

ADDENDUM ONE
NORTH ST ELMO DRAINAGE SYSTEM STUDY AND UPGRADE
CONTRACT NUMBER S-09-008-201
CITY OF CHATTANOOGA, TENNESSEE

The following changes shall be made to the Contract Documents, Specifications, and Drawings:

I. BIDDING REQUIREMENTS AND DOCUMENTS

1. Replace Contract Documents and Specifications page 01010-7 with 01010-7R1
2. Replace Contract Documents and Specifications page RCP-1 with RCP-1R1
3. Replace Contract Plan Sheet 02 with attached Sheet 02, revision date 4-18-16
4. Replace Contract Plan Sheet 02A with attached Sheet 02A, revision date 4-18-16
5. Replace Contract Plan Sheet 04 with attached Sheet 04, revision date 4-18-16
6. Replace Contract Plan Sheet 13B with attached Sheet 13B, revision date 4-18-16
7. Replace Contract Plan Sheet 14G with attached Sheet 14G, revision date 4-18-16
8. Replace Contract Plan Sheet 17 with attached Sheet 17, revision date 4-18-16

Structural Plate Special Requirement

1. Structural plate pipe shall be galvanized in accordance with AASHTO M111 or ASTM A153 and have a bituminous coating in accordance with AASHTO M190.

II. CONTRACT CLARIFICATIONS

1. **Is the general contractor responsible for proper OSHA training of personnel working for utility companies on the project site?** No. The general contractor is responsible only for his employees and any sub-contractors performing work under this contract. Utility owners are responsible for the proper training of their own personnel and private contractors. However, the contractor is responsible for coordination of construction activities with all affected utility owners. (See Contract Documents and Specifications, General Conditions, Section RCP "Required Contract Provisions", 1.02 Health and Safety Plan)
2. **Can the construction site be accessed by bidders?** Yes. The majority of the construction site can be accessed or easily seen from public right-of-way. To access the Linde property, pull to the intercom and press the intercom button, the gate will open and you will need to proceed to the administrative building as shown in the attached aerial view of the Linde property, complete the sign-in sheet and let the office personnel know you are on the site, and sign out when you leave. The City of Chattanooga cannot give permission to access the railroad property. The drainage structures and alignment for each conveyance is currently painted and/or staked to assist contractors who wish to view the site.
3. **Where will the excess soil be hauled?** All excavated soil will be characterized as contaminated soil or clean soil as described in the "Soil and Groundwater Management Plan" in Appendix F of the Contract Documents and Specifications. Contaminated soil will be hauled to a permitted Class I landfill. Clean soil will be hauled to 3501 Central Avenue (The Former Charles Bell School Site) or 1210 Mercer Street in Lupton City (City right-of-way along the Former Lupton City Mill Site).

4. **Has the railroad permits been obtained?** Yes. The Standard Pipe License Agreement for both crossings of the railroad have been obtained and are included in Appendix E of the Contract Documents and Specifications.
5. **Is the contractor responsible for payment of railroad flagging and inspection services?** The City of Chattanooga will be responsible for payment of flagging and inspection services for up to 95 days. Beyond 95 days, the contractor will be responsible for payment of flagging and inspection services. (See Contract Documents and Specifications, General Conditions, Section RCP "Required Contract Provisions", 1.01 Work Within the Norfolk Southern Railroad Right-of-Way)
6. **Will the contractor be required to work 24 hours while on railroad property?** The work schedule while on railroad property must be in accordance with all Norfolk Southern Railroad requirements.
7. **Will the contractor be allowed to work extended hours or 24 hours per day?** The City of Chattanooga will entertain requests by the contractor to work extended hours and weekends. (See Contract Documents and Specifications, General Conditions, Section 01010 "Summary of Work", Part 1.3 "Items Regulating the Execution of the Work", Sub-Part H "Contract Working Hours")
8. **Has the soil conditions been considered regarding excavation limits and stabilization?** The contractor will be required to provide shoring for the excavation to install the conveyance 01 box culvert / structural plate pipe for a minimum of 18 feet from the bottom of the excavation as shown on sheet 07 of the contract plans. Slopes or benching of the soil above the required shoring depth will be as required by OSHA depending on the soil conditions and classifications. Excavation stabilization shall be in accordance with OSHA requirements.
9. **Can the "Schedule / Project Approach" and "Experience and Qualifications" requirements of Section 00101 "Evaluation Criteria" be turned in after the "Cost Criteria"?** The "Schedule / Project Approach" and "Experience and Qualifications" requirements may be submitted by Monday, May 2, 2016 at 2:00 p.m., local time, to the Purchasing Department. The "Cost Criteria" requirement, or Bid, and all other required bid documents must be submitted by April 28, 2016 at 2:00 p.m., local time, as stated in the Contract Documents and Specifications, Section 00100 "Advertisement for Bids".
10. **What are the safety training requirements for the contractor and/or his employees and subcontractors for working on the project site, specifically relating to the contaminated soil?** The contractor will be responsible for meeting all training requirements in accordance with OSHA requirements. All known contaminants for the project site are described in the "Soil and Groundwater Management Plan" as included in Appendix F of the Contract Documents and Specifications. (See Contract Documents and Specifications, General Conditions, Section RCP "Required Contract Provisions", 1.02 Health and Safety Plan)
11. **Can the bidders get Section 00301 "Bid Schedule" in excel format?** Yes. The excel file for Section 00301 "Bid Schedule" may be downloaded using the following link:

http://gis.civic360.com/Public/Chattanooga/StElmo/Addendum1/00301-StElmoBidSchedule_4-18-16.xlsx

12. **Can “unlocked” .pdf drawings or CAD files be obtained for this project? The plans provided are “locked” which prevents us from importing and completing our takeoffs in our electronic programs.** Yes. Unprotected .pdf plans will be provided for the contractor’s use. However, these plans will not be considered as part of the contract documents. The unprotected .pdf plans may be downloaded using the following link:
- http://gis.civic360.com/Public/Chattanooga/StElmo/Addendum1/UNSECURE_StElmoPlans_4-18-16.pdf
13. **Does the City of Chattanooga / Engineer have an estimate or an estimate value range that can be provided?** A construction cost estimate will not be provided.
14. **Can the engineer / owner provide any details for the foundation of the Dialysis Clinic adjacent to the tunnel as part of conveyance #2?** There is no foundation information available for this building.
15. **Can the engineer / owner provide a copy of the NSCE-8 Specifications, latest edition, currently in use by NSCE?** The NSCE-8 Specifications are a free download at the following web address: <http://www.nspipeandwire.com/NSRC/NSCE-8%20REV.pdf>
16. **Would direct-jacked 72” HOBAS pipe installed by the slurry microtunnel method be allowed in lieu of the 84” steel casing / 72” HOBAS carrier pipe as specified on conveyance #2?** Direct-Jacked HOBAS pipe installed by micro-tunneling will be considered as an alternate IF the contractor provides all submittals and information as requested by the engineer and calculations (stamped and signed by a professional engineer registered in the state of Tennessee) showing that the HOBAS pipe has sufficient strength to support the earth pressure along with the surcharge loading from the adjacent building foundations and any other applicable loads. However, if this alternate is rejected by the engineer for any reason, the contractor will be required to install the pipe in accordance with the project plans and specifications at the bid price for item number APPENDIX A-7.
17. **Would direct-jacked steel casing pipe installed by the jacked-pipe method be allowed for the railroad crossings on conveyance #2 and #3?** No. The Standard Pipe License Agreement with Norfolk Southern Railroad is based on the conventional tunneling construction method.
18. **In lieu of tunneling, can we bore and case the 60”, 66”, and 72” HOBAS pipe?** The 72” HOBAS pipe in conveyance 2 may be installed in a steel casing pipe which is installed by the jack and bore method in accordance with the note below the profile on sheet 14D of the contract plans. The 60” and 66” HOBAS pipes installed under the Norfolk Southern Railroad must be installed by conventional tunneling due to the Standard Pipe License Agreement with Norfolk Southern Railroad being issued based on the conventional tunneling construction method.
19. **Sheet 14G depicts a 60” carrier pipe inside a 72” tunnel while sheet 16 depicts a 60” carrier pipe inside a 78” tunnel. What is the correct size carrier pipe / tunnel to be installed for the railroad crossings on Conveyance #3?** The 60” HOBAS pipe should be installed in a 78” tunnel. Revised Sheet 14G is attached.

III. Pre-Bid Meeting Documents

See attachments for the sign-in sheet for the pre-bid meeting held Thursday, April 14, 2016.

April 19, 2016

Justin C. Holland, Administrator
City of Chattanooga
Department of Public Works

SIGN-IN SHEET

City of Chattanooga Public Works Department

North St. Elmo Drainage System Study and Upgrade

Contract # S-09-008-201

April 14, 2016

Name	Company	Email	Phone #
Chris Whitaker	Curl Construction + Excavating, LLC	chris@curlconstruction.com	931-703-5793
Dan Garey	Contech	dgarey@conteches.com	
David Henderson	EPB	hendersondc@epb.net	648-3257
Brian Charlesworth	Wright Brothers Construction Company, Inc	BCharlesworth@wbcci.com	(423) 463-2979
Bruce Sadler	Wright Brothers Construction Company, Inc	bsadler@wbcci.com	(423) 551-7503
Dean Briggs	Wright Brothers Contracting, Inc	dbriggs@wbcci.com	423-463-1313
Dale Gartner	Vanhouse Co Precast, LLC	dgartner@vanhouseco.com	615-642-8457
Dan Smith	Thomas Brothers	dansd@tbcinc.net	(423) 842-6233
DOYLE B COX	BIWSC	dbcox@biwsc.net	423-605-0397
Eugene McCallie	Hunter Utility Const. / Chatt. Gas	Hunterutility@aol.com	423-240-9896
AARON SMITH	THOMAS / Global	subgrade@CHATT.COM	423-595-7281
Eric Booker	City of Chatt	ebooker@chattanooga.gov	423-290-5707
DENNIS MALONE	CITY OF CHATT	dmalone@chattanooga.gov	423-642-6188
Bernie Kinsey	CHATT GAS	bkinsey@AGResources.com	423-490-4294
BONNIE MUMPOWER DOWSON	COE	BMUMPOWER@CHATTANOOGA.GOV	643(603)
JOHN LYONS	COE	JLYONS@CHATTANOOGA.GOV	643-
DEBBIE TALLEY	PURCHASING	DTALLEY@CHATTANOOGA.GOV	643-7239

Aerial View of Linde Property



Atlanta Gas Company will be relocating gas mains in and around the project site to accommodate the proposed storm water infrastructure as constructed under this contract. The contractor shall closely coordinate work performed under this contract with Atlanta Gas Company to avoid conflicts and construction delays. (Plan sheets for proposed gas main relocation work as provided by Atlanta Gas Company are included in Appendix K for reference)

J. Management of Excavated Material

Contaminated soil, as determined by the on-site soil management personnel, shall be used, to the maximum extent possible, for trench backfill of the proposed infrastructure with a two (2) foot thick clean soil cap over all contaminated soil. Contaminated soil shall not be placed on a site which did not have contaminated soil prior to construction. All soil placement shall be approved by the on-site soil management personnel prior to placement. Contaminated soil which cannot be used on the project site shall be transported to a Class 1 permitted landfill in accordance with the "Soil and Groundwater Management Plan".

Clean excess soil, as determined by the on-site soil management personnel, which cannot be utilized on the project site shall be transported to 3501 Central Avenue (the former Charles Bell School site) in Chattanooga OR City of Chattanooga right-of-way along 1210 Mercer Street (the former Lupton City Mill site) in Lupton City. The exact location(s) and grades for which the soil will be placed shall be determined by the City of Chattanooga. The locations where soil is to be placed on the site shall be prepared and the soil shall be placed in accordance with section 02220 EARTHWORK of the specifications. Additional permits such as a **Construction General Permit** as issued by the State of Tennessee and/or a **Land Disturbance Permit** issued by the City of Chattanooga may be applicable for grading and/or other construction activities on the sites mentioned above. The contractor will be responsible for meeting the requirements of any permits relating to these additional sites.

END OF DOCUMENT

REQUIRED CONTRACT PROVISIONS

1.01 WORK WITHIN THE NORFOLK SOUTHERN RAILROAD RIGHT-OF-WAY

- A. The contractor shall be allowed the use of railroad flagging and / or inspection services as provided by Norfolk Southern Railway Company for a maximum of 95 working days of which the cost shall be borne by the City of Chattanooga. If however, the contractor schedules or performs his work in such a way that railroad flagging and / or inspection services are required beyond 95 working days, the contractor shall reimburse the City of Chattanooga for the full cost of the railroad flagging and / or inspection services beyond 95 days.
- B. The contractor shall reimburse the City of Chattanooga for any and all costs incurred from Norfolk Southern Railway Company as a result of physical damage to railroad facilities and / or liquidated damages.
- C. Reimbursement shall be made by deducting the total of the reimbursement amount from the total contract price and shall be deducted from the soonest possible monthly payment to the contractor and subsequent monthly payments to the contractor until the full amount has been reimbursed.

1.02 HEALTH AND SAFETY PLAN

- A. The contractor shall submit to the project manager a site-specific Health and Safety Plan (HASP) meeting all Occupational Safety and Health Administration (OSHA) requirements prior to commencing work on the project site.
- B. It shall be the prime contractor's responsibility that his employees and any sub-contractors which, under his employ, perform work on the project site are familiar with the HASP and its contents.

1.03 DAMAGE TO PUBLIC OR PRIVATE PROPERTY

- A. The contractor shall assume all responsibility for damage claims by private property owners and/or public agencies throughout the duration of construction and any point after construction is complete for any and all damage to public and/or private facilities (buildings, asphalt pavement, concrete pavement, drainage systems, curbs, gutters, sidewalks, signs, landscaping, etc.) on public and/or private property which is found to be due to construction activities and/or negligence by the Contractor. Additionally, the contractor shall be responsible for restitution to the owner of the damaged property.

END OF DOCUMENT

ESTIMATED QUANTITIES:

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS
(1) 001-1	DITCH EXCAVATION (UNCLASSIFIED)	6500	CY
(2) 001-2	TUNNEL EXCAVATION (UNCLASSIFIED)	540	CY
001-3	UNDERCUT EXCAVATION	1850	CY
001-4	BACKFILL FOR UNDERCUT	1850	CY
001-5	DISPOSAL OF CONTAMINATED (NON-HAZARDOUS) SOIL TO CLASS 1 PERMITTED LANDFILL	20000	TON
001-6	DISPOSAL OF EXCESS CLEAN SOIL / ROCK TO 3501 CENTRAL AVENUE (FORMER CHARLES BELL SCHOOL SITE)	25000	CY
001-6A	DISPOSAL OF EXCESS CLEAN SOIL / ROCK TO 1210 MERCER STREET (NEAR FORMER LUPTON CITY MILL SITE)	10000	CY
(3) 001-7	DEWATERING OPERATIONS	1	LS
002-1	ROCK EXCAVATION	700	CY
(2) 002-2	TUNNEL EXCAVATION (ROCK)	185	CY
(4) 013-1	BITUMINOUS SURFACE TREATMENT	2400	SY
(5) 014-1	6" THICK MINERAL AGGREGATE BASE, TYPE A, GRADING D (COMPLETE-IN-PLACE)	7000	SF
(6) 014-2	8" THICK MINERAL AGGREGATE BASE, TYPE A, GRADING D (COMPLETE-IN-PLACE)	500	SF
(7) 014-3	10" THICK MINERAL AGGREGATE BASE, TYPE A, GRADING D (COMPLETE-IN-PLACE)	13930	SF
(8) 014-4	15" THICK MINERAL AGGREGATE BASE, TYPE A, GRADING D (COMPLETE-IN-PLACE)	11120	SF
(9) 017-1	12" MOUNTABLE CURB (COMPLETE-IN-PLACE) (SD-203.02)	540	LF
(10) 017-2	24" TYPE A CONCRETE CURB AND GUTTER (COMPLETE-IN-PLACE) (SD-202.01)	370	LF
(11) 017-3	6" DETACHED CONCRETE CURB (COMPLETE-IN-PLACE) (SD-201.01)	920	LF
(8) 017-4	27" MOUNTABLE ISLAND CURB (COMPLETE-IN-PLACE)	180	LF
(8) 017-5	12" DRIVE-OVER CONCRETE CURB (COMPLETE-IN-PLACE)	60	LF
(8) 017-6	6" EXTRUDED CONCRETE CURB (COMPLETE-IN-PLACE)	60	LF
019-1	TREE, SHRUB, AND STUMP REMOVAL WITHIN THE CONSTRUCTION LIMITS AS DIRECTED BY THE ENGINEER	1	LS
019-2	HIGH VISIBILITY FENCE FOR TREE PROTECTION AS DIRECTED BY THE ENGINEER	600	LF
(12) 023-1	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	1	LS
(13) 026-1	2.5" THICK ASPHALT CONCRETE BINDER (PG64-22) GRADING BM-2, WITH PRIME COAT (COMPLETE-IN-PLACE)	14430	SF
(8) 026-2	3.5" THICK ASPHALT CONCRETE BINDER (PG64-22) GRADING BM-2, WITH PRIME COAT (COMPLETE-IN-PLACE)	11120	SF
(14) 027-1	1.5" THICK ASPHALT CONCRETE SURFACE MIX, GRADING E, WITH TACK COAT (COMPLETE-IN-PLACE)	39350	SF
(15) 031-1	7' X 7' PRECAST CONCRETE BOX CULVERT (25'-30' DEPTH) (COMPLETE-IN-PLACE)	60	LF
(15) 031-1A	CRUSHED ROCK BACKFILL MATERIAL ABOVE 7'X7' BOX CULVERT UNDER PAVED AREAS (25'-30' DEEP)	20	LF
(15) 031-2	10' X 10' PRECAST CONCRETE BOX CULVERT (0'-25' DEPTH) (COMPLETE-IN-PLACE)	1022	LF
031-2A	CRUSHED ROCK BACKFILL MATERIAL ABOVE 10'X10' BOX CULVERT UNDER PAVED AREAS (0'-25' DEEP)	188	LF
(15) 031-3	10' X 10' PRECAST CONCRETE BOX CULVERT (25'-30' DEPTH) (COMPLETE-IN-PLACE)	355	LF
031-3A	CRUSHED ROCK BACKFILL MATERIAL ABOVE 10'X10' BOX CULVERT UNDER PAVED AREAS (25'-30' DEEP)	140	LF
(16)(17) 031-4	18" REINFORCED CONCRETE PIPE CULVERT (CLASS III) (COMPLETE-IN-PLACE)	283	LF
(16) 031-5	24" REINFORCED CONCRETE PIPE CULVERT (CLASS III) (COMPLETE-IN-PLACE)	108	LF
031-5A	CRUSHED ROCK BACKFILL MATERIAL FOR 24" RCP UNDER PAVED AREAS	40	LF
(16) 031-6	36" REINFORCED CONCRETE PIPE CULVERT (CLASS III) (COMPLETE-IN-PLACE)	203	LF
031-6A	CRUSHED ROCK BACKFILL MATERIAL FOR 36" RCP UNDER PAVED AREAS	110	LF
(16) 031-7	60" REINFORCED CONCRETE PIPE CULVERT (CLASS III) (COMPLETE-IN-PLACE)	298	LF
(17A) 033-1	CATCH BASIN ADJUSTMENT (≤ 4 INCHES)	1	EA
(17A) 033-2	CATCH BASIN ADJUSTMENT EXTRA DEPTH GREATER THAN 4 INCHES	36	IN
(18) 034-1	32" X 32" NO. 42 CATCH BASIN PER TDOT STD. DWG. D-CB-42S (DEPTH ≤ 4 FT) (COMPLETE-IN-PLACE)	1	EA
(18) 034-1A	32" X 32" NO. 42 CATCH BASIN PER TDOT STD. DWG. D-CB-42S (DEPTH ≤ 4 FT) WITH OIL SKIMMER (COMPLETE-IN-PLACE)	1	EA
(18) 034-1B	32" X 32" NO. 42 CATCH BASIN EXTRA DEPTH ABOVE 4 FT PER TDOT STD. DWG. D-CB-42S (COMPLETE-IN-PLACE)	2	VF
(18) 034-2	10' DIA. NO. 12 CATCH BASIN PER TDOT STD. DWG. D-CB-12RC (DEPTH ≤ 4 FT) (COMPLETE-IN-PLACE)	1	EA
(18) 034-2A	10' DIA. NO. 12 CATCH BASIN EXTRA DEPTH ABOVE 4 FT PER TDOT STD. DWG. D-CB-12RC (COMPLETE-IN-PLACE)	14	VF
(18) 034-3	9' X 9' NO. 40 CATCH BASIN PER TDOT STD. DWG. D-CB-40SE (DEPTH ≤ 4 FT) (COMPLETE-IN-PLACE)	2	EA
(18) 034-3A	9' X 9' NO. 40 CATCH BASIN EXTRA DEPTH ABOVE 4 FT PER TDOT STD. DWG. D-CB-40SE (COMPLETE-IN-PLACE)	17	VF
(18) 034-4	4' X 8' NO. 40 CATCH BASIN PER TDOT STD. DWG. D-CB-40S (DEPTH ≤ 4 FT) (COMPLETE-IN-PLACE)	1	EA
(18) 034-4A	4' X 8' NO. 40 CATCH BASIN EXTRA DEPTH ABOVE 4 FT PER TDOT STD. DWG. D-CB-40S (COMPLETE-IN-PLACE)	5	VF
(18) 034-5	5' X 5' DROP INLET PER CITY STD. DWG. SD-606.01 (DEPTH ≤ 4 FT) (COMPLETE-IN-PLACE)	1	EA
(18) 034-5A	5' X 5' DROP INLET EXTRA DEPTH ABOVE 4 FT PER CITY STD. DWG. SD-606.01 (COMPLETE-IN-PLACE)	2	VF
(19) 034-6	DOUBLE CATCH BASIN WITH FRAME AND BICYCLE GRATE (COMPLETE-IN-PLACE)	2	EA
036-1	TOPSOIL (3" THICK) PLACED AS DIRECTED BY THE ENGINEER	1395	CY
(20) 070-1	MACHINED RIP-RAP (CLASS C) 3.5" THICK (COMPLETE-IN-PLACE)	60	CY
072-1	RELOCATE WATER SERVICE LINE (COMPLETE-IN-PLACE)	400	LF
(21) 073-1	CRUSHED AGGREGATE FOR RESTORATION OF GRAVEL DRIVEWAYS AND PARKING AREAS (6" MINIMUM THICKNESS)	4680	SY
(22) 073-2	MINERAL AGGREGATE, TYPE A BASE, GRADING D	400	TON
(23) 073-3	MINERAL AGGREGATE (SIZE 2)	1900	TON
(8) 074-1	RIVERWALK LIGHTPOLE FOUNDATION WITH HANDHOLE (COMPLETE-IN-PLACE)	5	EA
(8) 074-2	2 - 2" PVC ELECTRICAL CONDUIT (COMPLETE-IN-PLACE) (SD 507.01)	485	LF
(8) 074-3	ELECTRICAL JUNCTION BOX (COMPLETE-IN-PLACE)	2	EA
(24) 075-1	COLD PLANING OF BITUMINOUS PLANT MIX PAVEMENTS	13800	SY
0717-1	MOBILIZATION, INCLUDING BID BOND, PERFORMANCE BOND, PAYMENT BOND, ETC.	1	LS
(25) 11316-1	2" PVC SANITARY SEWER FORCE MAIN (COMPLETE-IN-PLACE)	300	LF
(26) 15062-1	16" DUCTILE IRON SANITARY SEWER MAIN (COMPLETE-IN-PLACE)	80	LF
(27) 15064-1	6" PVC SANITARY SEWER SERVICE LINE (COMPLETE-IN-PLACE)	200	LF
(27) 15064-2	8" PVC (SDR 35) GRAVITY SEWER MAIN (COMPLETE-IN-PLACE)	380	LF
(28) 1720-1	PROJECT RECORD DRAWINGS	1	LS
2120-1	VIDEO TAPING OF EASEMENT AND CONSTRUCTION AREAS PRIOR TO CONSTRUCTION	1	LS
(29) 2242-1	TRENCH CHECK DAM FOR 10'X10' BOX CULVERT TRENCH (COMPLETE-IN-PLACE)	6	EA
(30) 2270-1	TEMPORARY CONSTRUCTION ENTRANCE/EXIT (COMPLETE-IN-PLACE)	3	EA
2270-2	ENKAMAT TYPE 7020 SOIL REINFORCEMENT MATTING, AS MANUFACTURED BY AMERICAN ENKA COMPANY (WITH SEED)	500	SY
2270-3	SILT FENCE WITH WIRE BACKING	400	LF
(31) 2270-4	CULVERT INLET PROTECTION (TYPE 1) FOR 36" CULVERT (EC-STR-11)	1	EA
2270-5	12" FILTER SOCK (SILT SOXX SILT FENCE ALTERNATIVE, OR APPROVED EQUAL)	10250	LF
2270-6	CURB INLET PROTECTION (TYPE 4) (EC-STR-39A)	12	EA

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS
2270-7	CATCH BASIN PROTECTION (TYPE E) (EC-STR-19)	6	EA
2270-8	CATCH BASIN PROTECTION (TYPE D) (EC-STR-19)	4	EA
(32) 2270-9	COFFERDAM	2	EA
(33) 2270-10	36" PIPE DIVERSION	1	LS
(34) 2270-11	12" PIPE DIVERSION	1	LS
2270-12	EROSION CONTROL FABRIC AS MANUFACTURED BY AMERICAN EXCELSIOR COMPANY (WITH SEED)	800	SY
(35) 2270-13	SEDIMENT FILTER BAGS (10'X15')	4	EA
(8) 2452-1	WHITE THERMOPLASTIC BIKE LANE MARKING (COMPLETE-IN-PLACE)	6	EA
(8) 2452-2	WHITE THERMOPLASTIC BIKE LANE SHARROW MARKING (COMPLETE-IN-PLACE)	2	EA
(8) 2452-3	24" X 10' WHITE THERMOPLASTIC CROSSWALK (COMPLETE-IN-PLACE)	60	LF
(8) 2452-4	4" THERMOPLASTIC DOUBLE YELLOW SOLID LINE	965	LF
(8) 2452-5	4" THERMOPLASTIC WHITE SOLID LINE	300	LF
(8) 2452-6	8" THERMOPLASTIC WHITE SOLID LINE	710	LF
(8) 2452-7	4" THERMOPLASTIC WHITE DASHED LINE	60	LF
(8) 2452-8	4" THERMOPLASTIC WHITE SKIP LINE	215	LF
(8) 2452-9	12" THERMOPLASTIC WHITE SOLID TRANSVERSE LINE (TDOT T-M-3)	220	LF
(8) 2452-10	12" THERMOPLASTIC YELLOW SOLID TRANSVERSE LINE (TDOT T-M-3)	165	LF
(8) 2452-11	WHITE THERMOPLASTIC STOP BAR	2	EA
(8) 2452-12	"PEDESTRIAN/BIKE" SIGN (W11-15) WITH "AHEAD" SIGN (W16-19P) (COMPLETE-IN-PLACE)	2	EA
(8) 2452-13	"YIELD FOR PEDESTRIANS IN CROSSWALK" SIGN (R1-6)(COMPLETE-IN-PLACE)	2	EA
(8) 2452-14	"BIKE LANE" SIGN (R3-17) (COMPLETE-IN-PLACE)	2	EA
(8) 2452-15	"BIKE LANE" WITH "ENDS" SIGN (R3-17BP) (COMPLETE-IN-PLACE)	3	EA
(8) 2452-16	"BIKE LANE" WITH "AHEAD" SIGN (R3-17AP) (COMPLETE-IN-PLACE)	2	EA
(8) 2452-17	"LANE ENDS MERGE LEFT" SIGN (W9-2) (COMPLETE-IN-PLACE)	1	EA
(8) 2452-18	"LANE ENDS MERGE LEFT" SIGN (W9-2) WITH "AHEAD" (W16-9P) (COMPLETE-IN-PLACE)	1	EA
(8) 2452-19	"KEEP RIGHT" SIGN (R4-7) (COMPLETE-IN-PLACE)	2	EA
(8) 2452-20	HYDROBLAST REMOVAL OF 4" PAVEMENT MARKING (LINE) PER TDOT 716-08.32	600	LF
2485-1	SEEDING (WITH MULCH)	35250	SY
(36) 2560-1	4 FT DIAMETER STANDARD CITY MANHOLE (DEPTH ≤ 6 FT) (COMPLETE-IN-PLACE)	3	EA
(36) 2560-1A	4 FT DIAMETER STANDARD CITY MANHOLE EXTRA DEPTH ABOVE 6 FT (COMPLETE-IN-PLACE)	8	VF
(36)(37) 2560-2	4 FT DIAMETER NO. 3 MANHOLE WITH TYPE A MANHOLE COVER (DEPTH ≤ 6 FT) (COMPLETE-IN-PLACE)	1	EA
(36) 2560-2A	4 FT DIAMETER NO. 3 MANHOLE INSTALLED ON BOX CULVERT WITH TYPE C MANHOLE COVER (DEPTH ≤ 6 FT) (COMPLETE-IN-PLACE)	1	EA
(36) 2560-2B	4 FT DIAMETER NO. 3 MANHOLE EXTRA DEPTH ABOVE 6 FT (COMPLETE-IN-PLACE)	8	VF
(36) 2560-3	5 FT DIAMETER NO. 3 MANHOLE INSTALLED ON BOX CULVERT WITH TYPE C MANHOLE COVER (DEPTH ≤ 6 FT) (COMPLETE-IN-PLACE)	5	EA
(36) 2560-3A	5 FT DIAMETER NO. 3 MANHOLE EXTRA DEPTH ABOVE 6 FT (COMPLETE-IN-PLACE)	60	VF
(36) 2560-4	7 FT DIAMETER NO. 3 MANHOLE WITH TYPE C MANHOLE COVER (DEPTH ≤ 6 FT) (COMPLETE-IN-PLACE)	5	EA
(36) 2560-4A	7 FT DIAMETER NO. 3 MANHOLE EXTRA DEPTH ABOVE 6 FT (COMPLETE-IN-PLACE)	15	VF
(36) 2560-5	8 FT DIAMETER NO. 3 MANHOLE WITH TYPE C MANHOLE COVER (DEPTH ≤ 6 FT) (COMPLETE-IN-PLACE)	2	EA
(36) 2560-5A	8 FT DIAMETER NO. 3 MANHOLE EXTRA DEPTH ABOVE 6 FT (COMPLETE-IN-PLACE)	14	VF
(36) 2560-6	10 FT DIAMETER NO. 3 MANHOLE WITH TYPE C MANHOLE COVER (DEPTH ≤ 6 FT) (COMPLETE-IN-PLACE)	3	EA
(36) 2560-6A	10 FT DIAMETER NO. 3 MANHOLE EXTRA DEPTH ABOVE 6 FT (COMPLETE-IN-PLACE)	38	VF
(36) 2560-7	7' X 7' SQUARE NO. 3 MANHOLE WITH TYPE C MANHOLE COVER (DEPTH ≤ 6 FT) (COMPLETE-IN-PLACE)	1	EA
(36) 2560-7A	7' X 7' SQUARE NO. 3 MANHOLE EXTRA DEPTH ABOVE 6 FT (COMPLETE-IN-PLACE)	7	VF
(36) 2560-8	9' X 9' SQUARE NO. 3 MANHOLE WITH TYPE C MANHOLE COVER (DEPTH ≤ 6 FT) (COMPLETE-IN-PLACE)	1	EA
(36) 2560-8A	9' X 9' SQUARE NO. 3 MANHOLE EXTRA DEPTH ABOVE 6 FT (COMPLETE-IN-PLACE)	14	VF
(38) 2607-1	CONCRETE COMMERCIAL DRIVEWAY AND HEAVY DUTY PARKING LOT REPAIR / REPLACEMENT (COMPLETE-IN-PLACE)	450	SF
(8) 2607-2	ADA HANDICAP RAMPS WITH TRUNCATED DOMES (COMPLETE-IN-PLACE) (SD 205.02)	2	EA
(8) 2607-3	TRUNCATED DOMES IN CROSSWALK	2	EA
(8) 2607-4	RIVERWALK STANDARD CONCRETE WALK	4250	SF
(8) 2607-5	CONCRETE PLAZA	1040	SF
(8) 2607-6	8" STANDARD CONCRETE ISLAND	200	SF
(8) 2607-7	STAMPED CONCRETE TRUCK APRON	1080	SF
(39) 2752-1	FURNISHING AND SETTING UP TELEVISION INSPECTION EQUIPMENT	2	LS
(39) 2752-2	TELEVISION INSPECTION OF SEWERS	1000	LF
2810-1	LANDSCAPING AND SITE RESTORATION TO MATCH EXISTING CONDITIONS	1	LS
(8) 2810-2	SODDED AREA INCLUDING TOP SOIL, SOIL AMENDMENTS, AND PLANTING (COMPLETE-IN-PLACE)	6305	SF
(40) 3240-1	REINFORCING STEEL FOR HW-101 (COMPLETE-IN-PLACE)	17300	LB
(40) 3240-1A	EPOXY COATED REINFORCING STEEL FOR HW-101 (COMPLETE-IN-PLACE)	8000	LB
(40) 3240-2	REINFORCING STEEL FOR JB-101 (COMPLETE-IN-PLACE)	8900	LB
(40) 3240-3	REINFORCING STEEL FOR JB-102 (COMPLETE-IN-PLACE)	18400	LB
(40) 3240-4	REINFORCING STEEL FOR JB-103 (COMPLETE-IN-PLACE)	14700	LB
(40) 3240-5	REINFORCING STEEL FOR STANDARD ENDWALLS (COMPLETE-IN-PLACE)	152	LB
(40) 3310-1	CLASS A CONCRETE FOR HW-101 (COMPLETE-IN-PLACE)	163	CY
(40) 3310-2	HIGH EARLY STRENGTH CONCRETE FOR JB-101 (COMPLETE-IN-PLACE)	64	CY
(40) 3310-3	HIGH EARLY STRENGTH CONCRETE FOR JB-102 (COMPLETE-IN-PLACE)	79	CY
(40) 3310-4	HIGH EARLY STRENGTH CONCRETE FOR JB-103 (COMPLETE-IN-PLACE)	102	CY
(40) 3310-5	CLASS A CONCRETE FOR STANDARD ENDWALLS (COMPLETE-IN-PLACE)	12	CY
(41) 3310-6	4'X4' CAST-IN-PLACE BOX CULVERT (COMPLETE-IN-PLACE)	20	LF
(42) 3575-1	FLOWABLE FILL FOR SEWER ABANDONMENT (COMPLETE-IN-PLACE)	2300	CY
(42)(43) 3575-1A	FLOWABLE FILL FOR SEWER ABANDONMENT AT EXISTING GILLESPIES SPRINGS BRANCH OUTFALL (COMPLETE-IN-PLACE)	250	CY
(44) APPENDIX A-2	60" CENTRIFUGALLY CAST POLYMER MORTAR PIPE (CCFRPM) INSTALLED BY DIRECT BURY (COMPLETE-IN-PLACE)	280	LF
(45) APPENDIX A-3	60" CENTRIFUGALLY CAST POLYMER MORTAR PIPE (CCFRPM) INSTALLED IN 78" TUNNEL (COMPLETE-IN-PLACE)	137	LF
(44) APPENDIX A-4	66" CENTRIFUGALLY CAST POLYMER MORTAR PIPE (CCFRPM) INSTALLED BY DIRECT BURY (COMPLETE-IN-PLACE)	36	LF
(45) APPENDIX A-5	66" CENTRIFUGALLY CAST POLYMER MORTAR PIPE (CCFRPM) INSTALLED IN 78" TUNNEL (COMPLETE-IN-PLACE)	195	LF
(44) APPENDIX A-6	72" CENTRIFUGALLY CAST POLYMER MORTAR PIPE (CCFRPM) INSTALLED BY DIRECT BURY (COMPLETE-IN-PLACE)	105	LF
APPENDIX A-6A	CRUSHED ROCK BACKFILL MATERIAL FOR 72" HOBAS UNDER PAVED AREAS	85	LF
(45) APPENDIX A-7	72" CENTRIFUGALLY CAST POLYMER MORTAR PIPE (CCFRPM) INSTALLED IN 84" TUNNEL (COMPLETE-IN-PLACE)	250	LF



CITY OF CHATTANOOGA
 DEPARTMENT OF PUBLIC WORKS
NORTH ST. ELMO DRAINAGE SYSTEM
STUDY AND UPGRADE
 JUSTIN C. HOLLAND, DEPUTY ADMINISTRATOR
 WILLIAM C. PAYNE, P.E., CITY ENGINEER

DATE	REVISION DESCRIPTION	QUANTITY
4-18-16	REVISED 2270-5 AND 2485-1	1
	ADDED ITEM 001-6A	

ESTIMATED QUANTITIES

SCALE NOT TO SCALE

DESIGNED BY: MAC
 DRAWN BY: MAC
 CHECKED BY: LAQ

4-18-16

CONTRACT NUMBER: S-09-008-201
 DATE: 03-29-2016
 SHEET 02 OF 28

ESTIMATED QUANTITIES (CONTINUED):

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNITS
(46)	APPENDIX B-1 GABIONS FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL	400	CY
(46)	APPENDIX B-1A GABIONS FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL (PVC COATED)	400	CY
(47)	APPENDIX B-2 GABIONS FOR DITCH LINER	150	CY
(47)(48)	APPENDIX B-2A GABIONS FOR DITCH LINER (PVC COATED)	675	CY
	APPENDIX D-1 LOCATING ABANDONED NITROGEN PURGED PIPELINES	1	LS
	APPENDIX D-2 REMOVAL OF ABANDONED NITROGEN PURGED PIPELINES (PER LOCATION)	4	EA
(49)	APPENDIX E-1 MISCELLANEOUS NORFOLK SOUTHERN RAILROAD CONSTRUCTION REQUIREMENTS	1	LS
	SP-01 CONSTRUCTION STAKES, LINES, AND GRADES	1	LS
	SP-02 PROJECT SIGN	1	LS
(50)	SP-03 FURNISH AND INSTALL NEW CHAIN-LINK FENCE (COMPLETE-IN-PLACE)	2200	LF
(51)	SP-04 TEMPORARY SECURITY FENCE (COMPLETE-IN-PLACE)	2240	LF
	SP-05 WELL ABANDONMENT IN ACCORDANCE WITH TDEC REQUIREMENTS (COMPLETE-IN-PLACE)	1000	VF
	SP-06 WELL DRILLING AND CASING IN ACCORDANCE WITH TDEC REQUIREMENTS (COMPLETE-IN-PLACE)	1000	VF
(52)	SP-07 WELL PUMP INSTALLATION (COMPLETE-IN-PLACE)	1	LS
(53)	SP-08 MONITORING WELL INSTALLATION (COMPLETE-IN-PLACE)	1	LS
(54)	SP-09 REMOVE AND REINSTALL LIGHT POLE (COMPLETE-IN-PLACE)	1	LS
(55)	SP-10 STEEL SHEET PILES (COMPLETE-IN-PLACE)	22000	SF
	SP-11 TEMPORARY CONSTRUCTION SIGNS	800	SF
	SP-12 PLASTIC CHANNELIZING BARRELS	150	EA
	SP-13 TYPE 3 BARRICADES (8 FT LENGTH FOR ROAD CLOSURE)	22	EA
	SP-14 TYPE A WARNING LIGHTS	50	EA
	SP-15 TYPE C WARNING LIGHTS	150	EA
	SP-16 ILLUMINATED CHANGEABLE MESSAGE SIGN UNIT	6	EA
	SP-17 REMOVABLE PAVEMENT MARKING LINES	2500	LF
	SP-18 INTERCONNECTED CONCRETE PORTABLE BARRIER RAIL	250	LF
	SP-19 TEMPORARY HOLDING TANK TO MAINTAIN SEWER SERVICE DURING CONSTRUCTION	3	EA
	SP-20 CUTTING AND CAPPING ABANDONED WATER MAIN AT TRENCH LIMITS (SEE SHEETS 21AND 21A)	1	LS
(56)	SP-21 RELOCATE UTILITY POLE (COMPLETE-IN-PLACE)	3	LS
	SP-22 FIELD OFFICE (TYPE 1)	1	LS
(57)	SP-23 BYPASS PUMPING OPERATIONS	1	LS
(58)	SP-24 ROADWAY UNDERLAYMENT (WOVEN, AASHTO CLASS III)	3750	SY
(59)	SP-25 GEOTEXTILE FABRIC (NON-WOVEN, AASHTO CLASS III)	5675	SY
(60)	SP-26 SECURITY PERSONNEL AND TEMPORARY LIGHTING AS APPROVED BY THE ENGINEER	720	HOURLY
(61)	SP-27 DOUBLE BITUMINOUS SURFACE TREATMENT	7000	SF
	SP-28 PHASE 2 INCENTIVE PAYMENT (\$2,000) AS DESCRIBED IN SPECIFICATIONS SECTION 01010	20	DAY
	SP-29 PHASE 3 INCENTIVE PAYMENT (\$3,000) AS DESCRIBED IN SPECIFICATIONS SECTION 01010	20	DAY

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
(40)	3240-2 REINFORCING STEEL FOR JB-101 (COMPLETE-IN-PLACE)	-8900	LB
(40)	3240-3 REINFORCING STEEL FOR JB-102 (COMPLETE-IN-PLACE)	-18400	LB
(40)	3310-2 HIGH EARLY STRENGTH CONCRETE FOR JB-101 (COMPLETE-IN-PLACE)	-64	CY
(40)	3310-3 HIGH EARLY STRENGTH CONCRETE FOR JB-102 (COMPLETE-IN-PLACE)	-79	CY
	2560-9(BASE-1) PRECAST JUNCTION BOX (JB-101)	1	LS
	2560-10(BASE-1) PRECAST JUNCTION BOX (JB-102)	1	LS

GENERAL PAY ITEM NOTES:

- THE ITEMS LISTED IN THE QUANTITIES TABLE ARE CONSIDERED PAY ITEMS, AND NO ADDITIONAL PAYMENTS WILL BE MADE FOR ITEMS NOT LISTED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INCLUDE ALL INCIDENTALS NECESSARY TO COMPLETE THE WORK AS DESCRIBED BY THESE PAY ITEMS AND THE REQUIREMENTS OF THE SPECIFICATIONS. SHOULD A CHANGE IN THE WORK BE REQUIRED, IT SHALL BE PROCESSED IN ACCORDANCE WITH THE CITY OF CHATTANOOGA CHANGE ORDER PROCEDURES.
- UNIT PRICES FOR THE PROPOSED DRAINAGE PROJECT SHOULD INCLUDE LABOR, MATERIALS, EQUIPMENT, INSURANCE, OVERHEAD AND PROFIT. COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND INCIDENTALS FOR THE ENTIRE CONTRACT SHALL BE INCLUDED IN THE BID PRICE.
- THE OWNER DOES NOT GUARANTEE THAT QUANTITIES LISTED ON THE BID FORM ARE EXACT. THE CONTRACTOR WILL BE PAID FOR THE UNITS OF WORK ACTUALLY INSTALLED (QUANTITY) AND APPROVED IN PLACE TIMES THE UNIT PRICE BID FOR THE APPROPRIATE LINE ITEM AS LISTED ON THE BID FORM. SUCH QUANTITIES OF WORK INSTALLED WILL BE AS VALIDATED BY THE RESIDENT PROJECT REPRESENTATIVE. THE CITY OF CHATTANOOGA RESERVES THE RIGHT TO INCREASE OR DECREASE THE QUANTITIES LISTED IN THE BID FORM.
- NO ITEM QUANTITIES IN BIDDERS PROPOSAL WILL BE ADJUSTED AFTER RECEIPT OF BIDS, UNLESS CONCURRED BY OWNER. CONTRACTOR IS ENCOURAGED TO CHECK QUANTITIES IN BIDDERS PROPOSAL PRIOR TO SUBMITTING BID. ANY DISCREPANCIES FOUND BY THE CONTRACTOR SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AS SOON AS POSSIBLE AND IN ALL CASES PRIOR TO THE OPENING OF BIDS.
- CLEARING AND GRUBBING SHALL NOT BE A SEPARATE PAY ITEM AND THE COST SHALL BE INCLUDED IN OTHER PAY ITEMS.

CONVEYANCE 1 CULVERT ALTERNATE A (12' X 8' PRECAST BOX CULVERT)

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
(15)	031-2 10' X 10' PRECAST CONCRETE BOX CULVERT (0'-25' DEPTH) (COMPLETE-IN-PLACE)	-1022	LF
(15)	031-2(A) 12' X 8' PRECAST CONCRETE BOX CULVERT (0'-25' DEPTH) (COMPLETE-IN-PLACE)	1022	LF
	031-2A CRUSHED ROCK BACKFILL MATERIAL ABOVE 10'X10' BOX CULVERT UNDER PAVED AREAS (0'-25' DEEP)	-188	LF
	031-2A(A) CRUSHED ROCK BACKFILL MATERIAL ABOVE 12' X 8' BOX CULVERT UNDER PAVED AREAS (0'-25' DEEP)	188	LF
(15)	031-3 10' X 10' PRECAST CONCRETE BOX CULVERT (25'-30' DEPTH) (COMPLETE-IN-PLACE)	-355	LF
(15)	031-3(A) 12' X 8' PRECAST CONCRETE BOX CULVERT (25'-30' DEPTH) (COMPLETE-IN-PLACE)	355	LF
	031-3A CRUSHED ROCK BACKFILL MATERIAL ABOVE 10'X10' BOX CULVERT UNDER PAVED AREAS (25'-30' DEEP)	-140	LF
	031-3A(A) CRUSHED ROCK BACKFILL MATERIAL ABOVE 12' X 8' BOX CULVERT UNDER PAVED AREAS (25'-30' DEEP)	140	LF
(29)	2242-1 TRENCH CHECK DAM FOR 10'X10' BOX CULVERT TRENCH (COMPLETE-IN-PLACE)	-6	EA
(29)	2242-1(A) TRENCH CHECK DAM FOR 12'X8' BOX CULVERT TRENCH (COMPLETE-IN-PLACE)	6	EA
(36)	2560-2B 4 FT DIAMETER NO. 3 MANHOLE EXTRA DEPTH ABOVE 6 FT (COMPLETE-IN-PLACE)	2	VF
(36)	2560-3 5 FT DIAMETER NO. 3 MANHOLE INSTALLED ON BOX CULVERT WITH TYPE C MANHOLE COVER (DEPTH ≤ 6 FT) (COMPLETE-IN-PLACE)	-1	EA
(36)	2560-3(A) 7 FT DIAMETER NO. 3 MANHOLE INSTALLED ON BOX CULVERT WITH TYPE C MANHOLE COVER (DEPTH ≤ 6 FT) (COMPLETE-IN-PLACE)	1	EA
(36)	2560-3A 5 FT DIAMETER NO. 3 MANHOLE EXTRA DEPTH ABOVE 6 FT (COMPLETE-IN-PLACE)	-5	VF
(36)	2560-3A(A) 7 FT DIAMETER NO. 3 MANHOLE EXTRA DEPTH ABOVE 6 FT (COMPLETE-IN-PLACE)	11	VF
(40)	3240-1 REINFORCING STEEL FOR HW-101 (COMPLETE-IN-PLACE)	-700	LB
(40)	3240-1A EPOXY COATED REINFORCING STEEL FOR HW-101 (COMPLETE-IN-PLACE)	-300	LB
(40)	3240-2 REINFORCING STEEL FOR JB-101 (COMPLETE-IN-PLACE)	300	LB
(40)	3240-3 REINFORCING STEEL FOR JB-102 (COMPLETE-IN-PLACE)	-100	LB
(40)	3240-4 REINFORCING STEEL FOR JB-103 (COMPLETE-IN-PLACE)	700	LB
(40)	3310-1 CLASS A CONCRETE FOR HW-101 (COMPLETE-IN-PLACE)	-9	CY
(40)	3310-2 HIGH EARLY STRENGTH CONCRETE FOR JB-101 (COMPLETE-IN-PLACE)	-4	CY
(40)	3310-3 HIGH EARLY STRENGTH CONCRETE FOR JB-102 (COMPLETE-IN-PLACE)	-1	CY
(40)	3310-4 HIGH EARLY STRENGTH CONCRETE FOR JB-103 (COMPLETE-IN-PLACE)	-4	CY

PRE-CAST JUNCTION BOX FOR 12' X 8' BOX CULVERT ALTERNATE A-1 (PRE-CAST JB-101 AND JB-102)

Alternate A-1 must be used in conjunction with Alternate A (12'x8' Pre-cast Box Culvert)

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
(40)	3240-2 REINFORCING STEEL FOR JB-101 (COMPLETE-IN-PLACE)	-300	LB
(40)	3240-3 REINFORCING STEEL FOR JB-102 (COMPLETE-IN-PLACE)	100	LB
(40)	3310-2 HIGH EARLY STRENGTH CONCRETE FOR JB-101 (COMPLETE-IN-PLACE)	4	CY
(40)	3310-3 HIGH EARLY STRENGTH CONCRETE FOR JB-102 (COMPLETE-IN-PLACE)	1	CY
	2560-9(A-1) PRECAST JUNCTION BOX (JB-101)	1	LS
	2560-10(A-1) PRECAST JUNCTION BOX (JB-102)	1	LS

CONVEYANCE 1 CULVERT ALTERNATE B (CONTECH STRUCTURAL PLATE CULVERT)

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
(15)	031-1 7' X 7' PRECAST CONCRETE BOX CULVERT (25'-30' DEPTH) (COMPLETE-IN-PLACE)	-60	LF
	031-1A CRUSHED ROCK BACKFILL MATERIAL ABOVE 7'X7' BOX CULVERT UNDER PAVED AREAS (25'-30' DEEP)	-20	LF
(15)	031-2 10' X 10' PRECAST CONCRETE BOX CULVERT (0'-25' DEPTH) (COMPLETE-IN-PLACE)	-1022	LF
	031-2A CRUSHED ROCK BACKFILL MATERIAL ABOVE 10'X10' BOX CULVERT UNDER PAVED AREAS (0'-25' DEEP)	-188	LF
(15)	031-3 10' X 10' PRECAST CONCRETE BOX CULVERT (25'-30' DEPTH) (COMPLETE-IN-PLACE)	-355	LF
	031-3A CRUSHED ROCK BACKFILL MATERIAL ABOVE 10'X10' BOX CULVERT UNDER PAVED AREAS (25'-30' DEEP)	-140	LF
(29)	2242-1 TRENCH CHECK DAM FOR 10'X10' BOX CULVERT TRENCH (COMPLETE-IN-PLACE)	-6	EA
(29)	2242-1(B) TRENCH CHECK DAM FOR 14' DIAMETER CONTECH CULVERT TRENCH (COMPLETE-IN-PLACE)	6	EA
(36)	2560-2A 4 FT DIAMETER NO. 3 MANHOLE INSTALLED ON BOX CULVERT WITH TYPE C MANHOLE COVER (DEPTH ≤ 6 FT) (COMPLETE-IN-PLACE)	-1	EA
(36)	2560-2B 4 FT DIAMETER NO. 3 MANHOLE EXTRA DEPTH ABOVE 6 FT (COMPLETE-IN-PLACE)	-3	VF
(36)	2560-3 5 FT DIAMETER NO. 3 MANHOLE INSTALLED ON BOX CULVERT WITH TYPE C MANHOLE COVER (DEPTH ≤ 6 FT) (COMPLETE-IN-PLACE)	-5	EA
(36)	2560-3A 5 FT DIAMETER NO. 3 MANHOLE EXTRA DEPTH ABOVE 6 FT (COMPLETE-IN-PLACE)	-60	VF
(40)	3240-1 REINFORCING STEEL FOR HW-101 (COMPLETE-IN-PLACE)	1100	LB
(40)	3240-1A EPOXY COATED REINFORCING STEEL FOR HW-101 (COMPLETE-IN-PLACE)	200	LB
(40)	3240-2 REINFORCING STEEL FOR JB-101 (COMPLETE-IN-PLACE)	-8500	LB
(40)	3240-3 REINFORCING STEEL FOR JB-102 (COMPLETE-IN-PLACE)	4400	LB
(40)	3240-4 REINFORCING STEEL FOR JB-103 (COMPLETE-IN-PLACE)	-14500	LB
(40)	3310-1 CLASS A CONCRETE FOR HW-101 (COMPLETE-IN-PLACE)	7	CY
(40)	3310-2 HIGH EARLY STRENGTH CONCRETE FOR JB-101 (COMPLETE-IN-PLACE)	-60	CY
(40)	3310-3 HIGH EARLY STRENGTH CONCRETE FOR JB-102 (COMPLETE-IN-PLACE)	4	CY
(40)	3310-4 HIGH EARLY STRENGTH CONCRETE FOR JB-103 (COMPLETE-IN-PLACE)	-102	CY
(62)	APPENDIX C-1 14' DIAMETER CONTECH STEEL STRUCTURAL PLATE CULVERT (0'-25' DEEP) (COMPLETE-IN-PLACE)	955	LF
	APPENDIX C-1A CRUSHED ROCK BACKFILL MATERIAL FOR 14' DIAMETER CONTECH STRUCTURAL PLATE CULVERT UNDER PAVED AREAS (0'-25' DEEP)	70	LF
(62)	APPENDIX C-2 14' DIAMETER CONTECH STEEL STRUCTURAL PLATE CULVERT (25'-30' DEEP) (COMPLETE-IN-PLACE)	195	LF
(62)	APPENDIX C-3 12' DIAMETER CONTECH STEEL STRUCTURAL PLATE CULVERT (0'-25' DEEP) (COMPLETE-IN-PLACE)	78	LF
	APPENDIX C-3A CRUSHED ROCK BACKFILL MATERIAL FOR 12' DIAMETER CONTECH STRUCTURAL PLATE CULVERT UNDER PAVED AREAS (0'-25' DEEP)	78	LF
(62)	APPENDIX C-4 12' DIAMETER CONTECH STEEL STRUCTURAL PLATE CULVERT (25'-30' DEEP) (COMPLETE-IN-PLACE)	180	LF
	APPENDIX C-4A CRUSHED ROCK BACKFILL MATERIAL FOR 12' DIAMETER CONTECH STRUCTURAL PLATE CULVERT UNDER PAVED AREAS (25'-30' DEEP)	145	LF
(62)	APPENDIX C-5 72" DIAMETER CONTECH STEEL STRUCTURAL PLATE CULVERT (COMPLETE-IN-PLACE)	80	LF
(63)	APPENDIX C-6 5' DIAMETER CONTECH STEEL STRUCTURAL PLATE RISER (COMPLETE-IN-PLACE)	100	VF
(64)	APPENDIX C-7 CONCRETE CAP FOR STEEL STRUCTURAL PLATE RISER (COMPLETE-IN-PLACE)	5	EA
(65)	APPENDIX C-8 CONNECTIONS TO EXISTING AND PROPOSED STORM DRAINS (COMPLETE-IN-PLACE)	8	EA



CITY OF CHATTANOOGA
DEPARTMENT OF PUBLIC WORKS
**NORTH ST. ELMO DRAINAGE SYSTEM
STUDY AND UPGRADE**
JUSTIN C. HOLLAND, DEPUTY ADMINISTRATOR
WILLIAM C. PAYNE, P.E., CITY ENGINEER

DATE	REVISION DESCRIPTION
4-18-16	ITEM APPENDIX B-1 MOVED TO THIS PAGE

ESTIMATED QUANTITIES (CONT.)

SCALE NOT TO SCALE

DESIGNED BY: MAC

DRAWN BY: MAC

CHECKED BY: LAQ



CONTRACT NUMBER: S-09-008-201

DATE: 03-29-2016

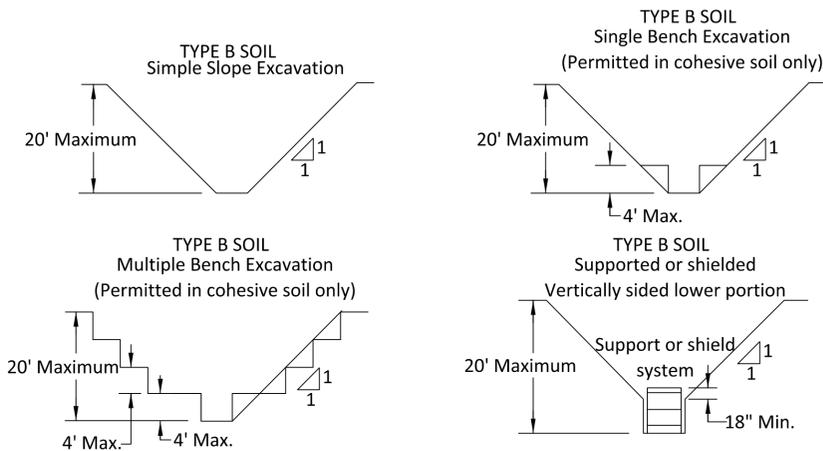
SHEET 02A OF 28



CITY OF CHATTANOOGA
 DEPARTMENT OF PUBLIC WORKS
NORTH ST. ELMO DRAINAGE SYSTEM
STUDY AND UPGRADE
 JUSTIN C. HOLLAND, DEPUTY ADMINISTRATOR
 WILLIAM C. PAYNE, P.E., CITY ENGINEER

TRENCH NOTES

1. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR PROTECTING HIS EXCAVATION AND SHALL TAKE EVERY PRECAUTION TO MAINTAIN THE EXCAVATION INTACT. REFER TO OSHA REGULATIONS FOR EXCAVATION AND TRENCHING, 29 CFR 1926 SUBPART P, EXCAVATIONS, LATEST REVISION. THE FOLLOWING NOTES ARE GIVEN FOR GUIDANCE ONLY AND SHALL NOT SUPERSEDE CURRENT OSHA REQUIREMENTS.
2. GRADE BOTTOM OF THE TRENCH TO PROVIDE UNIFORM BEARING AND SUPPORT FOR PIPE, EITHER ON UNDISTURBED SOIL OR PROPERLY COMPACTED BACKFILL THROUGHOUT THE LENGTH OF THE PIPE.
3. ALL SURFACE ENCUMBRANCES THAT ARE LOCATED SO AS TO CREATE A HAZARD SHALL BE REMOVED OR SUPPORTED, AS NECESSARY.
4. WHERE APPLICABLE, GRADE EXCAVATION TOP PERIMETER TO PREVENT SURFACE WATER RUNOFF INTO EXCAVATION. KEEP TRENCH BOTTOM FREE OF STANDING WATER. PROVIDE SIDE DRAINAGE DITCHES ALONG THE TRENCH BOTTOM OR DEWATERING PUMPS, AS REQUIRED.
5. PROTECT EXCAVATION BY SHORING, BRACING, SHEET PILING, TRENCH BOX, OR OTHER METHODS REQUIRED TO PREVENT CAVE-IN OF LOOSE SOIL FROM FALLING INTO EXCAVATION.
 - A. TRENCHES MORE THAN 5 FT IN DEPTH SHALL BE SHORED OR LAID BACK TO A STABLE SLOPE OR PROVIDED WITH SOME OTHER EQUIVALENT MEANS OF PROTECTION.
 - B. THE EXCAVATION SLOPES AND CONFIGURATIONS OF SLOPING AND BENCHING SYSTEMS SHALL BE SLOPED AT AN ANGLE NOT STEEPER THAN 1:1 (45 DEGREES).



Refer to OSHA 29 CFR 1926 Subpart P, Excavations, Appendices A and B, as a guide to minimum requirements for slopes that is laid back.

- C. DESIGN OF TIMBER SHORING AND ALUMINUM HYDRAULIC SHORING SUPPORT SYSTEMS AND OTHER PROTECTIVE SYSTEMS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S TABULATED DATA. FOR TIMBER SHORING NOT EXCEEDING 20 FEET IN DEPTH REFER TO REQUIRED DIMENSION OF THE TIMBER MEMBERS IN OSHA 29 CFR 1926 SUBPART P, EXCAVATIONS, APPENDICES C, TABLES C-1.1 THROUGH C-1.3. REFER TO OSHA 29 CFR 1926 SUBPART P, EXCAVATIONS, APPENDICES A AND C THROUGH E, AS A GUIDE TO MINIMUM REQUIREMENTS FOR SHORING OR BRACING.
6. SLOPING OR BENCHING FOR EXCAVATIONS GREATER THAN 20 FEET DEEP SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER.
 7. TRENCHES LESS THAN 5 FT IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN EXAMINATION OF GROUND INDICATES THE POSSIBILITY OF TRENCH COLLAPSE.
 8. TRENCHES 4 FT DEEP OR MORE SHALL HAVE A MEANS OF EXIT. A STAIRWAY, LADDER, RAMP OR OTHER SAFE MEANS OF EGRESS SHALL BE LOCATED IN THE TRENCH EXCAVATION REQUIRING NO MORE THAN 25 FT OF LATERAL TRAVEL.
 9. IN TRENCHES WHERE THERE MAY BE THE THREAT OF, OR WORKERS COMPLAIN OF DIFFICULTY BREATHING OR OF SMELLING STRANGE FUMES, ALL WORKERS ARE TO EVACUATE THE TRENCH AREA IMMEDIATELY TO A SAFE DISTANCE. CONTACT THE PROPER AUTHORITIES, THE IMPLICATED UTILITIES AND PROJECT MANAGER. THE CONTRACTOR IS TO TEST THE TRENCH AND COORDINATE WITH THE APPLICABLE ENTITIES TO ADDRESS ANY THREATS FOUND. WORKERS ARE NOT TO BE ALLOWED BACK INTO THE TRENCH UNTIL THE THREAT HAS BEEN ADDRESSED, OR THE WORKERS PROPERLY SUITED TO WORK IN THAT ENVIRONMENT PER OSHA REQUIREMENTS.

SPECIAL PROPERTY REQUIREMENTS			
TRACT #	PROPERTY OWNER	PROPERTY ADDRESS	SPECIAL REQUIREMENTS
1	WHELAND FOUNDRY LLC	ST ELMO AV	1. THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION SHALL BE NOTIFIED PRIOR TO ANY CONSTRUCTION ON THIS TRACT. 2. THE EXISTING LANDFILL CAP SHALL NOT BE DISTURBED.
2	LINDE INC.	3510 ST ELMO AV	1. TRACTOR TRAILER ACCESS SHALL BE MAINTAINED TO THE PROPERTY AT ALL TIMES THROUGHOUT CONSTRUCTION. 2. A SECURITY FENCE SHALL BE MAINTAINED AROUND THE PROPERTY AT ALL TIMES. IF A SECURITY FENCE CAN NOT BE FEASIBLY MAINTAINED, THE CONTRACTOR SHALL PROVIDE LIGHTING FOR AREAS OF CONCERN AND SECURITY PERSONNEL FOR THE PROPERTY DURING NON-BUSINESS HOURS. 3. ALL CONSTRUCTION ACTIVITIES ON THE LINDE PROPERTY SHALL BE COORDINATED WITH THE LOCAL SITE MANAGER.
3	R & D PROPERTIES	3515 ST ELMO AV	1. TRACTOR TRAILER ACCESS SHALL BE MAINTAINED TO THE PROPERTY AT ALL TIMES THROUGHOUT CONSTRUCTION. 2. A SECURITY FENCE SHALL BE MAINTAINED AROUND THE PROPERTY AT ALL TIMES. IF A SECURITY FENCE CAN NOT BE FEASIBLY MAINTAINED, THE CONTRACTOR SHALL PROVIDE LIGHTING FOR AREAS OF CONCERN AND SECURITY PERSONNEL FOR THE PROPERTY DURING NON-BUSINESS HOURS. 3. THE STONE PARKING AREA SHALL BE RESTORED TO EXISTING CONDITION OR BETTER.
4A	RANDY TUTTON	3523 ST ELMO AV	1. A SECURITY FENCE SHALL BE MAINTAINED AROUND THE PROPERTY AT ALL TIMES. IF A SECURITY FENCE CAN NOT BE FEASIBLY MAINTAINED, THE CONTRACTOR SHALL PROVIDE LIGHTING FOR AREAS OF CONCERN AND SECURITY PERSONNEL FOR THE PROPERTY DURING NON-BUSINESS HOURS. 2. FULL ACCESS SHALL BE MAINTAINED TO THE PROPERTY AT ALL TIMES.
4B	BEAR BRANCH INC	3535 ST ELMO AV	NO SPECIAL REQUIREMENTS
5 / 9	DIALYSIS CLINIC INC	3655 ST ELMO AV	1. THE GRAVEL PARKING LOT ON TRACT 4B SHALL BE USED FOR THE DIALYSIS CLINIC TEMPORARY PARKING AREA. A GATE WITH GRAVEL WALKWAY SHALL BE INSTALLED IN THE CHAIN LINK FENCE BETWEEN TRACTS 4B AND 9 OR TRACTS 4B AND 5 TO PROVIDE ACCESS TO THE DIALYSIS CLINIC FROM THE GRAVEL PARKING AREA ON TRACT 4B. THE GATE LOCATION SHALL BE APPROVED BY THE PROJECT MANAGER. 2. THE ASPHALT PARKING / ACCESS AREA BEHIND THE CLINIC SHALL REMAIN OPEN TO MOTORISTS THROUGHOUT CONSTRUCTION. 3. UNDER NO CIRCUMSTANCES SHALL WATER SERVICE BE DISRUPTED TO THE DIALYSIS CLINIC. IF A CIRCUMSTANCE ARISES DURING CONSTRUCTION WHICH COULD POTENTIALLY DISRUPT WATER SERVICE DUE TO UNANTICIPATED WATER MAIN OR SERVICE LINE DAMAGE, THE CONTRACTOR SHALL COORDINATE WITH THE WATER UTILITY AND PROPERTY OWNER PRIOR TO CONSTRUCTION IN THIS AREA TO DETERMINE A SUITABLE PLAN OF ACTION IN THE EVENT THE WATER SERVICE IS DISRUPTED.
6	MOUNT VERNON PROPERTIES LLC	3545 BROAD ST	1. THE PROPERTY SHALL BE RESTORED IN ACCORDANCE WITH THE RIVER WALK PLANS INCLUDED IN THIS CONTRACT.
7	RALPH WHITMIRE JR.	3554 BROAD ST	NO SPECIAL REQUIREMENTS
8	ROBERT BACHMAN	3550 BROAD ST	NO SPECIAL REQUIREMENTS
10	LOOKOUT MOUNTAIN CONSERVANCY	1919 OLD WAUHATCHIE PK	1. THE EXISTING 48" OAK TREE TO BE REMOVED SHALL BE CUT INTO 2 FOOT SECTIONS AND LEFT NEATLY STACKED ON THE PROPERTY AS SHOWN IN THESE PLANS.
11	INDUSTRIAL DEVELOPMENT BOARD, CITY OF CHATTANOOGA	1715 W. 38TH ST	NO EASEMENT ACQUISITION. NO SPECIAL REQUIREMENTS.
12	CHATTEM, INC.	1808 OLD WAUHATCHIE PK	NO EASEMENT ACQUISITION. NO SPECIAL REQUIREMENTS.
13	MARCO POULIOT	1553 MOUNTAIN VIEW CT	NO SPECIAL REQUIREMENTS

REVISION DESCRIPTION	DATE
REQUIREMENTS 1-2 ADDED TO TRACT 4A	4-18-16

TRENCH NOTES AND PROPERTY REQUIREMENTS TABLE

SCALE NOT TO SCALE
 DESIGNED BY: MAC
 DRAWN BY: MAC
 CHECKED BY: LAQ

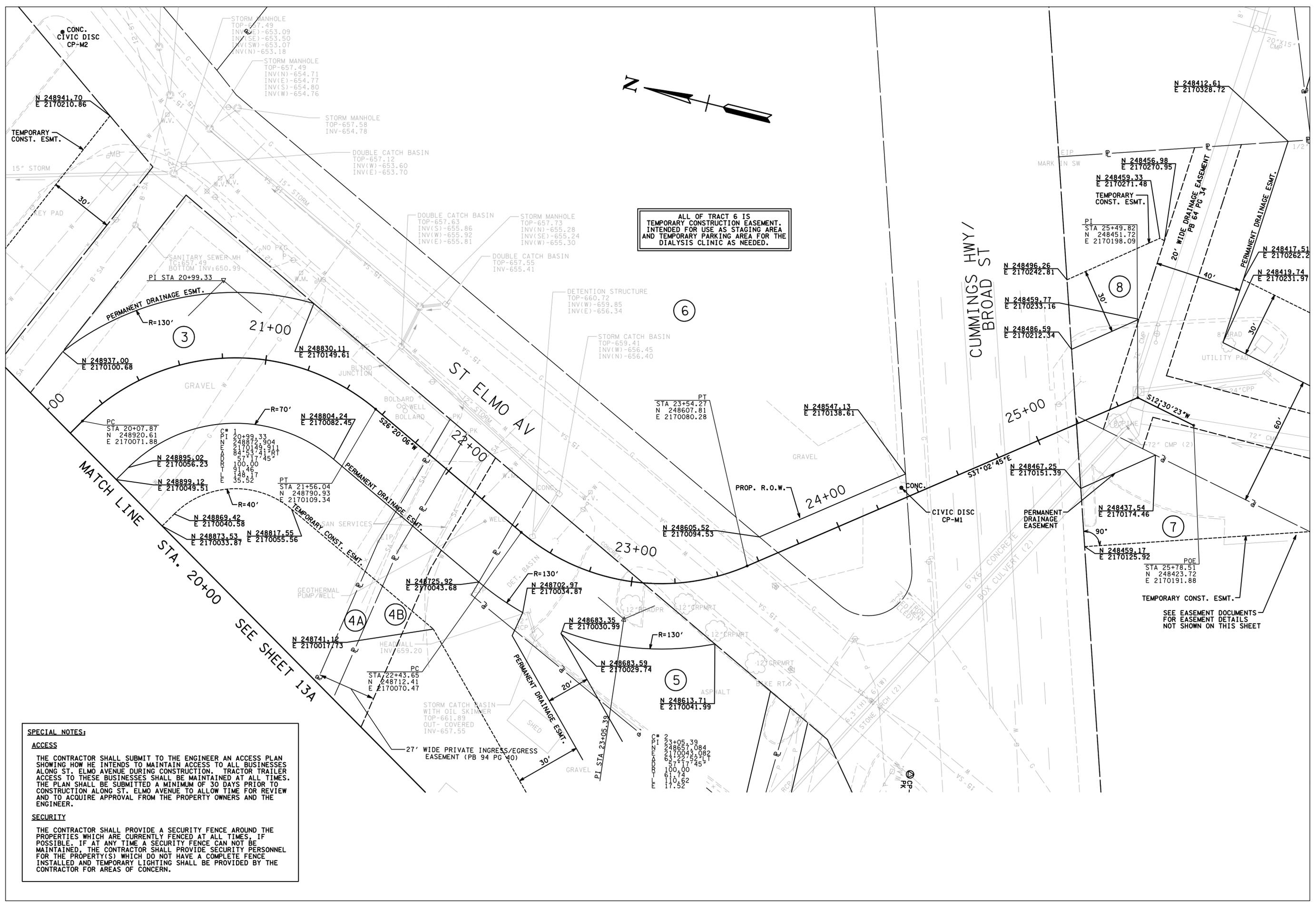


CONTRACT NUMBER: S-09-008-201
 DATE: 03-29-2016
 SHEET 04 OF 28



CITY OF CHATTANOOGA
 DEPARTMENT OF PUBLIC WORKS
NORTH ST. ELMO DRAINAGE SYSTEM
STUDY AND UPGRADE

JUSTIN C. HOLLAND, DEPUTY ADMINISTRATOR
 WILLIAM C. PAYNE, P.E., CITY ENGINEER



ALL OF TRACT 6 IS
 TEMPORARY CONSTRUCTION EASEMENT.
 INTENDED FOR USE AS STAGING AREA
 AND TEMPORARY PARKING AREA FOR THE
 DIALYSIS CLINIC AS NEEDED.



SPECIAL NOTES:

ACCESS
 THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER AN ACCESS PLAN SHOWING HOW HE INTENDS TO MAINTAIN ACCESS TO ALL BUSINESSES ALONG ST. ELMO AVENUE DURING CONSTRUCTION. TRACTOR TRAILER ACCESS TO THESE BUSINESSES SHALL BE MAINTAINED AT ALL TIMES. THE PLAN SHALL BE SUBMITTED A MINIMUM OF 30 DAYS PRIOR TO CONSTRUCTION ALONG ST. ELMO AVENUE TO ALLOW TIME FOR REVIEW AND TO ACQUIRE APPROVAL FROM THE PROPERTY OWNERS AND THE ENGINEER.

SECURITY
 THE CONTRACTOR SHALL PROVIDE A SECURITY FENCE AROUND THE PROPERTIES WHICH ARE CURRENTLY FENCED AT ALL TIMES. IF POSSIBLE, IF AT ANY TIME A SECURITY FENCE CAN NOT BE MAINTAINED, THE CONTRACTOR SHALL PROVIDE SECURITY PERSONNEL FOR THE PROPERTY(S) WHICH DO NOT HAVE A COMPLETE FENCE INSTALLED AND TEMPORARY LIGHTING SHALL BE PROVIDED BY THE CONTRACTOR FOR AREAS OF CONCERN.

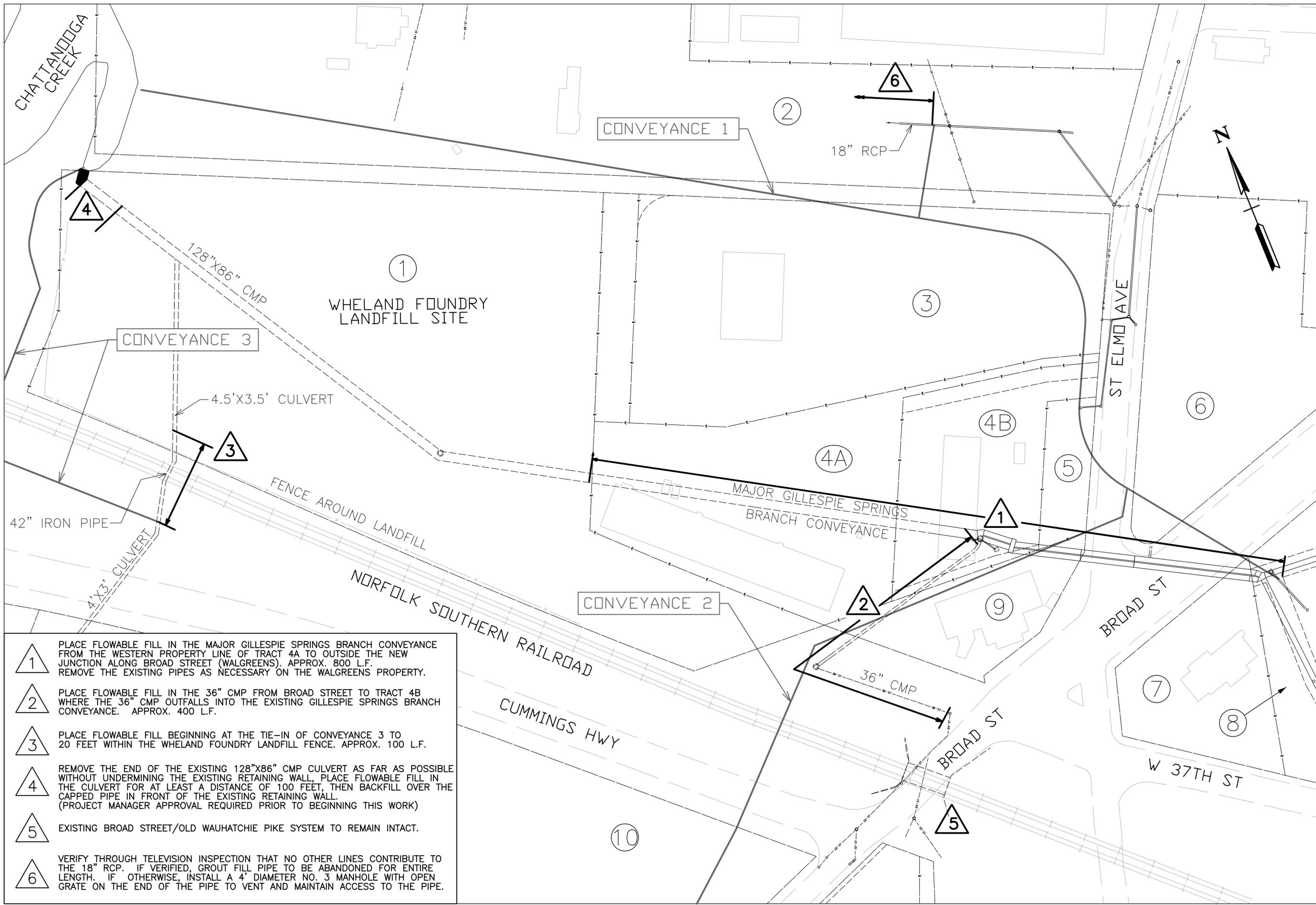
DATE	REVISION DESCRIPTION
4-4-16	CHANGED DRAINAGE EASEMENT TO PROP. R.O.W. ON TRACT 6

ALIGNMENT AND EASEMENT DETAILS CONVEYANCE 1
 FROM STA. 20+00 TO STA. 25+78.51

SCALE 1" = 20'
 DESIGNED BY: MAC
 DRAWN BY: MAC
 CHECKED BY: LAQ



CONTRACT NUMBER: S-09-008-201
 DATE: 03-29-2016
 SHEET 13B OF 28



- ① PLACE FLOWABLE FILL IN THE MAJOR GILLESPIE SPRINGS BRANCH CONVEYANCE FROM THE WESTERN PROPERTY LINE OF TRACT 4A TO OUTSIDE THE NEW JUNCTION ALONG BROAD STREET (WALGREENS). APPROX. 800 L.F. REMOVE THE EXISTING PIPES AS NECESSARY ON THE WALGREENS PROPERTY.
- ② PLACE FLOWABLE FILL IN THE 36" CMP FROM BROAD STREET TO TRACT 4B WHERE THE 36" CMP OFFFALLS INTO THE EXISTING GILLESPIE SPRINGS BRANCH CONVEYANCE. APPROX. 400 L.F.
- ③ PLACE FLOWABLE FILL BEGINNING AT THE TIE-IN OF CONVEYANCE 3 TO 20 FEET WITHIN THE WHELAND FOUNDRY LANDFILL FENCE. APPROX. 100 L.F.
- ④ REMOVE THE END OF THE EXISTING 128"x86" CMP CULVERT AS FAR AS POSSIBLE WITHOUT UNDERMINING THE EXISTING RETAINING WALL. PLACE FLOWABLE FILL IN THE CULVERT FOR AT LEAST A DISTANCE OF 100 FEET, THEN BACKFILL OVER THE CAPPED PIPE IN FRONT OF THE EXISTING RETAINING WALL. (PROJECT MANAGER APPROVAL REQUIRED PRIOR TO BEGINNING THIS WORK)
- ⑤ EXISTING BROAD STREET/OLD WAUHATCHIE PIKE SYSTEM TO REMAIN INTACT.
- ⑥ VERIFY THROUGH TELEVISION INSPECTION THAT NO OTHER LINES CONTRIBUTE TO THE 18" RCP. IF VERIFIED, GROUT FILL PIPE TO BE ABANDONED FOR ENTIRE LENGTH. IF OTHERWISE, INSTALL A 4' DIAMETER NO. 3 MANHOLE WITH OPEN GRATE ON THE END OF THE PIPE TO VENT AND MAINTAIN ACCESS TO THE PIPE.



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DATE	REVISION DESCRIPTION
4-18-16	REVISED NOTES ON ITEM 4 WORK

EXISTING
 STORM SYSTEM
 ABANDONMENT
 PLAN

SCALE 1" = 50'
 DESIGNED BY: MAC
 DRAWN BY: MAC
 CHECKED BY: LAQ



CONTRACT NUMBER:
 S-09-008-201
 DATE: 03-29-2016
 SHEET 17 OF 28