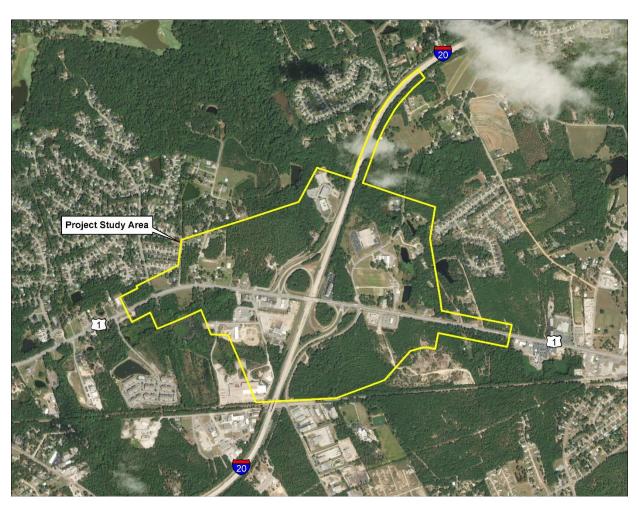


P030711 – Lexington County

Preliminary Utility Impact Analysis Report

March 19, 2019











Prepared by:



SCDOT# P030711 Lexington County

Preliminary Utility Impact Analysis Report US 1 over I-20 in Lexington County

Overall Project Review

The interchange improvement project consists of replacing the existing US 1 (Augusta Hwy) bridge over I-20 interchange, reconfiguring the on/off ramps, and realigning the nearby frontage roads of Monroe Lane, Dooley Road, Brickyard Road, and Cedar Street.



Project Study Area: US 1 over I-20 in Lexington County

Utility Coordination Approach

The key purpose for early involvement is to allow utilities enough time to plan and budget their relocations in response to an expedited project delivery. All the stakeholders understand the critical nature utilities play to a project's success, so it is important that this early coordination continue throughout the DB procurement and project construction.

All information provided is For Information Only and is based on the best available data at the time of the report. It will be the responsibility of the DBT to verify as their team deems necessary to make critical decisions. I-20 is currently being widened under a design-build contract with Zachry Construction. Some utilities had to relocate due to this project. These relocations should be captured in the SUE mapping to come at a later date from this report.



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This early utility coordination report contains the following information:

- List of utility owners
- o Early assessment of utility company's facilities (existing and proposed)
- Summary of resulting impacts
- o Early assessment of prior rights
 - Prior rights documentation was requested; however, this is an ongoing process due to time constraints and limited resources.
 - Prior rights identified in this report is based on Level B SUE in relation to property limits shown as well as any known easements.
- o Potential Conflict Identification based on the recommended preferred alternative
- Preferred Utility Clearance Separation Values
- o Preliminary Utility Relocation Schedules (Design & Construction)
 - This is a high-level estimate. It is difficult to provide accurate timeframes when the final scope of impacts cannot be secured.
- o Potential Environmental Impacts due to relocations
- o Possible In-contract relocation options

Due to the potential lengthy relocations for the new intersections from their existing locations, it will be imperative that new cutovers be timed properly with the project staging. It is recommended that rough grading for all new relocated roads be performed early in the schedule if utilities need this area for relocation options. It will be the Design-Build Team's (DBT) responsibility to confirm this approach during their utility coordination efforts.

NOTE: Utility owners will not begin design or prior rights research until they receive right of way (ROW) plans. It will be very important for the DBT to provide plans with established proposed ROW as soon as possible, so they can finalize their designs and obtain easements, if required, for their relocations. It will be critical to establish a viable utility corridor to ensure there is room for relocations in relation to existing and proposed features and for construction staging. ROW cannot be purchased solely for utility relocations, so the corridor should fit within the limits of the project needs.

Project Schedule

The following dates will be provided to the utility owners prior to the RFQ:

Request for Qualifications (RFQ) – April 29, 2019 Announcement for Short-Listed Teams – July 15, 2019 Request for Proposals (RFP) Industry Review – July 19, 2019 Final RFP – September 2019 Bid Opening – March 2020



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SUE Overview

It was recommended that Level B SUE be performed under the design build prep, so all proposing DBT would have same information, a better level of accuracy to minimize impacts to reduce risk as well as to improve safety by reducing field investigations from multiple proposers. CECS is currently performing Level B SUE for the project study area. This will be complete and provided to the short-listed teams by the noted dates in the *Project Schedule* section. There could be a need for additional SUE depending on final project limits determined by the proposing DBT.

As-builts are included in this report for those utilities who provided hard copies. Others will be shown in the SCDOT provided SUE mapping and in their provided CAD files.



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Utility Contacts

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Town of Lexington Water & Sewer

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111 Maiden Lane
Lexington SC, 29011

SCE&G - Gas

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803-217-9522

609 Old Taylor Road

Cayce, SC 29033

Comporium

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Charter/Spectrum

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3347 Platt Springs Road
West Columbia, SC 29170

Windstream

Michael Caudill

Michael.caudill@windstream.com

803-957-2621

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Lexington, SC 29072



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Individual Utility Summary

Below is a summary for each utility owner for notable potential impacts and current recommended mitigation. See Quick Reference Table for specific timeframes. NOTE: The recommended mitigation <u>does not</u> mean it will be implemented. It is a recommendation to avoid/minimize impacts and/or assist utilities in planning for upcoming relocation needs.

SCE&G Power Distribution

SCE&G Power Distribution has 3-phase primary overhead (OH) and underground (UG) service facilities throughout the project. Their primary OH line begins on the north side of US 1 until it spans over I-20 where it then crosses to the south side continuing out of the project limits. This line has conflicts with the new overpass construction and location. SCE&G also has OH primary facilities on all side roads, which may have to move to the relocated roads for service to adjacent property owners and future access and maintenance.

Since the relocated side roads could be a critical step for SCE&G's cutovers and staging across I-20, ROW and clearing will be crucial in the early portion of the DB process. SCE&G will have to obtain easements, so coordination between ROW agents is recommended. Easement acquisitions could take 8-10 months once their design is complete. If relocations along the new side roads cannot coincide with the interstate crossing, then this could impact options for DBT on schedule. This is very important to confirm during the pursuit. Determining alternatives for their interstate crossing should be considered.

Along with ROW coordination, early processing of utility agreements will be key for efficiency. SCE&G appears to have partial prior rights on US 1 since many of their poles are located inside the existing ROW. SCE&G seems to have prior rights on side roads as they appear to be outside the existing ROW. Prior rights will need to be verified.

SCE&G will need to review relocation options which minimizes impacts to wetlands on relocated Cedar Road and Brickyard Road as well as to property owners. These impacts could prolong their relocation efforts.

Town of Lexington (TOL) Water & Sewer - Water

TOL-W has a 12-in PVC water line along the north side of US 1 from the project beginning to Brickyard Road where it turns into a 10-in PVC line along Monroe Lane and a 6-in PVC line on Brickyard Road. TOL-W starts on the east side of I-20 at the American Value property on the north side of US 1 as a 6-in PVC line. It crosses to the south side of US 1 as a 10-in PVC line at the existing Dooley Road/Cedar Road intersection and continues out of the project limits. These lines have conflicts with the new pavement, bridge ends, drainage, side line ditches, and signals.



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TOL-W has 10-in PVC lines on Cedar and Dooley roads, which may need to relocate to the new alignments. The existing 6-in water line on Brickyard Road is currently being replaced by a 12-in line that will run from US 1 along Brickyard Road to a gravel driveway servicing Tidewater Boats. It will cross I-20 in an 18-in casing approximately 1800 feet south of the interchange and tie to an existing 10-in PVC line on Dooley Road. This installation is currently under construction. TOL-W was made aware of the upcoming DB project. The SUE may not have this included at the time of this report.

It will be imperative that ROW, removal and disposal items, clearing and grubbing, and rough grading be performed as soon as possible, so the Town can install new facilities. It is recommended that Level A test holes be performed to make design adjustments to avoid or allow to remain during various stages of construction.

The Town does have a utility easement along the south side of US 1 from Dooley Road to outside the project limits as well as on the east side of Dooley Road. Their 10-in water line goes in and out of this easement, so proper documentation will need to be verified to determine which portions could be a cost to SCDOT. They also have a private easement along the back side of Value America's hotel property for their water and sewer lines. Their remaining water system does not appear to have prior rights.

The Town could be opened to in-contract work should the DBT want to offer this option during their coordination efforts. This arrangement would be between the DBT and the Town as a separate contract. The utility agreement for items with prior rights will be processed and submitted as usual.

Town of Lexington (TOL) - Sewer

TOL-S has a 6-in sewer force main on Cedar Road that crosses US 1 to Dooley Road where it ends at the gravity system that crosses under I-20 to Brickyard Road. There is a 3-in force main that branches off to the west on the north side of US 1 to Value America's property and another 3-in force main on the south side of US 1 from Dooley Road to the project limits. TOL-S has lift stations at Value America and Bojangles for the Cedar/Dooley Road system. The lift station at Value America will be in the new controlled access (C/A) limits, and the one at Bojangles is at the edge of the proposed ROW for US 1. Both sites will need to be evaluated further on whether they can remain. The lift stations are on private easement and will have prior rights.

TOL-S has a gravity system on the east side of Brickyard Road from where it crosses under I-20 to south of US 1 where it turns west on a private easement.

Pavement, controlled access, storm drainage, ditch cuts, OH signs, and signals are potential impacts to these sewer lines. Level A test holes and design adjustments are recommended avoid impacts and assist with staging construction. It will be imperative that ROW, removal and







SCDOT# P030711 Lexington County

disposal items, clearing and grubbing, and rough grading be performed early in the DB phase. In-contract work is another recommendation to pursue during the procurement phase. Should this option be performed, the contract would be between the DBT and the Town as a separate contract. The utility agreement for items with prior rights will be processed and submitted as usual.

TOL-S has some prior rights on their facilities. Final determination will need to be provided by the Town.

SCE&G Gas Distribution

SCE&G gas has a 6-in steel gas line along the north side of US 1 throughout the project except for where they relocated due to the I-20 DB improvements. For this relocation, SCE&G crossed US 1 to the east side of Brickyard Road and continued south in a private easement where it then bored under I-20 to Dooley Road. SCE&G abandoned their 6-in line on US 1 from Brickyard to Dooley Road. The potential impacts include ditch cuts, drainage, and pavement restrictions. There could be potential impacts to the end of the bore on Dooley Road so minimizing this would be necessary to maintain the existing interstate crossing.

SCE&G has a 4-in steel line along the east side of Cedar Road, a 6-in along Dooley Road, and a 6-in line along Brickyard and Fergon Roads. They also have a 2-in plastic line at the intersection of relocated Dooley Road and Cedar Road for service to a property owner. SCE&G will need to relocate to the new roads for service and future access. Temporary adjustments or other methods for maintenance of services during construction may be necessary if full access to side roads are not available. It is recommended to perform test holes to avoid impacts due to drainage features, early ROW coordination for priority areas, and other various design adjustments to minimize impacts.

SCE&G gas does not appear to have prior rights. This will need to be confirmed by the DBT.

Windstream Telecommunications

Windstream has underground facilities on both sides of US 1 from the project beginning to their overhead powerline which begins at Brickyard Road. They cross I-20 on the south side of the existing overpass until Dooley Road where they dip underground and branch out on both sides of US 1. They have fiber and copper buried facilities on Dooley Road, Cedar Road, Monroe Lane, and Brickyard Road. Their potential impacts are pavement, storm drainage, ditch cuts, signals, OH signs, and new alignments.

Windstream could utilize their existing I-20 overhead crossing should this be an option for their relocations to better facilitate their efforts. They will need approximately 6 months for design and another 6-10 months for relocations since this is a major feed in their system. If Windstream decides to relocate on SCE&G's poles for practical purposes, then they will need SCE&G's



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relocation design in order to complete their designs.

Windstream does not appear to have prior rights since they are located inside the ROW. This will need to be verified by the DBT.

Comporium Telecommunications

Comporium has overhead facilities attached to SCE&G's poles throughout the project limits on US 1. They will have the same conflicts as SCE&G. Comporium plans to relocate to the new pole line. It will be important to provide them SCE&G's plans as soon as possible. The timeframes for Comporium to relocate in relation to bridge construction and where SCE&G relocates their interstate crossing will be very important to the contractor's schedule and construction staging. Comporium generally requires several months once the pole line is available, so this could impact bridge construction. Confirmation and other relocation options will be crucial for this relocation. Since Charter will have to relocate on this same pole line, the relocation timeframes could extend longer depending on the order for attachments.

Charter/Spectrum - CATV

Charter has buried and aerial fiber and coaxial facilities throughout the project limits. They are on SCE&G's pole line when they are aerial. They cross I-20 overhead and then transition underground on the various side roads throughout the project limits. They have a main fiber feed to the cell tower that will require long pulls for replacement. Potential impacts include pavement, storm drainage, ditch cuts, signals, and OH signs. Charter will relocate to SCE&G's new pole line. It will be important to share SCE&G's relocation design as soon as possible with Charter to complete their design. There will be coordination required between power and all telecommunication companies who attach in order for their schedule to be accounted for during construction staging and cutovers.

Charter has a moratorium from Thanksgiving to Christmas, so no work will be performed during that time. The DBT needs to ensure this is accounted for with cutovers and schedule. Every fiber at a minimum of 30 days' notice / commercial cutover is 45 days. To complete a full cutover for a line, all customers on that feed must agree to the same timeframe, or else the whole process starts over to find a suitable time for all parties.

American Tower Cell Tower

American Tower owns a cell antenna at the end of Brickyard Road near I-20. There are no potential impacts to the cell tower site; however, the communication feeds from Windstream, Charter, and Comporium do have impacts with the project. See their sections for details.



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Potential Environmental Impacts

DBT should consider joint permittee applications for wetland impacts on Cedar Road and Brickyard Road or recommend utilities bore under wetlands to minimize impacts made by open cuts of buried facilities. This is applicable to Town of Lexington water and sewer, SCE&G gas, Windstream, and Charter. SCE&G Power could have impacts due to clearing, so minimizing this would prevent delays.



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Quick Reference Table



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Utility Quick Reference Table

US 1 over I-20 Interchange Improvement - Design-Build Prep P030711 - Lexington County

Utility Owner/ Utility Type	Location	Potential Conflict	Impact Probability	PRIOR RIGHTS		TIMEFRAMES (months)				CLEARANCES (ft)					CONSTRUCTION			COMMENTS
7 7				Yes/No/ Partial	Documentation Status	Permits	Design	Procurement/ Easement Acquisition	Construction	Structures (bridge piles, footings, noisewalls, MSE, etc.)	Max Fill Limit	Storm Drainage	Other utility owners	Construction Equipment	Seasonal Restrictions	Inside or Outside ROW	Items Required to Relocate (Proj ROW, Private Easement, Contractor Activity)	
SCE&G Power Distribution (OH1)																		
OH 3-Ph with attachments	US 1	Road, Bridge, SD, C/F, Signals	HIGH						3									
OH 3-Ph with attachments	Monroe Lane	Road, C/F	MODERATE						3								60% plans, Proj ROW,	
OH 3-Ph with attachments	Cedar Road	Road, C/F	LOW	Partial	On-going	N/A	6	10	3	20	23' under line	5	5	15' or OSHA	None	Both	easements, rough grading/clearing,	
OH 3-Ph with attachments	Brickyard Road/Fergon Road	Road, C/F	LOW						2								staking	
OH 3-Ph with attachments	Dooley Road	Road, C/F	MODERATE						3									
Town of Lexington Water (W1)																		
12-inch PVC / 10" PVC / 6-inch PVC	US 1	Road, Storm Drainage,	HIGH						2									
10-inch DI	Monroe Lane	Road, C/F	MODERATE]					2									
10-inch DI	Cedar Road	Road, C/F, Future Access	MODERATE	- Partial	On-going	6	6	3	3	10	10	5	3	N/A	None	Both	60% plans, Proj ROW, easements, rough	
6-inch DI / 12" PVC (New)	Brickyard Road/Fergon Road	Road, C/F, Future Access	LOW						2					·			grading/clearing, staking	
10-inch PVC	Dooley Road	Road, C/F, Future Access	MODERATE						3									
Town of Lexington SEWER (S1/FS1)																		
3-inch/2-inch PVC	US 1	Road, Storm Drainage,	MODERATE						2*									*Timelines would be in coordination with water work.
3-inch/6-inch PVC	Cedar Road	Road, C/F, Future Access	LOW						3*								60% plans, Proj ROW, easements, rough	**Greater separations may be
Gravity System	Brickyard Road/Fergon Road	Road, C/F, Future Access	LOW	Partial	On-going	6*	6*	3*	2*	10	10	5	3**	N/A	None	Both	grading/clearing, staking	needed with gas (cathodic protection) and water.
6-inch PVC	Dooley Road	Road, C/F, Future Access	MODERATE						3*									
SCE&G GAS (G1)																		
6-inch STL	US 1	Road, Storm Drainage,	MODERATE						3									
4-inch STL	Cedar Road	Road, C/F, Future Access	LOW						3		10	_					60% plans, Proj ROW, rough	
6-inch STL	Road	Road, C/F, Future Access	LOW	No	N/A	6	4	3	2	10	10	5	3	N/A	None	Inside	grading/clearing, staking	
6-inch STL	Dooley Road	Road, C/F, Future Access	MODERATE						4									

Utility Quick Reference Table

US 1 over I-20 Interchange Improvement - Design-Build Prep P030711 - Lexington County

Utility Owner/ Utility Type	Location	Potential Conflict	Impact Probability	PRI	OR RIGHTS	TIMEFRAMES (months)				CLEARANCES (ft)					CONSTRUCTION			COMMENTS
				Yes/No/ Partial	Documentation Status	Permits	Design	Procurement/ Easement Acquisition	Construction	Structures (bridge piles, footings, noisewalls, MSE, etc.)	Max Fill Limit	Storm Drainage	Other utility owners	Construction Equipment	Seasonal Restrictions	Inside or Outside ROW	Items Required to Relocate (Proj ROW, Private Easement, Contractor Activity)	
Windstream (T1)																		
OH/UG Copper & Fiber	US 1	Road, Storm Drainage,	HIGH						2									
OH/UG Copper & Fiber	Monroe Lane	Road, C/F	LOW						2								COO/ plana Drai DOM	
OH/UG Copper & Fiber	Cedar Road	Road, C/F, Future Access	MODERATE	No	N/A	N/A	6	3	2	10	N/A	3	3	N/A	None	Inside/SCE&G Pole Line	60% plans, Proj ROW, rough grading/clearing, staking	
OH/UG Copper & Fiber	Brickyard Road/Fergon Road	Road, C/F, Future Access	LOW						2									
OH/UG Copper & Fiber	Dooley Road	Road, C/F, Future Access	LOW						2									
Comporium Communications (T2)																		
OH Fiber	US 1	Road, Bridge, SD, C/F, Signals	HIGH						2*								60% plans, SCE&G	* Comporium will need SCE&G's new pole line available before
OH Fiber	Monroe Lane	Road, C/F	MODERATE						2*								Relocation Plans, Proj	relocations can begin.
OH Fiber	Cedar Road	Road, C/F	LOW	- No	N/A	N/A	6	3	2*	10	N/A	3	3	N/A	None	Inside/SCE&G Pole Line	ROW, easements,	Coordinate for order of
OH Fiber	Brickyard Road/Fergon Road	Road, C/F	LOW						2*	10	1477							operations of attachments with other commuincation companies.
OH Fiber	Dooley Road	Road, C/F	MODERATE						2*									
Charter Spectrum CATV (OH1/TV1)																		
OH/UG Copper & Fiber	US 1	Road, Bridge, SD, C/F, Signals	HIGH						2*									* Charter will need SCE&G's new pole line available before
OH/UG Copper & Fiber	Monroe Lane	Road, C/F	MODERATE						2*						Thanksgiving -		60% plans, SCE&G	relocations can begin. Coordinate for order of
OH/UG Copper & Fiber	Cedar Road	Road, C/F	LOW	No	N/A	N/A	6	3	2*	10	N/A	3	3	N/A	New Year (No Splicing or outages permitted) Inside/SCE&G Pole Line	Inside/SCE&G	Relocation Plans, Proj ROW, easements, rough grading/clearing, staking)
OH/UG Copper & Fiber	Brickyard Road/Fergon Road	Road, C/F	LOW						2*							Pole Line		
OH/UG Copper & Fiber	Dooley Road	Road, C/F	MODERATE						2*									

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As-builts

NOTE: Utilities provided as-builts as requested. Only those utilities who provided hard copies are attached to this report. Some utility owners provided CAD only files. All utilities in the project limits will be provided in SUE mapping file, which is currently being finalized.



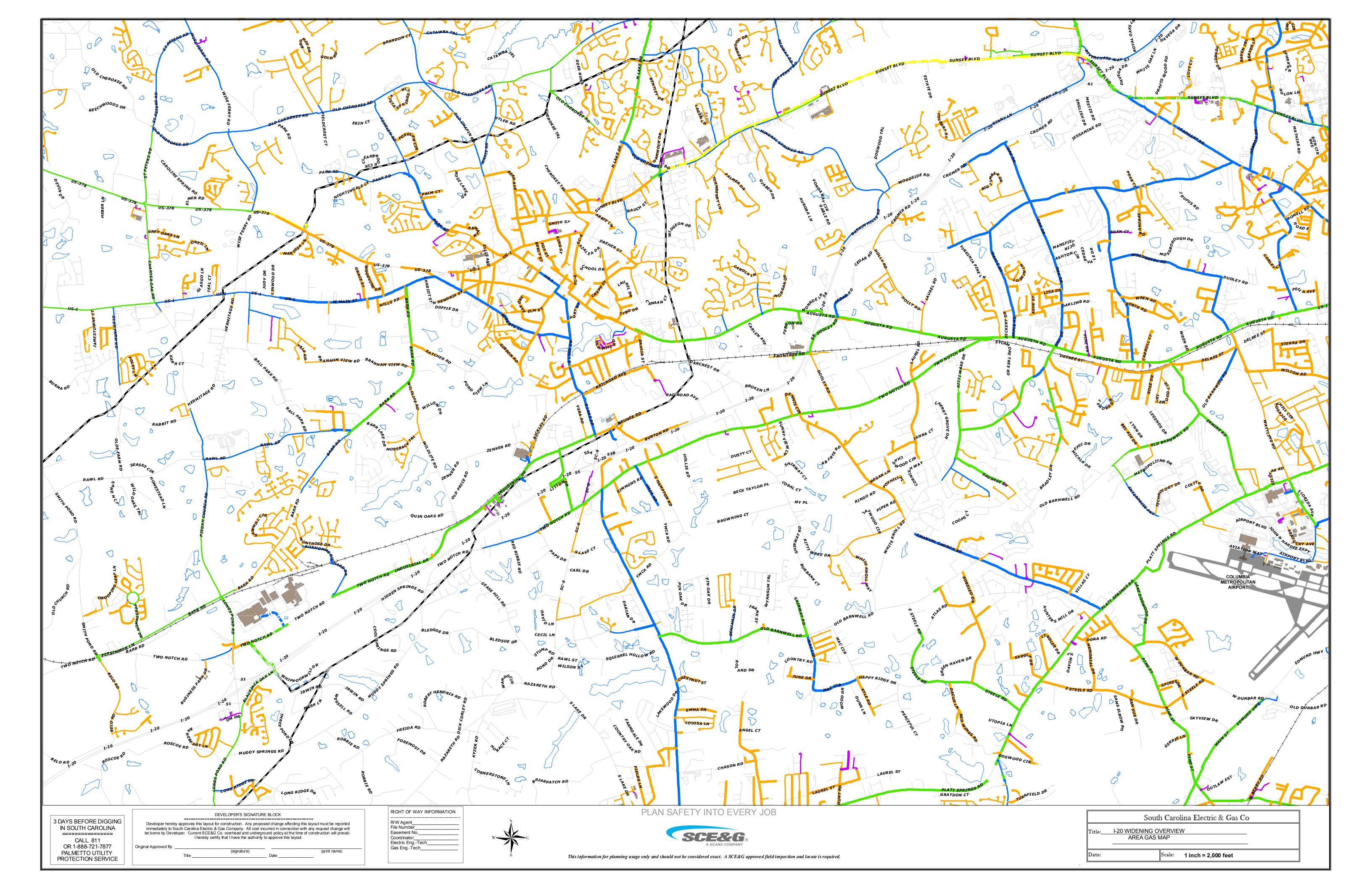
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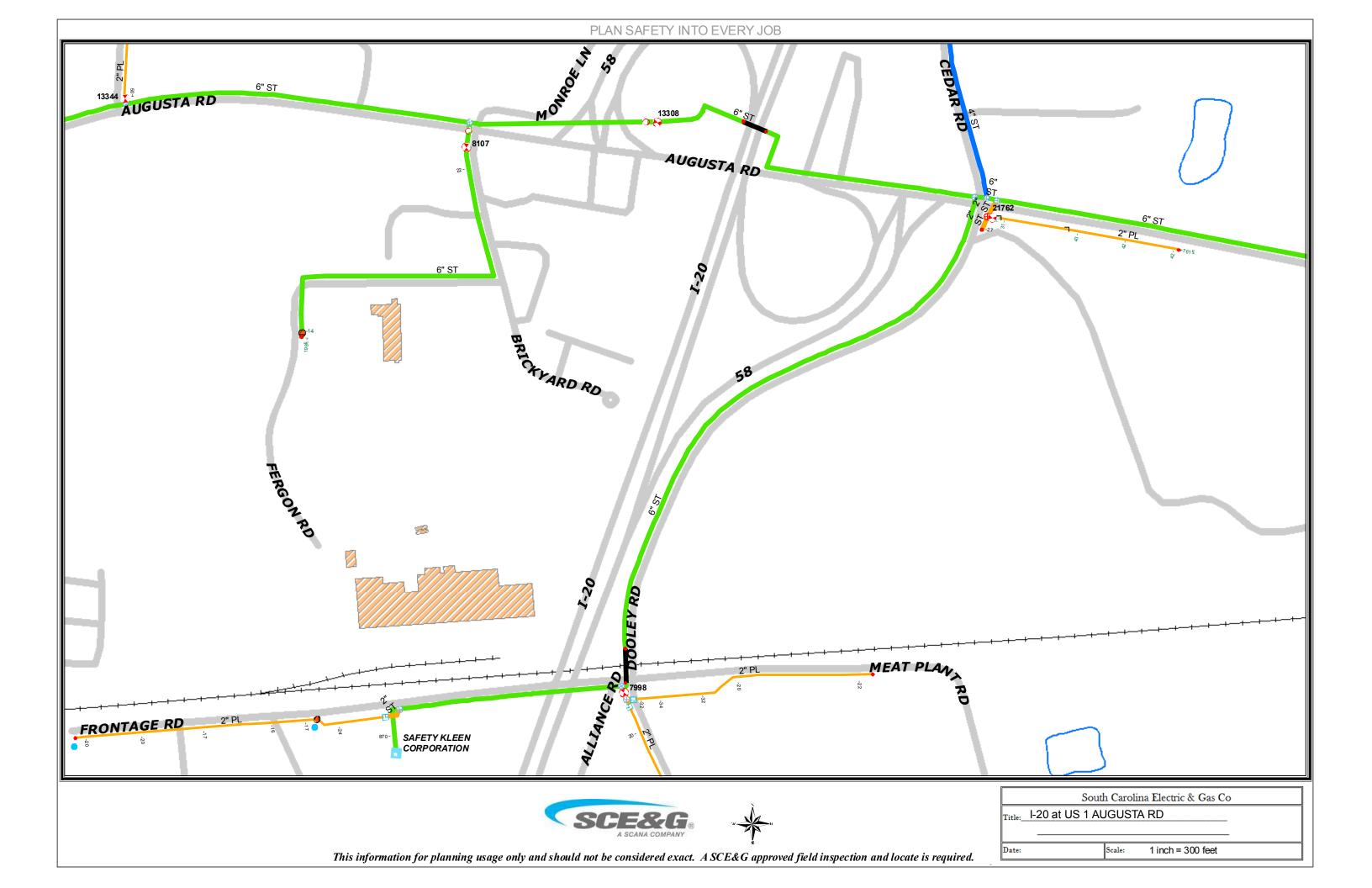


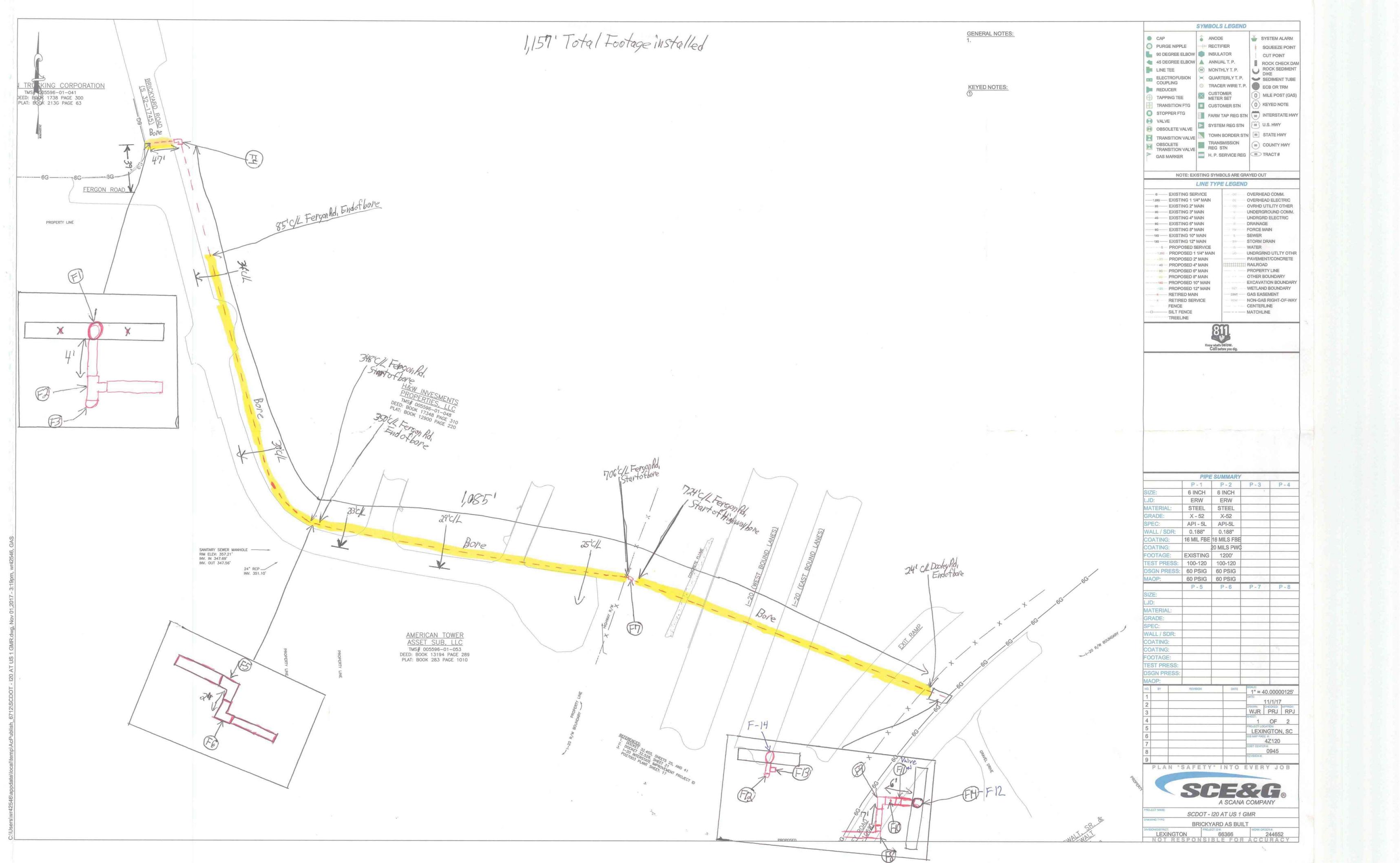
SCDOT US-1 OVER I-20 DESIGN BUILD PREP

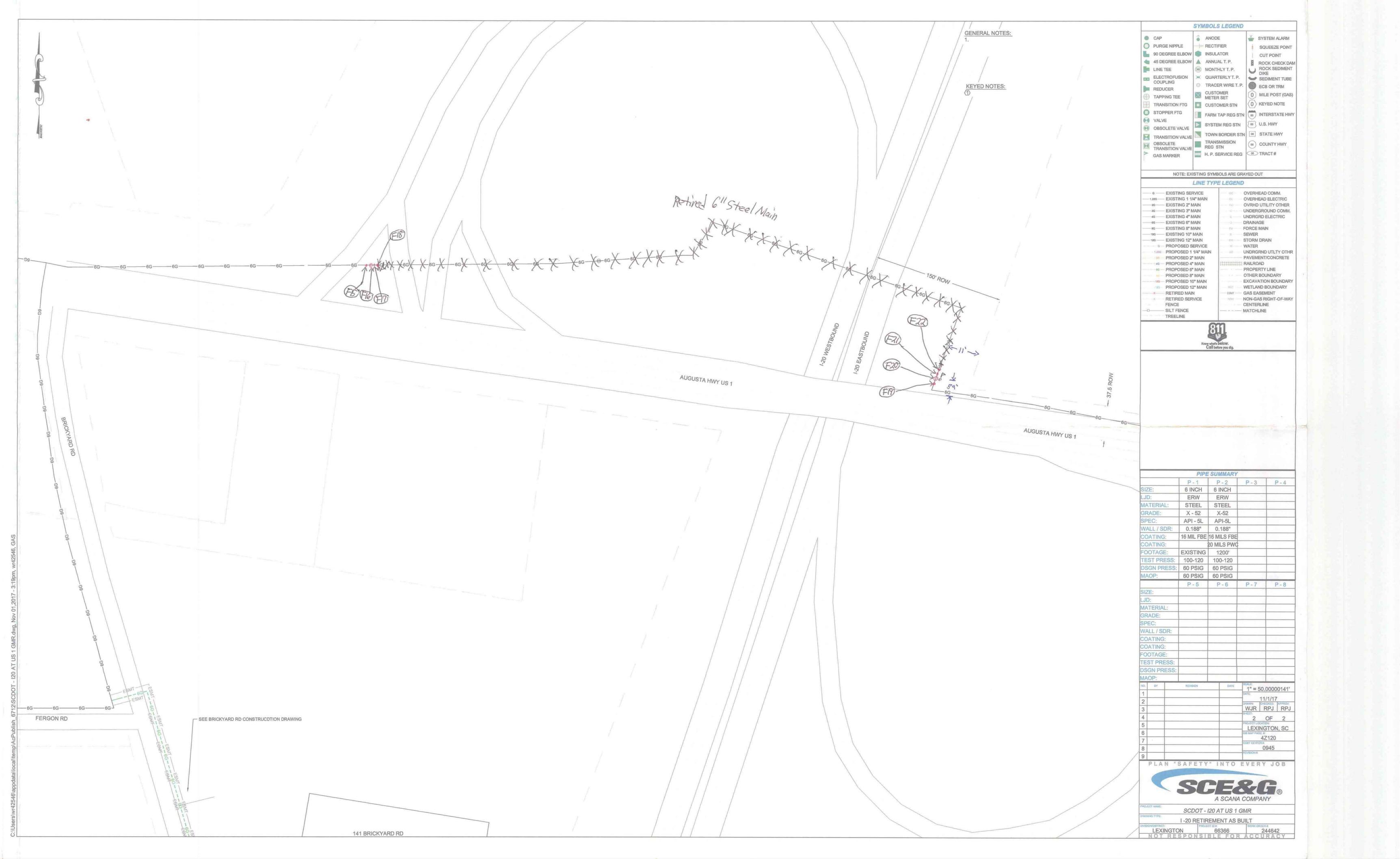


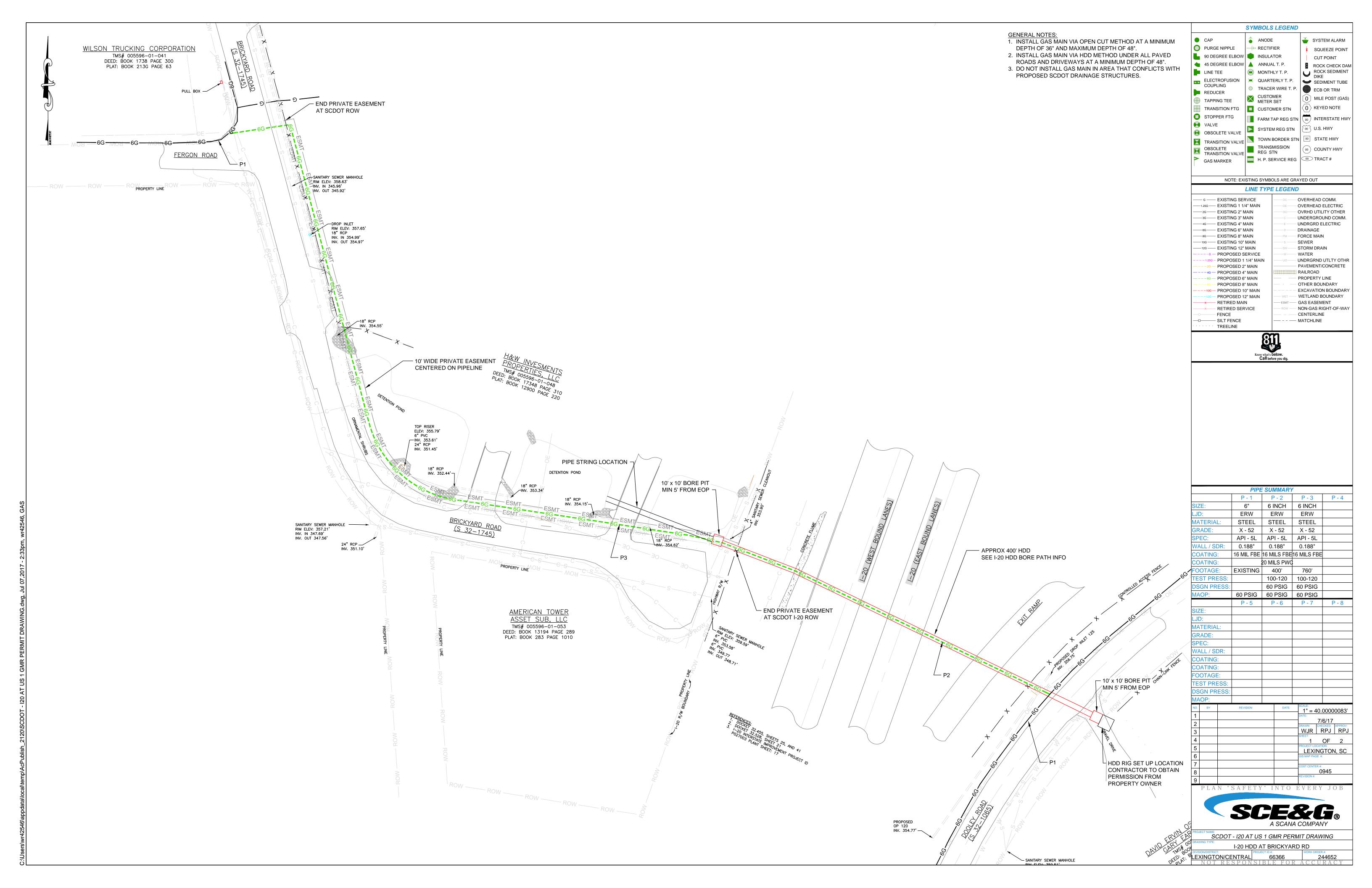
SCE&G Gas As-Builts

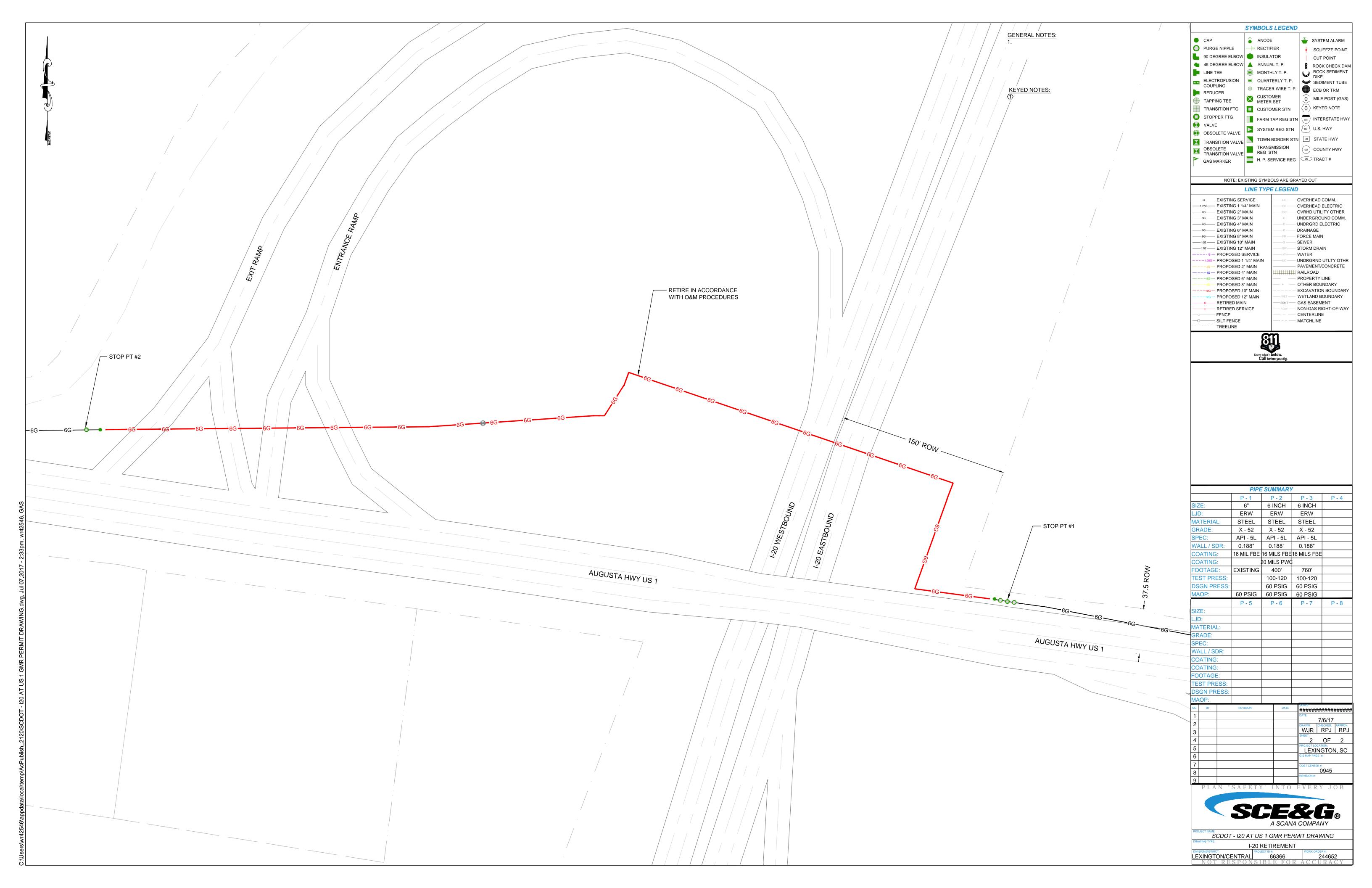


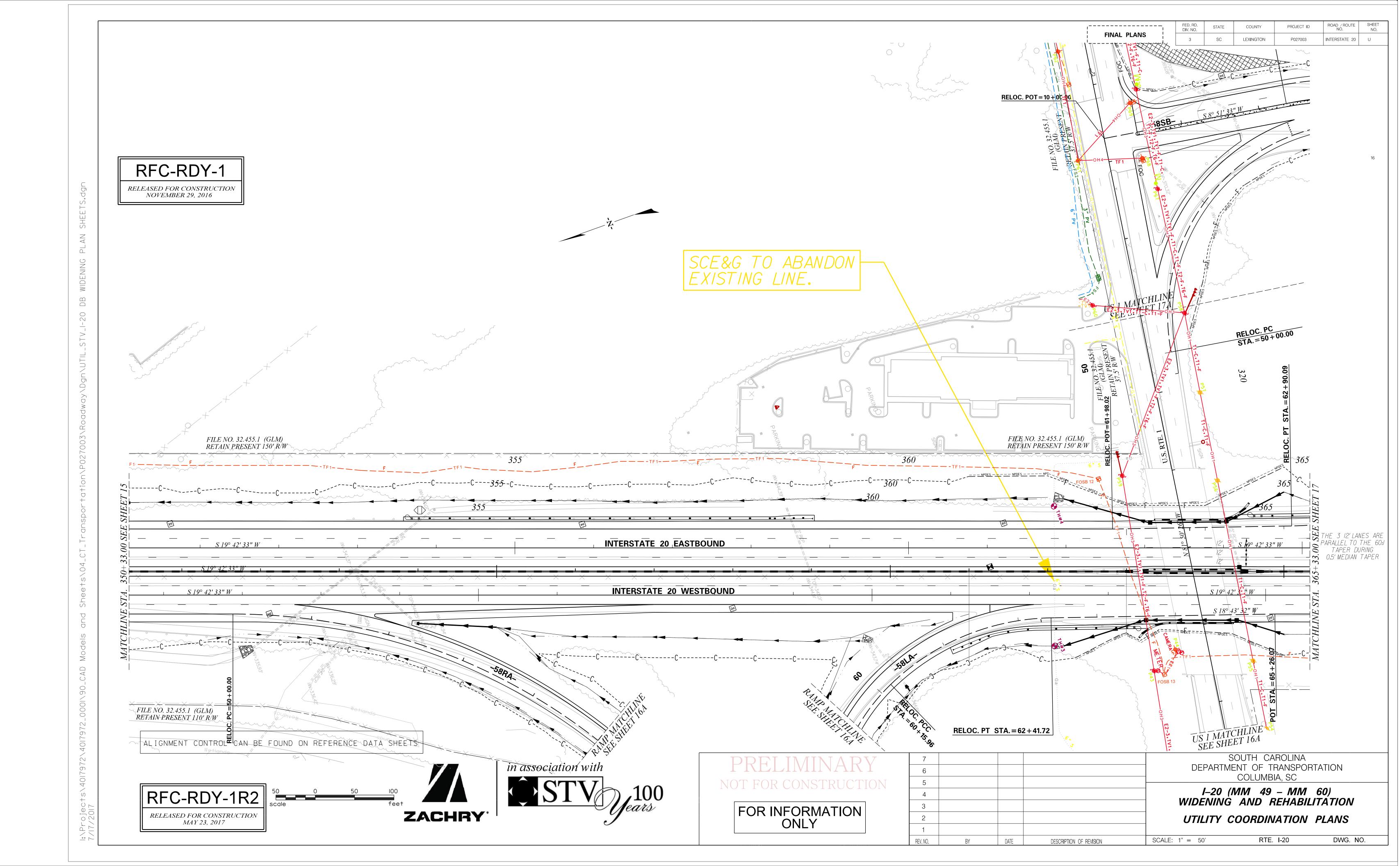


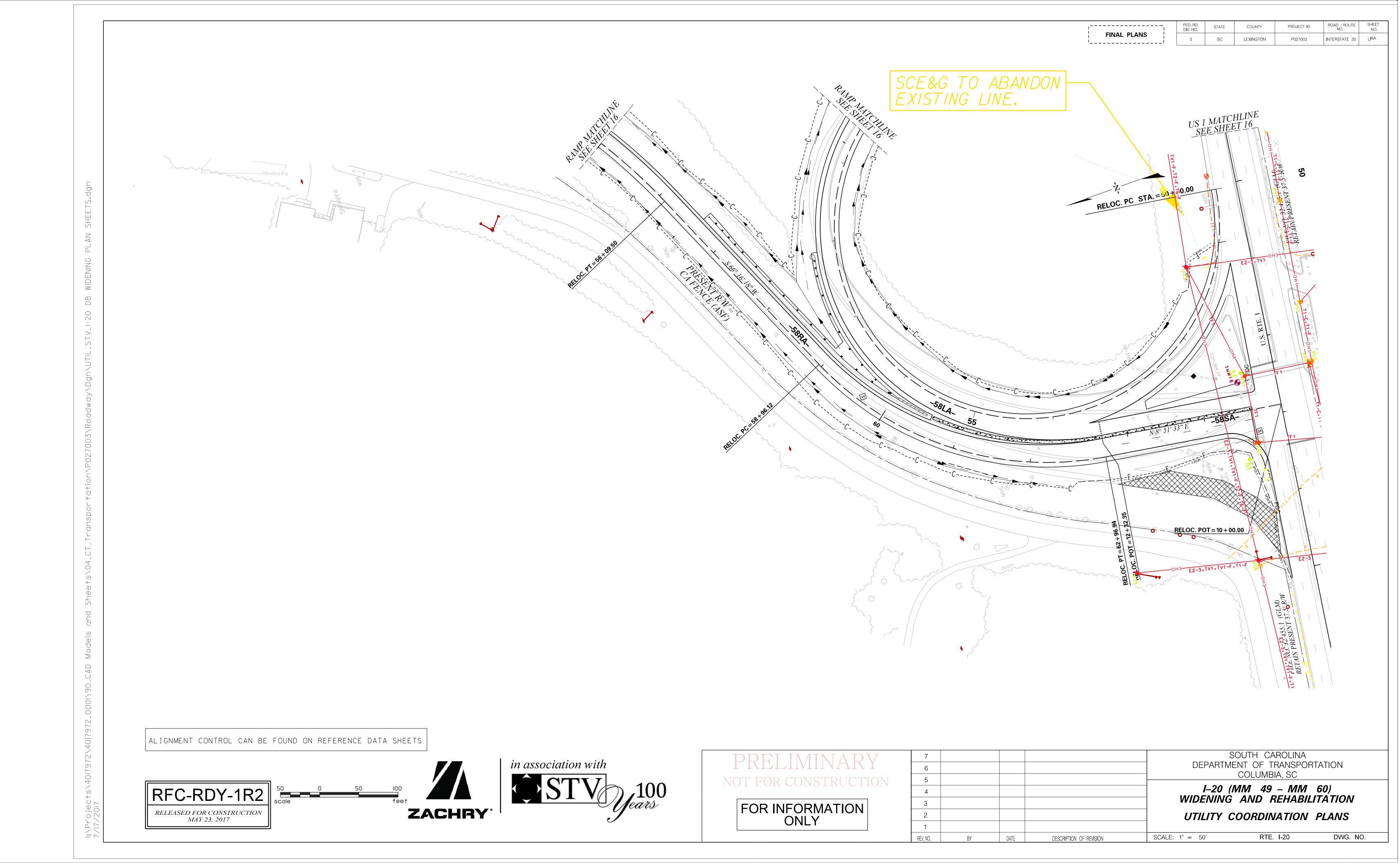


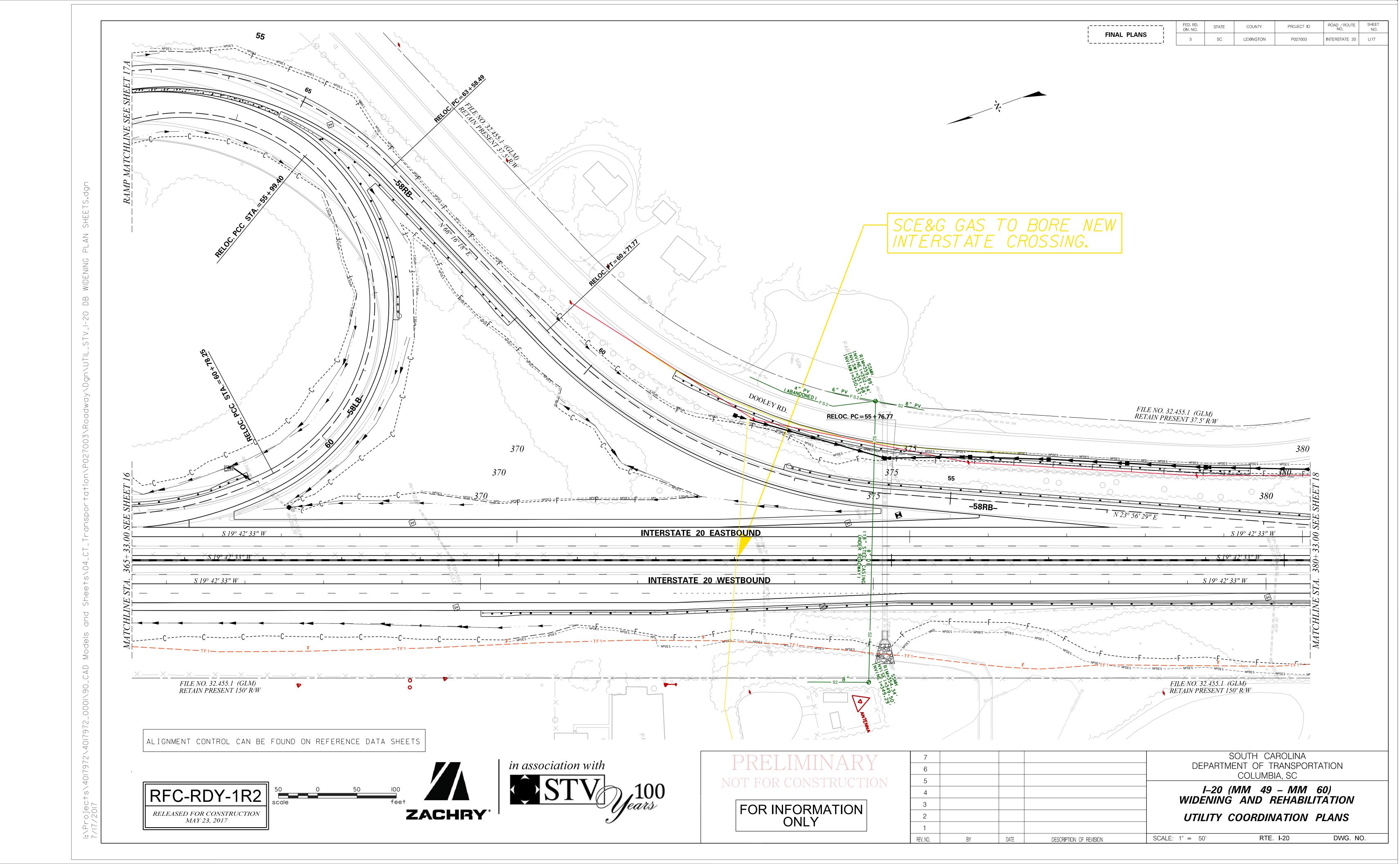








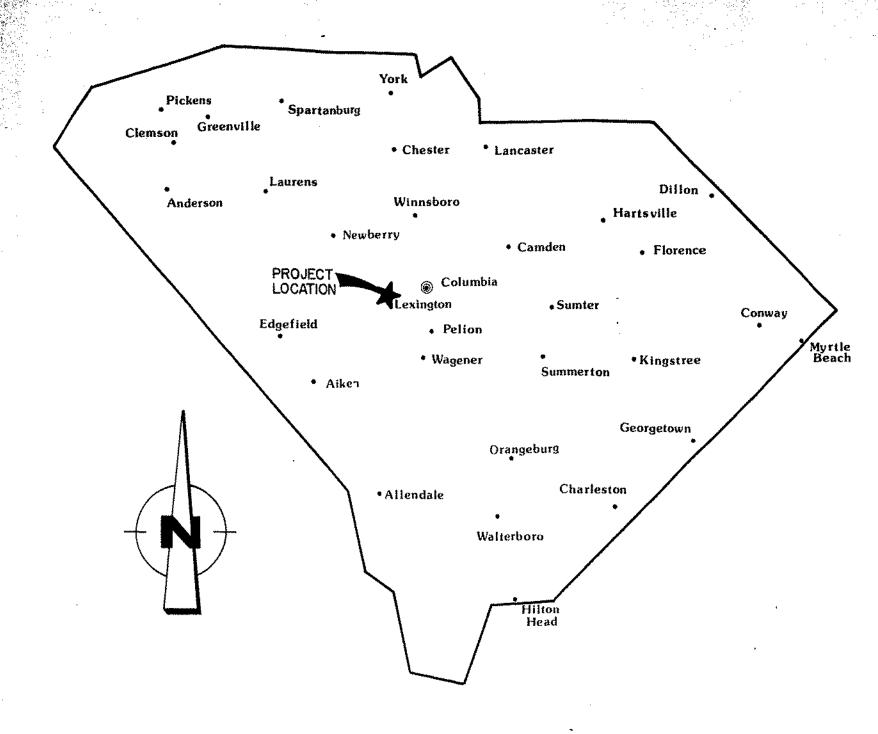




SCDOT US-1 OVER I-20 DESIGN BUILD

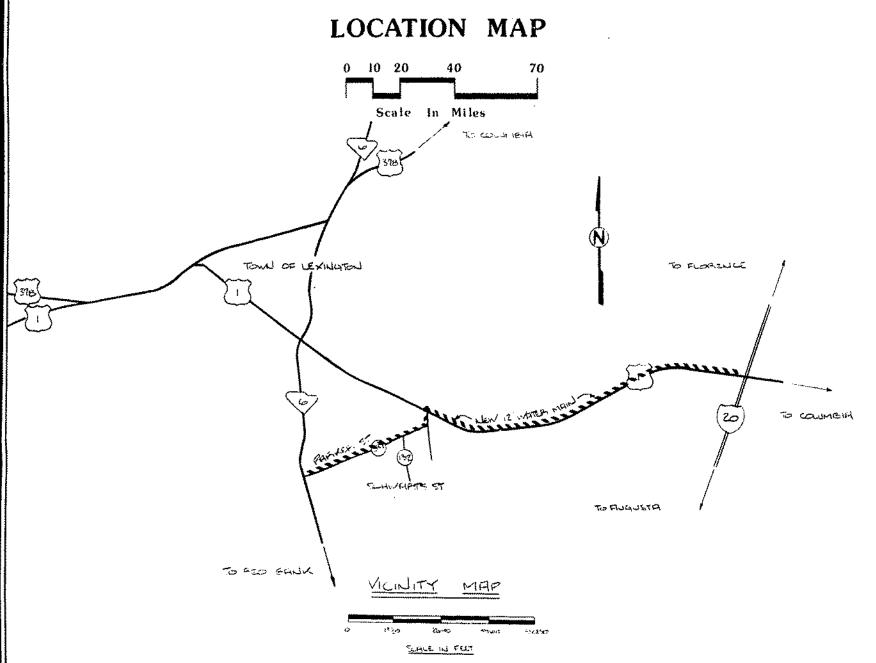


Town of Lexington Utilities Water and Sewer As-Builts



IMPROVEMENTS TO WATER DISTRIBUTION SYSTEM

TOWN OF LEXINGTON, S. C.



Project No.: 86009

RECOPD FRAWING

Date: JANUARY, 1986

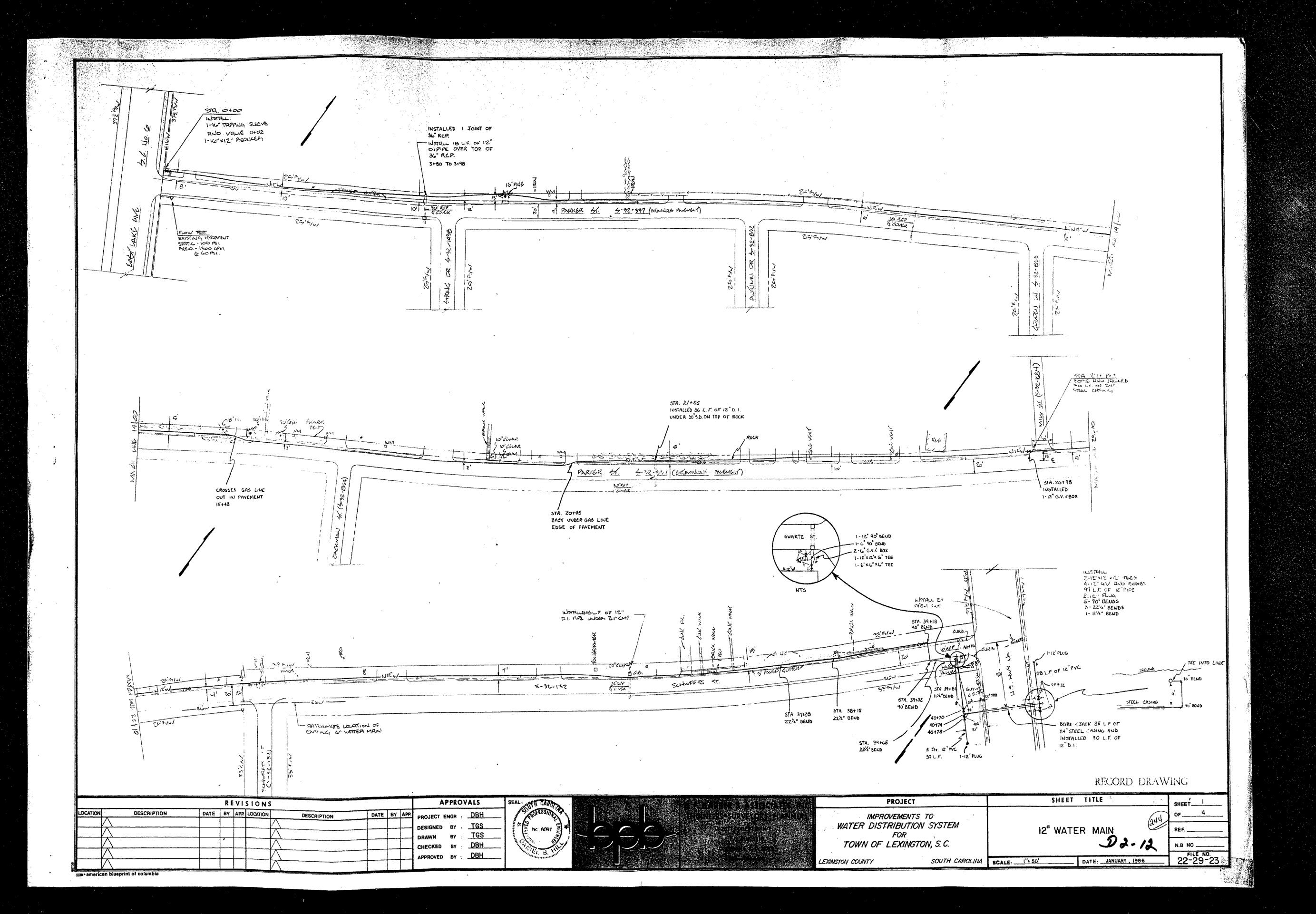
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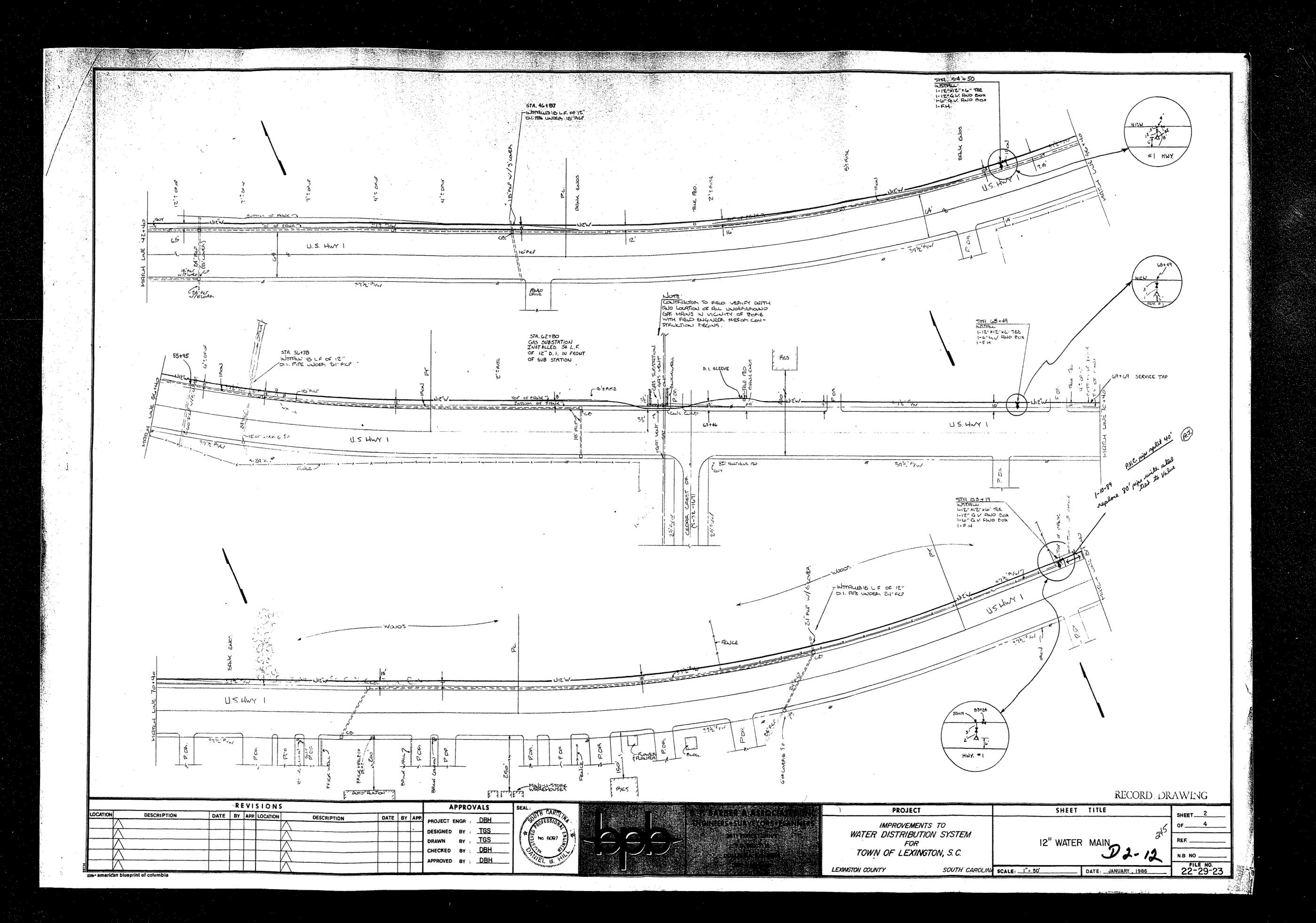
B.P. Barber & Associates, Inc. Engineers ~ Surveyors ~ Planners

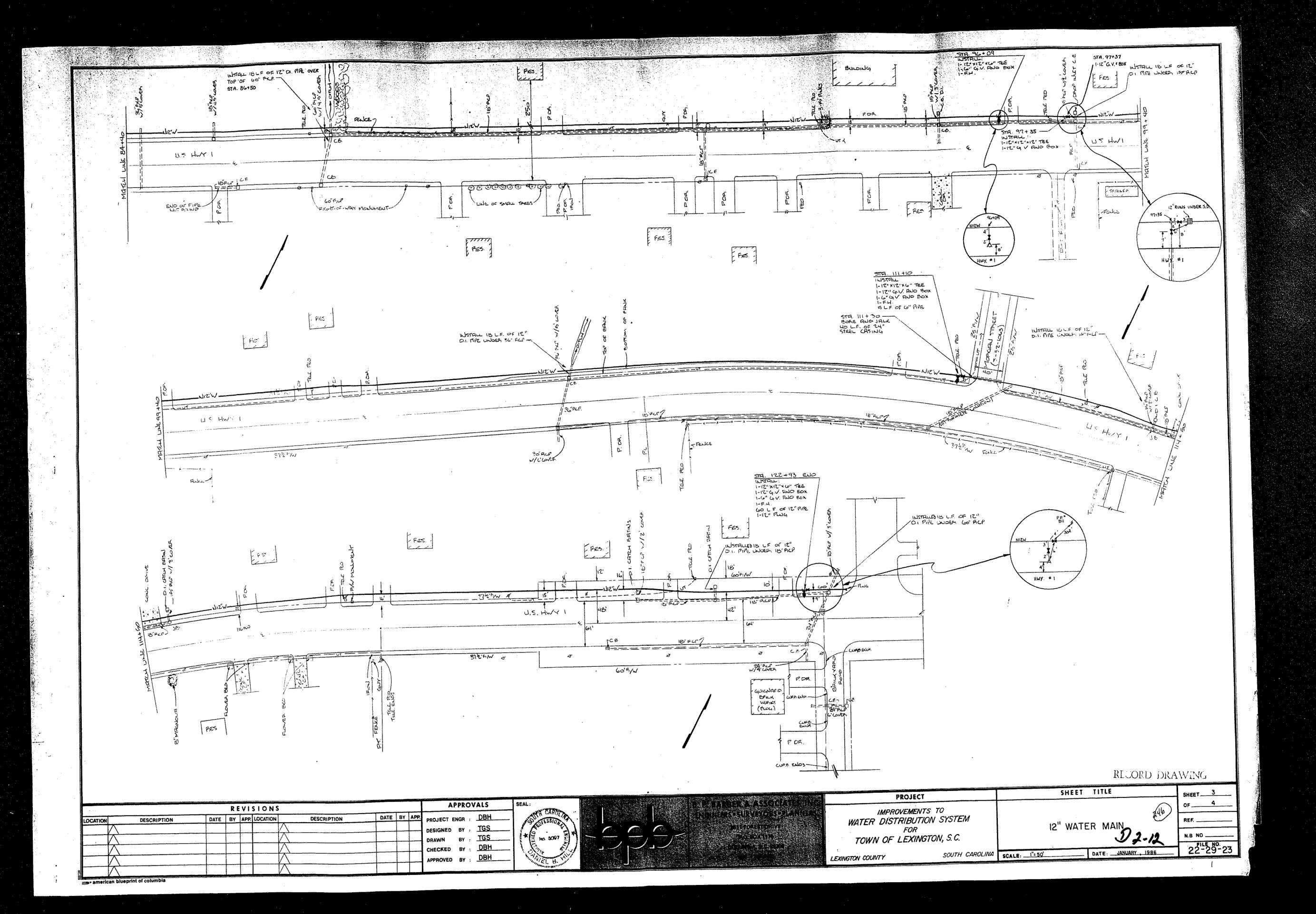
351 -C Blackstock Rd. Spartanburg, S.C. 29301 (803) 576 - 6610

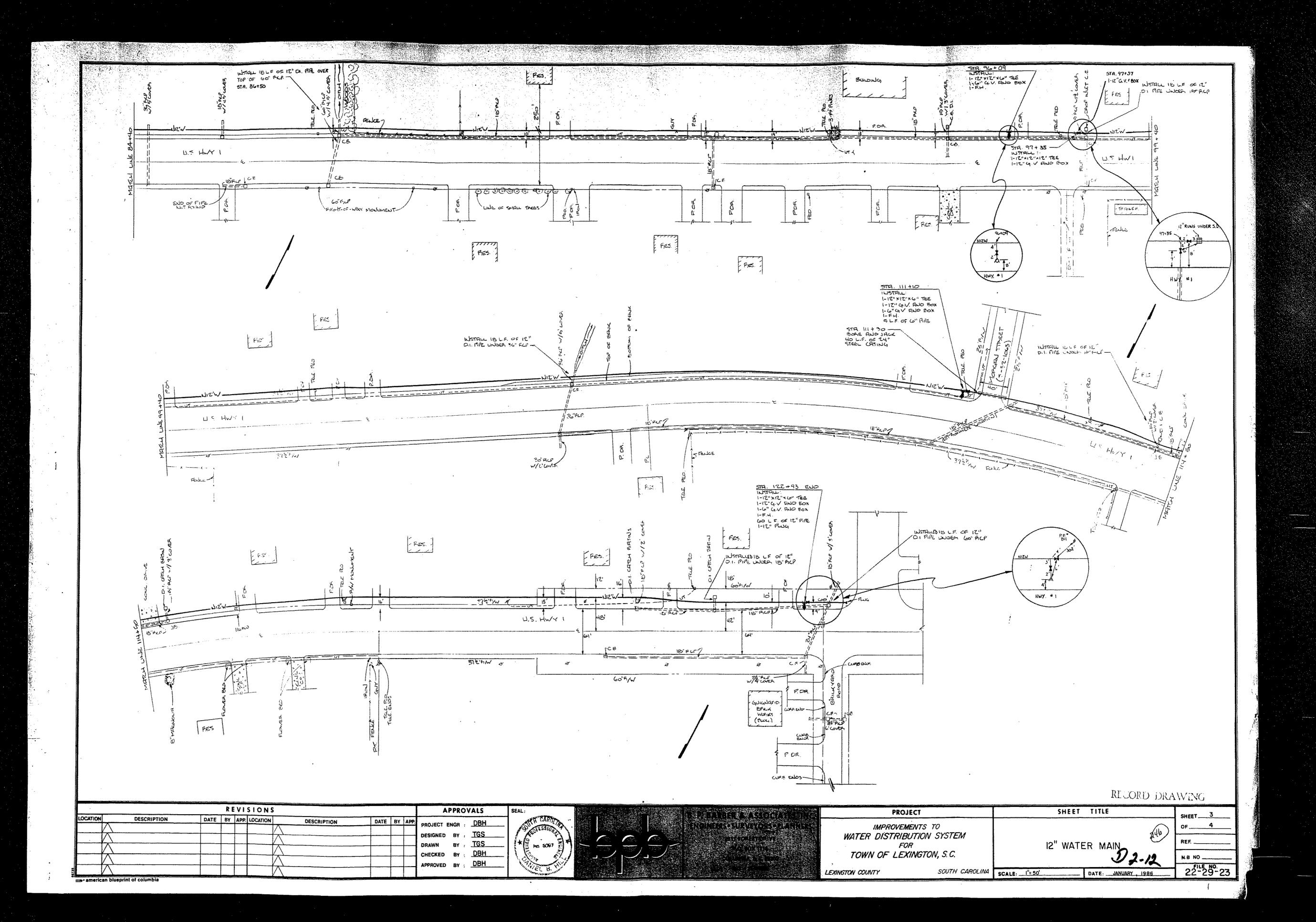
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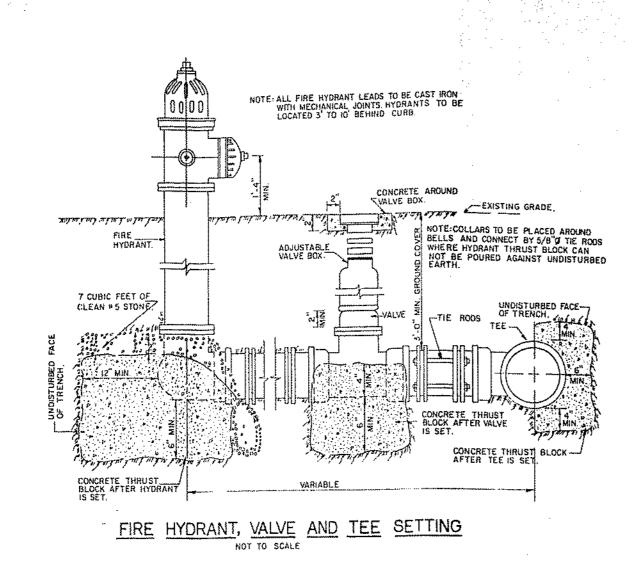
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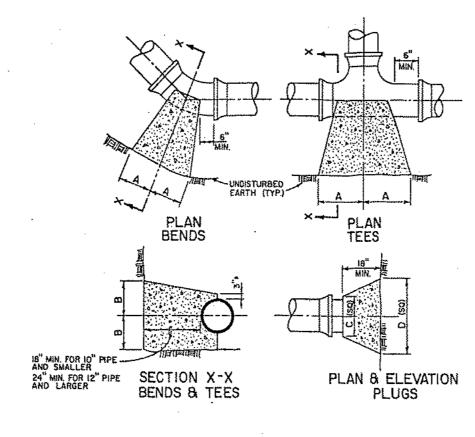


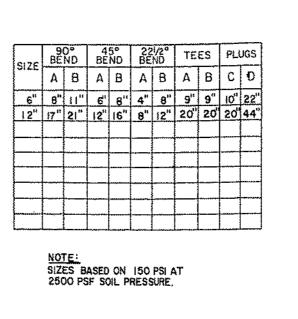


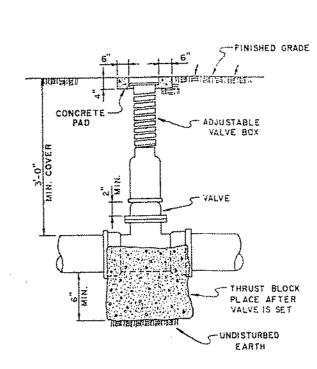








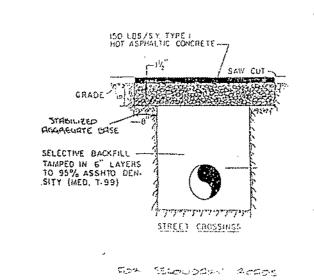


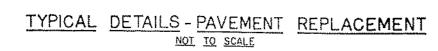


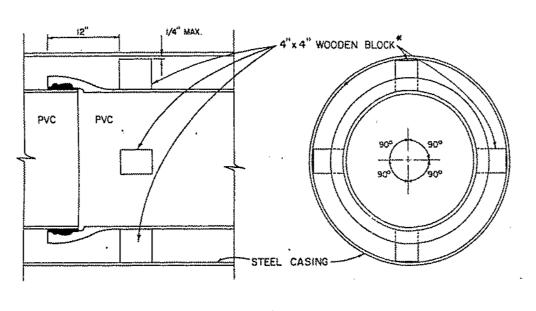
THRUST BLOCK DETAIL

NOTE DIMENSIONS GIVEN ARE GUIDELINES
THAT MAY REQUIRE CHANGES BUE
TO FIELD CONDITION, VERIFY ALL
DIMENSIONS WITH ENGINEER AT
TIME OF EXCAVATION.

DETAIL FOR
SETTING GATE VALVE

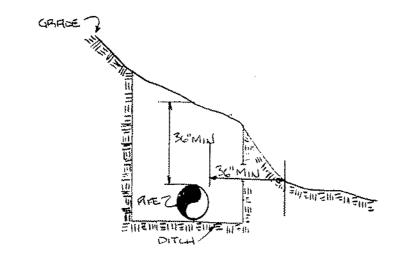






CARRIER PIPE INSTALLATION
NOT TO SCALE

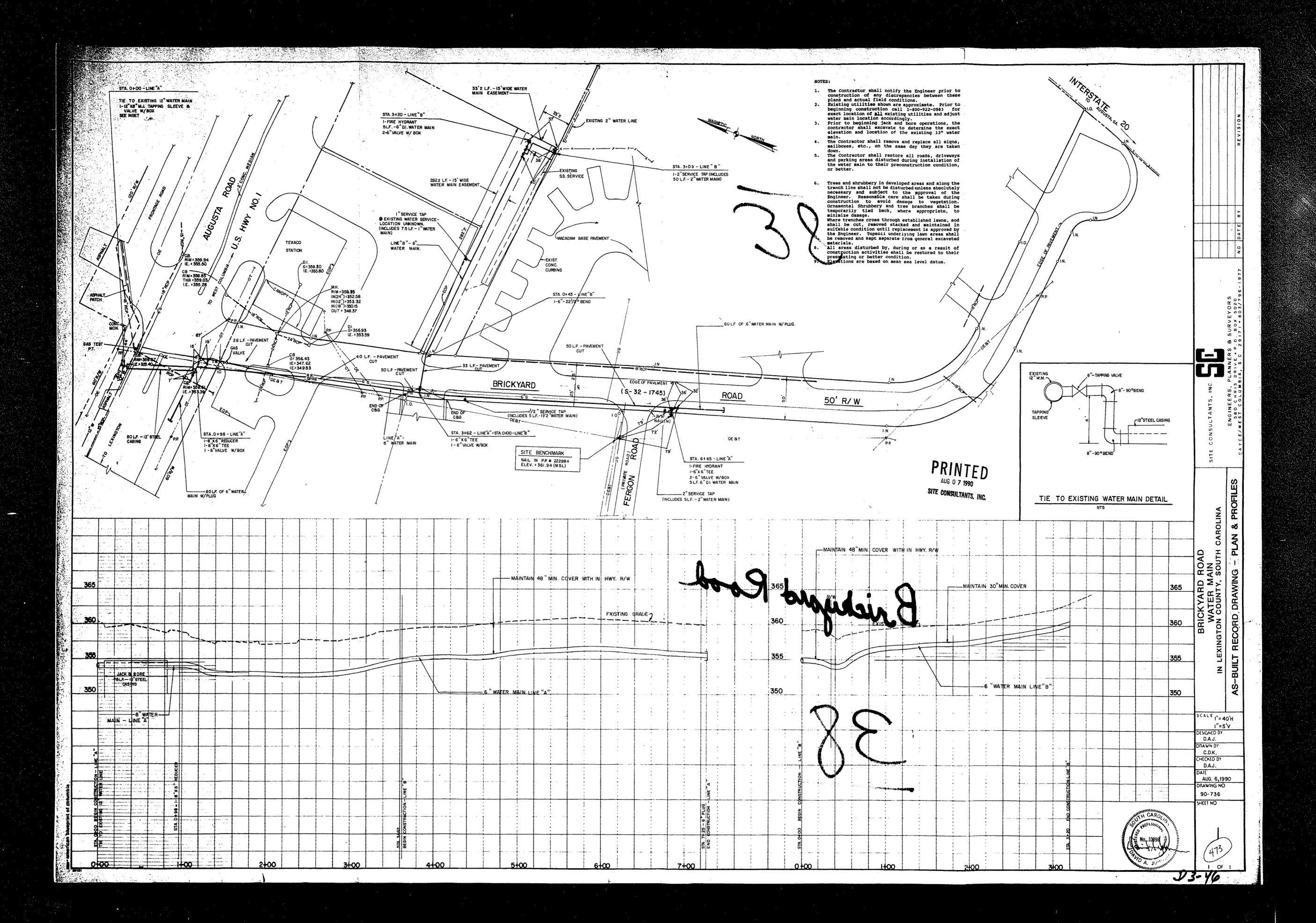
* CONTRACTOR SHALL STRAP 4"x4"
WOODEN BLOCKS AS NECESSARY
AROUND PVC.

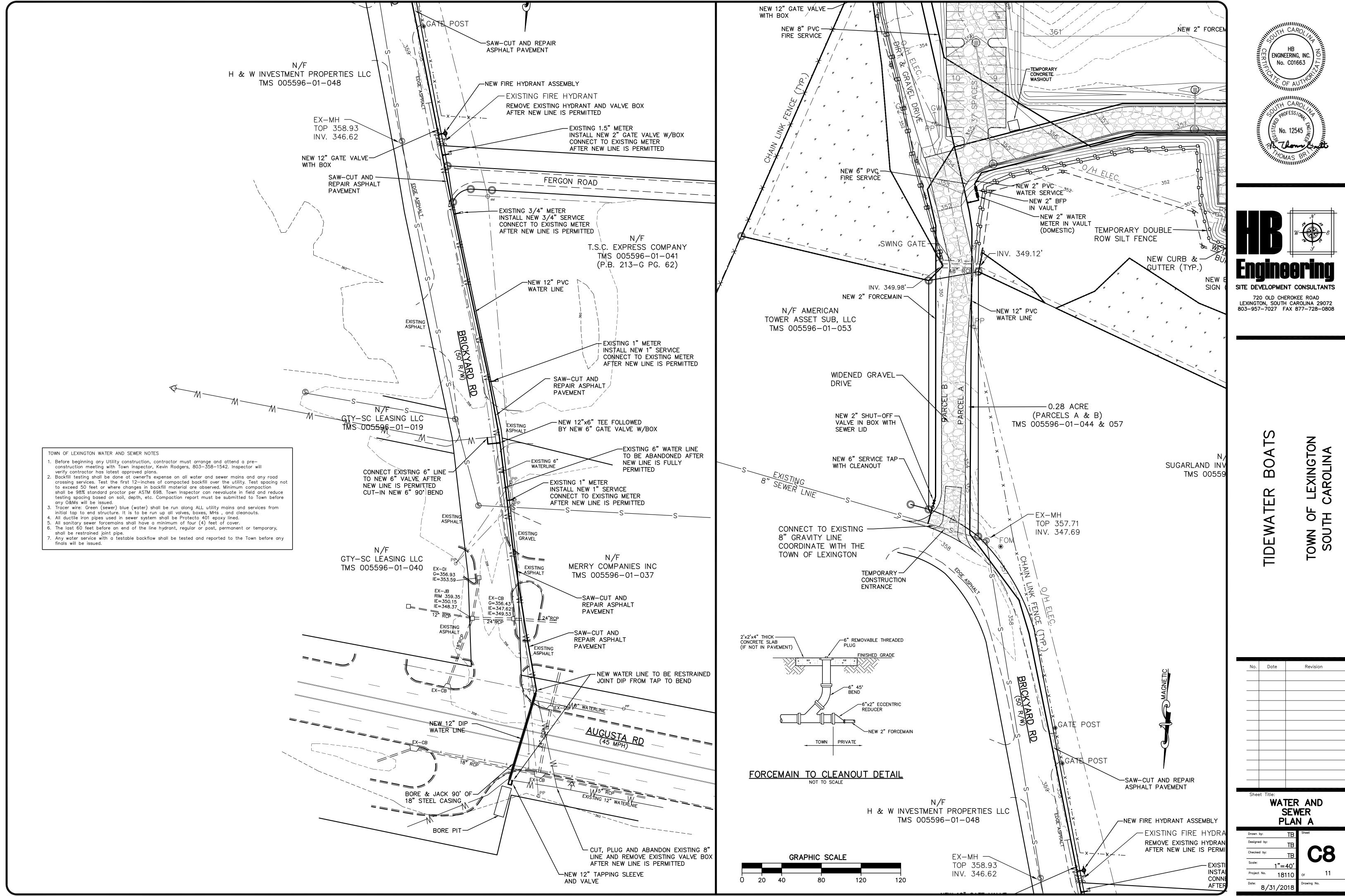


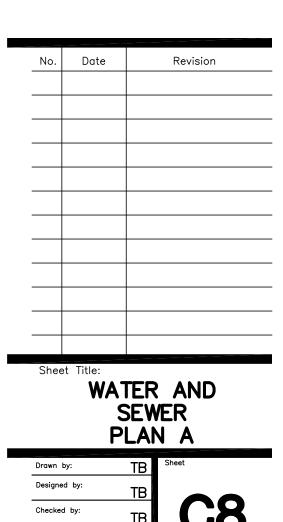
MILLIMUM COVER BEQUIREMENT DETAIL

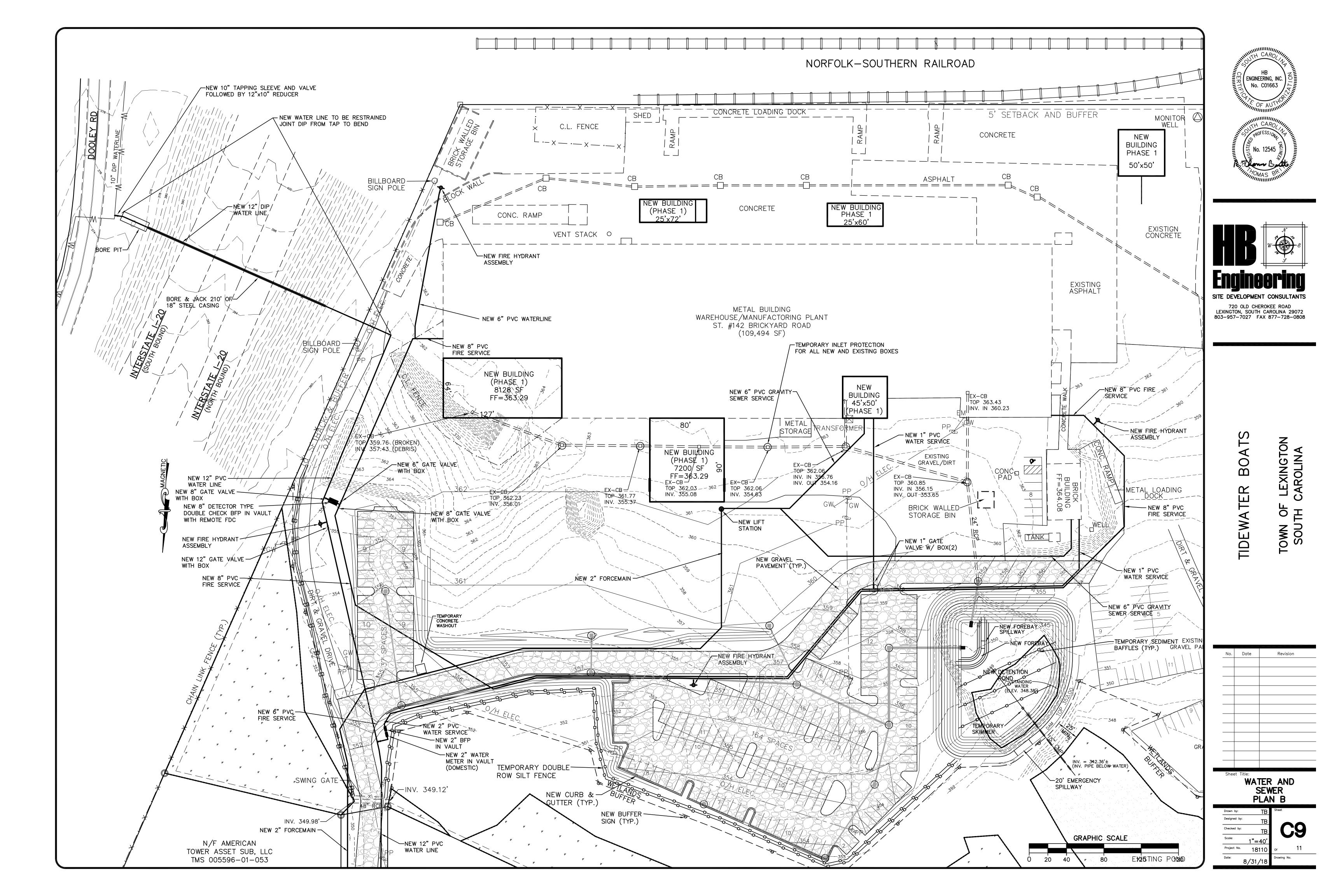
REVISIONS APPROVALS SHEET TITLE PROJECT DATE BY APP. LOCATION LOCATION DESCRIPTION DATE BY APP. DESCRIPTION IMPROVEMENTS TO WATER DISTRIBUTION SYSTEM MISCELLANEOUS DETAILS TOWN OF LEXINGTON, S.C. CHECKED BY : DATE: JANUARY, 1986 SOUTH CAROLINA SCALE: AS SHOWN

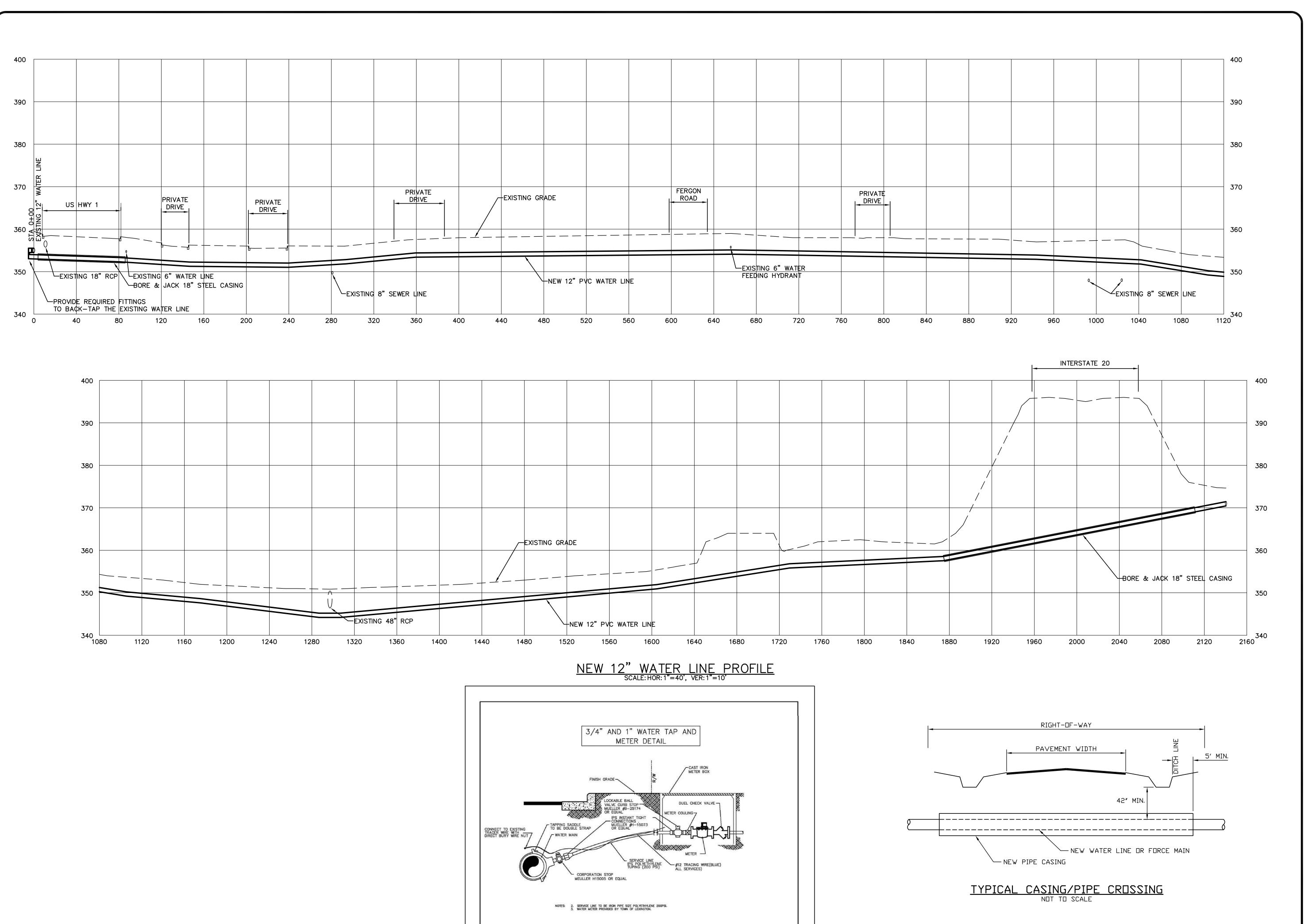
RECORD DRAWING



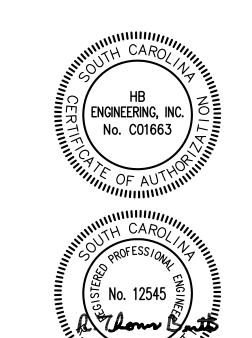








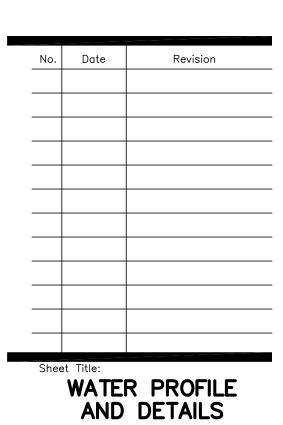
TOWN OF LEXINGTON ENGINEERING/PLANNING





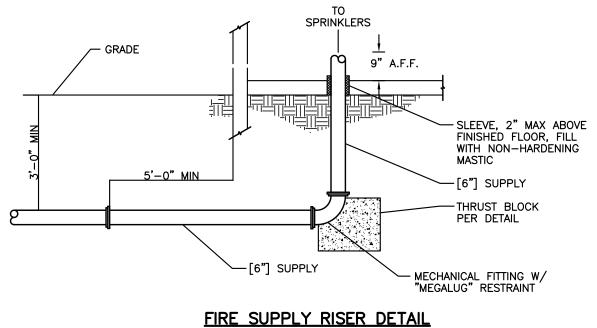
 \Box TIDEWATER

- LEXINGTON CAROLINA



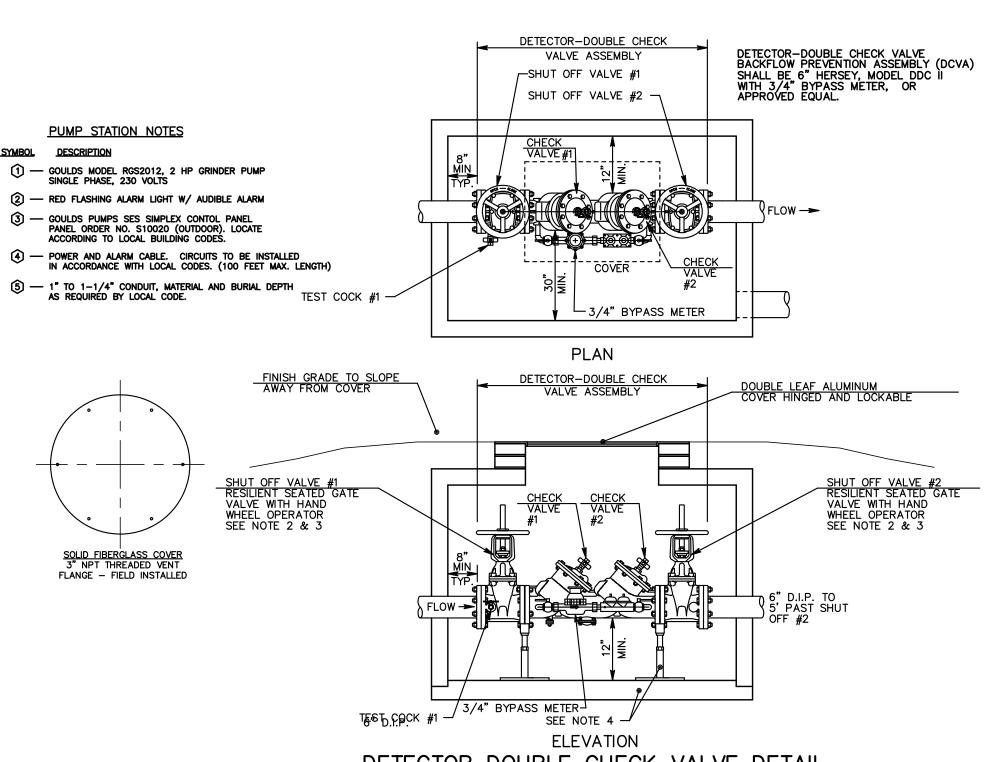
Designed by:

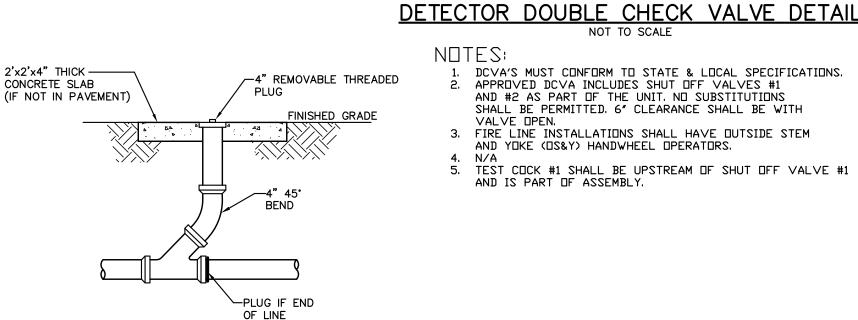
Project No. 1811C 8/31/18



WATER & SEWER SERVICE:
ALL WORK AND MATERIALS MUST BE IN COMPLIANCE WITH THE TOWN OF LEXINGTON SPECIFICATIONS AND REGULATIONS. CONSTRUCTION MUST BE COORDINATED WITH THE TOWN'S UTILITY INSPECTOR AT 358-1542.

- 1. LOCATION OF EXISTING UTILITIES IS APPROXIMATE AS SHOWN ON PLANS. VERIFICATION AND EXACT LOCATION OF ALL UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR INCLUDING COORDINATING THE UNDER-GROUND UTILITY LOCATION SERVICE.
- 2. THE CONTRACTOR SHALL REPAIR AT HIS OWN EXPENSE, DAMAGE CAUSED TO ANY EXISTING UTILITIES.
- 3. WHEN IT BECOMES APPARENT THAT THE PROPOSED WORK CANNOT PROCEED WITHOUT INTERRUPTING EXISTING UTILITY SERVICE, THE ENGINEER SHALL BE NOTIFIED AND RESOLUTION OF THE PROBLEM SHALL BE AGREED TO BY THE ENGINEER AND THE UTILITY OWNER BEFORE PROCEEDING TO DISCONTINUE EXISTING UTILITY SERVICE. THIS INCLUDES WATER, SEWER, STORM DRAINAGE, TELEPHONE, CABLE TV, ELECTRICITY, GAS, AND ANY OTHER UTILITY.
- 4. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY STAKING PRIOR TO COM-MENCING CONSTRUCTION.
- 5. REPLACEMENT OF MAIL BOXES, FENCES, ETC. SHALL BE INCIDENTAL TO THE COST OF THE ITEM BEING INSTALLED.
- 6. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION/COORDINATION WITH ALL AFFECTED UTILITY COMPANIES.
- 7. THE CONTRACTOR SHALL NOTIFY THE LOCAL SCDHEC AND SCDOT OFFICES 48 HOURS PRIOR TO STARTING CONSTRUCTION.
- 8. ALL DISTURBED AREAS SHALL BE RESHAPED AS NEAR AS POSSIBLE TO THEIR ORIGINAL CONDITIONS AND BE GRASSED IN A MANNER THAT WILL ENSURE AN ADEQUATE STAND OF PERMANENT VEGETATION. THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE COST OF THE ITEM BEING INSTALLED OR ACCORDING TO THE CONTRACT DOCUMENTS.

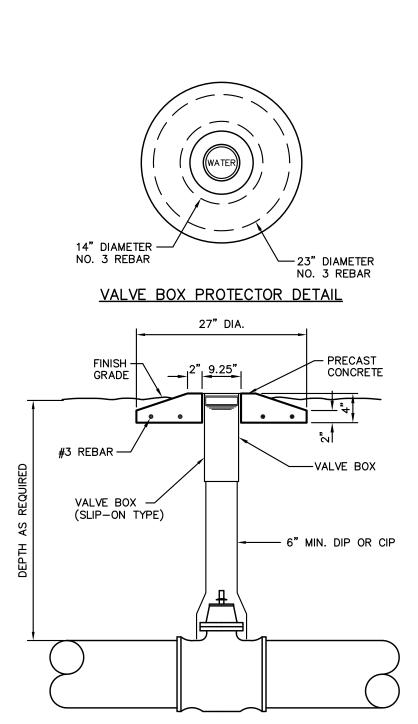




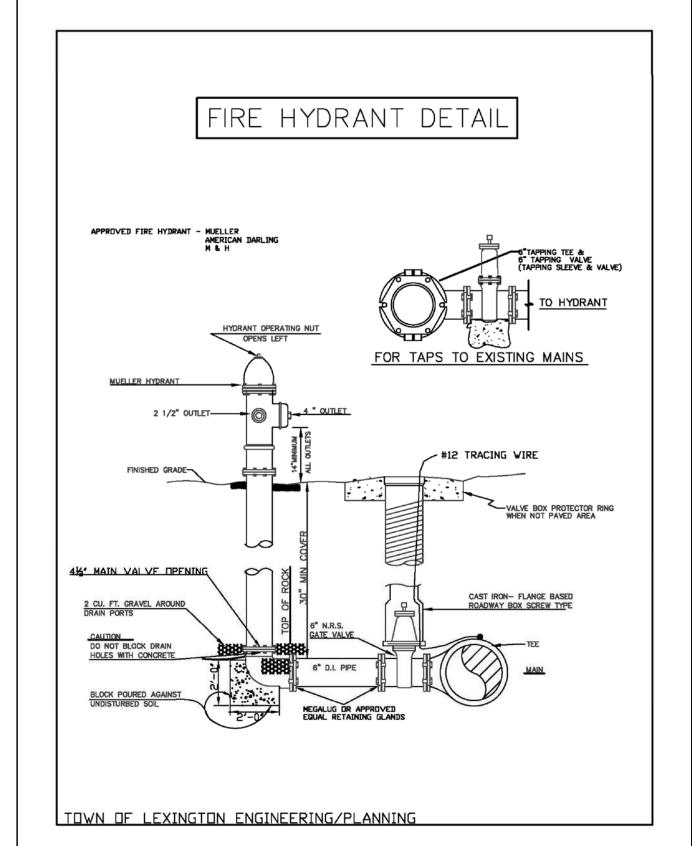
CLEANOUT DETAIL NOT TO SCALE

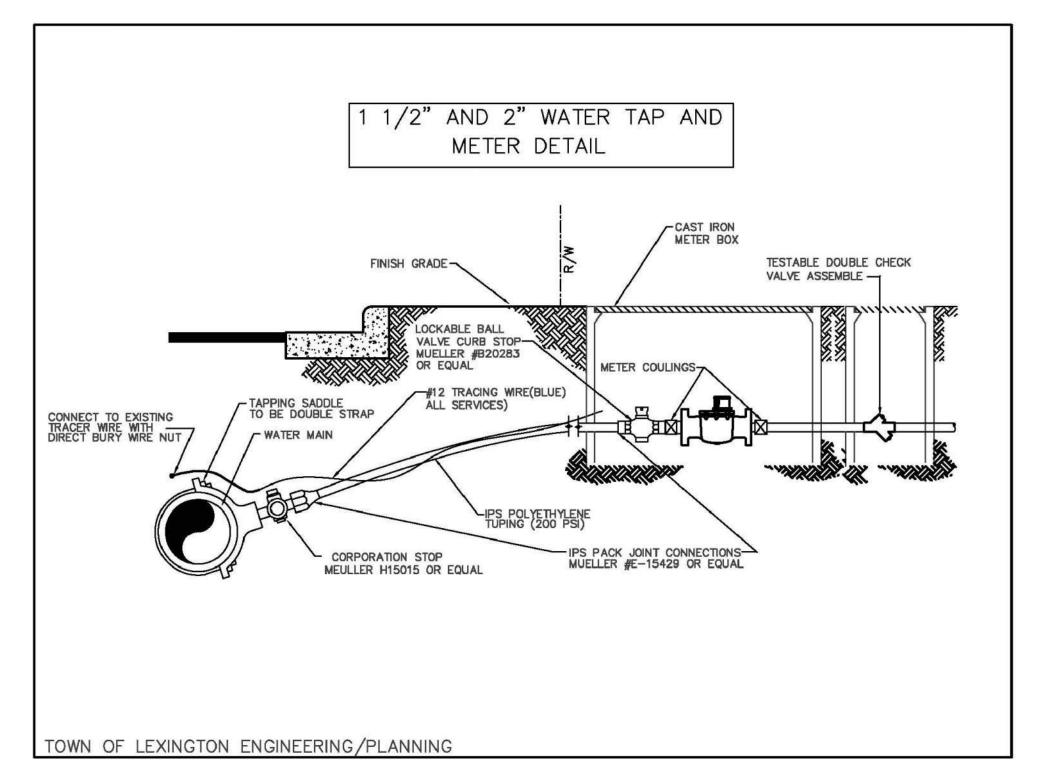
INTERVALS AND AT CHANGES IN DIRECTION.

CLEANOUTS TO BE PROVIDED ON ALL SERVICE LATERALS AT 50'



GATE VALVE BOX DETAIL





APPROVED BACKFILL TAMPED IN 6" LAYERS TO 1'-0" ABOVE PIPE

APPROVED FILL-

TRENCH IN ROCK

"W" TAKEN AT TOP OF PIPE.

BOTTOM QUADRANT OF PIPE-BEDDED FULL LENGTH OF BARREL (EXCEPT PRESSURE PIPE)

LOW CRADLE

D HIGH CRADLE (0.75 OD)

POUR CONCRETE AGAINST

UNDISTURBED MATERIAL

(0.25 OD)

STANDARD PIPE TRENCH BEDDING

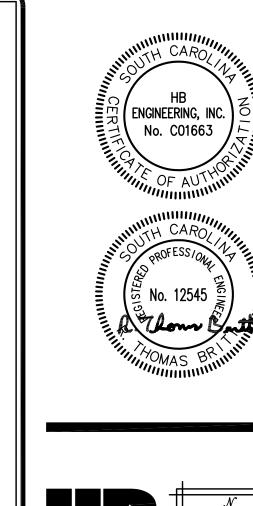
NOT TO SCALE

TRENCH IN EARTH

-APPROVED BACKFILL TAMPED IN 6" LAYERS TO 1'-0" ABOVE PIPE

CRADLE

(IN ROCK OR EARTH)

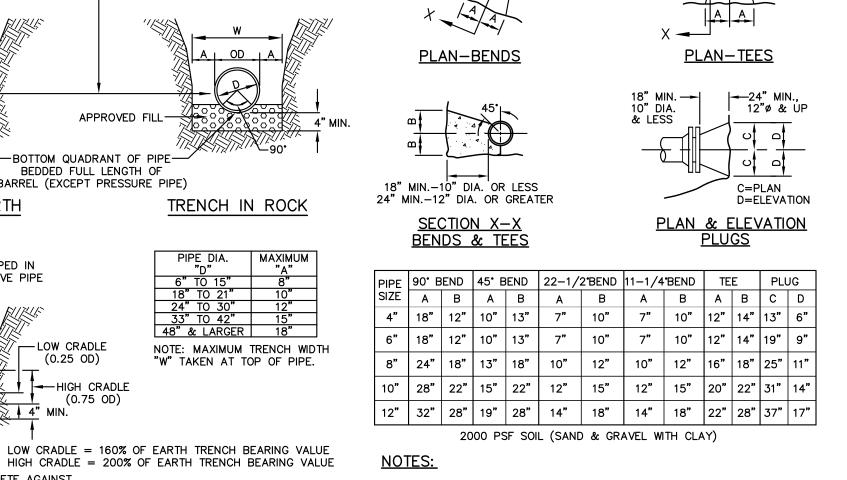




LEXIN

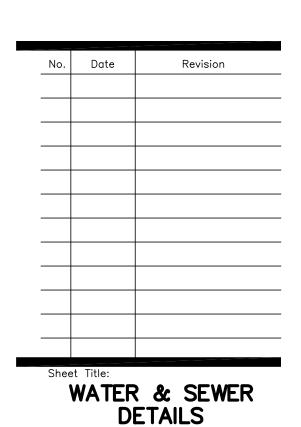
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- 1. BASED ON 200 PSI STATIC PRESSURE PLUS AWWA WATER HAMMER ALLOWANCE.
- 2. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED GROUND. 3. THRUST BLOCKS TO BE USED AT ALL LINES OPERATING UNDER PRESSURE.
- 4. KEEP ALL PIPING JOINTS CLEAR OF CONCRETE THRUST BLOCKS.

THRUST BLOCKING DETAIL



Designed by: Checked by:

Scale: AS SHOWN Project No. 1811C 8/31/2018

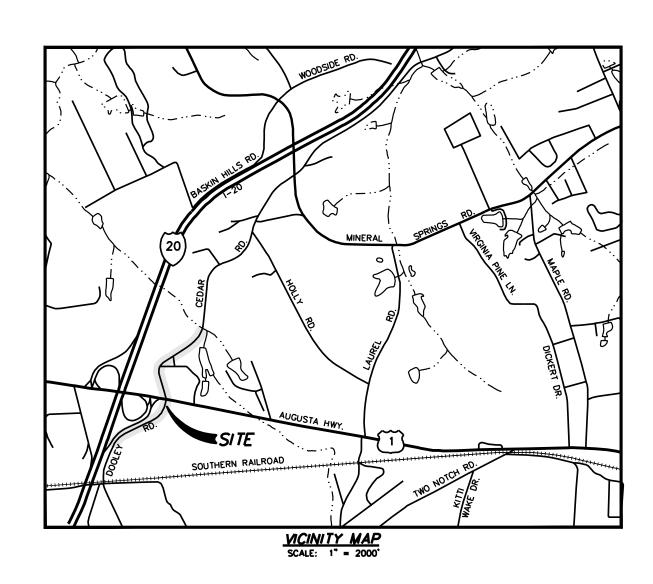
RECORD DRAWINGS FOR

CEDAR ROAD LIFT STATION AND

FORCE MAIN IMPROVEMENTS

PREPARED FOR

ESSEX HOMES SOUTHEAST, INC.



120 CROMER ROAD LEXINGTON, S.C. 29073 PHONE (803) 356-8301 FAX (803) 356-8303

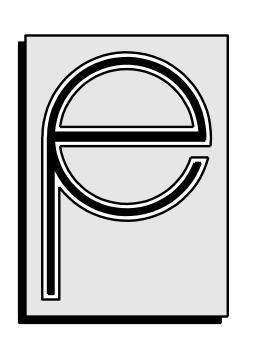
JULY 2013



SHEET NO.

SHEET TITLE

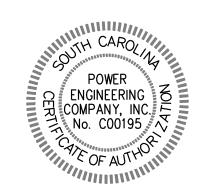
OVERALL FORCEMAIN ROUTE, KEY MAP AND NOTES



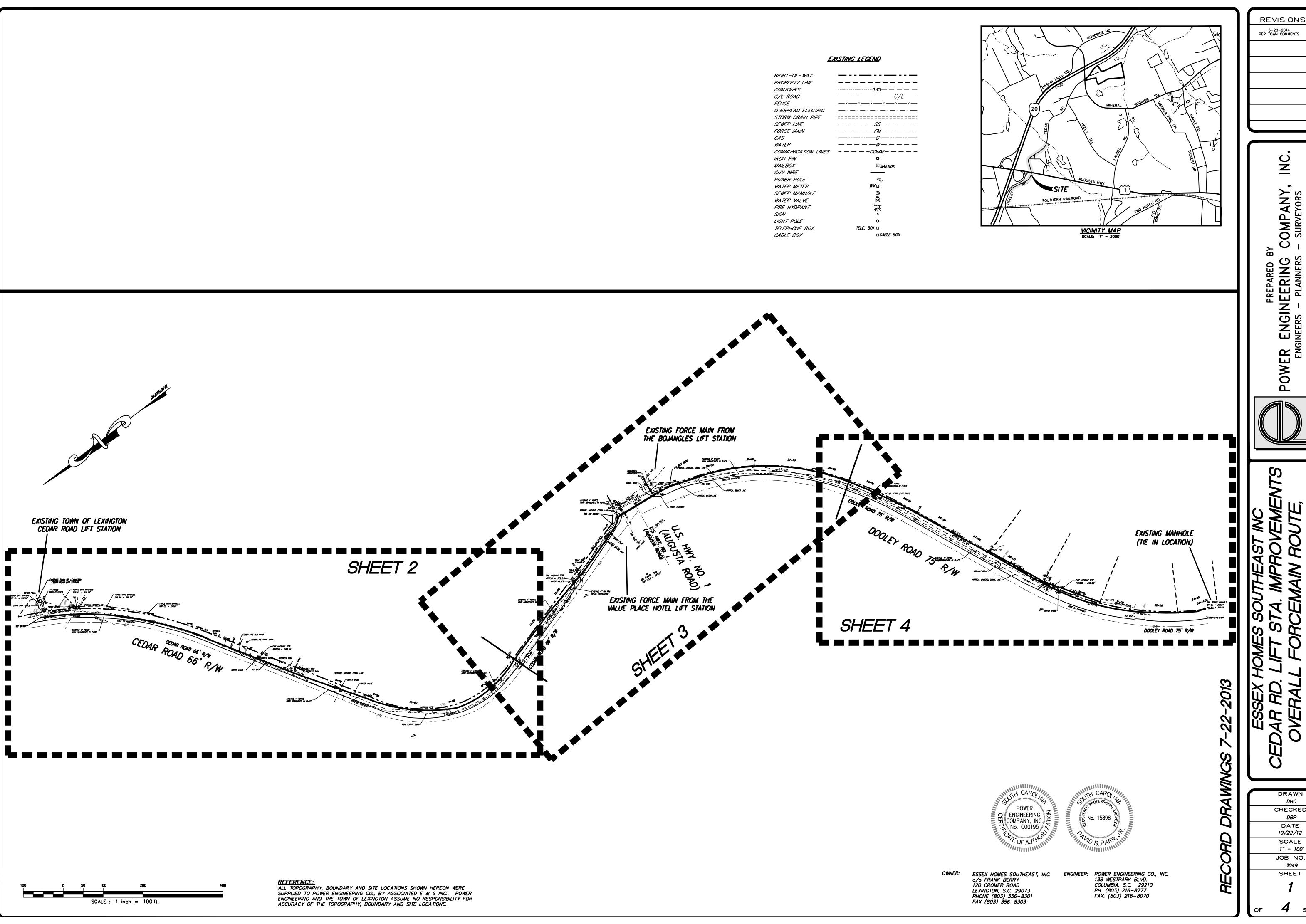
PREPARED BY

POWER ENGINEERING COMPANY, INC. ENGINEERS - PLANNERS - SURVEYORS

138 WESTPARK BLVD. COLUMBIA, SOUTH CAROLINA 29210 PH: (803)216-8777 FAX (803)216-8070



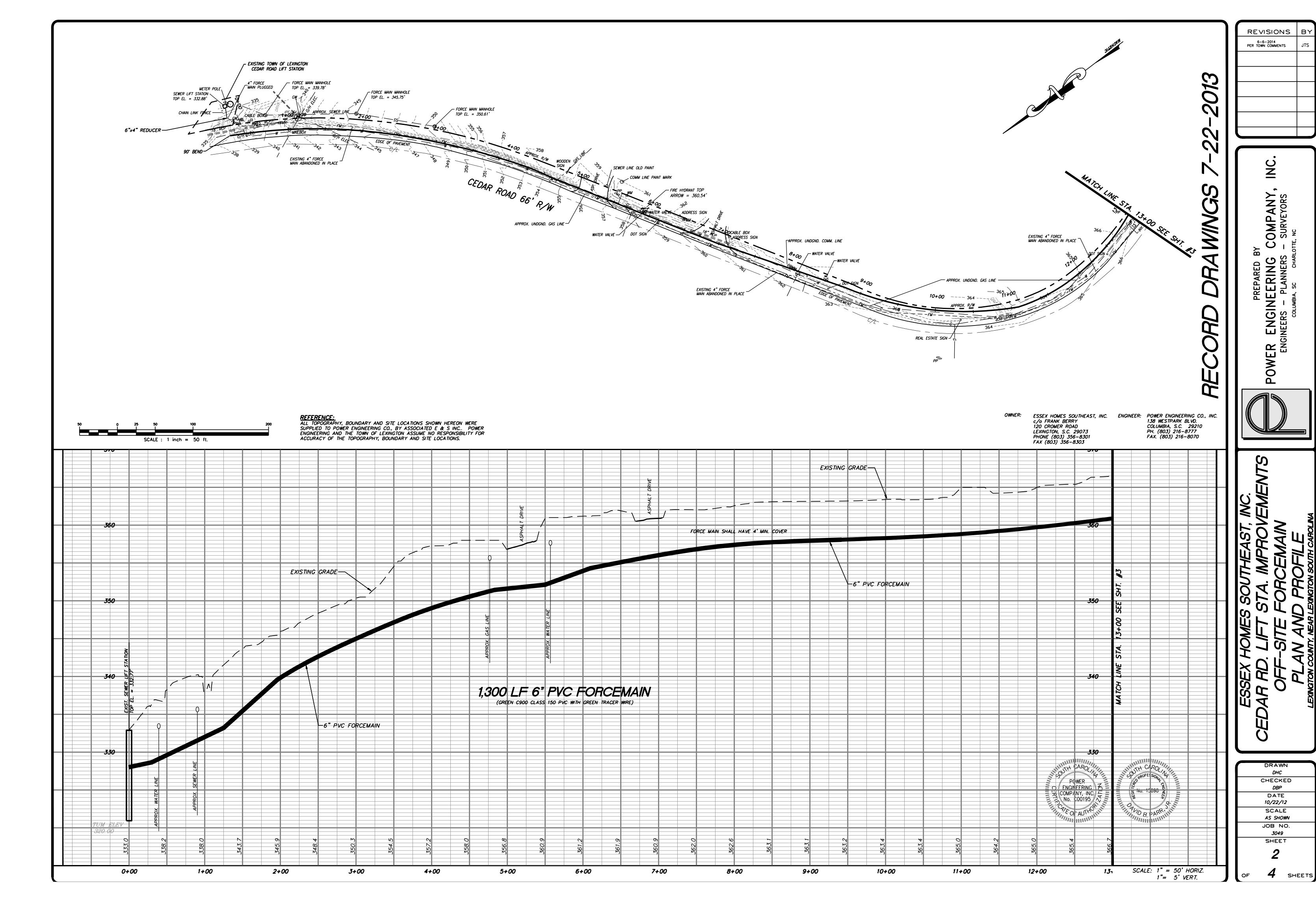


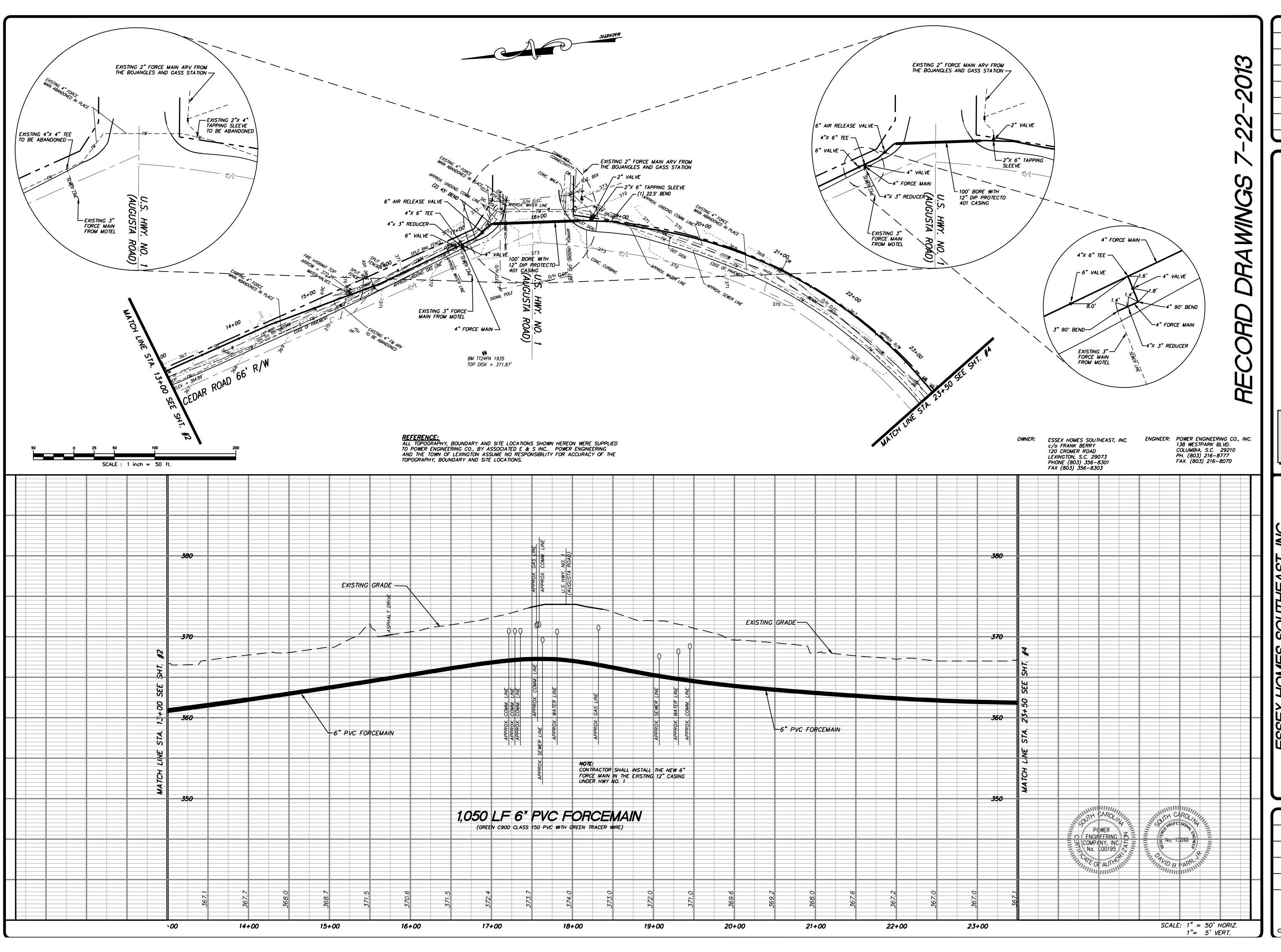


REVISIONS 5-20-2014 PER TOWN COMMENTS

COMPANY,
- SURVEYORS

DRAWN DHC CHECKED DBP DATE 10/22/12 SCALE 1" = 100' JOB NO. *3049* SHEET





ESSEX HOMES SOUTHEAST, INC.
CEDAR RD. LIFT STA. IMPROVEMENT
OFF-SITE FORCEMAIN
PLAN AND PROFILE

CHECKED

DBP

DATE

10/22/12

SCALE

AS SHOWN

JOB NO.

3049

SHEET

4 SHEETS

STA. IMPROVEMENTS
FORCEMAIN
ID PROFILE
COLUMBIA. SC. CHARLOI

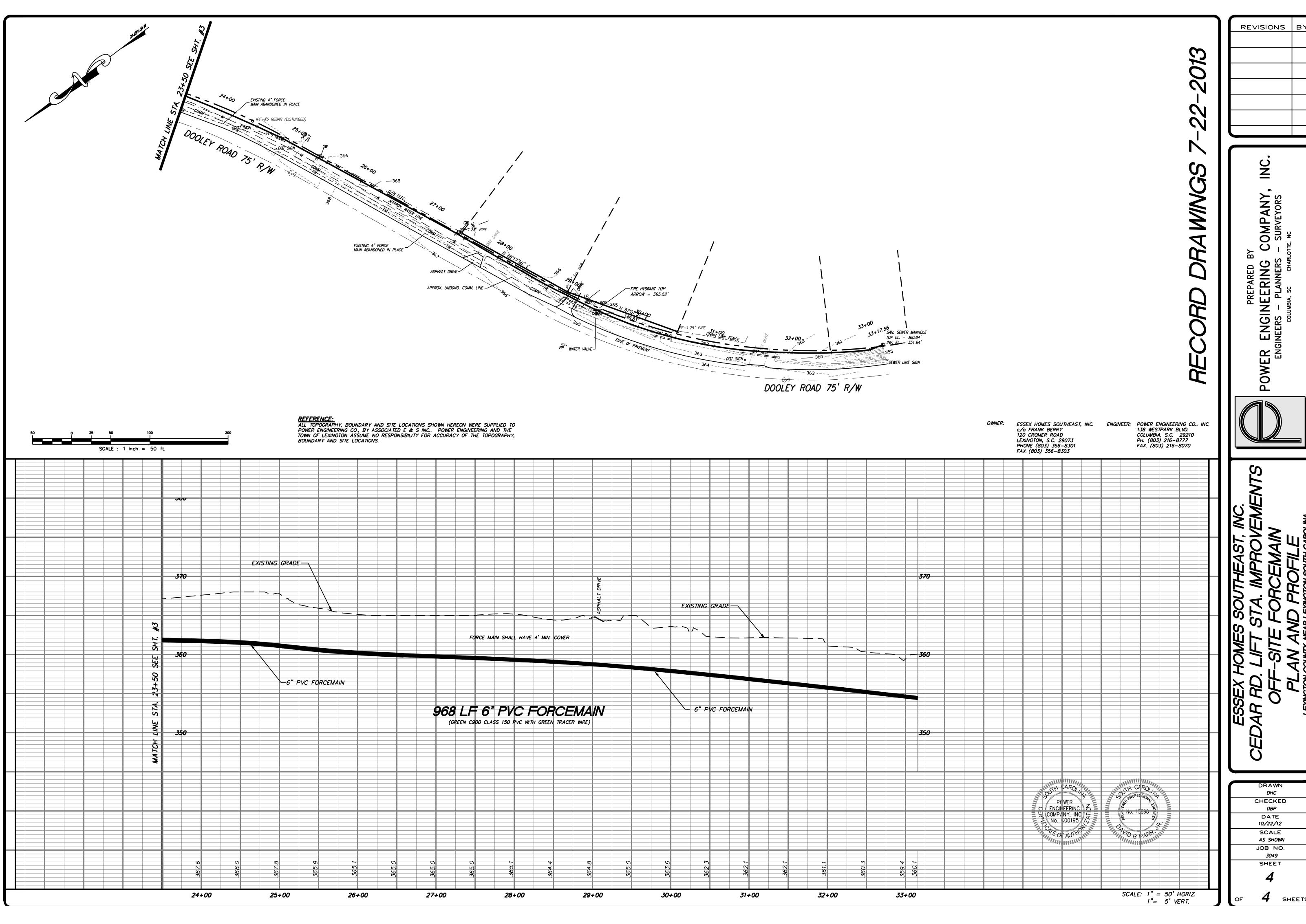
REVISIONS B'

11-4-2013 PER CONTRACTOR

6-10-2014 PER TOWN COMMENTS

7-1-2014 PER TOWN COMMENTS

COMPANY,
- SURVEYORS



N N

COMPANY,
- SURVEYORS

POWER I

DHC CHECKED DBP DATE 10/22/12 SCALE AS SHOWN JOB NO. *3049*

SHEET 4 SHEETS

COMPANY,
- SURVEYORS

PREPARED BY POWER ENGINEERS - PLANNERS -

2014

Lift Station Specifications

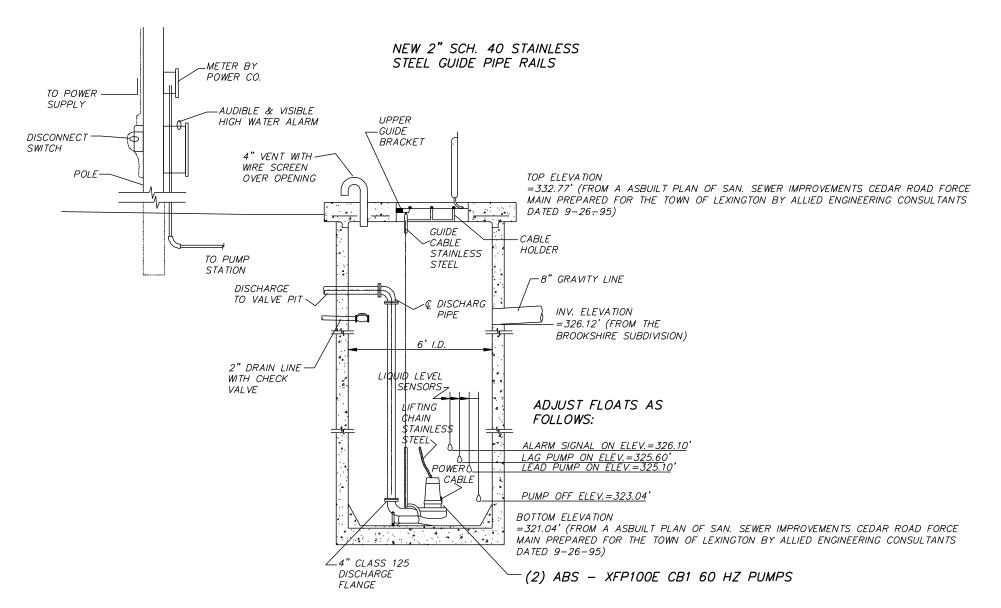
A double throw service disconnect switch at incoming power supply — one side for emergency power shut off and the other side for generator power transfer. The generator receptacle should be mounted on the side of the duplex control panel. The generator receptacle should be compatible with an: 1) Arktite 100 amp, 240 volt, 3W 4P, cat #APJ10487S22 type plug for 100 amps and under or 2) Appleton 200 amp, 240 volt, 3W 4P, cat #AP20034E—RS type plug for 200 amps and under. Any service over 200 amps will require a generator.

One (1) duplex control panel rated NEMA 3R stainless steel enclosure panel. Panel should include: Back panel and inner door, motor and control circuit breakers NEMA rated motor starters, oil tight hand-off-auto switches, oil tight run lights, lightening arrester and surge capacitor, terminal strip, ul listed, an alarm hom with silence circuitry, elapsed time meters, GFI receptacle, power block, alarm light, alternator with selector switch, phase monitor, amp meters for pumps, oil tight high temperature lights for pumps, oil tight seal failure lights, and 500 watt halogen light coming from duplex control panel with on/off switch.

One (1) junction box 12"x 12"x 6" located underneath control panel to connect pump and float power cables. Seal Off needs to be installed between junction box and control panel. Pump and float power cables should be in separate conduit pipes coming from wet well to junction box.

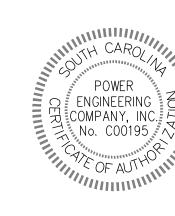
Wet well needs 2 submersible pumps, sized with proper length power cable, two (2) discharge elbows and upper guide rail brackets, four (4) schedule 40 stainless steel guide rails, two (2) stainless steel lifting chains the proper length and properly sized " or larger stainless steel thimbles and 5/16" shackles, four (4) float switches and stainless steel float brackets.

NEW TOWN OF LEXINGTON CONTROL PANEL AS MANUFACTORED BY CONTROL INTERFACE



ELEVATION

WET WELL DETAIL NOT TO SCALE





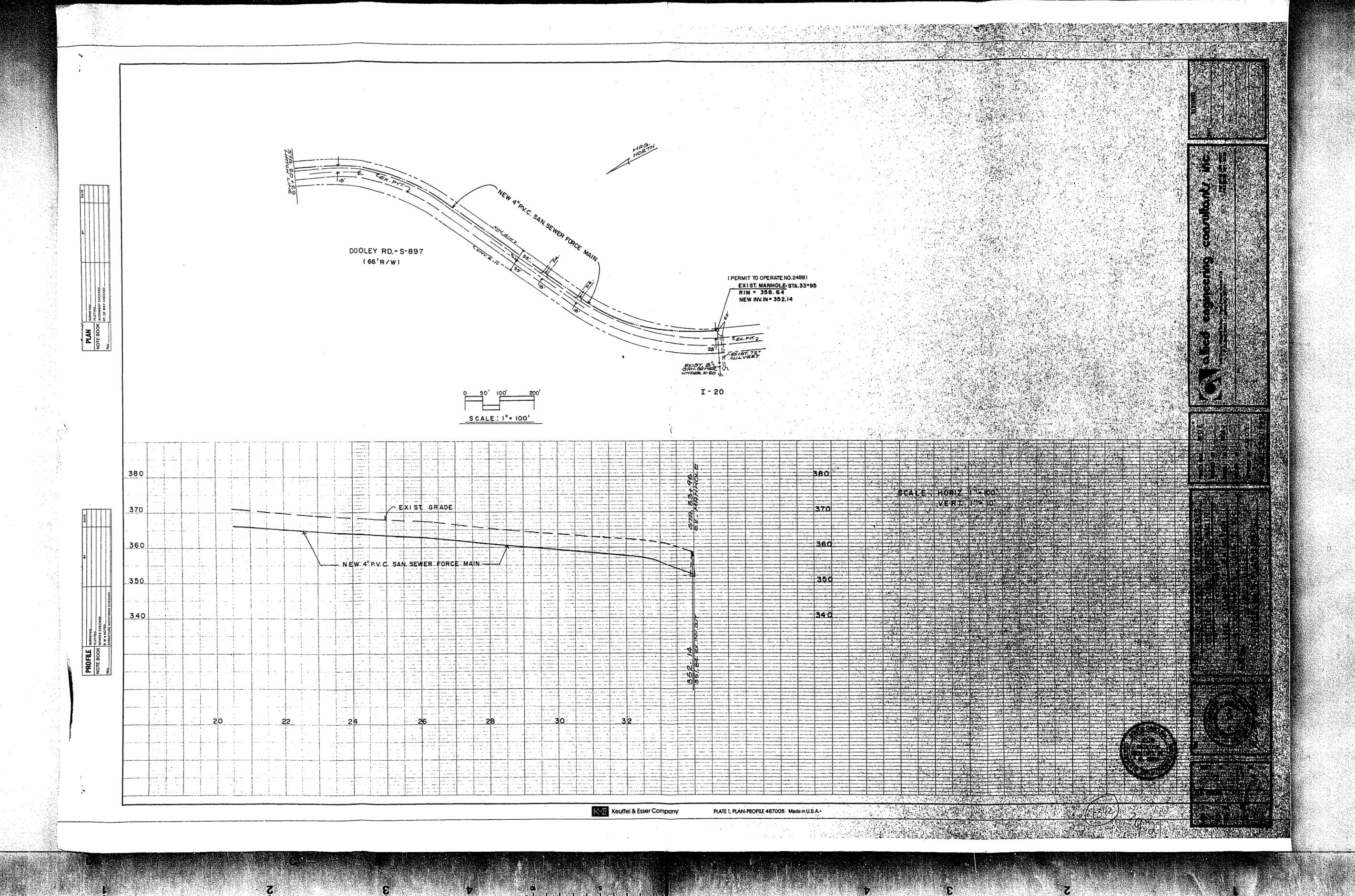
OWNER: ESSEX HOMES SOUTHEAST, INC. ENGINEER: POWER ENGINEERING CO., INC. c/o FRANK BERRY 138 WESTPARK BLVD.

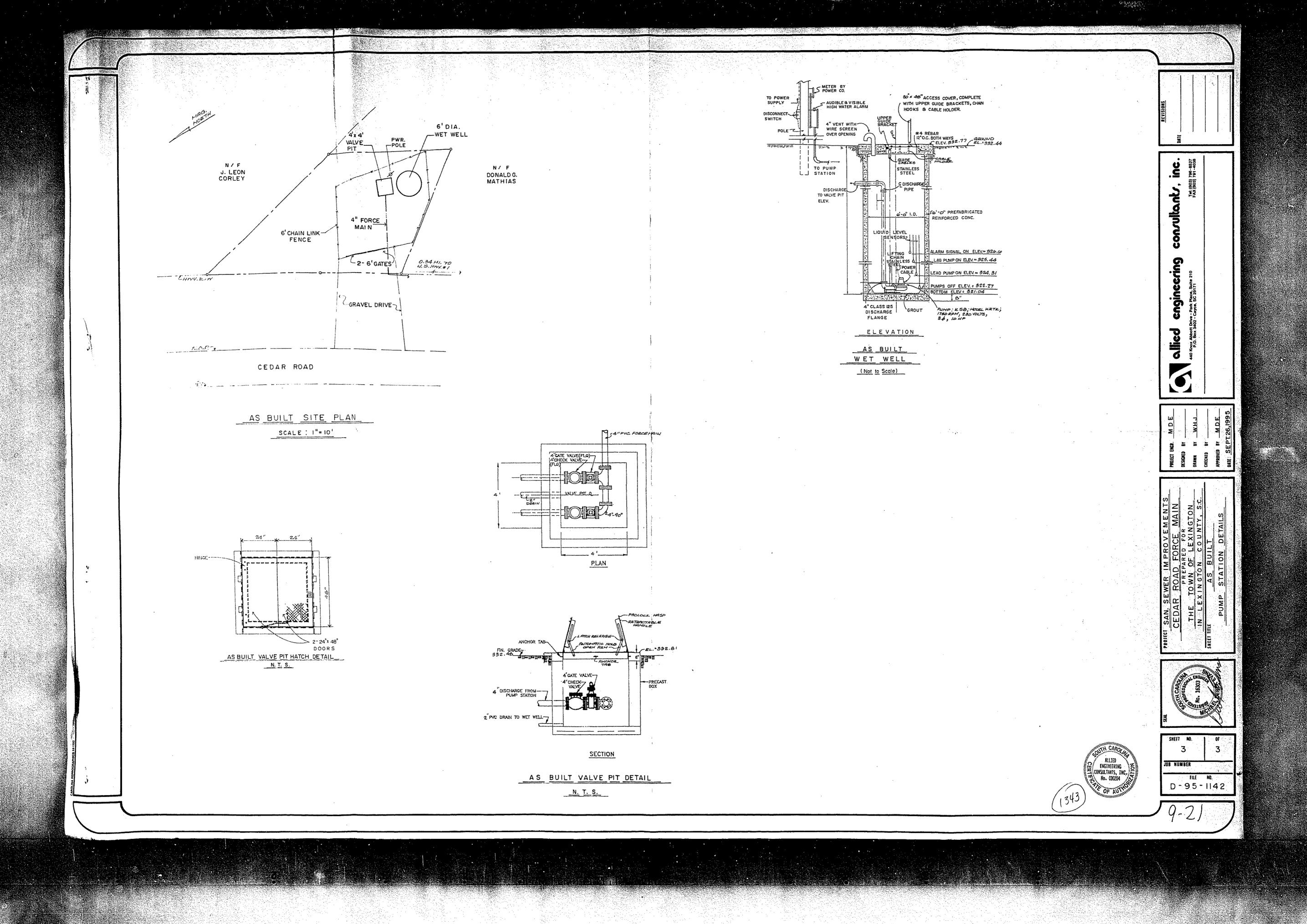
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	DRAWN
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	DATE
	10/22/12
	SCALE
	AS SHOWN
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	3049
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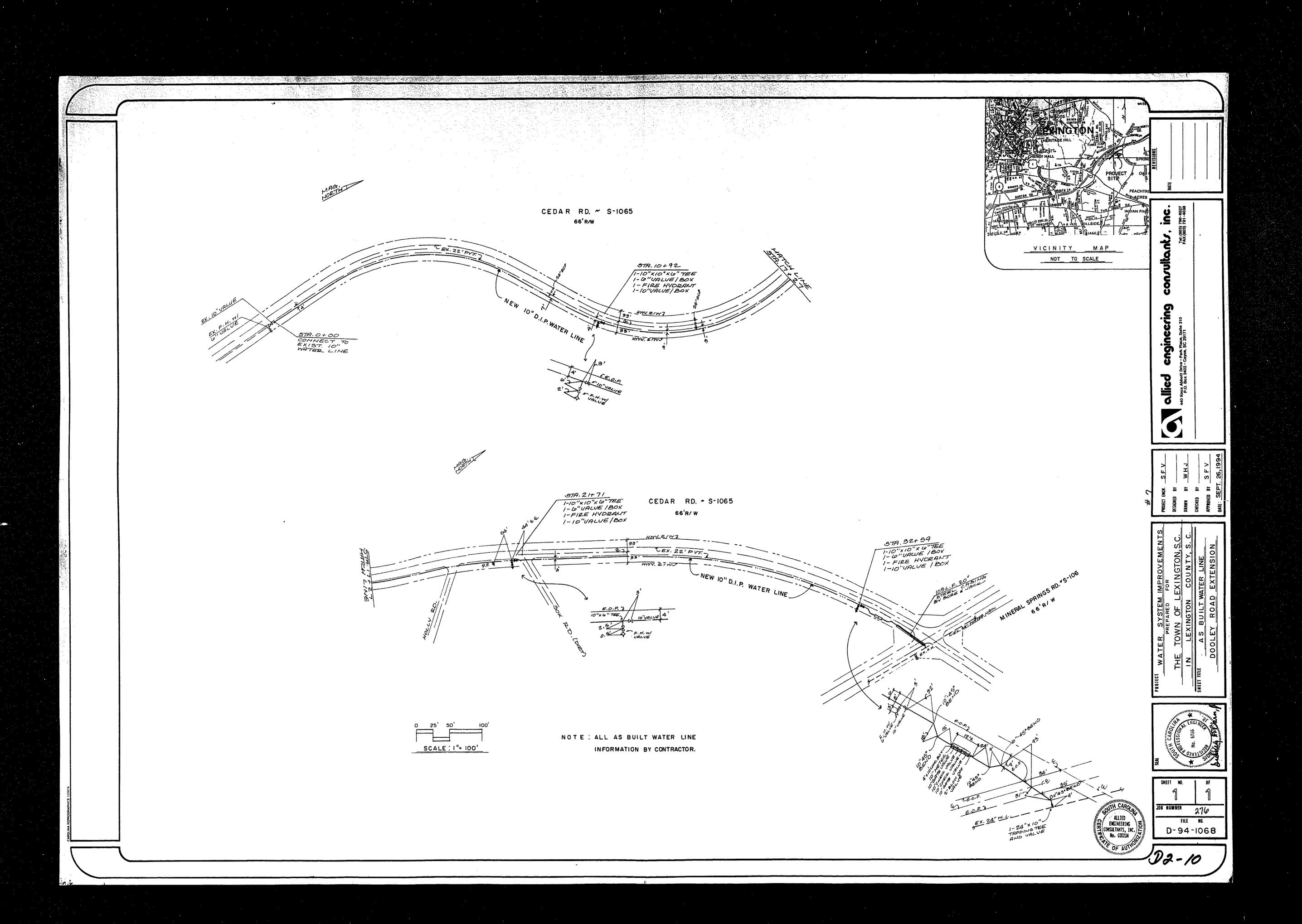
c/o FRANK BERRY 120 CROMER ROAD

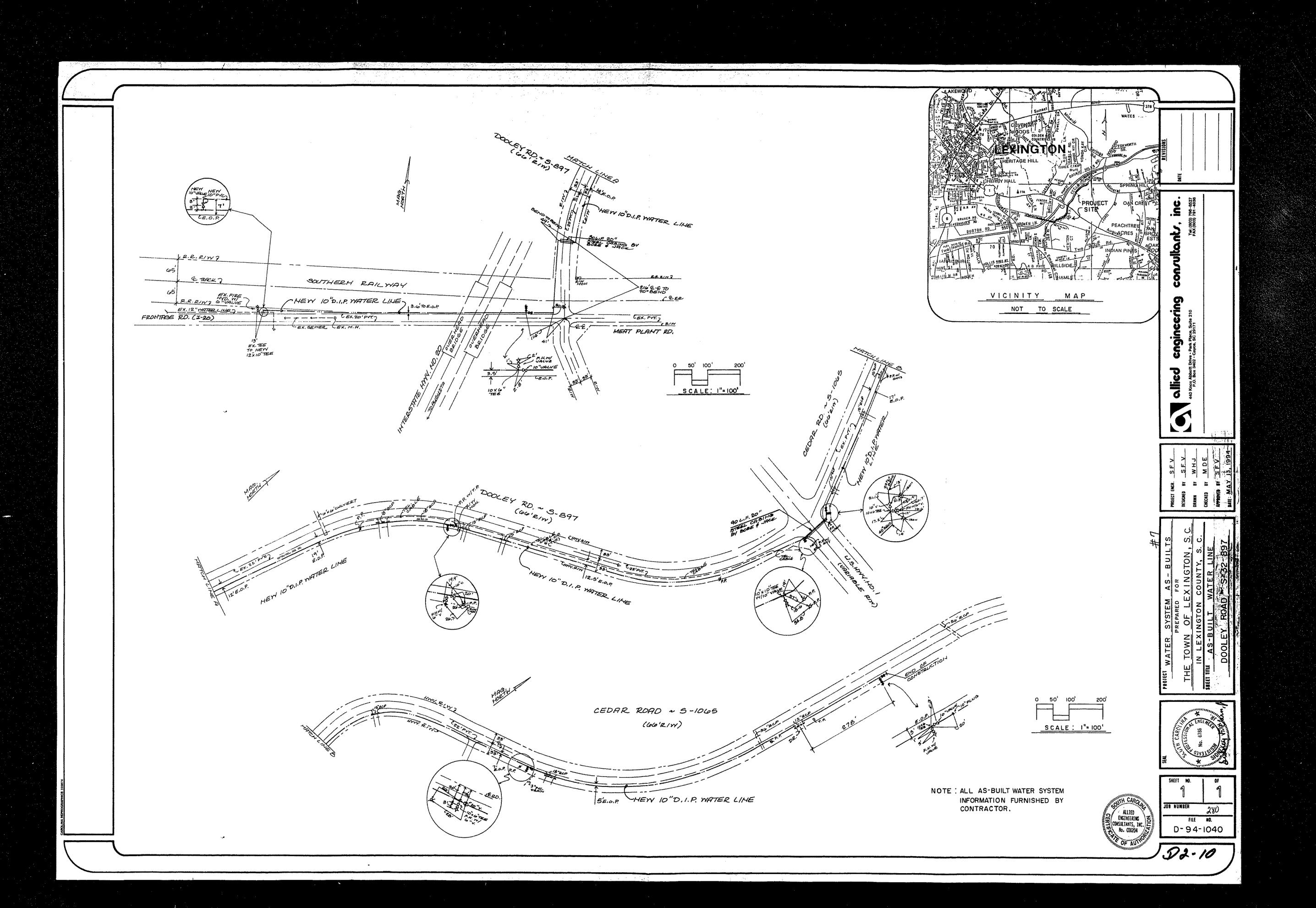
LEXINGTON, S.C. 29073 PHONE (803) 356-8301 FAX (803) 356-8303

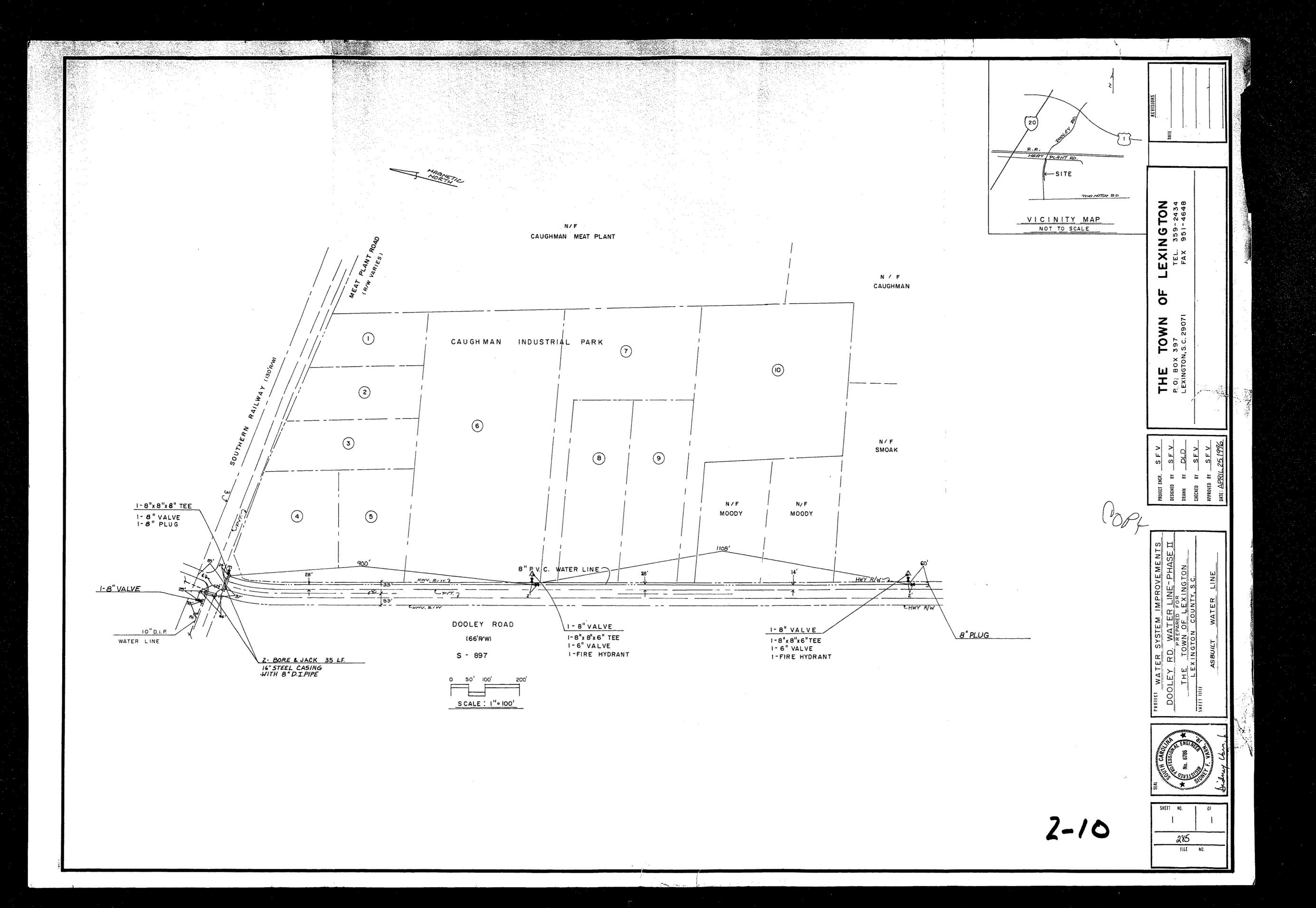
COLUMBIA, S.C. 29210 PH. (803) 216-8777 FAX. (803) 216-8070

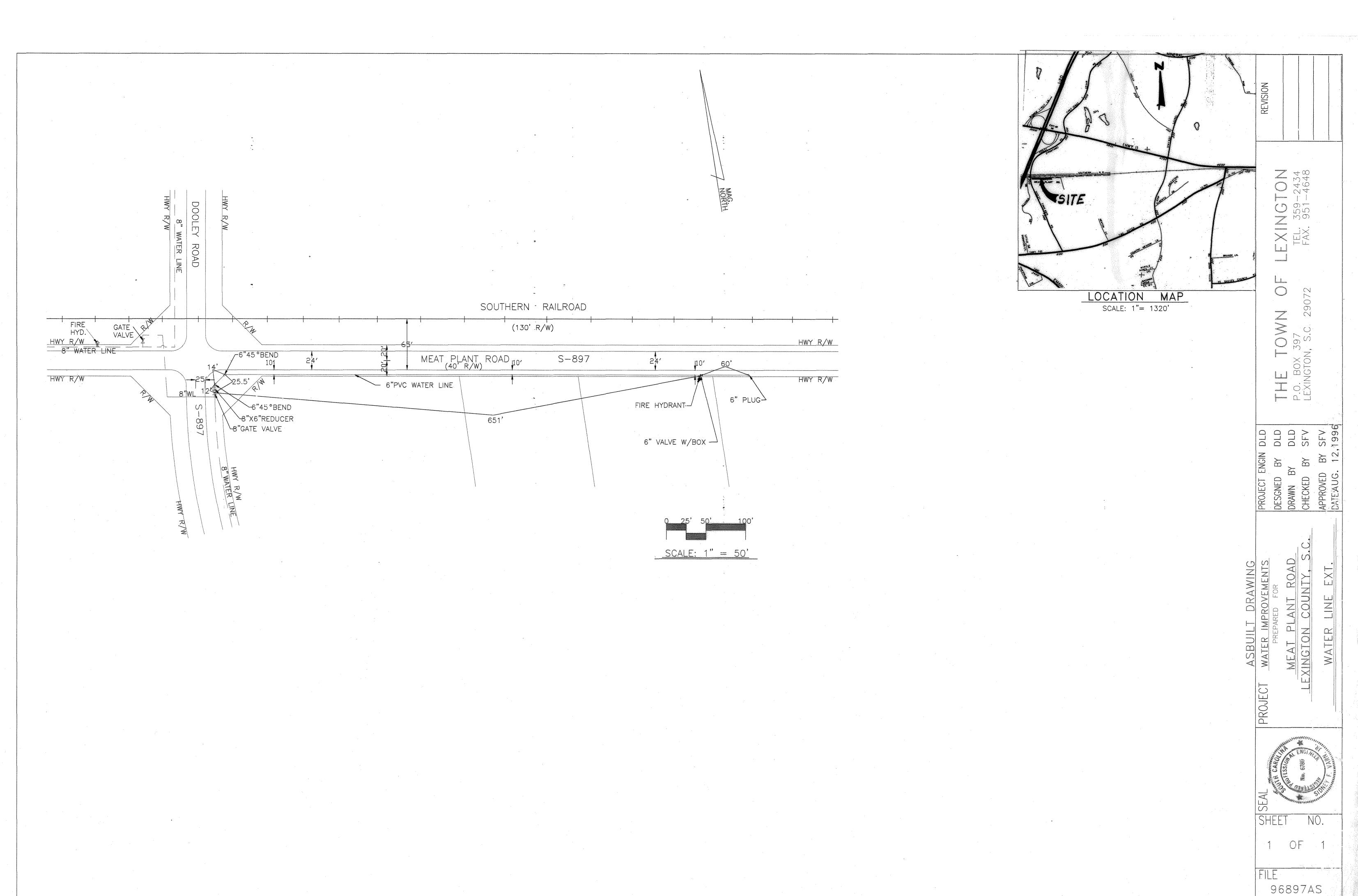


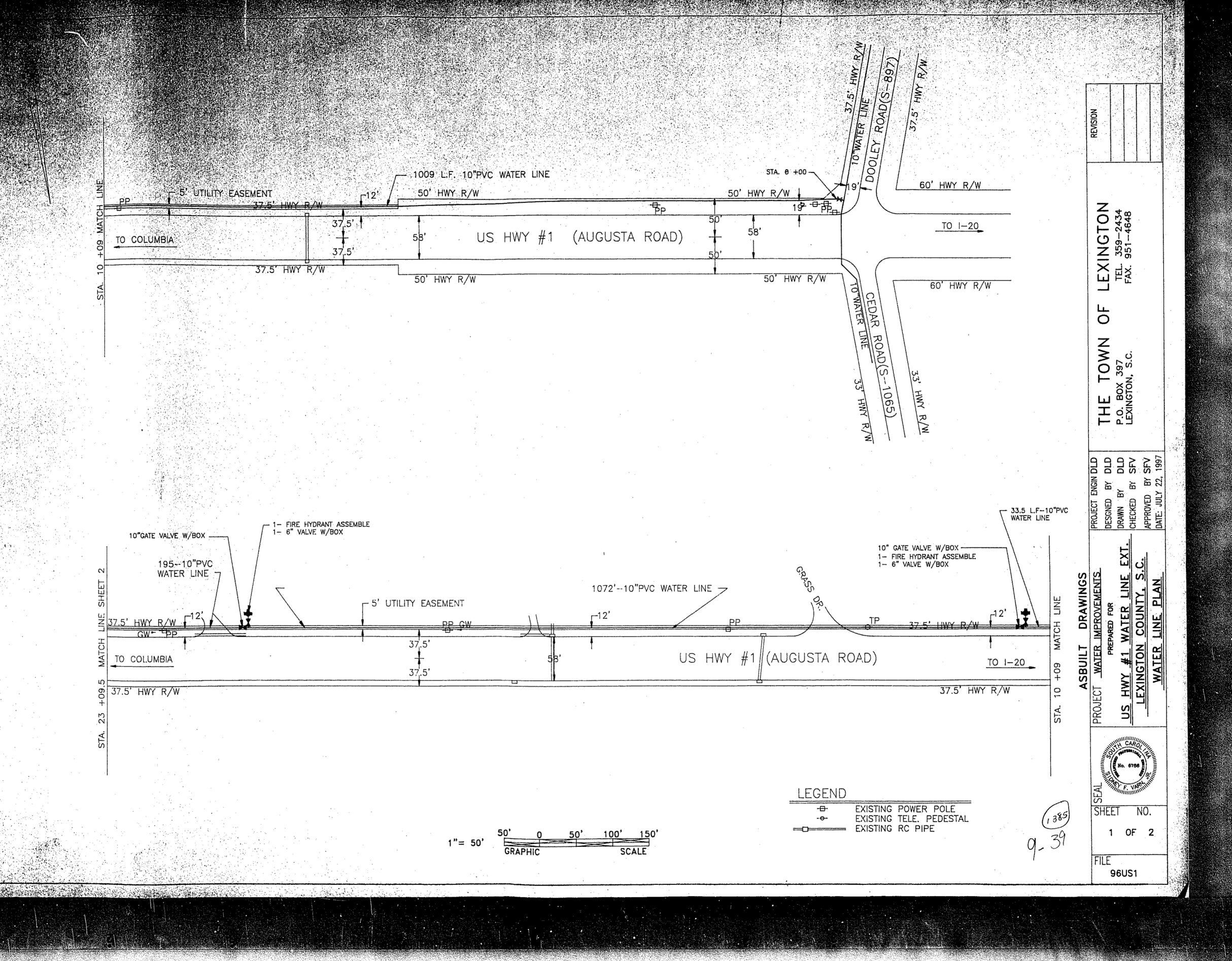


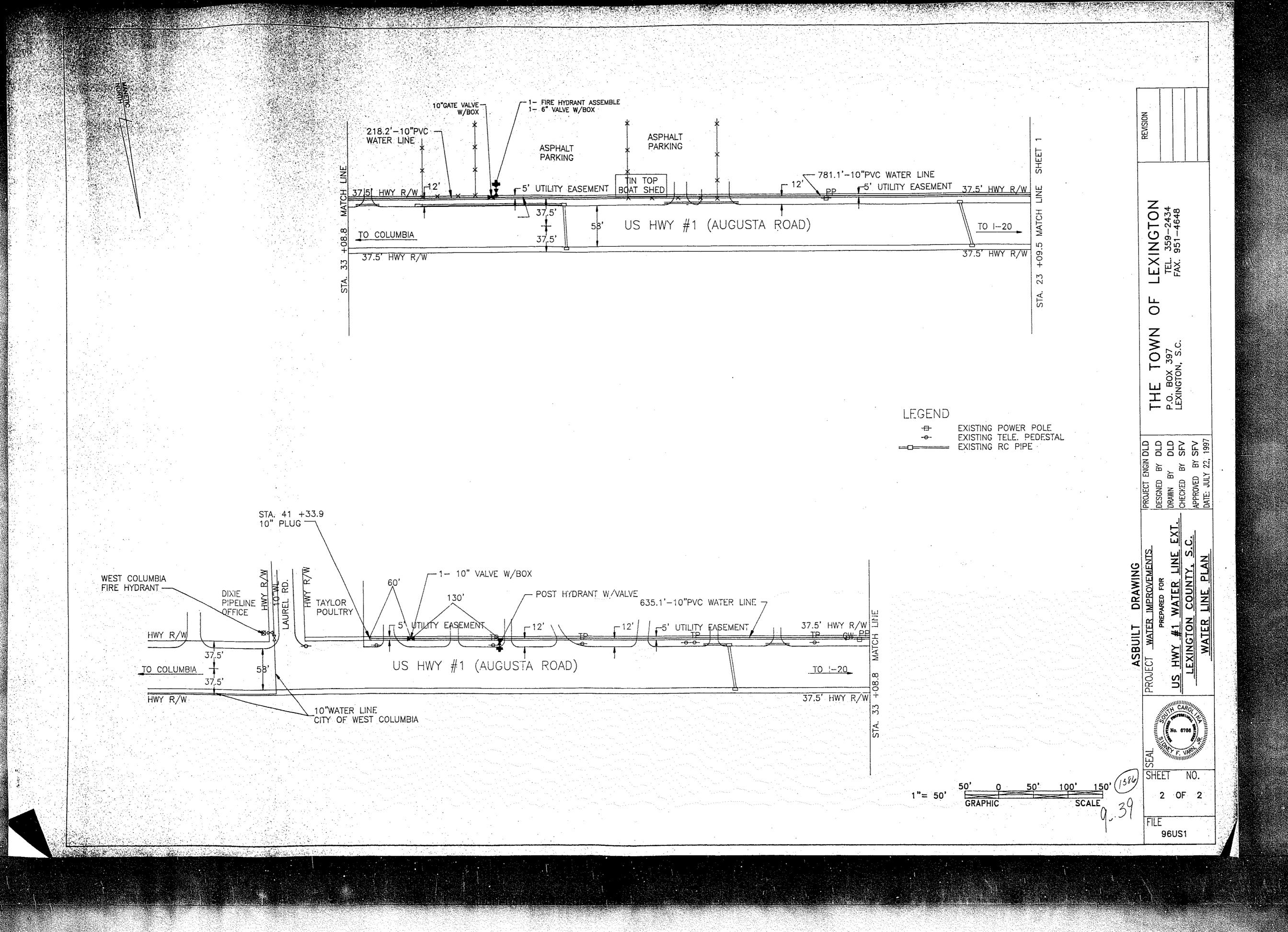


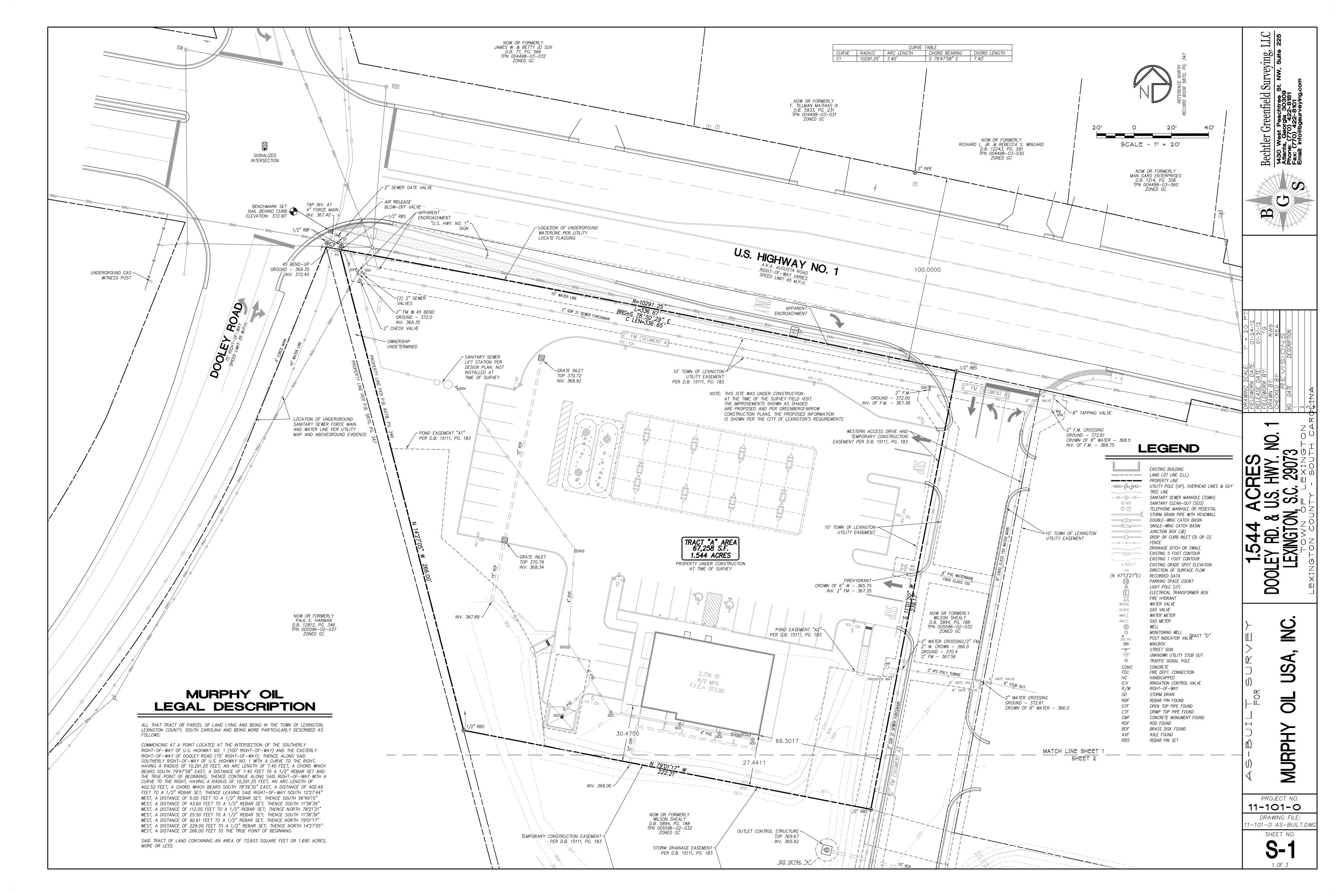


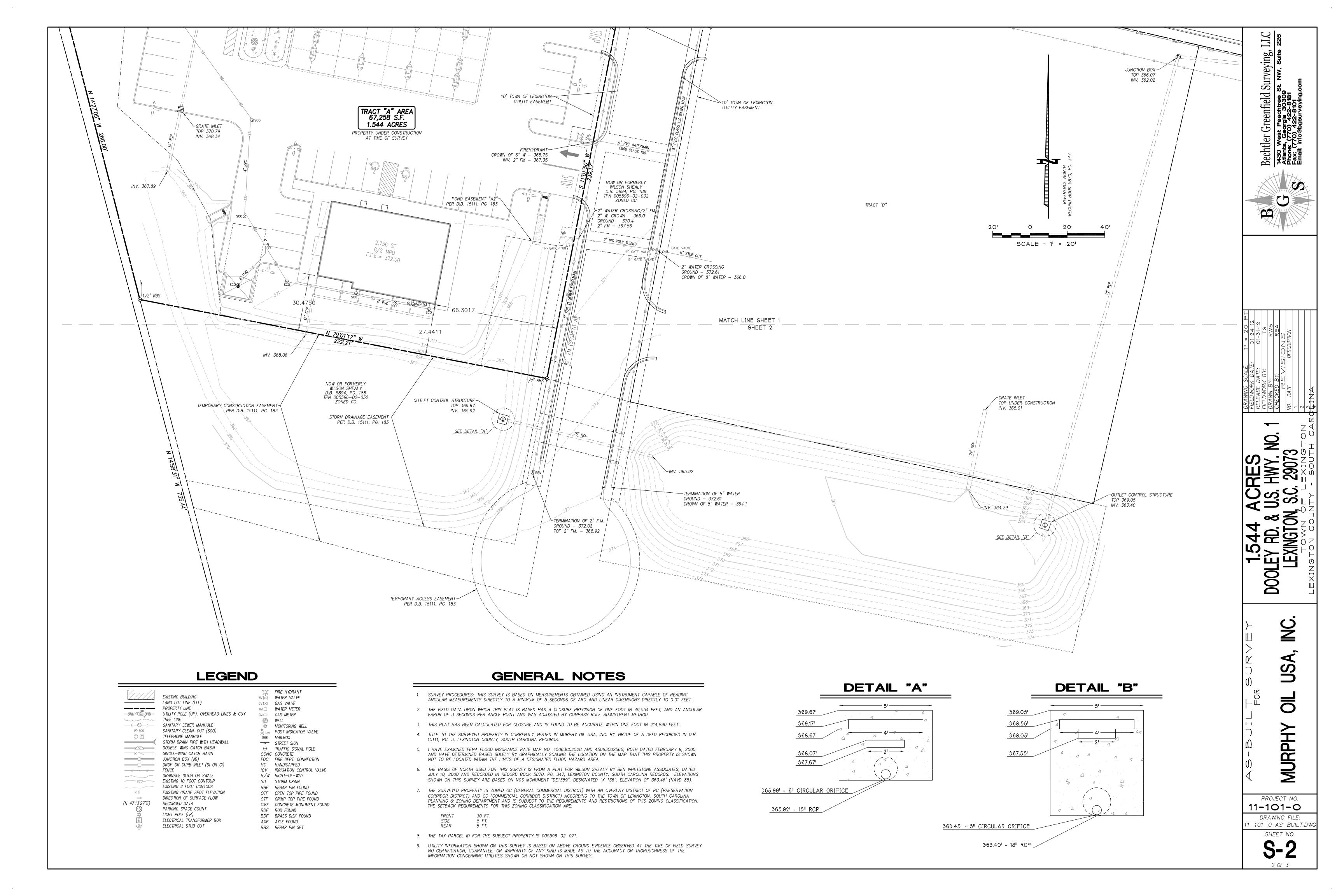


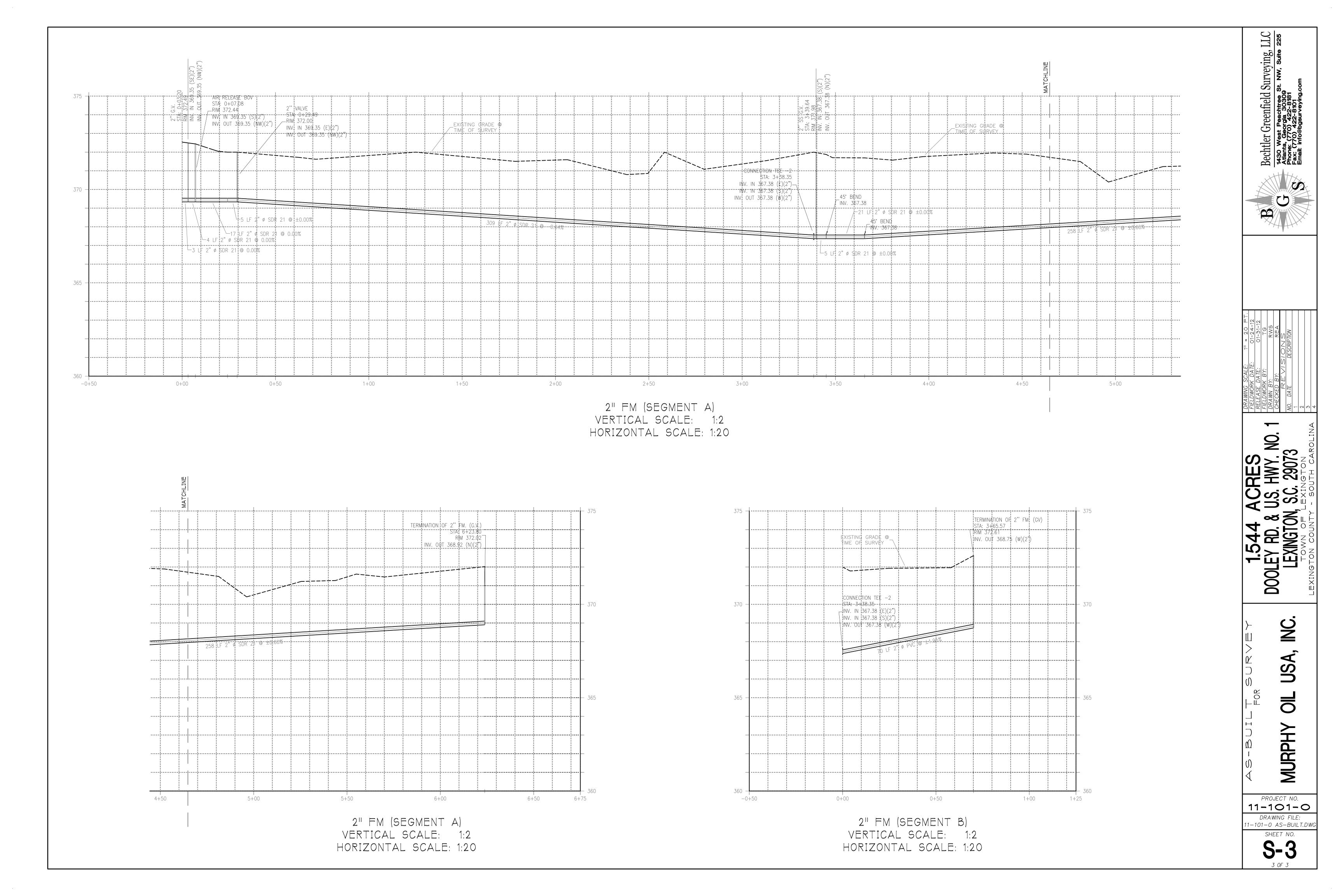








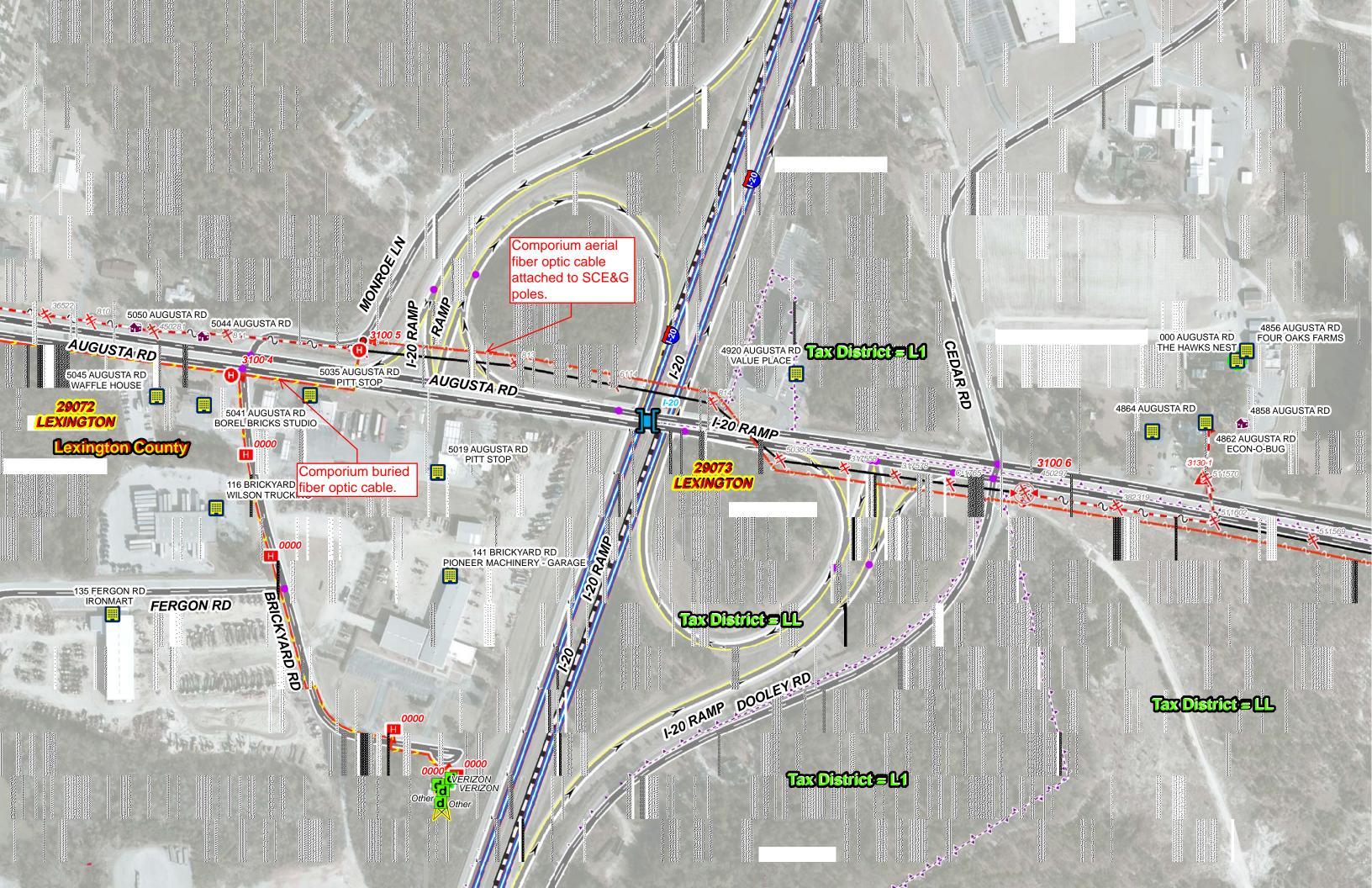




SCDOT US-1 OVER I-20 DESIGN BUILD



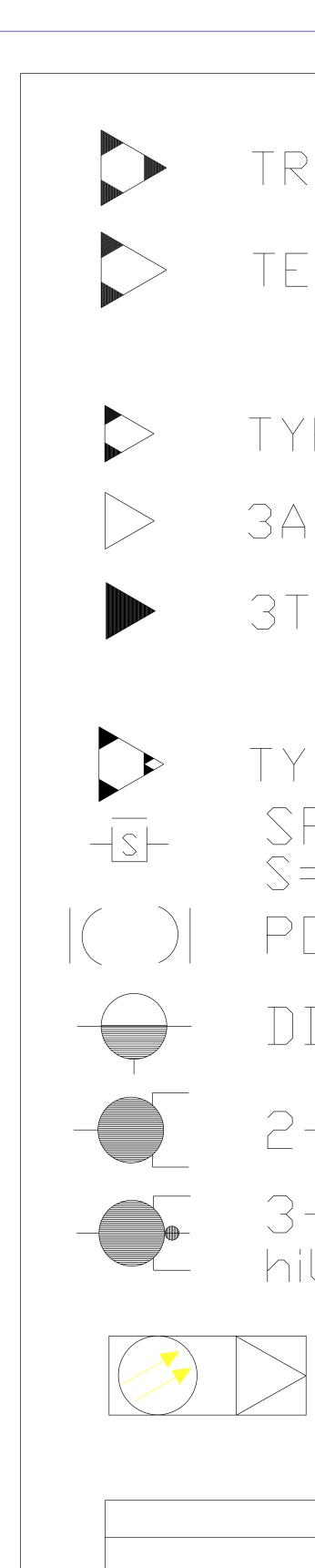
Comporium As-Builts

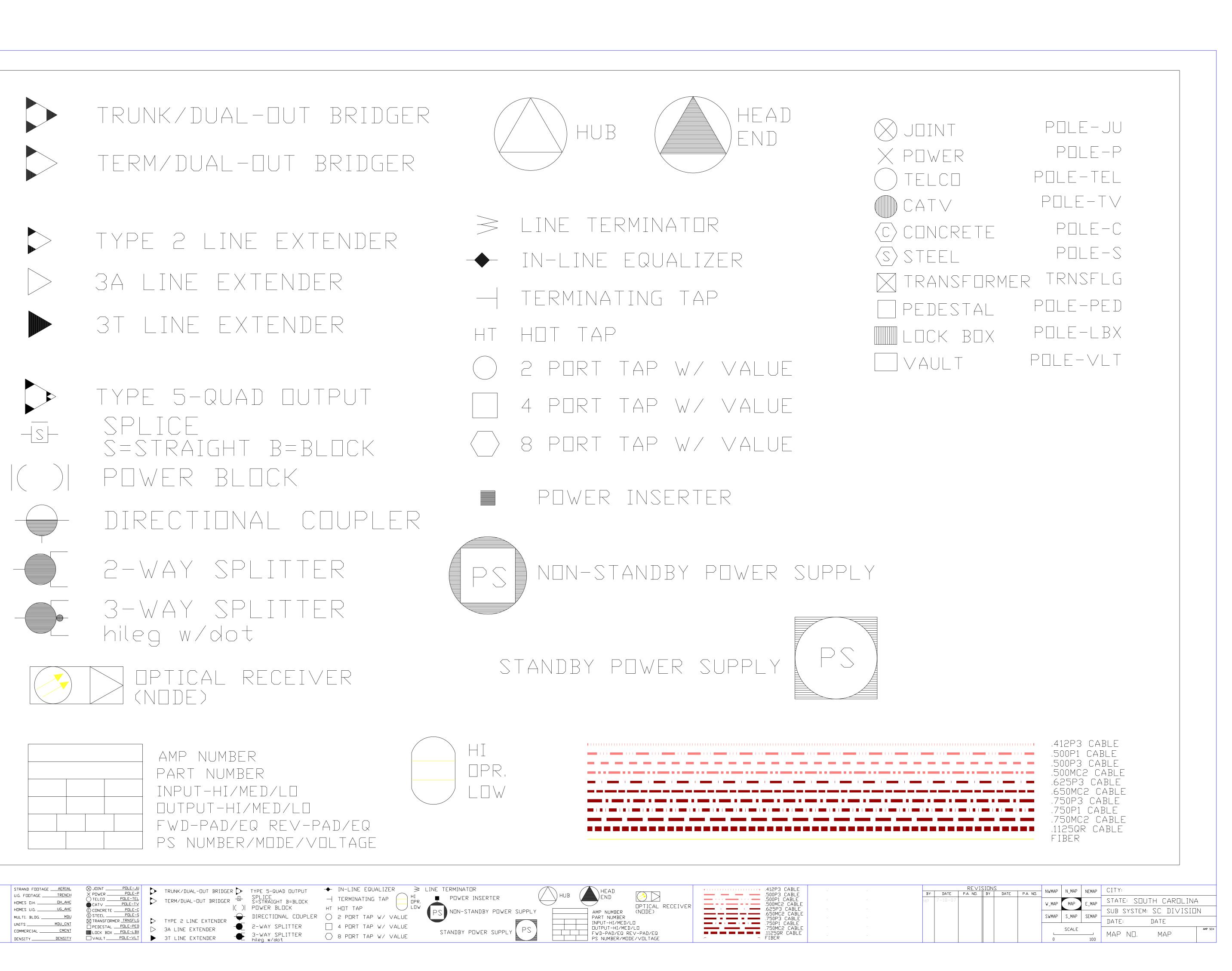


SCDOT US-1 OVER I-20 DESIGN BUILD

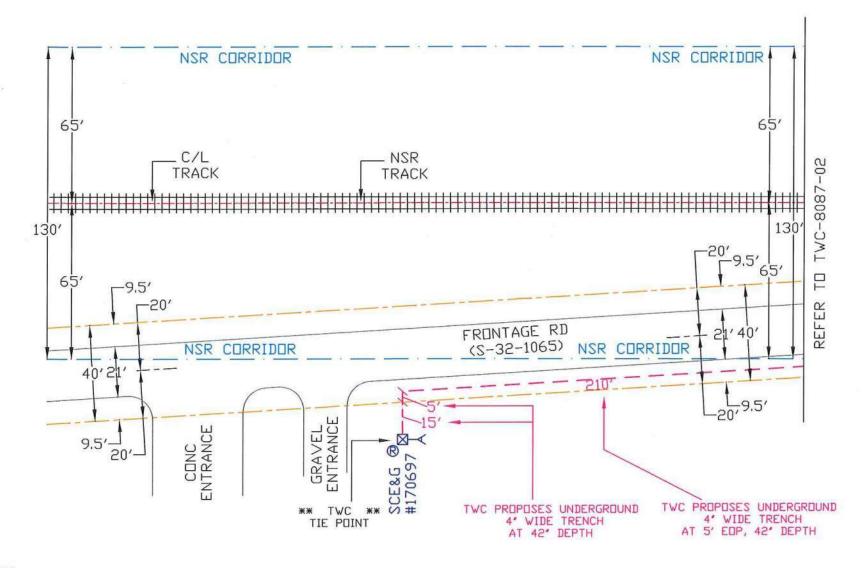


Charter As-Builts









** TWC TIE POINT ** IS APPROXIMATELY 5,425 FEET OR 1.027 MILES EAST OF CEDARCREST DR (S-32-167)

3			REVISION #2
2			REVISION #1
1	7/26/16	SG	ORIGINAL
NO.	DATE	DRAFTER	COMMENT

* ROW INFO OBTAINED FROM SCDOT PLANS ONLINE: FILE NO: 32.500, SHEETS #5 - #7 FILE NO: 32.530, SHEET #7 FILE NO: P027003, SHEET #U18

@	ΓIM	EV	M	RI	VER
-	C	A	В	L	E

SCALE:

1:40

3347 Platt Springs Road West Columbia, SC 29170 PHONE (803) 744-5595

	Total cable footage is 215 ft. or 041 miles
	Underground cable to be a minimum of 5' off EOP unless otherwise noted
	and 3 ft below crossline pipes.
3.	Pedestal to be placed at edge of Right-of-Way

Bore pits must be closed immediately after installation
Bore pits must be __5__ ft. from edge of pavement
Shoulder sod destroyed by this installation to be replaced and this entire

disturbed area reshaped and rolled to the cross section existing prior to this work Trench to be properly backfilled and thoroughly tamped. The disturbed area shall be reshaped and dressed out in a workmanship-like manner. The permitee shall be responsible for any and all damages that occur as a direct result of this installation.

Permittee shall allow for any embankment areas near road pavement by making sure cable is at all times at least 42' depth under pavement.

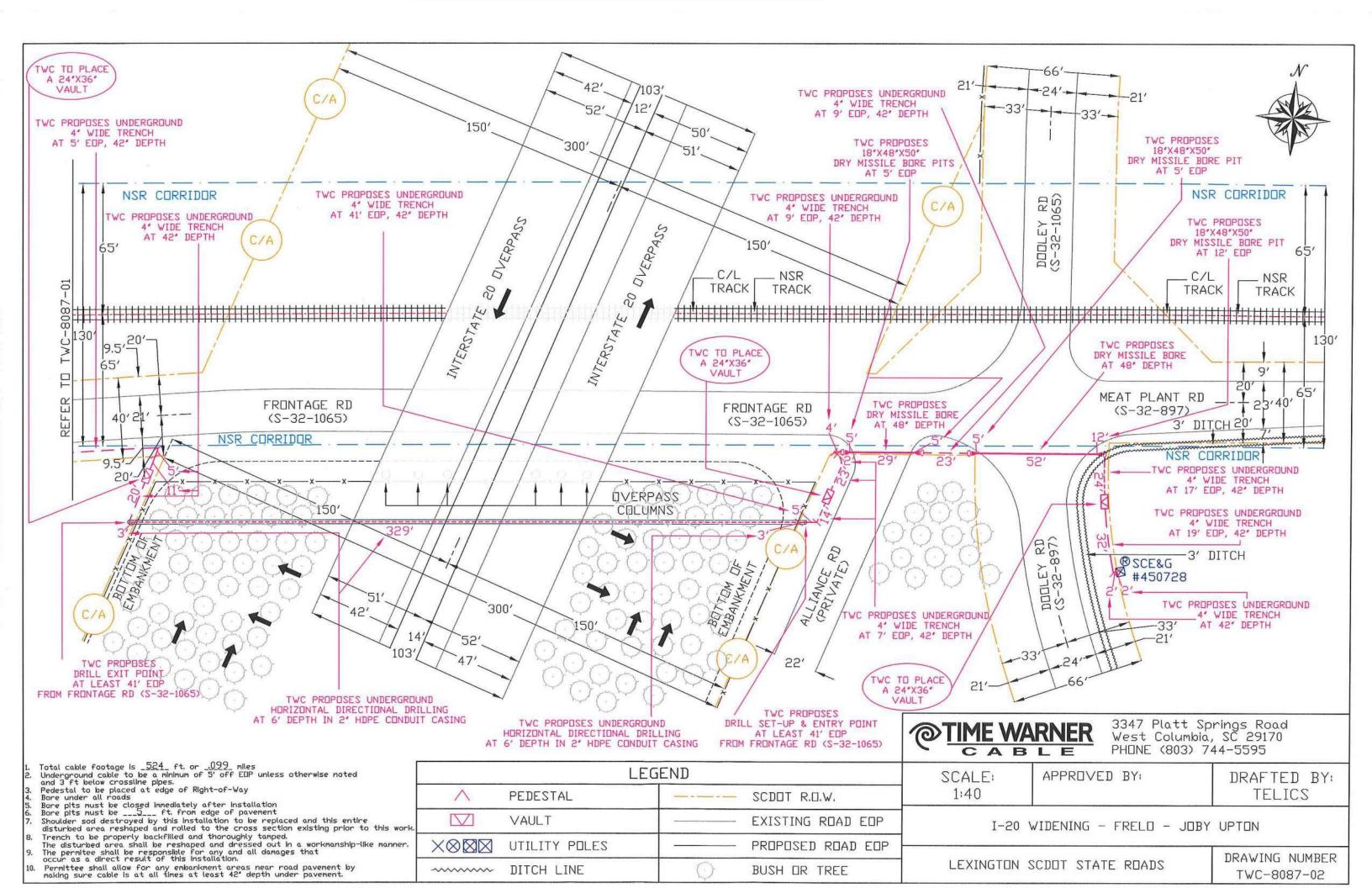
	L	LEGEND		
^	PEDESTAL		SCDOT R.O.W.	
	VAULT	-	EXISTING ROAD EOP	
$\times \otimes \boxtimes \boxtimes$	UTILITY POLES	12	PROPOSED ROAD EOP	
~~~~~	DITCH LINE	0	BUSH OR TREE	

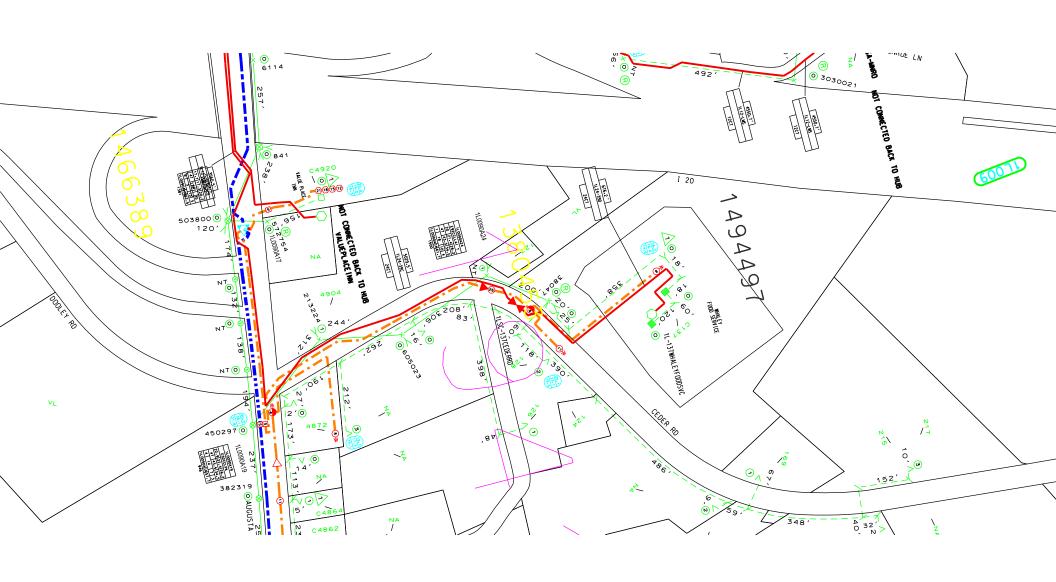
APPROVED BY:

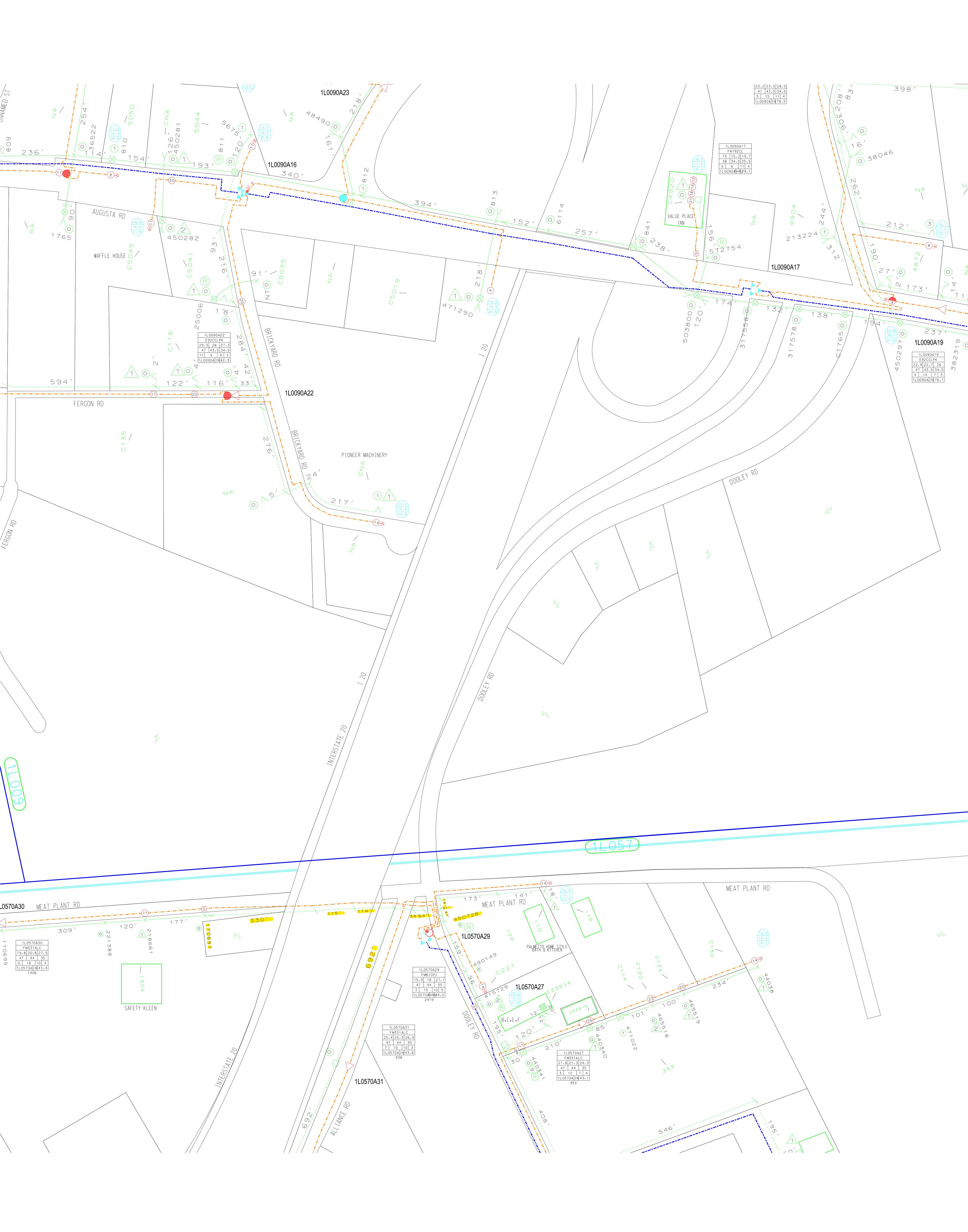
DRAFTED BY: **TELICS** 

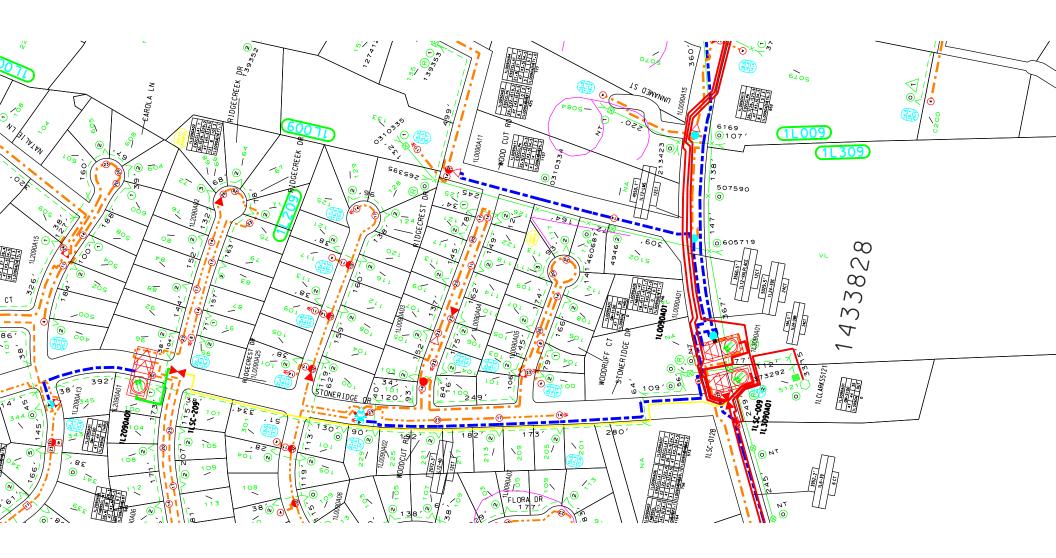
I-20 WIDENING - FRELO - JOBY UPTON

DRAWING NUMBER LEXINGTON SCDOT STATE ROADS TWC-8087-01









### SCDOT US-1 OVER I-20 DESIGN BUILD



Windstream Communications Asbuilts

