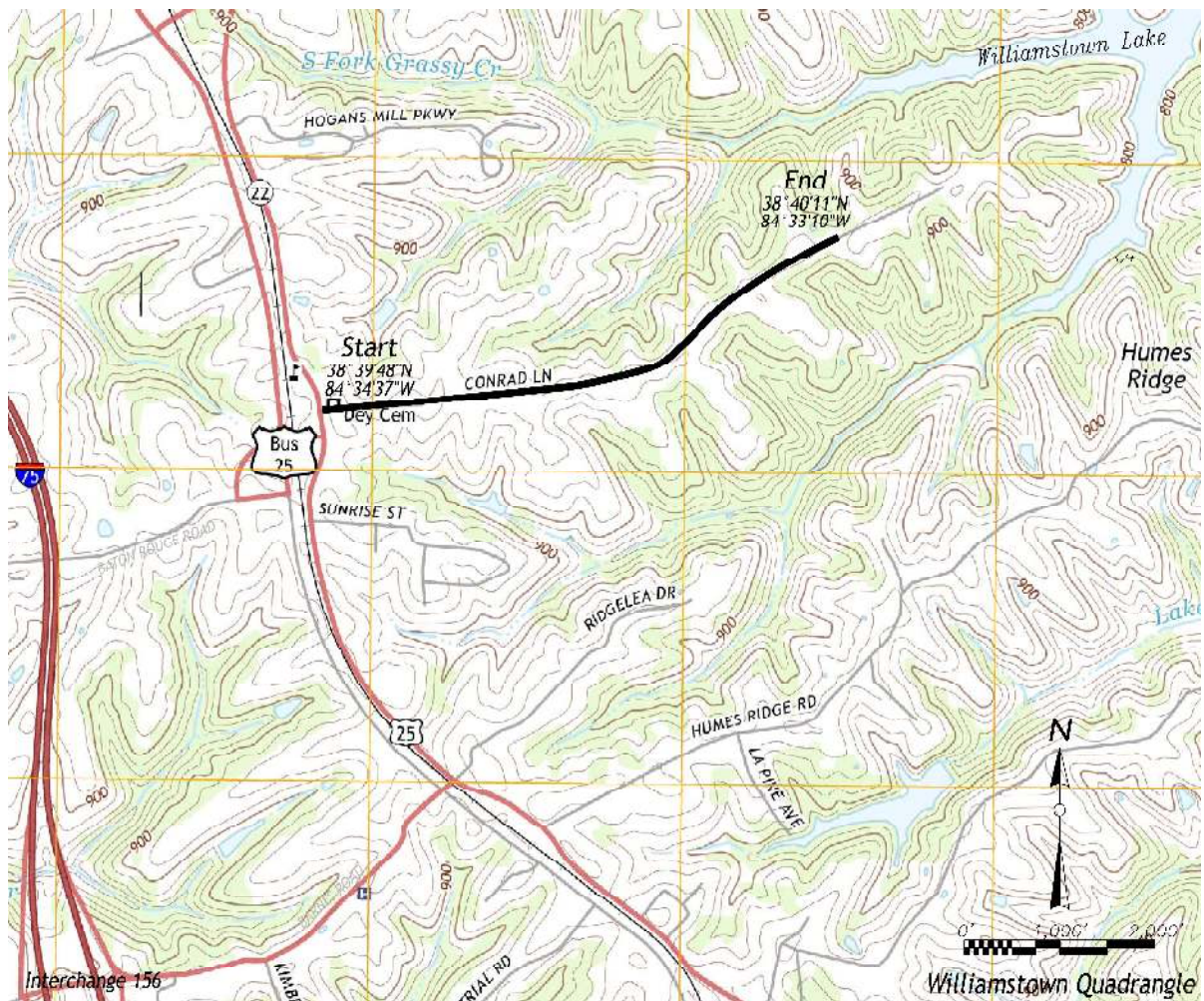


# *City of Williamstown*

## *Conrad Lane Improvement Project*

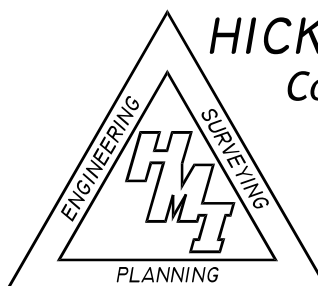
### *Roadway, Drainage, Water, & Sanitary Sewer*

#### *City of Williamstown, Kentucky*



#### **OWNER**

**City of Williamstown**  
PO Box 147, 400 North Main Street  
Williamstown, Kentucky 41097  
(859) 824-3606



**HICKS & MANN, INC.**

**Consulting Engineers**  
**Land Surveyors**  
**Planners**

214-B South Main Street  
Williamstown, Ky. 41097  
(859) 824-5231

**CITY OF WILLIAMSTOWN**  
**CONRAD LANE IMPROVEMENT PROJECT**  
**WILLIAMSTOWN, KENTUCKY**

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<i>Conrad Lane Improvement Project</i>	<i>8 Sheets</i>

*I – Bid Proposal: Conrad Lane Improvement Project+*

*FOR: CITY OF WILLIAMSTOWN  
CONRAD LANE IMPROVEMENT PROJECT  
WILLIAMSTOWN, KENTUCKY*

*Proposal of \_\_\_\_\_ (hereinafter called Bidder) organized & existing under the laws of the State of \_\_\_\_\_ business as \_\_\_\_\_ Insert "A Corporation", "A Partnership", or "An Individual" as applicable.*

*Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_*

*Date: \_\_\_\_\_*

*TO: CITY OF WILLIAMSTOWN  
400 NORTH MAIN STREET, P.O. BOX 147  
WILLIAMSTOWN, KENTUCKY 41097*

*Having carefully examined the field conditions, specifications and complete Contract Documents for **CITY OF WILLIAMSTOWN, CONRAD LANE IMPROVEMENT PROJECT**, the undersigned, hereinafter known as **BIDDER**, proposes to furnish all labor, materials, tools, equipment, etc., and all other necessary supplies and services necessary to complete the project.*

*For the construction of the entire and complete project as indicated on the Drawings, Specifications and Contract Documents, the following amounts:*

# City of Williamstown

## Conrad Lane; Roadway, Drainage, Water, & Sanitary Sewer

Item No.	Description	Qty.	Unit	Unit Price	Total
<b>Earthwork &amp; Drainage</b>					
1	Clearing & Grubbing	1	L.S.		
2	Unclassified Excavation	22,000	C.Y.		
3	Relocate & Adjust Existing Catch Basin	1	Ea.		
4	2'x2' Catch Basins	9	Ea.		
5	15" Headwall	11	Ea.		
6	18" Concrete Pipe	10	L.F.		
7	15" HDPE Pipe	535	L.F.		
8	Channel Lining	200	Tons		
9	Seeding & Mulching	32,000	S.Y.		
10	Remove & Replace Fence	340	L.F.		
11	Erosion Control	1	L.S.		
<b>Utilities</b>					
12	6" PVC Waterline	7,490	L.F.		
13	6" Water Gate Valve w/box	2	Ea.		
14	Fire Hydrant Assemblies	2	Ea.		
15	6" Wet Tap w/Gate Valve	1	Ea.		
16	6" PVC Sanitary Sewer Forcemain	7,480	L.F.		
17	6" Sewer Gate Valve w/box	2	Ea.		
18	Connection to Existing Manhole	1	L.S.		
19	Air Release Valve	7	Ea.		
<b>Total Eartwork, Drainage, &amp; Utilities Bid Proposal:</b>					
<b>Base Bid; Pavement, Base, &amp; Sub-Base</b>					
20	1.5" Asphalt Surface	21,720	S.Y.		
21	5.5" Asphalt Base	19,640	S.Y.		
22	11" DGA Sub-Base	20,400	S.Y.		
<b>Total Base Bid Proposal:</b>					
<b>Bid Alternate; Pavement &amp; Base</b>					
23	1.5" Asphalt Surface	21,720	S.Y.		
24	9.5" Asphalt Base	19,640	S.Y.		
<b>Total Bid Alternate Proposal:</b>					

**Note: Contractor shall include Construction Schedule with Bid Proposal.**

## **TIME LIMIT FOR THE EXECUTION OF THE CONTRACT BETWEEN OWNER & CONTRACTOR**

*In the event that a bidder's proposal is accepted by the Owner and such bidder shall fail to execute the Contract and to furnish satisfactory performance and payment bond within ten (10) consecutive days from the date of notification of the award of the contract, the Owner may at their option determine that the awardee has abandoned the bid guarantee; the check, or bid bond which accompanied it shall be forfeited to and become the property of the Owner as liquidated damages for such failure. Notice to Proceed will be issued by Owner within ten (10) days after receipt of Performance Bond. **Bid Bond shall be 5% of Total Bid.***

## **RIGHT TO REJECT**

*The Owner reserves the right to reject any and all bids.*

## **LIQUIDATED DAMAGES**

*The Owner will suffer financial damages if the Project is not substantially completed as soon as feasible. The Bidder shall be given **180** calendar days for substantial completion, from written Notice to Proceed date. The Contractor (and his Surety) shall pay to the Owner the sums hereinafter stipulated as fixed, agreed and liquidated damages for each calendar day of delay until the work is substantially completed: Two hundred fifty dollars (\$250.00).*

## **PROJECT SCHEDULE:**

*All Contractors shall submit a written schedule with the earliest start to work date noted. Proposed schedule will be reviewed during contractor selection. **Please note, the Contractor's schedule is very important to the Contractor Selection Process.***

## **RESPECTFULLY SUBMITTED:**

Name of Bidder: \_\_\_\_\_  
By: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

**NOTE:** *Submit Bid Proposal in sealed envelope, marked "Bid Proposal" and the name of the Contractor.*

**\*\* BID PROPOSALS ARE TO REMAIN BOUND IN BOOKLETS \*\***

## *II - SPECIAL CONDITIONS*

### *1. GENERAL*

*This Contractor or Sub-contractor shall have visited and examined the Site before submitting a proposal to satisfy himself to the nature and scope of the new construction and any difficulties attending the execution of same. The submission of a proposal will be construed as evidence that a visit and examination has been made. Later claims for labor, equipment or materials required for difficulties encountered, which could have been foreseen had such an examination been made, will not be recognized.*

### *2. INSURANCE*

*This Contractor shall provide insurance for all work he proposed to furnish, and shall include:*

- |            |  |  |
|------------|--|--|
| <i>(1)</i> | <i>Workers Compensation including Employees Liability with all States Endorsement to provide statutory benefits.</i> |  |
| <i>(2)</i> | <i>Public Liability and Product Liability</i>  | <i>\$200,000/each accident<br/>\$500,000/aggregate</i>   |
| <i>(3)</i> | <i>Bodily Injury Liability</i>   | <i>\$500,000/each person<br/>\$1,000,000/aggregate</i>   |
| <i>(4)</i> | <i>Property Damage</i>   | <i>\$200,000/each person<br/>\$500,000/aggregate</i>     |
| <i>(5)</i> | <i>Automobile</i>  | <i>\$500,000/per person<br/>\$1,000,000/per accident</i> |

### *3. INDEMNIFICATION*

*The Contractor shall indemnify and hold harmless the Owner and the Engineer and their agents and employees from and against all claims, damages, losses and expenses, including attorney's fee arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including the loss of such resulting therefrom, and (b) is caused in whole or part by any negligent act or omission of the Contractor, any Sub-contractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not is caused in part by a part indemnified hereunder.*

### III - SPECIAL CONDITIONS *cont.*

#### 4. PERIOD OF LIABILITY

*The Contractor or Sub-contractor shall return to the site of the work at any time within a period of one (1) year after completion and acceptance of this work, and shall repair any defects due to faulty workmanship or materials which may occur within this period, unless extended periods of liability are required by the Owner, and so stated in the Contract Documents.*

#### 5. CHANGES

*The Owner reserves the right to alter or modify the drawings and specifications in any particular, and the Engineers shall be at liberty to make any reasonable amount of deviation in the construction detail of execution without, in either case invalidating or rendering void the Contract. In case any such alteration or deviation shall increase or diminish the cost of doing the work, the amount to be allowed to the Contractor or Owner shall be such as may be equitable and justly determined.*

#### 6. CLEANING UP

*The Contractor shall at all times keep the premises free from accumulation of waste material or rubbish caused by his employees' work, and at the completion of the work, he shall remove all of his rubbish, tools, and surplus material from and about the site of the work and shall leave his work in a clean and useable condition, satisfactory to the Engineer, unless more exactly specified. This includes cleaning mud and debris from streets used as an access to and from the site during the entire construction time.*

#### 7. CARE OF THE WORK

*The Contractor shall have full charge of the premises upon which the new work is to be constructed, and the work under construction until the completion and final acceptance of the work under the Contract.*

#### 8. PERMITS

*The Owner shall obtain all permits required by state, county or city agencies. However the contractor shall obtain burning permits if required.*

III - *SPECIAL CONDITIONS cont.*

9. *PAYMENTS TO CONTRACTOR*

*The quantities listed in the bid Schedules are estimate only. Final payment will be based on unit prices and actual work performed, as set forth in Part III, Basis of Payment.*

*The Owner shall pay 90% of actual work completed and tested within thirty (30) days of completion. The retainage will be paid within thirty (30) days after final inspection and acceptance of the project by the City of Williamstown.*

10. *CONTRACT DOCUMENTS*

*The Contract Documents consist of Notice to Bidders, Bid Proposals, Special Conditions, Project Plans & Specifications, Basis of Payment, Agreement and Performance & Payment Bond, including all modifications thereof incorporated in the Documents before their execution. These form the Contract.*

11. *DRAWINGS AND SPECIFICATIONS AND FIELD CONDITIONS*

- A. The Drawings and Specifications are intended to be fully explanatory and supplementary; however, should anything be shown, indicated or specified on one and not the other, it shall be done the same as if shown, indicated or specified in both.*
- B. Should any error or inconsistency appear in Drawings or Specifications, the Contractor before proceeding with the work, must make mention of the same to the Engineer for proper adjustment, and in no manner proceed with the work in uncertainty nor with insufficient drawings.*
- C. The various sections of the specifications are intended to recite generally to the Contractor the principal items included and covered thereunder. Should such descriptions fail to mention any item obviously necessary for the completion of that particular branch of work, it shall not relieve the Contractor of the responsibility of furnishing such items not specifically listed.*

*III - SPECIAL CONDITIONS cont.*

*12.    LIENS*

*Neither the final payment nor any part of the retained percentage shall become due until the Contractor delivers to the Owners a complete release of all liens arising out of this Contract, or receipts in full in lieu thereof and, in either case, an affidavit that so far as he has knowledge or information, the releases and receipts include all labor and material or such a lien could be filed, but the Contractor may, if any Sub-contractor refuses to furnish a release or receipt in full, furnish a Bond satisfactory to the Owner, to indemnify him against any lien. If any lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such a lien, including all costs and reasonable attorney's fee.*

- 13.    A.   Interested bidders shall, before submitting a Proposal visit and examine the site to satisfy themselves as to materials and scope of the new construction and any difficulty attending the performance of the work.*
- B.   The submission of the Proposal will be construed as evidence that such an examination has been made. Claims made subsequent to the time of submission of the Proposal for labor, equipment and material required for difficulties encountered which could have been foreseen had an examination been made, will not be recognized.*

*14.    PERMITS*

*The Contractor is responsible for compliance with the requirements of the Permits from the Various Agencies.*

III - SPECIAL CONDITIONS cont.

15. PROJECT SPECIFICATIONS:

*All Construction Materials and Testing shall be in accordance with City of Williamstown, Standard Specifications and Details.*

16. *The Utility Contractor shall be responsible for any trench settlement, which occurs within one (1) year of final acceptance of the work. If pavement shall require replacement because of settlement within this time, it shall be replaced by the Contractor at no additional cost to the Owner.*
17. *The Contractor shall be responsible for disposing of excess trench excavation, as directed by the Engineer.*
18. *The Contractor shall be responsible for final Subgrade Grading, Compaction, and preparation. Any undercut excavation required by weather or delays in pavement construction will be the responsibility of the Contractor and will be done at no cost to the Owner.*
19. *The Testing required for compliance with the project specifications, are laid out in the plans, subdivision regulations, permits, and regulations from the various government agencies. The Contractor is responsible for obtaining the necessary regulations, and being familiar with said regulations. The governmental agencies have final approval of the project construction, and the Contractor is responsible for obtaining said approval. All deficiencies shall be corrected at the Contractor's expense. If re-tests are required due to the Contractor's failure to meet the project specifications or the governmental regulations, the Contractor shall have fifty (\$50.00) per hour deducted from the contract, to offset the additional engineering fees involved.*
20. *The Contractor shall be responsible for the Best Management Practices (BMP), the Erosion Controls shown on the plans are the minimum required. The contractor shall responsible for revising, adding, and repairing the erosion control as the project progresses. All erosion controls & BMPs shall be inspected and maintained at minimum once every 7 days and after rain events of 0.5" and greater by a Qualified Person, and a log of inspections and actions taken, shall be maintained. **Note; The Contractor shall be responsible for the KPDES Notice of Intent and the KPDES Notice of Termination.***
21. *All Contractors and Sub-Contractors are responsible for their own safety inspections and compliance with OSHA Regulations. **The Project Engineer or Hicks & Mann, Inc. will not be responsible for Safety Inspections or the Contractor's Compliance with OSHA Regulations.***

### III - BASIS OF PAYMENT

#### **Earthwork, & Drainage;**

1. *Clearing & Grubbing; Payment for Clearing & Grubbing shall be at the Lump Sum Price.*
2. *Unclassified & Undercut Excavation (Street & Slope Repair); Payment for Unclassified Excavation shall be at the cubic yard unit price. Top soil removal/replacement, swale grading, and construction of berms shall be incidental. Undercut Excavation, if required, shall be at the cubic yard unit price of unclassified excavation. Excess top soil shall be stockpiled as directed by the Engineer. The Undercut Excavation shall be field measured to establish Final Pay Quantities.*
- 3-5. *Drainage Structures, Payment of the Drainage Structures (ie curb inlets, headwalls, & relocation of existing structure) shall be at the unit price per structure.*
- 6-7. *Storm Sewer Pipe; Payment of the Storm Sewer Pipe shall be at the Linear Foot Unit Price and the actual length constructed. Pipe Bedding Material and Flowable Fill shall be incidental.*
8. *Class II Channel Lining; Payment of the Channel Lining shall be at the Unit Price per ton.*
9. *Seeding and Mulching; Payment for Seeding & Mulching shall be at the Unit Price per square yard.*
10. *Removal & Replacement of Fence; The Removal & Replacement of the Existing Fence shall be at the Linear Foot Unit Price and the actual length constructed.*
11. *Erosion Control; Payment for Erosion Control shall be at the Lump Sum Price. **Note; The Contractor shall be responsible for the KPDES Notice of Intent, BMP, inspections, KPDES Notice of Termination, and maintaining the necessary records.***

#### **Utilities;**

12. *Watermain; Payment for Watermain shall be at the Linear Foot Unit Price and the actual length constructed. Fittings, Pipe Bedding Material, Thrust Blocks, Flowable Fill, Testing, and Etc. shall be incidental to the Watermain.*
13. *Gate Valve; Payment for the Gate Valve shall be at the Unit Price per Gate Valve. Cast Iron Valve Box and concrete pad shall be incidental to the unit price.*
14. *Fire Hydrant Assembly; Payment for Fire Hydrant Assemblies shall be at the Unit Price per Fire Hydrant Assembly. The Fire Hydrant Assembly shall include the Hydrant, Tee, Gate Valve, Anchoring Pipe, Gravel and Blocking.*
15. *6" Wet Tap w/Gate Valve; Payment for the Wet Tap shall be at the Unit Price per Wet Tap. Wet Tap, Gate Valve, Cast Iron Valve Box, and concrete pad shall be incidental to the unit price.*

### *III - BASIS OF PAYMENT cont.*

16. *6" Sanitary Sewer Forcemain; Payment for 6" Forcemain shall be at the Linear Foot Unit Price and the actual length constructed. Pipe Bedding Material, Pipeline markers, Thrust Blocks, Testing, and etc. shall be incidental to the Forcemain.*
17. *Gate Valve; Payment for the Gate Valve shall be at the Unit Price per Gate Valve. Cast Iron Valve Box and concrete pad shall be incidental to the unit price.*
18. *Connection to the Existing Manhole; The Connection to the Existing Manhole shall be at the Lump Sum Price, and shall include Fittings, Bedding, Thrust Blocks, & etc.*
19. *Air Release Valves; Payment for Air Release Valves shall be at the Unit Price per Valve. Valve, Fittings, Box, Lid, Stone & etc shall be incidental to the unit price.*

### **Pavement & Curb;**

20. *Asphalt Surface; Payment for the Asphalt Surface shall be at the square yard unit price and the actual surface constructed.*
21. *Asphalt Base; Payment for the Asphalt Base shall be at the square yard unit price and the actual base constructed.*
22. *DGA Sub-Base; Payment for DGA Sub-Base shall be at the square yard unit price and the actual base constructed.*

**V- NOTICE TO AWARD**

**TO:**

Project Description: **CITY OF WILLIAMSTOWN, BID PROPOSAL  
CONRAD LANE IMPROVEMENT PROJECT**

The **OWNER** has considered the **BID** submitted by you for the above described **WORK**  
In response to the Notice to Bid dated \_\_\_\_\_, And Instructions to Bidders:

You are hereby notified that your **BID** has been accepted for items in the amount of:

Bid Proposal; Waterline Extension \$ \_\_\_\_\_

You are required by the Instructions for Bidders to execute the Agreement and furnish the  
Required **CONTRACTOR'S** Certificates of Insurance within ten (10) calendar days from the  
Date of this Notice.

If you fail to execute said Agreement or to furnish said Certificates within ten (10) days from the date of this  
Notice, said **OWNER** will be entitled to consider all your rights arising out of the **OWNER'S** acceptance of  
your **BID** as abandoned. The **OWNER** will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this **NOTICE OF AWARD** to the **OWNER**.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2022

**CITY OF WILLIAMSTOWN**  
**OWNER**

BY: \_\_\_\_\_  
Rick Skinner, Mayor

TITLE: Owner

**ACCEPTANCE OF AWARD**

Receipt of the above **NOTICE OF AWARD** is hereby acknowledged by: \_\_\_\_\_

\_\_\_\_\_ this the \_\_\_\_\_ day of \_\_\_\_\_, 2022.

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

## **VI – AGREEMENT**

**THIS AGREEMENT**, made this \_\_\_\_\_ day of \_\_\_\_\_, 2022, by and between the **CITY OF WILLIAMSTOWN**, hereinafter called “**OWNER**” and \_\_\_\_\_ doing business as (a corporation, a partnership, or an individual as applicable), hereinafter called “**CONTRACTOR**”.

**WITNESSETH:** That for an consideration of the payments and agreements hereinafter mentioned:

1. **CONTRACTOR** will commence and complete the construction of;  
**BID PROPOSAL, CONRAD LANE IMPROVEMENT PROJECT**
2. The **CONTRACTOR** will furnish all of the materials, equipment, and other services necessary for the construction and completion of the **PROJECT** described herein.
3. The **CONTRACTOR** will commence the work required by the **CONTRACT DOCUMENTS** within ten (10) calendar days after the date of the **NOTICE TO PROCEED**.
4. The **CONTRACTOR** agrees to provide the items described in the **CONTRACT DOCUMENTS** and comply with the terms therein for the sum of:
5. The term “**CONTRACT DOCUMENTS**” means and includes the following:
  - (A) Notice to Bidders
  - (B) Bid Proposals
  - (C) Special Conditions
  - (D) Project Specifications
  - (E) Basis of Payment
  - (F) Notice of Award
  - (G) Agreement
  - (H) Certification of Insurance
  - (I) Change Orders
  - (J) Plans entitled “**CONRAD LANE IMPROVEMENT PROJECT**”. Prepared by Hicks & Mann, Inc., latest revision.
  - (K) Permits from the Ky. Division of Water.

**VI – AGREEMENT, Cont.**

*IN WITNESS WHEREOF*, the parties hereto have executed or caused to be executed by their duly authorized officials, this **AGREEMENT** in three (3) copies each of which shall be deemed an original on the date first above written.

**CITY OF WILLIAMSTOWN**  
**OWNER**

BY: \_\_\_\_\_  
Rick Skinner, Mayor

TITLE: Owner

(Seal)  
ATTEST:  
NAME: \_\_\_\_\_  
Print or Type

TITLE: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

BY: \_\_\_\_\_

NAME: \_\_\_\_\_  
Print or Type

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Seal)  
ATTEST:  
NAME: \_\_\_\_\_  
Print or Type

TITLE: \_\_\_\_\_

**VII – NOTICE TO PROCEED**

TO:

DATE:

PROJECT: **CITY OF WILLIAMSTOWN**

**YOU** are hereby notified to commence **WORK** in accordance with the **AGREEMENT** Dated \_\_\_\_\_, 2019, on or before \_\_\_\_\_, 2022, and you are to complete the **WORK** within \_\_\_\_\_ Calendar days, thereafter. The date of completion of all **WORK** is therefore \_\_\_\_\_, 2021.

**CITY OF WILLIAMSTOWN**  
**OWNER**

BY: \_\_\_\_\_  
Rick Skinner, Mayor

TITLE: Owner

**ACCEPTANCE OF NOTICE:**

Receipt of the above **NOTICE TO PROCEED** is hereby acknowledged by \_\_\_\_\_ this the \_\_\_\_\_ day of \_\_\_\_\_, 2022.

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

## ***Part VI***

### ***Permits***

#### ***KY. DIVISION OF WATER PERMIT***

***Water Line Extension (Pending)***

***5 Pages***

#### ***KY. DIVISION OF WATER PERMIT***

***Sewer Line Extension (Pending)***

***5 Pages***

***Part VII***

***Project Plans***

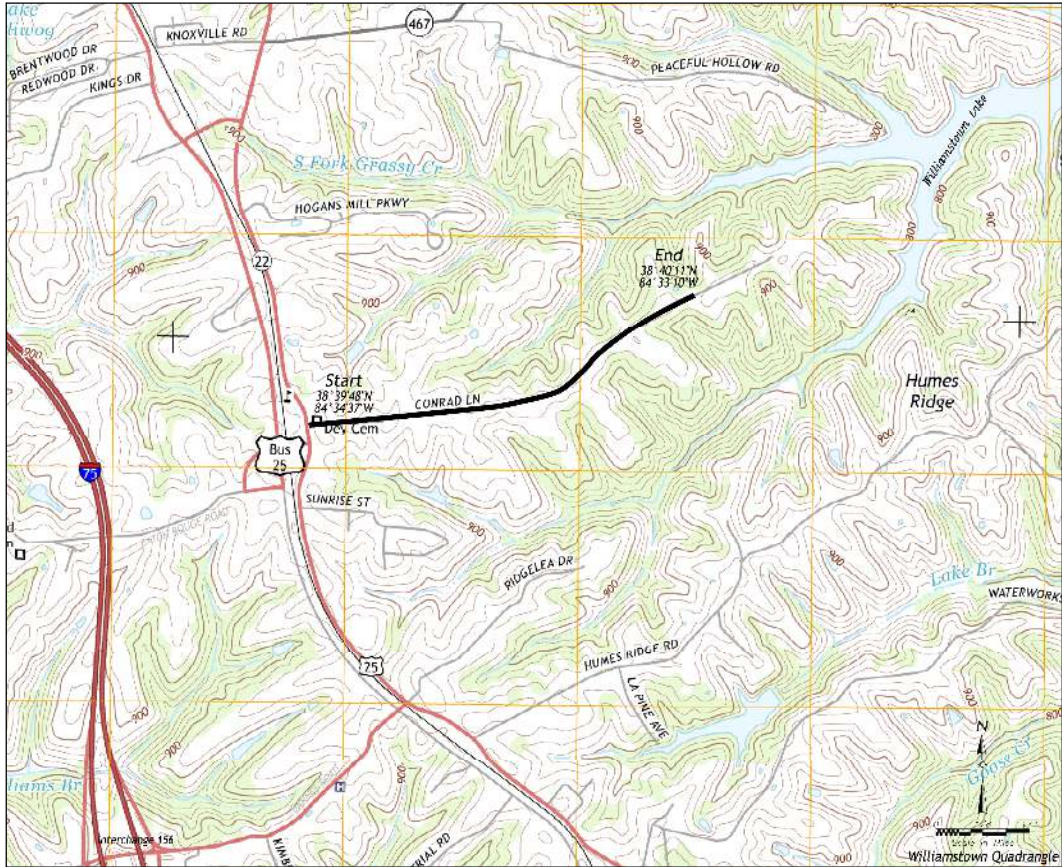
***CITY OF WILLIAMSTOWN  
CONRAD LANE IMPROVEMENT PROJECT  
Roadway, Water, & Sanitary Sewer Construction Plans  
8 Sheets***

# City of Williamstown

## Conrad Lane Improvement Project

INDEX OF DRAWINGS

NO.	DESCRIPTION
1	COVER SHEET
2	TYPICAL SECTION & SPECIFICATION SHEET
3-7	PLAN & PROFILE SHEETS
8	DETAILS & SPECIFICATION SHEET




APPROVALS	AGENCY	DATE

OWNER - DEVELOPER

City of Williamstown  
Post Office Box 147  
400 North Main Street  
Williamstown, Kentucky 41097  
(859) 824-6351

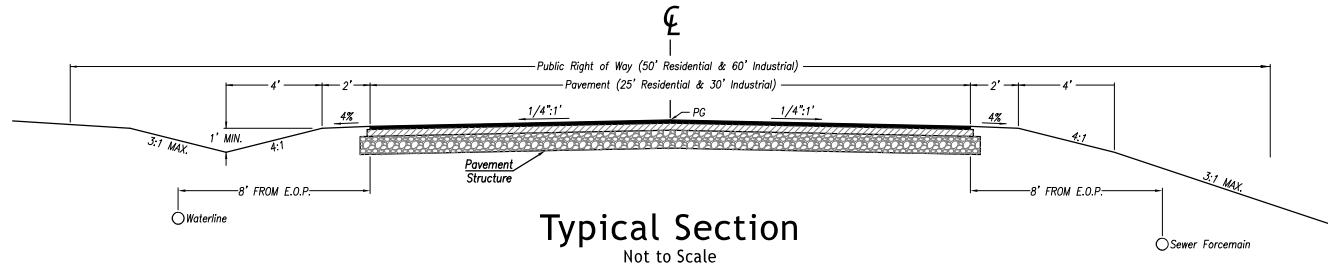
ENGINEER - SURVEYOR

Hicks & Mann, Inc.  
116 Humes Ridge Road  
Williamstown, Kentucky 41097  
(859) 824-5231 Office  
(859) 824-9881 Fax

NO.	DATE	REVISIONS
City of Williamstown		
Conrad Lane Improvement Project		
Roadway, Water, & Sanitary Sewer Construction Plans		
Cover Sheet		
Scale: As Noted	 <b>HICKS &amp; MANN, INC.</b> Consulting Engineering Land Surveying Planning 214-B South Main Street Williamstown, Ky. 41097 (859) 824-5231	Date: March 3, 2022
Design By: L.D. Murphy		Job No. 22-013
Drawn By: L.D. Murphy		Sheet No. 1 of 8
Checked By:		Filename: 22013COVER

Logan D. Murphy, P.E., L.S.  
Ky. P.E. #15898, L.S. #3316

# TYPICAL SECTION



Base Bid  
Pavement Structure  
1.5" Asphalt Surface  
5.5" Asphalt Base  
11" DGA Sub-Base

Alternate  
Pavement Structure  
1.5" Asphalt Surface  
9.5" Asphalt Base

## PROJECT SPECIFICATIONS

### A. GENERAL NOTES

- UNLESS SPECIFICALLY NOTED OTHERWISE, ALL ELEVATIONS AND DIMENSIONS ARE IN FEET. ALL ELEVATIONS ARE MEAN SEA LEVEL DATUM.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS AND/OR THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, AND THE GRANT COUNTY SUBDIVISION REGULATIONS.
- THE PROJECT ENGINEER WILL HAVE THE AUTHORITY TO DISAPPROVE OR TO REJECT WORK WHICH IS DEFECTIVE, OR DOES NOT CONFORM TO THE REQUIREMENTS OF ANY INSPECTION, TEST, OR APPROVAL..
- THE ENGINEER WILL BE THE INITIAL INTERPRETER OF THE TERMS AND CONDITIONS OF THE PLANS AND SPECIFICATIONS, AND THE JUDGE OF THE PERFORMANCE THERE UNDER. IN HIS CAPACITY AS INTERPRETER AND JUDGE, HE WILL EXCERISE HIS BEST EFFORTS TO INSURE FAITHFUL PERFORMANCE BY BOTH THE OWNER AND THE CONTRACTORS.
- NEITHER OBSERVATIONS BY THE ENGINEER NOR INSPECTIONS, TEST, OR APPROVALS, BY OTHER PERSONS SHALL RELIEVE THE CONTRACTOR FROM HIS OBLIGATIONS TO PERFORM THE WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER FIVE (5) WORKING DAYS IN ADVANCE OF THE BEGINNING OF CONSTRUCTION PHASE, IE. STORM DRAINAGE, SEWERS, WATER, CURBS, ETC.
- UPON COMPLETION OF ALL SANITARY SEWERS, STORM SEWERS, AND ASSOCIATED STRUCTURES, AND PRIOR TO THE BEGINNING OF STREET AND CURB WORK THE ENGINEER SHALL CONDUCT A THOROUGH INSPECTION OF ALL SAID FACILITIES. THIS INSPECTION SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES. UPON COMPLETION OF ALL CONSTRUCTION, THE ENGINEER SHALL MAKE A FINAL INSPECTION OF ALL CONSTRUCTED FACILITIES.
- PRIOR TO MANUFACTURE, THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH COPIES OF THE SHOP DRAWINGS FOR ALL PRECAST CONCRETE FACILITIES FOR HIS REVIEW AND APPROVAL.
- THE TERMS "OF EQUAL" AND "OR EQUIVALENT" SHALL BE UNDERSTOOD TO MEAN EQUIPMENT AND MATERIAL OF EQUAL QUALITY AND WHICH WILL FUNCTION AND OPERATE IN MANNER EQUIVALENT TO THE EQUIPMENT AND MATERIAL SPECIFIED HEREIN. THE TERMS "OR EQUAL" AND "OR EQUIVALENT" SHALL BE UNDERSTOOD TO APPLY TO ALL EQUIPMENT AND MATERIAL. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO DEMONSTRATE THAT ALL SUBSTITUTE MATERIALS ARE EQUIVALENT TO THOSE CALLED FOR. NO SUBSTITUTES ARE TO BE MADE WITHOUT THE ENGINEER'S APPROVAL.
- THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO CONSTRUCT ALL ELEMENTS OF THE PROJECT TO THE LINES AND GRADES SHOWN ON THE DRAWINGS.
- ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO CONSTRUCT THE PROJECT AS SHOWN ON THE DRAWINGS AND SPECIFICATIONS SHALL BE CONSIDERED INCIDENTAL TO THE BID PRICE FOR THE APPROPRIATE BID ITEM.
- THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITIES PRIOR TO BEGINNING CONSTRUCTION SO THAT ALL OVERHEAD AND UNDERGROUND FACILITIES CAN BE LOCATED.
- ALL CONTRACTORS ARE RESPONSIBLE FOR COMPLIANCE WITH SUBDIVSION REGULATIONS AND/OR CITY REQUIREMENTS. ALL CONTRACTORS ARE HEREBY ADVISED TO OBTAINED COPIES APPLICABLE REGULATIONS. ANY CONSTRUCTION WHICH FAILS TO MEET THE REQUIREMENTS OF THE SUBDIVISION REGULATIONS SHALL BE REPLACED AT NO COST TO THE OWNER.
- ALL CONTRACTORS ARE RESPONSIBLE FOR NOTIFYING THE ENGINEER OR TESTING FIRM TO SCHEDULE TESTING IN ACCORDANCE WITH THE APPLICABLE REGULATIONS. REMEDIAL WORK DUE TO FAILURE TO PROPERLY TEST ANY PART OF THE CONSTRUCTION SHALL BE DONE AT NO COST TO THE OWNER.
- ALL CONTRACTORS ARE RESPONSIBLE FOR FOR THEIR OWN SAFETY INSPECTIONS AND COMPLIANCE WITH OSHA REGULATIONS. THE ENGINEER WILL NOT BE RESPONSIBLE FOR SAFETY INSPECTIONS OR COMPLIANCE WITH OSHA REGULATIONS.

### B. EARTHWORK

- ALL EARTHWORK CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.
- LARGE TREES LOCATED JUST WITHIN OR ALONG STREET RIGHT-OF-WAYS SHALL NOT BE CLEARED UNTIL THE CONTRACTOR IS SPECIFICALLY AUTHORIZED. AREAS BEYOND STREET RIGHT-OF-WAYS AND UTILITY EASEMENTS SHALL NOT BE CLEARED OF ANY TREES FOUR (4) INCHES IN DIAMETER OR LARGER UNTIL THE CONTRACTOR IS SPECIFICALLY AUTHORIZED IN WRITING BY THE ENGINEER.
- THE CONTRACTOR SHALL REMOVE AT THE MINIMUM SIX (6) INCHES OF TOP SOIL FROM AREAS WHERE EMBANKMENTS ARE TO BE CONSTRUCTED. ALL SPONGY OR UNSTABLE MATERIAL, ORGANIC MATTER OR OTHERWISE UNSUITABLE MATERIAL SHALL BE REMOVED FROM EMBANKMENT AREAS AND PLACED AS DIRECTED BY THE ENGINEER.
- STRIPPED TOP SOILS AND ORGANIC MATERIALS SHALL BE STOCKPILED AND UTILIZED IN LAWN AREAS. A MINIMUM OF 6" OF TOPSOIL SHALL BE PLACED ON THE LAWN AREAS.
- CLEARED VEGETATION AND DEBRIS MAY BE BURNED PROVIDED THE CONTRACTOR OBTAINS THE APPROPRIATE PERMITS, OR HAULED OFF SITE. NO BURIAL OF VEGETATION OR DEBRIS SHALL BE PERFORMED ON-SITE, OR WITHIN ADJACENT SITES, WITHOUT THE EXPRESSED PERMISSION OF THE ENGINEER OR OWNER.
- EMBANKMENTS SHALL BE CONSTRUCTED OF SUITABLE MATERIAL WITHIN TWO (2) PERCENT OF OPTIMUM MOISTURE CONTENT ON THE DRY SIDE OF THE CURVE OR WITHIN THREE (3) PERCENT OF OPTIMUM MOISTURE CONTENT ON THE WET SIDE OF CURVE. THE MATERIAL SHALL BE PLACED ON LIFTS OF NOT MORE THAN EIGHT INCHES AND COMPACTED WITH AN APPROPRIATE TYPE OF COMPACTION EQUIPMENT TO A DENSITY OF NOT LESS THAN NINETY-FIVE (95%) PERCENT OF MAXIMUM DENSITY, AS DETERMINED BY THE STANDARD PROCTOR MOISTURE DENSITY TEST (ASHO T-180).
- THE TOP ONE (1) FOOT OF SUBGRADE SHALL BE COMPACTED TO NINETY-EIGHT (98%) PERCENT OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR MOISTURE DENSITY TEST (AASHO T-99) OR EIGHTY-NINE (89%) PERCENT OF MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR MOISTURE DENSITY TEST (AASHO T-180). THE SUBGRADE SHALL BE WITHIN TWO (2) PERCENT OF OPTIMUM MOISTURE CONTENT ON THE DRY SIDE OF THE CURVE OR THREE (3) PERCENT OF OPTIMUM MOISTURE CONTENT ON THE WET SIDE OF CURVE IMMEDIATELY PRIOR TO PLACEMENT OF THE PAVEMENT AND BASE.
- EXCESS EXCAVATED MATERIALS SHALL BE TRANSPORTED AND PLACED AT THE LOCATION SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ALL EXCESS MATERIAL SHALL BE PLACED IN A CONTROLLED FILL.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO EXCAVATION OF UNSUITABLE MATERIAL WITHIN RIGHT-OF-WAY AND BUILDING AREAS. BACKFILL OF THESE AREAS SHALL NOT BE INITIATED UNTIL SPECIFICALLY APPROVED BY THE ENGINEER. IF UNDERCUT EXCAVATION IS DIRECTED BY THE ENGINEER IT SHALL BE PAID FOR AT THE UNIT PRICE BID FOR UNCLASSIFIED EXCAVATION.
- ALL GRADING AND EARTHWORK CONSTRUCTION SHALL BE PERFORMED TO THE LINES AND GRADES SETFORTH ON THE PLANS AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- NO ADDITIONAL EXCAVATION HAS BEEN OR WILL BE CALCULATED TO ALLOW FOR THE 6" OF TOPSOIL. TOPSOIL REMOVAL AND REPLACEMENT SHALL BE CONSIDERED INCIDENTAL TO THE EARTHWORK CONSTRUCTION.
- NO ADDITIONAL EXCAVATION HAS BEEN OR WILL BE CALCULATED TO ALLOW FOR THE BENCH EXCAVATION. BENCH EXCAVATION SHALL BE CONSIDERED INCIDENTAL TO THE EARTHWORK CONSTRUCTION.
- THE PAVING CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL SUBGRADE GRADING, COMPACTION, AND PREPARATION. ANY UNDERCUT EXCAVATION REQUIRED BY WEATHER OR DELAYS IN PAVEMENT CONSTRUCTION WILL BE THE RESPONSIBILITY OF THE PAVING CONTRACTOR AND WILL BE DONE AT NO COST TO THE OWNER.

### C. SEEDING & MULCHING

- IMMEDIATELY BEFORE SEED IS SOWN, LOOSEN SOIL TO A DEPTH OF THREE (3) INCHES BY ROTARY TOOLS, DISCS, HARROWS OR OTHER APPROVED METHODS. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS SOON AFTER THE COMPLETION OF CONSTRUCTION.
- THE FOLLOWING SEED MIXTURE SHALL BE APPLIED AT THE FOLLOWING RATES:  
KY. 31 FESCUE 40 POUNDS/ACRES  
ANNUAL RYE GRASS 20 POUNDS/ACRE
- FERTILIZER SHALL BE APPLIED AND THOROUGHLY MIXED INTO THE TOPSOIL PRIOR TO SEEDING. 10-10-10 FERTILIZER SHALL BE APPLIED AT 500 POUNDS/ACRE.
- MULCH SHALL BE APPLIED AT A RATE OF TWO (2) TONS/ACRE.

### D. BEST MANAGEMENT PRACTICES

- "COMMONLY ACCEPTED BEST PRACTICES" SHALL BE USED FOR EROSION AND SEDIMENT CONTROL. HAY BALES AND SILT SCREENS SHALL BE USED AS REQUIRED TO CONTROL EROSION AND SEDIMENT.
- INSTALLATION OF HAY BALES AND SILT SCREENS SHALL BE IN ACCORDANCE WITH KY. TRANSPORTATION CABINET, STANDARD DRAWINGS AND SPECIFICATIONS, AND EPA MANUAL 833-R-92-001, STORM WATER MANAGEMENT FOR CONSTRUCTION ACTIVITIES.
- EROSION MEASURES SHALL BE INSTALLED AT ALL LOCATIONS WHERE THERE IS A POSSIBILITY OF THE EROSION AND TRANSPORTATION OF SEDIMENT FROM THE PROJECT TO DOWNSTREAM PROPERTIES.
- AFTER COMPLETION OF CONSTRUCTION AND ALL DISTURBED AREAS ARE SEEDED, EXCESSIVE SILT AND SEDIMENT SHALL BE REMOVED FROM THE DETENTION POND.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES AT LEAST WEEKLY AND AFTER EVERY RAINFALL EVENT. ALL DAMAGE TO EROSION CONTROL MEASURES SHALL BE REPAIRED IMMEDIATELY.


### E. TRENCH BACKFILL

- ALL WATER, SEWER, DRAINAGE, ELECTRIC, AND OTHER TRENCHES WHICH ARE OPEN CUT ACROSS PAVEMENT AREAS SHALL BE BACKFILLED WITH CONTROLLED LOW STRENGTH MATERIAL FILL (CLSM OR FLOWABLE FILL).
- ALL EXCESS TRENCH EXCAVATION MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.
- CLSM MATERIALS AND QUANTITIES PER CUBIC YARD IS AS FOLLOWS:  
ALTERNATE #1  
CEMENT 61 lbs.  
FLY ASH 331 lbs.  
SAND 2859 lbs.  
WATER 509 lbs.  
ALTERNATE #2  
CEMENT 100 lbs.  
SAND 2900 lbs.  
WATER 500 lbs.  
AIR 18%

THE ABOVE MIXTURES SHALL BE CONSIDERED EQUAL.  
THE CLSM SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 80 P.S.I.

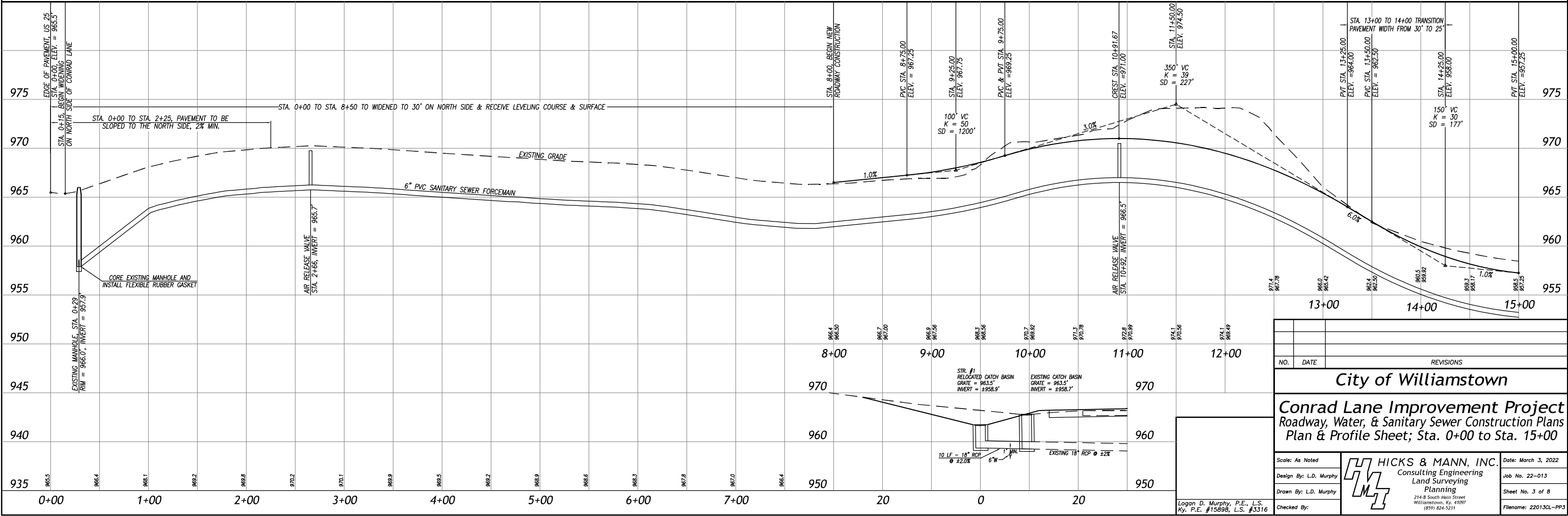
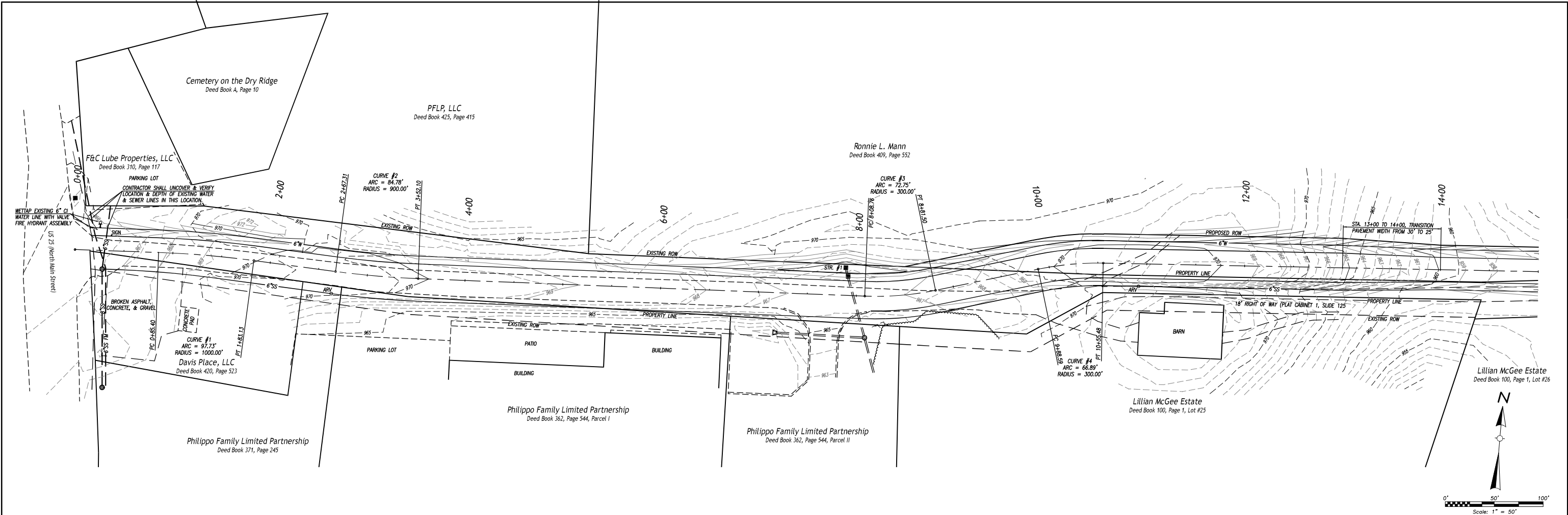
### F. PAVEMENT

- ASPHALT PAVEMENT  
A. ALL ASPHALT CONCRETE SURFACE AND BASE COURSE MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS SETFORTH IN THE APPLICABLE SECTIONS OF THE KENTUCKY DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- THE SUBDIVISION STREET SURFACE SHALL BE ONE & ONE HALF (1.5") INCHES OF CLASS I ASPHALT CONCRETE SURFACE COURSE, IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- THE BASE COURSE SHALL BE CLASS I, ASPHALT BASE COURSE, IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- THE SUB-BASE COURSE SHALL BE DENSE GRADE AGGREGATE (DGA), IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- THE ASPHALT TACK COAT SHALL CONSIST OF SS-1H. THE MATERIAL, APPLICATION EQUIPMENT AND PROCEDURE SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS. TACK COAT SHALL BE APPLIED AT A RATE OF 0.05 GALLONS PER SQ. YD. OR 0.10 GALLONS PER SQ. YD. IF DILUTED WITH EQUAL PARTS OF WATER.
- PAVEMENT CORES  
A. ALL ASPHALT OR CONCRETE PAVEMENT SHALL BE CORED AT 300' INTERVALS AS DIRECTED BY THE ENGINEER. A 0.2 INCH DEVIATION FROM THE SPECIFIED THICKNESS WILL NOT BE TOLERATED.

NO.	DATE	REVISIONS
City of Williamstown		
Conrad Lane Improvement Project Roadway, Water, & Sanitary Sewer Construction Plans Typical Section & Specifications Sheet		
Scale: As Noted		Date: March 3, 2022
Design By: L.D. Murphy		Job No. 22-013
Drawn By: L.D. Murphy		Sheet No. 2 of 8
Checked By:		Filename: 22013TYPICAL

Logan D. Murphy, P.E., L.S.  
Ky. P.E. #15898, L.S. #3316

214-B South Main Street  
Williamstown, Ky. 41097  
(859) 824-5231



REVISIONS		
NO.	DATE	REVISIONS

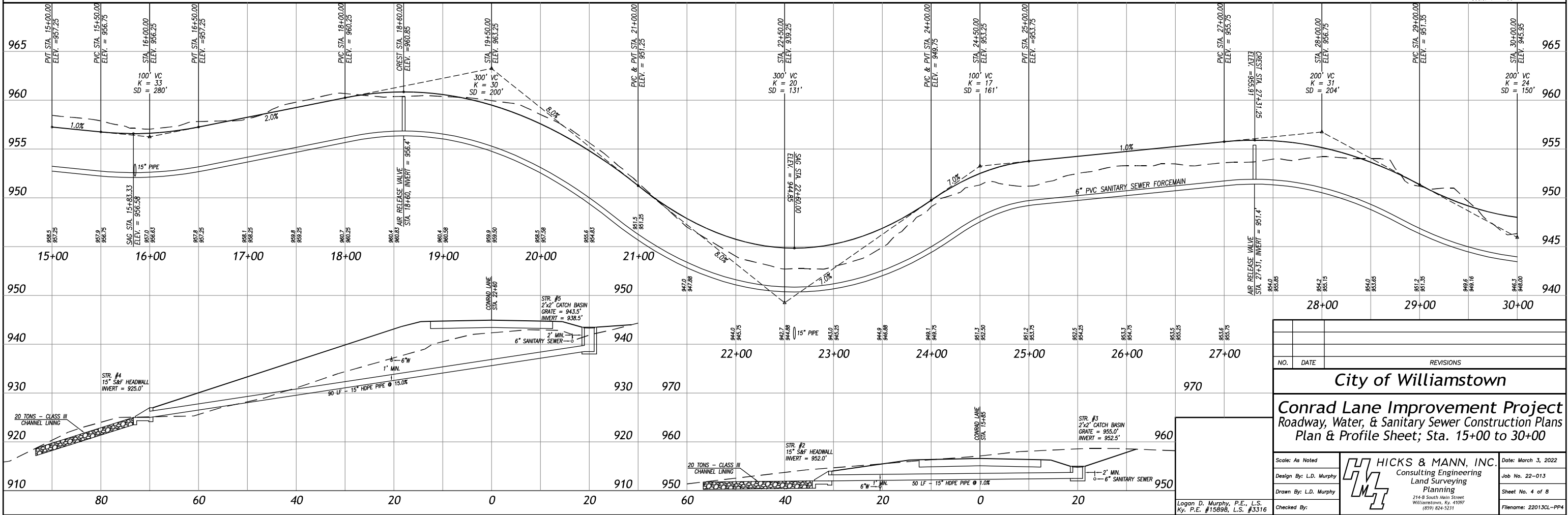
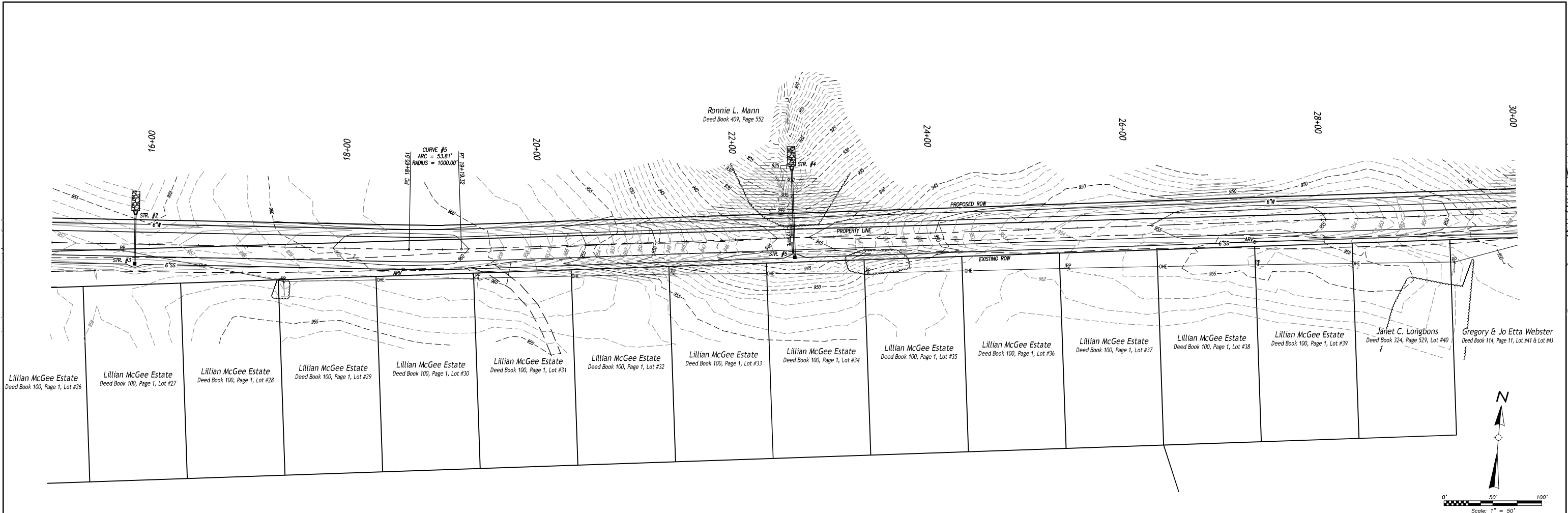
**City of Williamstown**

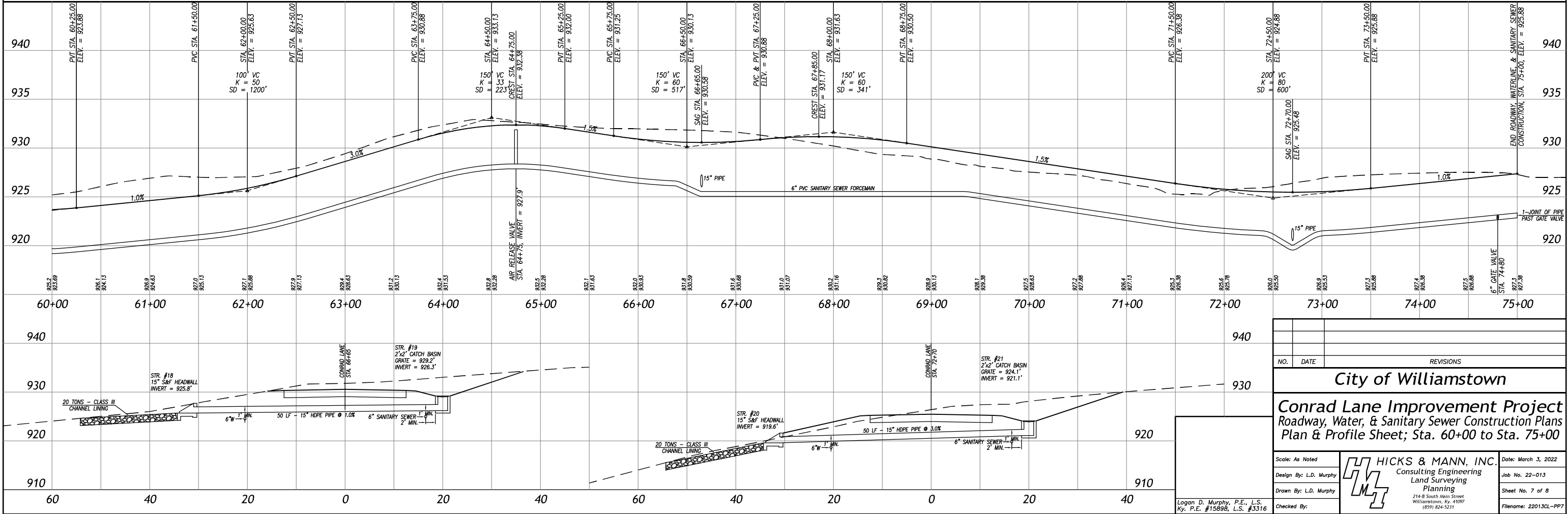
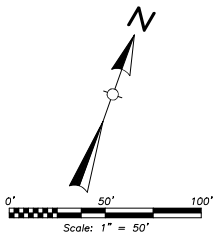
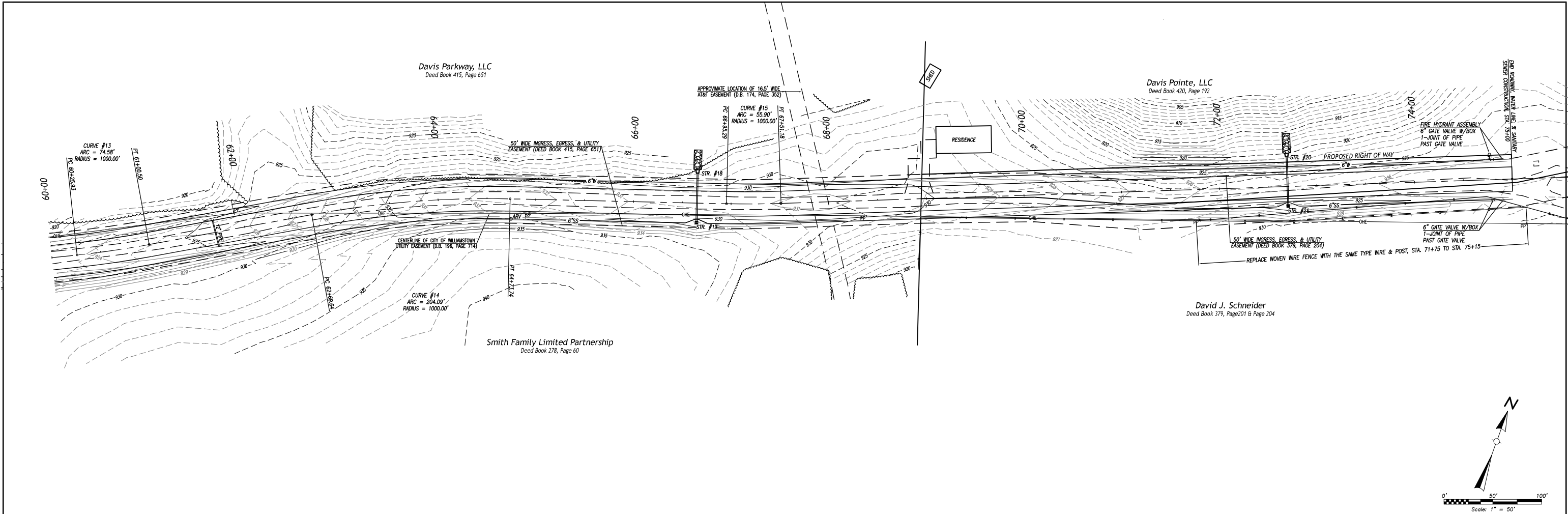
**Conrad Lane Improvement Project**  
Roadway, Water, & Sanitary Sewer Construction Plans  
Plan & Profile Sheet; Sta. 0+00 to Sta. 15+00

Scale: As Noted		Date: March 3, 2022
Design By: L.D. Murphy		Job No. 22-013
Drawn By: L.D. Murphy		Sheet No. 3 of 8
Checked By: Logan D. Murphy, P.E., L.S. Ky. P.E. #15898, L.S. #3316		Filename: 22013CL-PP3

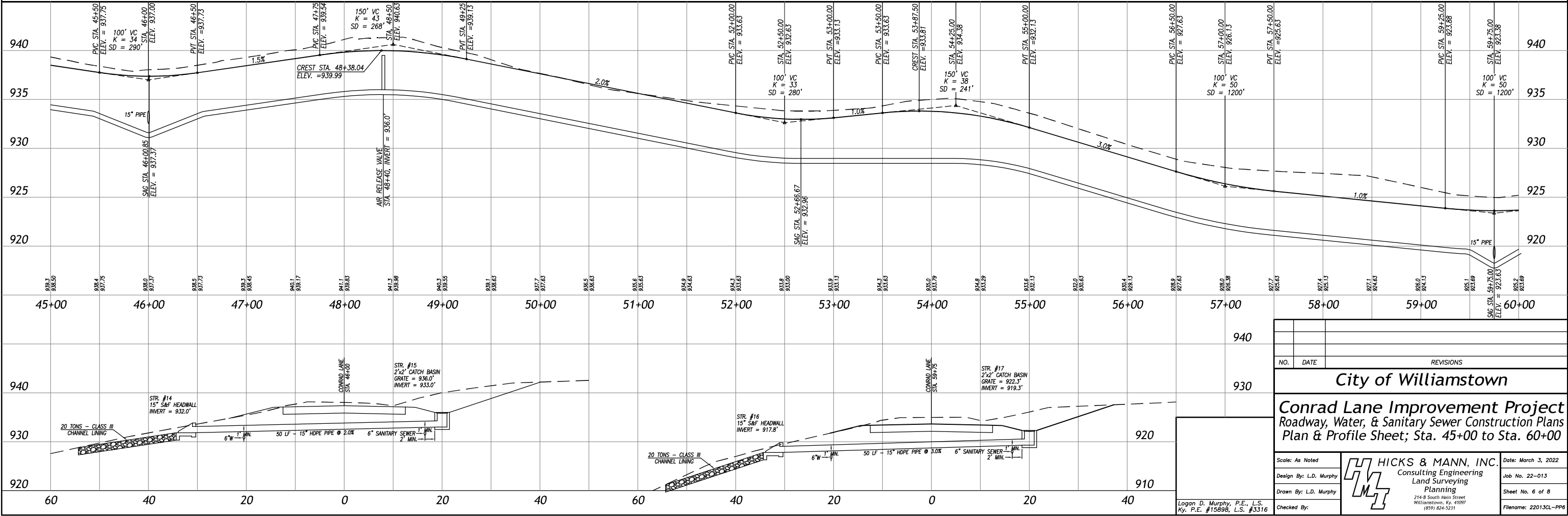
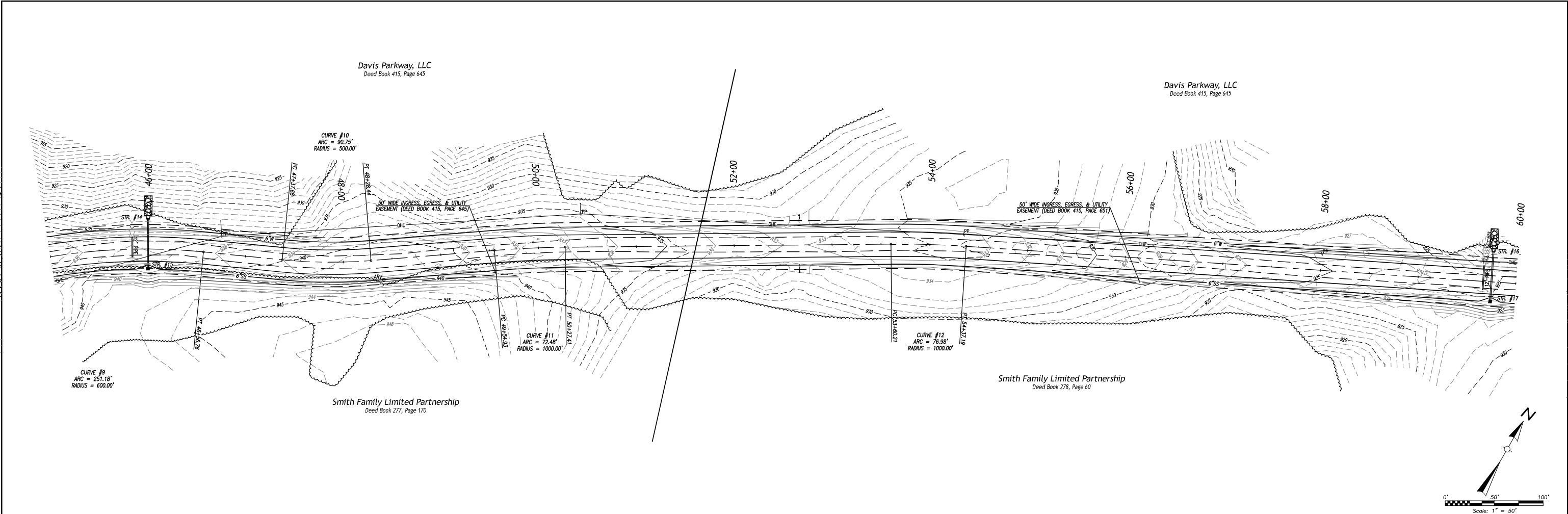
HICKS & MANN, INC.  
Consulting Engineering  
Land Surveying  
Planning  
214-B South Main Street  
Williamstown, Ky. 41097  
(859) 824-5231

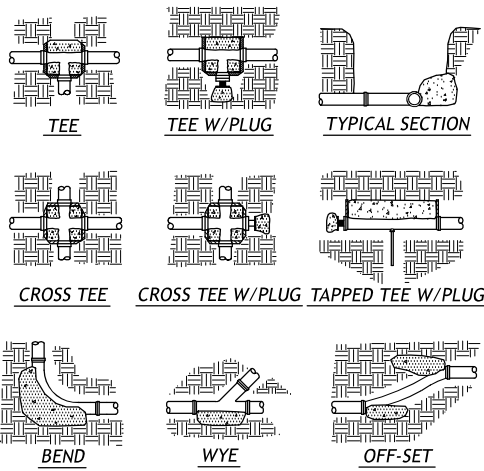




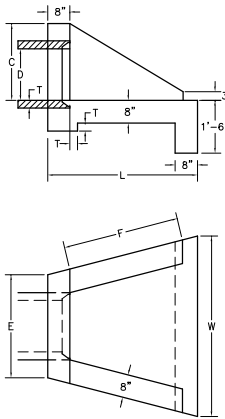


REVISIONS		
NO.	DATE	
City of Williamstown		
Conrad Lane Improvement Project		
Roadway, Water, & Sanitary Sewer Construction Plans		
Plan & Profile Sheet; Sta. 60+00 to Sta. 75+00		
Scale: As Noted	HICKS & MANN, INC.	
Design By: L.D. Murphy	Consulting Engineering	
Drawn By: L.D. Murphy	Land Surveying	
Checked By:	Planning	
Logan D. Murphy, P.E., L.S. Ky. P.E. #15898, L.S. #3316	214-B South Main Street Williamstown, Ky. 41097 (859) 824-5231	
Date: March 3, 2022	Job No. 22-013	Sheet No. 7 of 8
Filename: 22013CL-PP7		





THRUST BLOCK REACTION TABLE (MIN. SQUARE FEET)				
PIPE SIZE	90° BEND	45° BEND	22.5° BEND	CROSS TEE PLUG
6" & LESS	2.5	1.5	0.7	3.5
8"	4.5	2.5	1.2	6.5
10"	7.0	4.0	1.8	9.5
12"	10.0	5.0	2.6	13.5
14"	13.0	7.0	3.6	18.5
16"	17.0	9.0	4.7	24.0

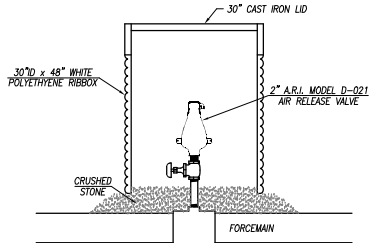


**SLOPED & FLARED HEADWALL**  
N.T.S.

PIPE DIA.	DIMENSIONS				
	C	E	F	L	W
12"	1'-9"	2'-8"	2'-3"	3'-8"	4'-0"
15"	2'-0"	2'-9"	2'-9"	4'-0"	4'-9"
18"	2'-3"	3'-0"	3'-6"	4'-6"	5'-3"
24"	2'-9"	3'-6"	4'-6"	5'-6"	6'-6"

#### HEADWALL NOTES:

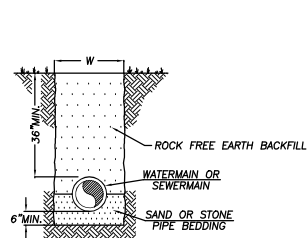
- SEE KENTUCKY STANDARD DRAWING NO. RDH-020 FOR ADDITIONAL INFORMATION. HEADWALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH KY. D.O.T. DRAWINGS AND SPECIFICATIONS.
- DIMENSIONS ARE BASED ON CIRCULAR CONCRETE PIPE AND WILL VARY FOR DIFFERENT MATERIAL AND NON-CIRCULAR PIPE.
- REINFORCING STEEL SHALL BE IN ACCORDANCE WITH KY. D.O.T. DRAWINGS AND SPECIFICATIONS.



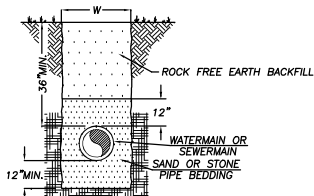
**TYPICAL AIR RELEASE ASSEMBLY**  
N.T.S.

### STORMWATER CONSTRUCTION NOTES

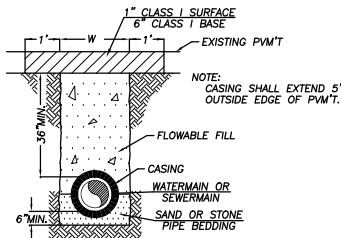
- PIPE SLOPES ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
- PIPE SHALL BE EITHER OF THE FOLLOWING:  
A. HDPE, AASHTO M 294, TYPE S, SPIGOT & BELL.  
B. PVC, ASTM D3034, SDR35, OR A-2000.
- THE FOLLOWING KY. D.O.T. STD. DWGS. SHALL APPLY:  
A. 15" TO 24" SLOPED & FLARED HDWL. - RDH-020  
B. 30" S&F INLET, RDB-105-02  
C. MANHOLE TYPE A - RDM-001-03  
D. SILT FENCE - RDX-210  
E. SILT CHECK - RDX-220-01
- ALL STORMSEWER PIPE SHALL BE BEDDED WITH SAND OR LIME SAND.
- CONCRETE SHALL BE 4000 P.S.I.



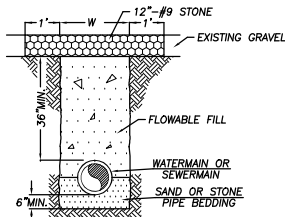
**METHOD "C"**  
(OPEN AREAS)



**METHOD "D"**  
(ROCK CUT AREAS)

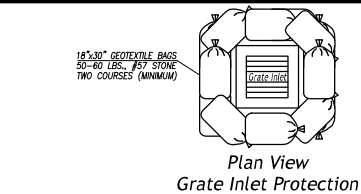


**METHOD "A"**  
(PAVED ROAD)

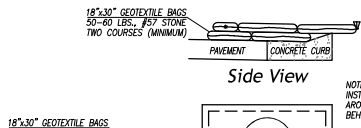


**METHOD "B"**  
(GRAVEL ROAD)

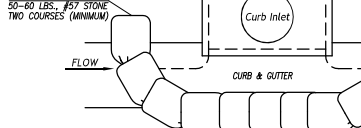
### BACKFILL AND BEDDING DETAILS



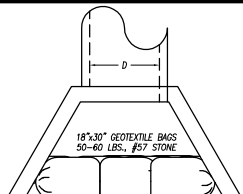
**Plan View**  
Grate Inlet Protection



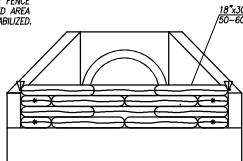
**Side View**



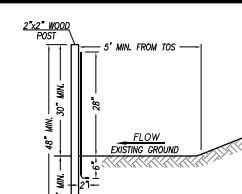
**Plan View**  
Curb Inlet Protection



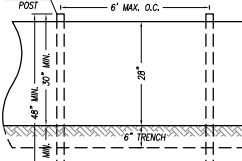
**Plan View**  
Headwall Protection



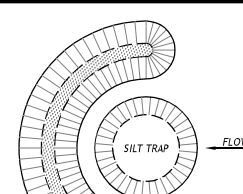
**Front View**  
Headwall Protection



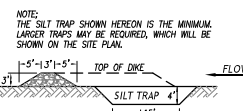
**Side View**  
Silt Fence, Type A



**Front View**  
Silt Fence, Type A



**Plan View**  
Silt Trap, Type A



**Side View**  
Silt Trap, Type A

- Stormwater Pollution Prevention Plan (SWPPP) & Best Management Practices (BMP)
- All Sediment and Erosion Control measures shall be in accordance with the "Kentucky Best Management Practices for Construction Activities" and the "General NPDES Permit for Storm Water Point Source Discharges".
  - The Contractor shall be responsible for the "Best Management Practices" (BMP) and shall maintain all inspection reports and other records on site at all times. Any and all Fines or Damages resulting from the failure of the Contractor to maintain the Erosion Control Measures, BMP, Inspection Reports, and other records, shall be the Responsibility of the Contractor. Inspection Reports shall be retained with the BMP for a minimum of three (3) years or one (1) year after completion of construction.
  - The Contractor shall inspect all Erosion Control Measures at least weekly and after every rainfall event. All damage to erosion control measures shall be repaired immediately and before other construction activity is resumed.
  - Existing Vegetation shall be preserved wherever possible. All disturbed areas shall be stabilized as indicated on the Site Plan. Stabilization shall begin within 14 days on areas of the site where construction has permanently or temporarily (for 21 days or more) ceased.
  - Silt Traps or Check Dams shall be used in water channels to collect any silt before it exits the site.
  - Silt Fence shall be placed as indicated on the Site Plan and where needed as construction progresses and/or additional erosion control is required.
  - Straw Bale Barriers may be substituted for silt fences or used in conjunction with the silt fence to slow runoff and prevent erosion.
  - Inlet Protection will be required at all inlets (ie headwalls, grate inlets, & curb inlets), and before soil stabilization as been completed. Stone Bags shall be utilized in all paved area. Rock Bags or Rock Check Dams shall be utilized at Inlet Headwalls. Silt Fence may be used at Grate Inlets provided the drainage area is not to large.
  - Rocked Construction Entrances shall be required at the beginning of the Earthwork Phase of the Construction and shall be maintained until a paved entrance is completed.
  - No solid materials, including building materials shall be discharged to the waters of the Commonwealth.
  - Off-site vehicle sediment tracking and dust generation shall be minimized by using rock construction entrances and wetting and/or cleaning the streets/roadways.

### WATER DISTRIBUTION SPECIFICATIONS:

- All Water Distribution System construction shall be in accordance with the Standard Specifications of the City of Williamstown, 2017 Edition. Contractor shall obtain a copy prior to Construction.
- Materials:
  - All DI Watermain: All DI Watermain shall be in accordance with AWWA C151, rated at 200 psi. All DI joints shall be of the bell & spigot type, in accordance with AWWA C-111. All DI Pipe, Fittings, & Valves shall be wrapped with Polyethylene per City's Specifications.
  - Gate Valves: All Gate Valves shall be resilient seated, rated at 250 psi and conform to AWWA C509. Valve boxes shall be a cast iron screw type with a cast iron screw type and a cast iron cover marked "WATER". A 4"x24"x24" concrete pad shall be installed around each valve box.
  - Fire Hydrants: Fire Hydrants shall be installed in accordance with the "Typical Fire Hydrant Assembly" Detail.
  - Fittings: All fittings shall be Ductile Iron, mechanical joint, conforming to AWWA C111.
  - Tracer Wire/Tape: Tracer Wire (#12) with silicone nuts shall be installed per the City's Regulations. Magnetic Identification Tape shall be in accordance with City's Specifications.

- Testing & Disinfection:
  - Testing: All Watermain shall be tested in accordance with the City's Standard Specifications, Section 3.22, Pressure Testing, Page 100-H.
  - Disinfection: Upon Completion of construction, disinfection shall be strictly in accordance with the procedure designated in the State Regulations, which reads as follows:

"All new water distribution systems including storage distribution tanks and repaired portions of, or all extensions to existing systems shall be thoroughly disinfected before being placed in service, by the use of chlorine or chlorine compounds in such amounts as to produce a concentration of at least fifty (50) ppm and a residual of at least twenty five (25) ppm at the end of 24 hours and followed by thorough flushing.

New water distribution lines shall not be placed into service until bacteriological samples taken at the points specified in 401 KAR 8:150 Section 4 (2) are examined and are shown to be negative following disinfection.

### SANITARY SEWER SPECIFICATIONS:

- All Sanitary Sewer Construction shall be in accordance with the "Recommended Standards for Sewage Works, (Ten State Standards)", and the Standard Specifications of the City of Williamstown.
- Materials:
  - PVC Forcemain: The PVC Forcemain shall be in accordance with ASTM D2241, SDR26 rated at 160 psi.
  - HDPE Forcemain: The HDPE Forcemain shall be in accordance with AWWA C906, ASTM 714, DR 13.5, rated at 160 psi. All HDPE joints shall be of the butt fused type per ASTM D2657.
  - Joints: All PVC joints shall be of the bell and spigot type, in accordance with ASTM D3139 for pressure pipe and ASTM D3212 for gravity pipe.
  - Gate Valves: All Gate Valves shall be resilient seated, rated at 200 psi and conform to AWWA C500.
  - Fittings: All fittings shall be Ductile Iron, M.J., Class 250, conforming to AWWA C110.
  - Tracer Wire/Tape: Tracer Wire (#12) with silicone nuts shall be installed per the City's Regulations. Magnetic Identification Tape shall be in accordance with City's Specifications.
- Testing:
  - Forcemain: All Forcemain shall be tested to 50 psi over the operating pressure of the pipe. The test pressure shall be maintained for six (6) hours and the amount of water used to maintain the test pressure shall not exceed five (5) gallons per 24 hours per mile of pipe per inch nominal diameter of the pipe.

NO.	DATE	REVISIONS
<b>City of Williamstown</b> <b>Conrad Lane Improvement Project</b> <b>Roadway, Water, &amp; Sanitary Sewer Construction Plans</b> <b>Details &amp; Specifications Sheet</b>		
Scale: As Noted	<b>HICKS &amp; MANN, INC.</b> Consulting Engineering Land Surveying Planning 214-B South Main Street Williamstown, Ky. 41097 (859) 824-5231	Date: March 3, 2022
Design By: L.D. Murphy		Job No. 22-013
Drawn By: L.D. Murphy		Sheet No. 8 of 8
Checked By:		Filename: 22013CL-DETAILS

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