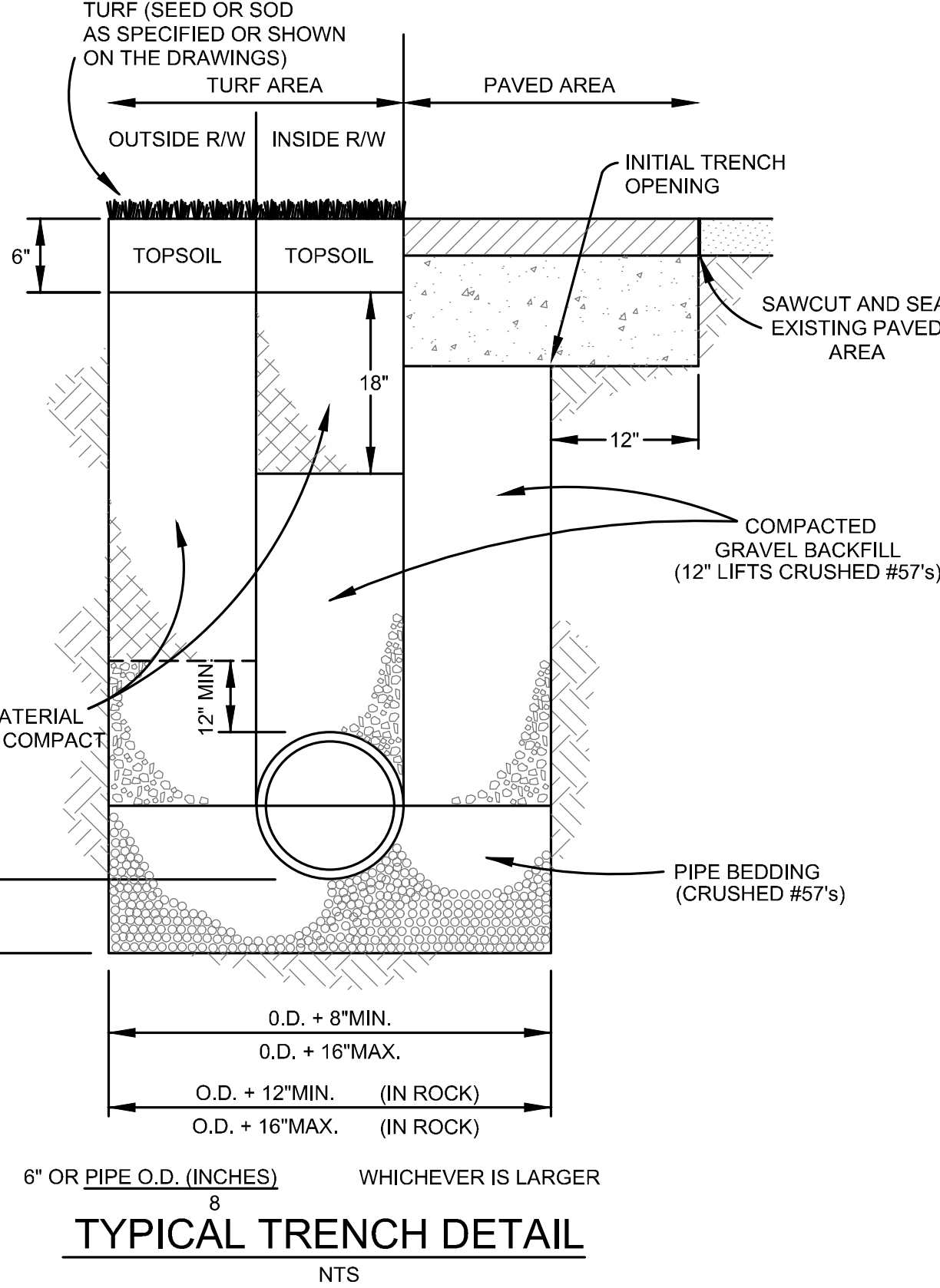
SHEET NO.

**C120**





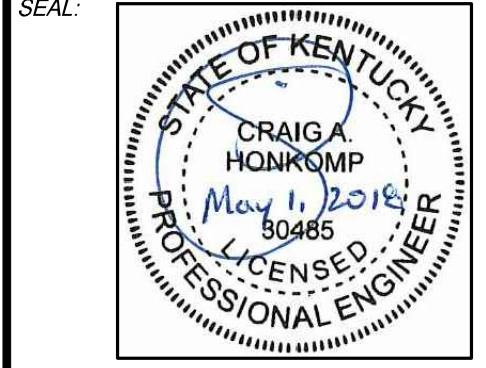
NOTE:  
STORM SEWERS, DETENTION PONDS AND  
RELATED STORM STRUCTURES IN THESE  
PLANS ARE CONSIDERED PRIVATE.  
MAINTENANCE RESPONSIBILITY FOR SAID  
FACILITIES SHALL RESIDE WITH THE  
PROPERTY OWNER.



NOTE:  
UNDERGROUND UTILITIES ARE PLOTTED FROM A  
COMPILATION OF AVAILABLE RECORD INFORMATION AND  
SURFACE INDICATIONS OF UNDERGROUND STRUCTURES  
AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE  
EXISTENCE OR NON EXISTENCE OF UNDERGROUND UTILITIES  
CANNOT BE VERIFIED. PLEASE NOTIFY THE KENTUCKY  
UTILITY PROTECTION SERVICE AT 1-800-752-8007 BEFORE  
ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.



**THE KLEINGERS GROUP**  
CIVIL ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE  
www.kleingers.com  
6305 Centre Park Dr. West Chester, OH 45069  
513.779.7851



NO.	DATE	DESCRIPTION
1	04-20-18	Owner Review
2	05-01-18	Bid Set

**NKU SOFTBALL LOT G IMPROVEMENTS**  
CITY OF HIGHLAND HEIGHTS  
CAMPBELL COUNTY  
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.027

DATE: 5/01/2018

SCALE:



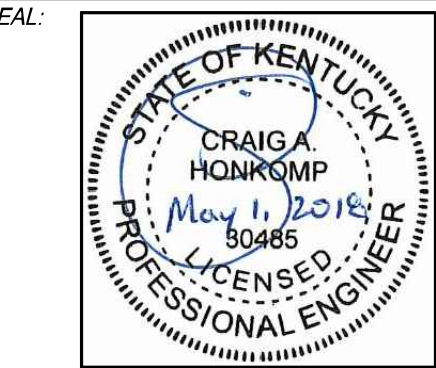
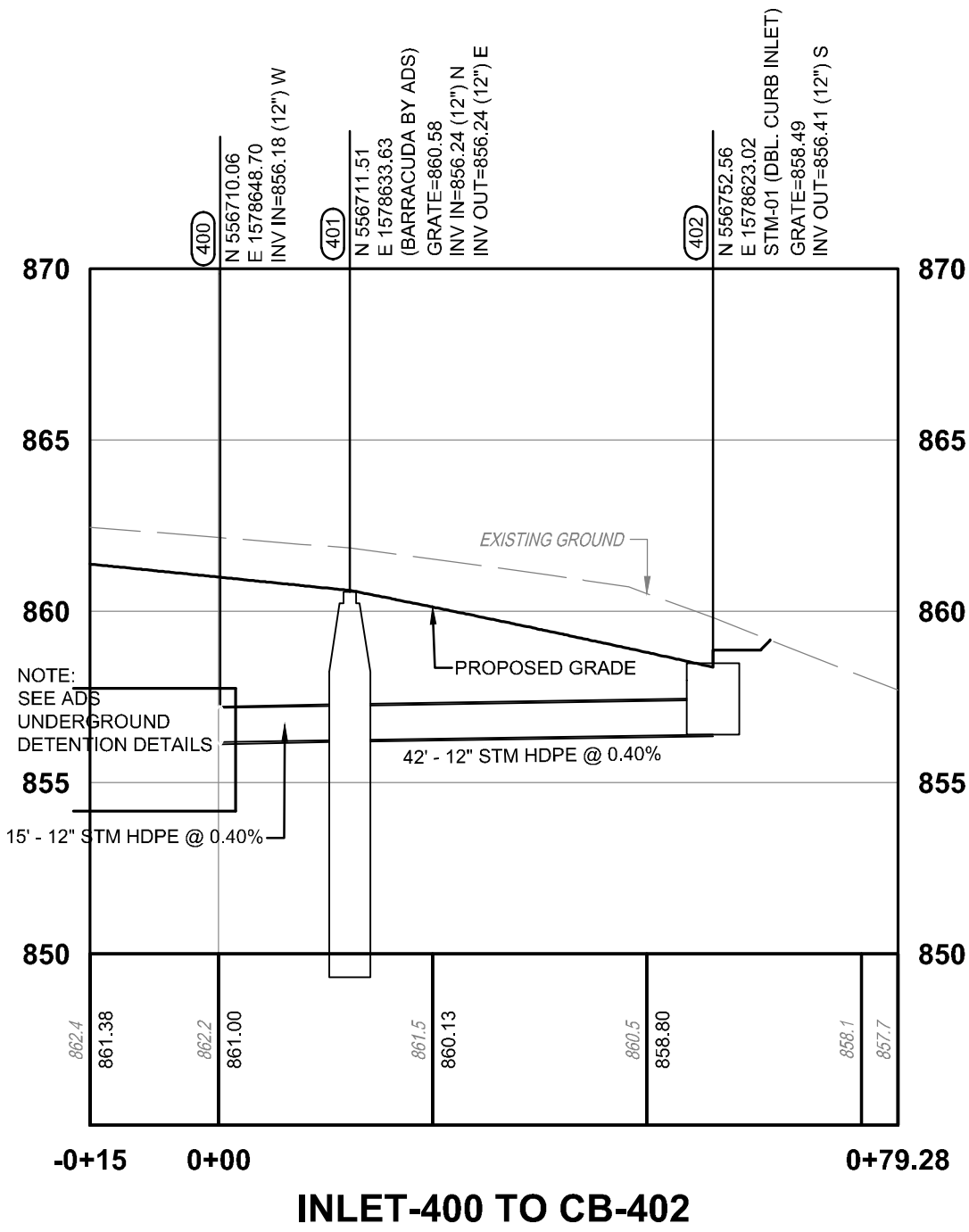
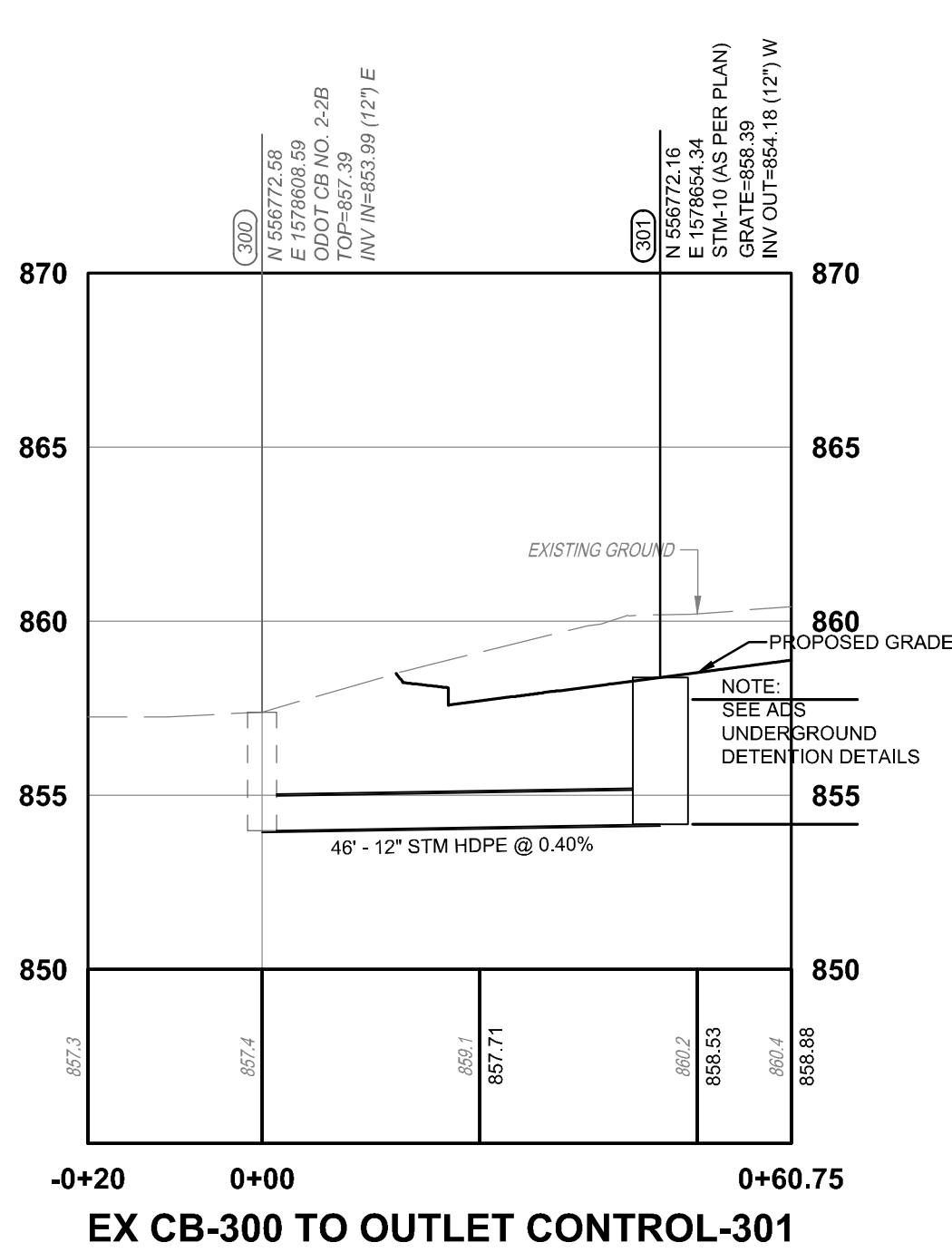
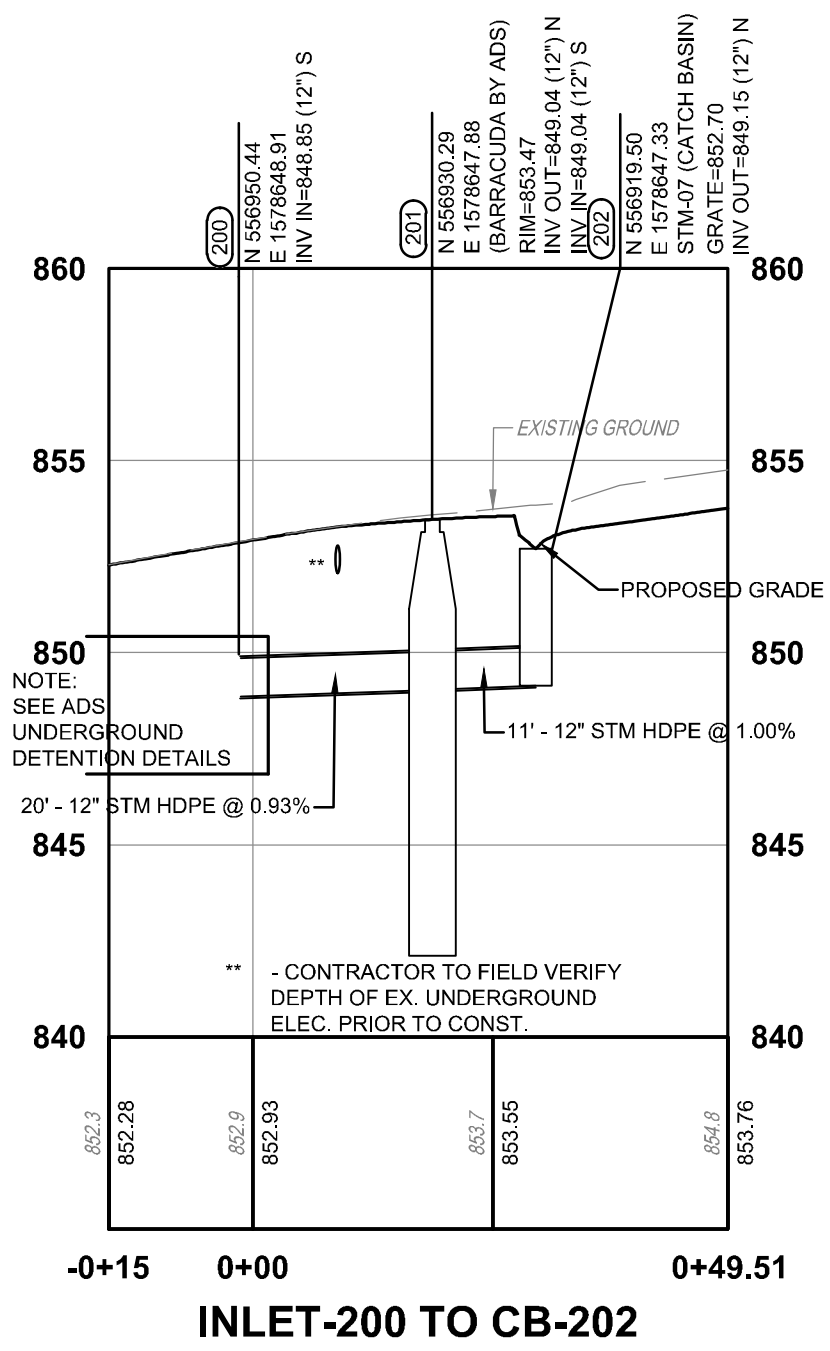
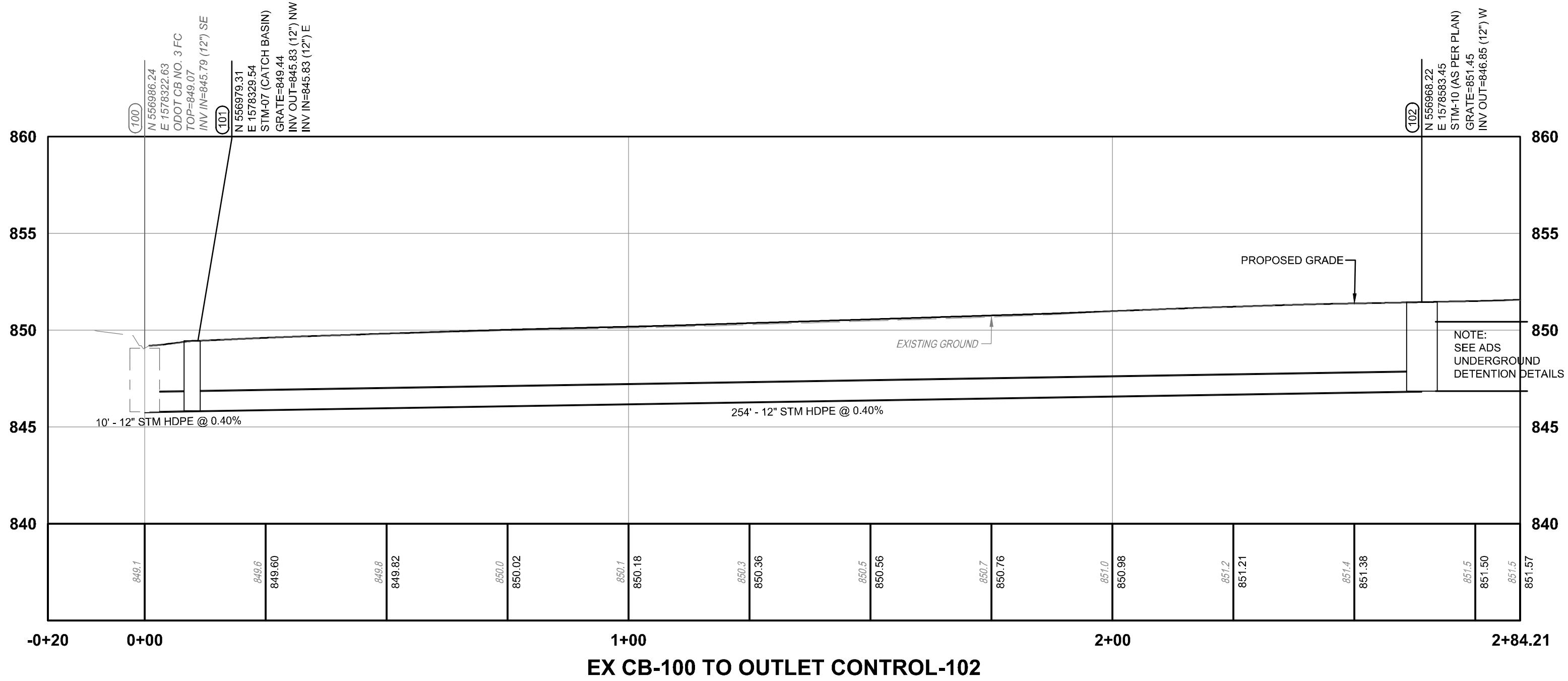
SHEET NAME:

**UTILITY PLAN**

SHEET NO.

**C130**



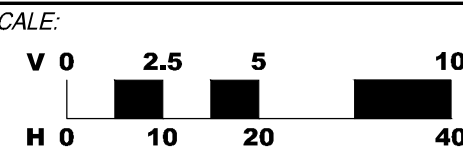


NO.	DATE	DESCRIPTION
1	04-20-18	Owner Review
2	05-01-18	Bid Set

**NKU SOFTBALL LOT G IMPROVEMENTS**  
CITY OF HIGHLAND HEIGHTS  
CAMPBELL COUNTY  
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.027

DATE: 5/01/2018



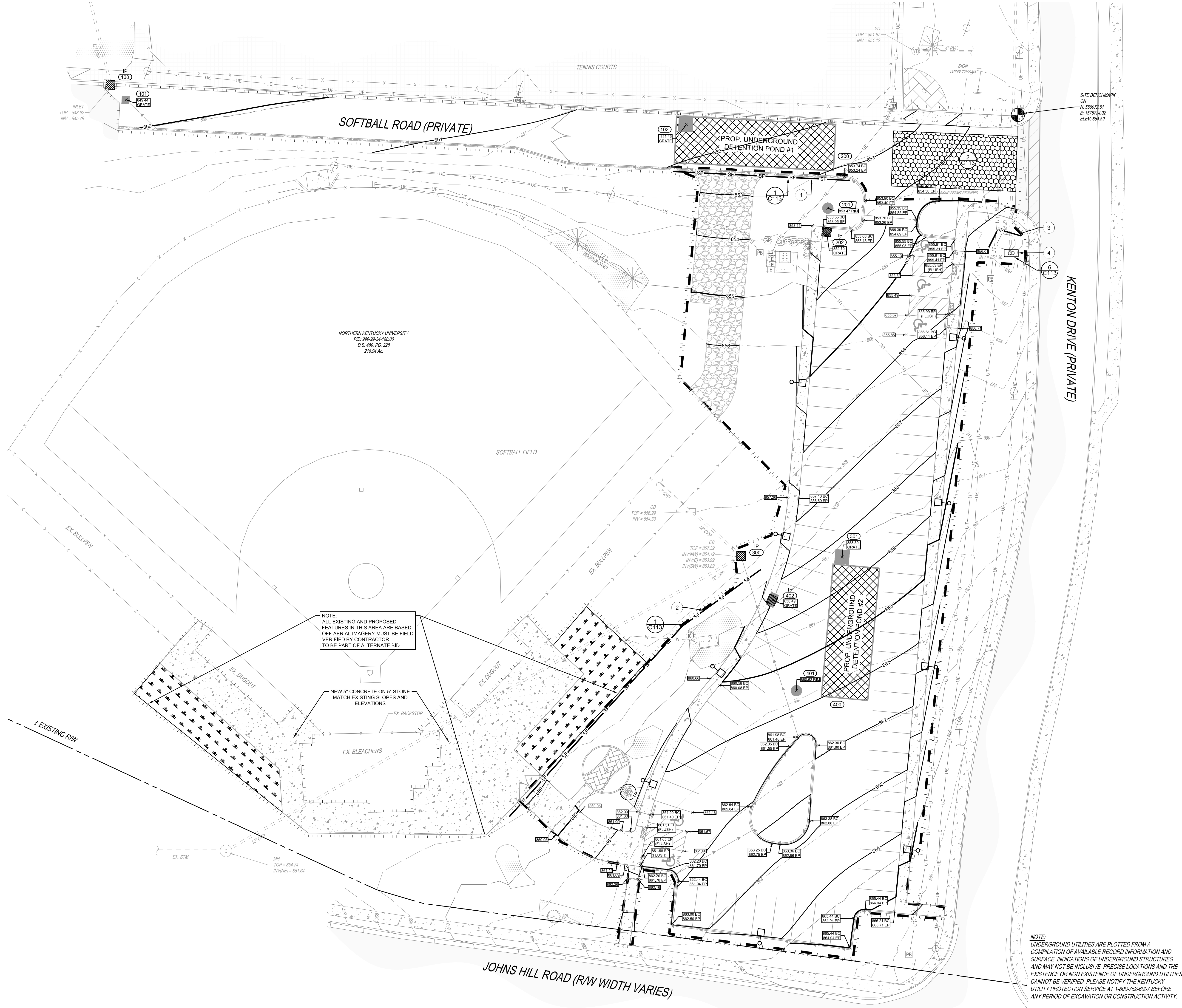
SHEET NAME:

**STORM SEWER PROFILES**

SHEET NO.

**C131**





GRADING LEGEND

- SPOT ELEVATION
- PROPOSED CONTOURS
- EXISTING CONTOURS
- INLET PROTECTION PER DETAIL C113
- SILT FENCE PER DETAIL C113
- TREE PROTECTION PER DETAIL C113
- CONSTRUCTION LIMITS
- CLEARING LIMITS

CODED NOTES

- 80 LF OF SILT FENCE
- 160 LF OF SILT FENCE
- 20 LF OF SILT FENCE
- CHECK DAM

**THE KLEINGERS GROUP**  
CIVIL ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE  
www.kleingers.com  
6305 Centre Park Dr. West Chester, OH 45069  
513.779.7851

SEAL:



NO	DATE	DESCRIPTION
1	04-20-18	Owner Review
2	05-01-18	Bid Set

**NKU SOFTBALL LOT G IMPROVEMENTS**  
CITY OF HIGHLAND HEIGHTS  
CAMPBELL COUNTY  
COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.027

DATE: 5/01/2018

SCALE:



SHEET NAME:

**GRADING & EROSION CONTROL PLAN**

SHEET NO.

**C140**



NOTE: UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPILATION OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE EXISTENCE OR NON EXISTENCE OF UNDERGROUND UTILITIES CANNOT BE VERIFIED. PLEASE NOTIFY THE KENTUCKY UTILITY PROTECTION SERVICE AT 1-800-752-8007 BEFORE ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.



PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	JOHN HERCHL 614-800-4116 JOHN.HERCHL@ADS-PIPE.COM
ADS SALES REP:	JASON LONSBURY 513-815-2292 JASON.LONSBURY@ADS-PIPE.COM
PROJECT NO:	5081273



## NKU SOFTBALL PARKING LOT

### HIGHLAND HEIGHTS, KY

#### STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-740 OR SC-310.
- CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418-16 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
  - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
  - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET, THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
  - STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

#### IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

- STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
  - STONESHOTTER LOCATED OFF THE CHAMBER BED.
  - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
  - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEALED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4"-2" (20-50 mm).
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

#### NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
  - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
  - NO RUBBER Tired LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
  - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

#### PROPOSED LAYOUT: SOUTH

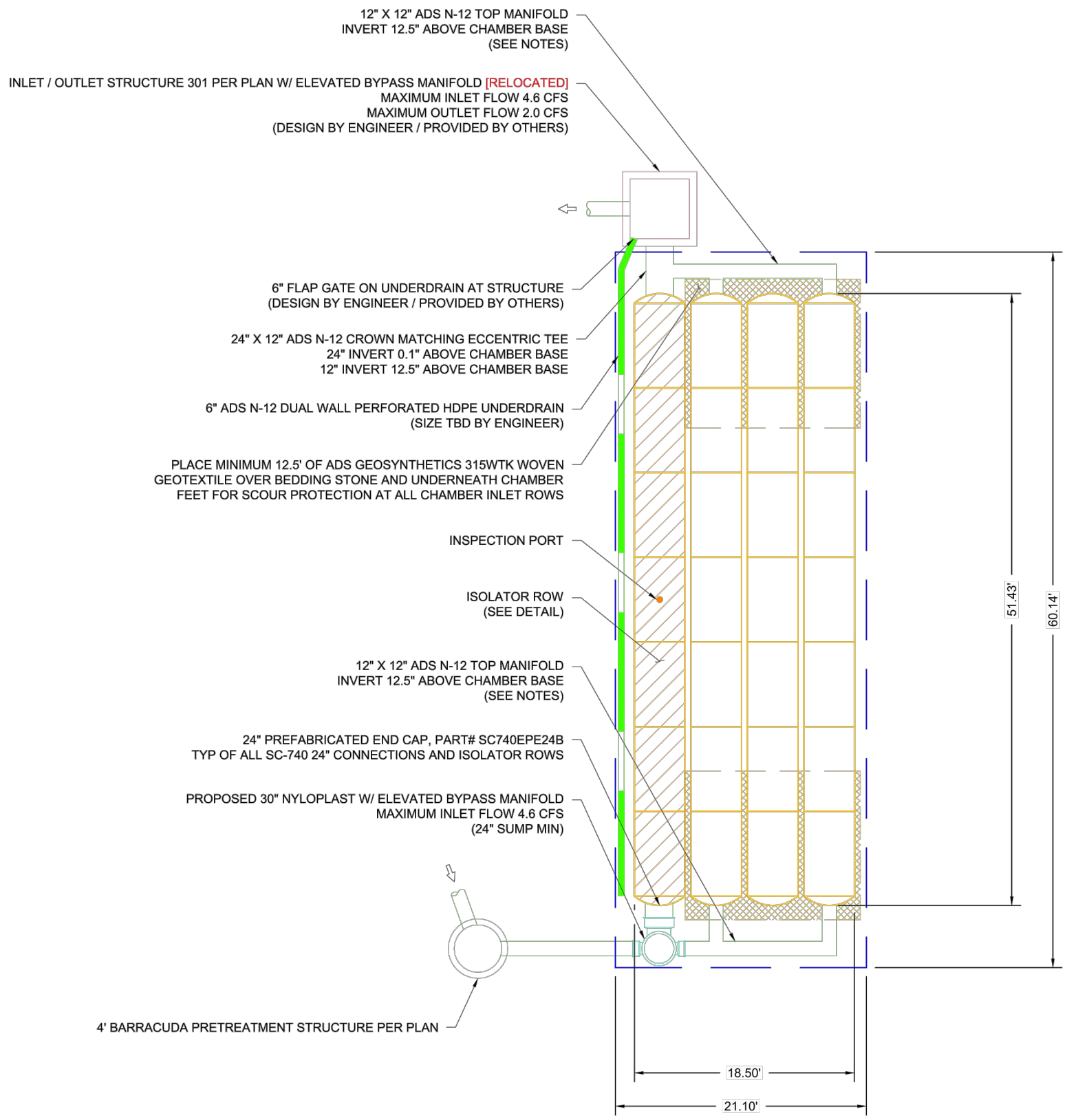
28	STORMTECH SC-740 CHAMBERS
8	STORMTECH SC-740 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
2,547	INSTALLED SYSTEM VOLUME (CF)
1,268	SYSTEM AREA (ft <sup>2</sup> )
162	SYSTEM PERIMETER (ft)

#### PROPOSED ELEVATIONS: SOUTH

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	855.18
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	855.18
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	855.68
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	855.68
MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT):	855.68
TOP OF STONE:	857.68
TOP OF SC-740 CHAMBER:	857.18
12" TOP MANIFOLD INVERT:	855.72
24" X 12" CROWN MATCHING ECCENTRIC TEE, 12" INVERT:	855.72
24" X 12" CROWN MATCHING ECCENTRIC TEE, 24" INVERT:	854.69
24" ISOLATOR ROW INVERT:	854.69
BOTTOM OF SC-740 CHAMBER:	854.68
UNDERDRAIN INVERT:	854.18
BOTTOM OF STONE:	854.18

#### NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.



REV: 0000

DESCRIPTION

DATE: 04-24-18

DRAWN: AMD

CHECKED: AGC

PROJECT #: 5081273

4640 TREHMAN BLVD  
HILLIARD, OH 43026

ADS

3 OF 7

#### PROPOSED LAYOUT: NORTH

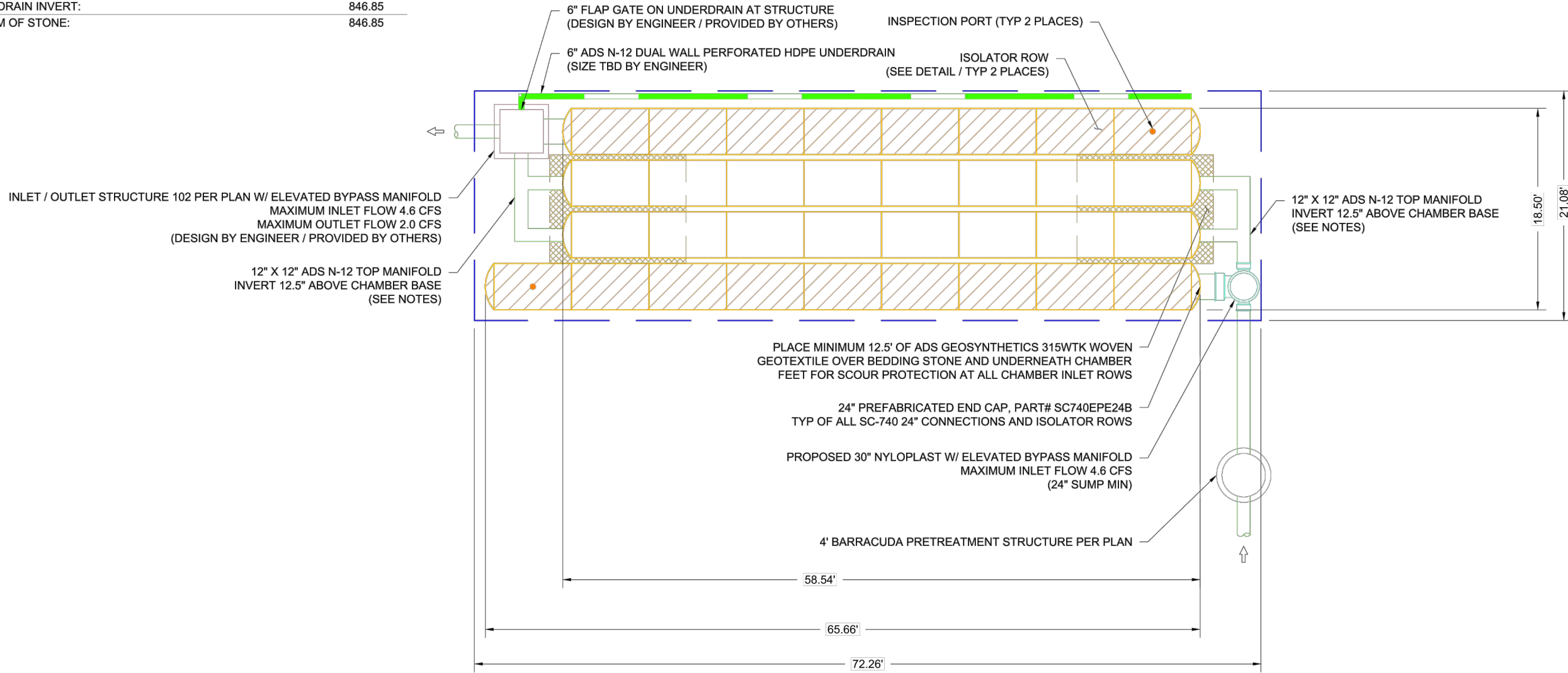
33	STORMTECH SC-740 CHAMBERS
8	STORMTECH SC-740 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
3,042	INSTALLED SYSTEM VOLUME (CF)
1,523	SYSTEM AREA (ft <sup>2</sup> )
186	SYSTEM PERIMETER (ft)

#### PROPOSED ELEVATIONS: NORTH

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	857.85
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	851.85
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	851.35
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	851.35
MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT):	851.35
TOP OF STONE:	850.35
TOP OF SC-740 CHAMBER:	849.85
12" TOP MANIFOLD INVERT:	848.39
24" ISOLATOR ROW INVERT:	847.36
BOTTOM OF SC-740 CHAMBER:	847.35
UNDERDRAIN INVERT:	846.85
BOTTOM OF STONE:	846.85

#### NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.



REV: 0000

DESCRIPTION

DATE: 04-24-18

DRAWN: AMD

CHECKED: AGC

PROJECT #: 5081273

4640 TREHMAN BLVD  
HILLIARD, OH 43026

ADS

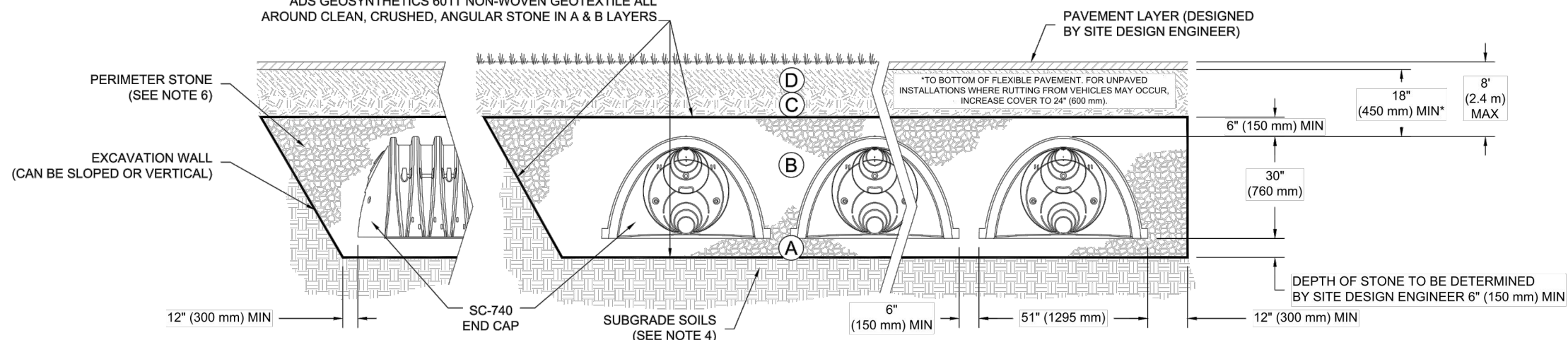
2 OF 7

#### ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (1" LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M45 <sup>1</sup> A-1, A-2.4, A-3 OR AASHTO M43 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL-GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (55 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>1</sup>

#### PLEASE NOTE:

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



#### NOTES:

- SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

REV: 0000

DESCRIPTION

DATE: 04-24-18

DRAWN: AMD

CHECKED: AGC

PROJECT #: 5081273

4640 TREHMAN BLVD  
HILLIARD, OH 43026

ADS

4 OF 7

THE  
**KLEINGERS**  
GROUP

CIVIL ENGINEERING  
SURVEYING  
LANDSCAPE  
ARCHITECTURE

www.kleingers.com  
6305 Centre Park Dr.  
West Chester, OH 45069  
513.779.7851

SEAL:



NO	DATE	DESCRIPTION
1	04-20-18	Owner Review
2	05-01-18	Bid Set

## NKU SOFTBALL LOT G IMPROVEMENTS

### CITY OF HIGHLAND HEIGHTS CAMPBELL COUNTY COMMONWEALTH OF KENTUCKY

PROJECT NO: 080115.027

DATE: 5/01/2018

SCALE:

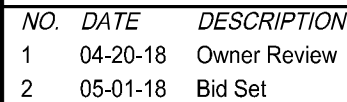
SHEET NAME:

## ADS DETAILS

SHEET NO.

# C141



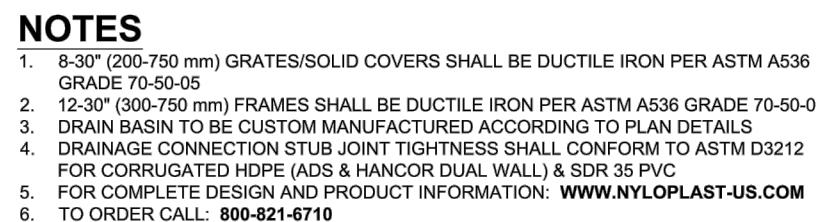


**NKU SOFTBALL  
LOT G  
IMPROVEMENTS**  
CITY OF HIGHLAND HEIGHTS  
CAMPBELL COUNTY  
COMMONWEALTH OF KENTUCKY

**SCALE:**

**SHEET NO.**

H:\2007-2008\PI\080115\dwg\027\Sheets\080115CGEN027.dwg, 4/30/2018 12:26:14 PM, ntirey



**7** **SHEET** **7**

**NYLOPLAST**  
100% POLYURETHANE FLOORING

**1640 TREHMAN BLVD**  
**CHICAGO, ILL 60640**  
**TEL (773) 352-3440**  
**FAX (773) 352-3486**  
**WWW.NYLOPLAST.COM**

**NYloplast**

**1108 VERNON AVE**  
**CHICAGO, ILL 60640**  
**TEL (773) 352-3440**  
**FAX (773) 352-3486**

REV	DATE	CNO	DESCRIPTION

**NKU SOFTBALL PARKING LOT**

**HIGHLAND HEIGHTS, KY**

**DATE: 04-24-18**

**DRAWN: AND**

**PROJECT #: 5897573**

**DESIGNED: AGC**

**THE ABOVE DRAWING IS THE PROPERTY OF NYLOPLAST INC. IT IS THE USER'S RESPONSIBILITY TO OBTAIN THE PROJECT REPRESENTATIVE. THE SET DRAWING FORWARDED ON CD OR PROJECT REPRESENTATIVE. IT IS THE USER'S RESPONSIBILITY TO OBTAIN THE PROJECT REPRESENTATIVE.**



PROJECT INFORMATION	
ENGINEERED	JOHN HERCHL
PRODUCT	614-800-4116
MANAGER	JOHN.HERCHL@ADS-PIPE.COM
ADS SALES REP.	JASON LONSBURY
	513-815-2252
	JASON.LONSBURY@ADS-PIPE.COM
PROJECT NO.	5081273



## NKU SOFTBALL PARKING LOT

HIGHLAND HEIGHTS, KY

### BAYSAYER BARRACUDA SPECIFICATIONS

**MATERIALS AND DESIGN**  
CONCRETE STRUCTURES: DESIGNED FOR H-20 TRAFFIC LOADING AND APPLICABLE SOIL LOADS OR AS OTHERWISE DETERMINED BY A LICENSED PROFESSIONAL ENGINEER. THE MATERIALS AND STRUCTURAL DESIGN OF THE DEVICES SHALL BE PER ASTM C857 AND ASTM C858.

48" HP MANHOLE STRUCTURES: MADE FROM AN IMPACT MODIFIED COPOLYMER POLYPROPYLENE MEETING THE MATERIAL REQUIREMENTS OF ASTM F2764. THE ECCENTRIC CONE REDUCER SHALL BE MANUFACTURED FROM POLYETHYLENE MATERIAL MEETING ASTM D3350 CELL CLASS 213320C. GASKETS SHALL BE MADE OF MATERIAL MEETING THE REQUIREMENTS OF ASTM F477.

SEPARATOR INTERNALS SHALL BE SUBSTANTIALLY CONSTRUCTED OF STAINLESS STEEL, POLYETHYLENE, OR OTHER THERMOPLASTIC MATERIAL APPROVED BY THE MANUFACTURER.

**PERFORMANCE**  
THE STORMWATER TREATMENT UNIT SHALL BE AN INLINE UNIT CAPABLE OF CONVEYING 100% OF THE DESIGN PEAK FLOW. IF PEAK FLOW RATES EXCEED MAXIMUM HYDRAULIC RATE, THE UNIT SHALL BE INSTALLED OFFLINE.

THE STORMWATER TREATMENT UNIT INTERNALS SHALL CONSIST OF (1) SEPARATOR CONE ASSEMBLY, AND (1) SUMP ASSEMBLY WHICH INCLUDES (4) LEGS WITH "TEETH".

THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 80% OF THE SUSPENDED SOLIDS ON AN ANNUAL AGGREGATE REMOVAL BASIS. SAID REMOVAL SHALL BE BASED ON FULL-SCALE THIRD PARTY TESTING USING OK-110 MEDIA GRADATION OR EQUIVALENT AND 300 mg/L INFLUENT CONCENTRATION. SAID FULL-SCALE TESTING SHALL HAVE INCLUDED SEDIMENT CAPTURE BASED ON ACTUAL TOTAL MASS COLLECTED BY THE STORMWATER TREATMENT UNIT.

OR  
THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS USING A MEDIA MIX WITH  $d_{50}$  75 MICRON AND 200 MG/L INFLUENT CONCENTRATION.

OR  
THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS PER CURRENT NJDEP/NJCAT HDS PROTOCOL.

**MANUFACTURER**  
EACH STORMWATER TREATMENT SYSTEM SHALL BE A BARRACUDA SYSTEM AS MANUFACTURED BY BAYSAYER, LLC, 1030 DEER HOLLOW DR., MOUNT AIRY, MD 21771, PHONE (301) 829-6470, FAX (301) 829-3747, TOLL FREE 1-800-228-7283 (1-800-BAYSAYER), EMAIL [INFO@BAYSAYER.COM](mailto:INFO@BAYSAYER.COM)

### BARRACUDA MAINTENANCE

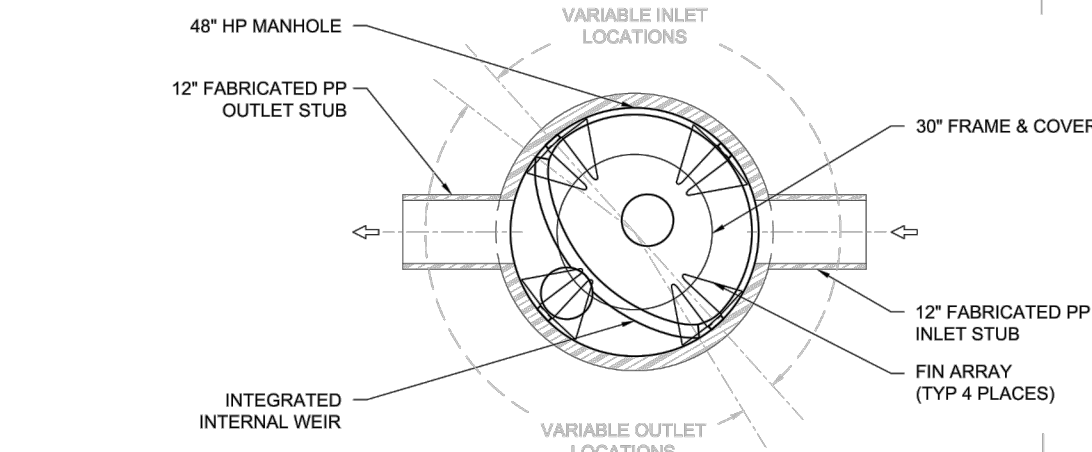
BARRACUDA SYSTEMS MUST BE INSPECTED AND MAINTAINED PERIODICALLY. INSPECTION IS MADE BY CHECKING THE DEPTH OF SEDIMENT IN EACH MANHOLE WITH A GRADE STICK OR SIMILAR DEVICE. MAINTENANCE IS REQUIRED WHEN THE SEDIMENT DEPTH IN EXCEEDS 20 INCHES. MINIMUM INSPECTION IS RECOMMENDED TWICE A YEAR TO MAINTAIN OPERATION AND FUNCTION OF THE UNIT.

### MAINTENANCE INSTRUCTIONS

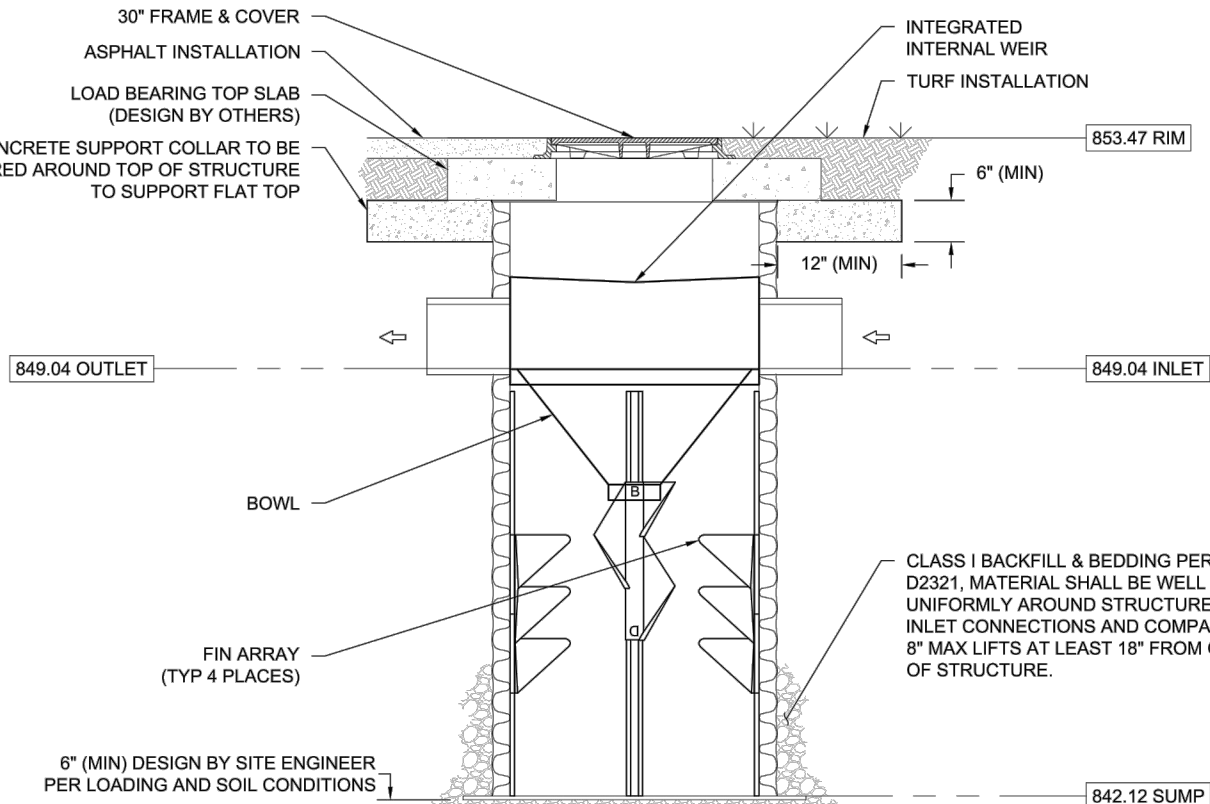
1. REMOVE THE MANHOLE COVER TO PROVIDE ACCESS TO THE POLLUTANT STORAGE. POLLUTANTS ARE STORED IN THE SUMP, BELOW THE BOWL ASSEMBLY VISIBLE FROM THE SURFACE. YOU'LL ACCESS THIS AREA THROUGH THE 10" DIAMETER ACCESS CYLINDER.
2. USE A VACUUM TRUCK OR OTHER SIMILAR EQUIPMENT TO REMOVE ALL WATER, DEBRIS, OILS AND SEDIMENT.
3. USE A HIGH PRESSURE HOSE TO CLEAN THE MANHOLE OF ALL THE REMAINING SEDIMENT AND DEBRIS. THEN, USE THE VACUUM TRUCK TO REMOVE THE WATER.
4. FILL THE CLEANED MANHOLE WITH WATER UNTIL THE LEVEL REACHES THE INVERT OF THE OUTLET PIPE.
5. REPLACE THE MANHOLE COVER.
6. DISPOSE OF THE POLLUTED WATER, OILS, SEDIMENT AND TRASH AT AN APPROVED FACILITY.
  - LOCAL REGULATIONS PROHIBIT THE DISCHARGE OF SOLID MATERIAL INTO THE SANITARY SYSTEM. CHECK WITH THE LOCAL SEWER AUTHORITY FOR AUTHORITY TO DISCHARGE THE LIQUID.
  - SOME LOCALITIES TREAT THE POLLUTANTS AS LEACHATE. CHECK WITH LOCAL REGULATORS ABOUT DISPOSAL REQUIREMENTS.
  - ADDITIONAL LOCAL REGULATIONS MAY APPLY TO THE MAINTENANCE PROCEDURE.

### BARRACUDA INSTALLATION NOTES

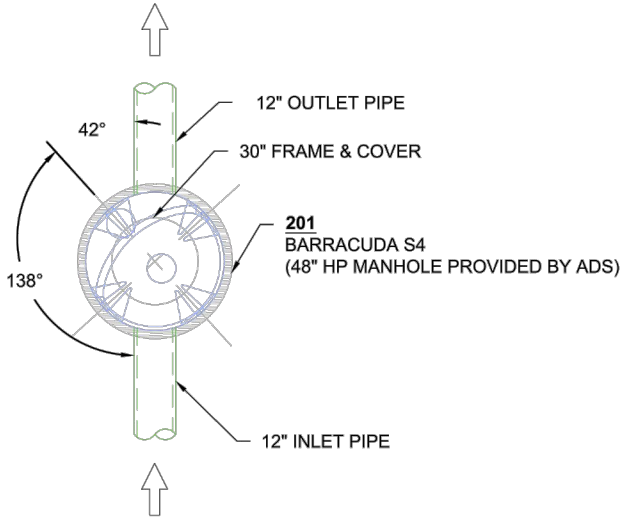
INSTALLATION OF THE STORMWATER TREATMENT UNIT(S) SHALL BE PERFORMED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUCH INSTRUCTIONS CAN BE OBTAINED BY CALLING ADVANCED DRAINAGE SYSTEMS AT (800) 821-6710 OR BY LOGGING ON TO [WWW.ADS-PIPE.COM](http://WWW.ADS-PIPE.COM) OR [WWW.BAYSAYER.COM](http://WWW.BAYSAYER.COM).



PLAN VIEW  
NTS



SECTION VIEW A-A  
NTS



SECTION VIEW B-B  
NTS

BARRACUDA S4	
UNIT ID	201
PEAK FLOW RATE (CFS)	
TREATMENT FLOW RATE (CFS)	1.25

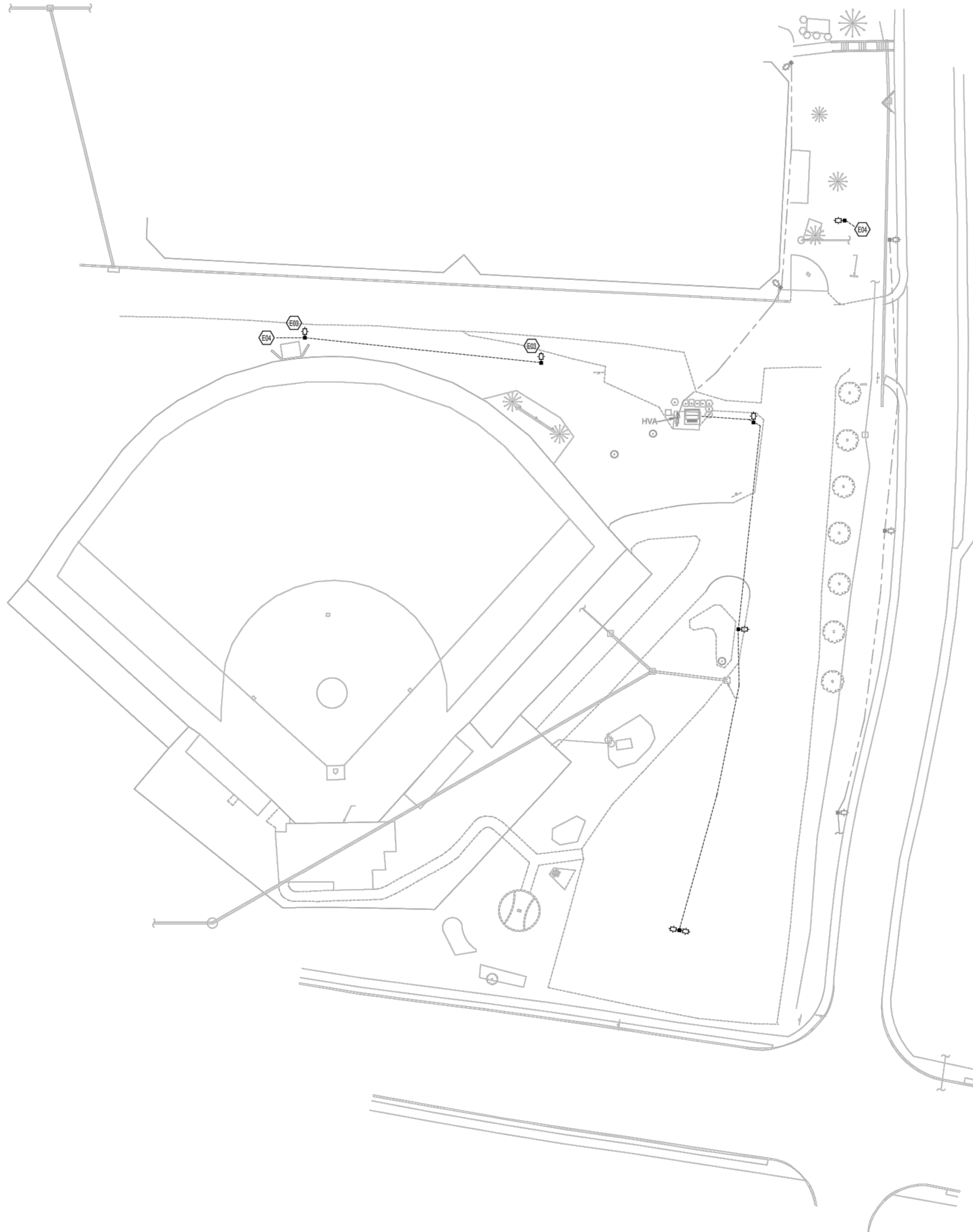
NKU SOFTBALL PARKING LOT	
HIGHLAND HEIGHTS, KY	
DATE:	04-24-18
PROJECT #:	5081273
CHECKED:	CMF
DRAWN:	AMD
DESIGNER:	AMD
REVISION	DESCRIPTION
1	ELEVATION CHANGE
2	ELEVATION CHANGE
3	ELEVATION CHANGE
4	ELEVATION CHANGE
5	ELEVATION CHANGE
6	ELEVATION CHANGE
7	ELEVATION CHANGE
8	ELEVATION CHANGE
9	ELEVATION CHANGE
10	ELEVATION CHANGE
11	ELEVATION CHANGE
12	ELEVATION CHANGE
13	ELEVATION CHANGE
14	ELEVATION CHANGE
15	ELEVATION CHANGE
16	ELEVATION CHANGE
17	ELEVATION CHANGE
18	ELEVATION CHANGE
19	ELEVATION CHANGE
20	ELEVATION CHANGE
21	ELEVATION CHANGE
22	ELEVATION CHANGE
23	ELEVATION CHANGE
24	ELEVATION CHANGE
25	ELEVATION CHANGE
26	ELEVATION CHANGE
27	ELEVATION CHANGE
28	ELEVATION CHANGE
29	ELEVATION CHANGE
30	ELEVATION CHANGE
31	ELEVATION CHANGE
32	ELEVATION CHANGE
33	ELEVATION CHANGE
34	ELEVATION CHANGE
35	ELEVATION CHANGE
36	ELEVATION CHANGE
37	ELEVATION CHANGE
38	ELEVATION CHANGE
39	ELEVATION CHANGE
40	ELEVATION CHANGE
41	ELEVATION CHANGE
42	ELEVATION CHANGE
43	ELEVATION CHANGE
44	ELEVATION CHANGE
45	ELEVATION CHANGE
46	ELEVATION CHANGE
47	ELEVATION CHANGE
48	ELEVATION CHANGE
49	ELEVATION CHANGE
50	ELEVATION CHANGE
51	ELEVATION CHANGE
52	ELEVATION CHANGE
53	ELEVATION CHANGE
54	ELEVATION CHANGE
55	ELEVATION CHANGE
56	ELEVATION CHANGE
57	ELEVATION CHANGE
58	ELEVATION CHANGE
59	ELEVATION CHANGE
60	ELEVATION CHANGE
61	ELEVATION CHANGE
62	ELEVATION CHANGE
63	ELEVATION CHANGE
64	ELEVATION CHANGE
65	ELEVATION CHANGE
66	ELEVATION CHANGE
67	ELEVATION CHANGE
68	ELEVATION CHANGE
69	ELEVATION CHANGE
70	ELEVATION CHANGE
71	ELEVATION CHANGE
72	ELEVATION CHANGE
73	ELEVATION CHANGE
74	ELEVATION CHANGE
75	ELEVATION CHANGE
76	ELEVATION CHANGE
77	ELEVATION CHANGE
78	ELEVATION CHANGE
79	ELEVATION CHANGE
80	ELEVATION CHANGE
81	ELEVATION CHANGE
82	ELEVATION CHANGE
83	ELEVATION CHANGE
84	ELEVATION CHANGE
85	ELEVATION CHANGE
86	ELEVATION CHANGE
87	ELEVATION CHANGE
88	ELEVATION CHANGE
89	ELEVATION CHANGE
90	ELEVATION CHANGE
91	ELEVATION CHANGE
92	ELEVATION CHANGE
93	ELEVATION CHANGE
94	ELEVATION CHANGE
95	ELEVATION CHANGE
96	ELEVATION CHANGE
97	ELEVATION CHANGE
98	ELEVATION CHANGE
99	ELEVATION CHANGE
100	ELEVATION CHANGE
101	ELEVATION CHANGE
102	ELEVATION CHANGE
103	ELEVATION CHANGE
104	ELEVATION CHANGE
105	ELEVATION CHANGE
106	ELEVATION CHANGE
107	ELEVATION CHANGE
108	ELEVATION CHANGE
109	ELEVATION CHANGE
110	ELEVATION CHANGE
111	ELEVATION CHANGE
112	ELEVATION CHANGE
113	ELEVATION CHANGE
114	ELEVATION CHANGE
115	ELEVATION CHANGE
116	ELEVATION CHANGE
117	ELEVATION CHANGE
118	ELEVATION CHANGE
119	ELEVATION CHANGE
120	ELEVATION CHANGE
121	ELEVATION CHANGE
122	ELEVATION CHANGE
123	ELEVATION CHANGE
124	ELEVATION CHANGE
125	ELEVATION CHANGE
126	ELEVATION CHANGE
127	ELEVATION CHANGE
128	ELEVATION CHANGE
129	ELEVATION CHANGE
130	ELEVATION CHANGE
131	ELEVATION CHANGE
132	ELEVATION CHANGE
133	ELEVATION CHANGE
134	ELEVATION CHANGE
135	ELEVATION CHANGE
136	ELEVATION CHANGE
137	ELEVATION CHANGE
138	ELEVATION CHANGE
139	ELEVATION CHANGE
140	ELEVATION CHANGE
141	ELEVATION CHANGE
142	ELEVATION CHANGE
143	ELEVATION CHANGE
144	ELEVATION CHANGE
145	ELEVATION CHANGE
146	ELEVATION CHANGE
147	ELEVATION CHANGE
148	ELEVATION CHANGE
149	ELEVATION CHANGE
150	ELEVATION CHANGE
151	ELEVATION CHANGE
152	ELEVATION CHANGE
153	ELEVATION CHANGE
154	ELEVATION CHANGE
155	ELEVATION CHANGE
156	ELEVATION CHANGE
157	ELEVATION CHANGE
158	ELEVATION CHANGE
159	ELEVATION CHANGE
160	ELEVATION CHANGE
161	ELEVATION CHANGE
162	ELEVATION CHANGE
163	ELEVATION CHANGE
164	ELEVATION CHANGE
165	ELEVATION CHANGE
166	ELEVATION CHANGE
167	ELEVATION CHANGE
168	ELEVATION CHANGE
169	ELEVATION CHANGE
170	ELEVATION CHANGE
171	ELEVATION CHANGE
172	ELEVATION CHANGE
173	ELEVATION CHANGE
174	ELEVATION CHANGE
175	ELEVATION CHANGE
176	ELEVATION CHANGE
177	ELEVATION CHANGE
178	ELEVATION CHANGE
179	ELEVATION CHANGE
180	ELEVATION CHANGE
181	ELEVATION CHANGE
182	ELEVATION CHANGE
183	ELEVATION CHANGE
184	ELEVATION CHANGE
185	ELEVATION CHANGE
186	ELEVATION CHANGE
187	ELEVATION CHANGE
188	ELEVATION CHANGE
189	ELEVATION CHANGE
190	ELEVATION CHANGE
191	ELEVATION CHANGE
192	ELEVATION CHANGE
193	ELEVATION CHANGE
194	ELEVATION CHANGE
195	ELEVATION CHANGE
196	ELEVATION CHANGE
197	ELEVATION CHANGE
198	ELEVATION CHANGE
199	ELEVATION CHANGE
200	ELEVATION CHANGE
201	ELEVATION CHANGE
202	ELEVATION CHANGE
203	ELEVATION CHANGE
204	ELEVATION CHANGE
205	ELEVATION CHANGE
206	ELEVATION CHANGE
207	ELEVATION CHANGE
208	ELEVATION CHANGE
209	ELEVATION CHANGE
210	ELEVATION CHANGE
211	ELEVATION CHANGE
212	ELEVATION CHANGE
213	ELEVATION CHANGE
214	ELEVATION CHANGE
215	ELEVATION CHANGE
216	ELEVATION CHANGE
217	ELEVATION CHANGE
218	ELEVATION CHANGE
219	ELEVATION CHANGE
220	ELEVATION CHANGE
221	ELEVATION CHANGE
222	ELEVATION CHANGE
223	ELEVATION CHANGE
224	ELEVATION CHANGE
225	ELEVATION CHANGE
226	ELEVATION CHANGE
227	ELEVATION CHANGE
228	ELEVATION CHANGE
229	ELEVATION CHANGE
230	ELEVATION CHANGE
231	ELEVATION CHANGE
232	ELEVATION CHANGE
233	ELEVATION CHANGE
234	ELEVATION CHANGE
235	ELEVATION CHANGE
236	ELEVATION CHANGE
237	ELEVATION CHANGE
238	ELEVATION CHANGE
239	ELEVATION CHANGE
240	ELEVATION CHANGE
241	ELEVATION CHANGE
242	ELEVATION CHANGE
243	ELEVATION CHANGE
244	ELEVATION CHANGE
245	ELEVATION CHANGE
246	ELEVATION CHANGE
247	ELEVATION CHANGE
248	ELEVATION CHANGE
249	ELEVATION CHANGE
250	ELEVATION CHANGE
251	ELEVATION CHANGE
252	ELEVATION CHANGE
253	ELEVATION CHANGE
254	ELEVATION CHANGE
255	ELEVATION CHANGE
256	ELEVATION CHANGE
257	ELEVATION CHANGE
258	ELEVATION CHANGE
259	ELEVATION CHANGE
260	ELEVATION CHANGE
261	ELEVATION CHANGE
262	ELEVATION CHANGE
263	ELEVATION CHANGE
264	ELEVATION CHANGE
265	ELEVATION CHANGE
266	ELEVATION CHANGE
267	ELEVATION CHANGE
268	ELEVATION CHANGE
269	ELEVATION CHANGE
270	ELEVATION CHANGE
271	ELEVATION CHANGE
272	ELEVATION CHANGE
273	ELEVATION CHANGE
274	ELEVATION CHANGE
275	ELEVATION CHANGE
276	ELEVATION CHANGE
277	ELEVATION CHANGE
278	ELEVATION CHANGE
279	ELEVATION CHANGE
280	ELEVATION CHANGE
281	ELEVATION CHANGE
282	ELEVATION CHANGE
283	ELEVATION CHANGE
284	ELEVATION CHANGE
285	ELEVATION CHANGE
286	ELEVATION CHANGE
287	ELEVATION CHANGE
288	ELEVATION CHANGE
289	ELEVATION CHANGE
290	ELEVATION CHANGE
291	ELEVATION CHANGE
292	ELEVATION CHANGE
293	ELEVATION CHANGE
294	ELEVATION CHANGE
295	ELEVATION CHANGE
296	ELEVATION CHANGE
297	ELEVATION CHANGE
298	ELEVATION CHANGE
299	ELEVATION CHANGE
300	ELEVATION CHANGE
301	ELEVATION CHANGE
302	ELEVATION CHANGE
303	ELEVATION CHANGE
304	ELEVATION CHANGE
305	ELEVATION CHANGE
306	ELEVATION CHANGE
307	ELEVATION CHANGE
308	ELEVATION CHANGE
309	ELEVATION CHANGE
310	ELEVATION CHANGE
311	ELEVATION CHANGE
312	ELEVATION CHANGE
313	ELEVATION CHANGE
314	ELEVATION CHANGE
315	ELEVATION CHANGE
316	ELEVATION CHANGE
317	ELEVATION CHANGE
318	ELEVATION CHANGE
319	ELEVATION CHANGE
320	ELEVATION CHANGE
321	ELEVATION CHANGE
322	ELEVATION CHANGE
323	ELEVATION CHANGE
324	ELEVATION CHANGE
325	ELEVATION CHANGE
326	ELEVATION CHANGE
327	ELEVATION CHANGE
328	ELEVATION CHANGE
329	ELEVATION CHANGE
330	ELEVATION CHANGE
331	ELEVATION CHANGE
332	ELEVATION CHANGE
333	ELEVATION CHANGE
334	ELEVATION CHANGE
335	ELEVATION CHANGE
336	ELEVATION CHANGE
337	ELEVATION CHANGE
338	ELEVATION CHANGE
339	ELEVATION CHANGE
340	ELEVATION CHANGE
341	ELEVATION CHANGE
342	ELEVATION CHANGE
343	ELEVATION CHANGE
344	ELEVATION CHANGE
345	ELEVATION CHANGE
346	ELEVATION CHANGE
347	ELEVATION CHANGE
348	ELEVATION CHANGE
349	ELEVATION CHANGE
350	ELEVATION CHANGE
351	ELEVATION CHANGE
352	ELEVATION CHANGE
353	ELEVATION CHANGE
354	ELEVATION CHANGE
355	ELEVATION CHANGE
356	ELEVATION CHANGE
357	ELEVATION CHANGE
358	ELEVATION CHANGE
359	ELEVATION CHANGE
360	ELEVATION CHANGE
361	ELEVATION CHANGE
362	ELEVATION CHANGE
363	ELEVATION CHANGE
364	ELEVATION CHANGE
365	ELEVATION CHANGE
366	ELEVATION CHANGE
367	ELEVATION CHANGE
368	ELEVATION CHANGE
369	ELEVATION CHANGE
370	ELEVATION CHANGE
371	ELEVATION CHANGE
372	ELEVATION CHANGE
373	ELEVATION CHANGE
374	ELEVATION CHANGE
375	ELEVATION CHANGE
376	ELEVATION CHANGE
377	ELEVATION CHANGE
378	ELEVATION CHANGE
379	ELEVATION CHANGE
380	ELEVATION CHANGE
381	ELEVATION CHANGE
382	ELEVATION CHANGE
383	ELEVATION CHANGE
384	ELEVATION CHANGE
385	ELEVATION CHANGE
386	ELEVATION CHANGE
387	ELEVATION CHANGE
388	ELEVATION CHANGE
389	ELEVATION CHANGE
390	ELEVATION CHANGE
391	ELEVATION CHANGE
392	ELEVATION CHANGE
393	ELEVATION CHANGE
394	ELEVATION CHANGE
395	ELEVATION CHANGE
396	ELEVATION CHANGE
397	ELEVATION CHANGE
398	ELEVATION CHANGE
399	ELEVATION CHANGE
400	ELEVATION CHANGE
401	ELEVATION CHANGE
402	ELEVATION CHANGE
403	ELEVATION CHANGE
404	ELEVATION CHANGE
405	ELEVATION CHANGE
406	ELEVATION CHANGE
407	ELEVATION CHANGE
408	ELEVATION CHANGE
409	ELEVATION CHANGE
410	ELEVATION CHANGE
411	ELEVATION CHANGE
412	ELEVATION CHANGE
413	ELEVATION CHANGE
414	ELEVATION CHANGE
415	ELEVATION CHANGE
416	ELEVATION CHANGE
417	ELEVATION CHANGE
418	ELEVATION CHANGE
419	ELEVATION CHANGE
420	ELEVATION CHANGE
421	ELEVATION CHANGE
422	ELEVATION CHANGE
423	ELEVATION CHANGE
424	ELEVATION CHANGE
425	ELEVATION CHANGE
426	ELEVATION CHANGE
427	ELEVATION CHANGE
428	ELEVATION CHANGE
429	ELEVATION CHANGE
430	ELEVATION CHANGE
431	ELEVATION CHANGE
432	ELEVATION CHANGE
433	ELEVATION CHANGE
434	ELEVATION CHANGE
435	ELEVATION CHANGE
436	ELEVATION CHANGE
437	ELEVATION CHANGE
438	ELEVATION CHANGE
439	ELEVATION CHANGE
440	ELEVATION CHANGE
441	ELEVATION CHANGE
442	ELEVATION CHANGE
443	ELEVATION CHANGE
444	ELEVATION CHANGE
445	ELEVATION CHANGE
446	ELEVATION CHANGE
447	ELEVATION CHANGE
448	ELEVATION CHANGE
449	ELEVATION CHANGE
450	ELEVATION CHANGE
451	ELEVATION CHANGE
452	ELEVATION CHANGE
453	ELEVATION CHANGE
454	ELEVATION CHANGE
455	ELEVATION CHANGE
456	ELEVATION CHANGE
457	ELEVATION CHANGE
458	ELEVATION CHANGE
459	ELEVATION CHANGE
460	ELEVATION CHANGE
461	ELEVATION CHANGE
462	ELEVATION CHANGE
463	ELEVATION CHANGE
464	ELEVATION CHANGE
465	ELEVATION CHANGE
466	ELEVATION CHANGE
467	ELEVATION CHANGE
468	ELEVATION CHANGE
469	ELEVATION CHANGE
470	ELEVATION CHANGE
471	ELEVATION CHANGE
472	ELEVATION CHANGE



SHEET NO.

**E-001**





E03	POLE BASE IN THIS LOCATION SHALL BE REUSED WITH NEW LUMINAIRE AND POLE. PROVIDE POLE BASE ADAPTER.
E04	REMOVE WIRE BACK TO NEAREST LUMINAIRE ON THIS EXISTING CIRCUIT. ENSURE FULL OPERATION OF EXISTING LUMINAIRES AFTER DEMOLITION.



1538 ALEXANDRIA PIKE, SUITE  
11 FT. THOMAS, KENTUCKY 41075  
800-354-9783  
859-442-8050  
859-442-8058 FAX

LEXINGTON, KENTUCKY  
LOUISVILLE, KENTUCKY  
COLUMBUS, OHIO  
NEW YORK, NEW YORK

SEAL:

[illegible]

**NKU SOFTBALL  
LOT G  
IMPROVEMENTS**  
CITY OF HIGHLAND HEIGHTS  
CAMPBELL COUNTY  
COMMONWEALTH OF KENTUCKY

PROJECT NO:	20278.00
-------------	----------

DATE: 05/01/2018

**SCALE:**

$$1'' = 30'-0''$$

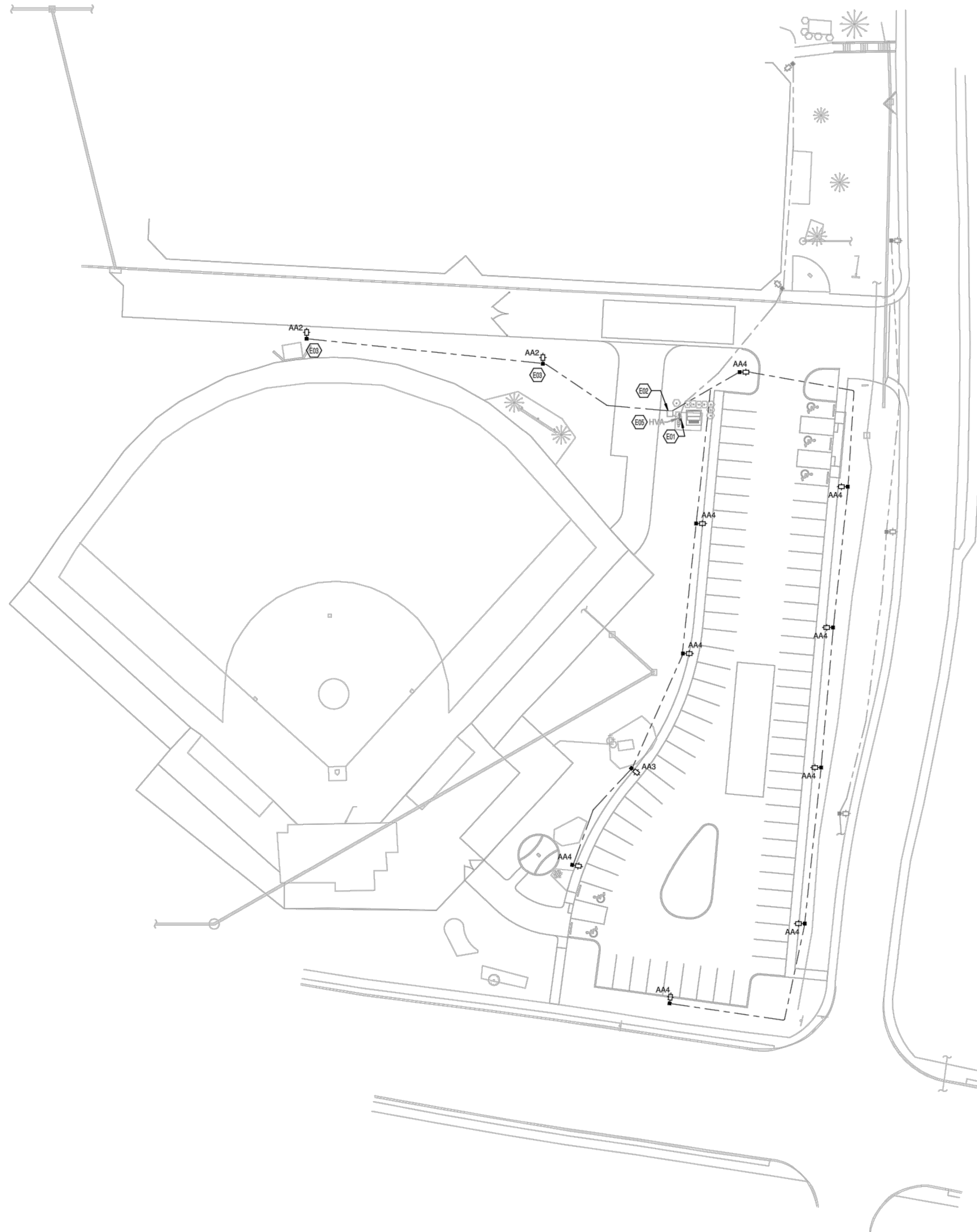
SHEET NAME:

# ELECTRIC SITE PLAN - DEMOLITION

SHEET NO.

# ES100





E01	PROVIDE NEW PHOTOCELL COMPATIBLE WITH SPECIFIED LUMINAIRES FOR CONTROL OF ALL NEW LUMINAIRES. MOUNT ADJACENT TO EXISTING PHOTOCELL, FACING THE SAME DIRECTION.
E02	UTILIZE EXISTING CONDUIT FROM PANEL HVA TO EXISTING PULLBOX FOR NEW LIGHTING CIRCUIT.
E03	POLE BASE IN THIS LOCATION SHALL BE REUSED WITH NEW LUMINAIRE AND POLE. PROVIDE POLE BASE ADAPTER.
E05	PROVIDE ARC FLASH STUDY/STICKER PER NKU STANDARDS FOR EXISTING PANELBOARD.



LEXINGTON, KENTUCKY  
LOUISVILLE, KENTUCKY  
COLUMBUS, OHIO  
NEW YORK, NEW YORK

[illegible]

PROJECT NO:	<b>20278.00</b>
DATE:	<b>05/01/2018</b>
SCALE:	

SHEET NAME:

SHEET NO.

# ES101



ELECTRIC LUMINAIRE SCHEDULE															
TYPE	DESCRIPTION	MANUFACTURER / SERIES	SIZE	HOUSING / MOUNTING	MATERIAL	LENS DESCRIPTION	LAMP QTY	LAMP TYPE	LAMP BASE	BALLAST / DRIVER QTY	BALLAST / DRIVER	FINISH	COMMENTS	FIXTURE LOAD	VOLTAGE
AA2	AREA LIGHTING LUMINAIRE	AEL AUTOBAHN ATB2 (OWNER PURCHASED)	14"x31"x5"	29"-6" ROUND ALUMINUM POLE, SEE BASE DETAIL	ALUMINUM	TYPE II OPTIC, CLEAR FLAT TEMPERED GLASS LENS, FIELD ROTATABLE LENS	1	138W LED, 70-CRI, 5000K	15015 LUMENS	1	INTEGRAL ELECTRONIC, DIMMABLE, -20 DEGREE	FINISH SELECTED BY ARCHITECT	OWNER SHALL PURCHASE. CONTRACTOR SHALL INSTALL, WET LISTED, FIELD REPLACEABLE LED MODULE AND DRIVER, PROVIDE 5 PIN PHOTOCONTROL RECEPTACLE AND SHORTING CAP	105 VA	480 V
AA3	AREA LIGHTING LUMINAIRE	AEL AUTOBAHN ATB2 (OWNER PURCHASED)	14"x31"x5"	29"-6" ROUND ALUMINUM POLE, SEE BASE DETAIL	ALUMINUM	TYPE III OPTIC, CLEAR FLAT TEMPERED GLASS LENS, FIELD ROTATABLE LENS	1	138W LED, 70-CRI, 5000K	15920 LUMENS	1	INTEGRAL ELECTRONIC, DIMMABLE, -20 DEGREE	FINISH SELECTED BY ARCHITECT	OWNER SHALL PURCHASE. CONTRACTOR SHALL INSTALL, WET LISTED, FIELD REPLACEABLE LED MODULE AND DRIVER, PROVIDE 5 PIN PHOTOCONTROL RECEPTACLE AND SHORTING CAP	105 VA	480 V
AA4	AREA LIGHTING LUMINAIRE	AEL AUTOBAHN ATB2 (OWNER PURCHASED)	14"x31"x5"	29"-6" ROUND ALUMINUM POLE, SEE BASE DETAIL	ALUMINUM	TYPE IV OPTIC, CLEAR FLAT TEMPERED GLASS LENS, FIELD ROTATABLE LENS	1	138W LED, 70-CRI, 5000K	15015 LUMENS	1	INTEGRAL ELECTRONIC, DIMMABLE, -20 DEGREE	FINISH SELECTED BY ARCHITECT	OWNER SHALL PURCHASE. CONTRACTOR SHALL INSTALL, WET LISTED, FIELD REPLACEABLE LED MODULE AND DRIVER, PROVIDE 5 PIN PHOTOCONTROL RECEPTACLE AND SHORTING CAP	138 VA	480 V

Diagram illustrating a single-phase pad-mounted transformer installation:

- HVA** (High Voltage Air) 300A MCB (Main Circuit Breaker) is connected to the **480/99 AIC** (Ampere Interrupting Capacity) existing **SCRF** (Service Center for Remote Feeding).
- The **SCRF** is **FED FROM: UTILITY XC-510-4C** (Utility Cross-Section).
- The **SCRF** is connected to the **CONC. PAD** (Concrete Pad).
- The **CONC. PAD** is connected to the **TRANSFORMER (T)**.
- The **TRANSFORMER (T)** is connected to the **METER (M)**.
- The **METER (M)** is connected to the **UTILITY POLE**.