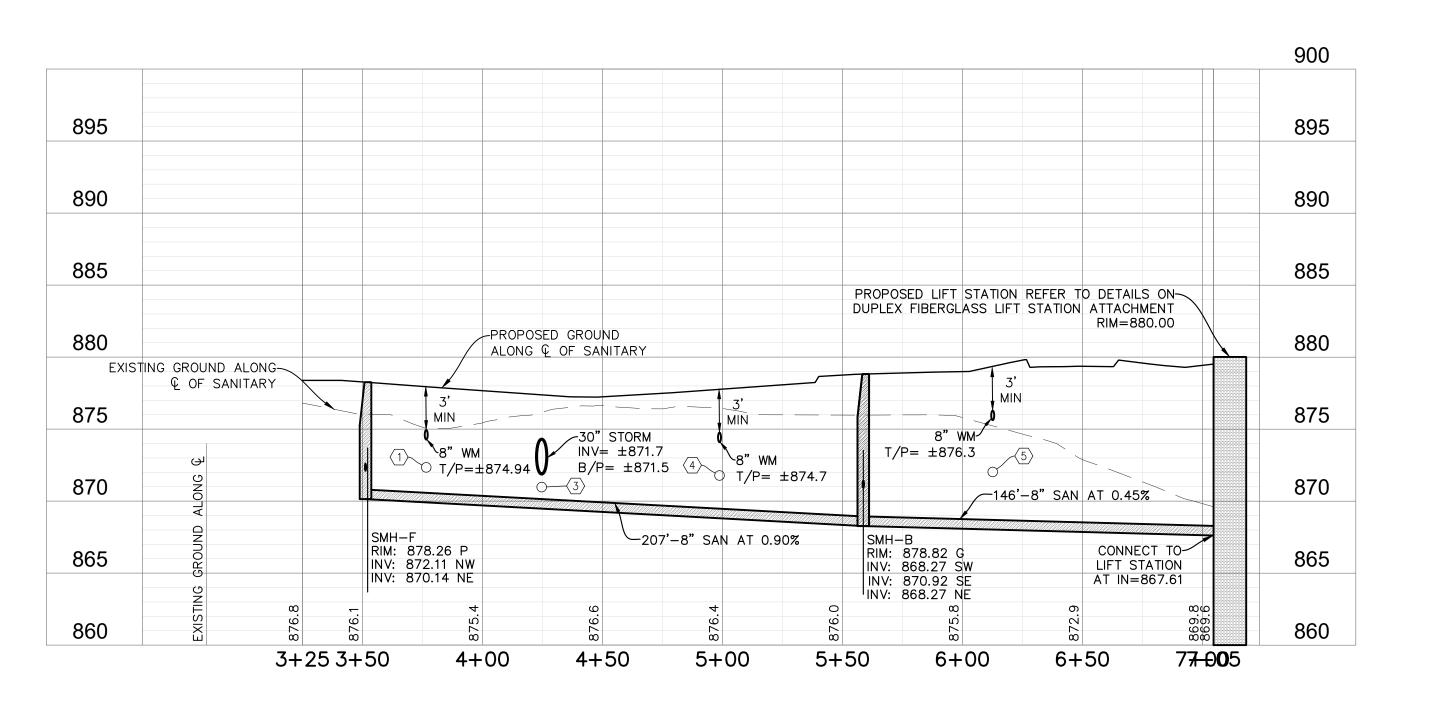


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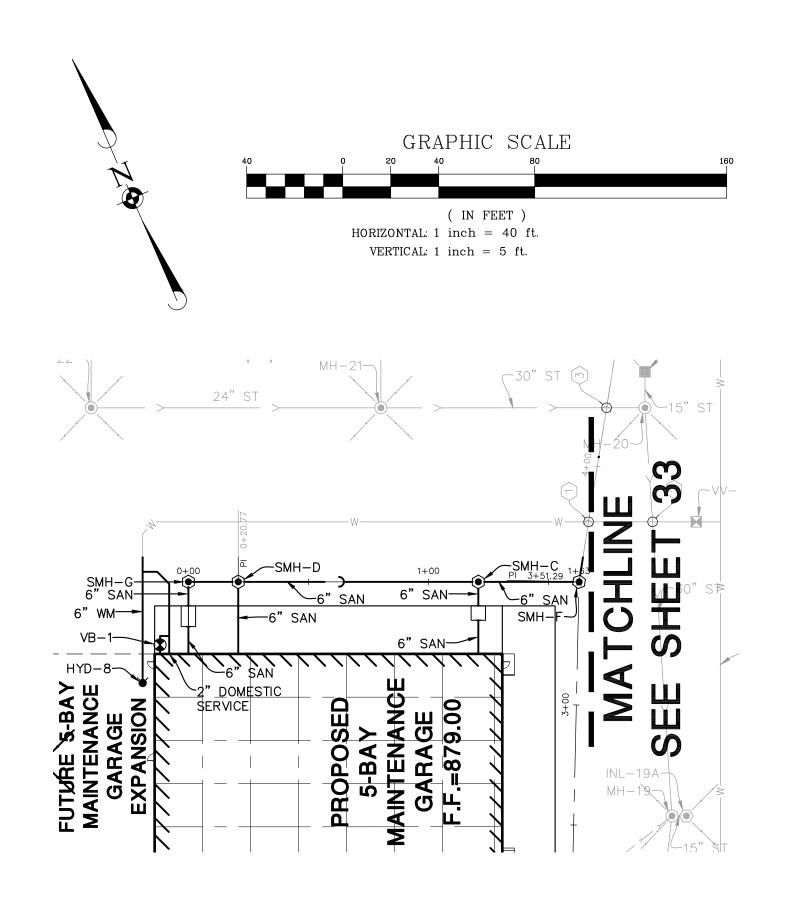


GEORGETOWN, SCOTT COUNTY, KENTUCKY FORCEMAIN - GEORGETOWN

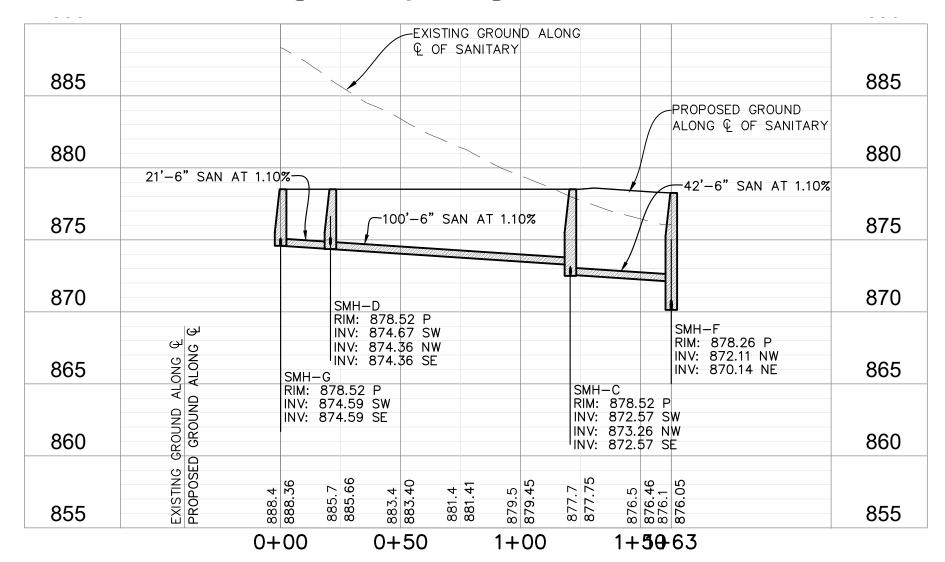
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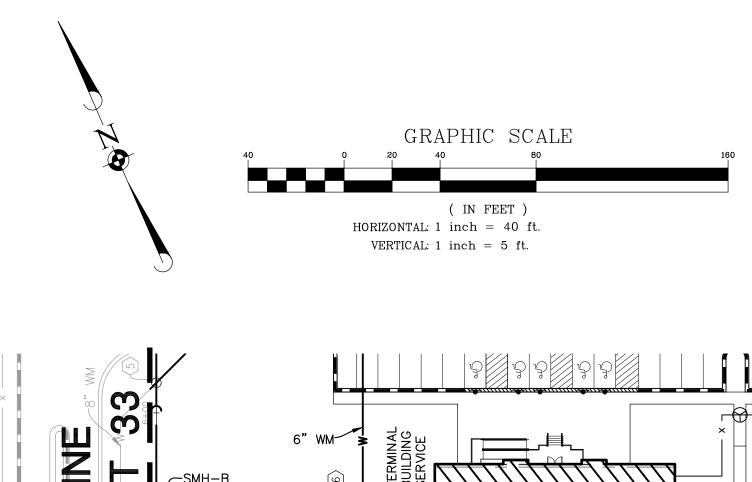
4/18/2022 H:1"=40',V:1"=5' DATE: SCALE:

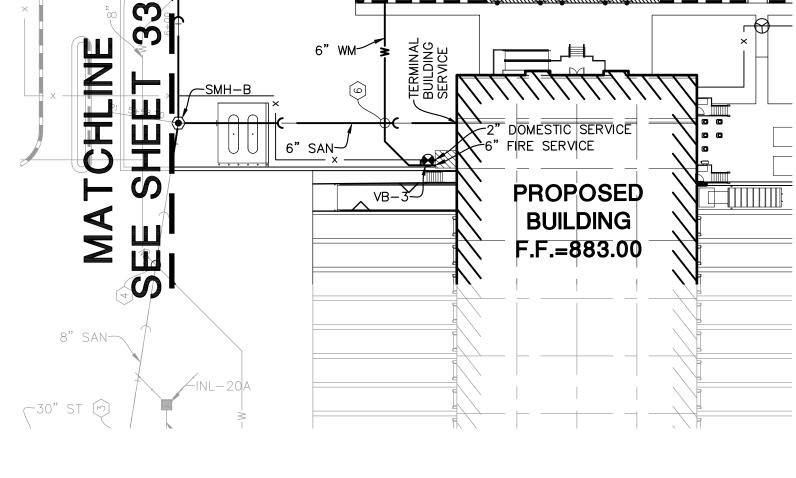
RLR.GTKY01



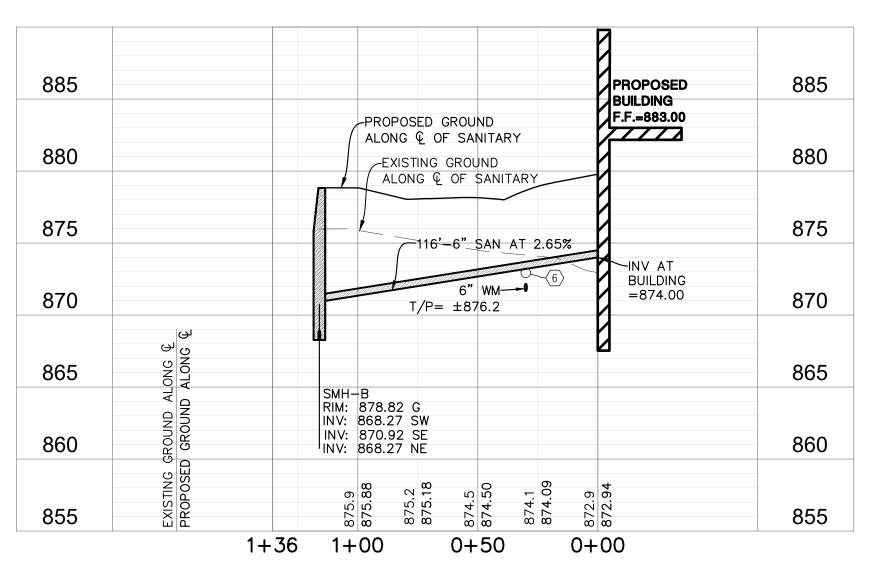
SANITARY PROFILE SMH G - SMH F







SANITARY PROFILE TERMINAL BUILDING SERVICE



CONSIGNATION COMMENTS

S | Surveyors | Water Resource Engineers | Landscape Architects | Planners

Date

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RIERS - GEORGETOWN
WN, SCOTT COUNTY, KENTUCKY
PROFILE - FORCEMAIN

R+L CARRIERS - GECCITY OF GEORGETOWN, SCOTIPLAN AND PROFILE -

PROJ. MGR.: JMI
PROJ. ASSOC.: MSP

DRAWN BY: XL

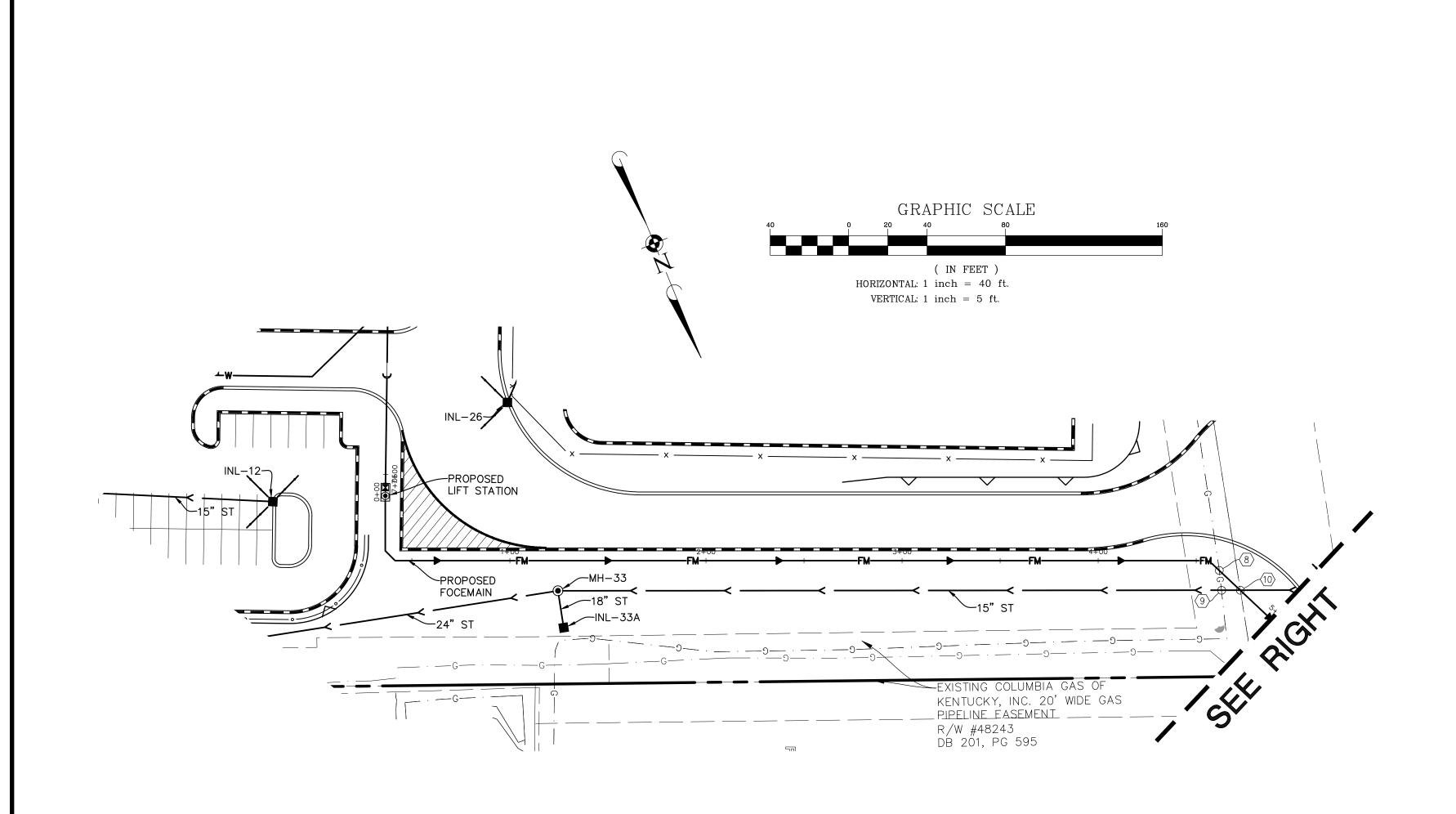
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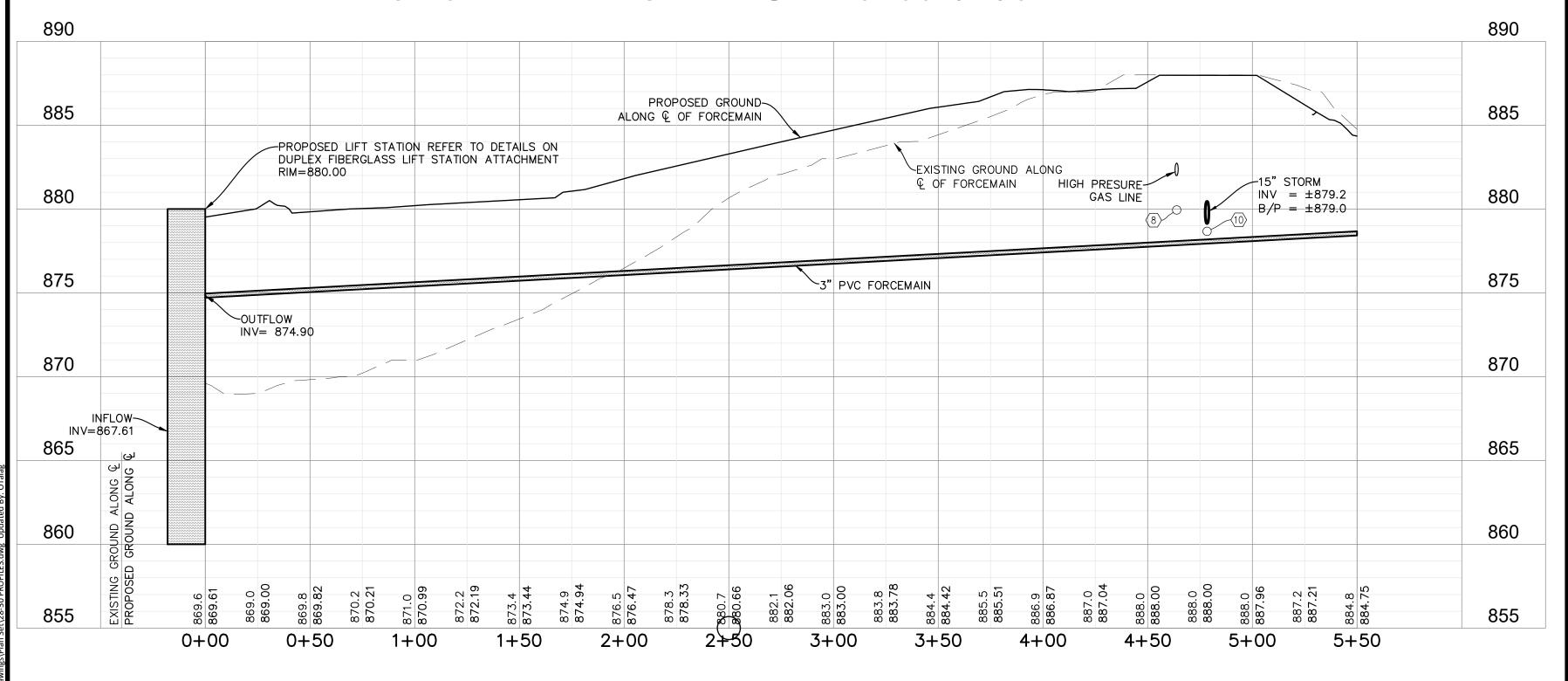
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SHEET

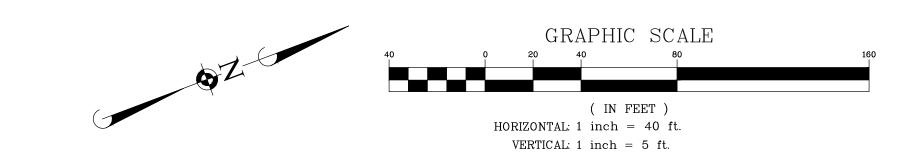
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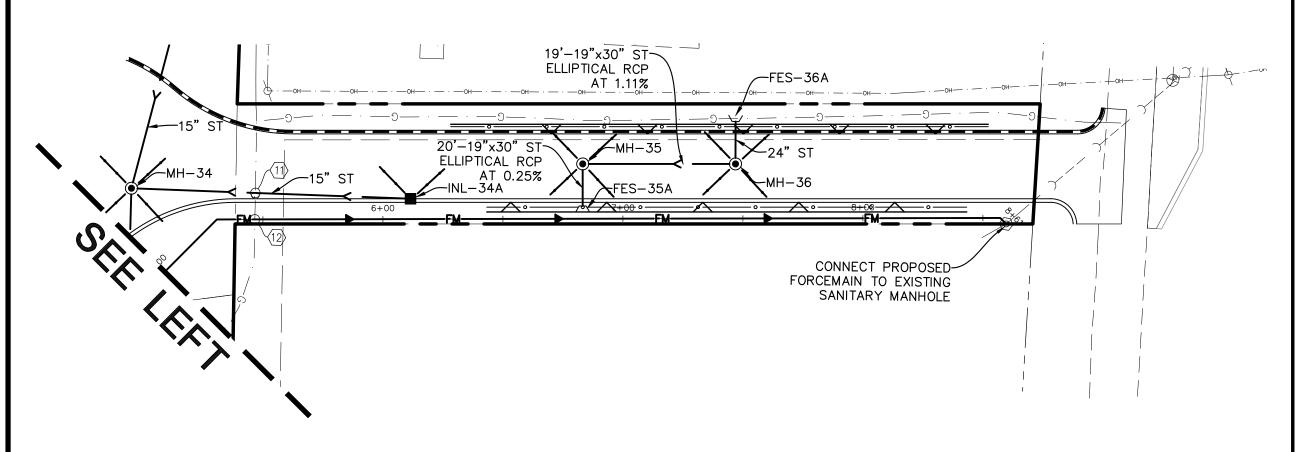
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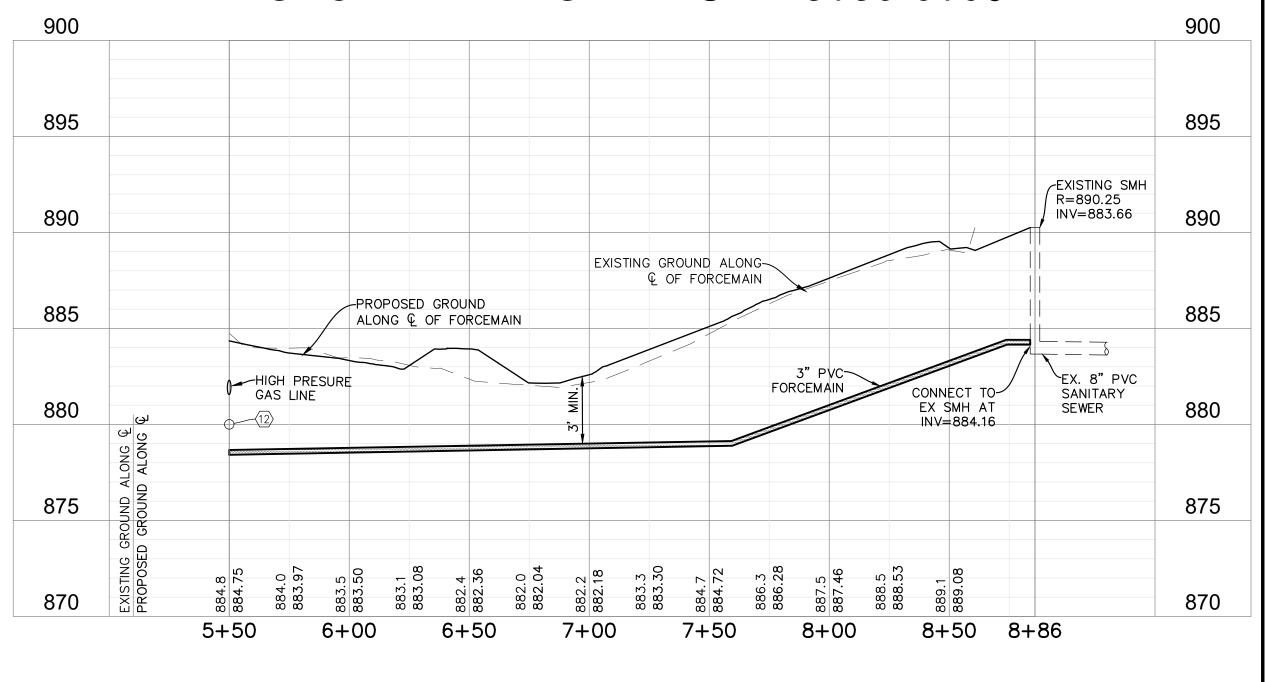








FORCEMAIN PROFILE: STA 5+50-8+86



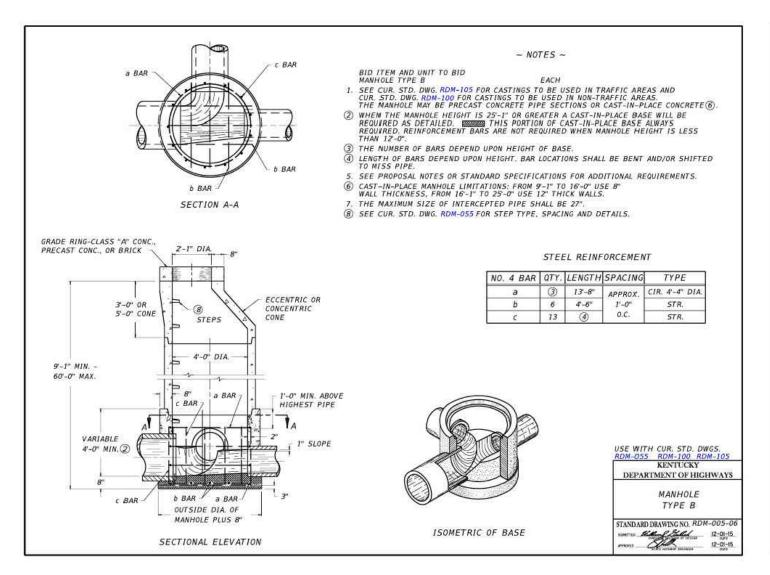
SEE SHEETS 28-32 FOR UTILITY CROSSINGS

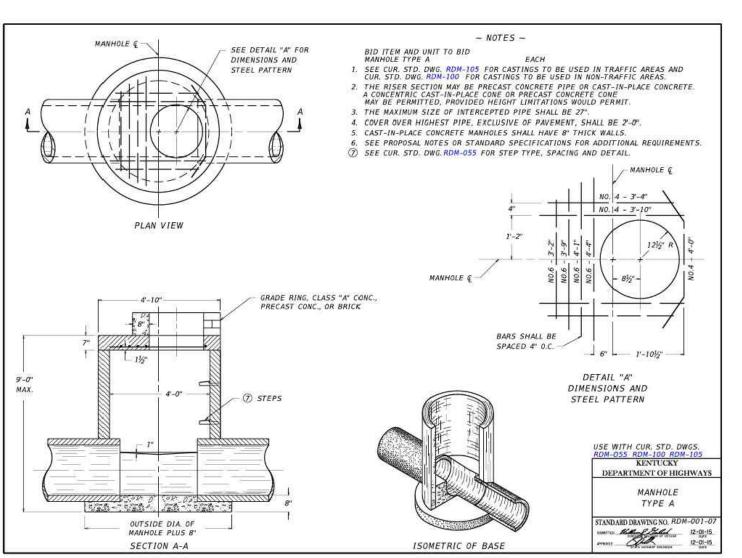
GEORGETOWN, SCOTT COUNTY, KENTUCKY GEORGETOWN

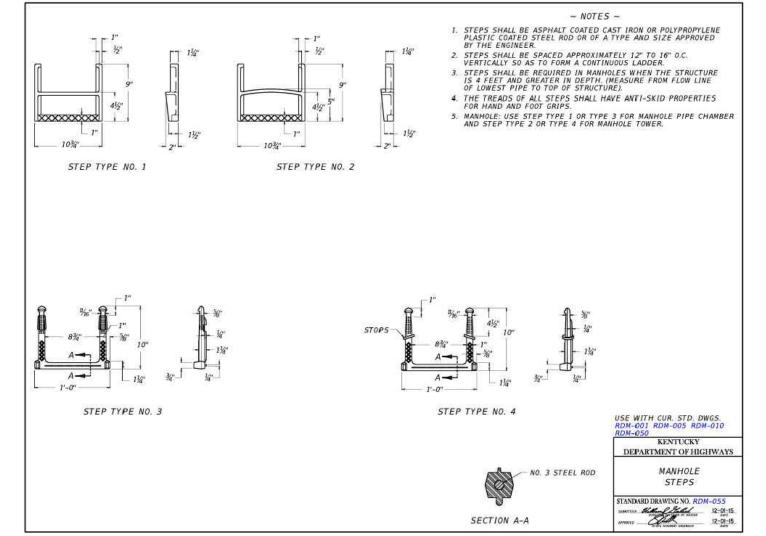
PLAN AND PROFILE R+L CARRIERS OF

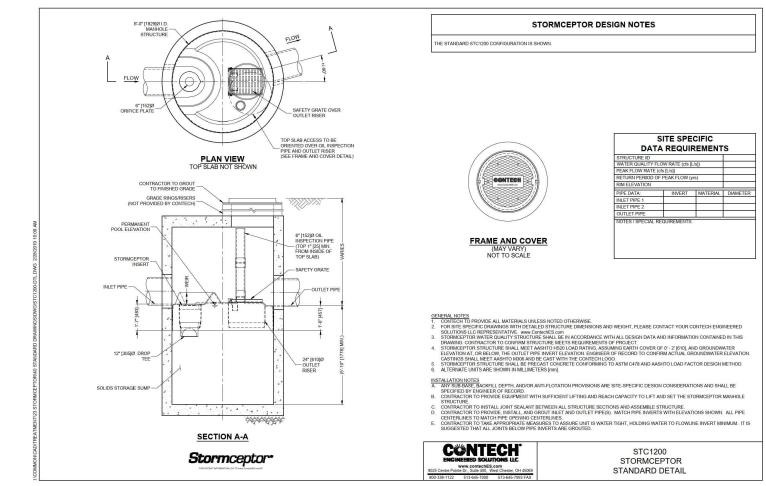
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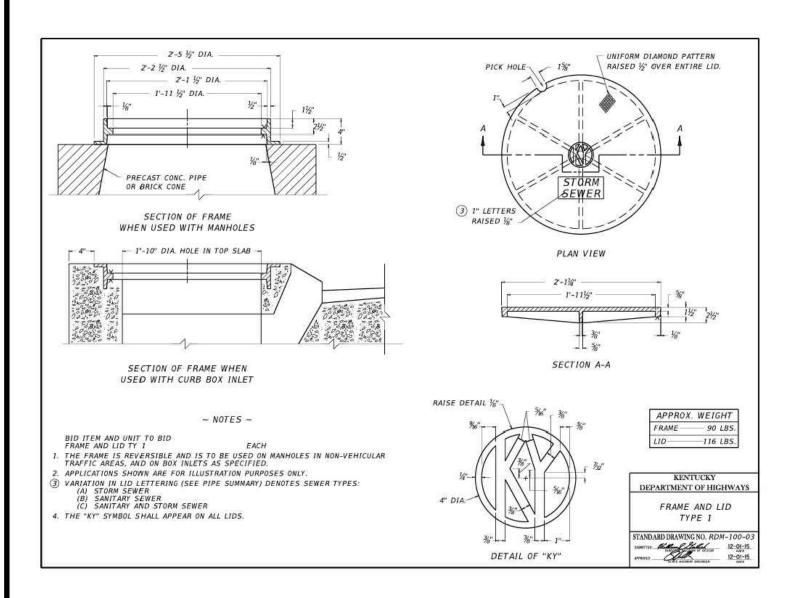
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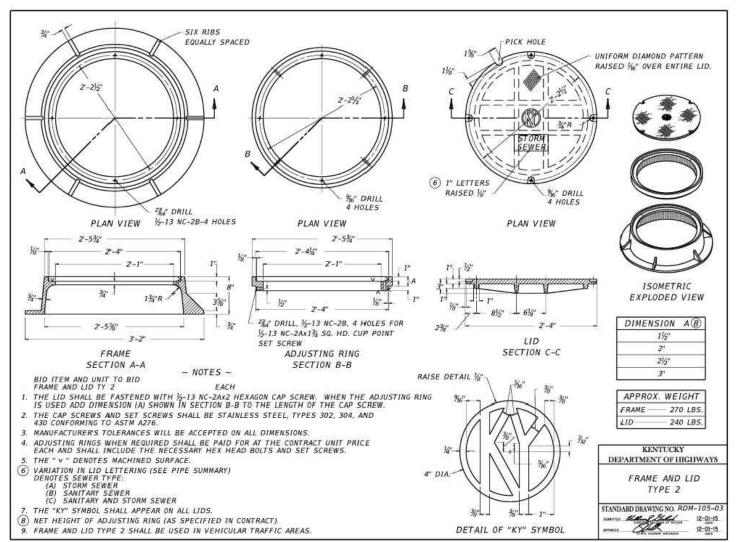


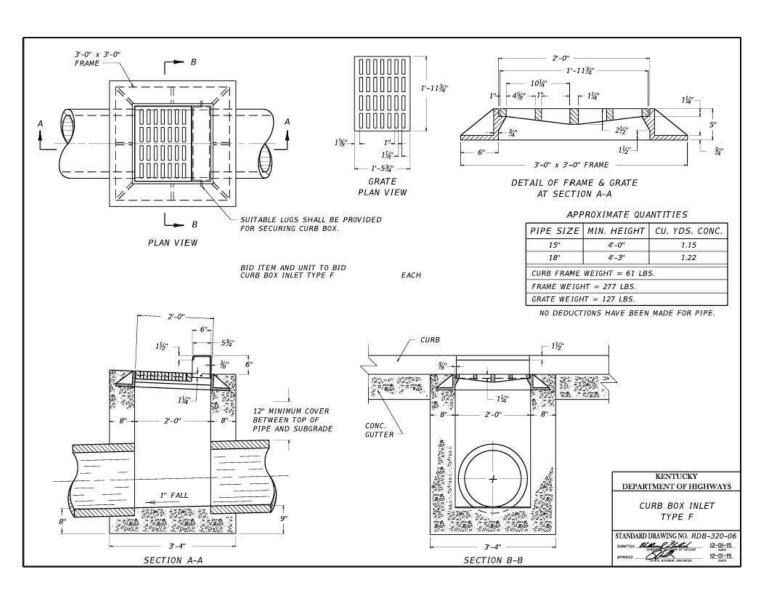


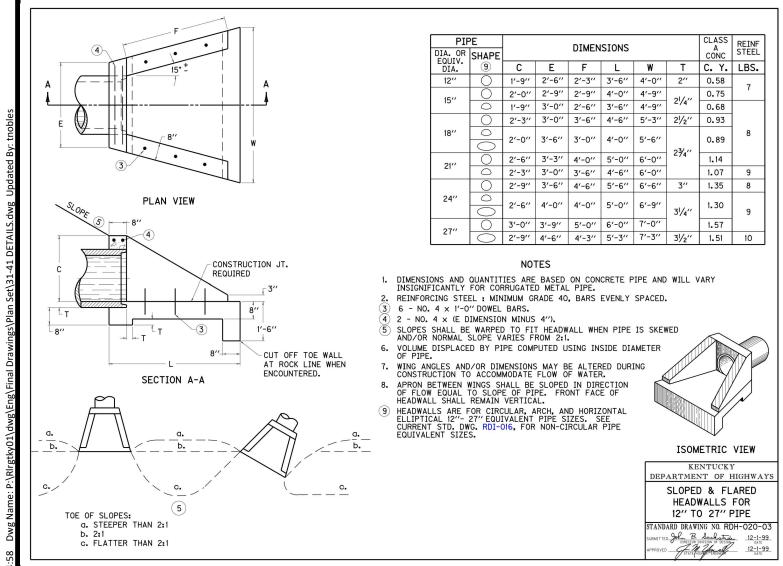


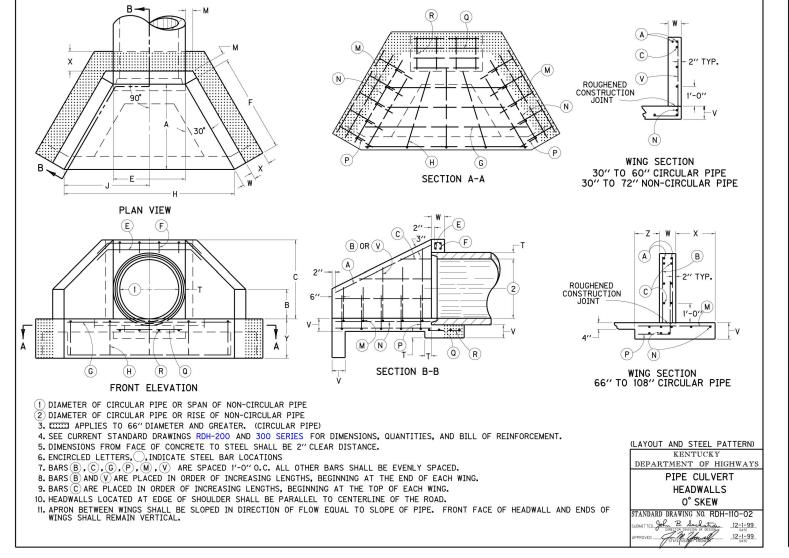












DIMENSION	DIAMETER OF PIPE								DIMENSION						
DIMERSION	30′′	36′′	42''	48′′	54′′	60′′	66′′	72''	78′′	84''	90′′	96′′	102''	108′′	DIMENSION
Α	3′-9′′	4'-4''	4'-11''	5′-6′′	6′-1′′	6'-8''	7′-5′′	8'-0''	8'-7''	9'-2"	9'-9''	10'-4''	10′-11′′	11'-6''	Α
В	1′-3′′	1′-6′′	1′-9′′	2'-0''	2'-3''	2'-6''	2'-9''	3′-0′′	3′-3′′	3′-6′′	3′-9′′	4'-0''	4'-3''	4'-6''	В
С	3′-6′′	4'-0''	4'-7''	5′-1′′	5′-8′′	6'-2''	7′-0′′	7′-5′′	8'-0''	8′-6′′	9′-1′′	9'-7''	10'-2"	10'-8''	С
E	3′-1′′	3′-8′′	4'-3''	4′-10′′	5′-5′′	6′-0′′	6′-7′′	7′-2′′	7′-9′′	8'-4''	8'-11''	9′-6′′	10′-1′′	10'-8''	Е
F	4'-4''	5′-0′′	5′-8′′	6'-4''	7′-0′′	7′-8′′	8′-7′′	9'-3''	9'-11''	10'-7''	11'-3''	11'-11''	12'-7''	13′-3′′	F
н	7′-6′′	8'-8''	10'-0''	11'-2''	12'-6''	13′-8′′	15'-2''	16′-6′′	17′-8′′	19'-0''	20'-2"	21'-6''	22'-8''	24'-0"	Н
J	3′-9′′	4'-4''	5′-0′′	5′-7′′	6′-3′′	6′-10′′	7′-7′′	8'-3''	8'-10''	9'-6''	10′-1′′	10'-9''	11'-4''	12'-0''	J
М			0′-	-5′′	•	•				0′-	6''			•	М
Т	0'-3.5"	0'-4.0"	0'-4.5"	0'-5.0"	0'-5.5"	0'-6.0"	0'-6.5"	0'-7.0"	0'-7.5"	0'-8.0"	0'-8.5"	0'-9.0"	0'-9.5"	0'-10.0"	Т
٧			0′-	-8′′	•					1'-	0′′				٧
w			0′-	-8′′				0′-10′′							w
Х							2'-0'' 2'-6''							Х	
Y			2′-	-0′′			2'-6" 3'-0"						Y		
Z								1′-3′′ 1′-9′′				.9′′		Z	
			T	ı	ı			I							
U.YDS.CONC. 2 HEADWALLS	3.36	4.30	5.35	6.53	7.82	9.22	18.76	20.95	23.25	25.67	31. 48	34.31	37.25	40.32	CU. YDS. CONC. 2 HEADWALLS
LBS.STEEL 2 HEADWALLS	281	363	430	496	583	687	1320	1571	1815	2043	2451	2753	3050	3379	LBS.STEEL 2 HEADWALLS
		NTITIES AR											DEPART DIMENS 30" - C	KENTUCK IMENT OF IONS & Q - 108" HEA IRCULAR O° SKE	HIGHWAYS UANTITIES ADWALLS PIPE N
													STANDARD SUBMITTED Jok	O° SKEN DRAWING NO. F B. Soult STATE PRICES STATE PRICES FEBRUARY STATE PRICES STATE PRICES	RDH-210-03

SHOULD A CONFLICT ARISE BETWEEN MANHARD DETAILS AND THE KENTUCKY TRAFFIC CABINET DETAILS, THE KENTUCKY TRAFFIC CABINET DETAILS SHALL TAKE PRECEDENCE.

TOO Springer Drive, Lombard, IL 60148 ph:630.691.8500 fx: 630.691.8585 manhard.com
Civil Engineers | Water Resource Engineers | Water & Waste Water Engineers

CITY OF GEORGETOWN, SCOTT COUNTY, FONSTRUCTION DETAILS - KENTUCKY DEPT C

HIGHWAYS

OF

KENTUCKY

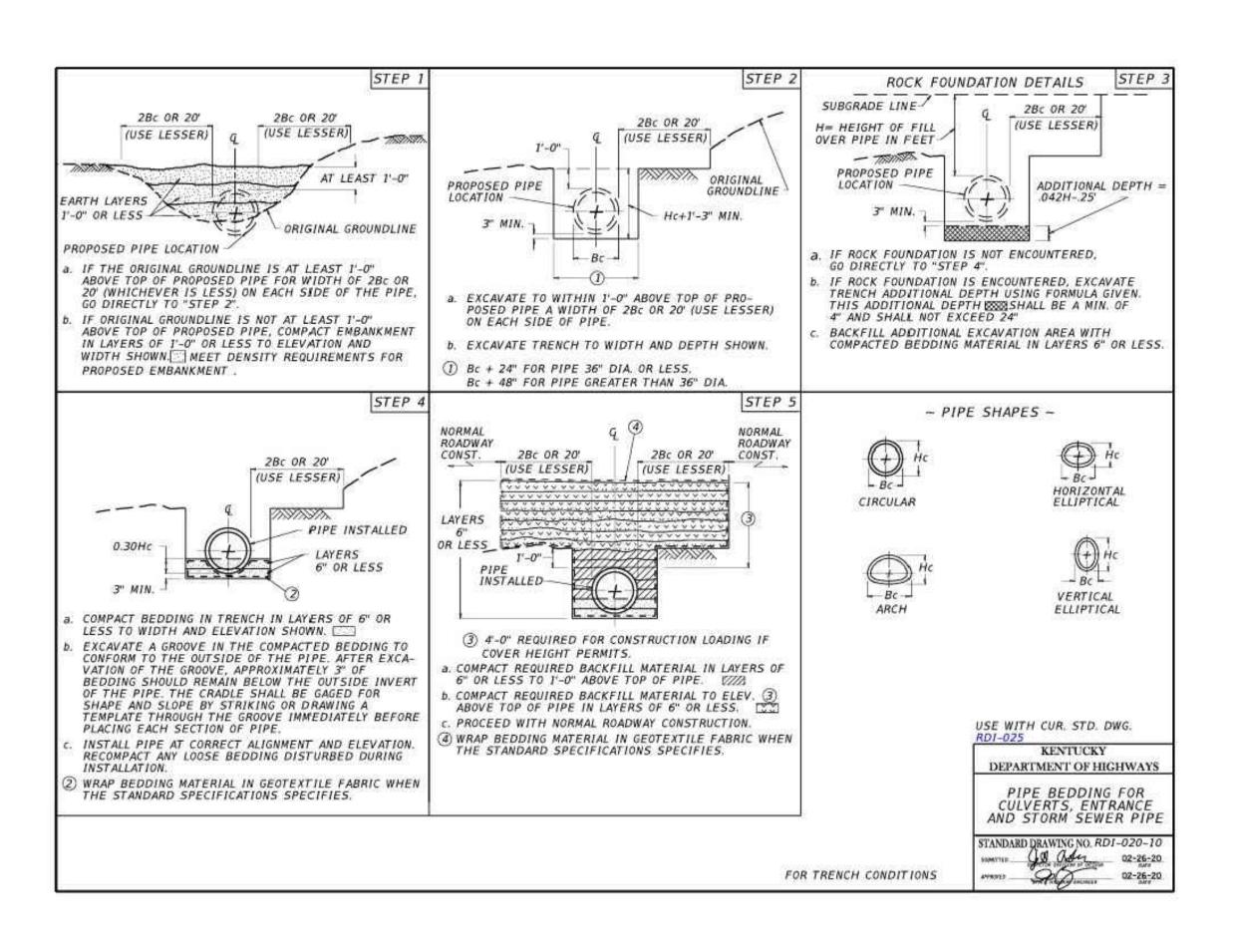
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PROJ. ASSOC.: MSP
DRAWN BY: JMI
DATE: 4/18/2022
SCALE: N.T.S.

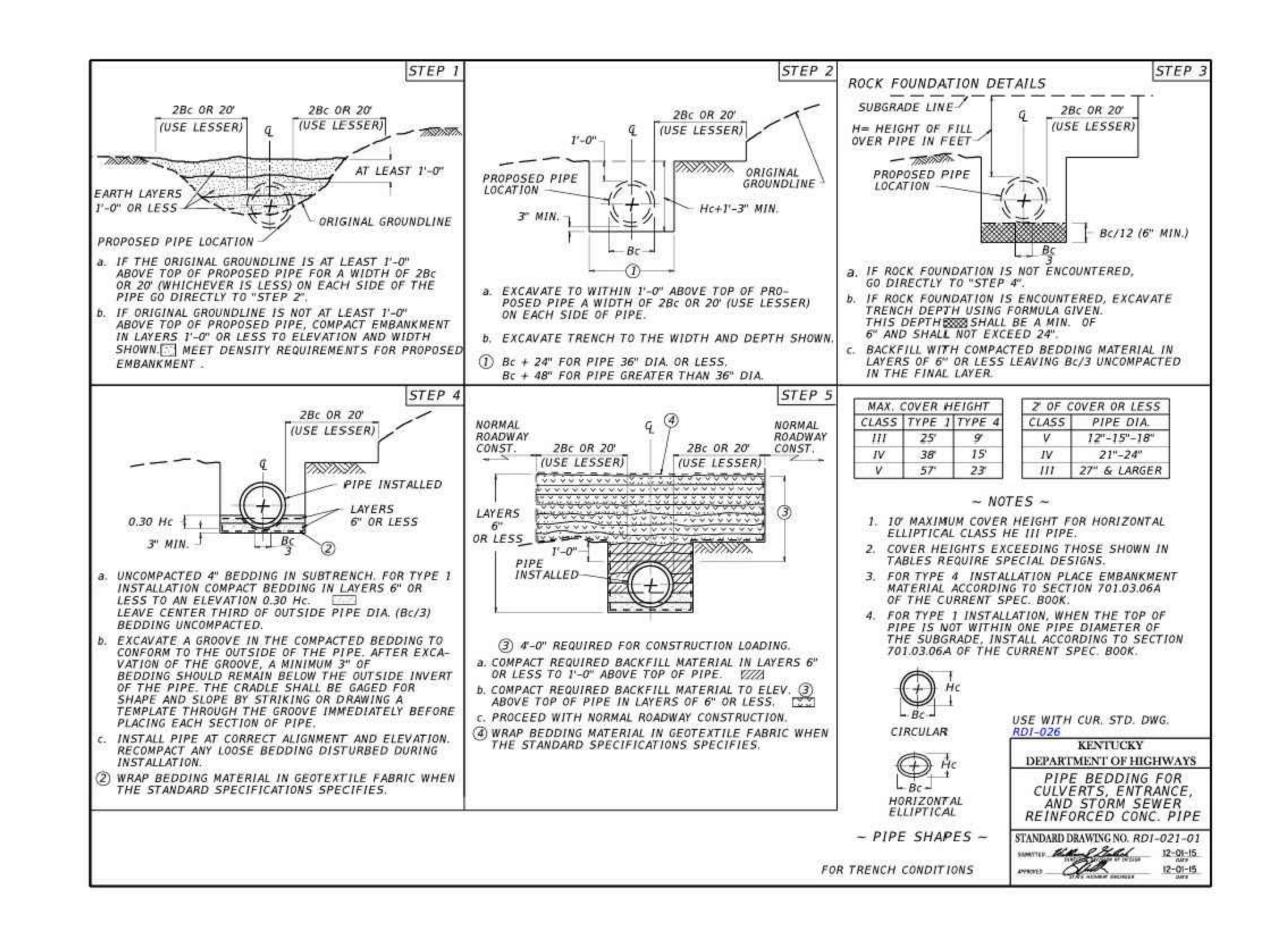
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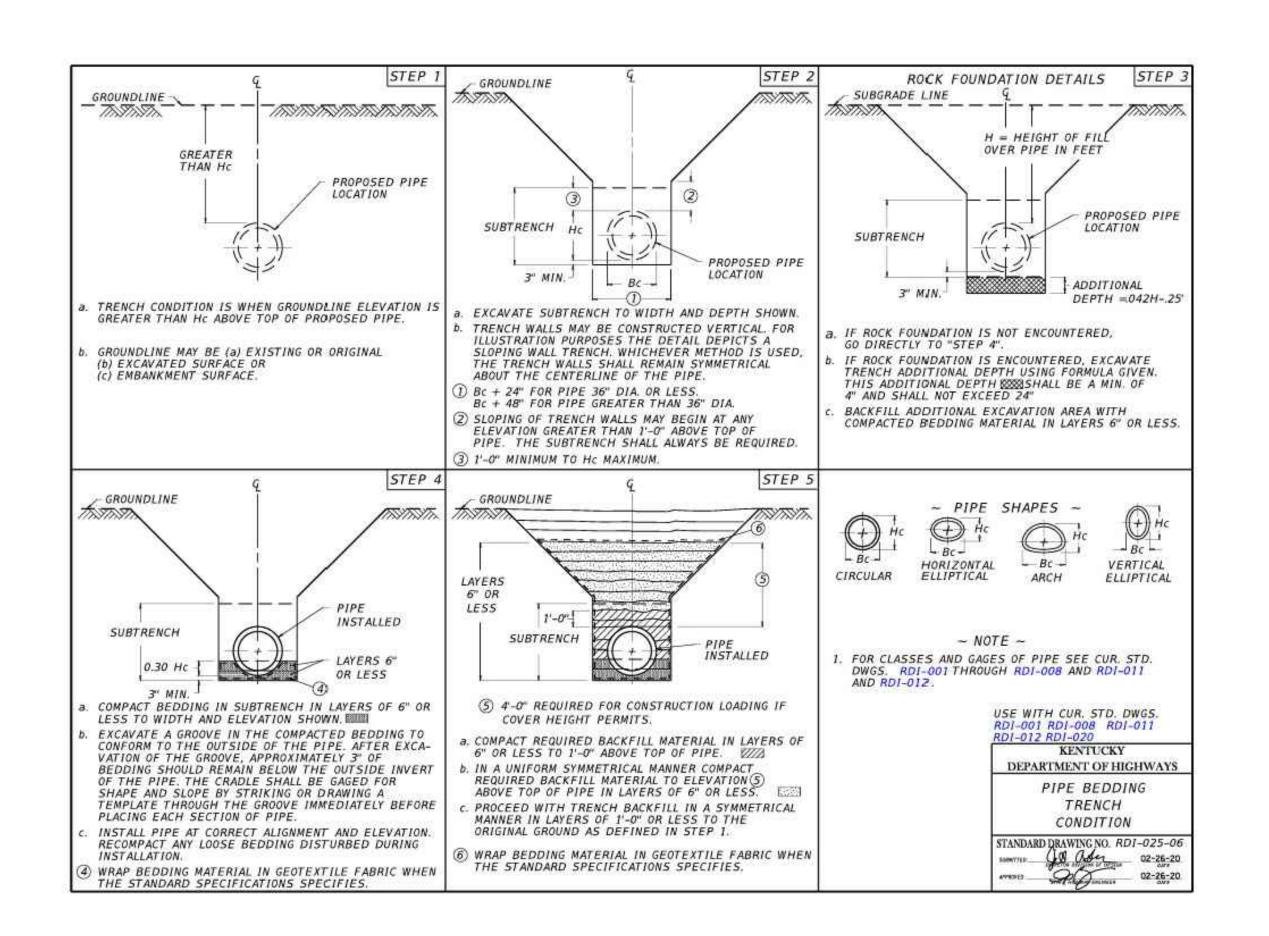
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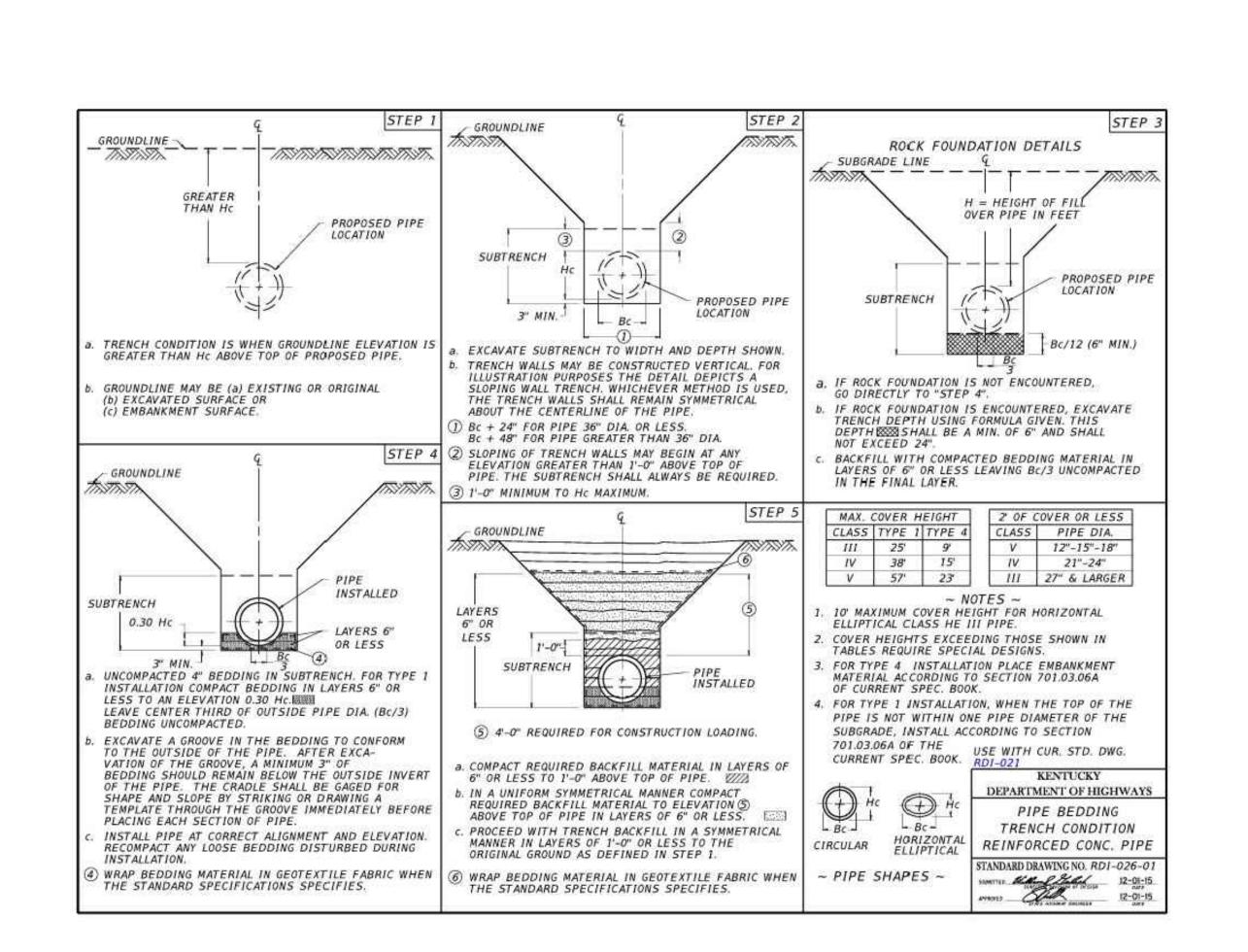
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RLR.GTKY01









KENTUCKY

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R+L CARRIERS - GEORGETOWN

F GEORGETOWN, SCOTT COUNTY, KENT

CONSTRUCTION DETAILS -

DEP.

KENTUCKY

PROJ. MGR.: JMI
PROJ. ASSOC.: MSP

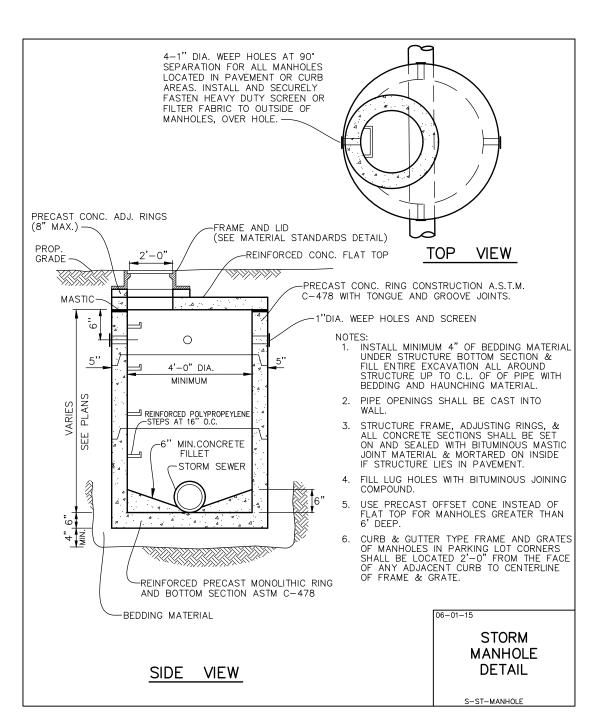
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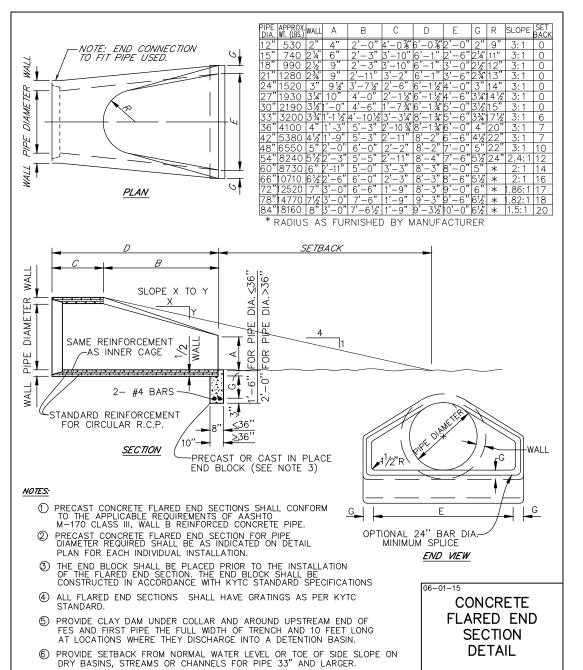
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SHEET

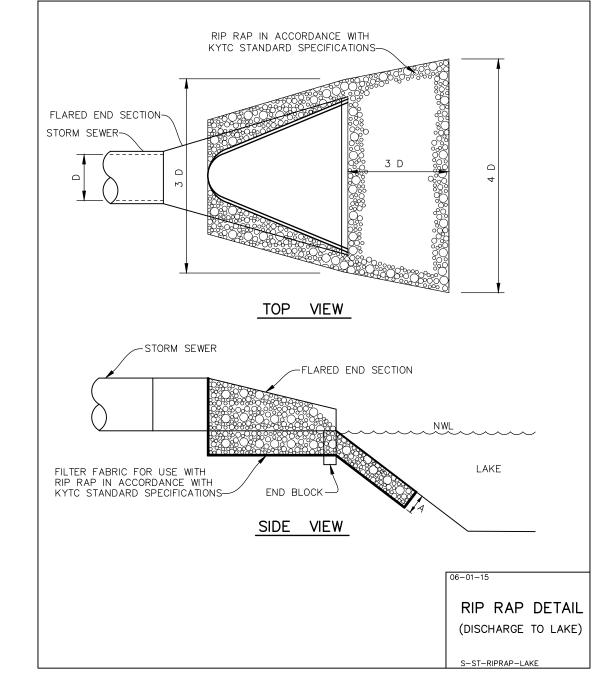
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RLR.GTKY01





S-ST-FLARED-END



	STONE RIP-RAP											
PIPE		BEDDING										
DIAMETER (IN.) D	QUALITY DESIGNATION	GRADATION NUMBER RR	MINIMUM THICKNESS (IN.) A	MINIMUM LENGTH (FT.) 4D	WEIGHT RANGE (#)	WEIGHT AVERAGE (#)	SIZE AVERAGE (IN.)	MINIMUM THICKNESS (IN.)				
12"	В	3	8"	4'	1-50	10	4.5"	N/A				
15"	В	3	8"	5	1-50	10	4.5"	N/A				
18"	В	4	16"	6'	1–150	40	7"	6"				
21"	В	4	16"	7'	1–150	40	7"	6"				
24"	В	4	16"	8'	1–150	40	7"	6"				
27"	В	4	16"	9'	1–150	40	7"	6"				
30"	В	4	16"	10'	1–150	40	7"	6"				
36"	В	5	22"	12'	3-400	90	10"	8"				
42"	В	5	22"	14'	3-400	90	10"	8"				
48"	В	6	26"	16'	6-600	170	12"	10"				
54"	В	6	26"	18'	6-600	170	12"	10"				
60"	В	6	26"	20'	6-600	170	12"	10"				
72"	В	6	26"	24'	6-600	170	12"	10"				

RIP RAP

DETAIL

-ST-RIPRAP-STONE

1. FOR PIPE LARGER THAN 72" A SPECIAL DESIGN

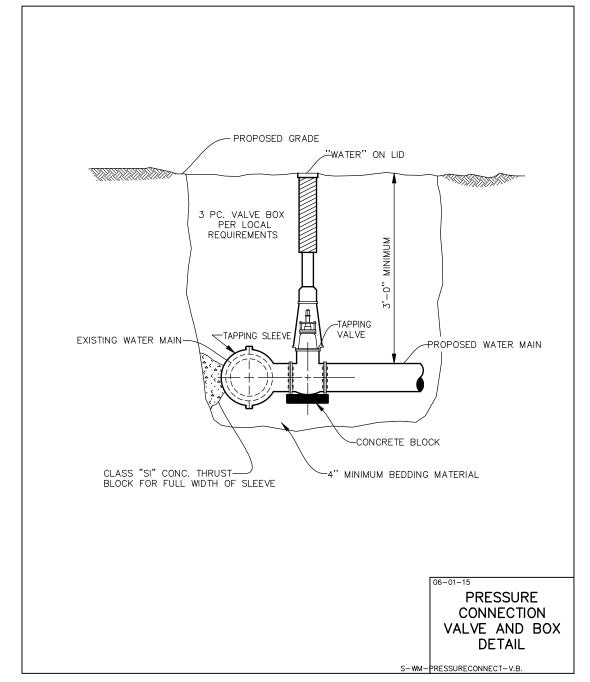
OF RIP-RAP OR APRON IS REQUIRED.

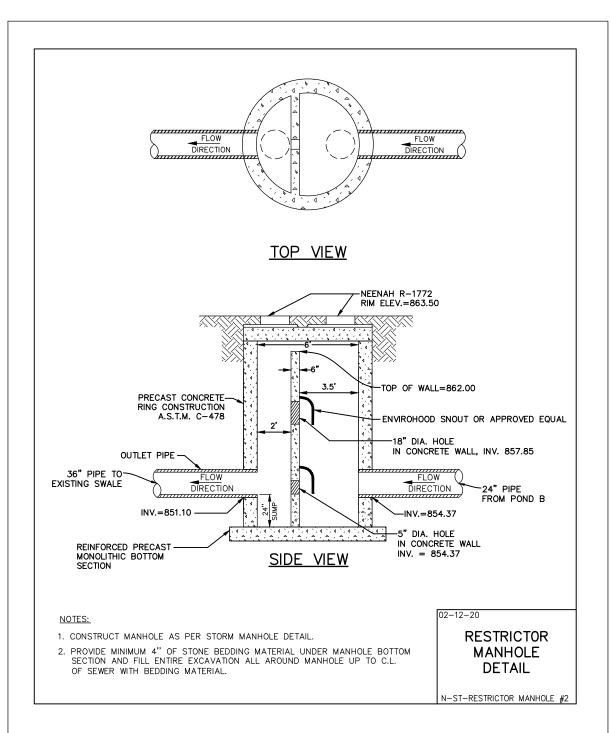
STANDARDS FOR BEDDING GRADTION.

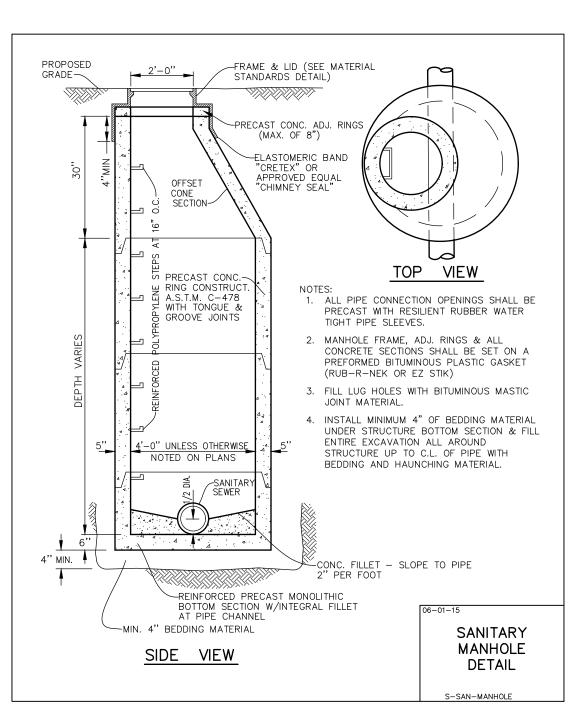
2. REFER TO KYTC SPECIFICATIONS AND

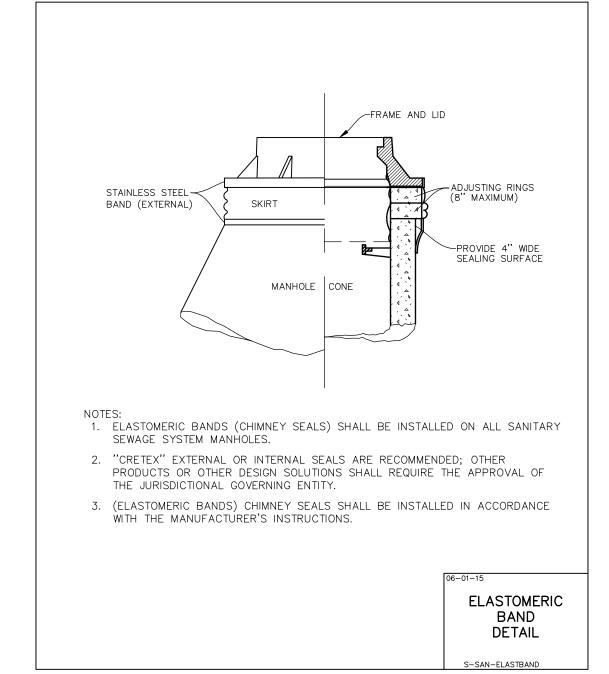
1" DIA. WEEP HOLES AT 90° SEPARATION FOR ALL INLETS LOCATED IN PAVEMENT OR CURB AREAS. INSTALL AND SECURELY FASTEN HEAVY DUTY SCREEN OR FILTER FABRIC TO OUTSIDE OF INLET OVER HOLE.	
TOP VIEW	
MONOLITHIC PRECAST CONCRETE RING AND BOTTOM SECTION WASTIC	E AND LID MATERIAL STANDARDS DETAI 1" DIA. WEEP HOLES AND SCREEN STORM SEWER
4" MIN. ↑	
	—BEDDING MATERIAL
NOTES: 1. INSTALL MINIMUM 4" OF BEDDING MATERIAL UNDER STRUCTURE BOTTOM SECTION & FILL ENTIRE EXCAVATION ALL AROUND STRUCTURE UP TO C.L. OF PIPE WITH BEDDING AND HAUNCHING MATERIAL.	
2. PIPE OPENINGS SHALL BE CAST IN TO WALL.	06-01-15
3. STRUCTURE FRAME, ADJUSTING RINGS, AND ALL CONCRETE SECTIONS SHALL BE SET ON AND SEALED WITH BITUMINOUS MASTIC JOINT MATERIAL AND MORTARED ON INSIDE IF STRUCTURE LIES IN PAVEMENT. 4. FILL LUG HOLES WITH BITUMINOUS JOINING COMPOUND.	INLET DETAIL
	DE 1711E

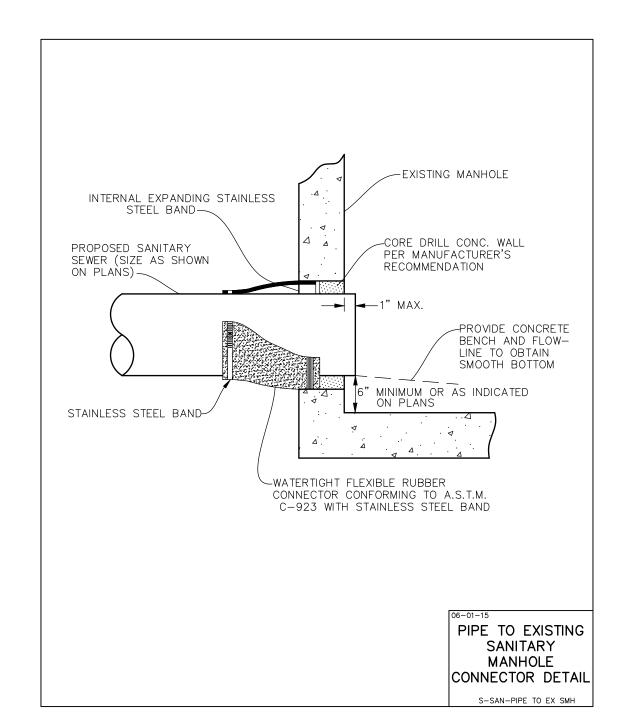
 CURB & GUTTER TYPE FRAME AND GRATES OF INLETS IN PARKING LOT CORNERS SHALL BE LOCATED 2'-0" FROM THE FACE OF ADJACENT CURB TO CENTERLINE OF FRAME & GRATE.

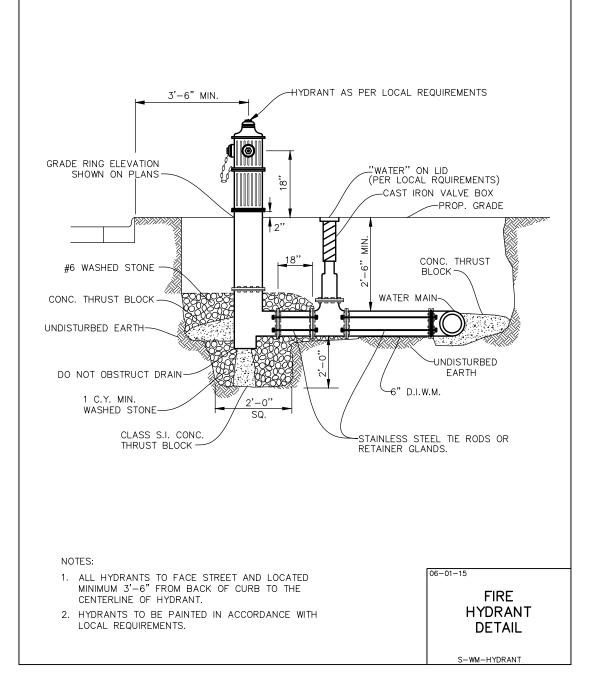


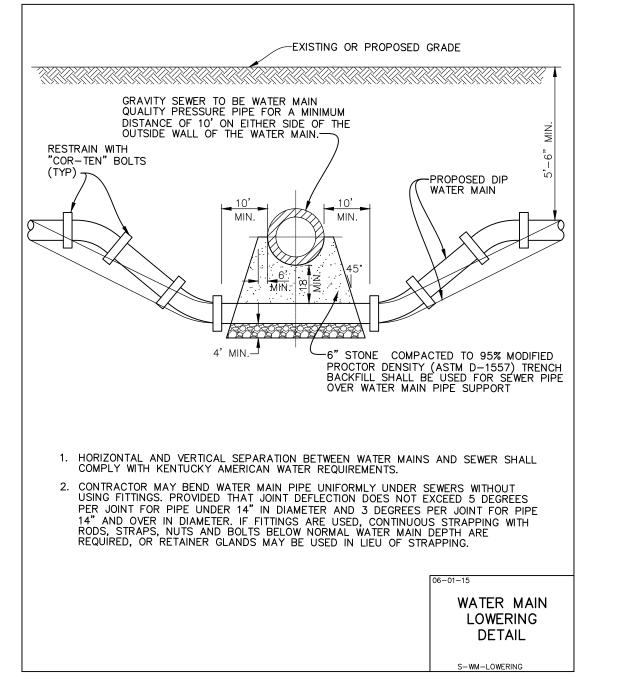


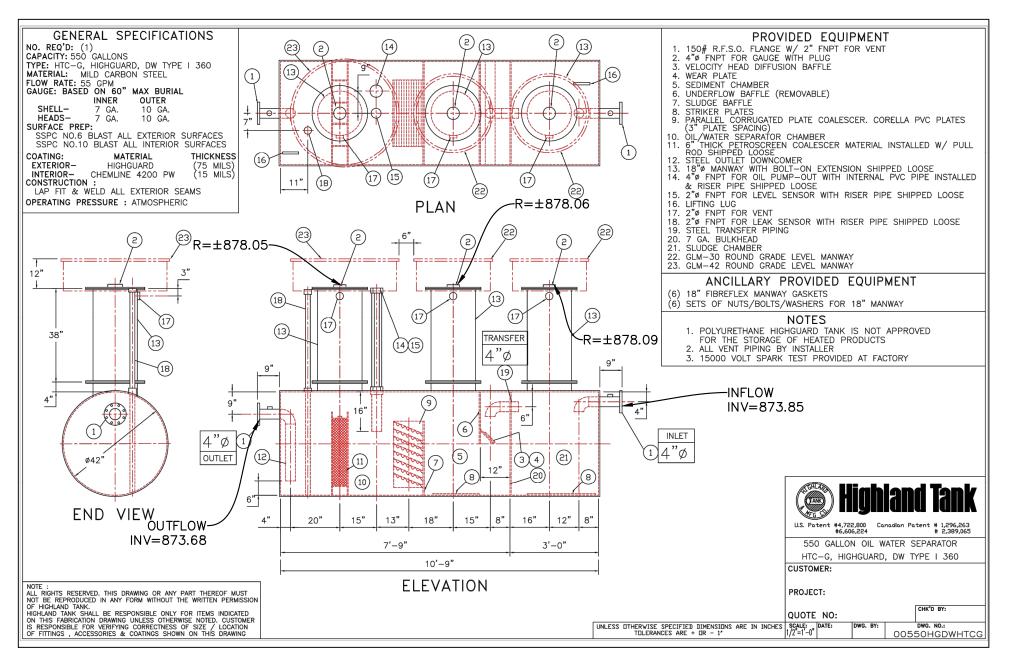












SHOULD A CONFLICT ARISE BETWEEN MANHARD DETAILS AND THE KENTUCKY TRAFFIC CABINET DETAILS, THE KENTUCKY TRAFFIC CABINET DETAILS SHALL TAKE PRECEDENCE.

PROJ. MGR.: JMI
PROJ. ASSOC.: MSP
DRAWN BY: JMI
DATE: 4/18/2022

KENTUCH

COUNTY,

COTT

EORGETOWN,

G

OF

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CARRIER

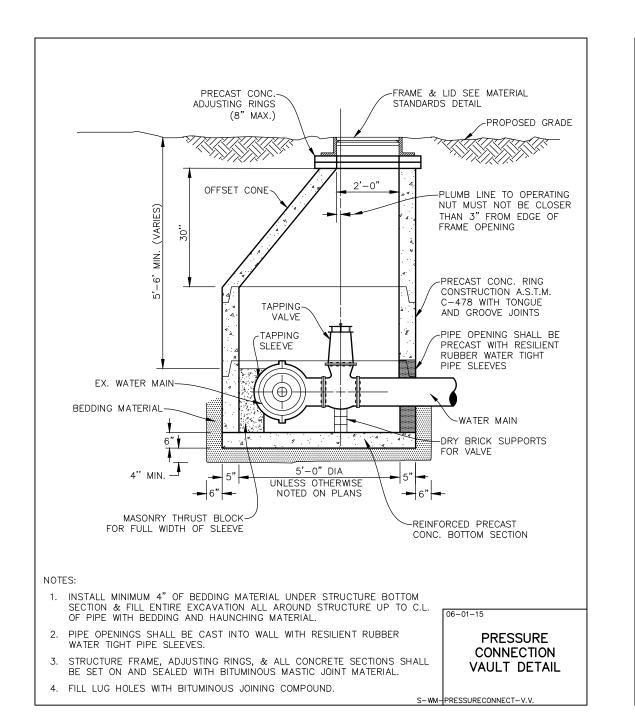
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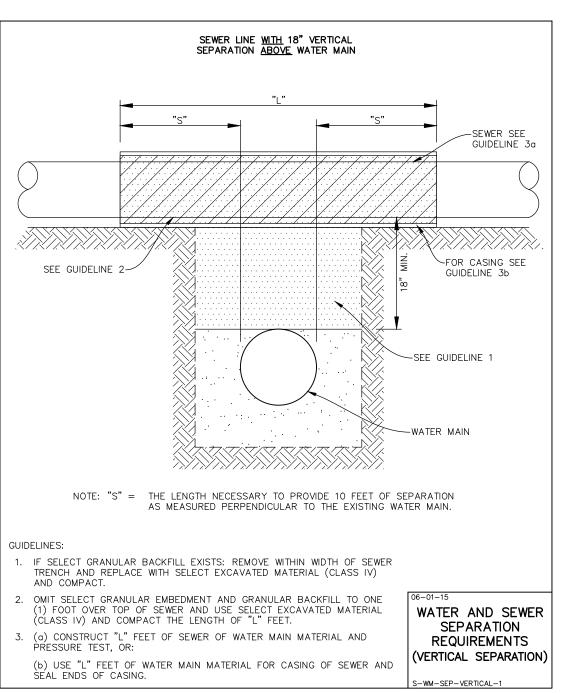
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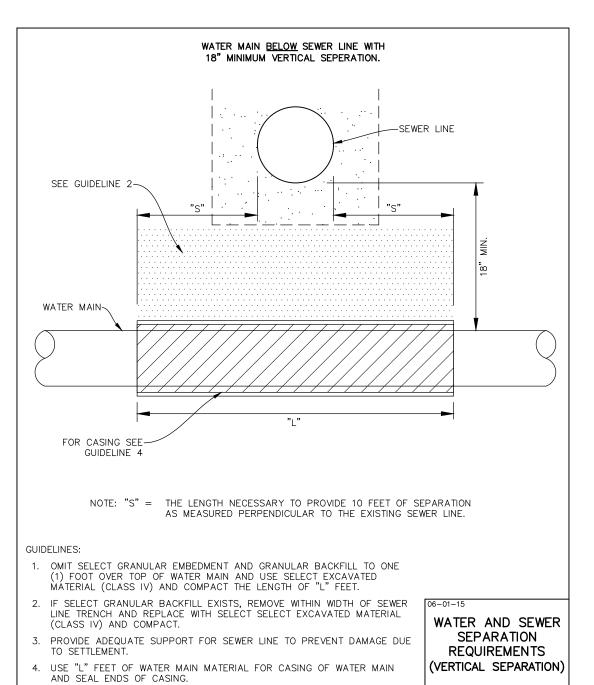
SHEET

38 OF 42

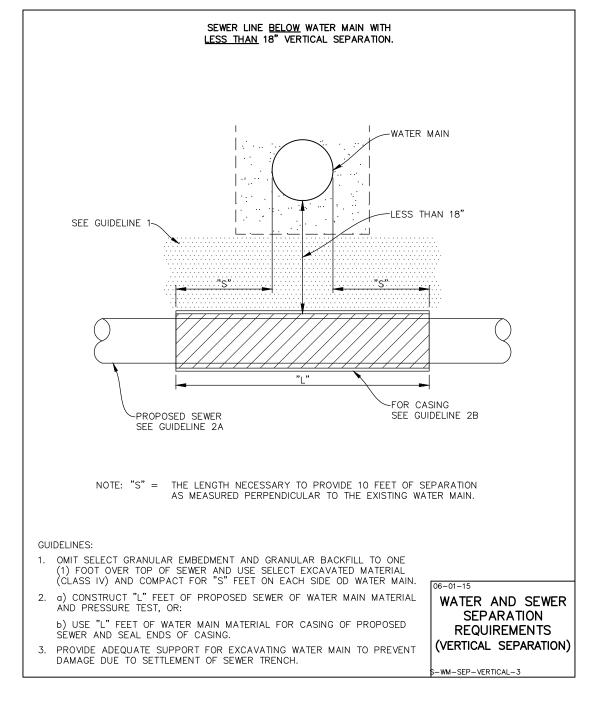
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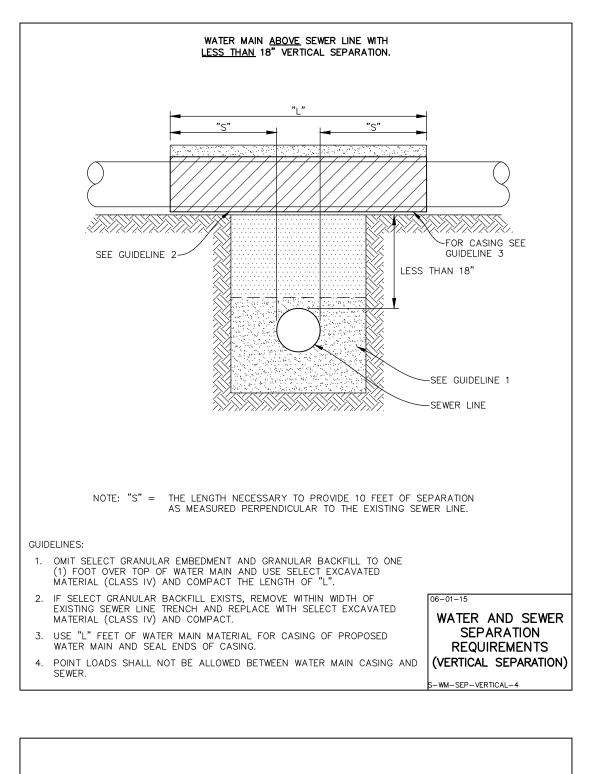


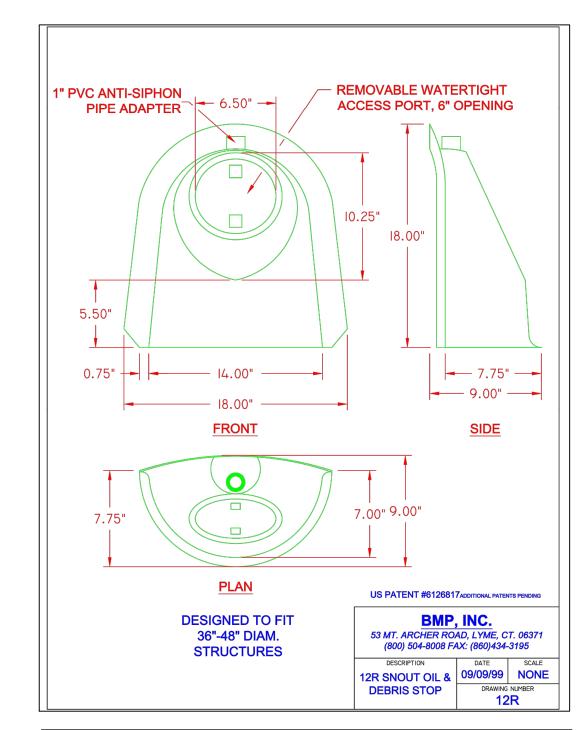


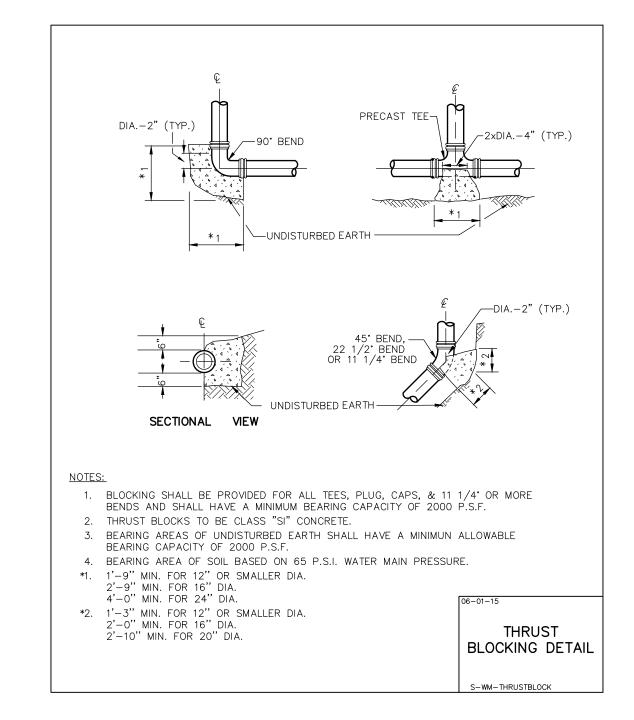


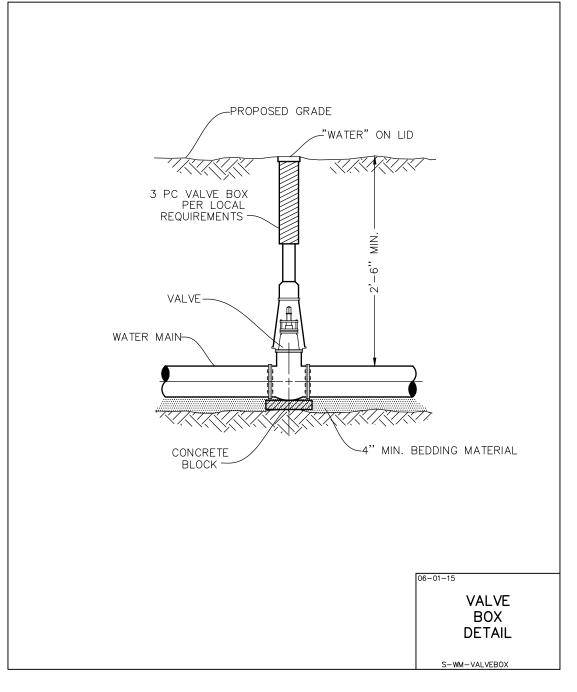
S-WM-SEP-VERTICAL-2

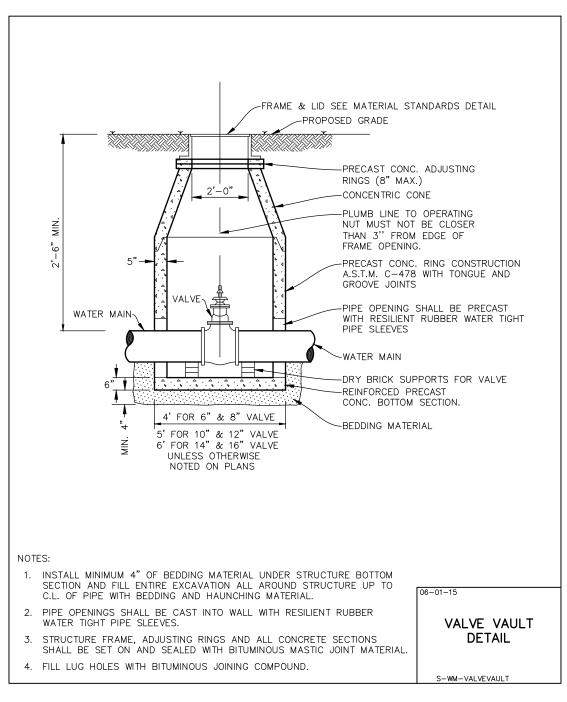


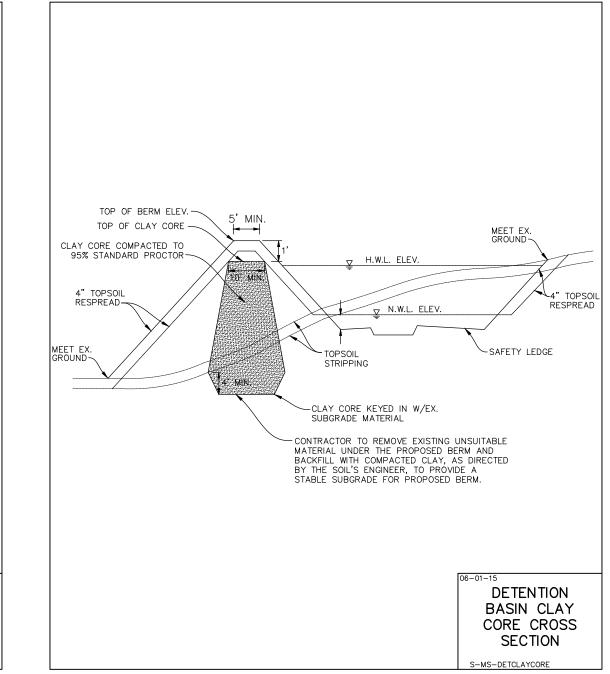


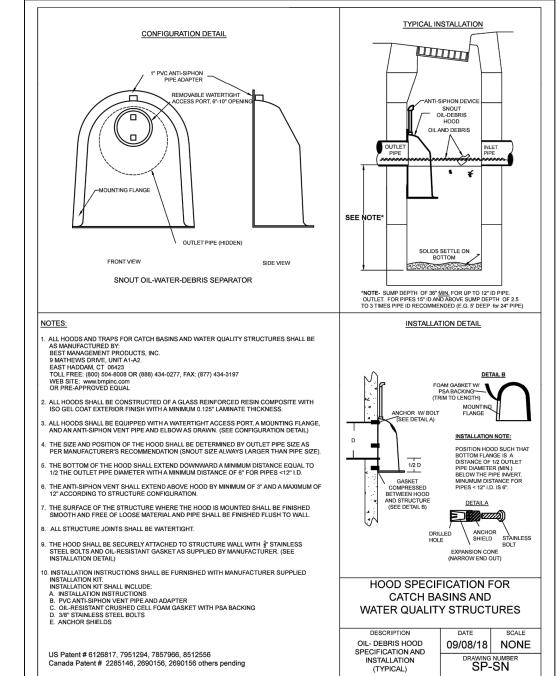


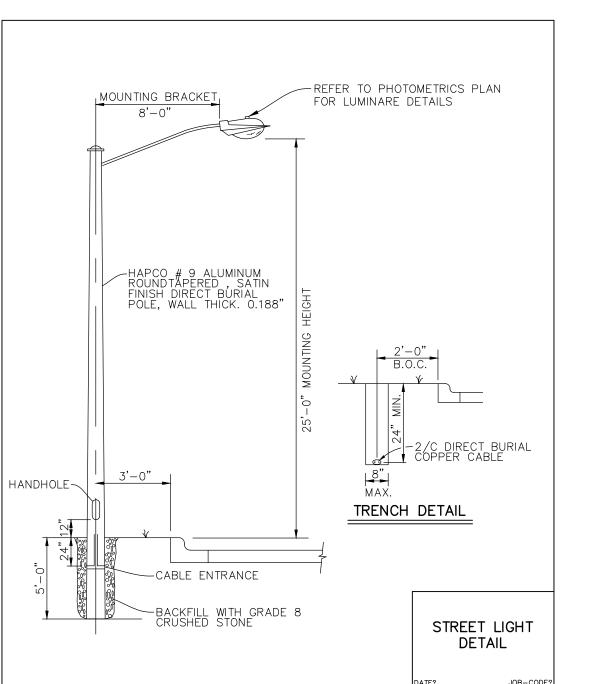


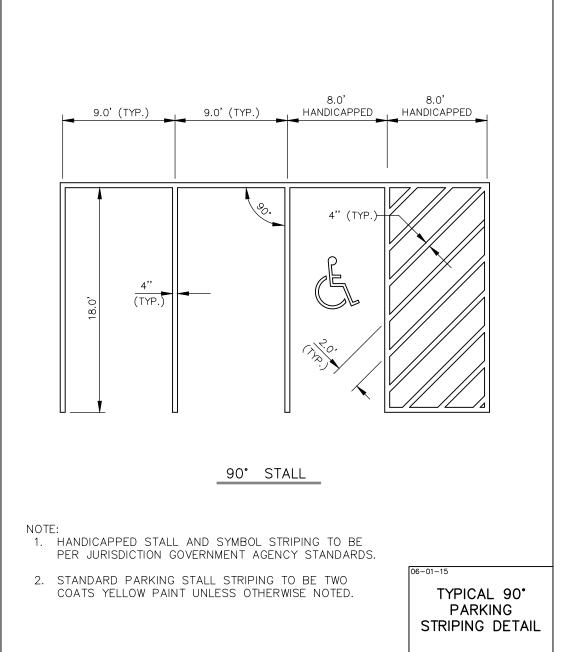


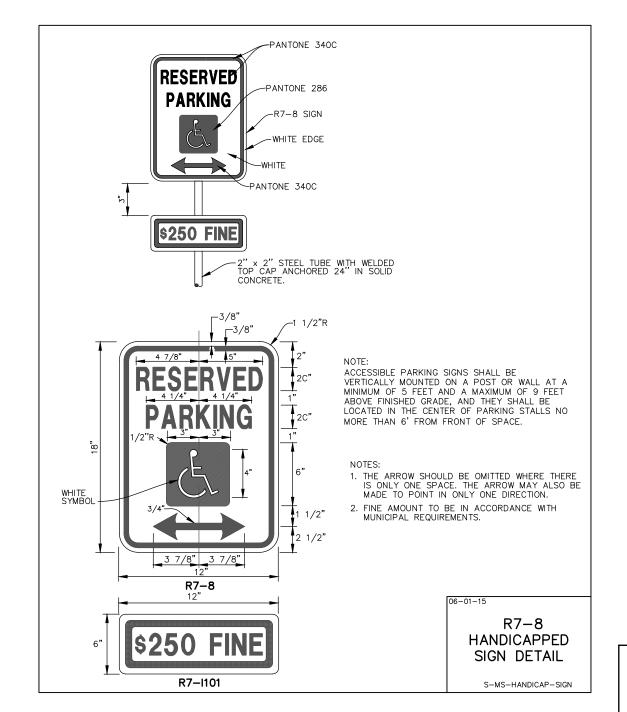












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PROJ. MGR.: JMI
PROJ. ASSOC.: MSP
DRAWN BY: JMI
DATE: 4/18/2022

KENTUCK

COUNTY,

COTT

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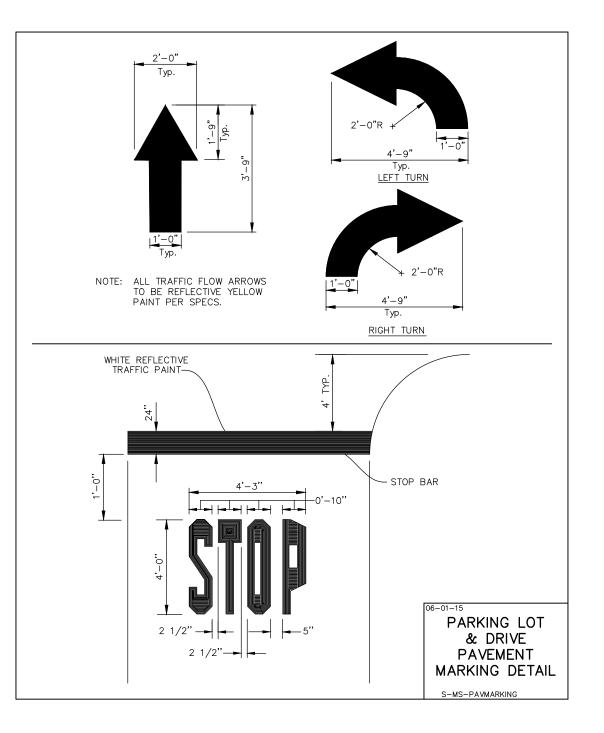
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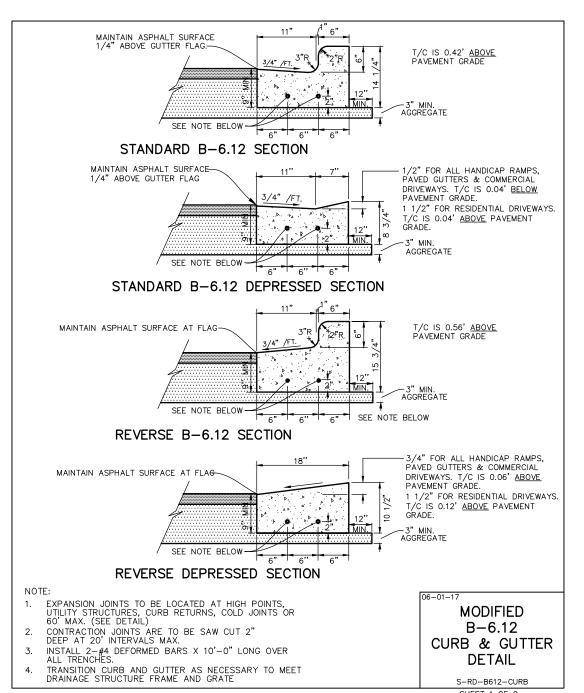
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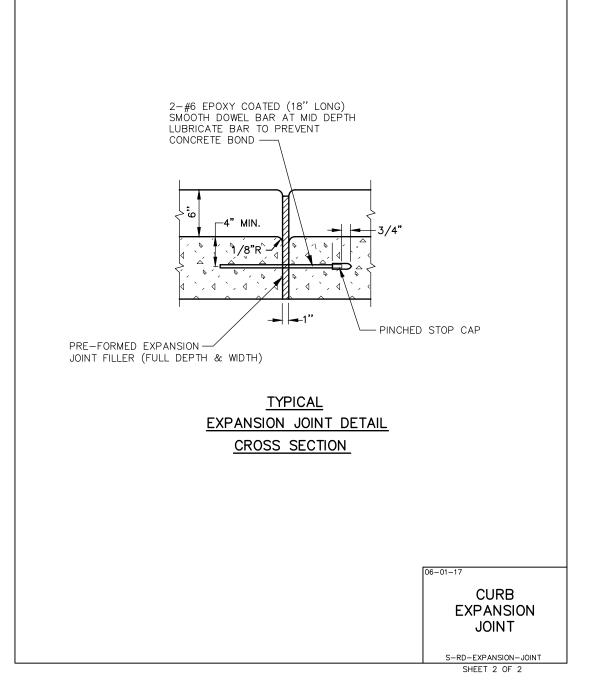
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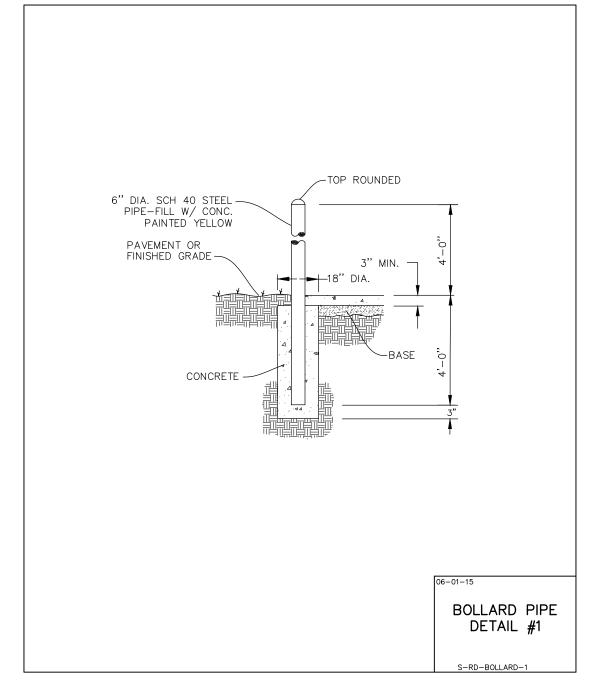
39 OF 42

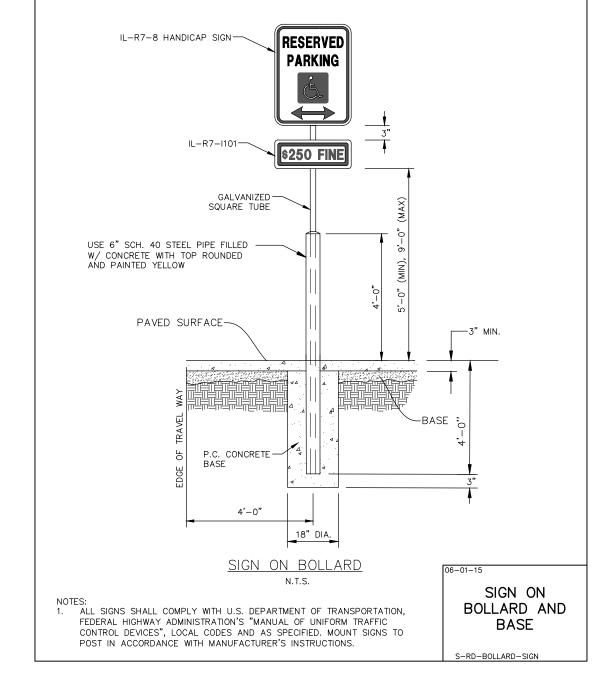
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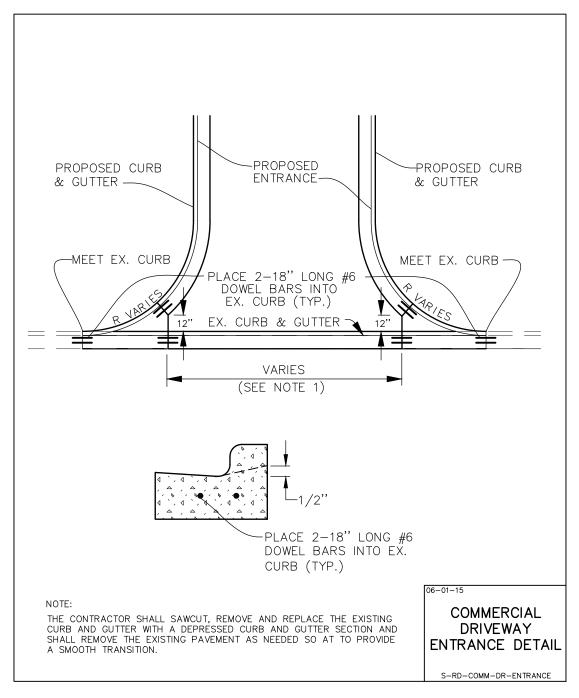


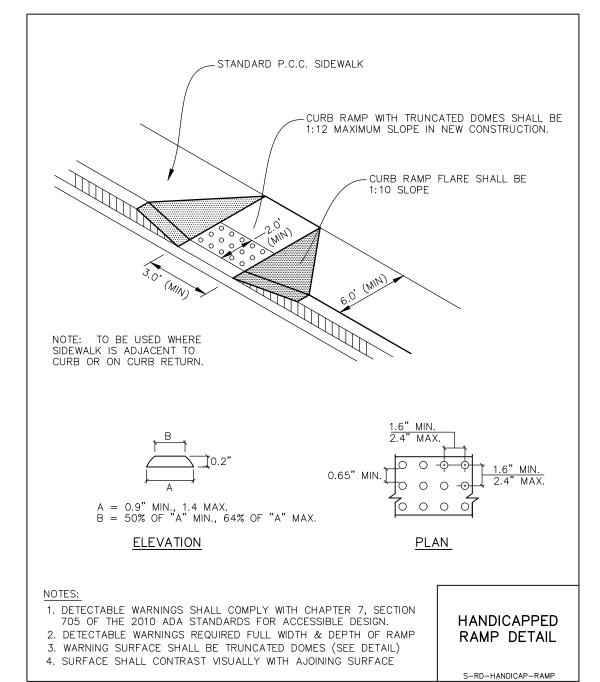


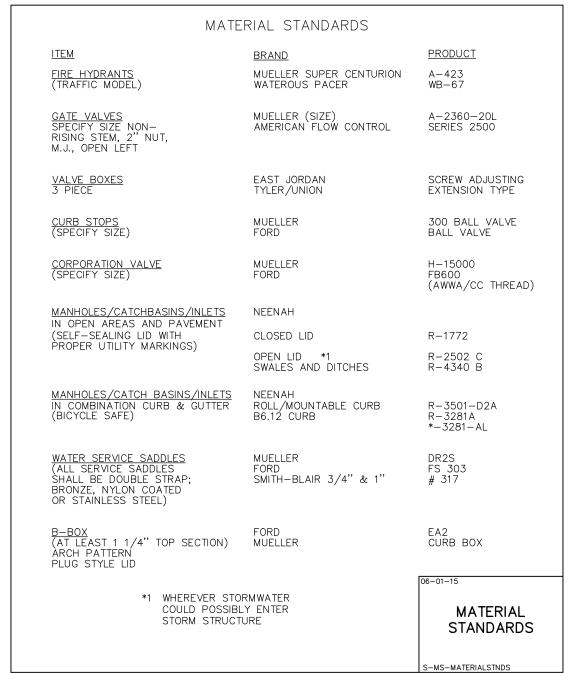




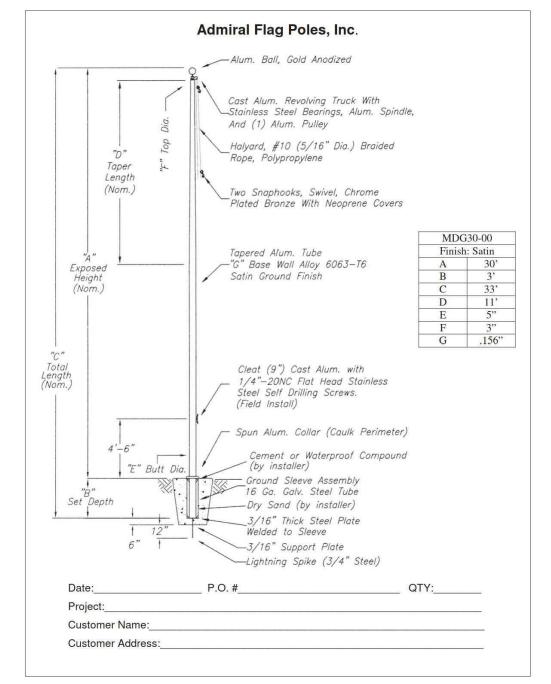








P.N. CA-FHCDNCR







Design & Construction: Available Finishes: • Designed for secure operation with Hot dipped galvanized carbon steel Carbon steel with powder coating Featuring fully welded exterior components (standard color is black/ other colors available upon request) Heavy gauge materials meeting ASTM standards Our signature 304 stainless steel, No. 4 satin finish, or 316 stainless Measures: 6500 Series Control Head, featuring:

HS427-S Size of opening (pedestrian clearance) Arm and Barrier Tubing Sizes 1 1/2" diameter 14 gauge (38mm) - Standard 1 3/4" diameter 14 gauge (44mm) - Optional 62" (1575mm) 57" (1448mm) HS430-S Size of opening (pedestrian clearance) HS430-S 30" (762mm) Arm and Barrier Tubing Sizes

59.1" (1501mm) 75.4" (1915mm)

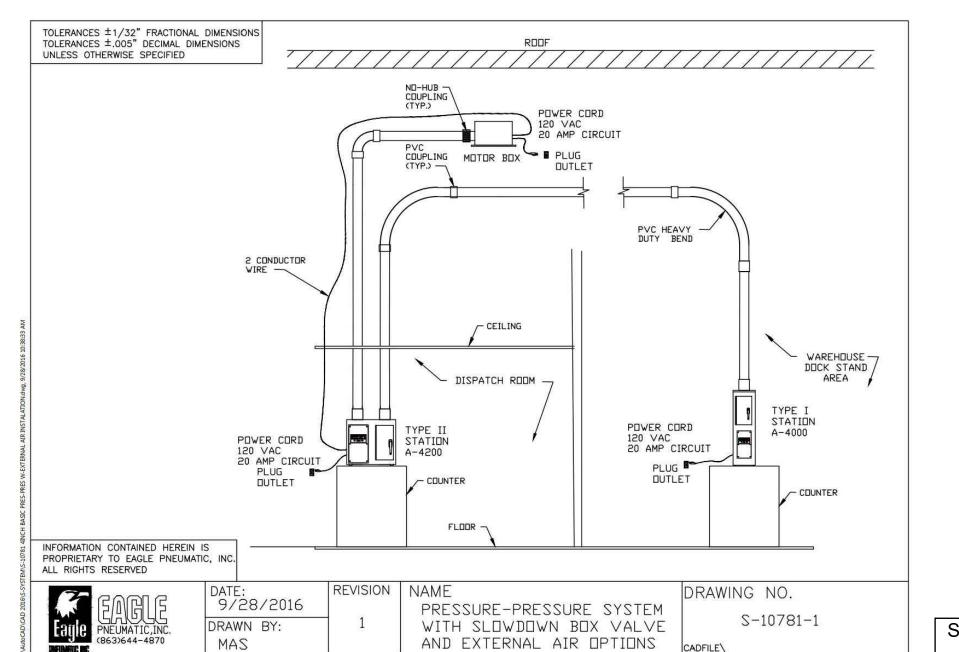
 Auto-indexing (self-centering) with adjustable hydraulic shock suppression Hardened tool steel locking bars, cam and Nearly universal integration to any number of access control systems **Electrical Specifications:** Input Voltage: 100-240 VAC Input Current: 1.3 - .55 A Frequency: 50/60 Hz

 Your choice on each electronic direction of locking or unlocking on power failure

Storage Temperature: -4 to 158°F (Cold weather package available) Operating Voltage: 24VDC Operating Current: 1.2 A (typical) Standards and Codes: Austenitic stainless steel:ASTM A240, A249, A276 ASTM A-143, ASTM A-153-80

Stainless steel fasteners: Standard D 1.1 certified to conform to UL Standard 325 & UL Subject 2593

CONCRETE PAD SIZES 4" +LENGTH OF UNIT+4" ☐HS430-S LENGTH: 74" WIDTH: 64" WE SUGGEST 4" OF CONCRETE ON EACH SIDE OF THE UNIT SEE FORMULAS ABOVE TO CALCULATE SIZES. SCALE: 20=1 APPROVED BY: DRAWN BY: LC III DATE: 08/10/05 REVISED: CONTROLLED ACCESS, INC. 1515 West 130th Street Hinckley, Ohio 44233 CONCRETE PAD FORMULAS



SHOULD A CONFLICT ARISE BETWEEN MANHARD DETAILS AND THE KENTUCKY TRAFFIC CABINET DETAILS, THE KENTUCKY TRAFFIC CABINET DETAILS SHALL TAKE PRECEDENCE.

1 1/2" diameter 14 gauge (38mm) - Standard 1 3/4" diameter 14 gauge (44mm) - Optional Card reader mounting plates Daylight visible indicator lights 66" (1676mm) Bi-directional key overrides Lockout bar (padlock not included) Decorative arm caps (for galvanized unit) Size of opening (pedestrian clearance) Stainless steel overhead full canopy HS439-S 39" (991mm) Half canopy (covers passageway) Arm and Barrier Tubing Sizes 1 3/4" diameter 14 gauge (44mm with seven year lithium battery Cold weather package, including thermostat 84" (2134mm) controlled heater and insulated mainframe Metal detection Size of opening (pedestrian clearance) Push button and wireless remotes HS448-S 48" (1219mm) Heel guard arm covers Hinged or split covers Arm and Barrier Tubing Sizes (for tight clearance installations) 1 3/4" diameter 14 gauge (44mm) Additional options available upon request 106" (2692mm) 95.8" (2433mm) Units are warranted against defects in materials All models: and workmanship for a period of one year from Overall exterior height 91" (2311mm) date of delivery. See warranty information Pedestrian walk through height 84" (2134mm) Matching Swing Gate available (see model HS336 Manual Passage Gate CONTROLLED ACCESS, INC. The Leader in Pedestrian Access Control 1636 West 130th Street | Brunswick, Ohio 44212 | Ph: 330.273.6185 | Fax: 330.273.4468 | Toll-Free Ph: 800.942.0829 | Toll-Free Fax: 800.942.0828 E-mail: sales@controlledaccess.com | www.controlledaccess.com

roller assemblies

 Your choice of manual or electronic control on both directions

> PROJ. MGR.: JMI PROJ. ASSOC.: MSP 4/18/2022 <u>N.T.S.</u> SHEET

KENTUCKY

COUNTY,

COTT

EORGETOWN,

<u>5</u>

OF

EORGETOWN

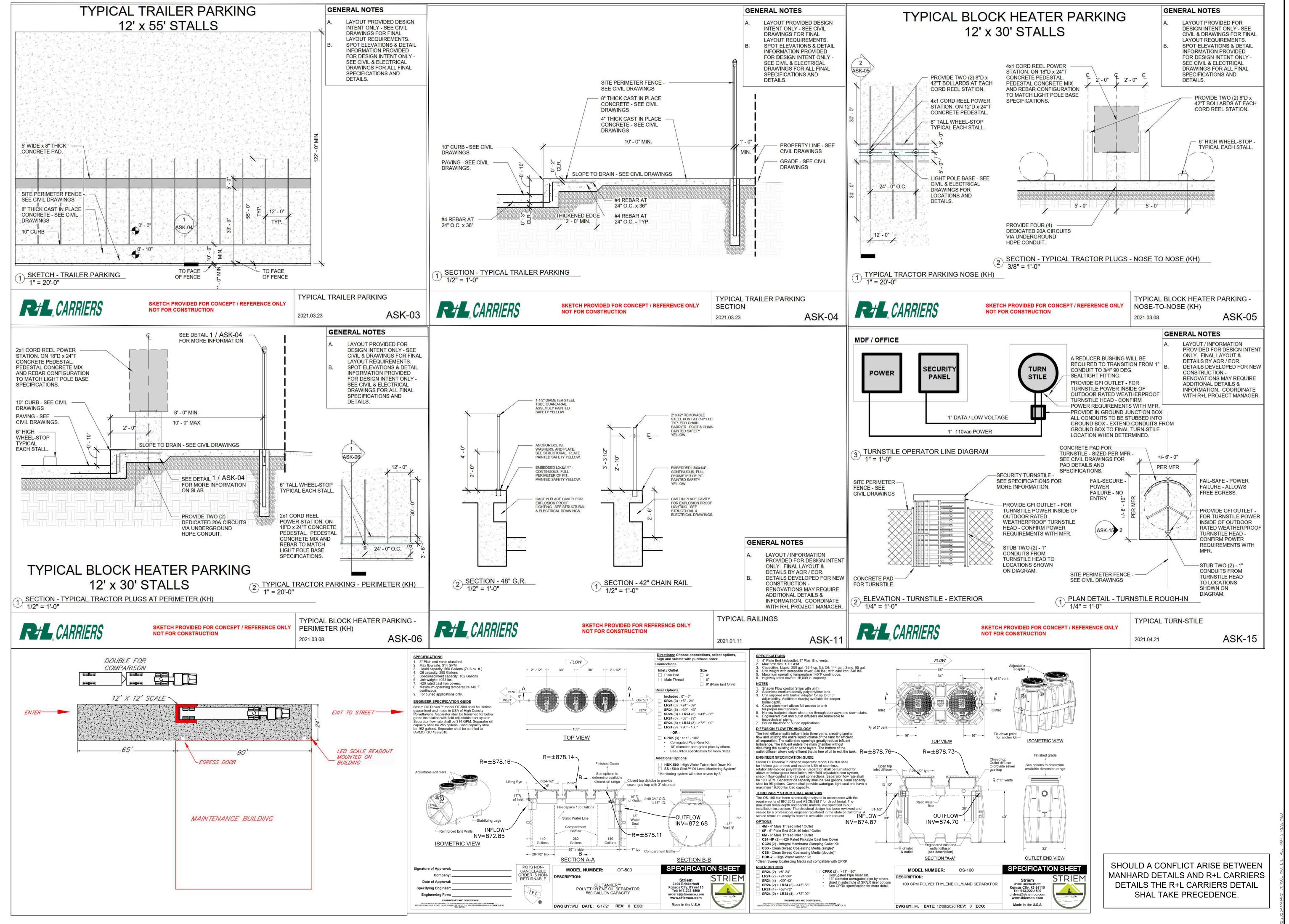
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CARRIERS

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TO NOTE HENSIONS

ARRIERS - GEORGETOWN
TOWN, SCOTT COUNTY, KENTUCKY
ION DETAILS - R+L CARRIERS

CITY OF GEORGETOWN, SCOTT C

PROJ. MGR.: JMI

PROJ. ASSOC.: MSP

DRAWN BY: JMI

DATE: 4/18/2022

SCALE: N.T.S.

SHEET

41 of 42

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CONTRACTOR'S covenants stated herein

PLANS and SPECIFICATIONS.

- **DEFINITION OF TERMS** a. "CLIENT" shall mean R+L Carriers, which is the person or entity with whom Manhard Consulting, Ltd. has contracted with to prepare Civil Engineering
- b. "ENGINEER" shall mean Manhard Consulting, Ltd., a Civil Engineering consultant on the subject project.
- c. "PLANS and SPECIFICATIONS" shall mean the Civil Engineering PLANS and SPECIFICATIONS prepared by the ENGINEER, which may be a part of the contract documents for the subject project
- d. "CONTRACTOR" shall mean any person or entity performing any work described in the PLANS and SPECIFICATIONS.
- e. "JURISDICTIONAL GOVERNMENTAL ENTITY" shall mean any municipal, county, state or federal unit of government from whom an approval, permit and/or review is required for any aspect of the subject project.

INTENT OF THE PLANS AND SPECIFICATIONS

The intent of the PLANS and SPECIFICATIONS is to set forth certain requirements of performance, type of equipment and structures, and standards of materials and construction. They may also identify labor and materials, equipment and transportation necessary for the proper execution of the work but are not intended to be infinitely determined so as to include minor items obviously required as part of the work. The PLANS and SPECIFICATIONS require new material and equipment unless otherwise indicated, and to require complete performance of the work in spite of omissions of specific references to any minor component part. It is not intended, however, that materials or work not covered by or properly inferred from any heading, branch, class or trade of the SPECIFICATIONS shall be supplied unless distinctly so noted. Materials or work described in words, which so applied have a well-known technical or trade meaning, shall be held to refer to such recognized standards.

INTERPRETATION OF PLANS AND SPECIFICATIONS

- a. The CLIENT and/or CONTRACTOR shall promptly report any errors or ambiguities in the PLANS and SPECIFICATIONS to the ENGINEER. Questions as to meaning of PLANS and SPECIFICATIONS shall be interpreted by the ENGINEER, whose decision shall be final and binding on all parties
- b. The ENGINEER will provide the CLIENT with such information as may be required to show revised or additional details of construction.
- c. Should any discrepancies or conflicts on the PLANS or SPECIFICATIONS be discovered either prior to or after award of the contract, the ENGINEER's attention shall be called to the same before the work is begun thereon and the proper corrections made. Neither the CLIENT nor the CONTRACTOR may take advantage of any error or omissions in the PLANS and SPECIFICATIONS. The ENGINEER will provide information when errors or omissions are discovered.

GOVERNING BODIES

All works herein proposed shall be completed in accordance with all requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, and all such pertinent laws, directives, ordinances and the like shall be considered to be a part of these SPECIFICATIONS. If a discrepancy is noted between the PLANS and SPECIFICATIONS and requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, the CLIENT and/or the CONTRACTOR shall immediately notify the ENGINEER in writing.

LOCATION OF UNDERGROUND FACILITIES AND UTILITIES

When the PLANS and SPECIFICATIONS include information pertaining to the location of existing underground facilities and utilities (including but not limited to water mains, sanitary sewers, storm sewers, electric, telephone, gas and cable TV lines), such information represents only the opinion of the ENGINEER as to the approximate location and elevation of such facilities and utilities. At the locations wherein detailed positions of these facilities and utilities become necessary to the new construction, including all points of connection, the CONTRACTOR shall furnish all labor and tools to verify or definitely establish the horizontal location, elevation, size and material (if appropriate) of the facilities and utilities. The CONTRACTOR shall notify the ENGINEER at least 48 hours prior to construction if any discrepancies in existing utility information or conflicts with existing utilities exist. The ENGINEER assumes no responsibility whatever with respect to the sufficiency or accuracy of the information shown on the PLANS and SPECIFICATIONS relative to the location of underground facilities and utilities, nor the manner in which they are removed or adjusted.

It shall be the CONTRACTOR's responsibility prior to construction, to notify all Utility Companies of the intent to begin construction and to verify the actual location of all such facilities and utilities. The CONTRACTOR shall also obtain from the respective Utility Companies the working schedules for removing or adjusting these facilities

UNSUITABLE SOILS The PLANS have been prepared by the ENGINEER based on the assumption that all soils on the project are suitable to support the proposed improvements shown. The CLIENT or CONTRACTOR shall immediately notify the ENGINEER if he discovers or encounters an obstruction that prevents the installation of the improvement according to the line and grades shown on the PLANS.

PROTECTION OF TREES All trees that are not to be removed shall be protected from damage. Trees shall not be removed unless requested to do so in writing by the CLIENT.

NOTIFICATION OF OWNERS OF FACILITIES AND UTILITIES The CONTRACTOR shall notify all applicable Jurisdictional Governmental Entities or utility companies, i.e., water, sewer, electric, telephone, gas and cable TV prior to beginning any construction so that said entity or company can establish the location and elevation of underground pipes, conduits or cables adjoining or crossing proposed construction.

TRAFFIC CONTROL The CONTRACTOR shall provide when required by any JURISDICTIONAL GOVERNMENTAL ENTITY, all signs, equipment, and personnel necessary to provide for safe and efficient traffic flow in all areas where the work will interrupt, interfere or cause to change in any form, the conditions of traffic flow that existed prior to the commencement of any portions of the work. The CLIENT may, at his discretion, require the CONTRACTOR to furnish traffic control under these or other circumstances where in his opinion it is necessary for the protection of life and property. Emergency vehicle access shall be maintained at all times. Unless authorized by the CLIENT or CLIENT's construction representative, all existing access points shall be maintained at all times by the CONTRACTOR. The need for traffic control shall be anticipated by the CLIENT.

The CONTRACTOR, his agents and employees and their employees and all equipment, machinery and vehicles shall confine their work within the boundaries of the project or work area specified by the Client. The CONTRACTOR shall be solely liable for damage caused by him or his agents and employees and their equipment, machinery and vehicles on adjacent property or areas outside designated work areas.

It shall be the responsibility of the CONTRACTOR to arrange for the relocation or bracing of existing utility poles that may be within the working limits of this contract. It is expressly understood that all work and costs connected with the maintenance of these utility poles, their temporary relocations, etc., shall be the responsibility of the CLIENT or the CONTRACTOR.

RESTORATION It is the intent of these SPECIFICATIONS that clean-up and final restoration shall be performed immediately upon completion of each phase of the work, both inside and outside the Project, or when so directed by the CLIENT so that these areas will be restored as nearly as possible to their original condition of better, and shall include but not be limited to, restoration of maintained lawns and rights-of-way, roadways, driveways, sidewalks, ditches, bushes, hedges, trees, shrubs, fences, mailboxes, sewers, drain tiles, water mains, etc.

CLEANING UP The CONTRACTOR shall at all times keep the premises free from accumulations of waste material or rubbish caused by his employees or work, and at the completion of the work he shall remove all his rubbish, tools, scaffolding and surplus materials and shall leave his work "broom clean" or its equivalent, unless more exactly specified.

ROAD CLEANING The CONTRACTOR shall maintain roadways adjoining the project site free from mud and debris at all times. If mud and/or debris is carried onto the roadways

from vehicles entering onto the highway from either the CONTRACTOR's trucks, his employees' vehicles, or his material suppliers, the CONTRACTOR shall immediately remove said mud and/or debris. SAFETY AND PROTECTION

The CONTRACTOR shall be solely and completely responsible for the conditions of the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. The CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR's duties and responsibilities for safety and for protection of the work shall continue until such time as all work is completed and the CLIENT has notified CONTRACTOR that the work is acceptable. The duties of the ENGINEER do not include review of the adequacy of either the CONTRACTOR's or the general public's safety in, on, or near the construction site.

HOLD HARMLESS To the fullest extent permitted by law, any CONTRACTOR; material supplier or other entity by use of these plans and specifications hereby waives any right of contribution and agrees to indemnify, defend, save and hold harmless the CLIENT and ENGINEER and its agents, employees and consultants from and against all manner of claims, causes, causes of action, damages, losses and expenses, including but not limited to, attorneys' fees arising out of, resulting from or in connection with the performance of any work, pursuant to or with respect to these plans and specifications. However, this indemnity shall not be construed to indemnify ENGINEER, its consultants, agents or employees against its own negligence.

Claims, damages, losses and expenses as these words are used in the Agreement shall mean and include, but not be limited to (1) injury or damage occurring by reason of the failure of or use or misuse of any hoist, riggings, blocking, scaffolding or any and all other kinds of items of equipment, whether or not the same be owned, furnished or loaned by any part or entity, including any contractor; (2) all attorneys' fees and costs incurred in bringing an action to enforce the provisions of this indemnity; (3) costs for time expended by the indemnified party and its employees, at its usual rates plus costs or travel, long distance telephone and reproduction of documents and (4) consequential damages.

In any and all claims against the CLIENT or ENGINEER or any of their agents or employees and consultants by any party, including any employee of the CONTRACTOR or any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount of type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts or any insurance maintained by CONTRACTOR or any Subcontractor or any other party.

Any party using or relying on these plans, including any contractor, material supplier, or other entity shall obtain, (prior to commencing any work) general public liability insurance insuring against all damages and claims for any bodily injuries, death or property damage arising out of any work, including the construction work provided for in these plans, and shall name the CLIENT and ENGINEER and its consultants, agents and representatives as additional insureds under such insurance policy; provided that any party using or relying on these plans having obligations to maintain specific insurance by reason of any agreement with CLIENT or any CONTRACTOR or ENGINEER shall provide evidence and certificates of insurance as required by such contract or agreement. Such insurance must contain a clause stating that the insurance is primary coverage for ENGINEER and ENGINEER's other applicable coverage is considered secondary. Such insurance shall not limit any liability of any party providing work or services or providing materials.

Manhard Consulting, Ltd., the ENGINEER, is intended to be a third party beneficiary of this willing agreement and requirement.

DETAILED SPECIFICATIONS

I. DEMOLITION

The CONTRACTOR shall coordinate with respective utility companies prior to the removal and/or relocation of utilities. The CONTRACTOR shall coordinate with the utility company concerning portions of work which may be performed by the Utility Company's forces and any fees which are to be paid to the utility company for their services. The CONTRACTOR is responsible for paying for all fees and charges. Should removal and/or relocation activities damage features indicated to remain, the CONTRACTOR shall provide new materials/structures in accordance with the

contract documents. Except for materials designed to be relocated on this plan, all other construction materials shall be new. Prior to demolition occurring, all erosion control devices are to be installed. All existing utility lines and conduits located under proposed buildings shall be removed and properly backfilled. All utility lines and conduits located under drives, on-site

roads, parking lots or sidewalks shall be filled with a flowable backfill and end plugged. All existing structures shall be removed. All existing utility lines located under landscape areas shall be left in place and plugged at all structures. The CONTRACTOR is responsible for demolition, removal and disposal (in a location approved by all JURISDICTIONAL GOVERNING ENTITIES) of all structures, pads, walls, flumes, foundations, road, parking lots, drives, drainage structures, utilities, etc., such that the improvements shown on these plans can be constructed. All

demolition work shall be in accordance with all applicable federal, state and local requirements. All facilities to be removed shall be undercut to suitable material and brought to grade with suitable compacted fill material per the specifications The CONTRACTOR is responsible for obtaining all permits required for demolition and disposal.

Electrical, telephone, cable, water, fiber optic cable and/or gas lines needing to be removed shall be coordinated by the CONTRACTOR with the affected utility company.

CONTRACTOR must protect the public at all times with fencing, barricades, enclosures, and other appropriate best management practices.

Continuous access shall be maintained for surrounding properties at all times during demolition.

All fire access lanes within the project area shall remain in service, clean of debris, and accessible for use by emergency vehicles.

The CONTRACTOR shall coordinate water main work with the Fire Department and the JURISDICTIONAL GOVERNING ENTITY to plan the proposed improvements and to ensure adequate fire protection is available to the facility and site throughout this specific work and through all phases of construction. CONTRACTOR shall be esponsible for any required water main shut offs with the JURISDICTIONAL GOVERNING ENTITY during construction. Any costs associated with water main shut offs will be the responsibility of the CONTRACTOR and no extra compensation will be provided.

CONTRACTOR shall maintain all existing parking areas, sidewalks, drives, etc. clear and free from any construction activity and/or material to ensure easy and safe pedestrian and vehicular traffic to and from the site. CONTRACTOR shall coordinate/phase all construction activity within proximity of the building and utility interruptions with the facility manager to minimize disturbance and inconvenience to facility operations.

CONTRACTOR may limit saw-cut and pavement removal to only those areas where it is required as shown on these construction plans, however if any damage is incurred on any of the surrounding pavement, etc. the CONTRACTOR shall be responsible for ITS removal and repair Any existing wells encountered shall be exposed and sealed 3' below proposed finish grade by the CONTRACTOR in accordance with Section 920.120 (latest edition) of

the Kentucky State Codes Code, Department of Public Health, and all applicable local rules and regulations. CONTRACTOR is responsible for obtaining all permits required by JURISDICTIONAL GOVERNMENTAL ENTITIES for abandoning existing wells.

Any existing septic tanks and grease traps encountered shall have all liquids and solids removed and disposed of by a licensed commercial hauler in accordance with JURISDICTIONAL GOVERNING ENTITY regulations, and the tank and grease traps shall then be filled with suitable materials or removed from the site and disposed of by the CONTRACTOR.

Voids left by any item removed under any proposed building, pavement, walk, etc. or within 24" thereof shall be filled and compacted with suitable materials by the

CONTRACTOR. The CONTRACTOR shall be responsible for the disconnection of utility services to the existing buildings prior to demolition of the buildings. Any material containing asbestos found within existing structures shall be removed from the site and disposed of off-site by the CONTRACTOR in accordance with

CONTRACTOR shall develop and implement a daily program of dust control and shall submit and obtain JURISDICTIONAL GOVERNING ENTITY approval of dust control procedures prior to demolition of any structures. Modification of dust control procedures shall be performed by the CONTRACTOR to the satisfaction of the JURISDICTIONAL GOVERNING ENTITY as requeste

The CONTRACTOR shall coordinate all demolition with the JURISDICTIONAL GOVERNING ENTITY and CLIENT to ensure protection and maintenance of sanitary sewer and water utilities as necessary and to provide stormwater conveyance until new facilities are constructed, tested and placed into operation The locations of all existing utilities shown on this plan have been determined from the best information available and are given for the convenience of the CONTRACTOR and are not to be interpreted as the exact location, or as the only obstacles that may occur on the site. The ENGINEER assumes no responsibility for their accuracy. Prior to the start of any demolition activity, the CONTRACTOR shall notify the utility companies for location of existing utilities and shall verify existing

The CONTRACTOR is responsible for removing the existing irrigation system in the areas of proposed improvements. The contractor shall cap the existing irrigation system to remain such that the remaining system shall continue to function properly. The parking lot shall be completed in sections such that it does not interrupt the facility operations. The CONTRACTOR shall coordinate with the construction manager

II.EARTHWORK

information given in the results thereof.

for work to be performed.

TOPSOIL STRIPPING

This work shall be completed in conformance with the applicable sections of the Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Kentucky, latest edition except as modified below.

Copies of results of soil boring and reports, if such borings were taken by the CLIENT in the vicinity of the proposed construction site, should be made available by the CLIENT to the CONTRACTOR. These borings are presented for whatever purpose the CONTRACTOR chooses to make of them. The ENGINEER makes no representation or warranty regarding the number, location, spacing or depth of borings taken, nor of the accuracy or reliability of the

Further, the ENGINEER does not assume responsibility for the possibility that during construction, the soil and groundwater condition may be different than indicated. Neither does the ENGINEER assume responsibility for variations of soil and groundwater at location between borings. The CONTRACTOR is required to make its own borings, explorations and observations to determine soil and groundwater conditions.

EARTHWORK CALCULATIONS AND CROSS SECTIONS

conditions and proceed with caution around any anticipated features

The CONTRACTOR understands that any earthwork calculations, quantities or cross sections that have been furnished by the ENGINEER are for information only and are provided without any guarantee by the CLIENT or ENGINEER whatsoever as to their sufficiency or accuracy. CONTRACTOR warrants that he has performed his own subsurface investigations as necessary and his own calculations and cross sections to determine site soil conditions and earthwork volumes. The ENGINEER makes no representation or guarantee regarding earthwork quantities or that the earthwork for this project will balance due to the varying field conditions, changing soil types, allowable construction to tolerances and construction methods that are beyond the control of the ENGINEER

CLEARING, GRUBBING AND TREE REMOVAL The site shall be cleared, grubbed, and trees and stumps removed where designated on the PLANS. Trees designated to remain shall be protected from damage.

Upon completion of demolition, clearing, grubbing and tree removal, all topsoil shall be stripped from under all buildings and pavements areas, and other areas necessary to complete the work. Topsoil stripped shall be placed in stockpiles in locations as designated by the CLIENT.

TOPSOIL RESPREAD Upon completion of roadway and/or parking lot improvements and installation of underground utilities a minimum of six inches (6") of topsoil shall be respread over all unpaved areas which have been disturbed by earthwork construction, except building pads and other designated areas, which shall be kept free from

SEEDING Upon completion of topsoil respread, the CONTRACTOR shall apply seed and fertilizer to all respread areas in accordance with KYTC standards or as designated on landscape drawings and specifications provided by the CLIENT.

Upon completion of topsoil respread, the CONTRACTOR shall install sod to all areas designated on the plans or as designated on the landscape drawings and specifications provided by the CLIENT **EXCAVATION AND EMBANKMENT**

Upon completion of topsoil stripping, all excavation and embankments shall be completed as shown on the PLANS. All suitable excavated materials shall be

hauled, placed (moisture conditioned if necessary) and compacted in the embankment areas. The CONTRACTOR shall include all dewatering, temporary ditching and culverts necessary to complete the excavation and embankment. Specifically included in the scope of Excavation and Embankments is grading and shaping of all cut or fill areas including swales and ditches; handling of

sewer spoil, etc., and all work required to provide positive drainage at the end of each working day and upon completion of a section. The CONTRACTOR shall be responsible for the excavation of all swales and ditches and for the excavation or filling of the roads, building pads and parking lots within the work limits to lines & grades shown on the plans. He shall be responsible for obtaining compaction in accordance with the minimum values listed in the table below for all embankments unless more stringent values are listed in the soils report or are approved by the CLIENT, and to use any method

approved by the CLIENT necessary to obtain this compaction (i.e., soil fabric or any undercutting that may be required). Type Material Standard Floor Slabs Grass Areas Sandy Soils Modified Proctor 95% Standard Proctor 95%

The CONTRACTOR shall notify the CLIENT if proper compaction cannot be obtained so that the CLIENT may determine what remedial measures may be

A soils testing firm employed by the CLIENT shall determine which soils are unsuitable. Materials in their natural state being defined as unsuitable that would be suitable material if moisture conditioned, shall be conditioned by the CONTRACTOR and used as suitable embankment material or hauled from the site. For purposes of definition, unsuitable material shall be as follows unless determined otherwise by the Soils Engineer:

- 1. Any soil whose optimum moisture content exceeds 25%.
- 2. Any cohesive soil with an unconfined compressive strength of 1.5 tons per square foot or less.
- 3. Any soil whose silt content exceeds 60% by weight.

construction of the embankments.

MISCELLANEOUS CONTRACT ITEMS

- 4. Any soil whose maximum density is less than 100 pounds per cubic foot.
- 5. Any soil containing organic, deleterious, or hazardous material.

Upon completion of excavation and shaping of the water retention areas intended to maintain a permanent pool of water, all silt seams and granular or sandy soils shall be removed to a minimum depth of three feet below the subgrade and replaced with an impermeable clay liner, including adjacent to and under storm sewer inlets and outlets. It is the intent of these PLANS and SPECIFICATIONS that the CONTRACTOR shall prepare the lake bottoms, side slopes, and compaction thereof such that the lakes will maintain the proposed normal water level and that leakage does not exceed ½ inch per week Ditches and swales are to be excavated to the lines and grades indicated on the PLANS. All suitable materials excavated from the ditches shall be used in

The CONTRACTOR shall notify the CLIENT immediately upon encountering groundwater during excavation. If in the opinion of the CLIENT or the JURISDICTIONAL GOVERNING ENTITY this condition necessitates the installation of perforated drain tile bedded in washed gravel or open storm sewer joints wrapped with fabric, the CONTRACTOR shall install the same.

During excavation and embankment, grades may be adjusted to achieve an overall site earthwork balance. The CONTRACTOR shall cooperate fully with the CLIENT in adjustment of grades, construction methods and placement of material to meet the above goals and shall immediately advise CLIENT if he believes that the earthwork will not balance

It is the intent of these PLANS that storm waters falling on the site be diverted into sedimentation / lake / detention basins during construction. The

CONTRACTOR shall construct and maintain any temporary ditches or swales that are necessary to accomplish this prior to beginning mass excavation. **EROSION CONTROL** Suitable erosion control practices shall be maintained by the CONTRACTOR in accordance with Kentucky Urban Manual and all applicable Soil Erosion and

Sedimentation Control ordinances and the PLANS.

If the subgrade cannot be dried adequately by discing as outlined above for placement of material to planned grades and if the CLIENT determines that the subgrade does not meet the standards set forth above, the CLIENT may require undercutting.

The following items may be required at the CLIENT's option, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY: Geotextile fabric or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the

JURISDICTIONAL GOVERNING ENTITY where proper compaction of embankments over existing soft soils is not possible. Geotextile fabric shall meet the material specifications of and shall be installed in accordance with the above standards. (2) EROSION CONTROL BLANKET

Erosion control blanket or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY for the stabilization of disturbed areas. Erosion control blanket shall meet the material specifications of and shall be installed in accordance with the above standards, the Kentucky Urban Manual and/or the details shown on the PLANS.

III.UNDERGROUND IMPROVEMENTS

A. GENERAL STANDARDS

All underground improvements shall be constructed and tested in accordance with the Standard Specifications for Water and Sewer Construction in Kentucky and Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Kentucky, latest edition. In the event of conflicting guidelines, the more restrictive shall govern.

SELECTED GRANULAR BACKFILL Selected Granular Backfill shall be required for all sewer and water main trenches lying under existing or proposed streets, driveways, parking lots and within 24" thereof, and where noted on PLANS. All material placed in such trenches shall be in accordance with the above standards.

MANHOLES, CATCH BASIN, INLETS & VALVE VAULTS

All Manholes, Catch Basins, Inlets, and Valve Vaults shall be constructed of reinforced precast concrete ring construction with tongue and groove joints in conformance with the latest revision of ASTM designation C-478. All joints between sections and frames (except sanitary manholes, see Section IIIB Manholes, below) shall be sealed with mastic type bituminous jointing compound. CONTRACTOR shall remove all excess mastic on inside of structure and butter joints with mortar. Manholes are to have offset cones except that no cone shall be used on storm manholes 6'-0" deep or less in which case a reinforced concrete flat top section shall be used, and Valve Vaults shall have concentric cones. Only concrete adjustment rings will be permitted where necessary and shall be limited to two adjustment rings totaling not more than 8" in height. All manholes and catch basin steps shall be copolymer polypropylene with continuous ½" steel reinforcement as manufactured by MA Industries, or approved equal.

AUGER/BORING AND CASING

Casing pipe shall be welded steel pipe, installed where shown on the PLANS. The carrier pipe shall be securely blocked and banded and sanitary and storm sewers shall maintain the specified gradient. Upon installing the carrier pipe the ends shall be sealed with hydraulic cement. AUGER (OPEN BORE)

The CONTRACTOR shall auger (open bore) where noted on PLANS.

HORIZONTAL AND VERTICAL SEPARATION OF WATER AND SEWER MAINS

Horizontal and vertical separation of water and sewer mains shall be in accordance with Standard Specifications for Water and Sewer Construction in Kentucky Section 41-2.01A and 41-2.01B and Standard Drawing 18, 19, 20, 21, 22, 23 and 24.

B. SANITARY SEWERS AND APPURTENANCES

SANITARY SEWER PIPE

STRUCTURE ADJUSTMENTS

Sanitary sewer pipe including building services, shall conform to the following:

Structures shall be adjusted to the finished grade as shown on PLANS.

- (1) Polyvinyl Chloride (PVC) Sewer Pipe shall conform to ASTM D3034 (4-inch thru 15-inch) or ASTM F679 (18-inch thru 48-inch) minimum SDR 26 with flexible elastomeric seal gasket gasketed joints conforming to ASTM D3212 and F477.
- (2) Ductile Iron Sewer Pipe shall conform with ANSI/AWWA C151/A21.51 Class 50, cement lined with push on type joints conforming to ANSI/AWWA
- (3) Extra Strength Clay Sewer Pipe shall conform with ASTM Specification C700 (glazed) with ASTM D1784 type joints conforming to Clow NO-BEL (ESVCP), with flexible gasket meeting ASTM C425 (MWRD only). Sanitary sewers shall include bedding and backfilling.

Manholes shall be constructed in conformance with Section IIIA Manholes, etc. above. The concrete base and bottom section shall be constructed of precast reinforced concrete monolithically cast sections including benches, pipe connection and invert flow lines. Manhole frame and lids shall be Neenah R-1772 or approved equal, with lids imprinted "SANITARY", with recessed pick holes. Manhole joints between adjustment rings and frames and between manhole sections shall be set on preformed plastic gasket consisting of a homogeneous blend of refined hydrocarbon resins and plasticizing compounds reinforced with inert mineral filler to provide a water tight seal. All pipe connection openings shall be precast with resilient rubber watertight pipe sleeves. A 10" elastomeric band (chimney seal) shall be installed extending from the manhole top to the manhole frame as shown on detail. Manholes shall include steps, frame & grate, bedding, and trench backfill.

FOUNDATION, BEDDING AND HAUNCHING Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on

ACCEPTANCE OF SANITARY SEWERS" of the Standard Specifications for Water and Sewer Construction in Kentucky or the JURISDICTIONAL

Sanitary sewers shall be air tested and tested for deflection in accordance with the requirements of Section 31-1.12 "TESTING AND INSPECTION FOR

videotape and report furnished to the JURISDICTIONAL GOVERNING ENTITY All sanitary manholes are to be tested for water tightness in accordance with ASTM C969 "Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines", or ASTM C1244 "Standard Test Method for Concrete Sewer Manholes by the Negative Pressure

GOVERNING ENTITY, whichever is more restrictive. In addition, a televised inspection of the completed sanitary sewers shall be conducted and a copy of the

A wye branch or "tee" and sanitary service line, properly plugged and sealed shall be constructed as shown on the PLANS. The ends of all services shall be marked with a 4"x4" post extending 36" above grade and painted red. The CONTRACTOR shall keep accurate records of all Wye or Tee locations as measured from the downstream manhole as well as the service lengths and furnish same to CLIENT.

Risers shall be constructed in locations as shown on the PLANS and according to the detail.

DROP MANHOLE CONNECTIONS Drop manhole connections to existing manholes shall be constructed according to the PLANS and the detail.

SANITARY SEWER FORCE MAIN

Sanitary sewer force main shall conform to the following: (1) Polyvinyl Chloride (PVC) Pressure Pipe conforming to the latest revision of ANSI/AWWA C900, Class 150 with integral bell and flexible elastomeric gasket joints conforming to ASTM F477.

(2) Ductile iron cement lined pipe conforming to the latest revision of ANSI/AWWA C151/A21.51, Thickness Class 50, minimum 150 psi working pressure with "push on" type joints. Force mains shall have a minimum of five feet six inches (5'-6") of cover and shall include bedding and trench backfill.

Upon completion of installation, force mains are to be plugged and pressure tested at 2 times the working pressure or total dynamic head for a period of 10 minutes, with no loss of pressure or as required by the JURISDICTIONAL GOVERNING ENTITY, whichever is more stringent.

TELEVISION INSPECTION Upon completion of construction a television inspection of the sanitary sewer system shall be performed on all portions of the sewer if required by the JURISDICTIONAL GOVERNING ENTITY. Videotapes and written report of all television inspections shall be provided to the CLIENT. The form of report and type and format of the videotape shall be approved by the JURISDICTIONAL GOVERNING ENTITY.

All sewers and appurtenances shall be cleaned prior to inspection and testing required by this section. All defects and corrective work required as the result of television inspection shall be performed by the CONTRACTOR without delay. All dips. cracks, leaks, improperly sealed joints and departures from approved grades and alignment shall be repaired by removing and replacing the involved sections of pipe. Upon completion thereof, the sewer shall be retested and such further inspection made as may appear warranted by the CLIENT.

MISCELLANEOUS All floor drains shall be connected to the sanitary sewer.

GOVERNING ENTITY and shall be imprinted "WATER".

TRACER WIRE

C. WATER MAINS AND APPURTENANCES

WATER MAIN PIPE (3" AND LARGER)

- Water main pipe shall conform to the following: (1) Ductile iron pipe shall be per ANSI/AWWA C151/A21.51, Thickness Class 52, minimum 150 psi working pressure, cement lined in accordance with ANSI/AWWA C104/A21.4, with "push on" type joints.(2)
- (2) Polyvinyl Chloride Pipe (PVC) conforming to the latest revision of ANSI/AWWA C900 (4-inch thru 12-inch) or ANSI/AWWA C905 (14-inch thru 48-inch) with a pressure rating of 235 psi, SDR 18 in accordance with ASTM D2241. Joints shall be pressure rated in accordance with ASTM D3139 with elastomeric seals in accordance with ASTM F477.

Installation shall be in accordance with ANSI/AWWA C600 (Ductile Iron) or ANSI/AWWA C605 (PVC). All water main shall have mechanical joint cast iron or ductile iron fittings in accordance with ANSI/AWWA C110/A21.10 or compact ductile iron fittings in accordance with ANSI/AWWA C153/A21.53 with 250 psi working pressure. Poured or monolithic concrete thrust blocks are required to brace all tees, plugs, caps, and bends of 11 1/4 degree deflection or greater. Minimum cover for

all water mains, including services, shall be 3'-0" from the finished grade. Water main shall include bedding and backfilling. All valves shall be resilient wedge gate valves conforming to the latest revision of ANSI/AWWA C515, with a rated working pressure of 200 psi in accordance

with JURISDICTIONAL GOVERNING ENTITY requirements, except that butterfly valves conforming to ANSI/AWWA C504 shall be constructed on all water mains 16" diameter and larger. Valves shall be non-rising stem and shall close by turning clockwise.

Valve vaults shall be constructed in conformance with Section IIIA Manholes, etc. above. Frame and lids shall be as approved by the JURISDICTIONAL

Valve boxes shall be constructed in conformance with the standard detail. Valve boxes shall be cast iron extension screw type having lids imprinted with the

FIRE HYDRANTS Fire Hvdrants shall be per JURISDICTIONAL GOVERNING ENTITY requirements. All fire hydrants shall be located as shown on the PLANS and shall be painted in a manner acceptable to the JURISDICTIONAL GOVERNING ENTITY after installation and shall be adjusted to final grade.

The CONTRACTOR shall determine from the JURISDICTIONAL GOVERNING ENTITY as to the exact style, type, and manufacture of corporation stops, ground key stops and services boxes preferred by the JURISDICTIONAL GOVERNING ENTITY and shall furnish same.

SMALL WATER SERVICES (2" DIAMETER OR LESS) Water services shall be type K copper size as shown on PLANS, and constructed where shown on the PLANS. The ends of all services shall be marked with a 4"x4" post extending 36" above grade and painted blue. The CONTRACTOR shall keep accurate records of tap locations and service box locations, as well

Disinfections shall meet all of the requirements of the State of Kentucky, Environmental Protection Agency, Public Water Supplies Division. The safe quality of the water supply shall be demonstrated by bacteriological analysis of samples collected at sampling taps on at least two consecutive days following

disinfection of the mains and copies of the said report submitted to the JURISDICTIONAL GOVERNING ENTITY and the CLIENT. PRESSURE TEST Allowable leakage, test pressure and duration shall be as per the requirements of the JURISDICTIONAL GOVERNING ENTITY.

as the service lengths and furnish same to CLIENT. Water services shall include bedding and backfilling.

PRESSURE CONNECTION TO EXISTING WATER MAIN The CONTRACTOR shall maintain system pressure on existing water main at all times. Existing water main shall be located and material excavated, and valve basin slab and main supports installed. The existing water main shall be cleaned and the exterior disinfected prior to installing the tapping tee (material to conform to AWWA C110). The tapping valve shall be installed (valve to conform to AWWA C500) and the pressure tap completed in accordance with the detail on the plans. Valve shall be constructed in conformance with the detail. Payment for pressure connection to existing water main shall include disinfection, tapping valve and tee, valve vault, frame and lid, bedding, and trench backfill.

DRY CONNECTION TO EXISTING WATER MAIN A dry connection to existing water main shall include a connection to an existing water main stub where shown on the PLANS. The CONTRACTOR shall obtain approval of the JURISDICTIONAL GOVERNING ENTITY to shut down any main, including submittal of a schedule of the time of shut off and the time the line will be returned to service. All mains shut down that are opened to atmosphere must be disinfected prior to returning main into service.

POLYETHYLENE ENCASEMENT (FOR DUCTILE IRON WATER MAIN ONLY) The CLIENT, or JURISDICTIONAL GOVERNING ENTITY may request that portions of the water main be enclosed in a polyethylene encasement in accordance with ANSI/AWWA C105/A21.5 should soil conditions so warrant its use.

FOUNDATION, BEDDING AND HAUNCHING Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on

If the distance between valves when installing PVC pipe exceeds 1,000', tracer wire stations will be required for current induction. Tracer wire stations in grass areas will be Rhino TriView Flex Tracing Wire Stations or approved equal. In paved areas, they will be Valvco Tracer Wire Access Box for H2O loading or approved equal. For open cut construction, using PVC pipe, a continuous, insulated, 12 gauge copper wire suitable for direct burial shall be taped on top of all piping to provide for locating following construction. This wire shall be securely terminated inside every valve vault on stainless steel hardware with an exposed lead of at least 12". A mechanically secure and soldered connection shall be provided for all wire splices. Where construction is by directional drilling or similar trenchless technology the tracer wire shall be 3/16" 7x19 PVC coated stainless steel aircraft cable with minimum breaking strength of 3,700 lbs (Lexco, Chicago, IL). Or Trace-Safe water blocking tracerwire RT series 19 gauge conductor (RT 1802W water, RT 1803W sewer).

Before final approval of any water main, there will be a monitored tracer wire continuity test in order to confirm proper installation of any tracer wire

D. STORM SEWERS AND APPURTENANCES

joints, except that bituminous mastic joints may be used in grass areas

Storm sewer pipe shall conform to the following:

- (1) Reinforced concrete pipe minimum Class IV in conformance with the latest revision of ASTM designation C76 with C361 or C443 flexible gasket
- (2) Polyvinyl Chloride (PVC) Pipe: ASTM D3034 (4-inch thru 15-inch) or ASTM F679 (18-inch thru 36-inch), rated SDR 35, continually marked with
- manufacturer's name, pipe size, cell classification, SDR rating. Joints shall be flexible elastomeric seals conforming to ASTM D3212. (3) Ductile Iron Pipe (DIP) shall conform to ANSI/AWWA C151/21.5, Class 50 cement lined with push on type joints conforming to ANSI/AWWA
- (4) Spiral Rib Metal Pipe Type 1R: 18-inch diameter and greater. Pipe ends shall be re-corrugated and installed with semi-corrugated Hugger type
- brands and "O" ring gaskets. (Only permitted with Municipality approval and/or when specifically indicated on PLANS). (5) High Density Polyethylene Pipe (HDPE) Smooth Interior, AASHTO Designation M252 and M294, maximum diameter of 48 inches. Pipe joints and
- indicated on PLANS). (6) Polypropylene (PP) Pipe shall have a smooth interior and annular exterior corrugations and shall meet or exceed ASTM F2881 and AASHTO M330. Pipe shall be joined with a gasketed integral bell & spigot joint meeting the requirements of ASTM F2881. PP Pipe shall be watertight according to

fittings shall be watertight gasketed joints. No band seals will be allowed. (Only permitted with Municipality Approval and/or when specifically

- the requirements of ASTM D3212. Spigots shall have gaskets meeting the requirements of ASTM F477. (Only permitted with Municipality Approval and\or when specifically indicated on PLANS.) (7) Polyvinyl Chloride (PVC) large diameter closed profile gravity sewer pipe, UNI-B-9: ASTM F794. (Only permitted with Municipality Approval and/or
- when specifically indicated on PLANS). (8) Corrugated Steel (Metal) Pipe (CSP or CMP), ASTM A760, 16 gauge unless noted on PLANS. Corrugated steel pipe may be round pipe, arch pipe, or slotted drainpipe as indicated on PLANS. Slotted drainpipe shall have 1.75 inches wide drain waterway openings and 6 inches minimum height

drain guide. (Only permitted with Municipality approval and/or when specifically indicated on PLANS). Precast tees, bends, and manholes may be used if permitted by the JURISDICTIONAL GOVERNMENTAL ENTITY.

Storm sewer shall include bedding and trench backfill. MANHOLES, INLETS & CATCH BASINS

Manholes, Inlets and Catch Basins shall be constructed in conformance with Section IIIA Manholes, etc. above. The space between connecting pipes and the wall of the manhole shall be completely filled with non-shrink hydraulic cement mortar. Frames and lids shall be Neenah or approved equal unless specified otherwise on the PLANS. All frames and grates shall be provided such that the flange fully covers the opening plus 2" of the structure as a minimum. * Provide "Vane" Type frame & grate for all structures located in curb where gradient exceed 2.0%. Manholes shall include steps, frame & grate, bedding and trench

Storm sewers may be constructed with reinforced concrete pipe using only flexible gasket joints (ASTM 361 or 443) for water main crossings.

FLARED END SECTION

Flared end sections shall be pre-cast reinforced concrete flared end section with an end block cast separate as per the Kentucky Department of Transportation Standard 542301 and shall be installed where shown on the PLANS. All flared end sections for storm sewers 12" in diameter and larger shall be installed with a grating per Standard 542311 and/or as detailed on the PLANS. Work shall include end block.

Stone rip rap consisting of pieces of "A" quality stone 4" to 8" in diameter shall be furnished and installed in accordance with KYTC Specifications and shall be placed where shown on the plans, to a minimum thickness of 12" and a width as indicated on the plans. Broken concrete or concrete blocks will not be

FOUNDATION, BEDDING AND HAUNCHING Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on

Pipe underdrains shall be corrugated flexible plastic pipe conforming to AASHTO Designation M252 perforated corrugated polyethylene pipe (PE) with a smooth interior of the diameter indicated on the PLANS and wrapped in a soil filter fabric supplied and installed by the CONTRACTOR. Perforations may be circular or slotted, but shall provide a minimum inlet area of 1.0 square inch per 2.0 linear feet of pipe. CONTRACTOR shall submit fabric and pipe catalogue Specifications for approval by the CLIENT. CONTRACTOR shall bed and backfill the underdrain in one of the following KYTC gradations of aggregate (CA-5, CA-7, CA-11, CA-14 or CA-15).

- (1) All existing field drainage tile or storm sewers encountered or damaged during construction shall either be restored to their original condition, properly rerouted and/or connected to the storm sewer system. (2) Footing drains shall be connected to sump pumps or discharged directly into storm sewers. Footing drains or drainage tile shall not be connected to
- the sanitary sewer. **CONNECTION FOR STORM SERVICE TO STORM MAIN** Connections of storm sewer services to storm sewer mains should be made with manufactured tees when available. Availability of manufactured tees will be a function of the storm sewer material and pipe diameter size of the service sewer and main. If manufactured tees are not reasonably available, connections

should be made in accordance with manufacturer's recommendations for all storm sewer other than concrete pipe. For concrete pipe connections without

service sewer shall be cut flush with the inside wall of the sewer main and not extend into the inside flow area of the main or otherwise impede flow.

manufactured tees the storm sewer main shall be machine cored and the service sewer connected using non-shrink grout for the void between pipes. The

IV. ROADWAY AND PARKING LOT IMPROVEMENTS

the specified strenath.

UNDERDRAINS

MISCELLANEOUS

Work shall be completed in accordance with the applicable sections of the Standard Specifications for Road and Bridge Construction, Department of Transportation. State of Kentucky, latest edition (hereinafter referred to collectively as the "Standard Specifications") except as modified below and except that payment will be defined as detailed in the contract documents between the CLIENT and the CONTRACTOR. Supplementing the Standard Specifications shall be the applicable sections of the latest editions of the "Supplemental Specifications and Recurring Special Provisions", the "Manual on Uniform Traffic Control Devices for Streets and Highways" and the Kentucky Supplement thereto, (hereinafter referred to collectively as the "MUTCD"). Any references to

"ENGINEER" in the "Standard Specifications" shall be interpreted as the CLIENT or CLIENT's Construction Representative. SUBGRADE PREPARATION

The CONTRACTOR shall be responsible for all subgrade compaction and preparation to the lines and grades shown on the plans.

AGGREGATE BASE COURSE TYPE 'B' Aggregate Base Course Type B shall be limited to CA-6 or CA-10 gradation. Aggregate base courses shall be proof rolled as outlined below.

The CONTRACTOR shall proof roll the subgrade with either a 2-axle truck loaded to 27,000 lbs. Or a 3-axle truck loaded to 45,000 lbs. or as specified by the

JURISDICTIONAL GOVERNING ENTITY. The CLIENT and JURISDICTIONAL GOVERNING ENTITY shall observe and approve the proof rolling of the

Additional testing will be required if the pavement subgrade is disturbed and/or material is removed from or placed on the pavement subgrade after proof

subgrade and the base course. Proof rolling tolerances shall be a maximum deflection of 1" for the subgrade and ½" for the base course. The above criteria is intended as a maximum deflection standard and that proof rolling of a majority of the area will have less deflection than specified above. In any case of deficiency, the subgrade and/or base course shall be repaired and retested before proceeding with the pavement construction. Pavement subgrade material shall not be removed, placed or disturbed after proof roll testing has been completed prior to the pavement construction.

rolling approval. Trucks or heavy equipment shall not travel on any pavement subgrade after final testing prior to pavement construction.

HOT-MIX ASPHALT BASE COURSE HMA Base Course shall meet the requirements of KYTC or N50 mix design as indicated and shown on the plans. The maximum amount of recycled asphalt

pavement allowed shall be 30% in a N30 mix design and 25% in a N50 mix design.

HOT-MIX ASPHALT BINDER AND SURFACE COURSE HMA binder and surface courses, shall be constructed to the compacted thickness as shown on the PLANS. The base course shall be cleaned and primed in accordance with the JURISDICTIONAL GOVERNING ENTITY. The surface course shall be placed after the base and courses have gone through one winter season, or as directed by the CLIENT. Before applying the surface course, the binder course shall be thoroughly cleaned and primed in accordance with the JURISDICTIONAL GOVERNING ENTITY. Prior to the placement of the surface course, the JURISDICTIONAL GOVERNING ENTITY shall examine the

completed pavement, including curb and gutter, and all failures shall be corrected by the CONTRACTOR. CONCRETE PAVEMENTS Concrete pavements shall be constructed in accordance with American Concrete Institute Standard ACI330R-08 and as shown on the PLANS.

Slabs and driveway aprons shall be constructed with 6" x 6" - W1.4 x W1.4 welded wire fabric positioned on steel chair supports. Placing fabric during the concrete pouring operation will not be allowed. Sawing of joints shall commence as soon as the concrete has cured and hardened sufficiently to permit sawing without excessive raveling, but no later than eight hours after the concrete has been placed. All joints shall be sawed to a depth equal to 1/3 of the pavement thickness before uncontrolled shrinkage cracking take place. If necessary, the sawing operation shall occur during the day or at night, regardless of weekends, holidays or weather conditions. The

Concrete pavements shall be constructed with #4 rebar, 12" O.C., with fiber concrete, slip dowels at joints. PSI determined by geotech and Civil.

The CONTRACTOR is responsible to guard fresh concrete until it sets and hardens sufficiently to prevent people from writing, walking, riding bicycles or otherwise permanently marking, defacing or causing depressions of any type in the concrete. Any concrete so marked will be removed and replaced by the CONTRACTOR at the CONTRACTOR's expense. The CONTRACTOR shall protect the pavement against all traffic, including that of their own employees or other workers, until test specimens have attained

Fuel Island Pavement is 8-10" fiber reinforced concrete with #4 rebar 18" O.C. in both directions.

CONTRACTOR shall be aware of jurisdictional noise ordinances and holiday restrictions for scheduling purposes.

Concrete sidewalks shall be constructed to width and thickness as shown on the PLANS. Sidewalks shall be thickened to a minimum of 6" at all driveways. All sidewalks shall be KYTC Class SI concrete, on aggregate base as shown on the detail. A 3/4" expansion joint shall be provided when meeting existing sidewalk. **CURB AND GUTTER**

Curb and gutter shall be as per the detail shown on the PLANS, which shall include compacted aggregate base course under the curb and gutter. All contraction and expansion joints shall be constructed as per the detail. CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT The CONTRACTOR shall saw cut and remove the existing concrete curb where shown on the PLANS and install a curb of similar cross section and pavement

condition (i.e., sod, gravel, topsoil). Where proposed curb connects to an existing curb, the existing curb shall be saw cut and then two 18" long x 3/4" (#6) dowel bars shall be drilled and installed 9" into the existing and proposed curb. Bars shall be installed in a location similar to the expansion joint in the curb. FRAME ADJUSTMENTS The road contractor shall be responsible for making final adjustments and the setting on a bituminous mastic jointing compound all castings located in the

The CONTRACTOR shall furnish and apply painted marking lines, letters & symbols of the patterns, sizes and colors where shown on the PLANS. Paint

to that removed (or depressed curb and autter if shown on the PLANS). Upon completion of the curb and gutter any voids between the existing pavement and

the new curb shall be filled with concrete to within 2" of the final surface, which is to be filled with bituminous payement. The area behind the curb shall be

filled and compacted with embankment material within 6" of the top of the new curb. The CONTRACTOR shall then restore the remaining 6" to its original

roadway, sidewalks, and parking areas prior to construction of any curbing, sidewalk, or final surface. Any structures that need to be lowered, or raised in excess of 4" shall be completed and the work backcharged against the underground contractor. This Contractor shall also be responsible for cleaning all of the above structures immediately upon completion of his phase of work. This work shall be incidental to the cost of the pavement. **PAVEMENT MARKING - PAINT**

pavement marking shall be applied in accordance with the KYTC Standard Specifications. PAVEMENT MARKING - THERMOPLASTIC The CONTRACTOR shall furnish and apply extruded thermoplastic pavement marking lines, letters and symbols of the patterns, sizes and colors where shown on the PLANS. Thermoplastic pavement marking shall be installed in accordance with the KYTC Standard Specifications.

The CONTRACTOR shall provide all testing necessary to ensure improvements are in accordance with the project specifications and provide testing documentation that specifications were met.

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PROJ. MGR.: __**JM**I PROJ. ASSOC.: MSP

4/18/2022 <u>N.T.S.</u> SCALE:

FINAL LANDSCAPE PLAN

R+L CARRIERS - GEORGETOWN

CHERRY BLOSSOM WAY SPUR CITY OF GEORGETOWN, KENTUCKY

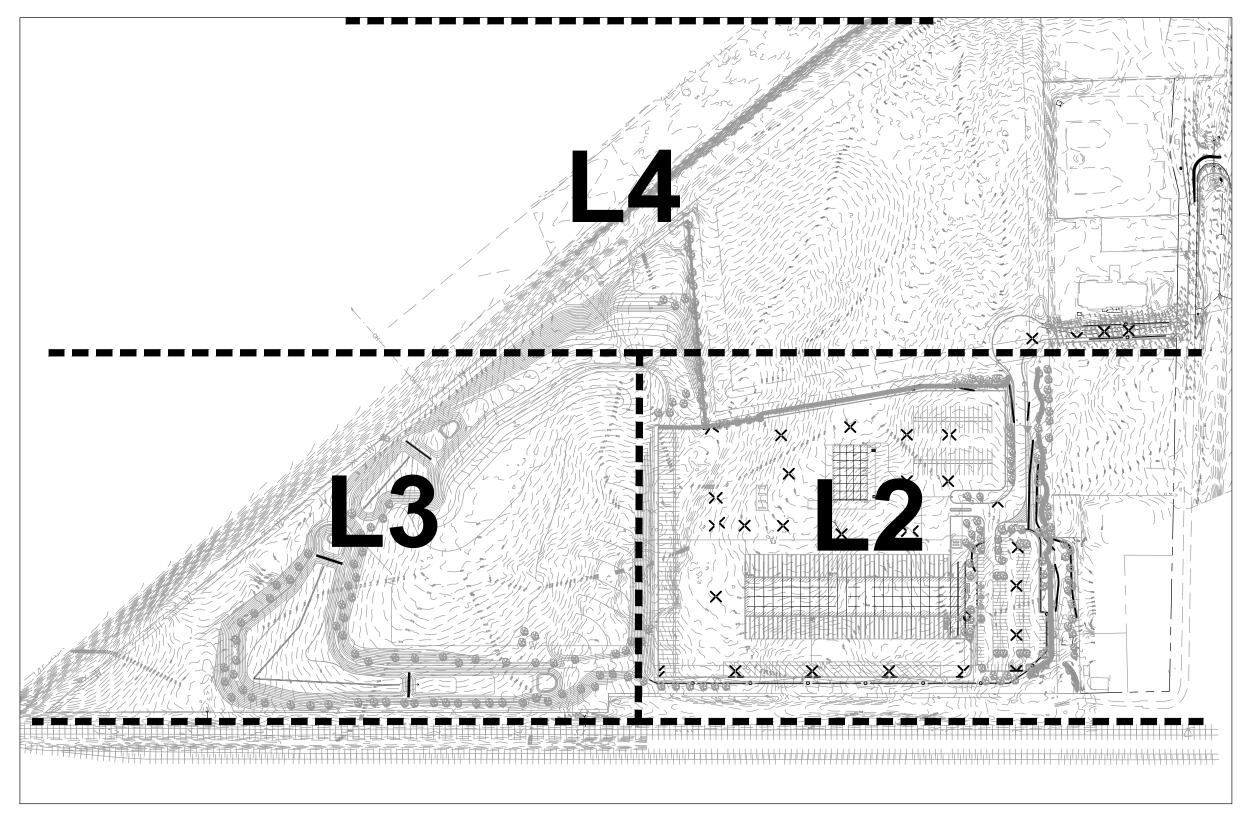
INDEX OF SHEETS								
SHEET NO.	DESCRIPTION							
L1	TITLE SHEET AND LANDSCAPE SUMMARY							
L2	LANDSCAPE PLAN - NORTH							
L3	LANDSCAPE PLAN - SOUTH							
L4	LANDSCAPE PLAN - WEST							
L5	LANDSCAPE PLAN DETAILS							
L6	LANDSCAPE SPECIFICATIONS							

PLANT SCHEDU DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
ACE MOU	12	Acer saccharum 'PNI 0285' TM	Green Mountain Sugar Maple	2" Cal.	B&B	
ALN GLU	11	Alnus glutinosa	European Alder	2" Cal.	B&B	
BET CUL	11	Betula nigra 'Cully' TM	Heritage River Birch	2" Cal.	B&B	
CAR OVA	10	Carya ovata	Shagbark Hickory	2" Cal.	B&B	
CEL CHI	21	Celtis occidentalis 'Chicagoland'	Chicagoland Hackberry	2" Cal.	B&B	
GIN AUT	15	Ginkgo biloba 'Autumn Gold' TM	Autumn Gold Maidenhair Tree	2" Cal.	B&B	
GLE SKY	14	Gleditsia triacanthos inermis 'Skyline'	Skyline Honey Locust	2" Cal.	B&B	
GYM KEN	17	Gymnocladus dioica	Kentucky Coffeetree	2" Cal.	B&B	
LIQ FES	11	Liquidambar styraciflua 'Festival'	Festival Sweet Gum	2" Cal.	B&B	
QUE BIC	17	Quercus bicolor	Swamp White Oak	2" Cal.	B&B	
QUE MAC	14	Quercus macrocarpa	Burr Oak	2" Cal.	B&B	
QUE RUB	10	Quercus rubra	Red Oak	2" Cal.	B&B	
TAX MIC	12	Taxodium distichum 'Mickelson' TM	Shawnee Brave Bald Cypress	2" Cal.	B&B	
TIL GSP	18	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	2" Cal.	B&B	
						<u> </u>
EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
ABI CON	6	Abies concolor	White Fir	5` Ht.	B&B	
PIC ABI	14	Picea abies	Norway Spruce	5` Ht.	B&B	
PIN STR	5	Pinus strobus	White Pine	5` Ht.	B&B	
DECIDUOUS SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
ARO ABR	37	Aronia arbutifolia 'Brilliantissima'	Brilliant Red Chokeberry	5 gal.		
CLE PIN	18	Clethra alnifolia 'Pink Spires'	Pink Spires Summersweet	5 gal.		
COR FA4	48	Cornus sericea 'Farrow' TM	Arctic Fire Red Twig Dogwood	5 gal.		
COT LUC	14	Cotoneaster lucidus	Shiny Cotoneaster	5 gal.		
MYR PEN	37	Myrica pensylvanica	Northern Bayberry	5 gal.		
RHU ARO	16	Rhus aromatica	Fragrant Sumac	5 gal.		
RIB GRE	20	Ribes alpinum 'Green Mound'	Green Mound Alpine Currant	5 gal.		
VIB DEN	36	Viburnum dentatum 'Arrowwood'	Arrowwood Viburnum	5 gal.		
EVERGREEN SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMARKS
ILE CON	57	Ilex crenata 'Convexa'	Convex-leaved Japanese Holly	5 gal.		
ILE BLU	53	Ilex x meserveae 'Blue Angel'	Blue Angel Holly	5 gal.		
PIN CO2	47	Pinus mugo 'Compacta'	Dwarf Mugo Pine	5 gal.		
TAX DEN	61	Taxus x media 'Densiformis'	Dense Anglo-Japanese Yew	5 gal.		
TULLTEC	57	Thuis occidentalis 'Techny'	Techny Arbonyitae	E, Ft	Pot	

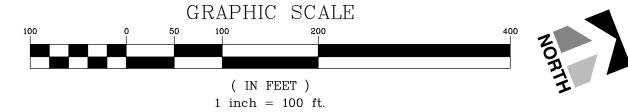
THU TEC Thuja occidentalis 'Techny' Techny Arborvitae 5` Ht. Pot

Legend **Gravel Locations** Cardno Stormwater Seed Mix Cardno Economy Prairie Seed Mix

Cardno Wetland Emergent Seed Mix



KEY MAP



Landscape Notes:

- Seed/ Sod limit line is approximate. Seed/ Sod to limits of grading and disturbance. Contractor responsible for restoration of any unauthorized disruption outside of designated construction area.
- Contractor responsible for erosion control in all seeded/ sodded areas.
- 3. Tree mulch rings in turf areas are 5' diameter. Contractor shall provide a mulch ring around all existing trees within the limits of work. Remove all existing grass from area to be mulched and provide a typical spade cut edge. Landscape Fabric shall not be installed under mulch.
- Bedlines are to be spade cut to a minimum depth of 3". Curved bedlines are to be smooth and not segmented.
- All planting, beds shall receive top dressing of mulch. Landscape fabric shall not be installed under mulch.
- 6. Do not locate plants within 10' of utility structures or within 5' horizontally of underground utility lines unless otherwise shown on plans. Consult with Landscape Architect if these conditions exist.
- 7. For Lump Sum Contracts, plants and other materials are quantified and summarized for the convenience of the Owner and jurisdictional agencies only. Confirm and install sufficient quantities to complete the work as drawn and specified. No additional payments will be made for materials required to complete the work as drawn and specified.
- For Unit Price Contracts, payments will be made based on actual quantities installed as measured in place by the Owner's Representative. 9. It iš the responsibility of the contractor to locate and provide plant material as specified on this plan. The contractor may submit a request to provide substitutions for the specified plant material under the following conditions:
 - a. Any substitutions proposed shall be submitted to the project owner's representative within two weeks of the award of contract. Substitutions must meet equivalent design and functional goals of the original materials as determined by the owner's representative. Any changes must have the approval of the owner's representative,
 - b. The request will be accompanied by at least three notices from plant material suppliers that the plant material specified is not available and will
- c. The City of Georgetown Plan Commission must also review and approve any substitutions for the specified plant material. 10. Verify site conditions and information on drawings. Promptly report any concealed conditions, mistakes, discrepancies or deviations from the information shown in the Contract Documents. The Owner is not responsible for unauthorized changes or extra work required to correct unreported discrepancies. Commencement of work shall constitute acceptance of conditions and responsibility for corrections
- 11. A minimum of two working days before performing any digging, call underground service alert for information on the location of natural gas lines, electric cables, telephone cables, etc. The contractor shall be responsible for location and protection of all utilities, and repair of any damage resulting from his work at no additional cost to the owner.
- 12. Contractor shall promptly repair all damages to existing site at no cost to owner.
- 13. Refer to landscape specifications for additional conditions, standards, and notes.

City of Georgetown Required Landscaping

PLANTING MATERIAL REQUIREMENTS

Requirement: Deciduous trees must be 2" Cal min., Evergreens must be 5' ht., Shrubs must be 12", 2' or 3' depending on ordinance requirements.

SUBJECT PROPERTY - ZONED = I-1

PROPERTY PERIMETER LANDSCAPING REQUIREMENTS

Requirement: 50% winter opacity and a 70% summer opacity

Northeast Property Line - I-1 adjacent to B-2 - 944.20 linear feet Requirement: 15' Buffer with One (1) Tree per 40' linear feet of Group A or B, plus a 6' high hedge or 6' high fence, wall or earth mound.

1,348.70 / 40 = (44.95) = 45 Group "A" or "B" Trees

On Plan: 45 Trees and 6' continuous of screening

Northwest Property Line - I-1 adjacent to A-1 - 1,436.75 linear feet Requirement: 15' Buffer with One (1) Tree per 40' of linear boundary (Only Group A), or One (1) Evergreen Tree/15' of linear boundary, or One (1) Tree/20' of linear boundary combination of 50% Trees from Group A and 50% small flowering trees or evergreen trees, or one (1) small flowering tree/15' of linear

1,436.75 / 40 = (35.92) = 36 Group "A" Trees

On Plan: 40 Trees and 6' continuous screening and chain link fence along property

Southeast Property Line - I-1 adjacent to Railroad - 2,684.52 linear feet Requirement: No Requirement

Southwest Property Line - I-1 adjacent to Highway 75 - 2,192.06 linear feet Requirement: No Requirement

Required- 85 Group "A" or "B" Trees and 6' continuous of screening On Plan - 85 Group "A" or "B" Trees and 6' continuous of screening

VEHICULAR USE AREA PERIMETER REQUIREMENTS

Requirement: Vehicular Use Perimeters needed adjacent to properties that are not adjacent to industrial or agricultural properties.

Required - Not Required because the Buffer adjacent to B-2 satisfies this

On Plan - Using Buffer of I-1 adjacent to B-2 satisfies the requirement

INTERIOR LANDSCAPE FOR VEHICULAR USE REQUIREMENTS

Requirement: For every 100 sq. ft. then 10 sq. ft. of the landscape area shall be provided

Total Interior Parking Lot Area = 59,070 Square Feet * 0.10 = 5,907 Square Feet of Landscape Area

5,907 / 250 = (23.63) = 24 Trees

Required - 24 Group "A" or "B" Trees and 5,907 Square Feet of Landscape Area On Plan - 24 Group "A" or "B" Trees and 5,907 Square Feet of Landscape Area

CANOPY TREE REQUIREMENTS

Amount of Disturbed Area: 1,607,273 Square Feet 1,607,273 x .10 = 160,727 Square Feet of Canopy Tree Requirement

Small Trees = 100 square feet Medium Trees = 400 square feet Large Trees = 750 square feet

160,727 / 750 = (214.3) = 214 Large Trees

Required - 214 Large Trees total needed on the Plan On Plan - 214 Large Trees along the disturbed Area

SCREENING OF OUTDOOR STORAGE REQUIREMENT

Requirement: All outdoor storage areas in industrial zones shall be screened by a solid wall or fence not less than six (6) feet in height.

On Plan - 6' Chain Link Fence proposed along with continuous screening of plant material (See Northwest Property Line Screening)

Large Trees (Over 50 Feet in Height)

PLANT MATERIAL TYPES - from Planting Manual List

Group "B":	MT	Medium Trees (25 to 50 Feet in Height)
Group "C":	LST	Large Shrubs or Small Trees (10 to 25 Feet in He
Group "D":	MS	Medium Shrubs (6 to 10 Feet in Height)
Group "E":	SS	Small Shrubs (4 to 6 Feet in Height)
Group "F":	LS	Low Shrubs (1 $\frac{1}{2}$ " to 4 Feet in Height)

Ground Cover (Below 1 $\frac{1}{2}$ " in Height)

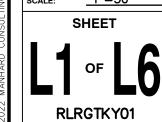


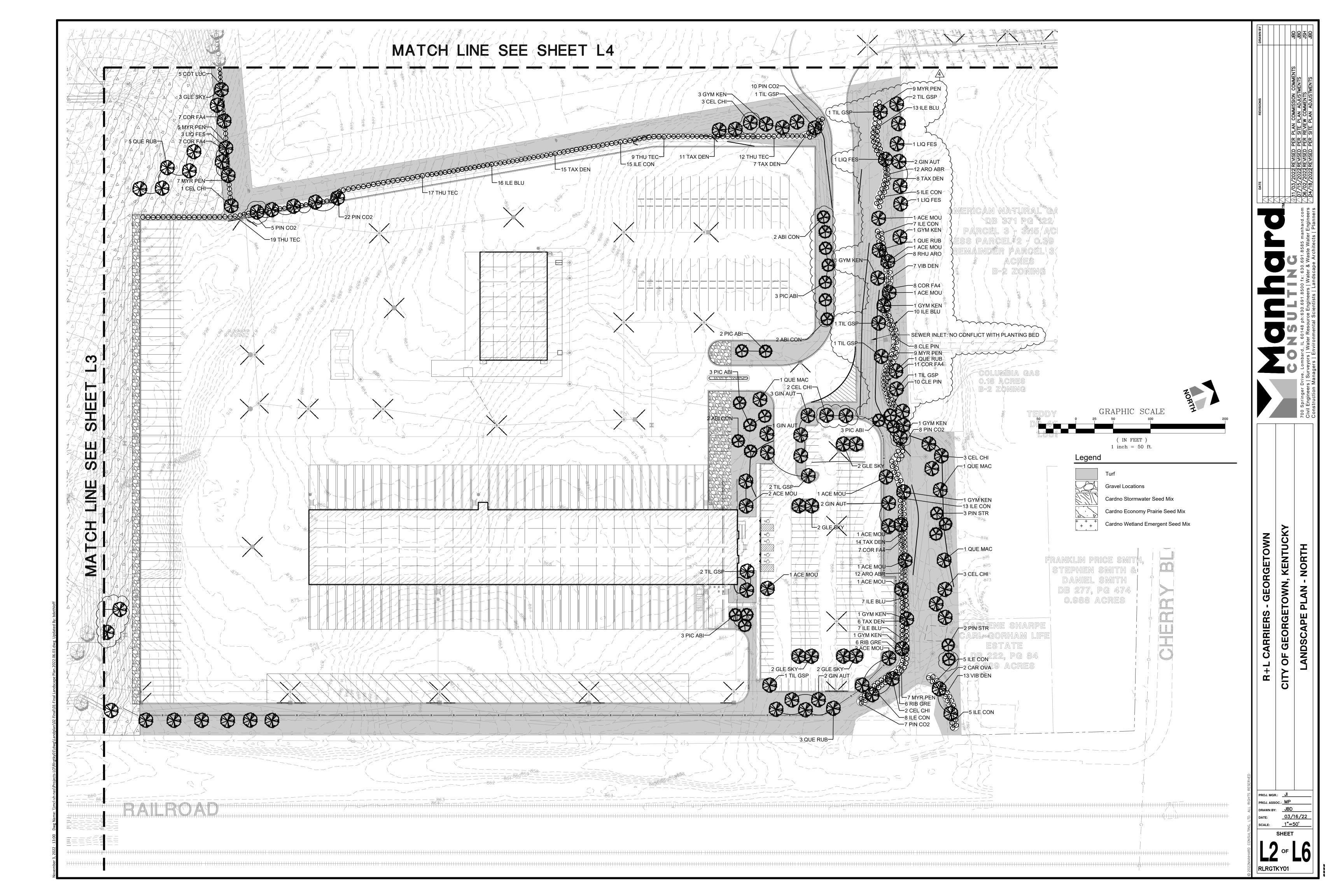
1/03/2022 REVISED PER PLAN COMMISSION COMMENTS 7/15/2022 REVISED PER SITE PLAN ADJUSTMENTS 6/02/2022 REVISED PER REVIEW COMMENTS 4/18/2022 REVISED PER SITE PLAN ADJUSTMENTS

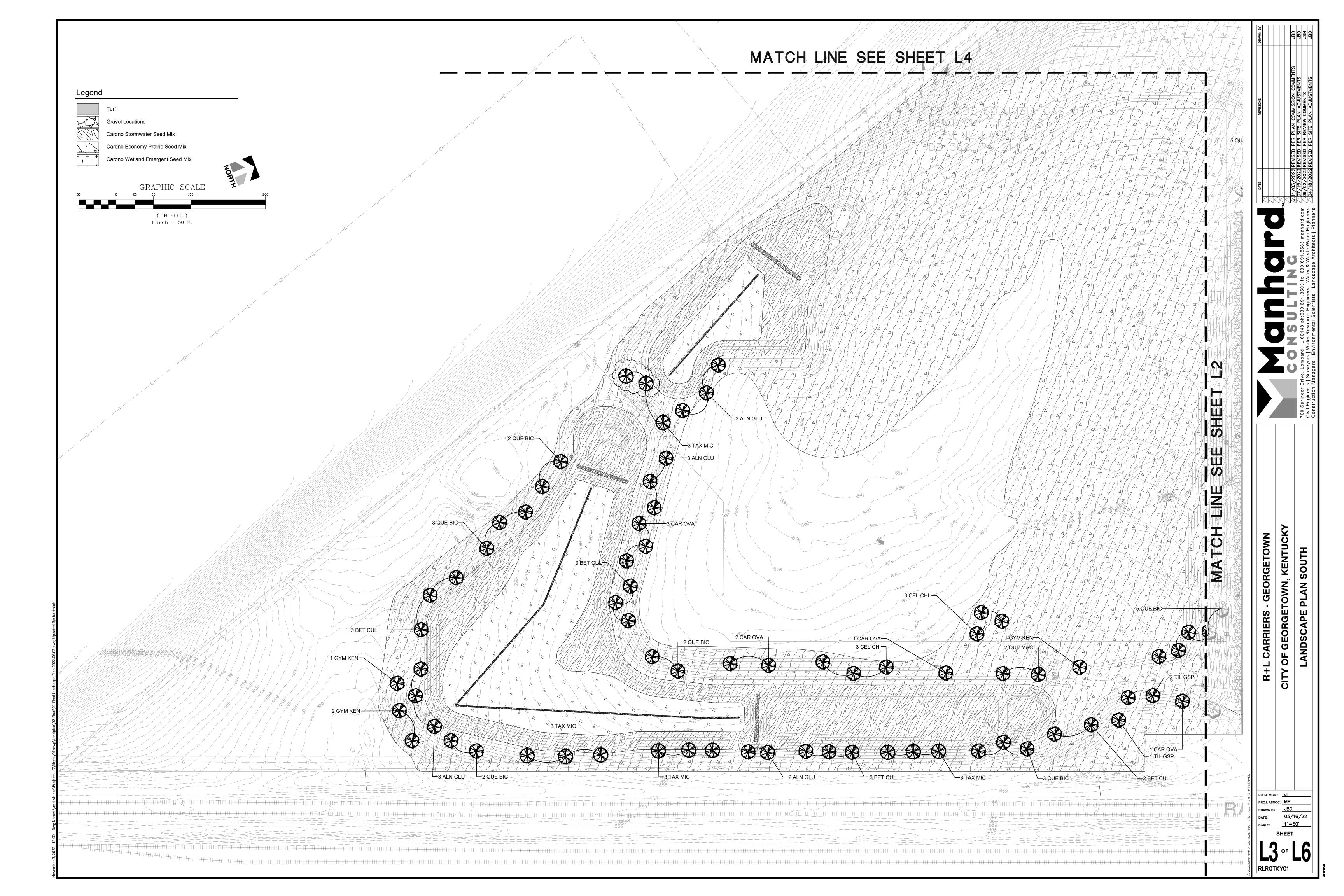
SUMMAI KENTUCKY GEORGETOWN

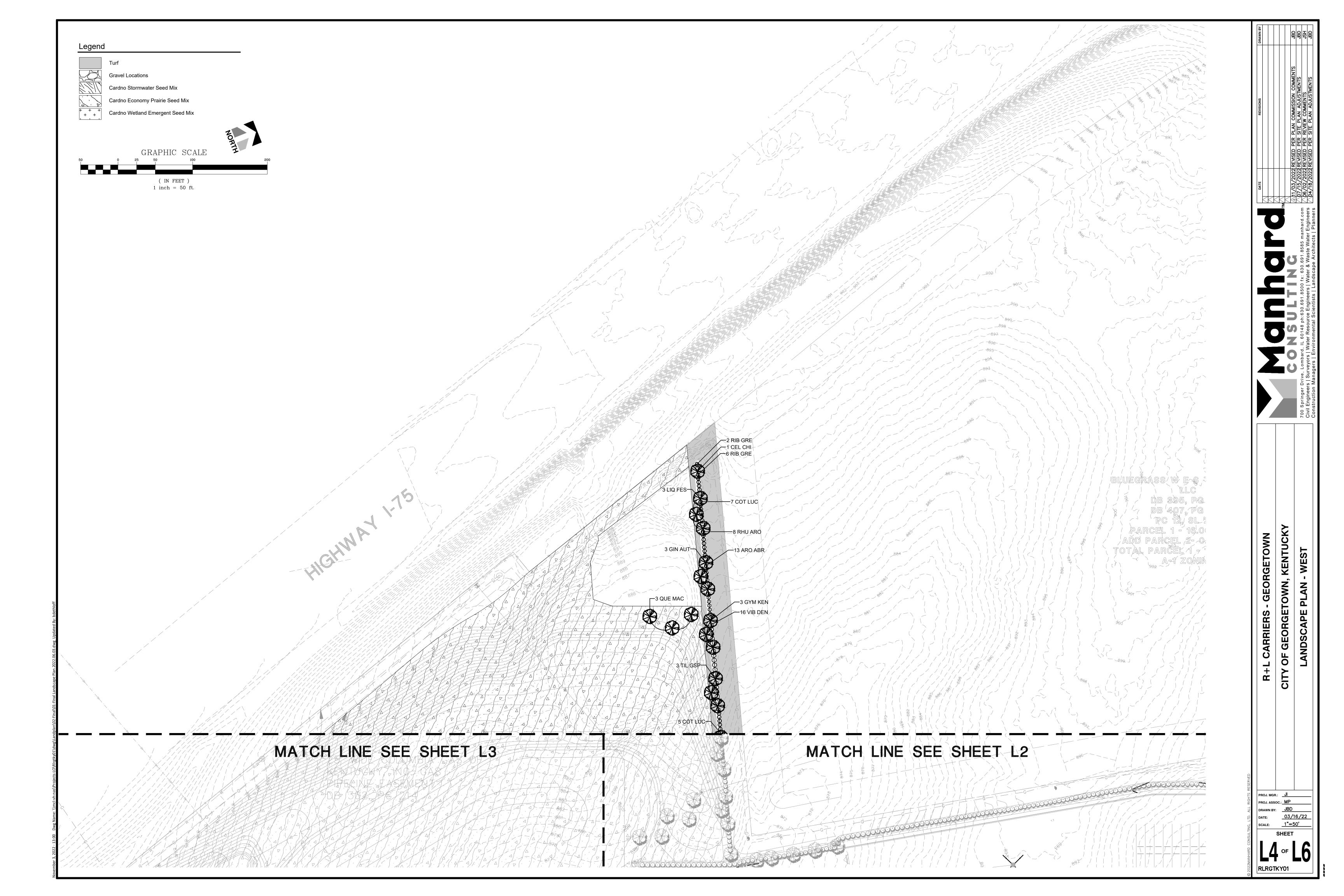
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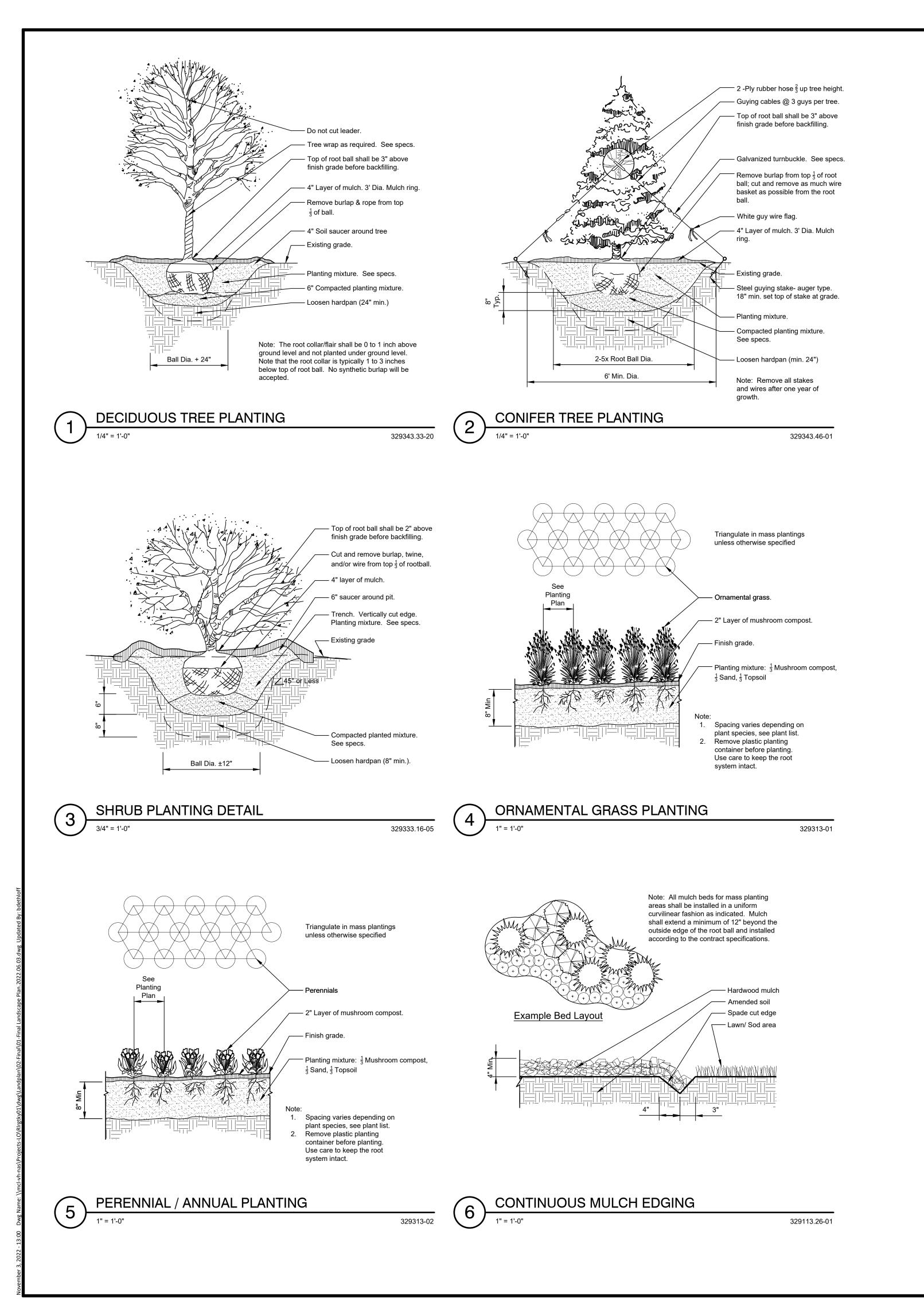
PROJ. MGR.: __J 03/16/22 <u>1"=50'</u> SCALE:











TTM 411/03/2022 REVISED PER PLAN COMMISSION COMMENTS D7/15/2022 REVISED PER SITE PLAN ADJUSTMENTS D6/02/2022 REVISED PER REVIEW COMMENTS D4/18/2022 REVISED PER SITE PLAN ADJUSTMENTS OF GEORGETOWN, KENTUCKY GEORGETOWN LANDSCAPE DETAILS CARRIERS -R+L CITY PROJ. MGR.: <u>Jl</u> DRAWN BY: JBD 03/16/22 DATE: 1"=50'

GENERAL PLANTING SPECIFICATIONS:

PART 1 - GENERAL

1-01 DESCRIPTION:

- A. Provide trees, shrubs, perennials and groundcovers as shown and specified. This work includes: 1. Spreading of topsoil or soil preparation
- 2. Trees, shrubs, perennials and groundcovers
- Planting mixes
- 4. Mulch and planting accessories
- 5. Fertilizer and herbicide
- Maintenance 7. Warranty of plant material
- B. The Contractor shall verify all existing conditions and dimensions in the field prior to bidding and report any discrepancies to the Owner or his/her representative.

1-02 QUALITY ASSURANCE:

- A. Comply with site work requirements
- B. Plant names indicated must comply with 'Standardized Plant Names' as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties which are not listed should conform with those generally accepted by the nursery trade. Stock should be legibly tagged.
- C. All plant materials shall conform to the 'American Standards for Nursery Stock' (ASNS), latest edition, published by the American Association of Nurserymen, Washington, D.C.
- D. All plant material shall be grown and supplied within a 50 mile radius of the project for a minimum of two full growing seasons.
- E. Adhere to sizing requirements as listed in the plant list and/or bid form for the project. A plant shall be measured in its natural standing position.
- F. Stock that is furnished shall be at least the minimum size shown. With permission of the landscape architect, substitution from the specified plant list will be accepted only when satisfactory evidence in writing is submitted to the landscape architect, showing that the plant specified is not available. Requests for approval of substitute plant material shall include common and botanical names and size of substitute material. Only those substitutions of at least equivalent size and character to that of the specified material will be approved. Stock which is larger than that which is specified is acceptable with permission of the landscape architect, providing there is no additional cost and that the larger plant material will not be cut down in order to conform to the size indicated.
- G. All shrubs shall be dense in form. Shrub liners do not meet these specifications. Shrubs specified by height shall have a spread that is equal to the height measurement. Shrubs which are specified by spread shall exhibit the natural growth habit of the plant by having a greater spread than height.
- H. All plant materials are subject to inspection and approval. The landscape architect and Owner reserve the right to select and tag all plant material at the nursery prior to planting. The landscape architect and Owner reserve the right to inspect plant material for size and condition of root systems, the presence of insects and diseases, injuries and latent defects (due to Contractor negligence or otherwise), and to reject unacceptable plant material at any time during progress of the project.
- I. Container grown deciduous and/or evergreen shrubs will be acceptable in lieu of balled and burlapped shrubs subject to specified limitations for container grown stock. Size of container grown material must conform to size/height requirements of plant list.

1-03 DELIVERY, STORAGE & HANDLING:

- Fertilizer shall be delivered in original, unopened and undamaged packaging. Containers shall display weight, analysis and manufacturer's name. Store fertilizer in a manner that will prevent wetting and
- B. Take all precautions customary concerning proper trade practice in preparing plants for transport. Plants shall be dug, packed and transported with care to ensure protection against injury. Inspection certificates required by law shall accompany each shipment invoice or order to stock and on arrival, the certificate shall be filed with the landscape architect . All plants must be protected from drying out. If plant material cannot be planted immediately upon delivery, said material should be properly protected in a manner that is acceptable to the landscape architect . Heeled-in plants must be watered daily. No plant shall be bound with rope or wire in a manner that could strip bark or break or shear branches.
- C. Plant material transported on open vehicles should be covered with a protective covering to prevent wind burn.
- D. Dry, loose topsoil shall be provided for planting bed mixes. Muddy or frozen topsoil is unacceptable as working with medium in this condition will destroy its structure, making root development more difficult.

1-04 PROJECT CONDITIONS:

- A. Notify landscape architect at least seven (7) working days prior to installation of plant material.
- B. It shall be the Contractor's responsibility to locate and protect all existing above and below ground utilities. Utilities can be located and marked (in Illinois) by calling J.U.L.I.E. at (800)892-0123.
- C. The Contractor shall provide, at his/her own expense, protection against trespassing and damage to seeded areas, planted areas, and other construction areas until the preliminary acceptance. The Contractor shall provide barricades, temporary fencing, signs, and written warning or policing as may be required to protect such areas. The Contractor shall not be responsible for any damage caused by the Owner after such warning has been issued.
- D. The Contractor shall be responsible for the protection of crowns, trunks and roots of existing trees, plus shrubs, lawns, paved areas and other landscaped areas that are to remain intact. Existing trees, which may be subject to construction damage, shall be boxed, fenced or otherwise protected before any work is started. The Owner desires to preserve those trees within and adjacent to the limits of construction except those specifically indicated to be removed on the Drawings. The contractor shall erect protective tree fencing and tree armor at locations indicated on the drawings and around all trees on site which are to be preserved. Protective fencing shall be erected between the limits of construction and any tree preservation areas shown on the Drawings.
- E. A complete list of plants including a schedule of sizes, quantities and other requirements is shown on the Drawings and on the bid form. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.

1-05 PRELIMINARY ACCEPTANCE:

A. All plantings shall be maintained by the Contractor for a period of 90 days after preliminary acceptance by the Owner or his/her representative. Maintenance shall include, but is not limited to: mowing and edging turf, pulling weeds, watering turf and plant material and annual flower maintenance.

1-06 WARRANTY:

A. All plant material (excluding annual color), shall be warranteed for one (1) year after the end of the 90 day maintenance period. The end of the maintenance period is marked by the final acceptance of the Contractor's work by the Owner or his/her representative. Plant materials will be warranteed against defects including death and unsatisfactory growth, except for defects resulting from abuse or damage by others, or unusual phenomena or incidents which are beyond the control of the Contractor. The warranty covers a maximum of one replacement per item.

PART 2 - PRODUCTS

2-01 PLANT MATERIALS:

- A. Plants: Provide typical of their species or variety, with normal, densely developed branches and vigorous, fibrous root systems. Only sound, healthy, vigorous plants which are free from sunscald injuries, disfiguring knots, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation shall be provided. All plants shall have a fully developed form without voids and open patches.
 - 1. Balled and burlapped plants shall have a firm natural ball of earth of sufficient diameter and depth to encompass a root system necessary for a full recovery of the plant. Root ball sizes shall comply with the latest edition of the 'American Standards for Nursery Stock' (ASNS). Root balls that are cracked or mushroomed are unacceptable.
 - 2. Container grown stock should be grown for an amount of time that is of sufficient length for the root system to have developed enough to hold its soil togehter, firm and whole. Plants will not be loose in their containers, nor shall they be pot-bound and all container grown stock will comply with the sizes stated on the plant list.
 - 3. No evidence of wounds or pruning cuts shall be allowed unless approved by the Landscape Architect.
 - 4. Evergreen trees shall be branched to the ground. The height of evergreen trees are determined by measuring from the ground to the first lateral branch closest to the top. Height and/or width of other trees are measured by the mass of the plant not the very tip of the branches.
 - 5. Shrubs and small plants shall meet the requirements for spread and/or height indicated in the plant list. The height measurement shall be taken from ground level to the average height of the top of the plant, not the longest branch. Single stem or thin plants will not be accepted. Side branches shall be flushed with growth and have good form to the ground. Plants shall be in a moist, vigorous condition, free from dead wood, bruises or other root or branch injuries.

2-02 ACCESSORIES:

- - 1. Topsoil shall be fertile, natural topsoil of a loamy character, without admixture of subsoil material. Topsoil shall be reasonably free from clay, lumps, coarse sand, stones, plants, roots, sticks and other foreign materials with a pH between 6.5 to 7.0.
- B. Topsoil for seed areas shall be a minimum of 6".
- C. Soil amendments shall be as follows:
- 1. For trees and shrubs the plant pit will be backfilled with pulverized black dirt.
- 2. For perennials and ornamental grasses the soil mixture will be as follows: CM-63 General Purpose Peat Based Mix as supplied by Midwest Trading. Top beds with 8" of CM-63 and till into existing beds to a depth of 8". Soil mixtures are available from Midwest Trading. Midwest Trading, St. Charles, IL 60174 (630) 365-1990

- 1. For trees and shrubs use: 14-4-6 briquettes 17 g or equivalent available from Arthur Clesen, Inc. Follow manufacturer's recommendation for application. Arthur Clesen, Inc. 543 Diens Drive, Wheeling, IL 60090 (847)537-2177
- 2. For turf areas use 6-24-16 Clesen Fairway with micronutrients with minor elements 3.0 % S, .02% B, .05% Cu, 1.0% Fe, .0006% Mo, .10% Mn available from Arthur Clesen or approved
- E. Herbicide: 1. Round-Up or approved equal

- 1. Bark mulch shall be finely shredded hardwood bark which has been screened and is free of any green foliage, twigs, rocks, sawdust, wood shavings, growth or germination inhibiting ingredients. or other foreign materials. Bark mulch is available from Midwest Trading.
- 2. Mushroom compost as available from Midwest Trading.

1. Water service will be available on the site, with the cost of water being paid by the Owner. Transporting of the water from the source to the work areas shall be the responsibility of the Landscape Contractor. All necessary hose, piping, tank truck, etc. shall be supplied by the Landscape Contractor.

- 1. Stakes: 5/8" x 40" steel eye anchor with 4" helix
- a. Trees under 5": flexible 1/8" galvanized aircraft cable, 7x7 strand or approved equal b. Trees 5" and over: flexible 3/16" galvanized aircraft cable, 7x7 strand or approved equal.
- 3. Turnbuckles: 5/16", eye and eye, with 4" takeup.
- 4. Hose: new two-ply reinforced rubber hose, minimum 1/2" I.D.
- Tree wrap: Burlap tree wrap 4" wide.
- J. Twine: Soft nursery jute.

PART 3 - INSTALLATION OF PLANT MATERIAL

3-01 FIELD VERIFICATION:

A. Examine proposed planting areas and conditions of installation. Do not start planting work until unsatisfactory conditions are corrected.

3-02 PREPARATION:

- A. All planting techniques and methods shall be consistent with the latest edition of 'Horticulture Standards of Nurserymen, Inc.' and as detailed on these Drawings.
- B. Planting shall be performed by experienced workmen familiar with planting procedures under the supervision of a qualified supervisor.
- C. All underground utilities must be located and marked clearly.
- D. Apply Round-Up or approved equivalent to kill any existing vegetation in all areas to be planted. Confirm length of waiting period between chemical application and plant installation with manufacturer. Do not begin planting operations until prescribed post-application waiting period has elapsed. Take extreme care to avoid chemical drift to adjoining properties of landscape plantings.

- E. Prior to all planting, rototill all areas to be landscaped to prepare for plant installation to a minimum depth of 12". Eliminate uneven areas and low spots. Maintain lines, levels, profiles and contour. Changes in grade are to be gradual. Blend slopes into level areas. Remove all debris, weeds and undesirable plants and their roots from areas to be planted. Remove all concrete slag larger than 2" in
- F. Topsoil shall be spread over the site at a minimum depth of 6". For those areas which are indicated as prairie or natural areas on the Drawings, a topsoil depth of 18" is recommended where possible.
- G. It shall be the responsibility of the landscape contractor to prepare all seeded areas by disking and raking prior to planting seed. Soil shall be loosened and scarified to a minimum depth of 6". Fine grading of all seeded areas is required. Maximum size of stone or topsoil lump is 1".
- H. Locate all plant material as indicated or as approved in the field by the Landscape Architect. If obstructions are encountered which are not shown on the drawings, then do not proceed with planting operations until alternate plant locations have been selected.
- Planting holes shall be constructed as shown on the planting details. Holes shall be hand dug or machine dug. Great care will be taken to not excavate the hole deeper than the root ball and the diameter shall be a minimum of two times the root ball width. Remove any materials encountered in excavation that may be injurious to plant growth, including stones larger than 2" in diameter or other debris. Soil to be used as backfill should be pulverized.
- J. Provide pre-mixed planting mixture for use around root systems and root balls of the plants. The mixtures are outlined in section B of part 2-02.
- K. Prior to planting, provide additional topsoil to all planting beds to bring the finish grade of the bed to 2" above lawn grade and to finish grade of adjacent hard surface grades.
- L. Add 2" thickness of mushroom compost to all annual, perennial and groundcover beds. Finish grade bed and install plants.

3-03 PLANTING PROCEDURES:

- A. Set plant material in the planting hole to proper grade and alignment. Set plants upright and plumb. Set plant material 2" above the adjacent finish grade. Remove burlap from top 1/3 of root ball. Remove treated burlap (green). Cut and remove or cut and fold down upper half of wire basket, dependent upon tree size. Backfill hole by firmly tamping soil to avoid any air pockets or voids.
- B. Set balled and burlapped plants in the planting hole and compact 8" of soil around the base of the ball. Backfill remaining space with planting mixture. Water plants immediately after planting to eliminate all voids and thoroughly soak the plant root ball.
- C. Space groundcover plants according to dimensions given on the plans. Adjust spacing as necessary to evenly fill planting bed with indicated number of plants. Plant to within 18" of the trunks of trees and shrubs or at the edge of the plant ball, whichever is closest. Plant to within 12" of edge of bed.
- D. Mulching:
 - 1. Install 4" depth of mulch around all tree and shrub beds as indicated on drawings or planting details. Mulch shrub planting areas as continuous beds. Do not place mulch directly against tree trunk; form mulch to create an inverted cone around trunk.
 - 2. Mulch perennial, groundcover and annual planting beds with 2" mushroom compost. Water mulched areas thoroughly after placing mulch.
- E. Tree wrapping is not required, unless the Contractor feels it is necessary due to characteristics of a particular species or past experience with the species. The landscape architect will be notified as to which trees are to be wrapped and shall inspect the trunk(s) before wrapping. Tree wrap will not be used to cover damage or defects. When wrapping is done, trunks will be wrapped spirally with approved tree wrapping tape that is not less than 4" wide, and securely tied with suitable cord at the top, bottom and 2" intervals along the trunk. Wrap from ground to the height of the first branch.
- Staking and guying of trees is optional. If the Contractor chooses to stake all or part of the trees, he/she shall use the method specified in the planting details. One (1) stake is to be used on trees of 1" caliper and under, or 4' height and under. Two (2) stakes are to be used on trees of 1" to 2 3/4" caliper. Guy trees of 3" caliper or larger at three (3) per tree. The root ball will not be pierced with a stake. Stakes are to be driven at least eighteen (18) inches into subsoil below the planting hole. Stakes and wire attachments shall be removed after three months for spring planted material and by the following May for fall planted stock by the Contractor. Staking and guying should be done immediately after lawn seeding or sodding operations.
- G. Seeding of specified lawn areas on plans will be treated as follows: 1. Topsoil shall be spread over all areas to be seeded to a minimum depth of 6" when compacted
 - (to be performed by others). 2. Seed mixture and application rate - use Premium seed mix as supplied by Arthur Clesen, Inc.
 - Apply at a rate of 5 lbs./1000 s.f. 3. Apply fertilizers and conditioners at the rate specified per soil test findings. In lieu of soil test results, apply two (2) tons of ground agricultural limestone and 1000 lbs. 10-10-10 or equivalent
 - 4. Soil preparation areas where vehicular traffic has compacted the soil shall be loosened/scarified to a minimum depth of 6" before fertilizing and seeding. Fine grading of all seeded areas is

analysis fertilizer per acre. At least 40% of the fertilizer nitrogen shall be of an organic origin.

- 5. Watering seeded areas shall be done to ensure proper germination. Once seeds have germinated, watering may be decreased but the seedlings must never be allowed to dry out completely. Frequent watering should be continued approximately four (4) weeks after germination or until grass has become sufficiently established to warrant watering on an 'as
- 6. Turf is being established on a variety of slope conditions. It shall be the Contractor's responsibility to determine and implement whatever procedures he/she deems necessary to establish the turf as part of his/her work. Seeded areas will be accepted when all areas show a uniform stand of the specified grass in healthy condition and at least 90 days have elapsed since the completion of this work. The Contractor shall submit with his/her bid a description of the methods and procedures he/she intends to use.
- H. Erosion Control Blanket
 - 1. Erosion Control Blanket shall be installed per manufacturer's recommendation in all areas shown
 - 2. Install S-75 Erosion Control Blanket as manufactured by North American Green or approved
 - 3. Blanket should be premarked with staple pattern.

required. Maximum size of stone or topsoil lump is 1".

- 4. Staples should be 8" wire staples, applied at two (2) per square yard minimum.
- 5. Suitable erosion control practices shall be maintained by the CONTRACTOR in accordance with Illinois Urban Manual and all applicable Soil Erosion and Sedimentation Control ordinances and the PLANS.
- Sodding of specified lawn areas on plans will be completed as follows: 1. Rake soil surface to receive sod to completely remove any soil crust no more than one day prior
 - 2. Moisten prepared surface immediately prior to laying sod. Water thoroughly and allow surface moisture to dry before planting lawns. Do not create a muddy soil condition.

- 3. Sod shall be laid within 24 hours from the time of stripping. Do not plant dormant sod or if the
- 4. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips; do not overlap. Stagger strips to offset joints in adjacent courses. Work from boards to avoid damage to subgrade or sod. Work sifted soil into minor cracks between pieces of sod; remove excess to avoid smothering of adjacent sod.
- 5. Place top elevation of sod 1/2 inch below adjoining edging or paving.
- 6. Water sod thoroughly with a fine spray immediately after planting.
- 7. After sod and soil have dried, roll seeded areas to ensure a good bond between the sod and soil, and to remove minor depressions and irregularities.
- 8. Sodded slopes 3:1 or greater shall be staked to prevent erosion and washout.
- 9. Warranty sodding for a period of one (1) year from the end of the 90 day maintenance period. If sod fails or lacks vigor and full growth as determined by the Landscape Architect, the Contractor will repeat site preparation operations and re-sod affected areas at the Contractor's expense.
- 10. Note: Sod shall be a premium Kentucky Bluegrass blend, and is required in all areas indicated on the plans as well as areas which have been affected by construction. Sod can be placed as long as water is available and the ground surface can be properly prepared. Sod shall not be laid on frozen or snow-covered ground. Sod shall be strongly rooted, not less than two (2) years old and free of weeds and undesirable native grasses. Sod should be machine cut to pad thickness of 3/4" (plus or minus 1/4"), excluding top growth and thatch. Provide only sod capable of vigorous growth and development when planted (viable, not dormant). Provide sod of uniform pad sizes with maximum 5% deviation in either length or width. Broken pads or pads with uneven ends will not be acceptable. Sod pads incapable of supporting their own weight when suspended vertically with a firm grasp on the upper 10% of pad will not be accepted.

J. Timing of plant material and seeding operations:

- 1. Seeding of specified areas shall occur when the soil temperature is above 55° F. No seed shall be sown during periods of high winds, or when the ground is not in proper condition for seeding (see section 3-02 (G)). Seeding operations for the specified mixes shall occur in the spring time frame of April 15 through June 30 and in the summer time frame of August 15 through December 1. The mixes containing bluegrass and fescue seed must have six weeks to harden off for winter survival.
- 2. Sod shall be installed when the ground is not frozen or snow covered and temperatures are less than 80° F. It shall not be placed during a period of extended drought.
- 3. Herbaceous ornamental plants shall be planted between May 1 and June 15 or between August 15 and December 1.
- 4. Spring planting of woody ornamental plants shall be performed from the time the soil can be easily worked until June 1, except that evergreen planting shall end on May 15. Oak, hawthorn and red maple species will only be planted during this spring planting period. Fall planting will begin August 15 and will continue until the ground cannot be worked satisfactorily, except that evergreen planting shall be performed between August 15 and December 1.

3-04 MAINTENANCE:

A. All plantings shall be maintained by the Contractor for a period of 90 days after preliminary acceptance by the Owner or his/her representative. Maintenance shall include but is not limited to: mowing and edging turf, pulling weeds, watering turf areas and plant material plus annual flower maintenance. The Contractor will reset settled plants to proper grade and position. Dead material will be removed. Stakes and guy wires will be tightened and repaired as required.

3-04 ACCEPTANCE:

A. All plant material (excluding annual color), shall be warranteed for one (1) year after the end of the 90 day maintenance period. The end of the maintenance period is marked by the final acceptance of the Contractor's work by the Owner or his/her representative.

3-06 SITE CLEAN-UP:

A. The Contractor shall protect the property of the Owner and the work of other contractors. The Contractor shall also be directly responsible for all damage caused by the activities and for the daily removal of all trash and debris from his/her work area to the satisfaction of the landscape architect .

REVISED PER PLAN COMMISSION COMMERVISED PER SITE PLAN ADJUSTMENTS REVISED PER REVIEW COMMENTS REVISED PER SITE PLAN ADJUSTMENTS

11/03/2022 R 07/15/2022 R 06/02/2022 R 04/18/2022 R

OWN, KENTUCKY GEORGETOWN SPECIFICATIONS GEORGET LANDSCAPE

ARRIERS Ö OF CITY + $\mathbf{\alpha}$

PROJ. MGR.: J PROJ. ASSOC.: MP DRAWN BY: JBD

03/16/22 <u>1"=50'</u> SHEET

NOTES:

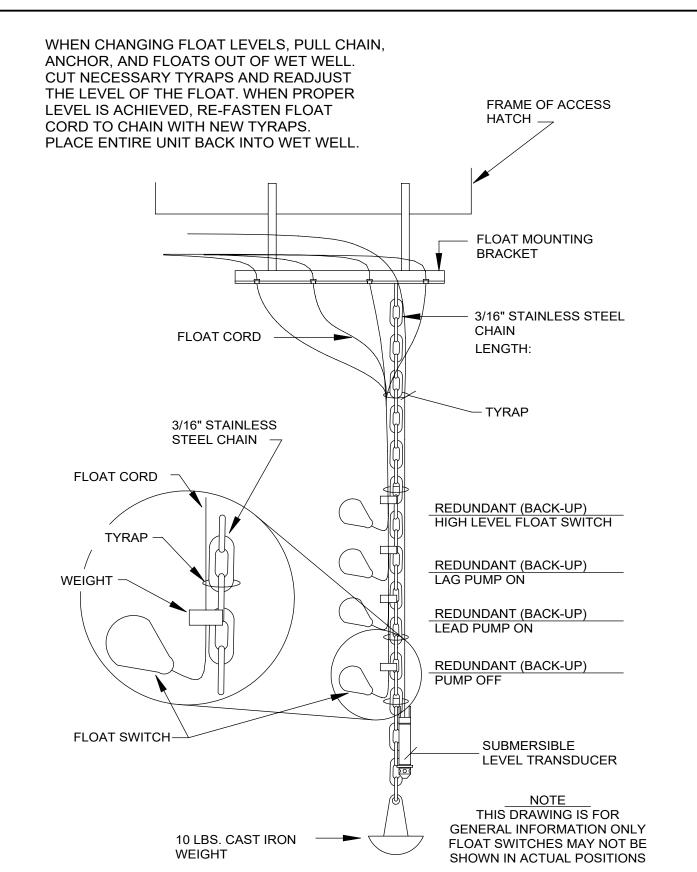
1. THIS DRAWING IS PRELIMINARY LAYOUT ONLY. NOT FOR CONSTRUCTION. CONSTRUCTION DRAWINGS WILL BE FORWARDED UPON RECEIPT OF APPROVED SUBMITTALS.

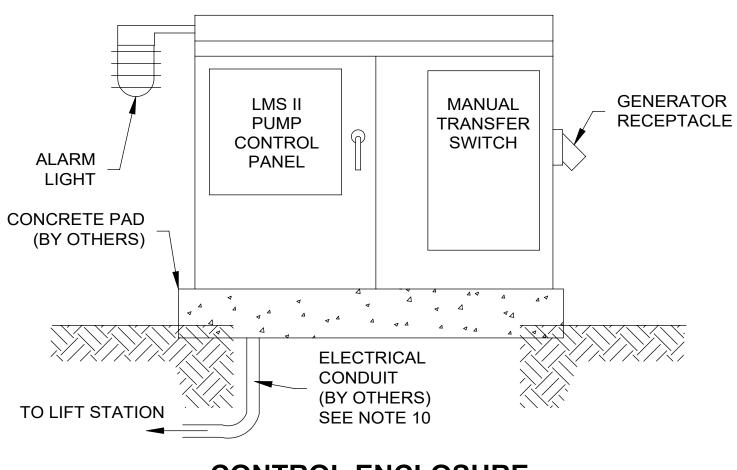
SOME ITEMS NOT SHOWN FOR CLARITY. ADEQUATE LIFTING POINTS TO BE PROVIDED.

- CONTRACTOR TO FILL INLET HUB WITH GROUT AFTER INSTALLING FIELD PIPING.
- ALL COMPRESSION COUPLINGS, EPC's & FCA's, TO BE RESTRAINED WITH A MINIMUM OF 2 CONTROL RODS WHEN REQUIRED.
- 6. LIFT STATION TO BE INSTALLED BY AN EXPERIENCED AND QUALIFIED CONTRACTOR. 7. ALL CONCRETE WORK IS THE RESPONSIBILITY OF THE
- CONTRACTOR.
- CONTRACTOR AND OR ENGINEER TO VERIFY ALL DIMENSIONS, ELEVATIONS, PIPING LAYOUT, AND ORIENTATION OF INLET (S),
- DISCHARGE AND CONDUIT (S).

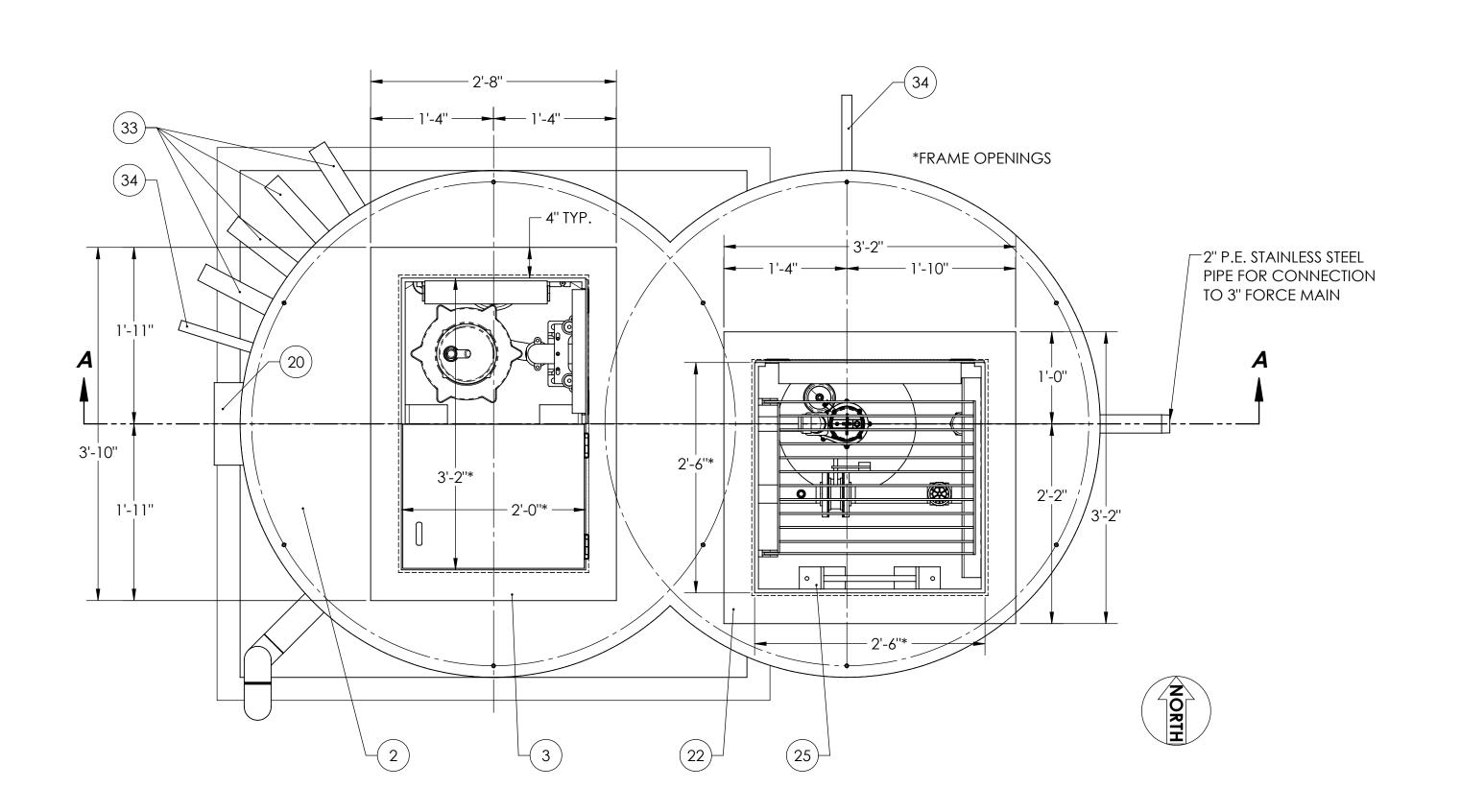
 9. ELECTRICAL COMPONENTS IN THE WET WELL SHALL BE RATED FOR
- CLASS I, DIV. I, GROUP C & D LOCATIONS.

 10. CONDUITS ARE AS FOLLOWS: (1) 2" FOR SENSOR CABLES, (1) 2" FOR LEVEL SWITCHES, (1) 2" FOR <u>EACH</u> PUMP POWER CORD (1) 1" FOR TRANSDUCER CABLE AND (1) 1" FOR VALVE VAULT SUMP PUMP
- 11. CONTRACTOR TO ORDER CONTROL AND POWER CORDS OF SUFFICIENT LENGTH TO REACH CONTROL PANEL FROM POINT OF ORIGIN ON PUMPS WITHOUT SPLICING.





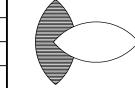
CONTROL ENCLOSURE



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FIBERGLASS WET WELL & VALVE VAULT	5'-0" DIA. x 17'-0" DEEP	1
2	LIFT STATION COVER	1/4" THK. ALUM. PLT.	1
3	R-APD300-24x38	DUPLEX ALUMINUM ACCESS HATCH	1
4	DUPLEX SAFETY GRATE		1
5	UPPER GUIDE RAIL SUPPORT		2
6	IGB-100S	INTERMEDIATE GUIDE RAIL BRACKET, S.S.	2
7	1" GUIDE RAIL	SCHED. 40 STAINLESS STEEL PIPE	8
8	CONERY BERS 0200 BASE ELBOW		2
9	HPGFX	SEWAGE GRINDER PUMP, 2" NPT DISCHARGE	2
10	BERS 0200 SEALING FLANGE ASSEMBLY		2
11	2" RISER	ANSI CLASS 150 FLANGES, STAINLESS STEEL PIPE	2
12	LINK SEAL SLEEVE FOR 2" SCHED. 40 STAINLESS STEEL PIPE		2
13	FLOAT MOUNTING BRACKET	STAINLESS STEEL, TO BE SHIPPED LOOSE - CONTRACTOR TO INSTALL IN FIELD	1
14	FLOAT: OFF LEVEL	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
15	FLOAT: ONE PUMP ON	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
16	FLOAT: TWO PUMPS ON	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
17	FLOAT: ALARM LEVEL	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
18	SUBMERSIBLE LEVEL TRANSDUCER	XXXX	1
19	ANCHOR	10lbs CAST IRON, WITH STAINLESS STEEL CHAIN FOR LEVEL CONTROL MOUNTING	1
20	INLET HUB FOR 8" PVC PIPING	SUPPLIED LOOSE, CONTRACTOR TO LOCATE & INSTALL IN FIELD	1
21	LINK SEAL SLEEVE FOR 2" SCHED. 40 STATION DISCHARGE		1
22	R-APS300-30x30	30"x30" OPENING	1
23	SIMPLEX SAFETY GRATE		1
24	1.50" CHECK VALVE	FOR SUMP PUMP	1
25	LADDER	ALUMINUM LADDER	1
26	SH30i	1/3 HP, 115 V SUMP PUMP	1
27	2" WAFER CHECK VALVE	w/ EXTERNAL SPRING, LEVER & WEIGHT, CHAMPION SDX	2
28	2" GATE VALVE	NON-RISING STEM	3
29	1.5" COUPLING 60" ID		1
30	2" COUPLING 60" ID	CONDUIT COUPLINGS	4
31	3" COUPLING 60" ID		1
32	1" COUPLING 60" ID		2
33	2" CONDUIT	BY OTHERS	4
34	1" CONDUIT	BY OTHERS	2
35	CONCRETE FILLET - BY OTHERS	SLOPE 1:1	1
36	3" SCHED. 80 PVC VENT PIPING W/ BUG SCREENING	BY OTHERS	1
	•		

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DATE	BY	REVISION	DATE	BY	REVISION	SCALE: 1:12
4/20/2022	F.U.	ELEVATIONS				DRN. BY: F.U.
1/12/2023	F.U.	ELEVATIONS				DATE: 4/4/2022
						APP. BY:



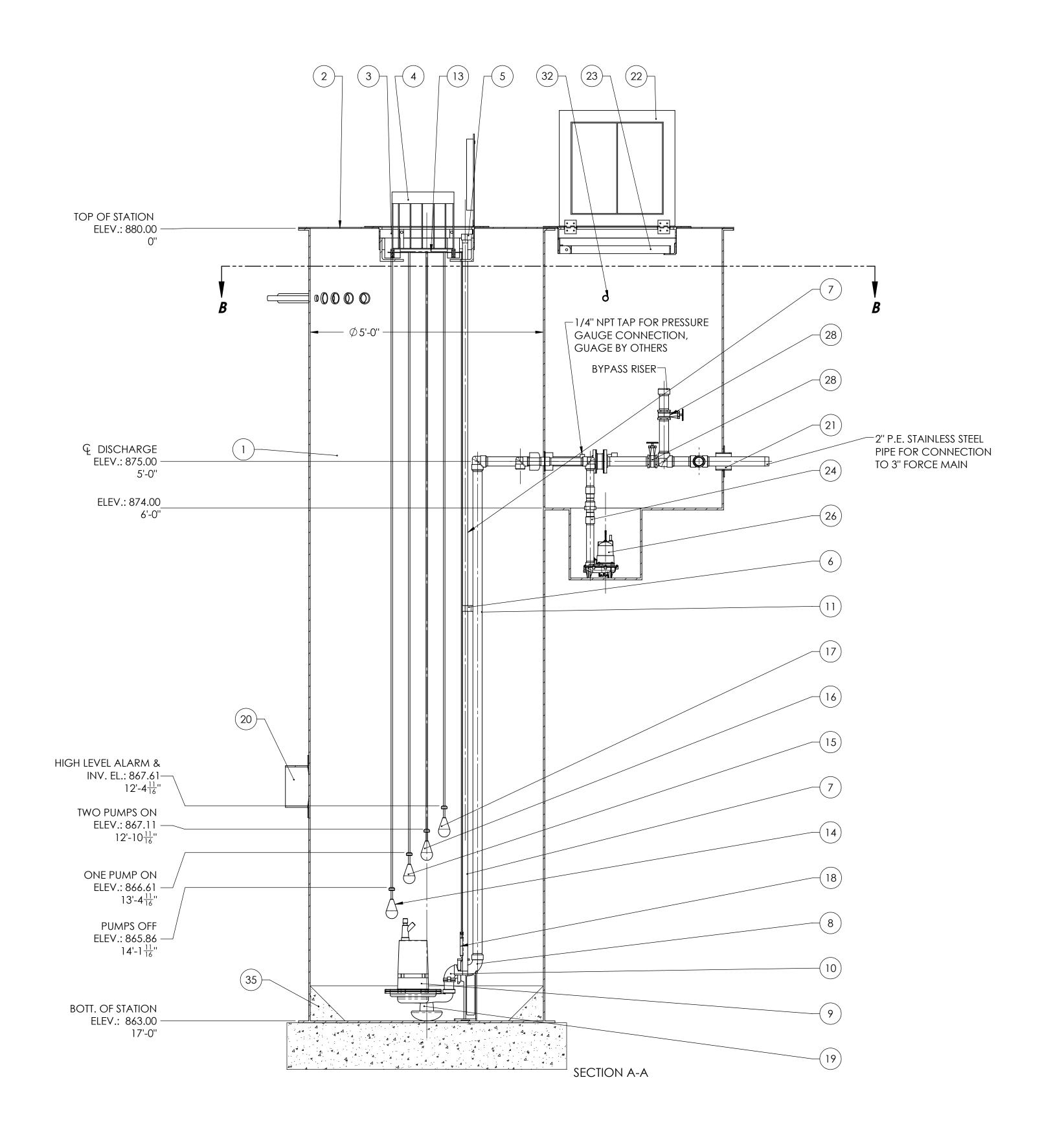
METROPOLITAN INDUSTRIES, INC. 37 FORESTWOOD DR. ROMEOVILLE, ILLINOIS 60446 (815)886-9200 FAX (815)886-4573

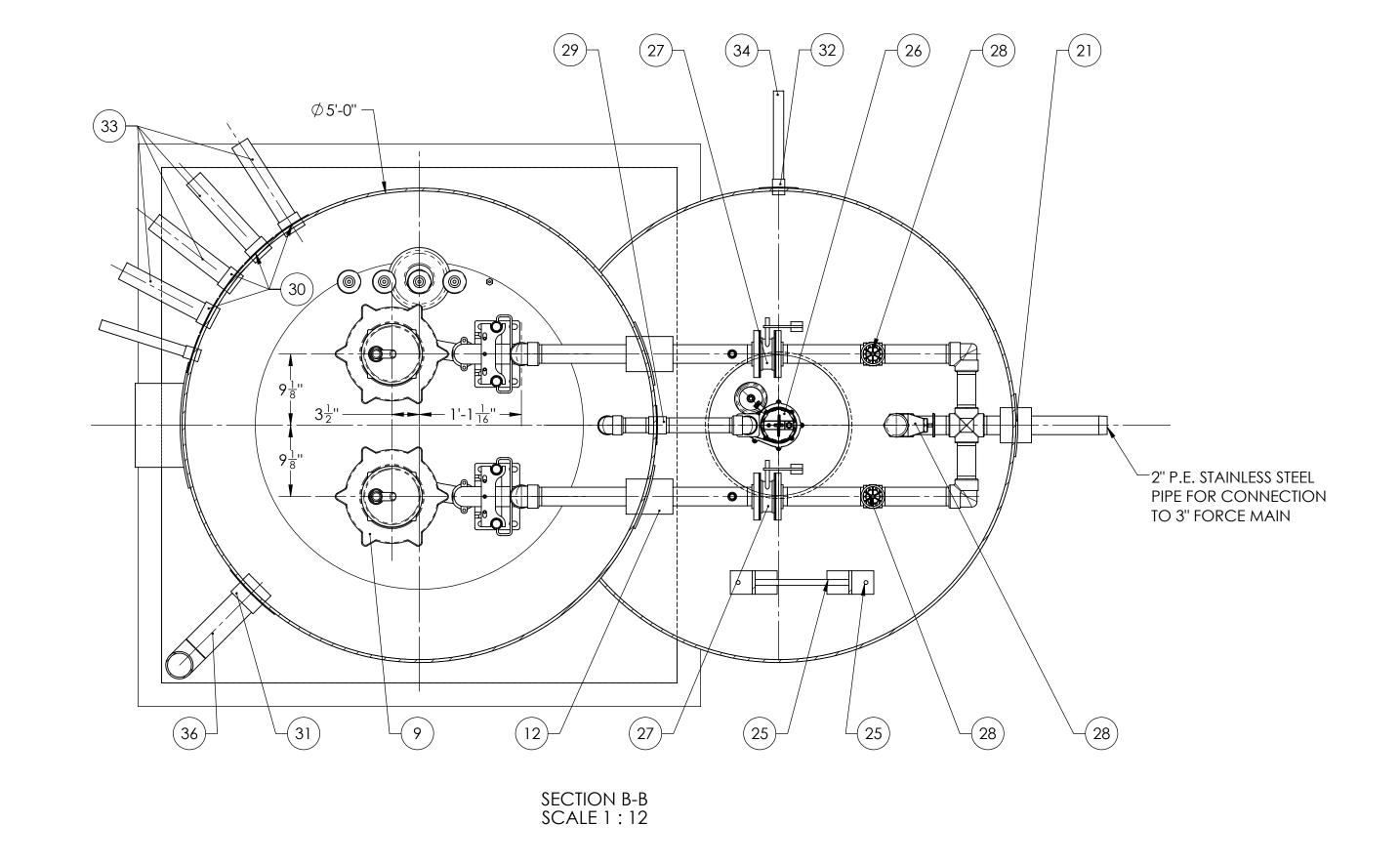
PUMPS - CONTROLS - SYSTEMS

DUPLEX METRORAIL FIBERGLASS LIFT STATION

PROJECT: SANITARY LIFT STATION R&L CARRIERS

SHEET 1 OF 2 DRN'G INDEX / JOB NO. GEORGETOWN, KENTUCKY 22SW065F204-22N





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 DATE
 BY
 REVISION
 DATE
 BY
 REVISION
 SCALE: 1:16

 4/20/2022
 F.U.
 ELEVATIONS
 DRN. BY: F.U.

 1/12/2023
 F.U.
 ELEVATIONS
 DATE: 4/4/2022

 APP. BY:
 APP. BY:

METROPOLITAN INDUSTRIES, INC.
37 FORESTWOOD DR. ROMEOVILLE, ILLINOIS 60446
(815)886-9200 FAX (815)886-4573
PUMPS - CONTROLS - SYSTEMS

DUPLEX METRORAIL FIBERGLASS LIFT STATION SANITARY LIFT STATION R&L CARRIERS GEORGETOWN, KENTUCKY

PROJECT:

SHEET 2 OF 2

DRN'G INDEX / JOB NO.

22SW065F204-22N

(C) Metropolitan Industries, Inc.

TRAFFIC SIGNAL ESTIMATE OF QUANTITIES

ITEM CODE	ITEM	UNIT	TOTAL
2650	MAINTAIN & CONTROL TRAFFIC (5%)	LP SUM	1
4793	CONDUIT - 11/4 INCH	LIN FT	25
4811	ELECTRICAL JUNCTION BOX TYPE B	EACH	1
4820	TRENCHING AND BACKFILLING	LIN FT	20
4830	LOOP WIRE	LIN FT	575
4845	CABLE - NO. 14/7C	LIN FT	900
4850	CABLE - NO. 14/1 PAIR	LIN FT	220
4885	MESSENGER - 10800 LB	LIN FT	275
4895	LOOP SAW SLOT AND FILL	LIN FT	250
4932	INSTALL STEEL STRAIN POLE	EACH	1
4950	REMOVE SIGNAL EQUIPMENT	EACH	1
20093NS835	INSTALL PEDESTRIAN HEAD LED	EACH	1
21659NN	RELOCATE SIGNAL HEAD	EACH	5
21743NN	INSTALL PEDESTRIAN DETECTOR	EACH	1
23157EN	TRAFFIC SIGNAL POLE BASE	CU YD	14.9

THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION, AND OTHER SPECIAL NOTES AND SPECIFICATIONS WILL APPLY ON THIS PROJECT. SEE SECTION 706, 723, AND 112 FOR MEASUREMENT AND OTHER DETAILS. SEE SECTION 602 FOR SPRIAL REINFORCEMENT SPLICING.

ADD SENTENCE TO SECTION 835.15: ALL WIRE SHALL HAVE WORDING ADDED TO THE OUTER JACKET THAT STATES: "PROPERTY OF KENTUCKY TRANSPORTATION CABINET 502 564 0501".

THE CONTRACTOR SHALL MAKE AN INSPECTION OF THE PROJECT SITE PRIOR TO SUBMITTING A BID AND SHALL BE THOROUGHLY FAMILIARIZED WITH EXISTING CONDITIONS. SUBMISSIONS OF A BID WILL BE CONSIDERED AN AFFIRMATION OF THIS INSPECTION HAVING BEEN COMPLETED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PICKING UP MATERIALS FOR INSTALL ITEMS AT KYTC'S DIVISION OF EQUIPMENT WAREHOUSE (1239 WILKINSON BOULEVARD, FRANKFORT, KY 40622). THE FOLLOWING PROCEDURES SHALL BE FOLLOWED FOR MATERIAL RELEASE. FAILURE TO FOLLOW THESE PROCEDURES MAY RESULT IN LONG DELAYS OR REFUSAL TO DISTRIBUTE MATERIALS UPON ARRIVAL.

1. CONTRACTOR SHALL SECURE THE SIGNATURES OF KYTC'S PROJECT ENGINEER AND THE ELECTRICAL CONTRACTOR'S FOREMAN ON THE PROJECT MATERIALS RELEASE FORM. IF THE RELEASE FORM IS NOT IN THE PROPOSAL, CONTACT TED SWANSEGAR OR KERRY ROBERTS WITH THE DIVISION OF TRAFFIC OPERATIONS BY PHONE (502-782-5540/502-782-5536) OR EMAIL (TED.SWANSEGAR@KY.GOV/KERRY.ROBERTS@KY.GOV).

2. CONTRACTOR SHALL CONTACT THE WAREHOUSE TO PREARRANGE PICK UP OF MATERIALS. CONTRACTOR SHALL EMAIL THE PROJECT MATERIALS RELEASE FORM WITH REQUIRED SIGNATURES TO THE WAREHOUSE AT KIM.STAMPER@KY.GOV AND SHALL NOTIFY THE WAREHOUSE BY PHONE (502-782-8994/502-330-8153) OR EMAIL KIM.STAMPER@KY.GOV AT LEAST TWO (2) WORKING DAYS PRIOR TO ARRIVAL.

3. CONRACTOR SHALL ALSO CONTACT THE SIGNAL SYSTEM BRANCH OF THE DIVISION OF TRAFFIC OPERATIONS BY PHONE (502-782-5543/502-782-5547) OR EMAIL (JOE.THOMPSON@KY.GOV/LARRY.IRISH@KY.GOV) AT LEAST TWO (2) WORKING DAYS PRIOR TO ARRIVAL TO FACILITATE PROGRAMMING OF ROUTERS.

4. CONTRACTOR SHALL ARRIVE AT THE KYTC'S DIVISION OF EQUIPMENT WAREHOUSE (1239) WILKINSON BOULEVARD, FRANKFORT, KY 40622) AT THE PREARRANGED DATE/TIME FOR MATERIAL PICK UP. TO FACILITATE THIS PROCESS, ENSURE CONTRACTOR'S DELIVERY DRIVER HAS A COPY OF THE PROJECT MATERIALS RELEASE FORM WITH THE REQUIRED SIGNATURES.

CONSTRUCTION AND MEASUREMENT NOTES THAT ARE CONTRARY TO SECTION 723

SUBSECTION: 03.02 POLES AND BASES INSTALLATION. B) REVISION: REPLACE ENTIRE TABLE WITH THE FOLLOWING:

MAXIMUM SERVICE FORCES DRILLED SHAFT DATA

MAX SERVICE			DEPTH (F	FEET)				TIES OR SPIRAL		
MOMENT	DIAMETER	< 2:1 GROI	JND SLOPE	2:1 GROUND SLOPE"		VERTICAL BARS		BAR	SPACING	
(FT-KIPS)	(IN.)	SOIL	ROCK	SOIL	ROCK	SIZE	TOTAL	SIZE	OR PITCH (IN.)	
0-9.9 10-19.9	36 36	67	660	6.5 8	6	13	# # # # # # # # # # # # # # # # # # #	# 4 # 4 # 4	12 12	
10-19.9 20-29.9 30-39.9 40-49.9	MUNDA WUNDA WUNDA WANDA	დთე:) (OOO)	9 10 10.5	966	13	: # # # # # # # # # # # # # # # # # # #	# 4 # 4		
50-59.9 60-69.9 70-99.9	36 36 36	10 11 12.5	<u> </u>	11 12 13.5	6	13 13 13	#8	# 4 # 4 # 4	12 12 12	
100-149.9 150-199.9 200-249.9 250-299.9 300-399.9	36 36	12.5 14.5 15.7	900	16 17.5 19.5	6	13	#####	# 4 # 4 # 4	12 12	
250-299.9 300-399.9	36 36 36	18.5 21	666.5 7	3. 2.555.5	6.5 7	13	#8	# 4 # 4	12 6	
4ŏŏ-4ヺヺ゚.ヺ 500-600	42 48	21.5 22.5	7.5 7.5	25 25.5	7.5 7.5	18 19	#8 #9	# 4 # 4	12 12	

SUBSECTION: 03.13 LOOP INSTALLATION.

REPLACE FIRST SENTENCE NOTE WITH THE FOLLOWING: REVISION:

TWIST UNSHIELDED LOOP WIRES (IMSA 51-7) WITH 3 TO 5 TURNS PER FOOT FROM THE START OF THE HOMERUN TO THE JUNCTION BOX, CABINET, OR POLE. SLOT CAN BE WIDEN TO 1/2" to 5/8" TO HELP WITH THE INSTALLATION OF THE TWISTED

SUBSECTION:

O3.17 A) TESTING.

WIRE.

REVISION: REPLACE FIFTH SENTENCE WITH THE FOLLOWING:

THE CONTRACTOR SHALL VERIFY THAT THE LOOPS (BOTH EXISITNG AND REPLACEMENT

LOOPS) MEETS THE REQUIREMENTS BEFORE THE FINAL SURFACE IS LAID.

ADD FOLLOWING SENTENCE AT END OF PARAGRAGH:

IF THE ENGINEER DECIDES TO REPLACE ANY LOOPS BEFORE TESTING, BID ITEM LOOP

TEST WILL NOT BE USED FOR THAT LOOP LOCATION.

SUBSECTION: 03.12 WIRING INSTALLATION.

REVISION: SEE TRAFFIC OPERATIONS WEBSITE FOR WORD DOCUMENT TO REPLACE ALL

CHARTS FOR WIRING TO SHOW CHANGES FOR EQUIPMENT GROUNDING.

SUBSECTION: 04.22 REMOVE SIGNAL EQUIPMENT. (PERMIT ONLY)

REPLACE ENTIRE NOTE WITH THE FOLLOWING: REVISION:

THE DEPARTMENT WILL MEASURE THE QUANTITY AS A EACH REMOVAL OF SIGNAL EQUIPMENT. THE CONTRACTOR SHALL DISPOSE ALL MATERIALS REMOVED FROM THE PROJECT IN ACCORDANCE WITH CABINET POLICY. THE CONTRACTOR SHALL TAKE ALL STEEL AND ALUMINUM POLES TO THE EQUIPMENT WAREHOUSE IN FRANKFORT, KENTUCKY. ALL OTHER MATERIALS (WITH EXCEPTION OF PLASTIC ITEMS AND WOOD POLES) SHALL BE TAKEN TO LOCATIONS IDENTIFIED BY THE DISTRICT TRAFFIC ENGINEER. THE CONTRACTOR SHALL CONTACT THE DIVISION OF EQUIPMENT (502-564-3916) TO SCHEDULE A TIME TO DELIVER STEEL AND ALUMINUM POLES TO THE EQUIPMENT WAREHOUSE. THE TRANSPORTATION OF THE MATERIALS

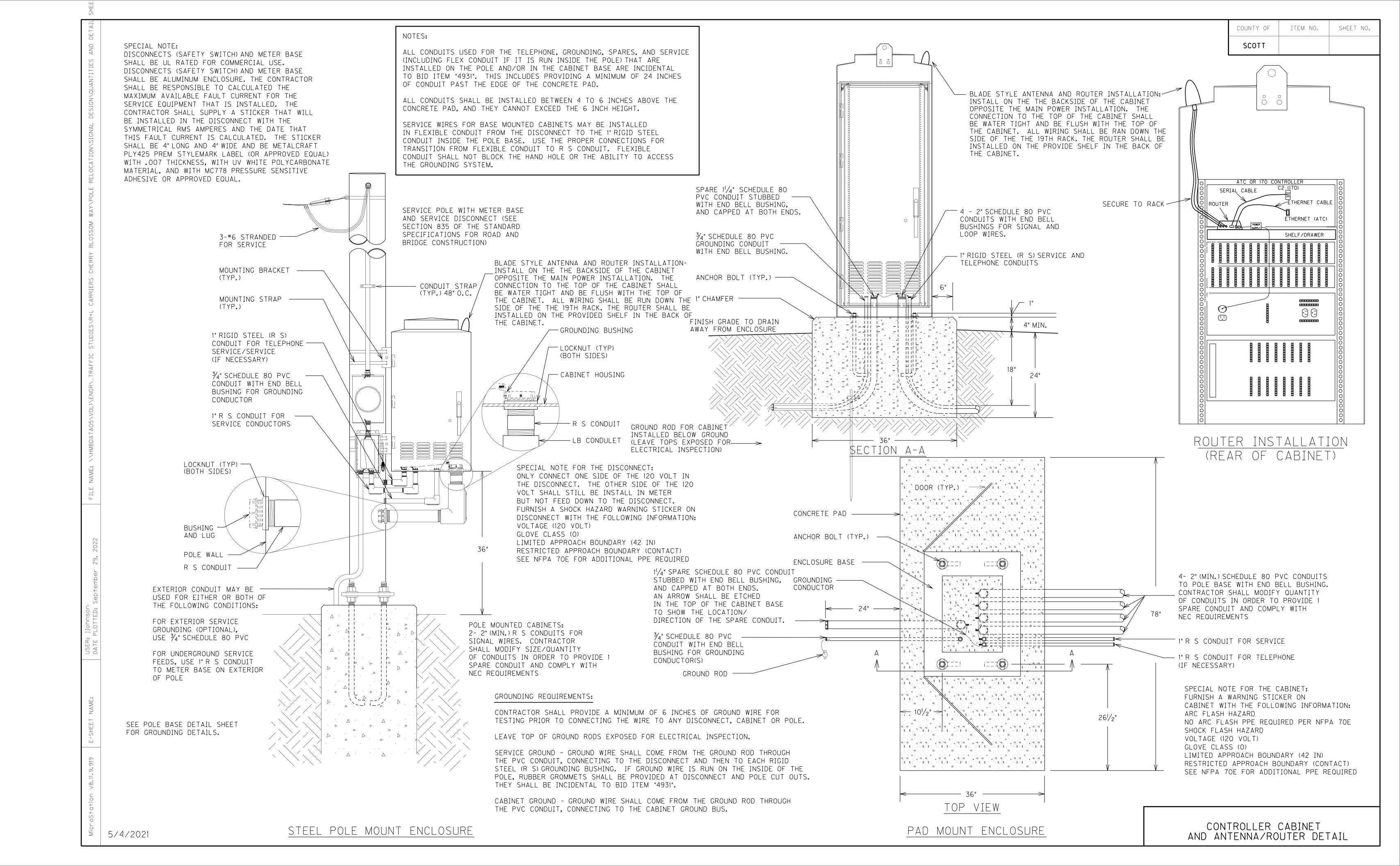
WILL CONSIDER THEM INCIDENTAL TO THIS ITEM OF WORK.

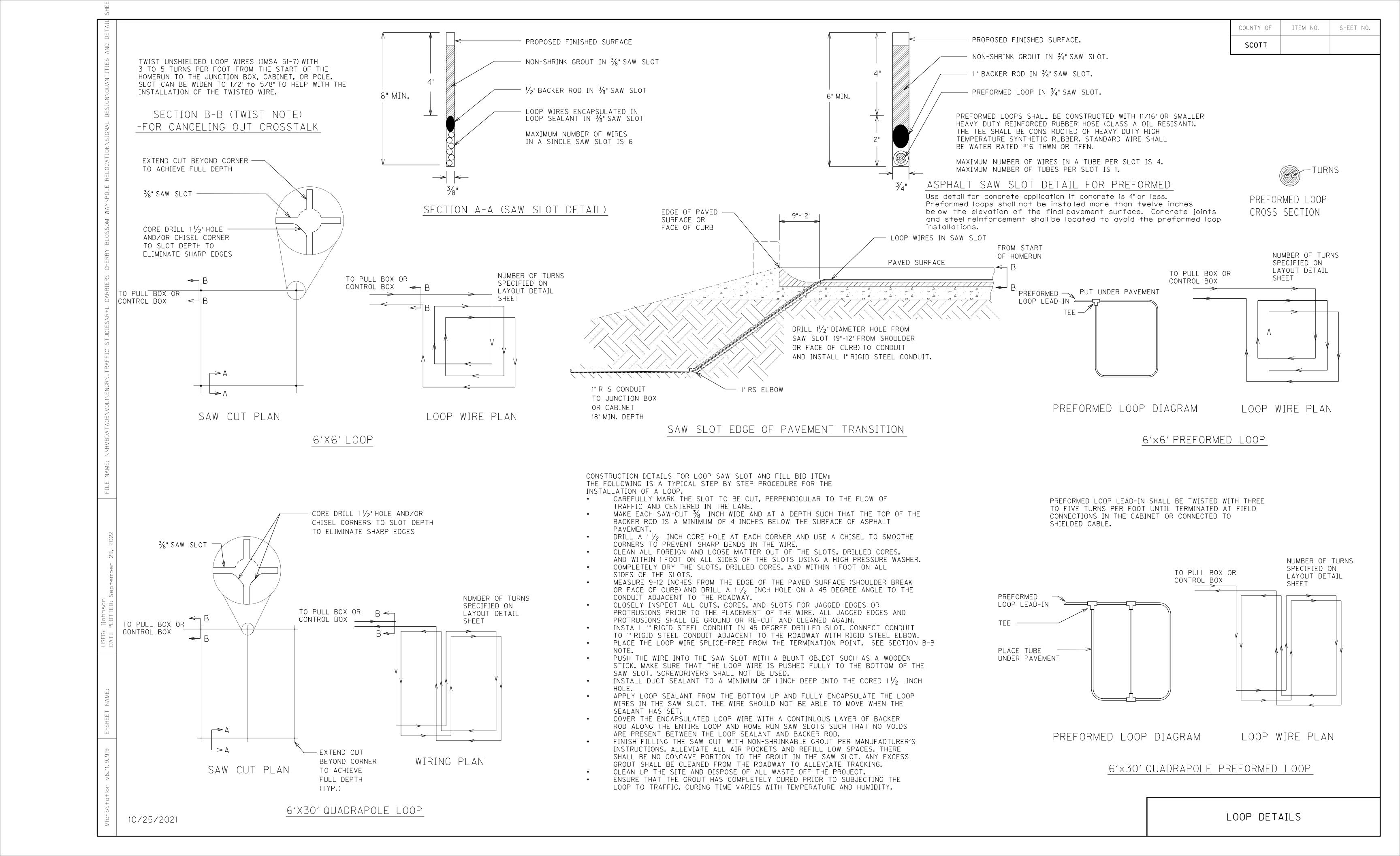
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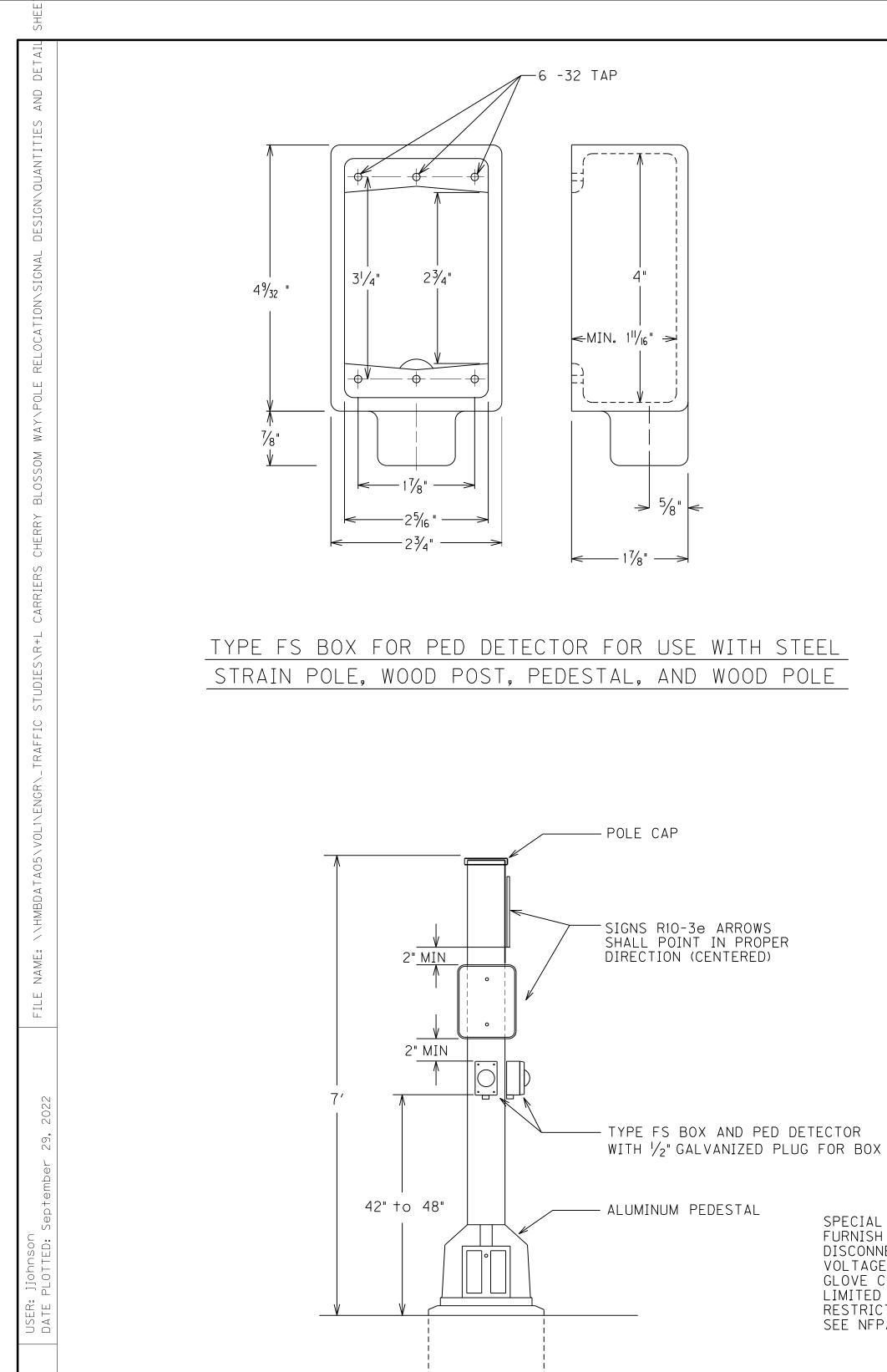
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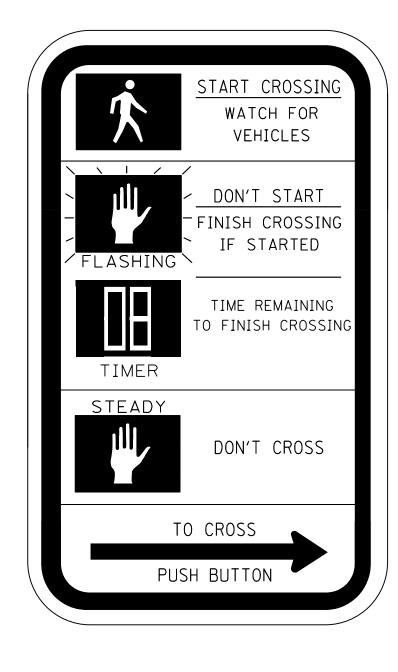
SCOTT

SHEET NO.











SPECIAL NOTE FOR TRANSFORMER DOOR:

LIMITED APPROACH BOUNDARY (42 IN)

VOLTAGE (120 VOLT)

GLOVE CLASS (0)

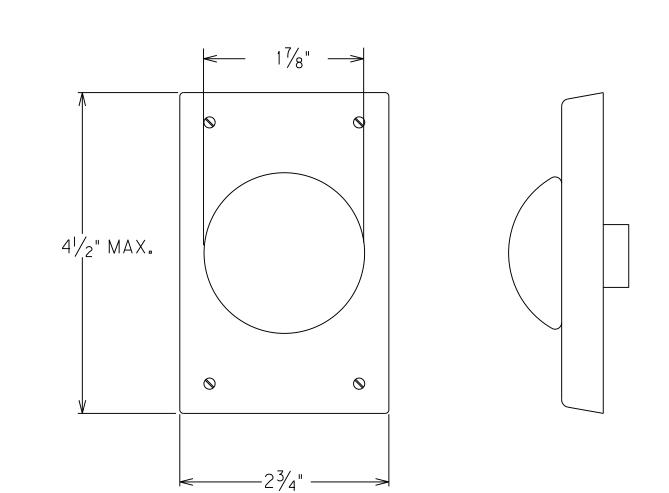
SEE PEDESTRIAN SIGNAL COUNTDOWN

DETAIL SHEET FOR PEDESTAL POLE

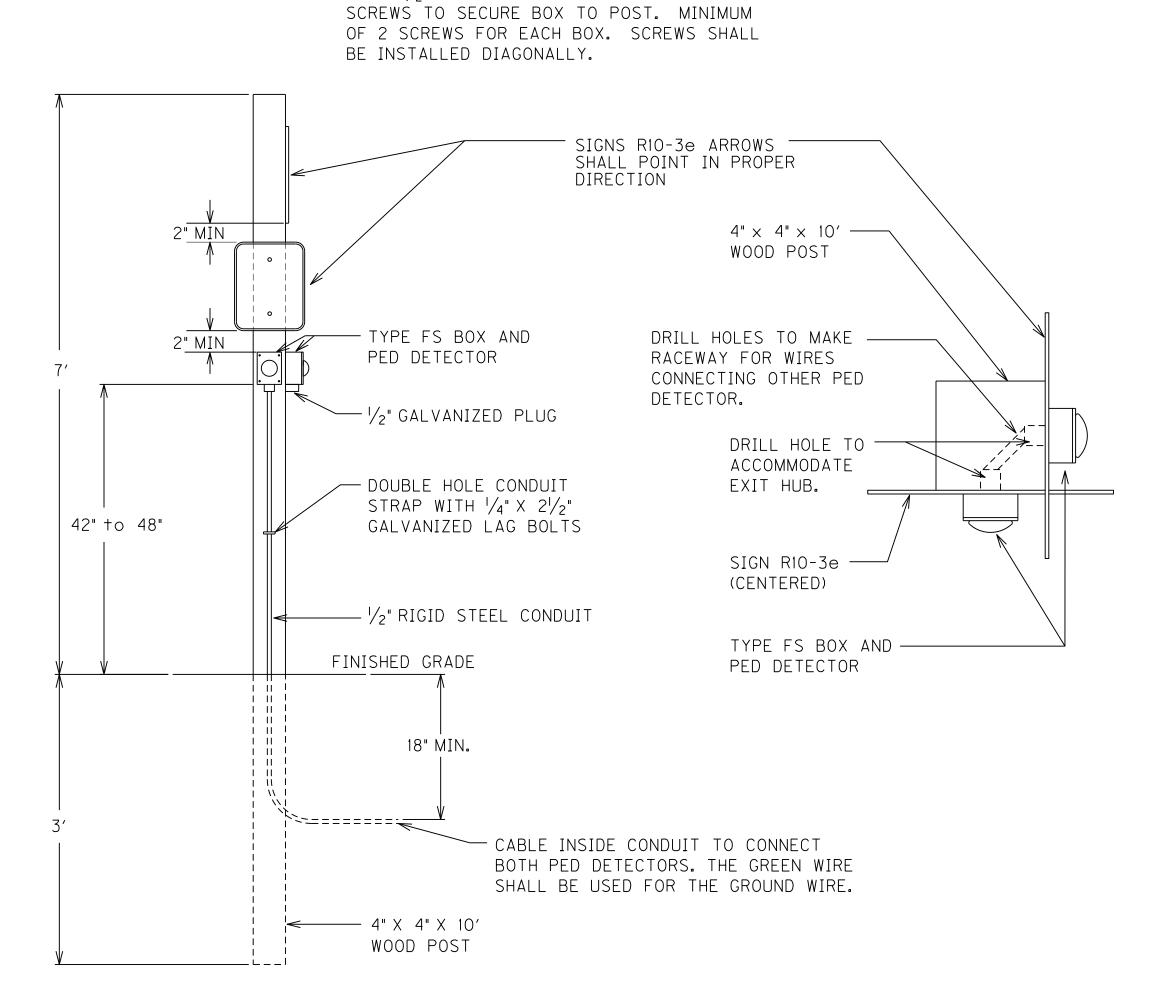
BASE DETAIL

FURNISH A SHOCK HAZARD WARNING STICKER ON DISCONNECT WITH THE FOLLOWING INFORMATION:

RESTRICTED APPROACH BOUNDARY (CONTACT) SEE NFPA 70E FOR ADDITIONAL PPE REQUIRED



PED DETECTOR



#9 X 11/2" PAN HEAD OR ROUND HEAD WOOD

PED DETECTOR ON WOOD POST DETAIL

PEDESTAL POST DETAIL FOR PED DETECTORS & SIGNS

8/3/2021

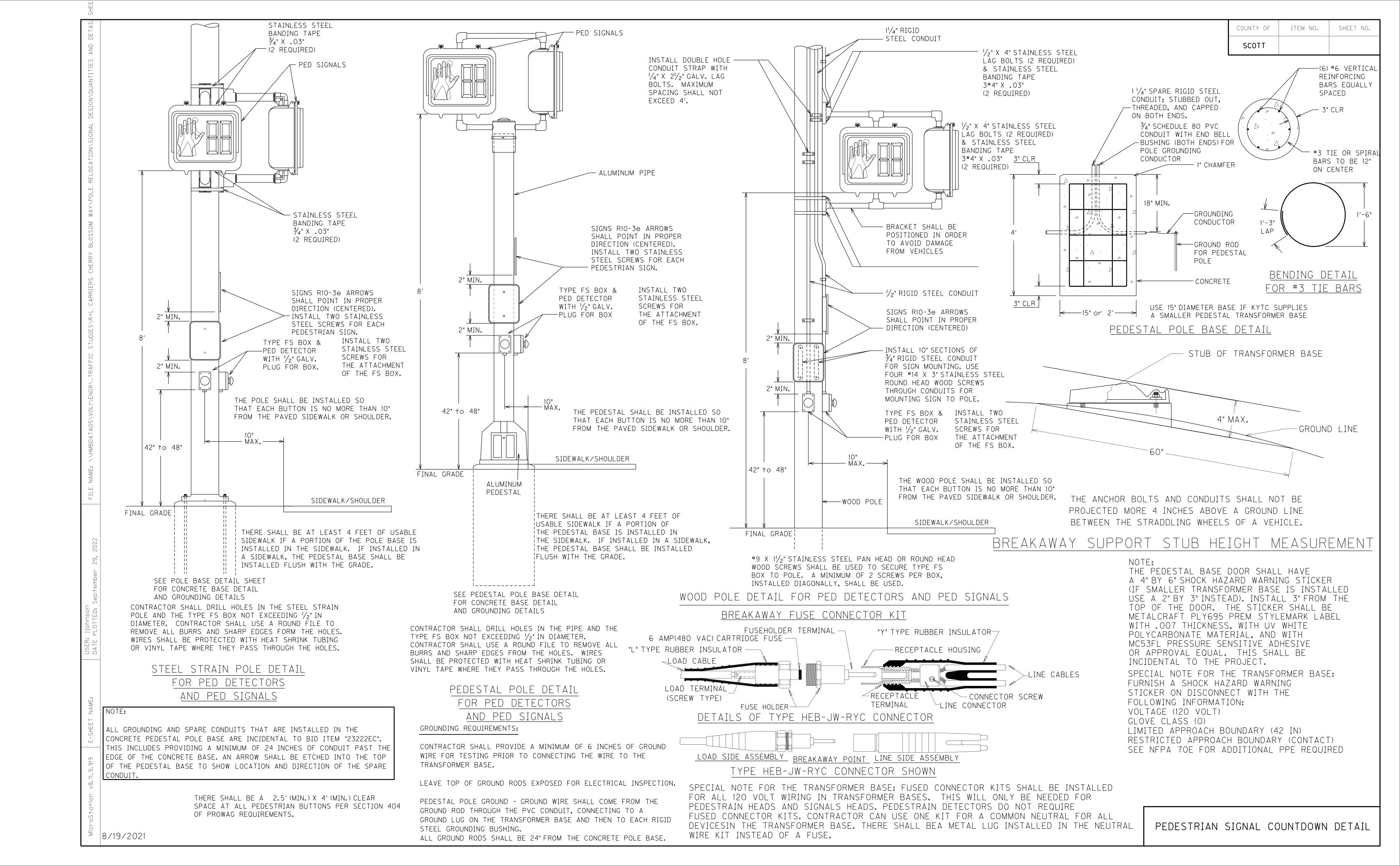
PEDESTRIAN DETECTOR DETAIL

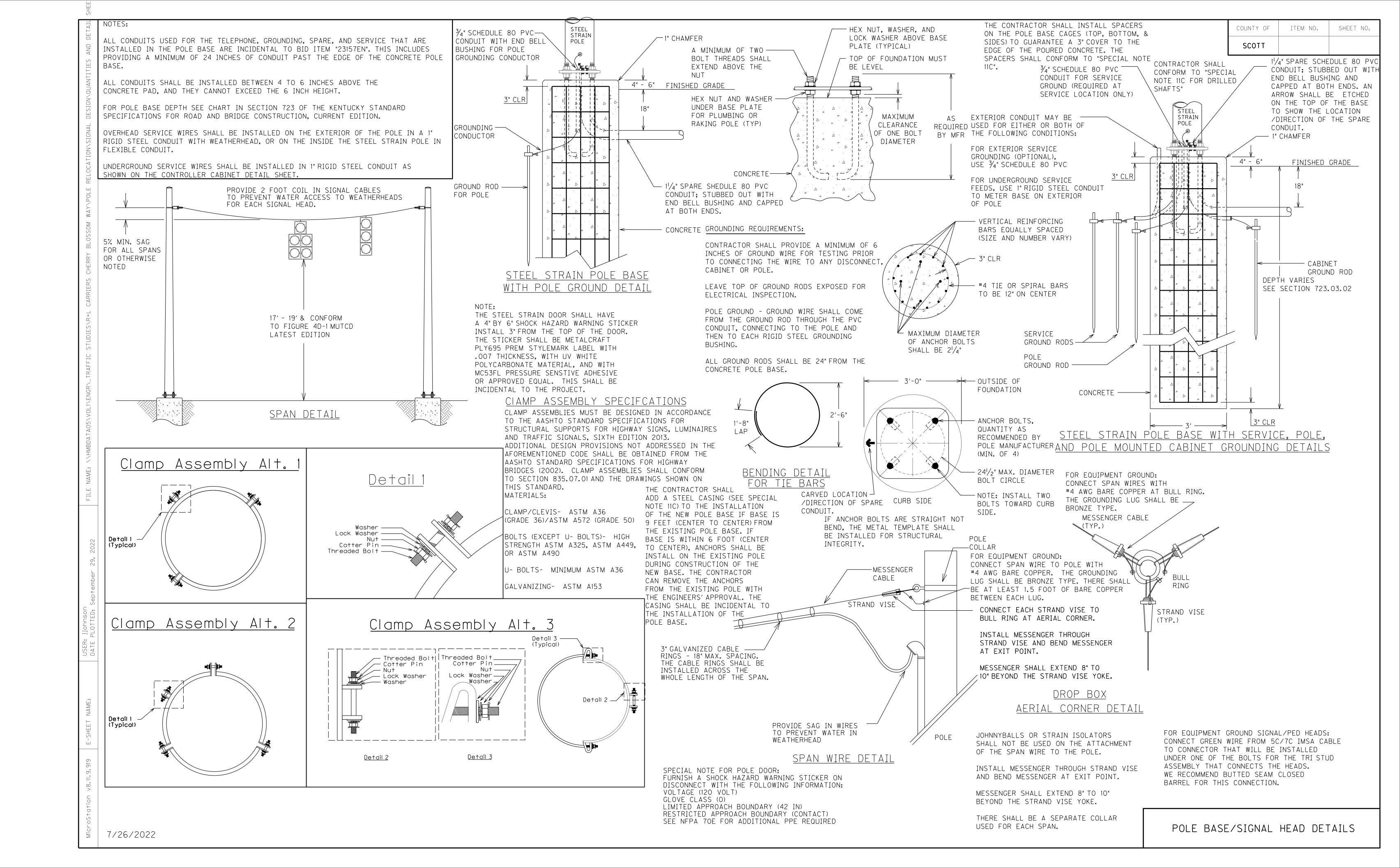
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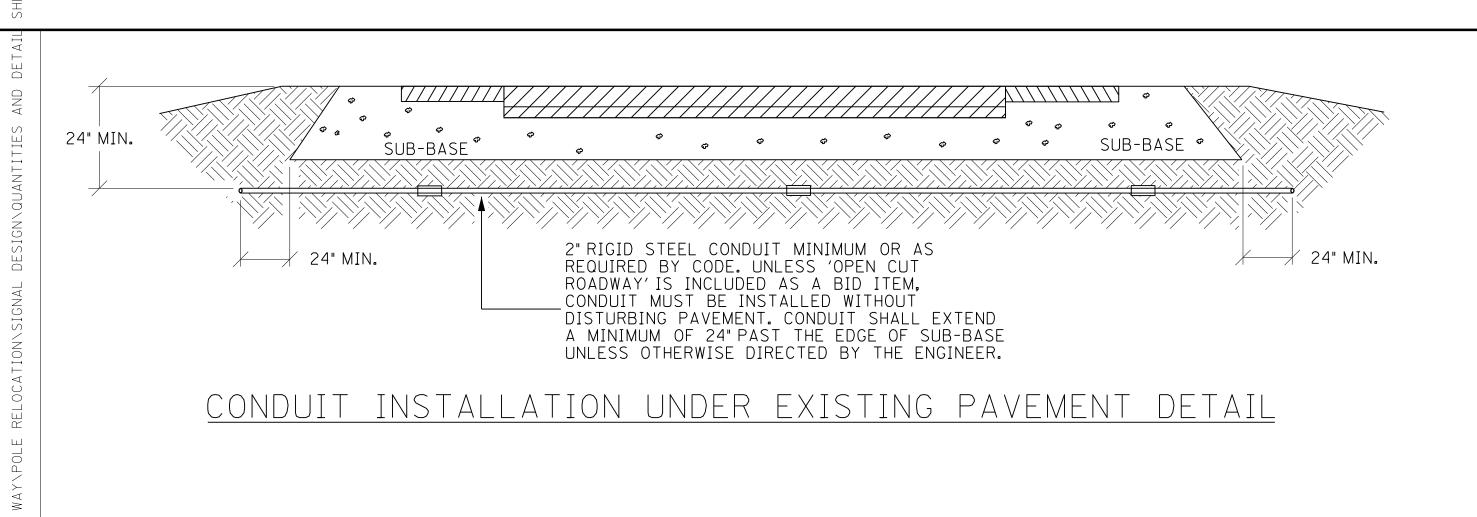
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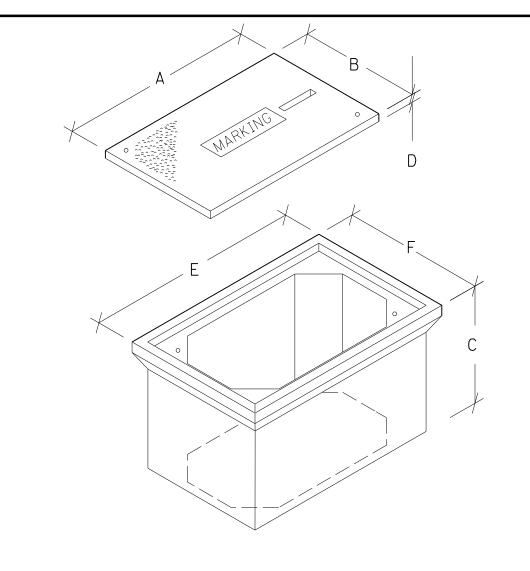
ITEM NO.

SHEET NO.





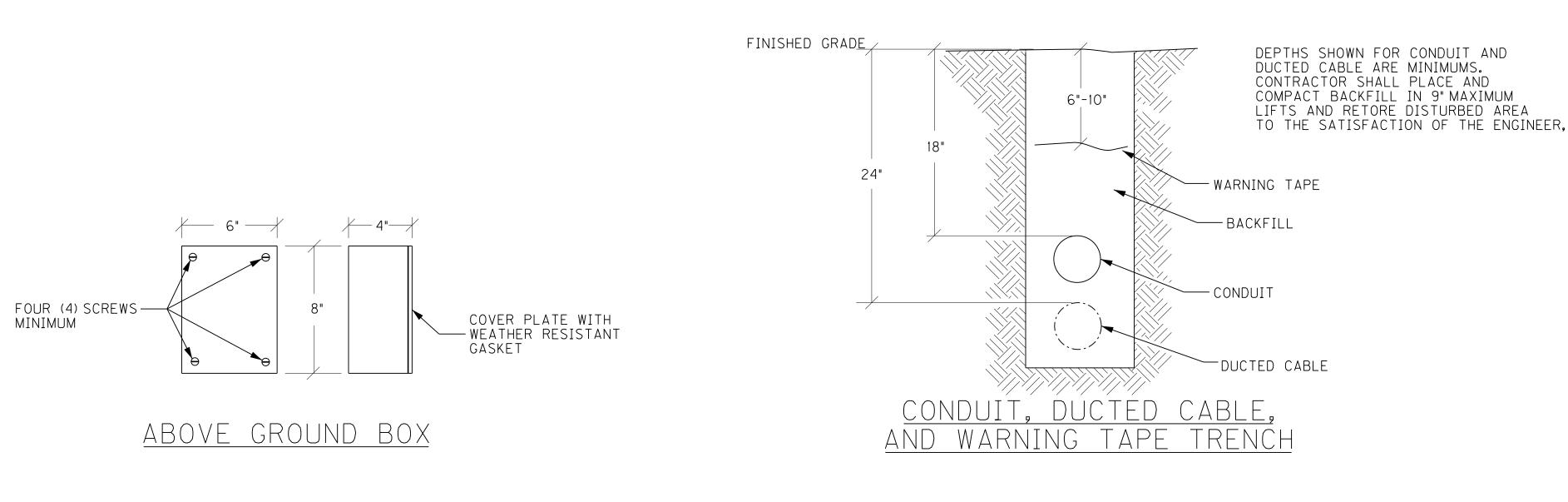




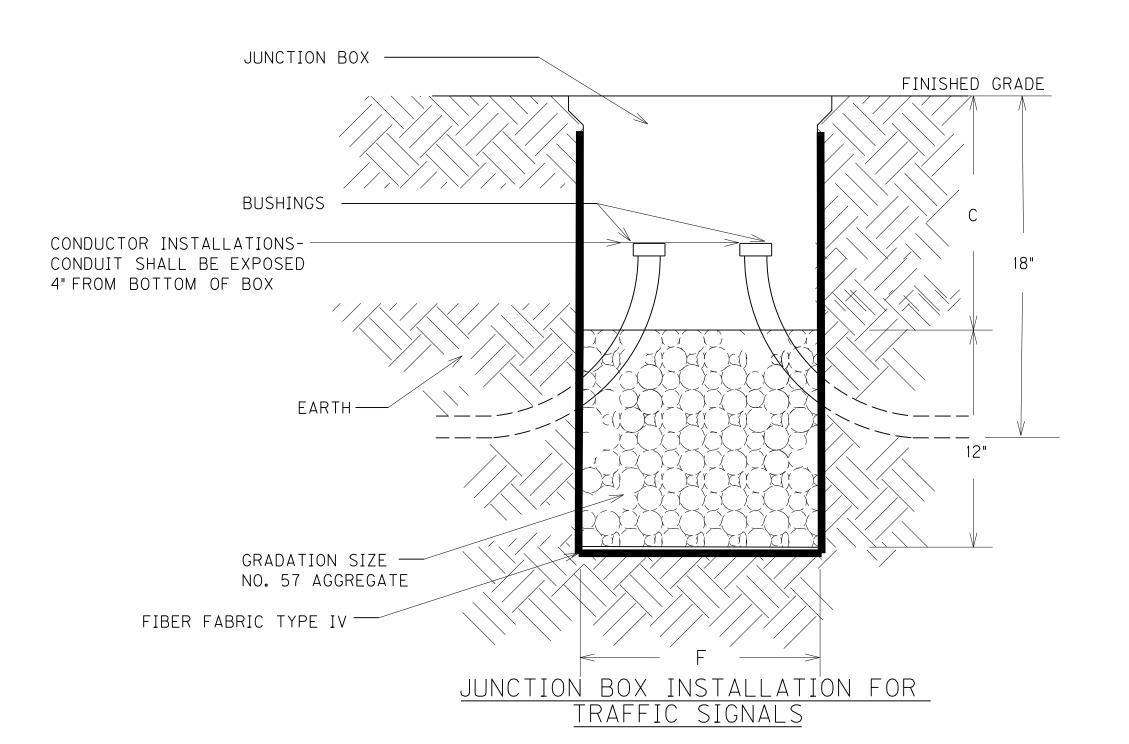
	JUNCTION BOX DIMENSIONS (NOMINAL)										
A B C D E											
TYPE A	23"	14"	27"	2"	25"	15"					
TYPE B	18"	11"	12"	13/4" *	20"	13"					
TYPE C	36"	24"	30"	3"	38"	26"					

* MINIMUM

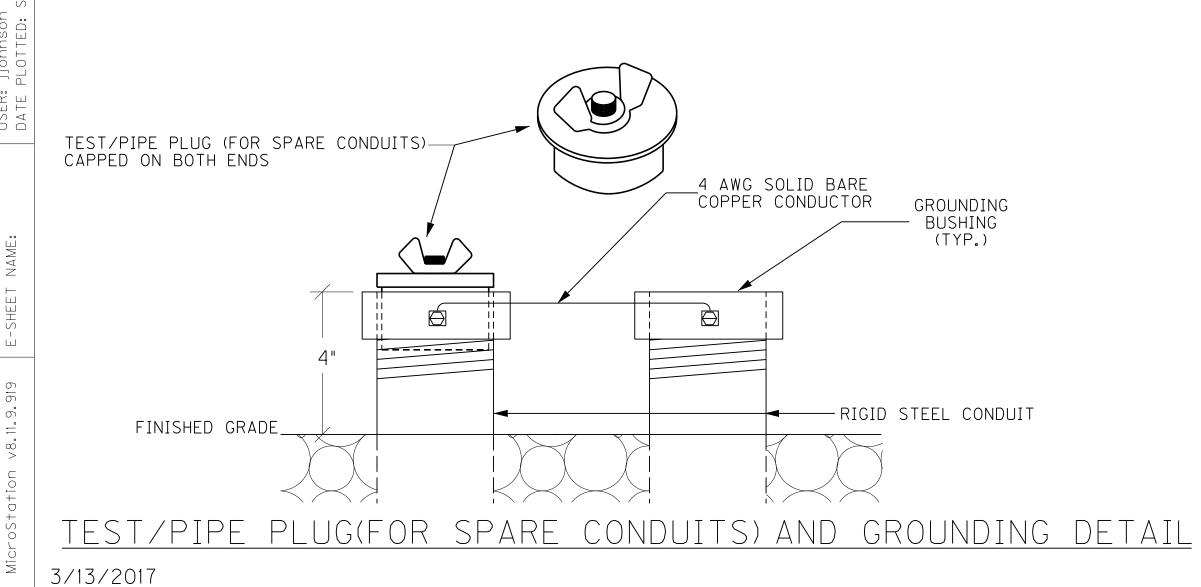
NOTE: STACKABLE BOXES ARE PERMITTED



ABOVE GROUND BOX SHALL BE FABRICATED FROM MINIMUM 12 GAUGE STEEL AND GALVANIZED AFTER FABRICATION.
BOXES SHALL HAVE NO KNOCKOUTS AND SHALL BE PROVIDED WITH A PLATE COVER WITH A WEATHER RESISTANT GASKET AND A MINIMUM OF FOUR SCREWS FOR ATTACHING THE PLATE COVER TO THE BOX.
CABLE CLAMPS SHALL BE PROVIDED FOR CABLES ENTERING AND EXITING THE BOX.



BEFORE THE INSTALLATION OF THE #57 AGGREGATE AND JUNCTION BOX, THE CONTRACTOR SHALL INSTALL GEOTEXTILE FILTER FABRIC TYPE IV IN THE HOLE. THE FABRIC SHALL EXTEND TO JUST BELOW THE LIP OF THE JUNCTION BOX AND SHALL BE CONTINUOUSLY ADHERED TO THE EXTERIOR OF THE BOX WITH ADHESIVE. ANY LOCATIONS WHERE CONDUITS ENTER THE BOX, THE FABRIC SHALL BE "X CUT" ONLY AS MUCH AS NECESSARY TO ALLOW PASSAGE OF EACH INDIVIDUAL CONDUIT THROUGH THE FABRIC. THE FABRIC SHALL BE INCIDENTAL TO BID ITEMS 4811, 2039INS835, OR 20392NS835.

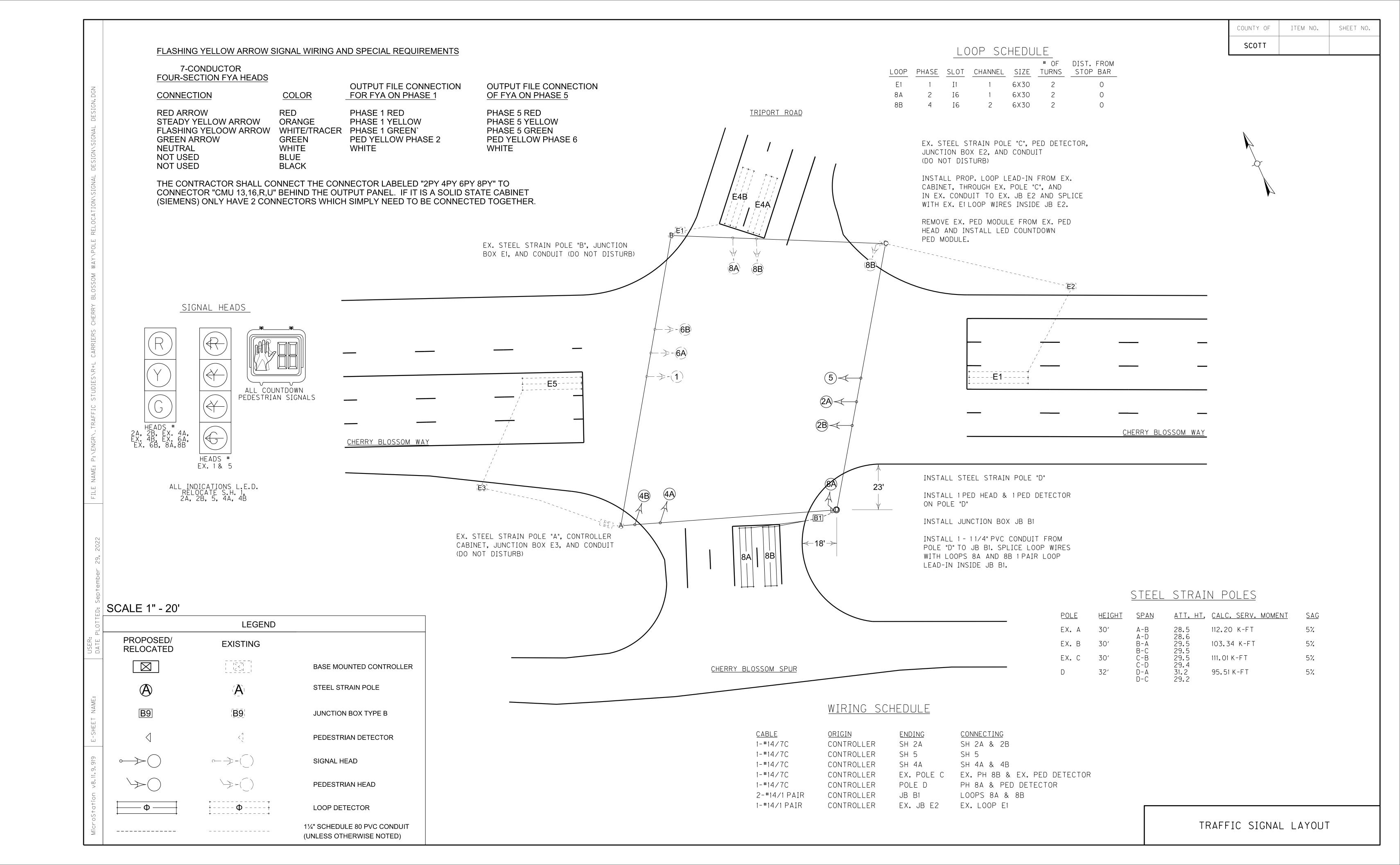


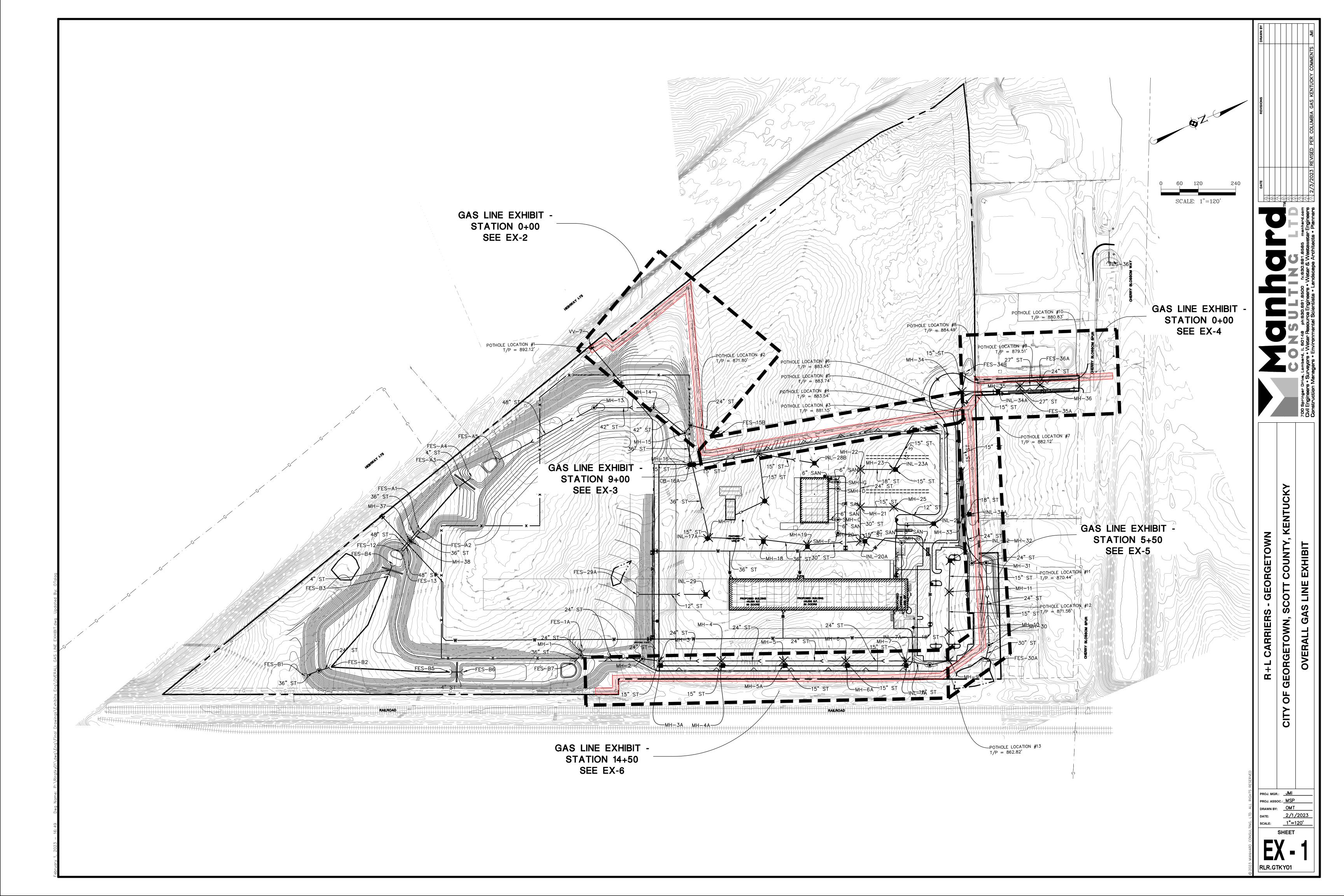
JUNCTION BOX AND CONDUIT DETAILS

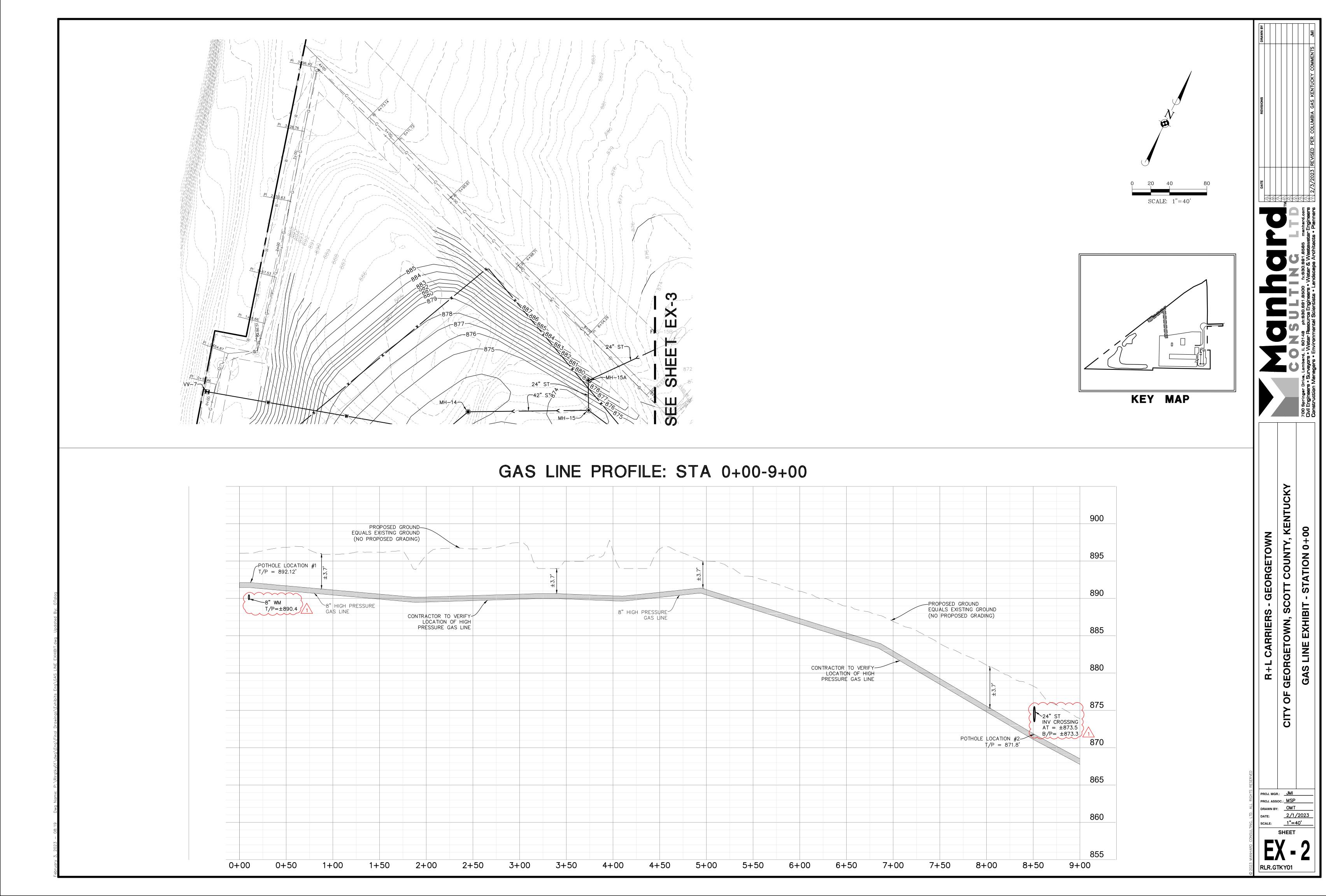
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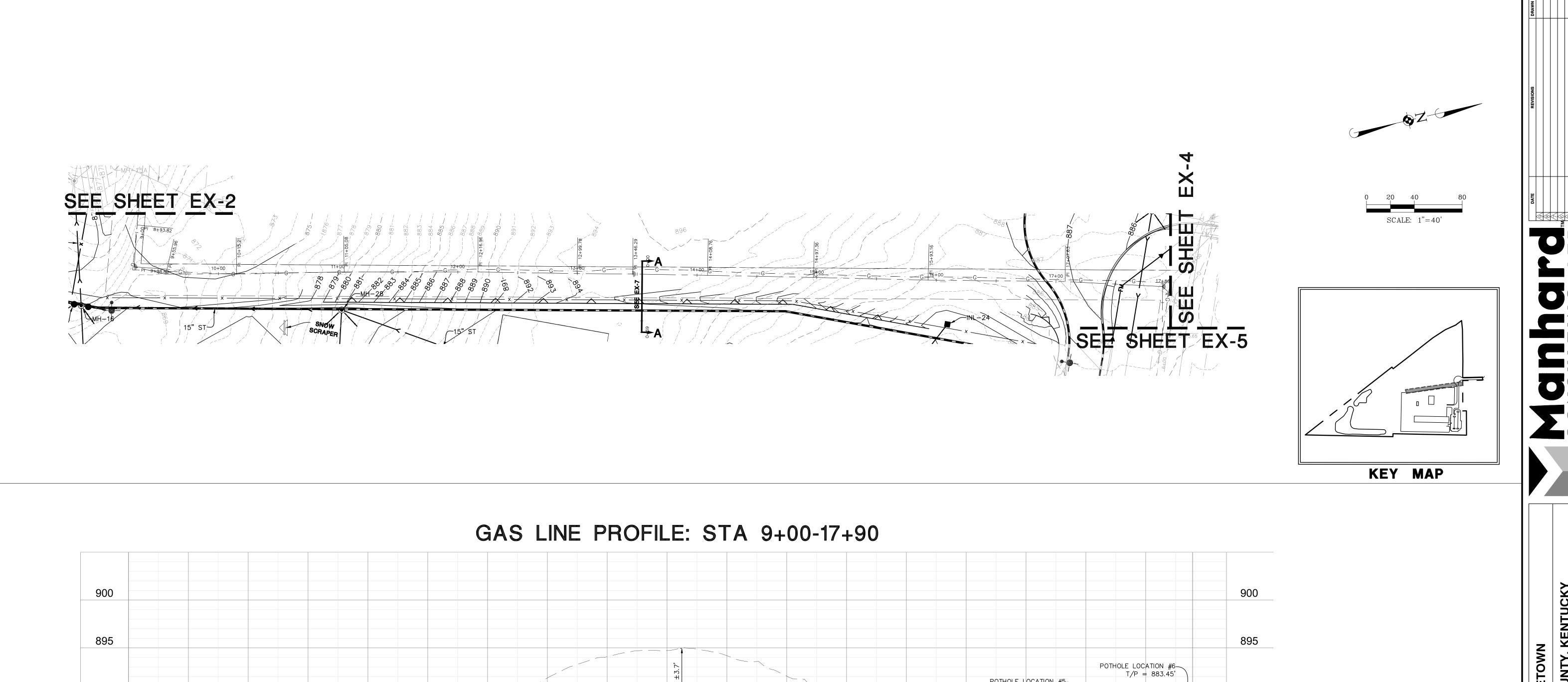
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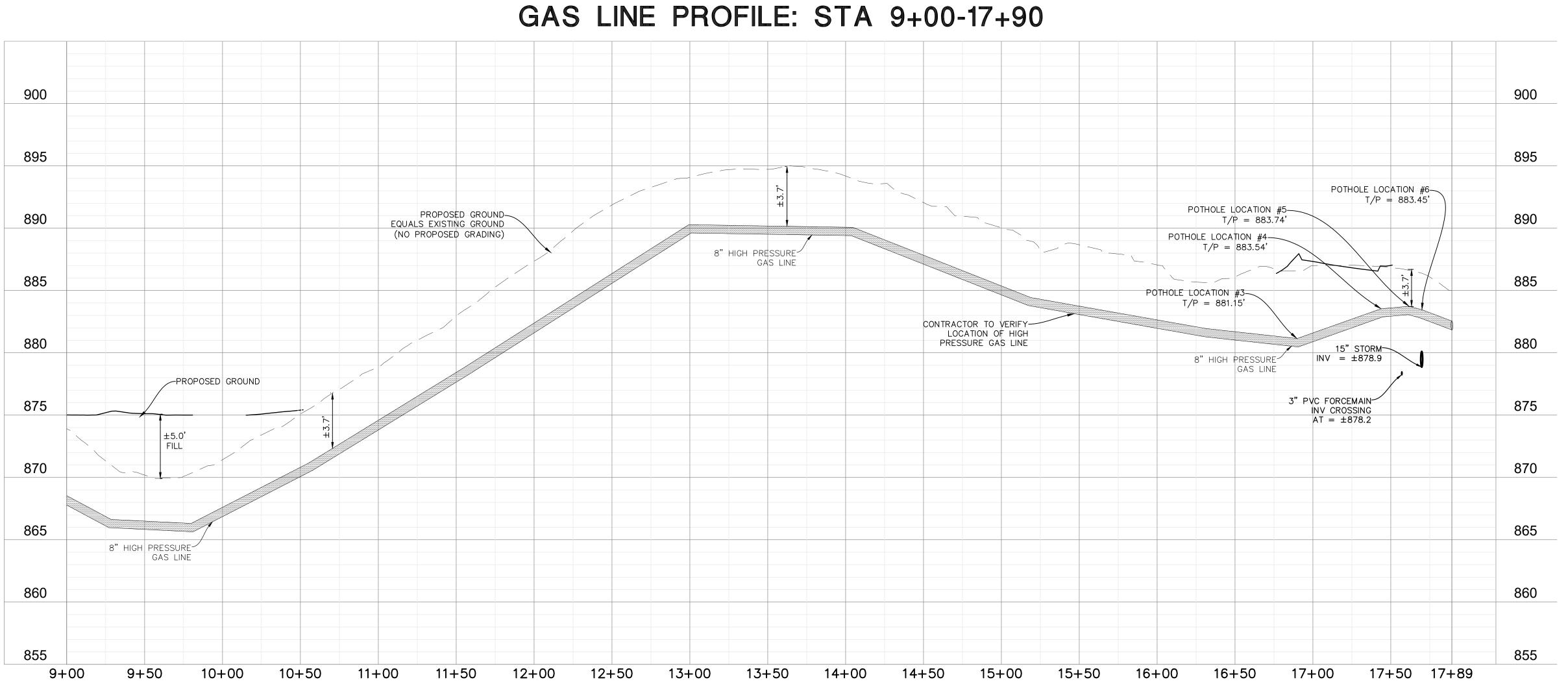
SHEET NO.











CITY OF GEORGETOWN, SCOTT COUNTY, KENTUCKY

PROJ. MGR.: JMI
PROJ. ASSOC.: MSP

DRAWN BY: OMT

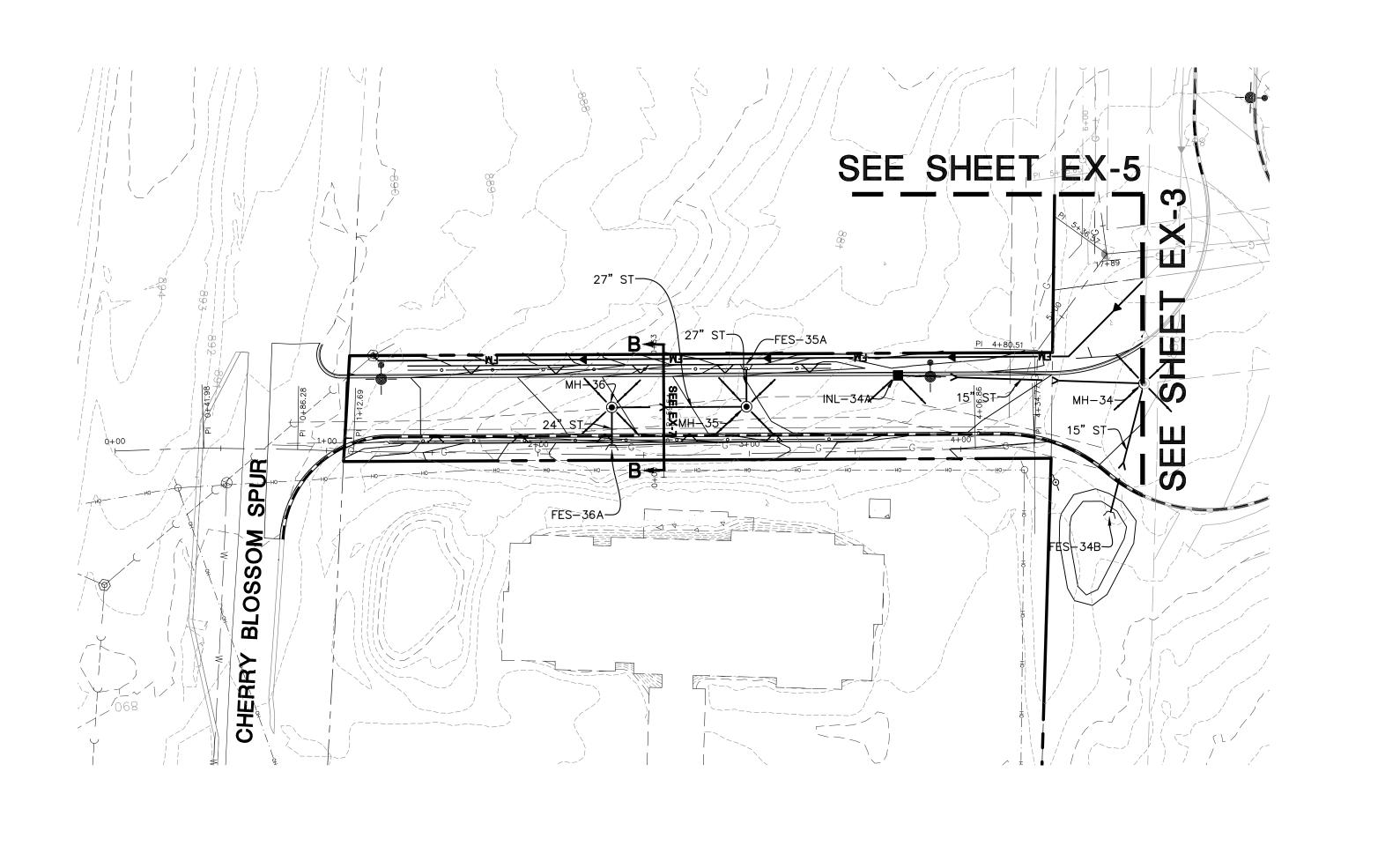
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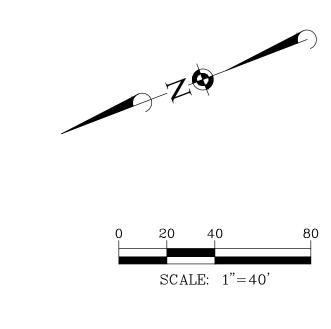
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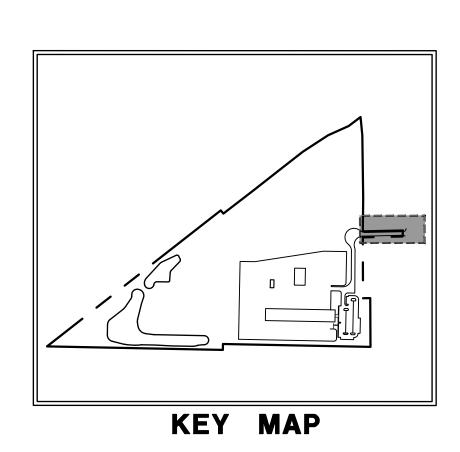
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SHEET

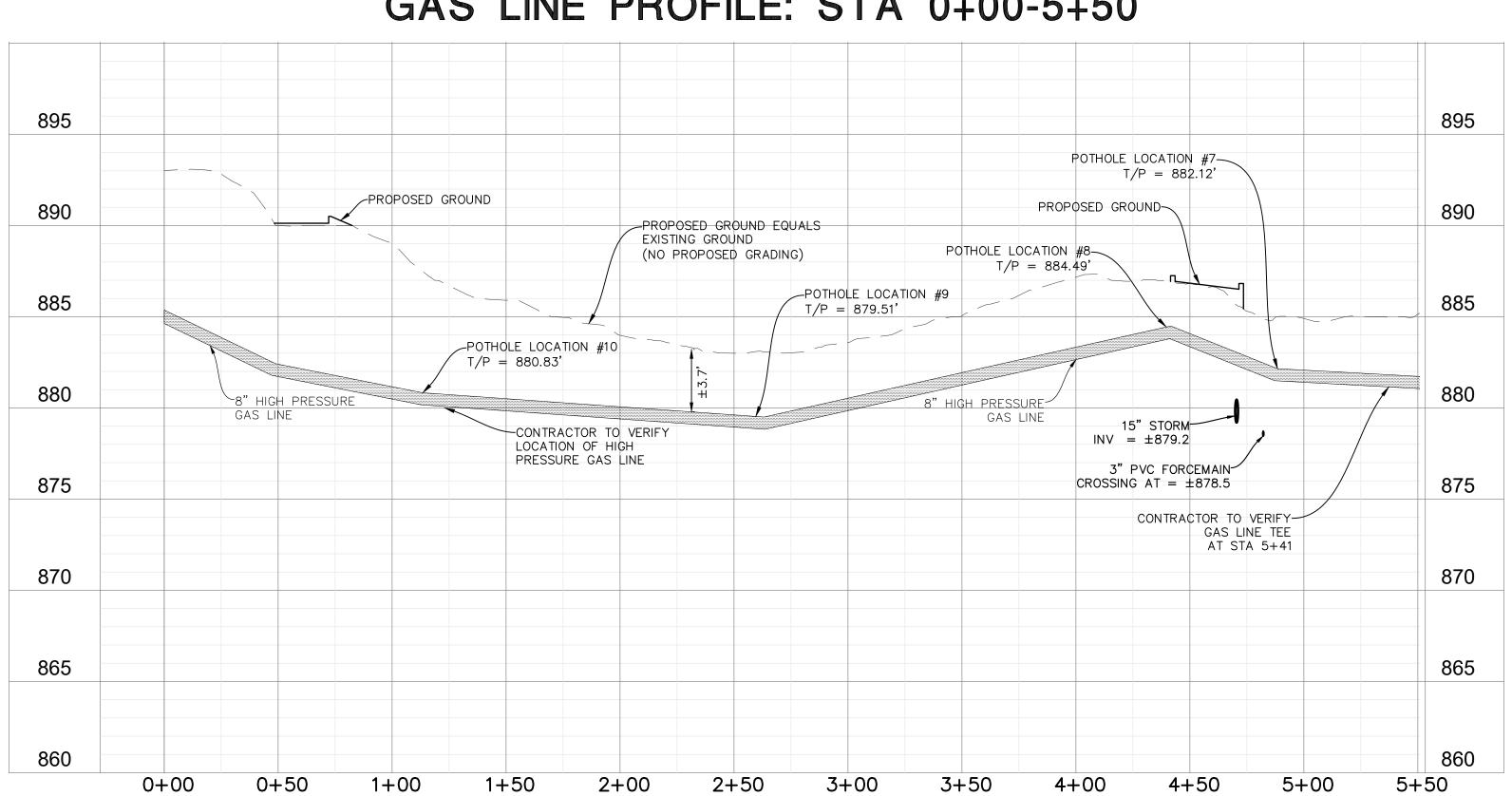
EX - 3







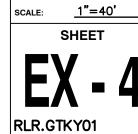
GAS LINE PROFILE: STA 0+00-5+50

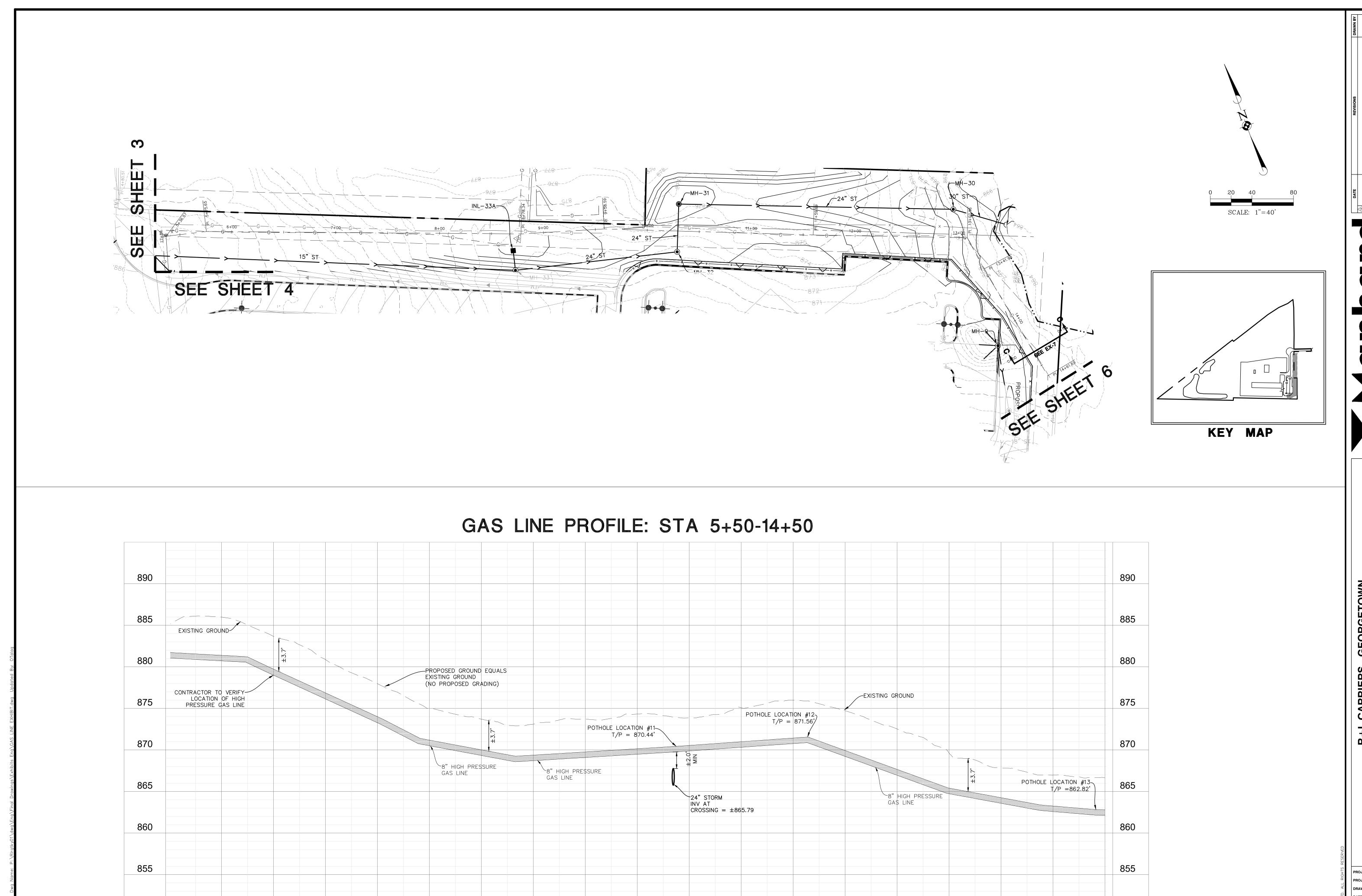


GEORGETOWN, SCOTT COUNTY, KENTUCKY STATION 0+00 - GEORGETOWN OF

R+L CARRIERS

PROJ. MGR.: JMI 2/1/2023 1"=40'





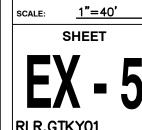
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5+50

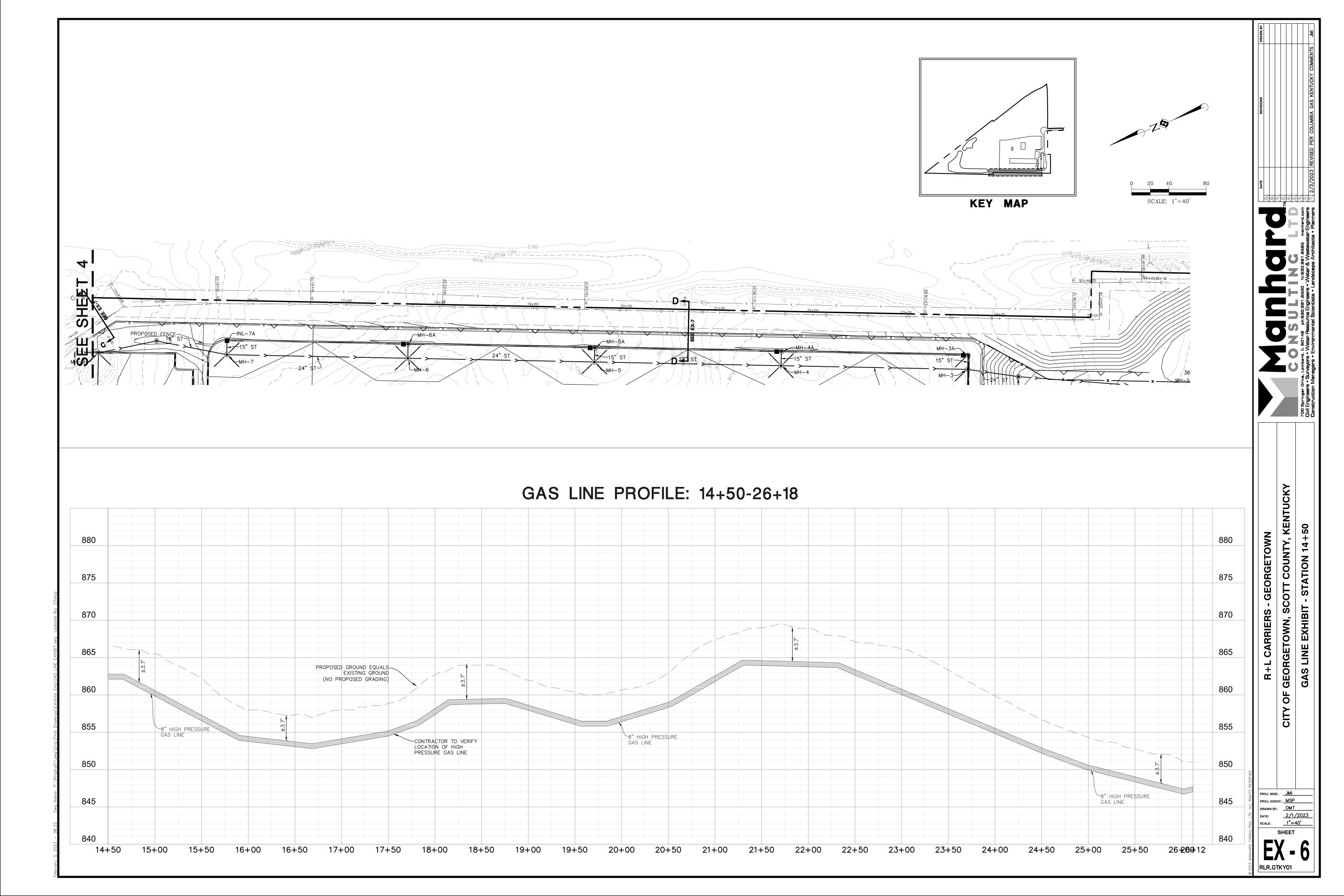
GEORGETOWN, SCOTT COUNTY, KENTUCKY

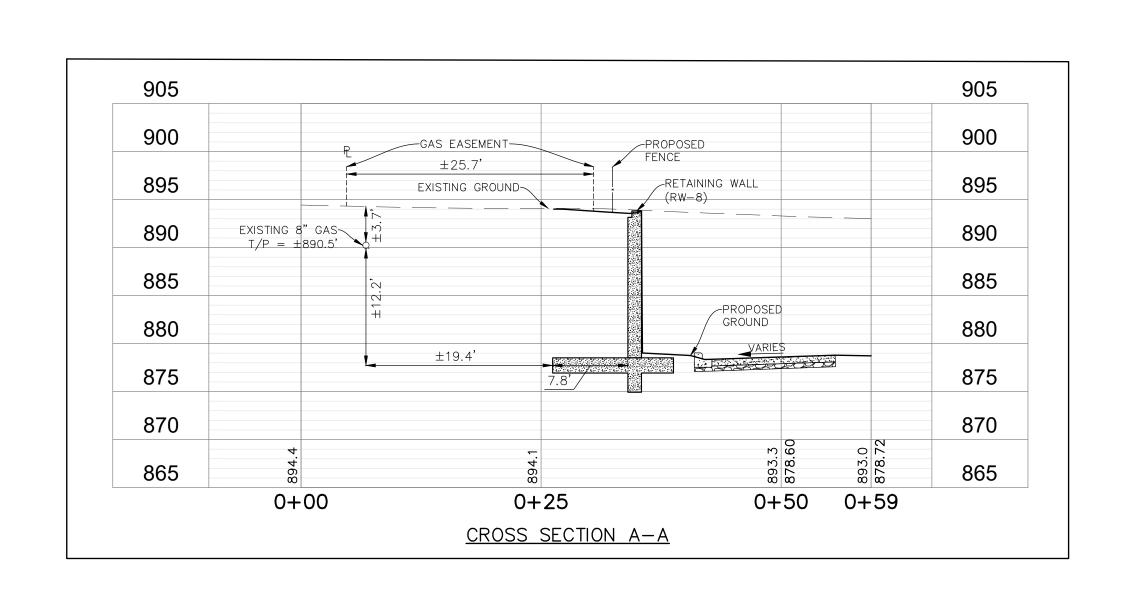
- GEORGETOWN R+L CARRIERS

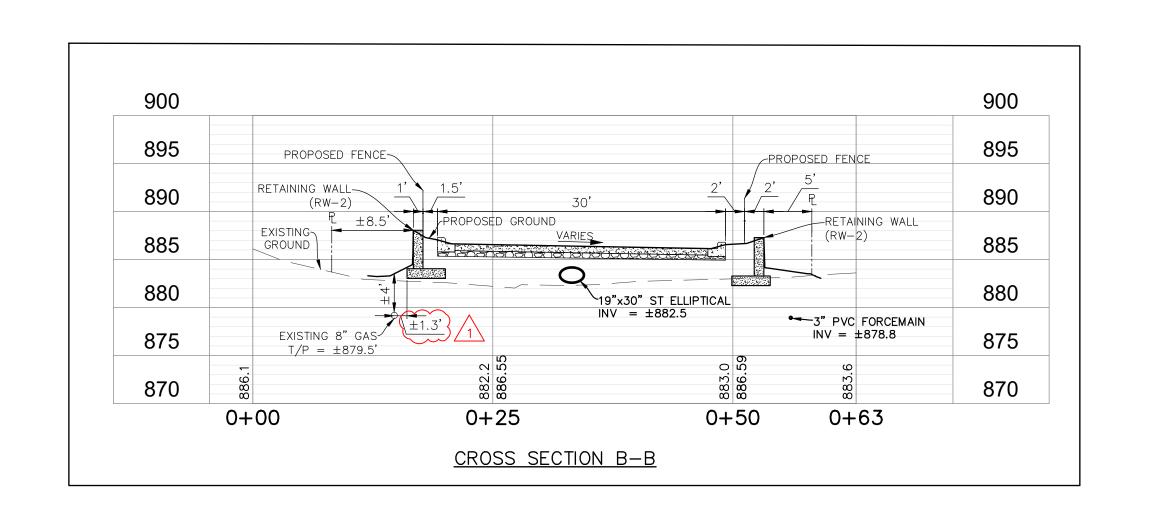
PROJ. MGR.: JMI PROJ. ASSOC.: MSP 1"=40'

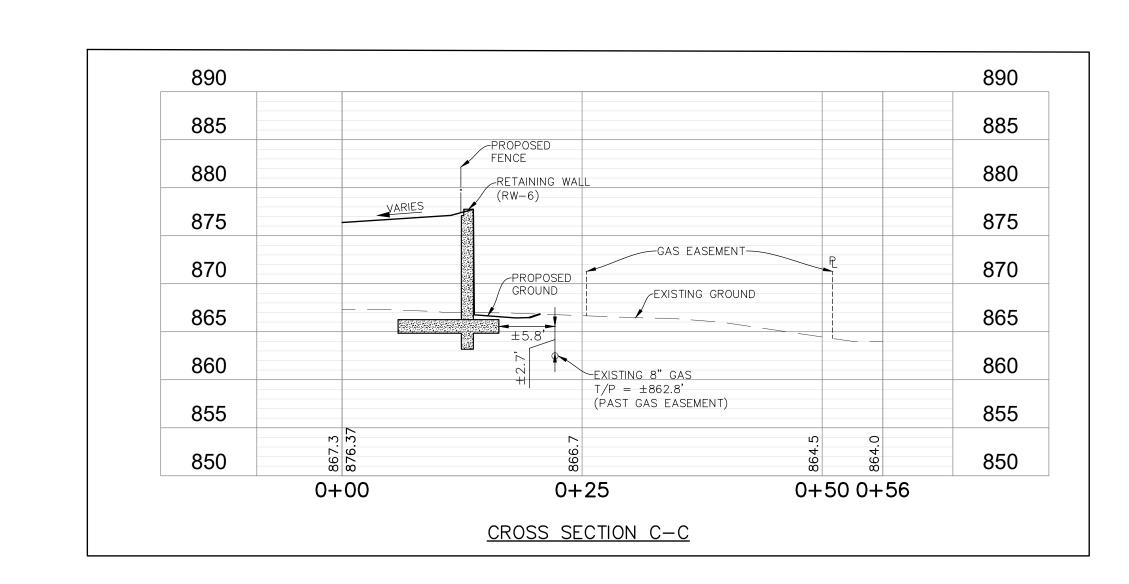


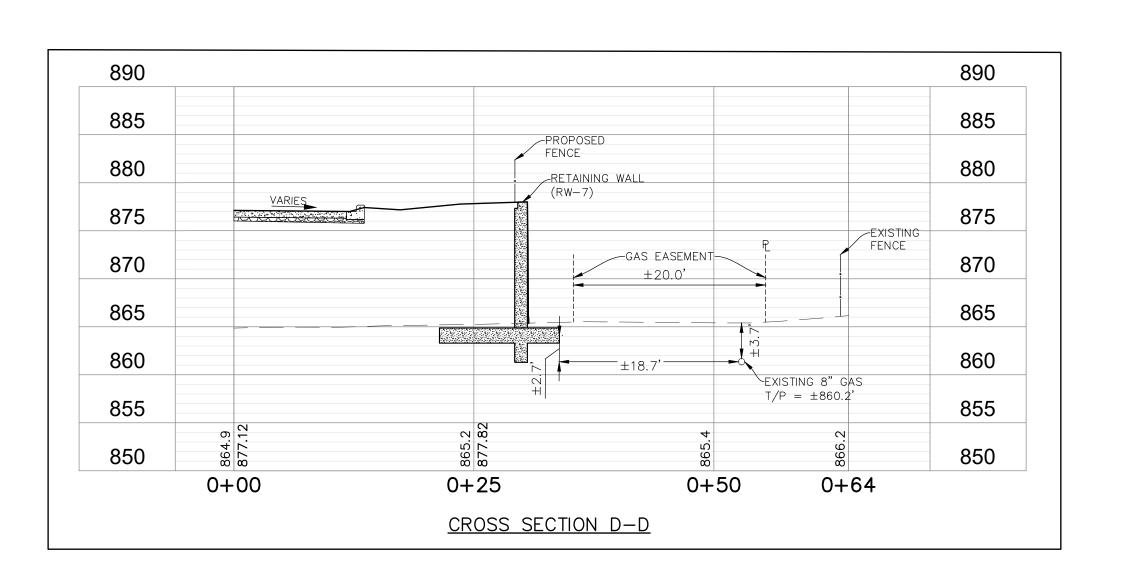
850











R+L CARRIERS - GEORGETOWN
CITY OF GEORGETOWN, SCOTT COUNTY, KENTUCKY
GAS LINE CROSS SECTIONS

PROJ. MGR.: JMI
PROJ. ASSOC.: MSP
DRAWN BY: OMT
DATE: 2/1/2023

DATE: 2/1/2023
SCALE: 1"=10'

SHEET

RLR.GTKY01