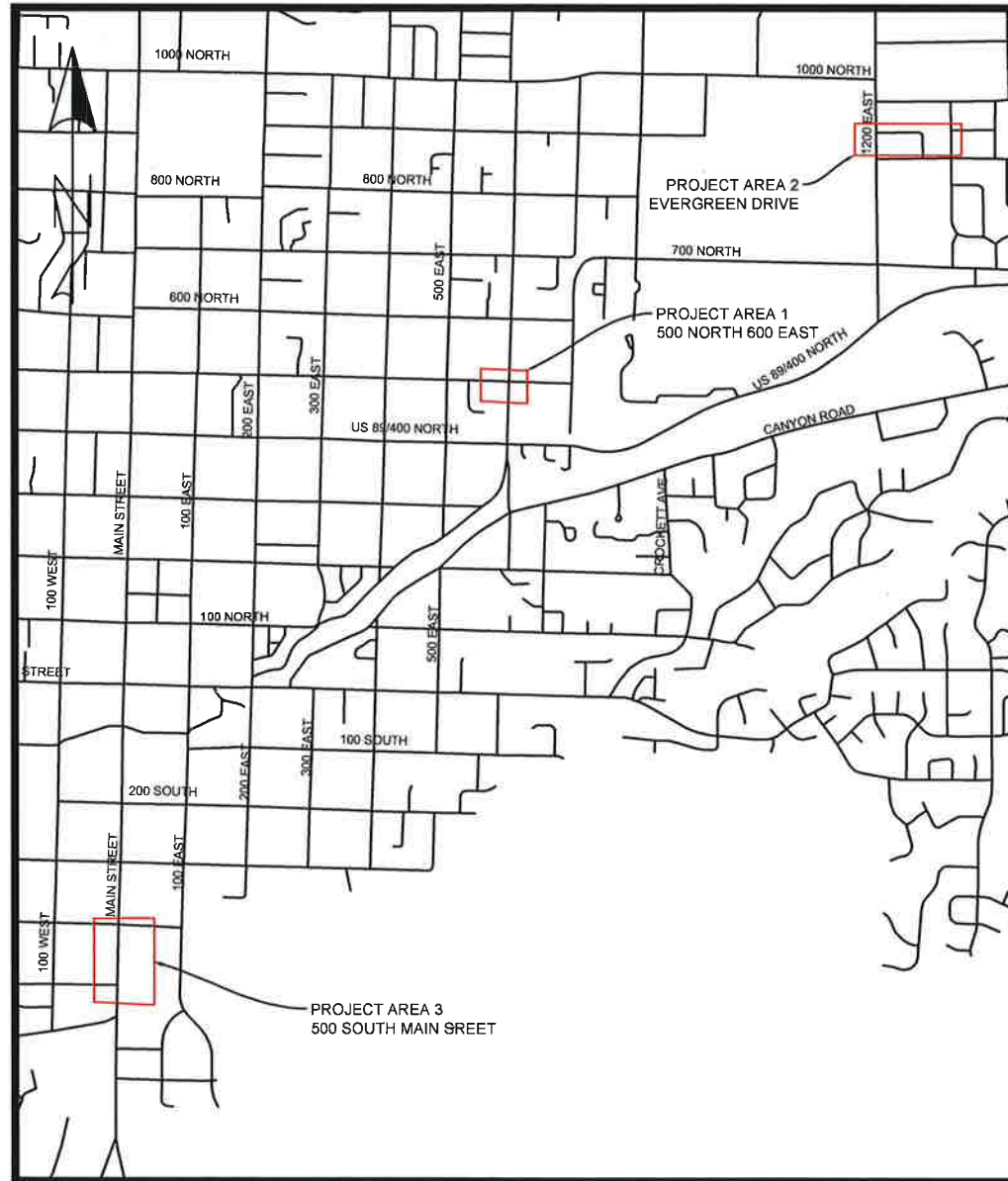


CITY OF LOGAN

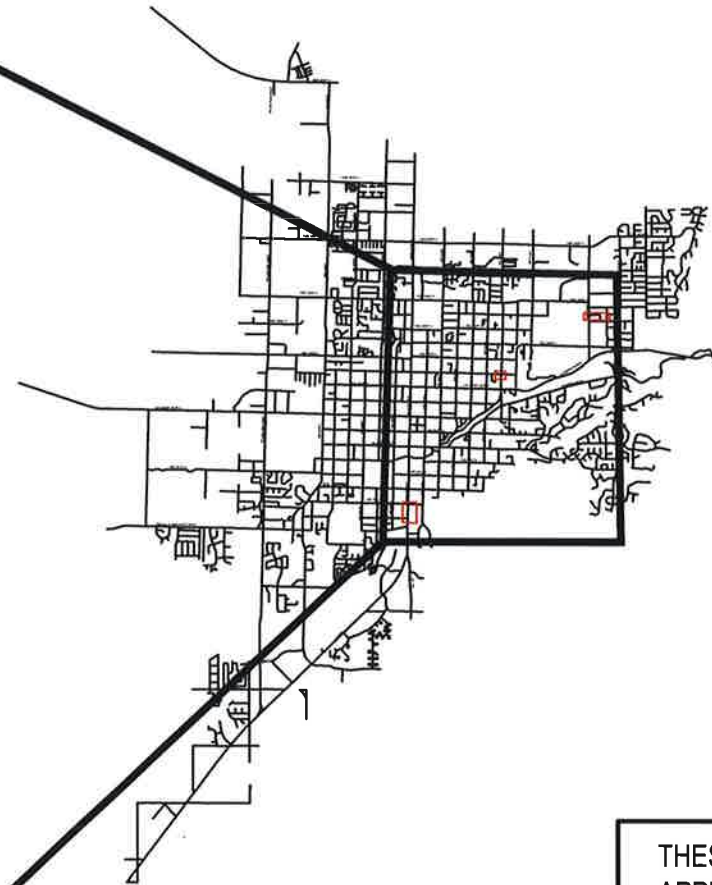
SANITARY SEWER REHABILITATION 500 NORTH-EVERGREEN DR-MAIN STREET PROJECT: ENG 19001



PUBLIC WORKS DEPARTMENT



PROJECT LOCATION



THESE PLANS HAVE BEEN REVIEWED AND APPROVED BY THE FOLLOWING:	
PUBLIC WORKS DIRECTOR:	<u>Paul Lindhardt</u> 3-4-19 PAUL LINDHARDT, P.E. DATE
WASTEWATER MANAGER:	<u>Cameron Draney</u> 3-2-2019 CAMERON DRANEY, P.E. DATE
CITY ENGINEER:	<u>Bill Young</u> 3/14/19 BILL YOUNG, P.E. DATE
LOGAN CITY ENGINEERING 290 NORTH 100 WEST LOGAN, UTAH 84321	DESIGNED: SODD DATE: MARCH 2019
	DRAFTED: SODD PROJECT: ENG-19001
	CHECKED: BYOUNG REVISION: 100%

SHEET INDEX

Sheet Name Description

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GN1	GENERAL NOTES
SN1	SPECIAL NOTES
SURVEY	SURVEY CONTROL
UT-01	UTILITIES 500 NORTH 550-600 EAST
UT-02	UTILITIES EVERGREEN DR. STA: 13+50 TO 17+00
UT-03	UTILITIES EVERGREEN DR. STA: 10+00 TO 13+50
UT-04	UTILITIES MAIN STREET STA: 107+00 TO 110+50
UT-05	UTILITIES MAIN STREET STA: 103+00 TO 107+00
SS-01	SANITARY SEWER FLOW OVERVIEW 500 NORTH
SS-02	SANITARY SEWER FLOW OVERVIEW EVERGREEN DR.
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UTILITY LEGEND

	EXISTING	PROPOSED
ABANDON REMOVE	_____ abd _____	_____ ABD _____
NATURAL GAS	_____ gas _____	_____ GAS _____
COMMUNICATIONS	_____ ugc _____	_____ UGC _____
POWER OVERHEAD	_____ ohp _____	_____ OHP _____
POWER UNDERGROUND	_____ ugp _____	_____ UGP _____
SANITARY SEWER	_____ ss _____	_____ SS _____
SANITARY SEWER FORCE MAIN	_____ sfm _____	_____ SFM _____
SANITARY SEWER LATERALS	_____ sl _____	_____ SL _____
STORM DRAIN	_____ sd _____	_____ SD _____
WATER MAINS	_____ w _____	_____ W _____
WATER LATERALS	_____ wl _____	_____ WL _____

GENERAL NOTES

STANDARDS AND SPECIFICATIONS

- ALL CONSTRUCTION SHALL MEET CITY OF LOGAN STANDARDS AND SPECIFICATIONS (APWA 2007, AS AMENDED BY LOGAN CITY AS OF DATE APPROVED FOR CONSTRUCTION BY ENGINEER). STANDARDS AND SPECIFICATIONS CAN BE VIEWED AND PRINTED AT: [HTTP://WWW.LOGANUTAH.ORG/GOVERNMENT/DEPARTMENTS/PUBLIC_WORKS/ENGINEERING/ENGINEERING_DOCS.PHP](http://www.loganutah.org/government/departments/public_works/engineering/engineering_docs.php)
- ANY AMBIGUITIES OR CONFLICTS IDENTIFIED BY THE CONTRACTOR, CONTRACTOR'S REPRESENTATIVE, ENGINEER, OR ENGINEER'S REPRESENTATIVE SHALL BE IDENTIFIED TO THE ENGINEER IMMEDIATELY. THESE SHALL BE RESOLVED AT NO ADDITIONAL COST TO THE CITY BASED ON THE FOLLOWING ORDER OF PRECEDENCE (PER APWA 2007 SECTION 00 72 00, PART 3, SECTION 3.3) EXCEPT AS NOTED HEREIN:
 - CONTRACT FOR CONSTRUCTION (FROM BID DOCUMENTS)
 - MODIFICATIONS, ADDENDUMS, OR CHANGE ORDERS SHALL TAKE PRECEDENCE OVER ALL PREVIOUS MODIFICATIONS, ADDENDUMS, OR CHANGE ORDERS.
 - APWA 2007 GENERAL CONDITIONS SECTION 00 72 00 AS AMENDED BY LOGAN CITY
 - SPECIAL OR SUPPLEMENTAL SPECIFICATIONS
 - PLANS (DRAWINGS)
 - WRITTEN DIMENSIONS OVER MEASURED DIMENSIONS
 - SPECIAL DETAILS OVER PLANS AND PROFILES EXCEPT THAT LOGAN CITY STANDARD DETAILS SHALL TAKE PRECEDENCE OVER CONSTRUCTION DETAILS UNLESS STATED OTHERWISE BY CITY ENGINEER.
 - STORM WATER POLLUTION PREVENTION PLAN AND OTHER PERMITS
 - LOGAN CITY AMENDMENTS TO APWA 2007 STANDARD DRAWINGS
 - LOGAN CITY AMENDMENTS TO APWA 2007 STANDARD SPECIFICATIONS
 - APWA 2007 STANDARD DRAWINGS
 - APWA 2007 STANDARD SPECIFICATIONS
- CONTRACTOR IS SOLELY RESPONSIBLE TO REVIEW AND FULLY UNDERSTAND THE PLANS DURING BIDDING. DEVIATIONS OR DISCREPANCIES ARE TO BE IDENTIFIED DURING BIDDING IF AND WHEN IDENTIFIED.

SAFETY IN THE WORK ZONE

- ALL PERSONNEL ARE REQUIRED TO WEAR HARD-HATS AND STEEL TOE BOOTS WITHIN THE WORK ZONE.
- ORANGE OR FLORESCENT YELLOW VESTS OR CLOTHING SHALL BE WORN WHILE WORKING ON THIS PROJECT COMPLIANT WITH THE FOLLOWING:
 - CLASS 3 WHILE WORKING AT NIGHT WITHIN UDOT RIGHT-OF-WAY OR WHERE VEHICLE VELOCITIES MAY EXCEED 50 MPH.
 - CLASS 2 WHILE WORKING WITHIN LOGAN CITY RIGHT-OF-WAY AND WHERE VEHICLE VELOCITIES ARE LESS THAN 50 MPH.
- ALL TRENCHING SHALL BE IN COMPLIANCE WITH OSHA 29 CFS, PART 1926. ALL SOILS SHALL BE CONSIDERED TYPE C WHILE PREPARING TRENCH SHORING CALCULATIONS UNLESS GEOTECHNICAL REPORT SPECIFIES A TYPE D.
- LOGAN CITY AND OSHA CONFINED SPACE ENTRY REQUIREMENTS, RULES, AND REGULATIONS SHALL BE STRICTLY FOLLOWED ON THIS PROJECT. CONFINED SPACE ENTRY PERMITS SHALL BE ON SITE, UPDATED, AND AVAILABLE FOR INSPECTION BY LOGAN CITY STAFF AT ALL TIMES.
- CONFORM TO ALL OTHER APPLICABLE OSHA RULES AND REGULATIONS WHILE WORKING ON THIS PROJECT.

EXISTING UTILITIES

- UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE ONLY.
- CONTRACTOR SHALL FIELD VERIFY ALL UTILITY LOCATIONS BY CONTACTING BLUE STAKES AT 1-800-662-4111 OR 811 AND OTHER APPLICABLE UTILITIES PRIOR TO EXCAVATION.
- UTILITY CONTACTS ARE AS FOLLOWS:
 - WATER AND SANITARY SEWER: CAMERON DRANEY (435) 770-5033, KASEY ERICKSON (435) 994-0316 OR JARED PRATT (435) 760-4728.
 - STORM WATER: JED AL-IMARI (435) 881-4327 OR SHAWN HANSEN (435) 994-0526.
 - LOGAN CITY LIGHT AND POWER: STEVE CROSBY (435) 716-9745 OR (435) 757-8530.
 - COMCAST: ALEX VASQUEZ (801) 245-5314
 - CENTURY LINK: PAUL HIGBY (435) 232-3916
 - QUESTAR: NICK WHITE (435) 213-5662 OR (435) 755-2205
- CONTRACTOR SHALL POT-HOLE AND LOCATE EXISTING UTILITIES WHEN NECESSARY TO ENSURE CONSTRUCTION DOES NOT IMPACT EXISTING UTILITIES AND THAT THE LOCATION OF EXISTING UTILITIES DOES NOT AFFECT CONSTRUCTION. POT-HOLING SHALL BE DONE AT THE BEGINNING OF THE PROJECT IN ORDER TO PROVIDE UTILITY OWNERS ADEQUATE TIME TO RELOCATE SERVICES IF NECESSARY OR TO ALLOW ENGINEER TO REDESIGN PRIOR TO FABRICATION OF PRE-CAST STRUCTURES.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COSTS AND REPAIRS DUE TO DAMAGE OF EXISTING UTILITIES. ALL UTILITIES MAY NOT BE SHOWN ON PLANS.

PERMITS

- CONTRACTOR SHALL COMPLY WITH THE TERMS OF ALL PERMITS REQUIRED FOR THIS PROJECT.
- CONTRACTOR SHALL OBTAIN AND KEEP COPIES OF ALL REQUIRED PERMITS AT PROJECT LOCATION DURING REASONABLE WORKING HOURS.
- CONTRACTOR SHALL OBTAIN UDOT ENCROACHMENT PERMIT FOR ANY WORK COMPLETED IN UDOT ROW. COPY OF ENCROACHMENT PERMIT WILL BE PROVIDED TO ENGINEER BEFORE WORK IN UDOT ROW STARTS.
- CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT (CITY OF LOGAN) PRIOR TO INITIATING ANY SITE DISTURBANCE OR CONSTRUCTION IN LOGAN CITY RIGHT OF WAY.
- IF DEWATERING IS REQUIRED, CONTRACTOR SHALL OBTAIN DEWATERING PERMITS FROM THE STATE OF UTAH DIVISION OF WATER QUALITY AND COMPLY WITH ALL STATE REQUIREMENTS.
- CONTRACTOR SHALL OBTAIN A LOGAN CITY LAND DISTURBANCE PERMIT.

CONSTRUCTION NOTES

SURVEY AND CONSTRUCTION STAKING

- ALL SURVEY FOR THIS PROJECT SHALL BE PROVIDED BY THE CONTRACTOR SELECTED PROFESSIONAL LAND SURVEYOR.
- STAKEOUT, LAYOUT, AND QUANTITIES VERIFICATIONS SHALL BE PERFORMED BY THE CONTRACTOR OR CONTRACTOR SELECTED SURVEYOR .
- 2017 CIVIL 3D FILE WILL BE PROVIDED TO CONTRACTOR'S SELECTED PROFESSIONAL LAND SURVEYOR UPON REQUEST.

ACCESS RESTRICTIONS, ROAD AND LANE CLOSURES, PEDESTRIAN ACCESS AND TRAFFIC CONTROL PLAN

- CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN, ADEQUATE TRAFFIC CONTROL, SIGNING, BARRICADING, AND PEDESTRIAN DIRECTION THROUGH AND AROUND THE CONSTRUCTION WORK ZONE IN COMPLIANCE WITH THE UDOT MUTCD AS REQUIRED BY UTAH STATE LAW (R920-1).
- THE TRAFFIC CONTROL PLANS SHALL BE PROVIDED TO THE ENGINEER A MINIMUM OF 48 HOURS PRIOR TO THE PRE-CONSTRUCTION MEETING TO ALLOW REVIEW FOR APPROVAL. COMMENTS AND REQUIRED CHANGES SHALL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING. ALL CORRECTIONS SHALL BE INCORPORATED INTO THE TRAFFIC CONTROL PLAN BEFORE A WORK IN THE RIGHT-OF-WAY PERMIT WILL BE ISSUED.
- CONTRACTOR SHALL INSTALL AND MAINTAIN ALL TRAFFIC CONTROL AS PART OF THIS PROJECT.
- CONTRACTOR SHALL INSPECT TRAFFIC CONTROL DAILY TO ENSURE A SAFE WORK ZONE.
- ANY SIGNIFICANT MODIFICATIONS TO THE TRAFFIC CONTROL PLAN DURING CONSTRUCTION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO IMPLEMENTATION.
- PROPERTY OWNERS, RESIDENTS, AND BUSINESSES SHALL BE GIVEN 48 HOURS NOTICE OF DRIVEWAY ACCESS RESTRICTIONS DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING HOMEOWNERS, RESIDENTS, AND BUSINESSES AS NEW PIPING AND CONCRETE ARE INSTALLED.
- ACCESS TO ALL BUSINESSES WITHIN THE PROJECT AREA SHALL BE COORDINATED WITH BUSINESS OWNERS AND REASONABLY MAINTAINED DURING CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE NOTICE OF ROAD CLOSURE TO LOCAL AREA BUSINESSES AT LEAST 48-HOURS IN ADVANCE OF CLOSURE.
- CONTRACTOR SHALL COORDINATE LANE CLOSURES AND PARTIAL AND COMPLETE ROAD CLOSURES WITH THE ENGINEER.
- CONTRACTOR SHALL NOTIFY EMERGENCY SERVICES, CACHE VALLEY TRANSIT AUTHORITY, LOGAN CITY ENVIRONMENTAL DEPARTMENT, USU POLICE, AGGIE SHUTTLE, AND THE SCHOOL DISTRICT OF CLOSURE AT LEAST 48- HOURS PRIOR TO CLOSURE. THROUGH TRAFFIC MUST BE MAINTAINED TO THE GREATEST EXTENT REASONABLE AND SAFE.
- ROAD CLOSURE IS ALLOWED ON CONDITION OF CONTINUAL WORK IN THE ROADWAY. THE ROADWAY SHALL BE OPENED TO THROUGH TRAFFIC AT EVERY OPPORTUNITY WHEN CONDITIONS ARE SAFE AND WORK CREWS ARE NOT ACTIVELY WORKING IN THE ROADWAY.

WATER AND SEWER UTILITIES INTERRUPTIONS

- APPROVAL FROM THE ENGINEER IS REQUIRED PRIOR TO EACH WATER AND SEWER SHUT-DOWN IF REQUIRED TO COMPLETE THIS PROJECT. ALL AFFECTED ENTITIES AND PROPERTY OWNERS SHALL BE NOTIFIED 48 HOURS PRIOR TO EACH APPROVED SHUTDOWN.
- THE CONTRACTOR SHALL PROVIDE AT LEAST 48-HOURS NOTICE TO THE CITY, PROPERTY OWNERS, RESIDENTS, AND BUSINESSES IN ADVANCE OF INTERRUPTION OF UTILITIES SERVICES.
- CITY PERSONNEL ARE THE ONLY INDIVIDUALS AUTHORIZED TO MANIPULATE WATER VALVES, METERS, AND SERVICES ON THE CITY WATER SYSTEM. THE CITY WILL PROVIDE PERSONNEL TO ISOLATE THE WATER SYSTEM IN THE AREA IMMEDIATELY IMPACTED BY CONSTRUCTION. THE CONTRACTOR SHALL WORK WITH THE CITY TO SCHEDULE UTILITIES INTERRUPTIONS AT LEAST 48-HOURS IN ADVANCE OF UTILITY INTERRUPTIONS.
- ALL UTILITIES SHALL BE KEPT IN WORKING ORDER EXCEPT FOR THE MINIMUM TIME NEEDED FOR EXCAVATION, TRENCHING, CONNECTIONS, ETC.
- THE CONTRACTOR SHALL MAKE EVERY EFFORT, AND COMMIT ALL RESOURCES NECESSARY TO COMPLETE WORK IN AN EXPEDITED FASHION IN ORDER TO MINIMIZE THE LENGTH OF TIME OF INTERRUPTION OF UTILITIES.

PROPERTY IMPACTS

- DAMAGE TO EXISTING PROPERTY, BOTH PUBLIC AND PRIVATE, TO INCLUDE LANDSCAPING, WILL BE REPAIRED AND OR REPLACED TO PRE-WORK CONDITIONS BY CONTRACTOR AT NO COST TO LOGAN CITY.
- CONTRACTOR WILL BE RESPONSIBLE TO COORDINATE ACCESS TO PRIVATE PROPERTY WITH PROPERTY OWNERS.

QUALITY CONTROL TESTING

- CONTRACTOR SHALL EMPLOY AN APPROVED QUALITY CONTROL TESTING AGENCY TO PROVIDE TESTING FOR THE SITE IN ACCORDANCE WITH THE APPROPRIATE SECTIONS OF APWA MANUAL OF STANDARDS AND SPECIFICATIONS AS AMENDED BY LOGAN CITY.

SHEET NO: GN1 1 OF 15
 SCALE: NO SCALE
 REVISION BLOCK: 100%
 DATE: 5-Mar-19
 DESIGNED: SODD
 DRAFTED: SODD
 CHECKED: BYOUNG
 SANITARY SEWER REHABILITATION
 GENERAL NOTES
 LOGAN CITY ENGINEERING
 290 NORTH 100 WEST
 LOGAN, UTAH 84321
 LOGAN CITY UNITED IN SERVICE
 PUBLIC WORKS DEPARTMENT


PROJECT SPECIFIC NOTES

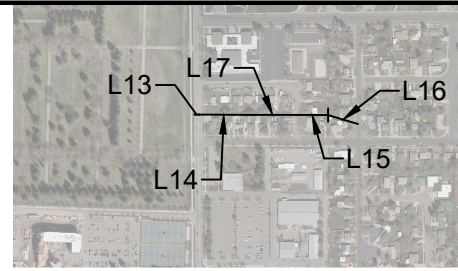
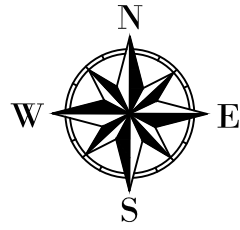
GRAVITY SANITARY SEWER INSTALLATION (RIGID PVC FOLD AND FORM PIPE LINER)

- THIS METHOD IS TO RECONSTRUCT THE SANITARY SEWER BY THE INSTALLATION OF A POLYVINYL CHLORIDE (PVC) PIPE LINER INTO THE EXISTING SANITARY SEWER. THE PIPE LINER SHALL EXTEND OVER THE LENGTH OF THE PIPE BETWEEN MANHOLES IN A CONTINUOUS, TIGHT FITTING, WATER TIGHT PIPE-WITHIN-A-PIPE.
- THE LINER SHALL BE FABRICATED TO A SIZE WHICH, WHEN INSTALLED, FITS THE INTERNAL CIRCUMFERENCE OF THE PIPE AS SPECIFIED BY THE ENGINEER. ALLOWANCE FOR CIRCUMFERENTIAL EXPANSION DURING INSTALLATION SHALL BE MADE.
- THE LINER MATERIAL SHALL BE MADE ONLY FROM PVC.
- THE MINIMUM LINER LENGTH SHALL SPAN THE DISTANCE FROM MANHOLE TO MANHOLE OF THE PIPE TO BE LINED. THE CONTRACTOR SHALL VERIFY THE LENGTHS IN THE FIELD BEFORE INSERTION OF THE LINER.
- ALL PIPES 4 INCHES TO 15 INCHES SHALL BE SDR 35. ALL PIPES LARGER THAN 15 INCHES SHALL BE SDR 26.
- THE CONTRACTOR SHALL PROVIDE A PVC COMPOUND LINER MEETING THE FOLLOWING REQUIREMENTS:
 - TENSILE STRENGTH (ASTM D-638) OF 5000 PSI.
 - TENSILE MODULUS (ASTM D-638) OF >280,000 PSI
 - FLEXURAL MODULUS (ASTM D-790) OF >280,000 PSI
- DEPENDING ON THE CONDITION OF THE PIPE, AND REVIEW OF THE CCTV INSPECTION, THE CONTRACTOR SHALL PROVIDE ANY NECESSARY POINT REPAIRS IDENTIFIED TO ENSURE THE SUCCESSFUL INSTALLATION OF THE PVC LINER AT NO ADDITIONAL COST TO THE OWNER.
- LOGAN CITY HAS COMPLETED A CCTV INSPECTION OF THE PIPES TO BE LINED. A COPY OF THE VIDEOS IS AVAILABLE AS A DOWNLOAD WITH THE BID DOCUMENTS.
- PRODUCT DATA, SHOP DRAWINGS, CUT SHEETS, AND INSTALLATION INSTRUCTIONS SHALL BE PROVIDED TO THE ENGINEER AT THE PRE-CONSTRUCTION MEETING INCLUDING:
 - MATERIAL LIST INCLUDING MANUFACTURER'S NAME AND CATALOG NUMBER FOR EACH ITEM.
 - MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.
- NO MATERIALS SHALL BE PURCHASED OR DELIVERED ON SITE UNTIL APPROVED BY ENGINEER.
- UPON APPROVAL OF THE ENGINEER, THE MANUFACTURER'S RECOMMENDATIONS SHALL BECOME THE BASIS OF ACCEPTANCE OF THE PROJECT.
- THE CONTRACTOR SHALL PROTECT THE SEWER LINING MATERIALS BEFORE, DURING, AND AFTER INSTALLATION FOR THE DURATION OF THE PROJECT.
- IN THE EVENT OF DAMAGE TO THE LINING MATERIAL, THE CONTRACTOR SHALL MAKE TIMELY REPAIRS AND REPLACEMENT NECESSARY TO THE APPROVAL OF THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL MAINTAIN THE OPERATING CONDITION OF THE SEWER MAIN LINES DURING THIS PROJECT BY EITHER RE-ROUTING THE FLOWS OR BYPASS PUMPING AT NO ADDITIONAL COST TO THE OWNER.
 - ESTIMATED FLOWS FOR RE-ROUTING OR BYPASS PUMPING ARE SHOWN ON THE PLAN SHEETS. THESE FLOWS ARE ESTIMATES ONLY. CONTRACTOR WILL BE RESPONSIBLE TO VERIFY FLOWS AND PROVIDE ADEQUATE RE-ROUTING OR BYPASS PUMPING OF ALL FLOWS.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO TAKE NECESSARY MEASURES TO CONTROL FLOWS FROM SEWER LATERALS TO THE EXTENT NECESSARY FOR PROPER INSTALLATION OF THE PIPE LINER MATERIALS AND TOP HATS.
- THE CONTRACTOR SHALL RESTORE ALL EXISTING CONNECTIONS IN THE EXISTING SANITARY SEWER AND STRUCTURES, AND CARRY OUT SUCH WORK IN A MANNER CONSISTENT WITH THESE CONSTRUCTION DOCUMENTS.
- CONTRACTOR SHALL PREVENT DEBRIS FROM ENTERING THE EXISTING SEWER SYSTEM OR CLEAN SUCH DEBRIS FROM THE EXISTING SEWER SYSTEM AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL CLEAN THE SEWER AND REMOVE ALL DEBRIS, OBSTRUCTIONS, OR ROOTS NECESSARY TO INSTALL THE PVC LINER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AT NO ADDITIONAL COST TO THE OWNER.
- WHILE THE CONTRACTOR IS PROVIDED THE CCTV DIGITAL DATA FROM LOGAN CITY, THE CONTRACTOR WILL PERFORM A PRE CONSTRUCTION CCTV INSPECTION OF THE EXISTING PIPE. THE CONTRACTOR IS RESPONSIBLE TO LOCATE BREAKS, OBSTACLES, AND SERVICE CONNECTIONS AND TO CAREFULLY INSPECT THE INTERIOR OF THE PIPELINE TO DETERMINE THE LOCATION OF SERVICE CONNECTIONS, SIZE OF SERVICE CONNECTIONS, ANY CONDITIONS THAT MAY PREVENT PROPER INSTALLATION OF THE LINER INTO THE PIPELINE, AND TO CORRECT THOSE CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
- THE LINER SHALL BE INSERTED INTO THE SEWER THROUGH EXISTING STRUCTURES WITHOUT MODIFICATIONS TO THE STRUCTURES.
- INSTALLATION SHALL BE PER MANUFACTURER'S RECOMMENDED PROCEDURES.
- WHEN INSTALLATION IS COMPLETE, THE LINER SHALL BE CONTINUOUS OVER THE ENTIRE LENGTH BETWEEN TWO STRUCTURES AND BE FREE FROM VISUAL DEFECTS, BULGES, FOLDS, PIN HOLES, OR OTHER DEFECTS. THE INSTALLATION SHALL BE FREE OF LEAKS AND MUST MEET PRESSURE TESTING REQUIREMENTS RECOMMENDED BY THE MANUFACTURER.
- ANY DEFECTS WHICH AFFECT THE INTEGRITY OR STRENGTH OF THE LINER PIPE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE FOR THE DURATION OF THE WARRANTY.
- IF THE LINER FAILS TO INSTALL PROPERLY, THE CONTRACTOR SHALL REMOVE THE FAILED LINER AND REPLACE IT WITH A NEW LINER AT NO ADDITIONAL COST TO THE CITY.
- IF, DUE TO BROKEN OR OFFSET PIPE AT THE STRUCTURE WALL, THE PIPE LINER FAILS TO MAKE A TIGHT SEAL, THE CONTRACTOR SHALL, AT CONTRACTOR'S EXPENSE, SEAL THAT POINT WITH A MATERIAL COMPATIBLE WITH THE PVC LINER AND AS APPROVED BY THE ENGINEER.
- AFTER THE PIPE LINER HAS BEEN FORMED IN PLACE, THE CONTRACTOR SHALL RECONNECT THE EXISTING ACTIVE SERVICE CONNECTIONS. THIS SHALL BE DONE WITHOUT EXCAVATION, AND FROM THE INTERIOR OF THE PIPELINE BY MEANS OF A TELEVISION CAMERA AND A CUTTING DEVICE THAT RE-ESTABLISHEDS THE SERVICE CONNECTION TO 100% OF CAPACITY. CUT EDGES SHALL BE GROUND SMOOTH AND FREE OF SHARP EDGES AND PROTRUSIONS.
- UV CURED "TOP HAT" SERVICE CONNECTIONS MATCHING THE EXISTING SERVICE SIZE SHALL BE INSTALLED AT EACH SERVICE OR LATERAL AFTER THE HOLE HAS BEEN CUT. TOP HAT MATERIAL SHALL BE COMPATIBLE WITH LATERAL PIPE MATERIAL AND THE MATERIAL USED TO LINE EXISTING PIPING. TOP HATS SHALL EXTEND AT LEAST 4-INCHES INTO SERVICE LATERALS, FORM A TIGHT FIT TO THE EXISTING SEWER LATERAL PIPING, AND BE TIGHT FITTING AND SEALED TO PIPE LINER AT THE MAIN.
- PIPE LINER SHALL FORM A TIGHT AND COMPLETE SEAL AT MANHOLES. IF, DUE TO A BROKEN OR OFFSET PIPE AT THE MANHOLE WALL, THE PIPE LINER FAILS TO MAKE A TIGHT SEAL, THE CONTRACTOR SHALL APPLY A SEAL AT THAT POINT, THE SEAL SHALL BE OF A RESIN MIXTURE COMPATIBLE WITH THE PIPE MATERIAL.
- ALL GRAVITY FLOW SEWER PIPES SHALL HAVE WATER FLUSHED DOWN THE LINE, AND THEN BE CCTV INSPECTED TO ENSURE PROPER INSTALLATION PER MANUFACTURER RECOMMENDATIONS AND NO LOW POINTS. A DIGITAL COPY OF POST CONSTRUCTION CCTV INSPECTION SHALL BE PROVIDED TO THE CITY.
- ANY REQUESTS FOR ACCESS TO LOGAN CITY FIRE HYDRANTS FOR WATER USE WILL BE COORDINATED WITH THE LOGAN CITY WATER DEPARTMENT AND A DEPOSIT REQUIRED FOR USE OF A HYDRANT METER (CONTACT INFORMATION PROVIDED IN GENERAL NOTES). BACKFLOW INSPECTION WILL BE REQUIRED ON ALL EQUIPMENT TO BE CONNECTED TO LOGAN CITY WATER SYSTEM.
- ACCESS TO LOGAN CITY CLARIFIER FOR WASTEWATER UNLOADING WILL BE COORDINATED WITH JARED PRATT FROM THE LOGAN CITY WASTEWATER DEPARTMENT (CONTACT INFORMATION PROVIDED IN GENERAL NOTES).

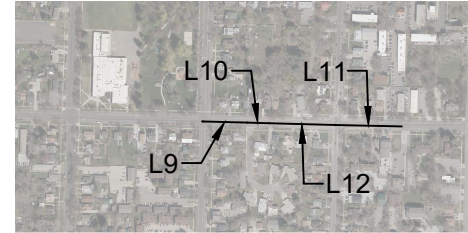
CCTV INSPECTION

- CONTRACTOR SHALL PERFORM VIDEO INSPECTION OF SEWER LINES AS SPECIFIED IN APWA STANDARDS AND SPECIFICATIONS, GENERAL NOTES, AND PROJECT SPECIFIC NOTES.
- CCTV PRE-WORK INSPECTION:
 - CONTRACTOR SHALL PERFORM VIDEO INSPECTION OF THE SEWER LINES AND SERVICE LATERALS BY CLOSED CIRCUIT TELEVISION (CCTV).
 - INSPECTION OF PIPELINES SHALL BE PERFORMED BY EXPERIENCED PERSONNEL TRAINED IN LOCATING BREAKS, OBSTACLES, AND SERVICE LATERAL CONNECTIONS BY CCTV.
 - THE INTERIOR OF THE PIPELINE SHALL BE INSPECTED TO DETERMINE THE LOCATION OF ANY CONDITION THAT MAY PREVENT THE PROPER INSTALLATION OF PRODUCT USING THE METHODS SPECIFIED, AND IT SHALL BE NOTED SO THAT THESE CONDITIONS CAN BE CORRECTED.
 - CONDITIONS FOUND THAT WILL PREVENT PROPER INSTALLATION OF PRODUCTS SPECIFIED SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CITY TO DETERMINE THE BEST COURSE OF ACTION.
- CCTV POST-WORK INSPECTION
 - THE CONTRACTOR SHALL PERFORM VIDEO INSPECTION OF SEWER LINES TO ENSURE PROPER INSTALLATION OF PIPING, PRODUCTS SPECIFIED, AND SERVICE LATERALS.
 - CCTV INSPECTION OF PIPELINES SHALL BE PERFORMED BY EXPERIENCED PERSONNEL TRAINED IN CCTV INSPECTIONS.
 - A COPY OF THE CCTV VIDEO SHALL BE PROVIDED TO THE CITY FOR REVIEW AND APPROVAL.

 LOGAN CITY ENGINEERING 290 NORTH 100 WEST LOGAN, UTAH 84321 <small>CITY UNITED IN SERVICE PUBLIC WORKS DEPARTMENT</small>	SANITARY SEWER REHABILITATION SPECIAL NOTES	DESIGNED: SODD DRAFTED: SODD CHECKED: BTJUNG	DATE: 5-Mar-19 ENG #: 19001	REVISION BLOCK 100%	SCALE NO SCALE 1" = VERIFY SCALE <small>SCALE = 1/2" SHOWN SCALE IF PLOTTED ON B SIZE PAPER</small>	SHEET NO: SN1 3 OF 15
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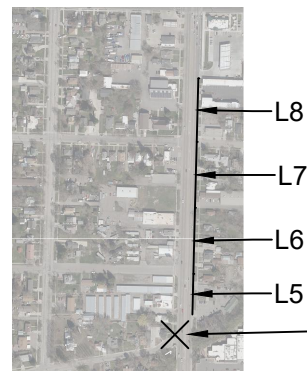


EVERGREEN DR.
ALIGNMENT



500 NORTH
ALIGNMENT

MAIN STREET
ALIGNMENT

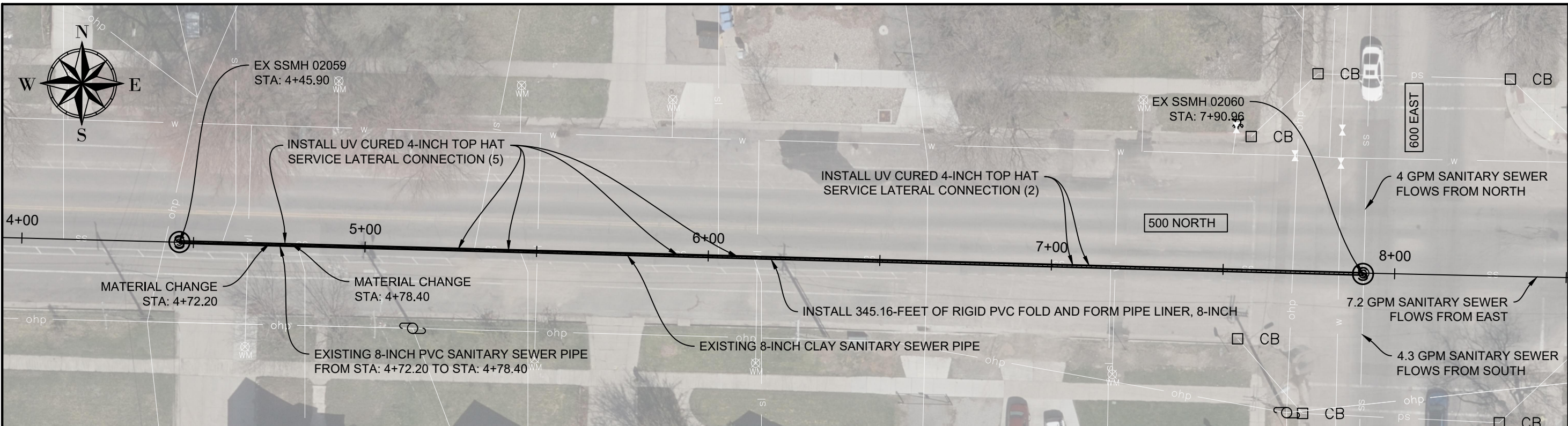


334
4514.65
600S MAIN GPS BCM 334 SW 34

LINE TABLE: ALIGNMENTS					
LINE #	LENGTH	DIRECTION	START POINT	END POINT	ALIGNMENT NAME
L5	211.88'	S1° 25' 11"W	(1548941.91,3787013.55)	(1548936.66,3786801.74)	MAIN STREET SEWER
L6	344.02'	S1° 26' 49"W	(1548950.59,3787357.46)	(1548941.91,3787013.55)	MAIN STREET SEWER
L7	343.36'	S1° 27' 14"W	(1548959.30,3787700.71)	(1548950.59,3787357.46)	MAIN STREET SEWER
L8	331.61'	S1° 27' 03"W	(1548967.70,3788032.22)	(1548959.30,3787700.71)	MAIN STREET SEWER
L13	21.68'	N89° 48' 09"E	(1557344.19,3796395.18)	(1557365.87,3796395.25)	EVERGREEN DR
L14	261.49'	S89° 36' 17"E	(1557365.87,3796395.25)	(1557627.35,3796393.45)	EVERGREEN DR
L15	165.65'	S89° 47' 25"E	(1557874.25,3796393.25)	(1558039.90,3796392.64)	EVERGREEN DR
L16	162.61'	S73° 25' 19"E	(1558039.90,3796392.64)	(1558195.75,3796346.25)	EVERGREEN DR
L17	246.90'	S89° 57' 17"E	(1557627.35,3796393.45)	(1557874.25,3796393.25)	EVERGREEN DR
L9	231.71'	S88° 27' 15"E	(1552572.00,3793776.25)	(1552803.62,3793770.00)	500 NORTH
L10	114.17'	S88° 29' 42"E	(1552803.62,3793770.00)	(1552917.75,3793767.00)	500 NORTH
L11	348.84'	S88° 43' 38"E	(1553262.75,3793758.00)	(1553611.50,3793750.25)	500 NORTH
L12	345.12'	S88° 30' 19"E	(1552917.75,3793767.00)	(1553262.75,3793758.00)	500 NORTH

	<p>LOGAN CITY ENGINEERING 290 NORTH 100 WEST LOGAN, UTAH 84321</p>	<p>SANITARY SEWER REHABILITATION 500 NORTH-EVERGREEN DR-MAIN STREET SURVEY CONTROL</p>	<p>SHEET NO: SURVEY</p>
<p>DESIGNED: SODD DRAFTED: SODD CHECKED: BYOUNG</p>		<p>DATE: 5-Mar-19 ENG #: 18001</p>	
<p>REVISION BLOCK 100%</p>		<p>1000' 500' 0' 1" = 1000' SCALE</p>	

PRINT DATE/TIME: 3/5/19 4:58 PM



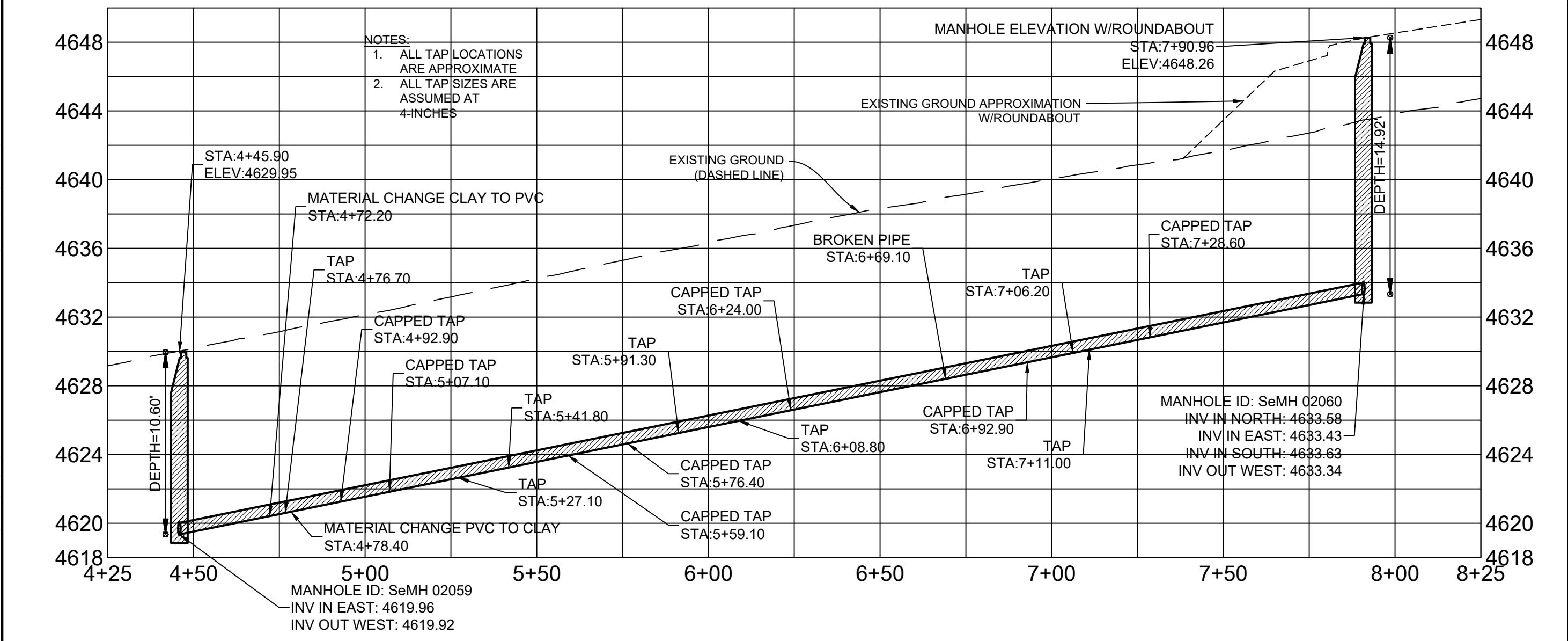
SHEET NO: UT-01

SCALE: 1"=30'

REVISION BLOCK:

DESIGNED:	SODD	DATE:	5-Mar-19
DRAWN:	SODD	ENG #:	19001
CHECKED:	BYOUNG		

PROJECT FILE LOCATION: G:\public\Engineering File System\PROJECTS\2019\Design\CAD Files\02_Design_01-24-19.dwg



SANITARY SEWER REHABILITATION

OPTION A

500 NORTH 550 EAST TO 600 EAST

LOGAN CITY ENGINEERING

290 NORTH 100 WEST

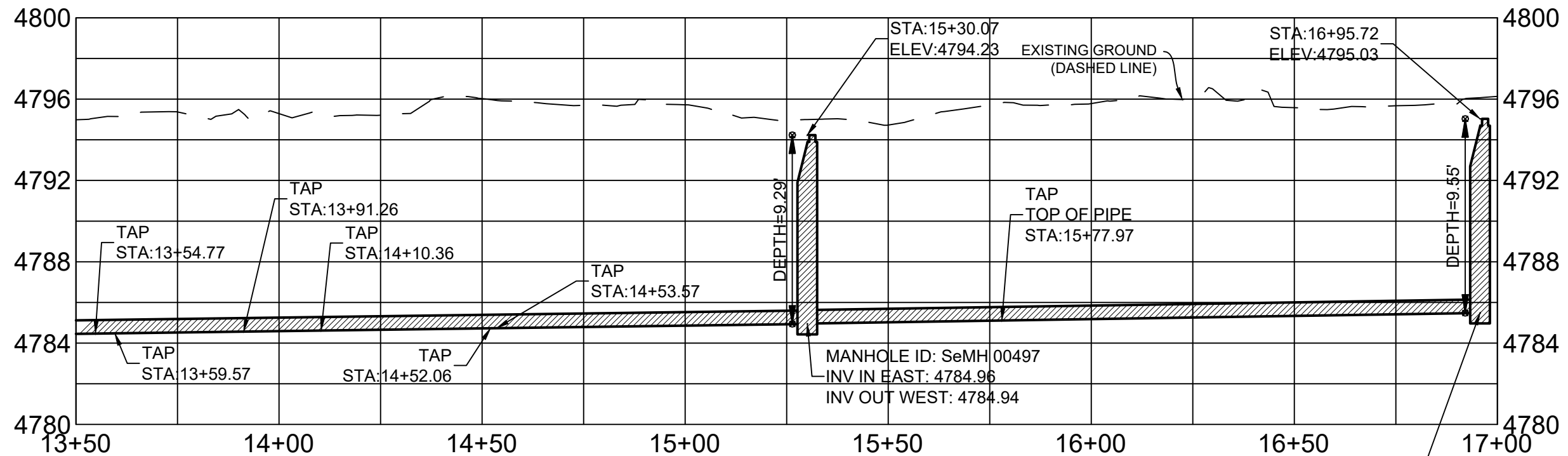
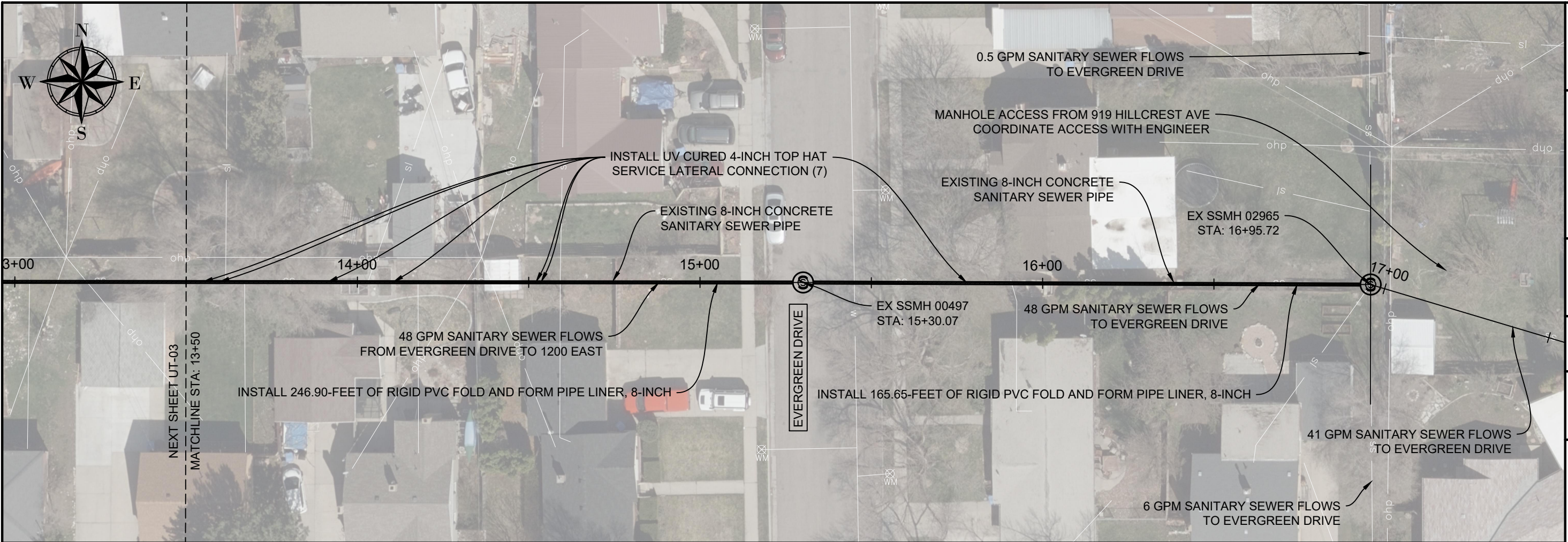
LOGAN, UTAH 84321

LOGAN CITY

CITY UNITED IN SERVICE

PUBLIC WORKS DEPARTMENT

PRINT DATE/TIME: 3/5/19 4:58 PM



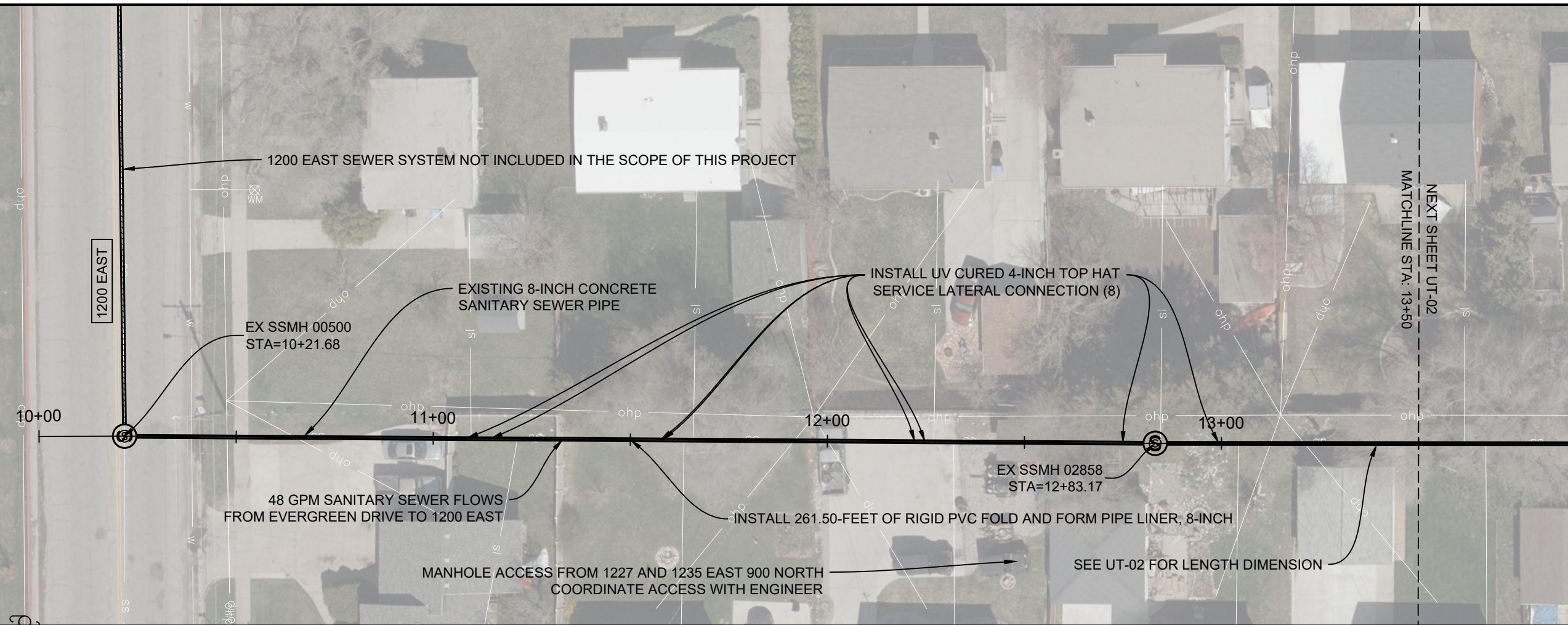
MAHOLE ID: SeMH 02965
 INV IN NORTH: 4785.58
 INV IN EAST: 4785.58
 INV IN SOUTH: 4785.58
 INV IN DROP: 4788.27
 INV OUT WEST: 4785.48

- NOTES:**
1. ALL TAP LOCATIONS ARE APPROXIMATE
 2. ALL TAP SIZES ARE ASSUMED AT 4-INCHES

PROJECT FILE LOCATION: G:\public\Engineering File System\PROJECTS\2019\Design\CAD Files\02_Design_01-24-19.dwg

SHEET NO: UT-02	 1"=30' SCALE
REVISION BLOCK 100%	DATE: 5-Mar-19 ENG #: 19001
DESIGNED: SODD DRAFTED: SODD CHECKED: BYOUNG	
SANITARY SEWER REHABILITATION OPTION B EVERGREEN DR. STA: 13+50 TO 17+00	
LOGAN CITY ENGINEERING 290 NORTH 100 WEST LOGAN, UTAH 84321	

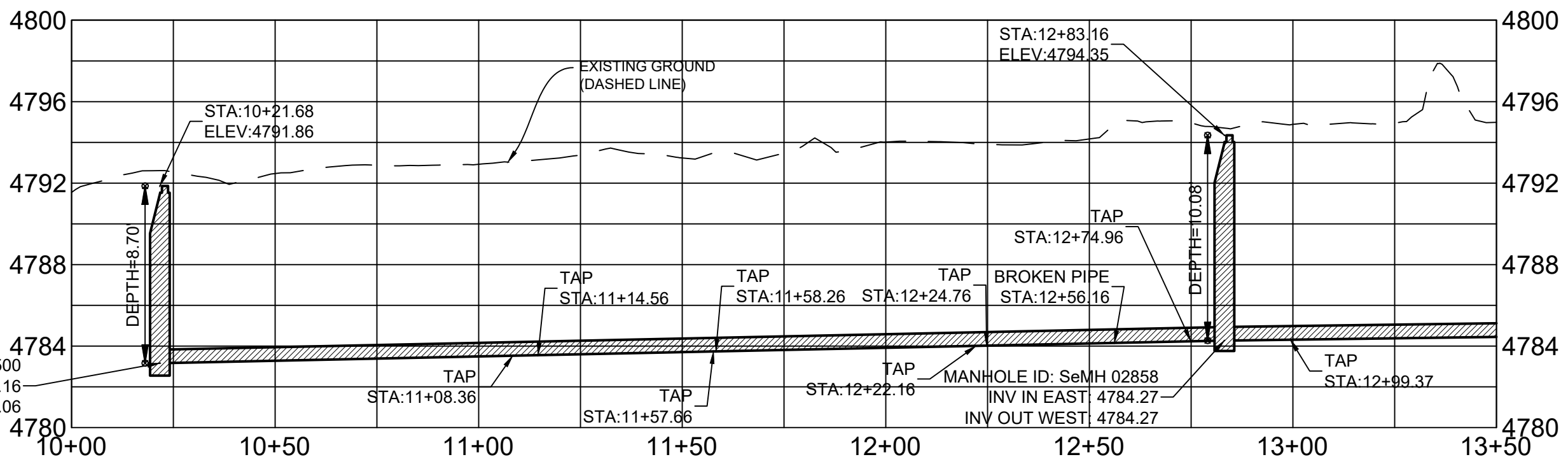
PRINT DATE/TIME: 3/5/19 4:58 PM



SHEET NO: UT-03	
 1"=30' SCALE	
REVISION BLOCK	
DATE: 5-Mar-19	ENG #: 19001
DESIGNED: SODD	DRAWN: SODD
CHECKED: BYOUNG	

SANITARY SEWER REHABILITATION
 OPTION B
 EVERGREEN DR. STA: 10+00 TO 13+50

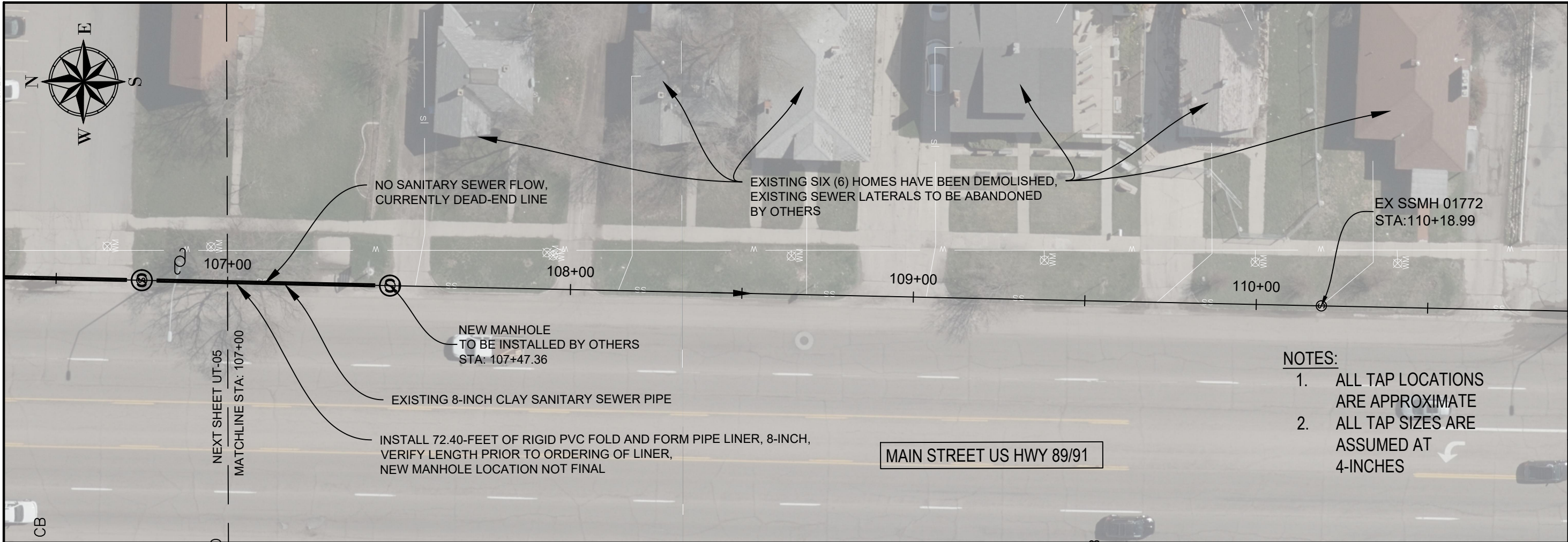
- NOTES:**
1. ALL TAP LOCATIONS ARE APPROXIMATE
 2. ALL TAP SIZES ARE ASSUMED AT 4-INCHES



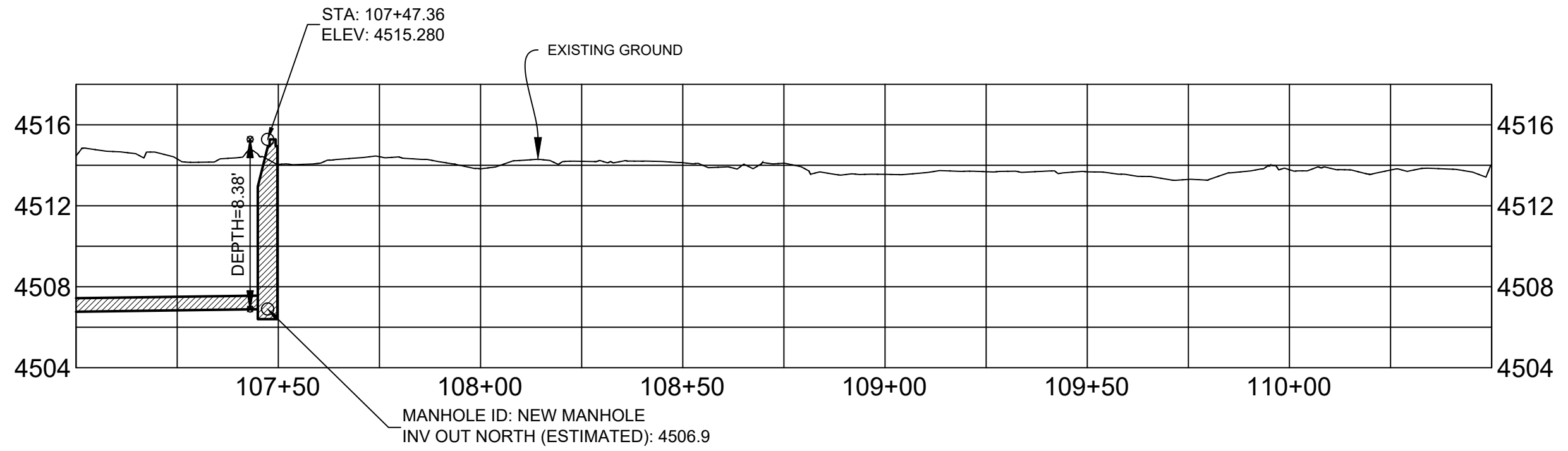
MANHOLE ID: SeMH 00500
 INV IN EAST: 4783.16
 INV OUT NORTH: 4783.06

LOGAN CITY ENGINEERING
 290 NORTH 100 WEST
 LOGAN, UTAH 84321

PROJECT FILE LOCATION: G:\public\Engineering File System\Projects\2019\ENG-19001_SEWER LINING PROJECTS_2019\Design CAD Files\02_Design_01-24-19.dwg

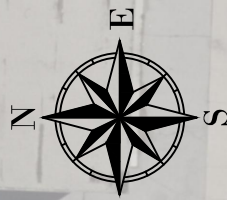


- NOTES:**
1. ALL TAP LOCATIONS ARE APPROXIMATE
 2. ALL TAP SIZES ARE ASSUMED AT 4-INCHES



SHEET NO: UT-04	
 1"=30' SCALE	
REVISION BLOCK	
DATE: 7-Mar-19	ENG #: 19001
DESIGNED: SODD	CHECKED: BYOUNG
DRAFTED: SODD	
SANITARY SEWER REHABILITATION OPTION C MAIN STREET STA 107+00 TO STA 110+50	
LOGAN CITY ENGINEERING 290 NORTH 100 WEST LOGAN, UTAH 84321	
 LOGAN CITY UNITED IN SERVICE PUBLIC WORKS DEPARTMENT	

PRINT DATE/TIME: 3/7/19 4:00 PM



400 SOUTH

EX SSMH 01769
STA=103+31.60

INSTALL 343.36-FEET OF RIGID PVC FOLD AND FORM PIPE LINER, 8-INCH
EXISTING 8-INCH CLAY SANITARY SEWER PIPE

EX SSMH 01771
STA:106+74.97

NO SANITARY SEWER THROUGH FLOW,
FLOW FROM CONNECTED LATERALS ONLY

INSTALL UV CURED 4-INCH TOP HAT
SERVICE LATERAL CONNECTION (5)

SEE UT-04 FOR LENGTH DIMENSION

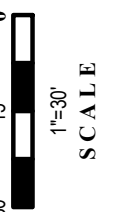
MAIN STREET US HWY 89/91

NEXT SHEET UT-04
MATCHLINE STA: 107+00

NOTES:

1. ALL TAP LOCATIONS ARE APPROXIMATE
2. ALL TAP SIZES ARE ASSUMED AT 4-INCHES

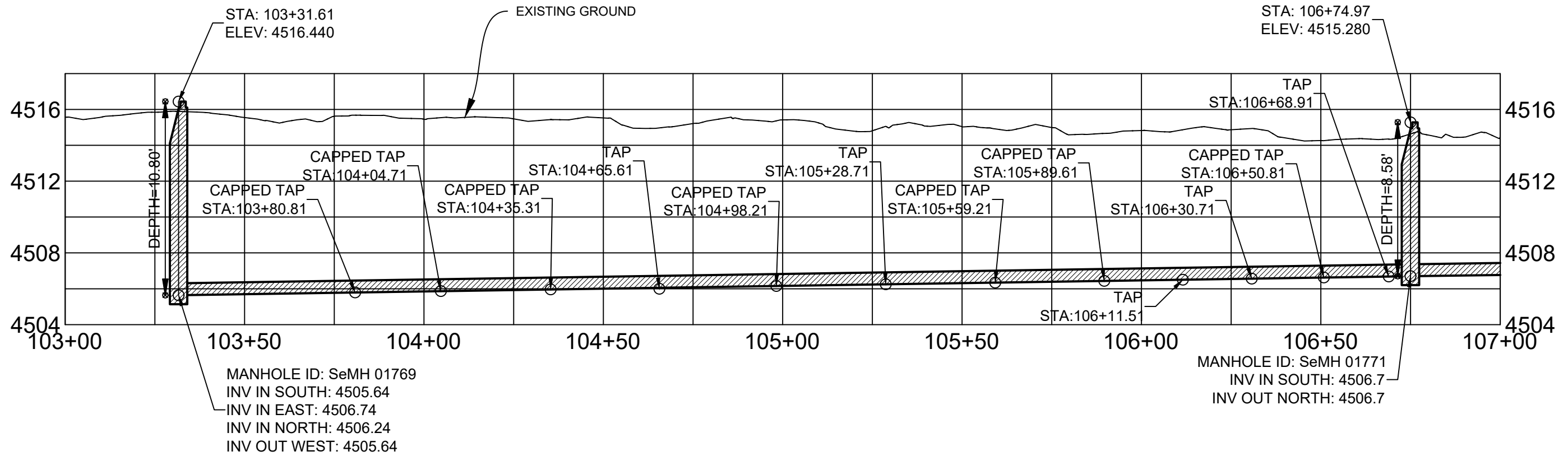
SHEET NO:
UT-05



DESIGNED: SODD	DATE: 7-Mar-19	REVISION BLOCK
DRAWN: SODD	ENG #: 19001	100%
CHECKED: BYOUNG		

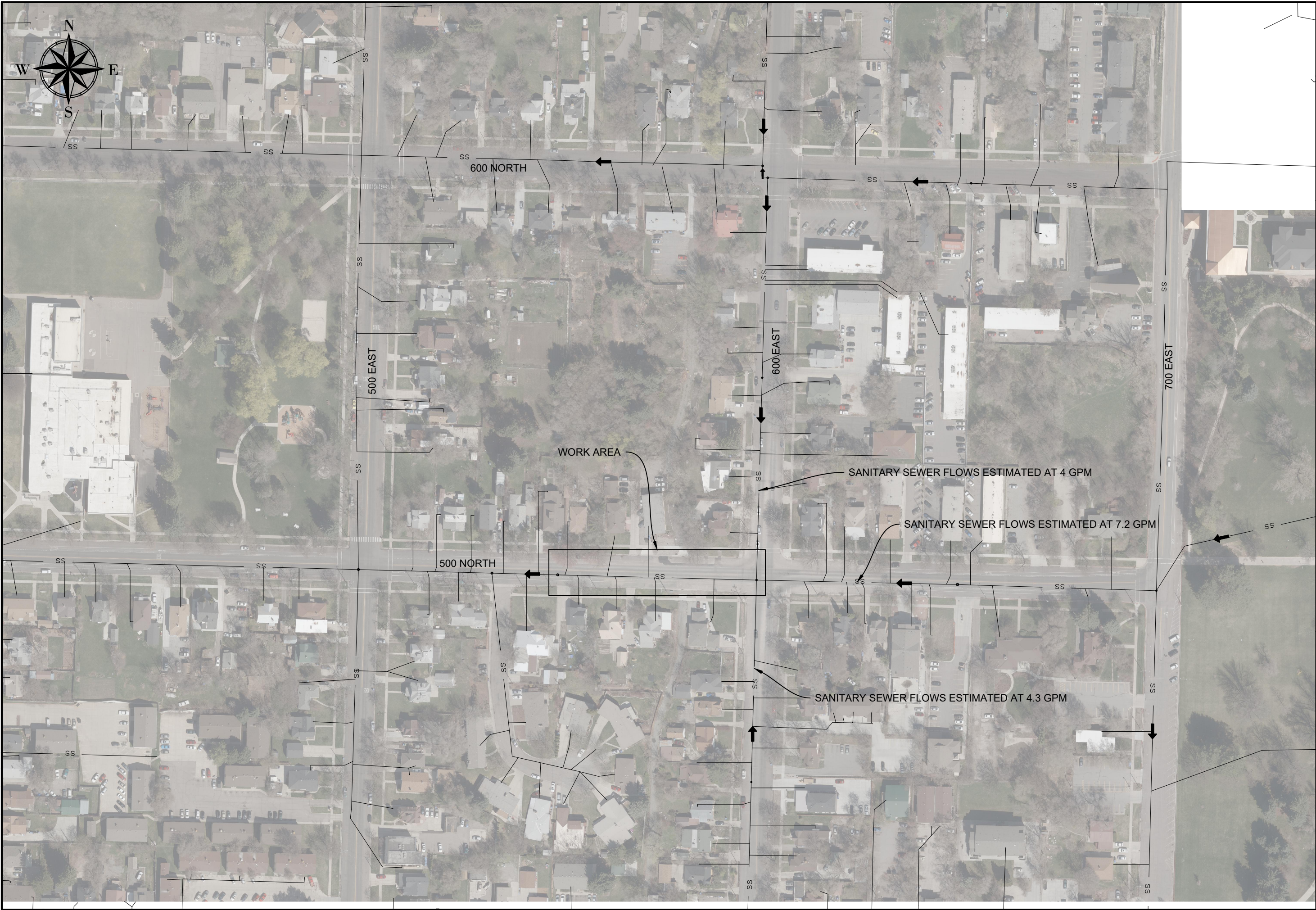
SANITARY SEWER REHABILITATION
OPTION C
MAIN STREET STA 103+00 TO 107+00

PROJECT FILE LOCATION: G:\pub\cal\Engineer\19001_SEWER LINING PROJECTS_2019\Design\CAD Files\03_Design_Main Street_02-19-19.dwg



LOGAN CITY ENGINEERING
290 NORTH 100 WEST
LOGAN, UTAH 84321

LOGAN CITY UNITED IN SERVICE
PUBLIC WORKS DEPARTMENT



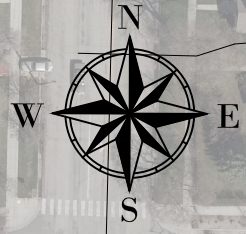
<p>LOGAN CITY ENGINEERING 290 NORTH 100 WEST LOGAN, UTAH 84321</p>	<p>SANITARY SEWER REHABILITATION</p>		<p>DESIGNED: SODD DRAFTED: SODD CHECKED: BYOUNG</p>	<p>DATE: 4-Mar-19 ENG #: 19001</p>	<p>REVISION BLOCK 100%</p>	<p>150' 75' 0'</p> <p>1" = 150' SCALE</p>	<p>SHEET NO: SS-01</p>
	<p>SANITARY SEWER FLOW OVERVIEW 500 NORTH 600 EAST</p>						



<p>LOGAN CITY ENGINEERING CITY UNITED IN SERVICE PUBLIC WORKS DEPARTMENT</p>		<p>LOGAN CITY ENGINEERING 290 NORTH 100 WEST LOGAN, UTAH 84321</p>		<p>SANITARY SEWER REHABILITATION SANITARY SEWER FLOW OVERVIEW EVERGREEN DRIVE</p>		<p>DESIGNED: SODD DRAFTED: SODD CHECKED: BYOUNG</p>	<p>DATE: 4-Mar-19 ENG #: 19001</p>	<p>REVISION BLOCK 100%</p>	<p>150' 75' 0' 1" = 150' SCALE</p>	<p>SHEET NO: SS-02</p>
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PRINT DATE/TIME: 3/4/19 10:02 AM

PROJECT FILE LOCATION: G:\public\Engineer\00_Engineering File System\PROJECTS 2019\ENG-19001_SEWER LINING PROJECTS_2019\Design\CAD Files\05_SEWER PUMPING.dwg



NO SANITARY SEWER THROUGH FLOW, FLOW FROM CONNECTED LATERALS ONLY

NO SANITARY SEWER FLOW, CURRENTLY DEAD-END LINE

400 SOUTH

500 SOUTH

MAIN STREET

WORK AREA

100 EAST

		LOGAN CITY ENGINEERING 290 NORTH 100 WEST LOGAN, UTAH 84321	
SANITARY SEWER REHABILITATION		SANITARY SEWER FLOW OVERVIEW MAIN STREET	
DESIGNED: SODD	DATE: 4-Mar-19	REVISION BLOCK	SHEET NO: SS-03
DRAFTED: SODD	ENG #: 19001	100%	0'
CHECKED: BYOUNG			50'
			100'
			1" = 100'
			SCALE