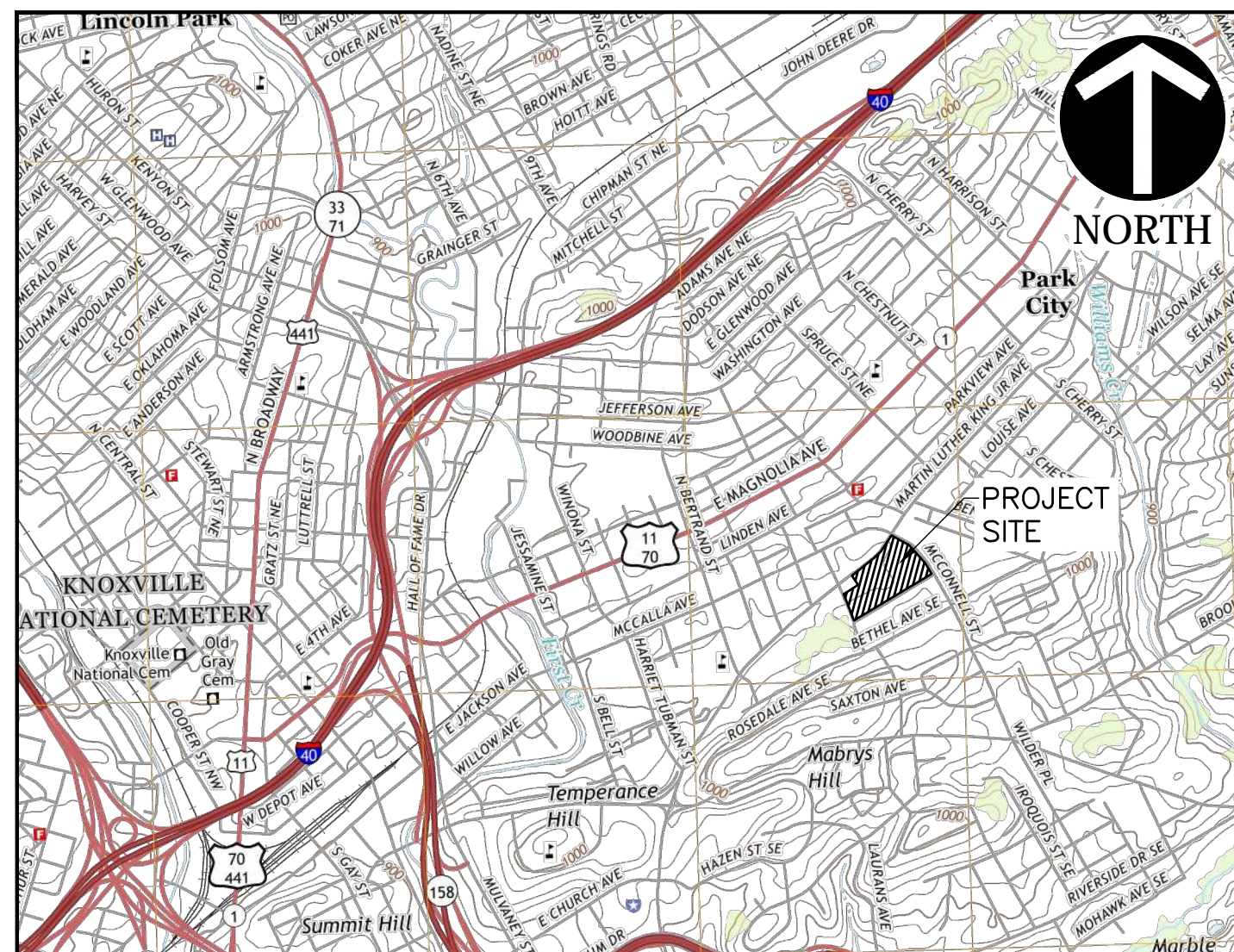
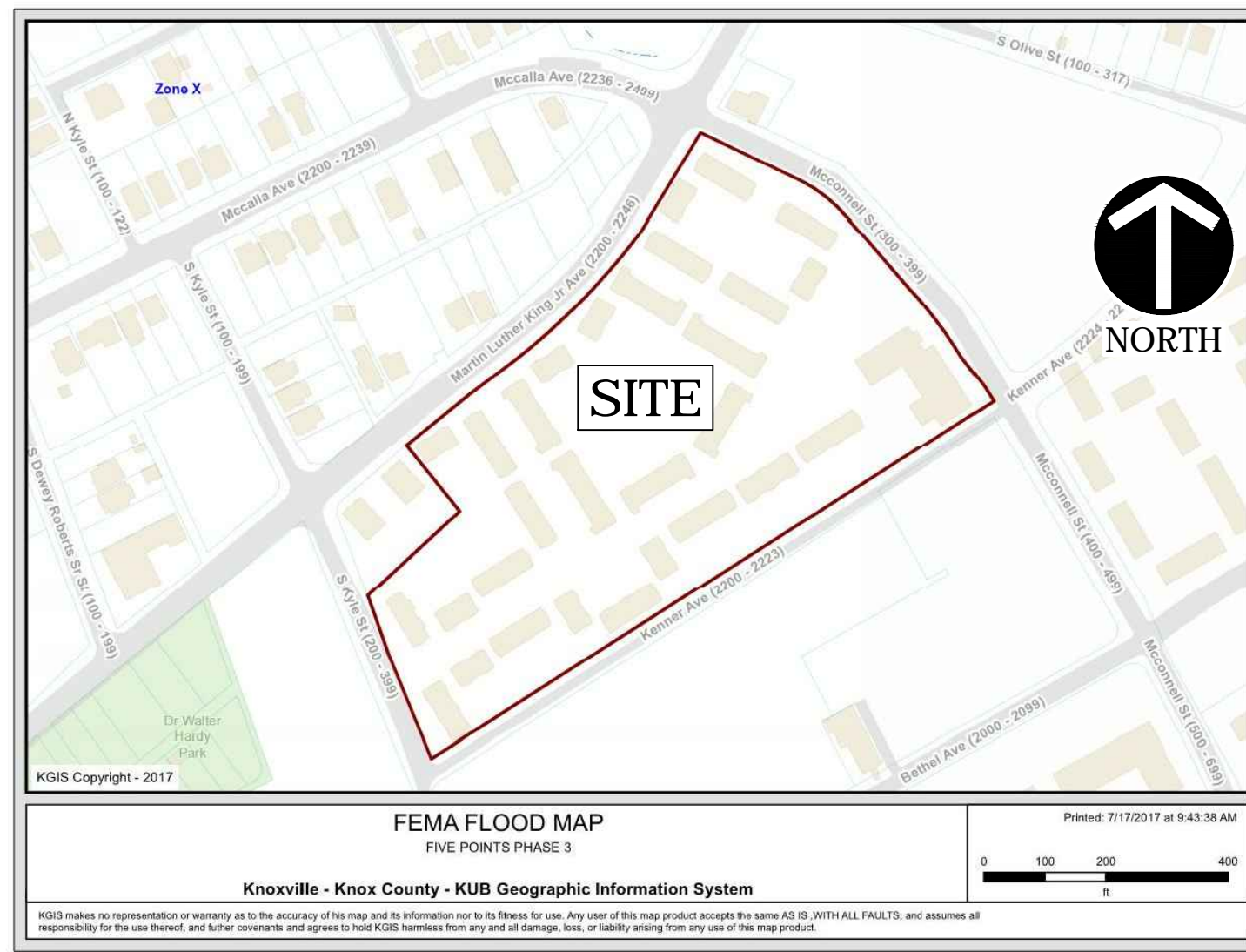


FIVE POINTS PHASE 3 INFRASTRUCTURE IMPROVEMENTS

FIVE POINTS NEIGHBORHOOD
KNOXVILLE, KNOX COUNTY, TN

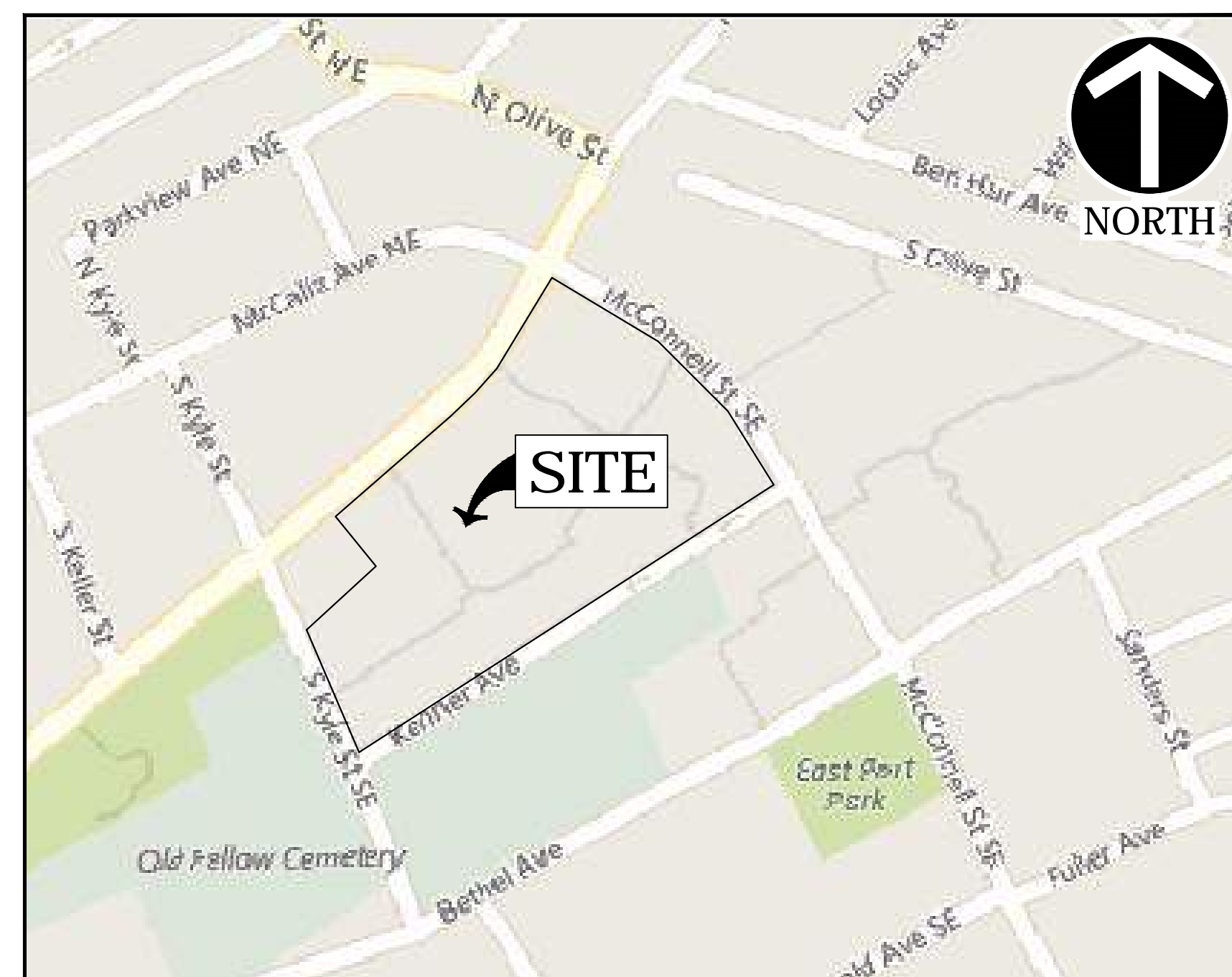
PREPARED FOR:
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION
JULY 2017

CONSTRUCTION DOCUMENTS



U.S.G.S. MAP

USGS 7.5 MIN TOPOGRAPHIC MAP
KNOXVILLE, TN QUADRANGLE
1" = 2000'



VICINITY MAP

IMAGE TAKEN FROM BING MAPS
N.T.S.

PROPERTY OWNER

KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION
901 N. BROADWAY
KNOXVILLE, TN 37917
PH: (865) 403-1117

CIVIL ENGINEER

CIVIL & ENVIRONMENTAL CONSULTANTS
2704 CHEROKEE FARM WAY, STE. 101
KNOXVILLE, TN 37920
PH: 865-977-9997
CONTACT: GREG PRESNELL, PE

SITE DATA

PARCEL ID: 095BF022
ZONING: R-2 RESIDENTIAL
CITY BLOCK: 14430
CLT MAP: 95
TOTAL SITE ACREAGE: 11.94 ACRES
TOTAL DISTURBED AREA: ± 11.7 ACRES
TOTAL EXISTING IMPERVIOUS AREA: 5.95 ACRES
TOTAL POST DEVELOPED IMPERVIOUS AREA: 5.63 ACRES
PROPERTY ADDRESS: 304 S. KYLE STREET
KNOXVILLE, TN 37915

LIST OF DRAWINGS

- C000 COVER SHEET
- C001 PROJECT NOTES
- C100 DEMOLITION PLAN
- C200 OVERALL LAYOUT PLAN
- C201 WEST LAYOUT PLAN
- C202 EAST LAYOUT PLAN
- C300 GRADING PLAN
- C400 DRAINAGE PLAN
- C401 STORM SEWER PROFILES
- C402 STORM SEWER PROFILES
- C403 STORM SEWER PROFILES
- C500 UTILITY PLAN
- C501 SANITARY SEWER PROFILES
- C502 PUBLIC SEWER MAIN EXTENSION
- C503 PUBLIC SEWER MAIN EXTENSION
- C504 PUBLIC WATER MAIN EXTENSION
- C800 DETAILS
- C801 DETAILS
- C802 DETAILS
- C803 DETAILS
- C804 DETAILS
- C805 DETAILS
- C806 DETAILS
- C807 DETAILS
- C900 INITIAL EROSION PREVENTION AND SEDIMENT CONTROL PLAN
- C901 INTERIM EROSION PREVENTION AND SEDIMENT CONTROL PLAN
- C902 FINAL EROSION PREVENTION AND SEDIMENT CONTROL PLAN
- C903 EROSION CONTROL DETAILS AND NOTES
- C904 EROSION CONTROL DETAILS AND NOTES

UTILITY COMPANIES

WATER SERVICE

KNOXVILLE UTILITIES BOARD
4505 MIDDLEBROOK PIKE
KNOXVILLE, TN 37921
865-524-2911

ELECTRIC SERVICE

KNOXVILLE UTILITIES BOARD
4505 MIDDLEBROOK PIKE
KNOXVILLE, TN 37921
865-524-2911

SANITARY SEWER

KNOXVILLE UTILITIES BOARD
4505 MIDDLEBROOK PIKE
KNOXVILLE, TN 37921
865-524-2911

TELEPHONE SERVICE

AT&T
9733 PARKSIDE DRIVE
KNOXVILLE, TN 37922
865-539-8534



NO	DATE	DESCRIPTION
1	08/11/17	ISSUED FOR PERMIT

C&E
Civil & Environmental Consultants, Inc.
865-779-1117
www.cetinc.com

KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION
FIVE POINTS PHASE 3
INFRASTRUCTURE IMPROVEMENTS
KNOXVILLE, KNOX COUNTY, TN

COVER SHEET

DATE: JULY 26, 2017
DRAWN BY: GHP
PROJECT NO: 172-455
CHECKED BY: GHP
APPROVED BY: GHP

DRAWING NO.: **C000**

A:1807172-455-0000 [p172455-001-0000.dwg] LS(8/11/2017 - 8/11/2017 10:28 AM

DEMOLITION GENERAL NOTES

- ALL EXISTING ABOVE AND BELOW GROUND STRUCTURES WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REMOVED UNLESS NOTED OTHERWISE WITHIN THIS CONSTRUCTION SET AND/OR PROJECT SPECIFICATIONS. THIS INCLUDES FOUNDATION SLABS, WALLS AND FOOTINGS. CAVITIES LEFT BY STRUCTURE REMOVAL SHALL BE BACKFILLED WITH SATISFACTORY MATERIALS AND COMPACTED TO 98% OF MAXIMUM DENSITY PER ASTM D-698.
- CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD.
- ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFF-SITE IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR DAMAGE ACCORDING TO THE APPROPRIATE UTILITY COMPANY STANDARDS AND AT THE CONTRACTOR'S EXPENSE.
- ALL UTILITY DISCONNECTION, REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY/ AGENCY. UTILITY CONTACTS ARE LISTED ON THE COVER SHEET.
- THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR OBTAINS PRIOR WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.
- EROSION AND SEDIMENTATION CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE PROPERLY INSTALLED AND SHALL FUNCTION PROPERLY PRIOR TO INITIALIZATION OF DEMOLITION ACTIVITIES.
- ASBESTOS OR HAZARDOUS MATERIALS ARE NOT EXPECTED TO BE ENCOUNTERED. IF FOUND ON SITE, SUCH MATERIALS SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF HAZARDOUS MATERIALS ARE ENCOUNTERED.
- CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL AND OSHA REGULATIONS DURING ALL DEMOLITION ACTIVITIES.
- CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES, STRUCTURES, AND FEATURES TO REMAIN. ANY ITEMS TO REMAIN THAT HAVE BEEN DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH STATE DEPARTMENT OF TRANSPORTATION REGULATIONS AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE WITH LOCAL AND/OR STATE AGENCIES REGARDING THE NEED, EXTENT AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES.
- PROVIDE NEAT, STRAIGHT, FULL DEPTH, SAW CUTS OF EXISTING PAVEMENT WHERE INDICATED ALONG LIMITS OF PAVEMENT DEMOLITION.
- ALL UTILITY AND STRUCTURE REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED AND PROPERLY DOCUMENTED BY A CERTIFIED PROFESSIONAL, WHEN APPLICABLE, WITH THE APPROPRIATE UTILITY COMPANY, MUNICIPALITY AND/OR AGENCY. DEMOLITION OF REGULATED ITEMS MAY INCLUDE, BUT ARE NOT LIMITED TO: WELLS, ASBESTOS CONTAINING MATERIALS, UNDERGROUND STORAGE TANKS, SEPTIC TANKS AND ELECTRIC TRANSFORMERS. DEMOLITION CONTRACTOR SHALL REFER TO ANY ENVIRONMENTAL STUDIES FOR DEMOLITION RECOMMENDATIONS AND GUIDANCE. AVAILABLE ENVIRONMENTAL STUDIES MAY INCLUDE, BUT ARE NOT LIMITED TO: PHASE I ESA, PHASE II, WETLAND AND STREAM DELINEATION AND ASBESTOS SURVEY. ALL APPLICABLE ENVIRONMENTAL STUDIES SHALL BE MADE AVAILABLE UPON REQUEST.
- NO TREES SHALL BE REMOVED, NOR VEGETATION DISTURBED BEYOND THE LIMITS OF CONSTRUCTION WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
- TREE PROTECTION FENCING SHALL BE IN ACCORDANCE WITH THE KNOXVILLE'S CITY STANDARDS - OR - IN ACCORDANCE WITH THE DETAILED DRAWINGS. CONTRACTOR SHALL NOT OPERATE OR STORE EQUIPMENT, NOR HANDLE OR STORE MATERIALS, WITHIN THE DRIP LINES OF THE TREES SHOWN TO REMAIN.
- ALL PAVEMENT, BASE COURSES, SIDEWALKS, CURBS, BUILDINGS, FOUNDATIONS, ETC., WITHIN THE AREA TO BE DEMOLISHED SHALL BE REMOVED TO FULL DEPTH. EXISTING BASE COURSE MATERIALS MAY BE WORKED INTO THE NEW PAVEMENT OR BUILDING SUBGRADE PROVIDED THAT THE GRADATION, CONSISTENCY, COMPACTION, SUBGRADE CONDITION, ETC., ARE IN ACCORDANCE WITH THE SPECIFICATIONS AND RECOMMENDATIONS OF ON-SITE GEOTECHNICAL ENGINEER'S RECOMMENDATION. BASE COURSE MATERIALS SHALL NOT BE WORKED INTO THE SUBGRADE AREAS TO RECEIVE LANDSCAPING.
- THE CONTRACTOR SHALL USE SUITABLE METHODS TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION ACTIVITIES.

SITE GENERAL NOTES

- EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE GENERAL AND ILLUSTRATIVE IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING ON THIS PROJECT. IF CONDITIONS ENCOUNTERED DURING EXAMINATION ARE SIGNIFICANTLY DIFFERENT THAN THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTORS TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND OWNER'S REPRESENTATIVE FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES OCCURRING IN THE COURSE OF THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS.
- THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, OBTAIN ALL APPLICABLE PERMITS, AND PAY ALL REQUIRED FEES PRIOR TO BEGINNING WORK.
- ALL WORK PERFORMED BY THE CONTRACTOR SHALL CONFORM TO THE LATEST REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT.
- CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.
- EXISTING SITE INFORMATION/TOPOGRAPHIC SURVEY WAS COMPILED FROM SURVEY PREPARED BY CEC, INC., DATED MARCH 18, 2013.
- BEFORE INSTALLATION OF STORM OR SANITARY SEWER, OR OTHER UTILITY, THE CONTRACTOR SHALL VERIFY ALL CROSSINGS, BY EXCAVATION WHERE NECESSARY, AND INFORM THE OWNER AND THE ENGINEER OF ANY CONFLICTS. THE ENGINEER WILL BE HELD HARMLESS IN THE EVENT HE IS NOT NOTIFIED OF DESIGN CONFLICTS PRIOR TO CONSTRUCTION.

UTILITY GENERAL NOTES

- ALL PROPOSED UTILITY LINES AND EXTENSIONS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE KNOXVILLE UTILITY BOARD SPECIFICATIONS. CONTRACTOR SHALL COORDINATE UTILITY CONNECTIONS WITH THE APPROPRIATE AGENCY AND KCCDC.
- WATER AND SEWER FEES INCLUDING - BUT NOT LIMITED TO - METER, TAP, CONNECTION, ETC. - SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR TO COORDINATE FEES WITH KNOXVILLE UTILITIES BOARD.
- THE CONTRACTOR IS PARTICULARLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF THE EXISTING UTILITIES SHOWN HEREON IS BASED ON TOPOGRAPHIC SURVEYS AND RECORD DRAWINGS. THE CONTRACTOR SHALL NOT RELY UPON THIS INFORMATION AS BEING EXACT OR COMPLETE. SHOULD UNCHARTED UTILITIES BE ENCOUNTERED DURING EXCAVATION OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS POSSIBLE FOR INSTRUCTIONS. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION AND REQUEST FIELD VERIFICATION OF UTILITY LOCATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO RELOCATE EXISTING UTILITIES CONFLICTING WITH IMPROVEMENTS SHOWN HEREON IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.
- THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- MAINTAIN MINIMUM 10-FOOT HORIZONTAL AND 18-INCH MINIMUM VERTICAL SEPARATION BETWEEN SANITARY SEWER AND WATER SUPPLY LINES, UNLESS OTHERWISE INDICATED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND UNDERGROUND ELECTRIC LINES DO NOT CONFLICT WITH SANITARY SEWERS OR STORM SEWERS. INSTALL UTILITIES PRIOR TO PAVEMENT CONSTRUCTION.
- ALL TRENCH SPOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFF-SITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
- ADJUST ALL EXISTING UTILITY SURFACE FEATURES TO REMAIN INCLUDING BUT NOT LIMITED TO CASTINGS, VALVE BOXES, PEDESTALS, CLEANOUTS, ETC. TO MATCH PROPOSED FINISHED GRADES, UNLESS OTHERWISE INDICATED.
- THE CONTRACTOR SHALL PROVIDE RECORD DRAWINGS OF ALL IMPROVEMENTS. INCLUDE AT LEAST TWO DIMENSIONS TO EACH VALVE AND MANHOLE FROM KNOWN SITE FEATURES. DRAWINGS SHALL INCLUDE HORIZONTAL AND VERTICAL INFORMATION ON ALL NEW UTILITIES AS WELL AS EXISTING UTILITIES ENCOUNTERED.
- UTILITY PIPE MATERIAL OPTIONS SHALL MEET THE KNOXVILLE UTILITY BOARD'S SPECIFICATIONS.

LAYOUT GENERAL NOTES

- THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES, INCLUDING IRRIGATION LINES. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. RELOCATE EXISTING UTILITIES AS INDICATED, OR AS NECESSARY FOR CONSTRUCTION.
- PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY. INSTALL ALL UTILITIES, INCLUDING IRRIGATION SLEEVING, PRIOR TO INSTALLATION OF PAVED SURFACES.
- THE CONTRACTOR SHALL PROTECT ALL TREES TO REMAIN IN ACCORDANCE WITH THE SPECIFICATIONS.
- SITE WORK CONCRETE WALKS AND PADS SHALL HAVE A BROOM FINISH TO ALL SURFACES. SITE WORK CONCRETE SHALL BE CLASS "A" (MINIMUM 4,000 PSI @ 28 DAYS) UNLESS OTHERWISE NOTED.
- ALL DAMAGE TO EXISTING PAVEMENT TO REMAIN WHICH RESULTS FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE.
- SITE DIMENSIONS SHOWN ARE TO THE FACE OF CURB, OR EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED.
- COORDINATES ARE FOR CENTER OF DRIVEWAYS, CENTER OF SANITARY SEWER MANHOLES, AND CENTER AT FACE OF CURB FOR DRAIN INLETS, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL MAINTAIN ONE SET OF AS-BUILT / RECORD DRAWINGS ON THE JOB SITE DURING CONSTRUCTION FOR DISTRIBUTION TO THE OWNER AND/OR OWNER'S REPRESENTATIVE UPON COMPLETION.
- THIS SITE LAYOUT IS SPECIFIC TO THE APPROVALS NECESSARY FOR THE CONSTRUCTION IN ACCORDANCE WITH THE CITY OF KNOXVILLE. NO CHANGES TO THE SITE LAYOUT ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. CHANGES MADE TO THE SITE LAYOUT WITHOUT APPROVAL ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. CHANGES INCLUDE, BUT ARE NOT LIMITED TO, INCREASED IMPERVIOUS PAVEMENT, ADDITION/DELETION OF PARKING SPACES, MOVEMENT OF CURB LINES, CHANGES TO DRAINAGE STRUCTURES AND PATTERNS, LANDSCAPING, ETC.

GRADING GENERAL NOTES

- ALL PROPOSED GRADES SHOWN ARE FINAL GRADES, TOP OF GROUND LEVEL, OR TOP OF PAVEMENT, OR GRATE ELEVATION AT THE DRAWDOWN POINT, UNLESS INDICATED OTHERWISE.
- REFER TO AND FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT PREPARED FOR THIS SITE BY GEOSERVICES DATED 08/08/2017. THE CONTRACTOR SHALL ENGAGE A GEOTECHNICAL ENGINEER TO MONITOR EARTHWORK ACTIVITIES AND ADHERE TO THEIR RECOMMENDATIONS DURING CONSTRUCTION.
- CONTRACTOR SHALL STRICTLY ADHERE TO THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND EROSION PREVENTION AND SEDIMENT CONTROL (EPCO) PLAN PREPARED FOR THIS PROJECT. EPCO DEVICES SHALL BE THE FIRST ITEM OF CONSTRUCTION AND SHALL REMAIN FUNCTIONAL UNTIL THE SITE IMPROVEMENTS ARE ACCEPTED BY THE OWNER. SITE GRADING MAY COMMENCE AFTER ALL EPCO DEVICES ARE INSTALLED IN ACCORDANCE WITH CONSTRUCTION DRAWINGS AND CONTROLS HAVE BEEN CERTIFIED BY THE CITY OF KNOXVILLE.
- EARTHWORK SHALL INCLUDE CLEARING AND GRUBBING, STRIPPING AND STOCKPILING TOPSOIL, MASS GRADING, EXCAVATION, FILLING, UNDER CUT AND REPLACEMENT, IF REQUIRED, AND COMPACTION.
- CONTRACTOR TO REFILL UNDERCUT AREAS WITH SUITABLE MATERIAL AND COMPACT AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
- PLACE TOPSOIL OVER THE SUBGRADE OF UNPAVED, DISTURBED AREAS TO A DEPTH OF 6" MINIMUM.
- ALL SLOPES SHALL BE 3:1 MAXIMUM UNLESS NOTED OTHERWISE.
- ALL AREAS NOT PAVED SHALL BE STABILIZED IN ACCORDANCE WITH THE EROSION CONTROL PLAN, UNLESS NOTED OTHERWISE.
- ALL EXCESS SOIL MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFF-SITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
- EXISTING CONTOURS VERTICAL DATUM REFERENCE IS NAVD88.
- CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING STORM SEWER STRUCTURES, PIPES, AND ALL UTILITIES PRIOR TO CONSTRUCTION, AND REPORT ALL DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
- CONTRACTOR SHALL ISSUE ALL PROPER NOTIFICATIONS TO REGULATORY AGENCIES AS REQUIRED BY LAW, AND COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL DEVICES, AND SECURE ALL PERMITS PRIOR TO ANY LAND DISTURBANCE ACTIVITY.
- THE PROPOSED ELEVATIONS AND SPOT ELEVATIONS SHOWN ARE FINISH GRADE. PROPER ADJUSTMENT SHALL BE MADE BY THE CONTRACTOR FOR SUBGRADE.
- CONTRACTOR SHALL GRADE ALL AREAS FOR POSITIVE DRAINAGE TOWARDS INLETS.
- ALL TOPSOIL STOCKPILES SHALL BE DOZER COMPACTED. STOCKPILES SHALL ALSO BE SEEDED.

DRAINAGE GENERAL NOTES

- DISTANCES SHOWN FOR DRAINAGE PIPES ARE HORIZONTAL DISTANCES FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE INSTALLATION, INSPECTION, TESTING AND FINAL ACCEPTANCE OF ALL NEW STORMWATER MANAGEMENT FACILITIES CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH ALL APPLICABLE REGULATING AGENCIES CONCERNING INSTALLATION, INSPECTION AND APPROVAL OF THE STORM DRAINAGE SYSTEM CONSTRUCTION.
- ALL STORMWATER MANAGEMENT FACILITIES, INCLUDING COLLECTION AND CONVEYANCE STRUCTURES, SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
- ANY WORK PERFORMED IN THE LOCAL OR STATE RIGHT-OF-WAYS SHALL BE IN ACCORDANCE WITH THE APPLICABLE LOCAL OR STATE REQUIREMENTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE NECESSARY PERMITS FOR THE WORK, SCHEDULE NECESSARY INSPECTIONS, AND PROVIDE THE NECESSARY TRAFFIC CONTROL MEASURES AND DEVICES, ETC., FOR WORK PERFORMED IN THE RIGHT-OF-WAYS.
- STORM PIPE MATERIAL OPTIONS ARE AS INDICATED IN THE DRAINAGE PLAN.
- SEE C800 SHEETS FOR CONSTRUCTION DETAILS.
- ALL DRAINAGE PIPES INSTALLED UNDER PAVEMENT SHALL BE BACKFILLED TO TOP OF SUBGRADE WITH CRUSHED STONE.
- STONE BEDDING AND BACKFILL SHALL BE DONE IN STRICT COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- DRAINS SHALL BE INSTALLED IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- DRAIN BASINS SHALL BE AS NOTED ON THE DRAINAGE PLAN.

REVISION RECORD

NO.	DATE	DESCRIPTION
1	08/11/17	ADDENDUM 1

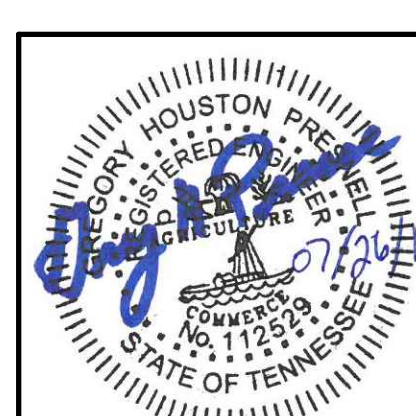
CEC
Civil & Environmental Consultants, Inc.
 2704 Cherokee Farm Way - Suite 101 - Knoxville, TN 37920
 Ph: 865.977.9997 - Fax: 865.977.9919
 www.cecinc.com

KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION
FIVE POINTS PHASE 3
INFRASTRUCTURE IMPROVEMENTS
KNOXVILLE, KNOX COUNTY, TN

PROJECT NOTES

DATE: JULY 26, 2017 | DRAWN BY: CER
 DWG SCALE: AS SHOWN | CHECKED BY: GHP
 PROJECT NO: 172-465
 APPROVED BY: GHP

DRAWING NO.: **C001**

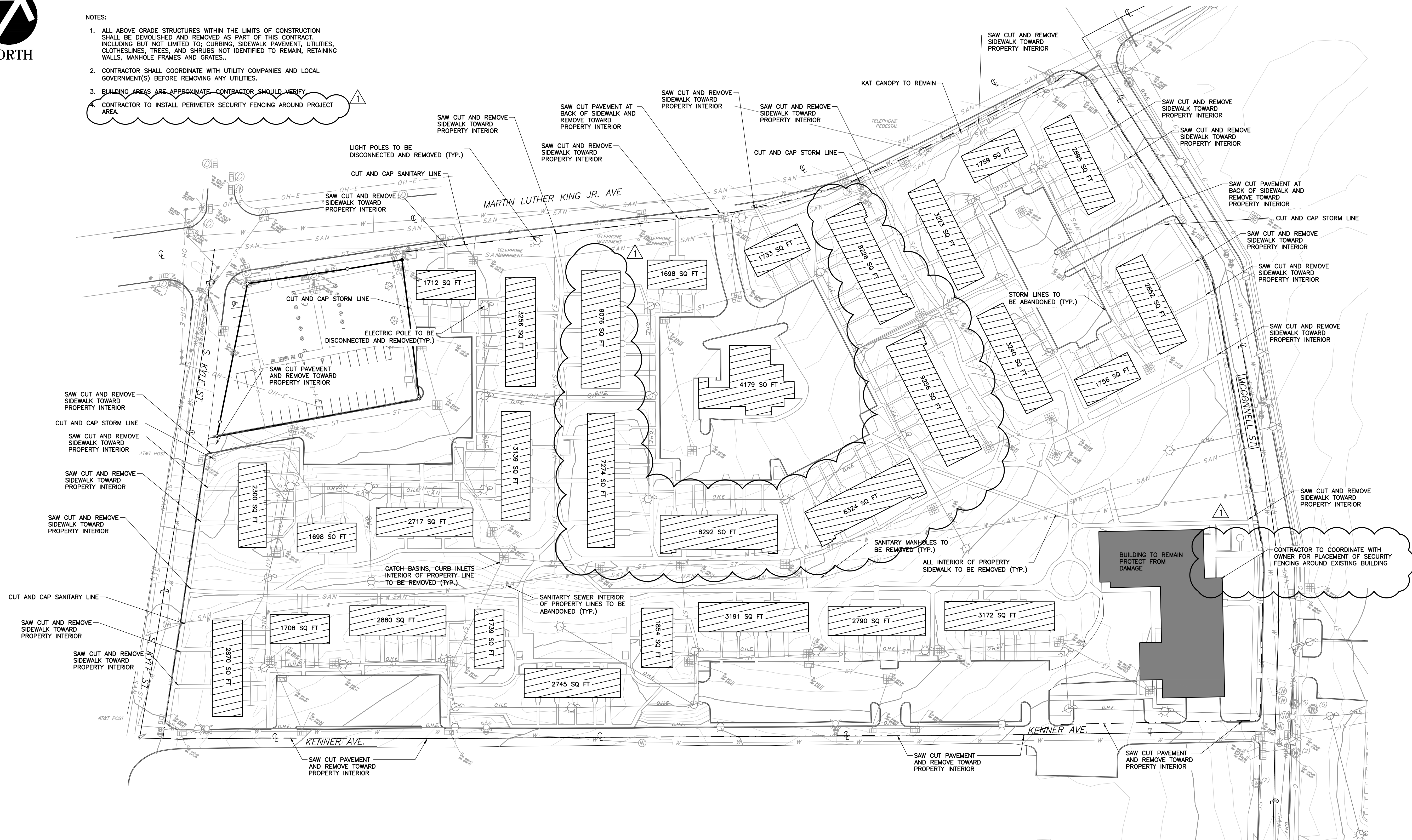


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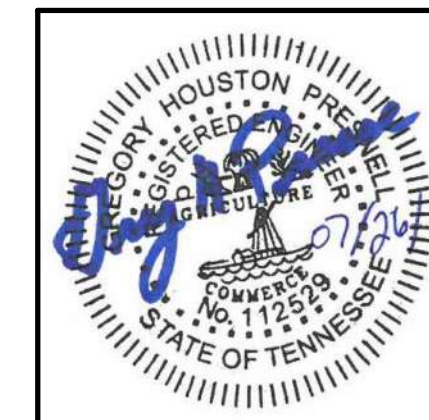
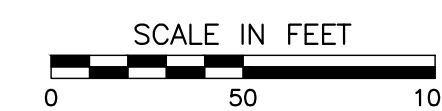
NOTES:

1. ALL ABOVE GRADE STRUCTURES WITHIN THE LIMITS OF CONSTRUCTION SHALL BE DEMOLISHED AND REMOVED AS PART OF THIS CONTRACT, INCLUDING BUT NOT LIMITED TO: CURBING, SIDEWALK PAVEMENT, UTILITIES, CLOTHESLINES, TREES, AND SHRUBS NOT IDENTIFIED TO REMAIN, RETAINING WALLS, MANHOLE FRAMES AND GRATES.
2. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES AND LOCAL GOVERNMENT(S) BEFORE REMOVING ANY UTILITIES.
3. BUILDING AREAS ARE APPROXIMATE. CONTRACTOR SHOULD VERIFY.
4. CONTRACTOR TO INSTALL PERIMETER SECURITY FENCING AROUND PROJECT AREA.



EXISTING LEGEND:

- | | | | |
|-----------|---------------------------------|---|------------------------------|
| — | EXISTING PROPERTY LINE | ⊙ | EXISTING SANITARY SEWER LINE |
| - - - | EXISTING ADJACENT PROPERTY LINE | ⊕ | EXISTING POWER POLE |
| - · - · - | EXISTING RIGHT-OF-WAY | ⊛ | EXISTING LIGHT POLE |
| - · - · - | EXISTING EASEMENT | ⊞ | EXISTING STORM INLET |
| SAN | EXISTING SANITARY SEWER LINE | ⊟ | EXISTING WATER VALVE |
| CS | EXISTING COMBINED SEWER LINE | ⊠ | EXISTING FIRE HYDRANT |
| ST | EXISTING STORM SEWER LINE | ⊡ | EXISTING GAS VALVE |
| UG-E | EXISTING UNDERGROUND ELEC. LINE | ▨ | BUILDINGS TO BE REMOVED |
| OH-E | EXISTING OVERHEAD ELECTRIC | ■ | PAVEMENT TO BE REMOVED |
| ST | EXISTING STORM SEWER LINE | ■ | EXISTING BUILDING TO REMAIN |
| G | EXISTING GAS LINE | | |
| W | EXISTING WATER LINE | | |



REVISION RECORD

NO.	DATE	DESCRIPTION
1	08/11/17	ISSUED FOR PERMITS

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Civil & Environmental Consultants, Inc.
 2704 Cherokee Farm Way - Suite 101 - Knoxville, TN 37920
 Ph: 865.977.5667 - Fax: 865.977.9919
 www.ceecinc.com

**KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION
 FIVE POINTS PHASE 3
 INFRASTRUCTURE IMPROVEMENTS
 KNOXVILLE, KNOX COUNTY, TN**

DEMOLITION PLAN

DATE: JULY 26, 2017
 DWG SCALE: AS SHOWN
 PROJECT NO: 172-455
 APPROVED BY: GHP

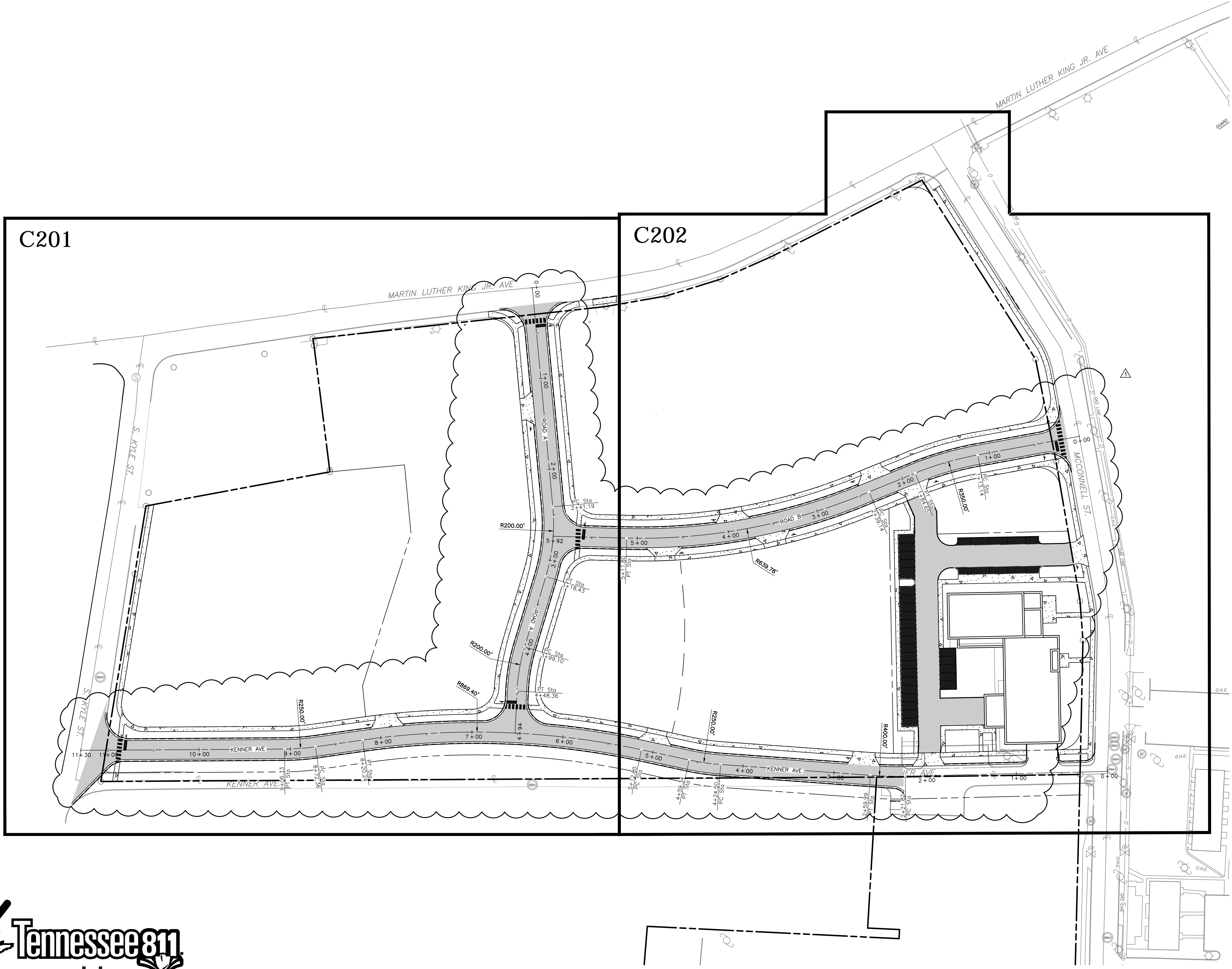
DRAWING NO: **C100**

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C201

C202



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SCALE IN FEET
0 50 100

OVERALL LAYOUT PLAN

DRAWING NO.:
C200

DATE: JULY 26, 2017
DRAWN BY: CER
DWG SCALE: AS SHOWN
PROJECT NO.: 172-455
CHECKED BY: GHP
APPROVED BY: GHP

KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION
FIVE POINTS PHASE 3
INFRASTRUCTURE IMPROVEMENTS
KNOXVILLE, KNOX COUNTY, TN



Civil & Environmental Consultants, Inc.
2704 Cherokee Farm Way - Suite 101 - Knoxville, TN 37920
Ph: 865.977.9697 - Fax: 865.977.9919
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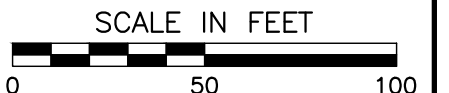
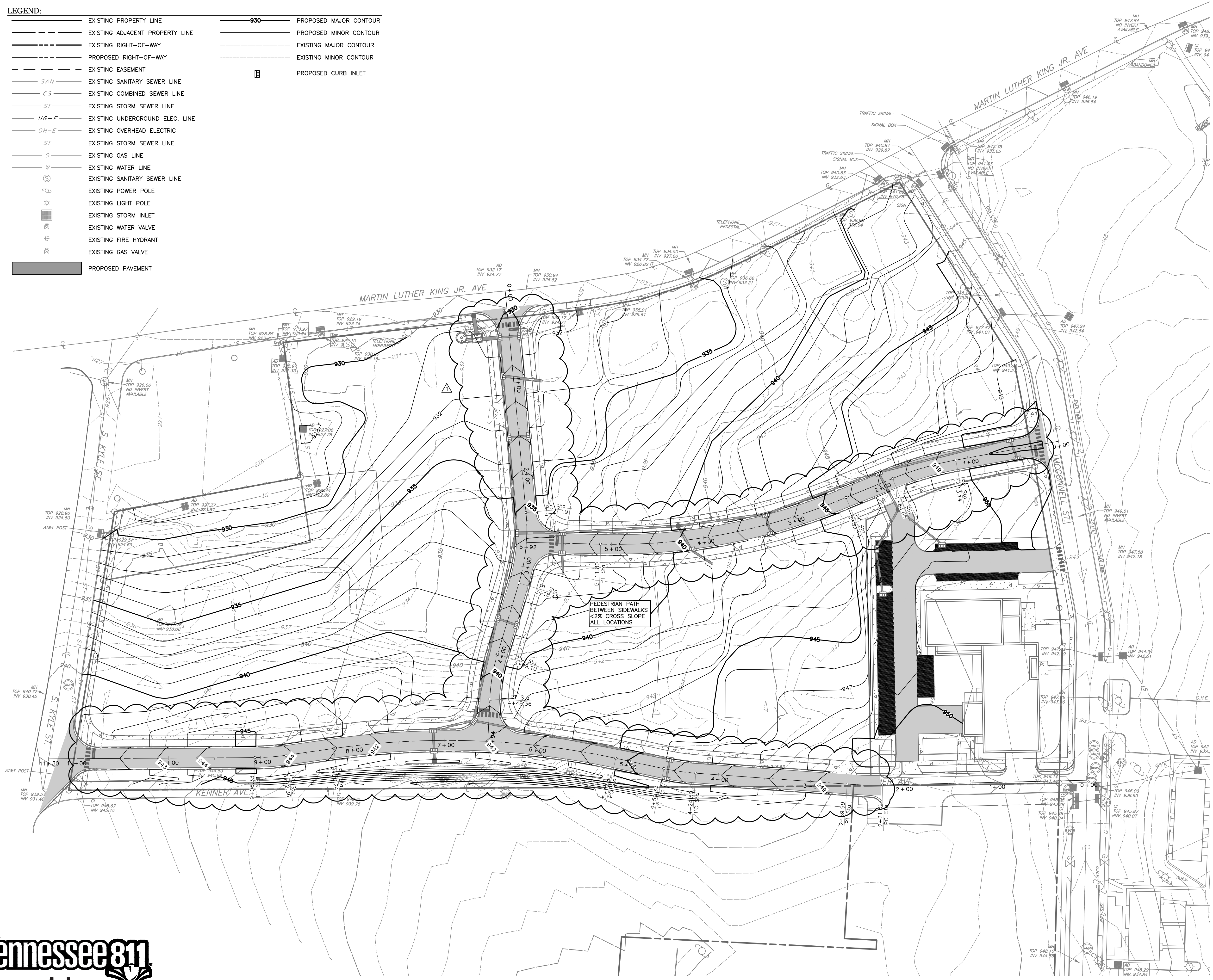
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REVISION RECORD



LEGEND:

- EXISTING PROPERTY LINE
- - - EXISTING ADJACENT PROPERTY LINE
- - - EXISTING RIGHT-OF-WAY
- - - PROPOSED RIGHT-OF-WAY
- - - EXISTING EASEMENT
- SAN — EXISTING SANITARY SEWER LINE
- CS — EXISTING COMBINED SEWER LINE
- ST — EXISTING STORM SEWER LINE
- UG-E — EXISTING UNDERGROUND ELEC. LINE
- OH-E — EXISTING OVERHEAD ELECTRIC
- ST — EXISTING STORM SEWER LINE
- G — EXISTING GAS LINE
- W — EXISTING WATER LINE
- S — EXISTING SANITARY SEWER LINE
- P — EXISTING POWER POLE
- L — EXISTING LIGHT POLE
- I — EXISTING STORM INLET
- V — EXISTING WATER VALVE
- H — EXISTING FIRE HYDRANT
- G — EXISTING GAS VALVE
- PROPOSED PAVEMENT
- 930 — PROPOSED MAJOR CONTOUR
- 935 — PROPOSED MINOR CONTOUR
- 940 — EXISTING MAJOR CONTOUR
- 945 — EXISTING MINOR CONTOUR
- PROPOSED CURB INLET



NO.	DATE	DESCRIPTION
1	08/11/17	ISSUED FOR PERMIT

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KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION
FIVE POINTS PHASE 3
INFRASTRUCTURE IMPROVEMENTS
KNOXVILLE, KNOX COUNTY, TN

DATE:	JULY 26, 2017	DRAWN BY:	CER
DWG SCALE:	AS SHOWN	CHECKED BY:	GHP
PROJECT NO.:	172-455	APPROVED BY:	GHP

DRAWING NO. **C300**



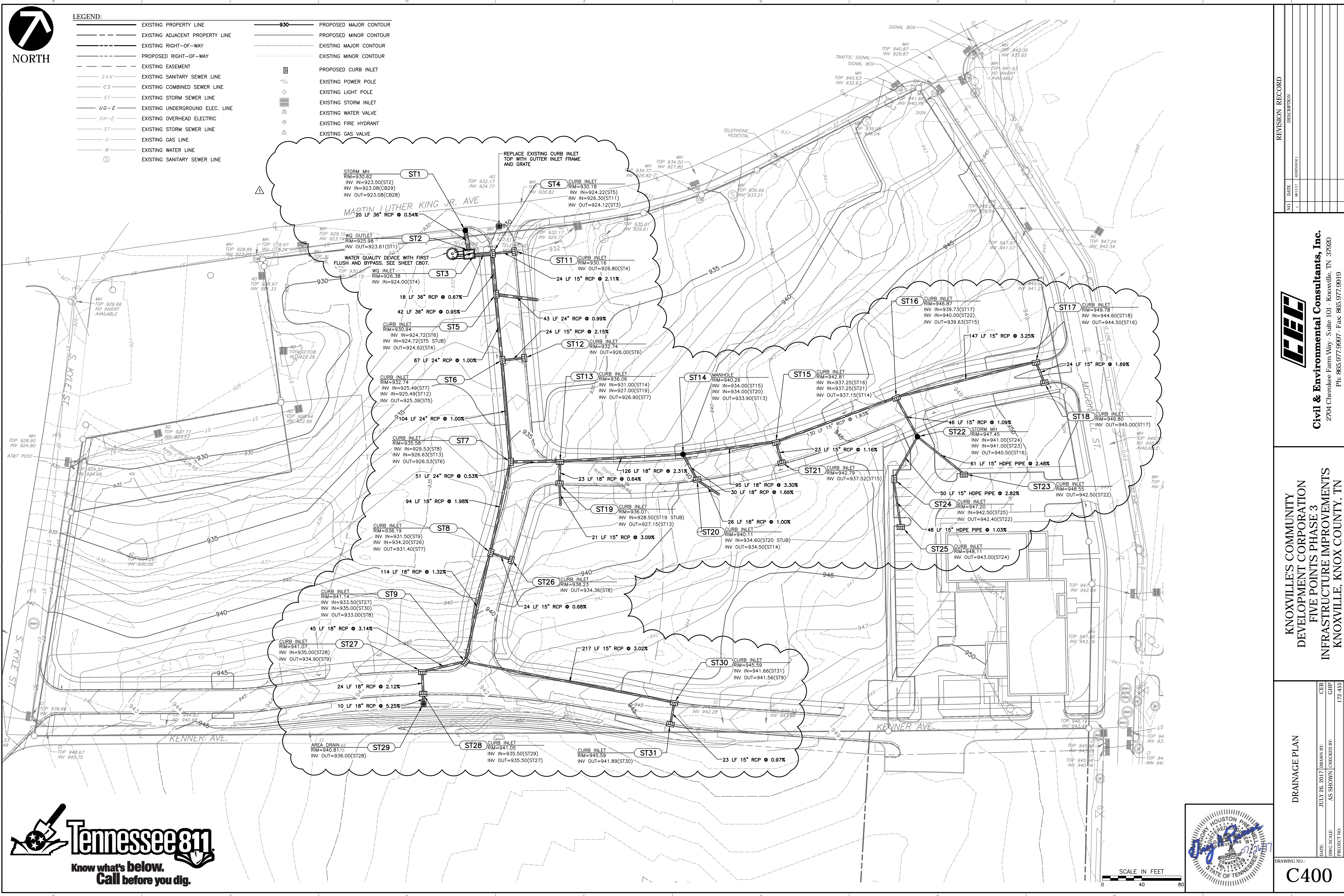
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LEGEND:

- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPERTY LINE
- - - EXISTING RIGHT-OF-WAY
- - - PROPOSED RIGHT-OF-WAY
- - - EXISTING EASEMENT
- - - EXISTING SANITARY SEWER LINE
- - - EXISTING COMBINED SEWER LINE
- - - EXISTING STORM SEWER LINE
- - - EXISTING UNDERGROUND ELEC. LINE
- - - EXISTING OVERHEAD ELECTRIC
- - - EXISTING STORM SEWER LINE
- - - EXISTING GAS LINE
- - - EXISTING WATER LINE
- - - EXISTING SANITARY SEWER LINE
- 930 — PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED CURB INLET
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING STORM INLET
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING GAS VALVE

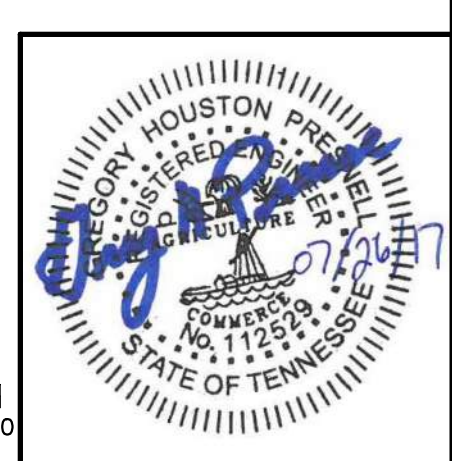


NO.	DATE	DESCRIPTION
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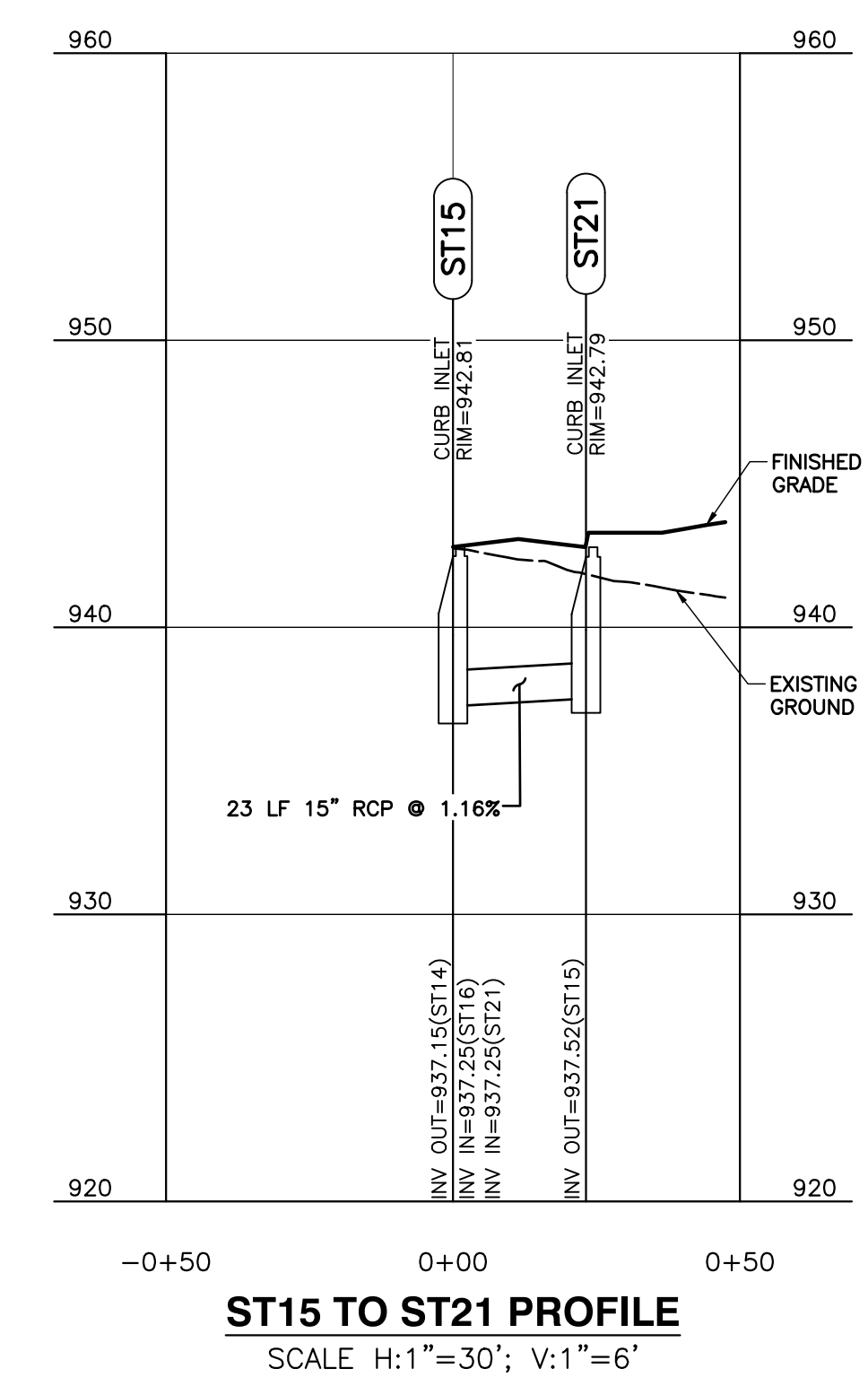
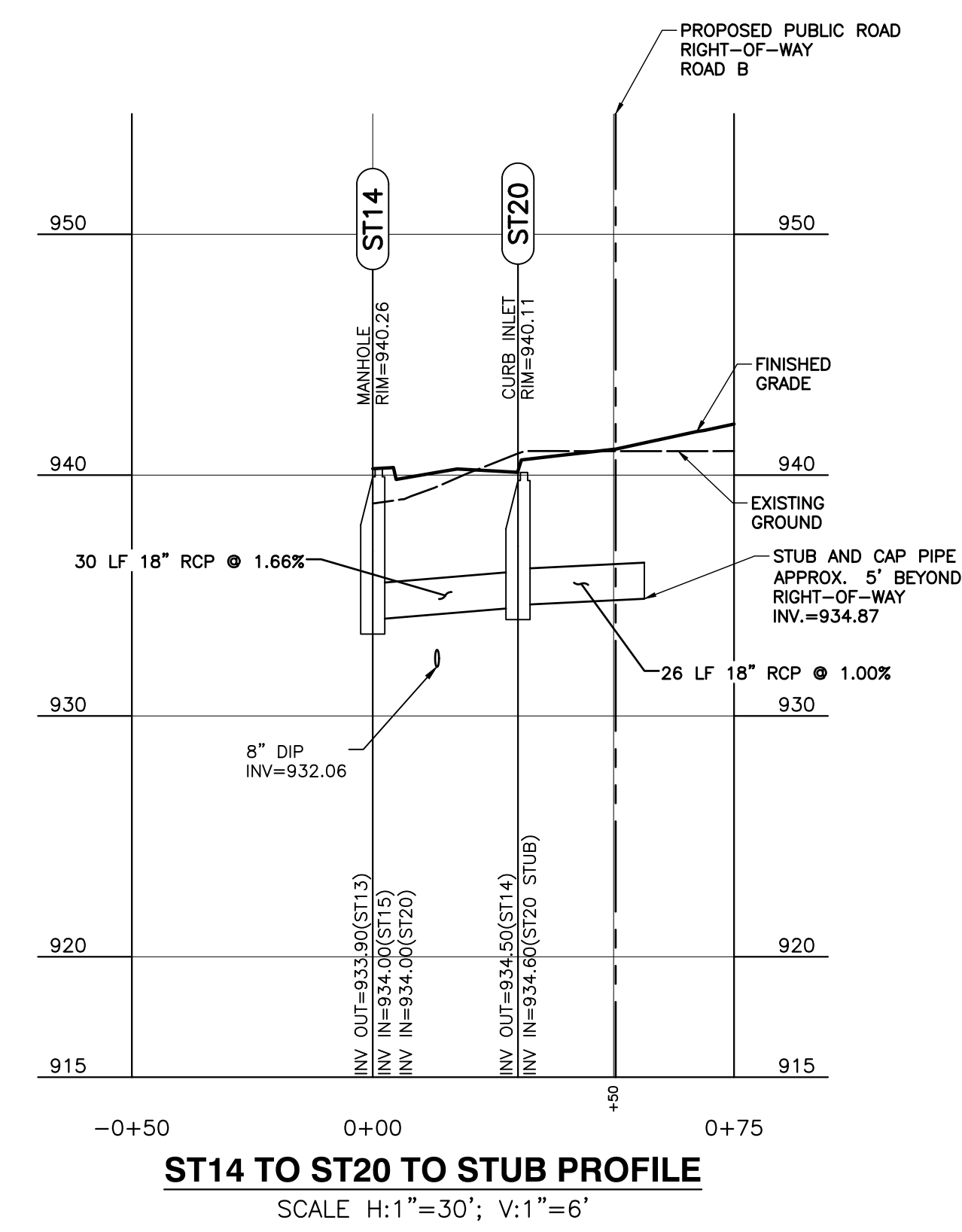
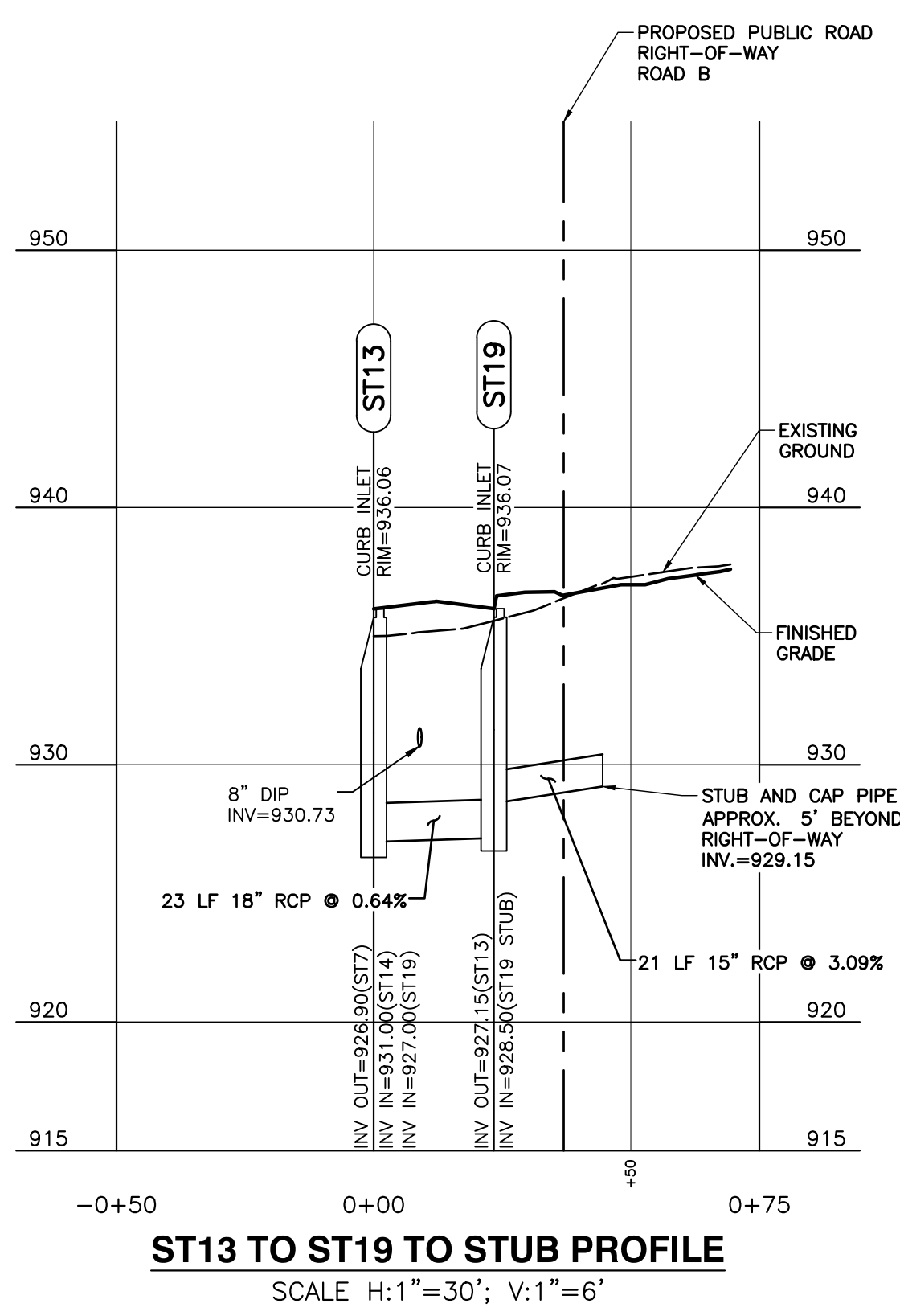
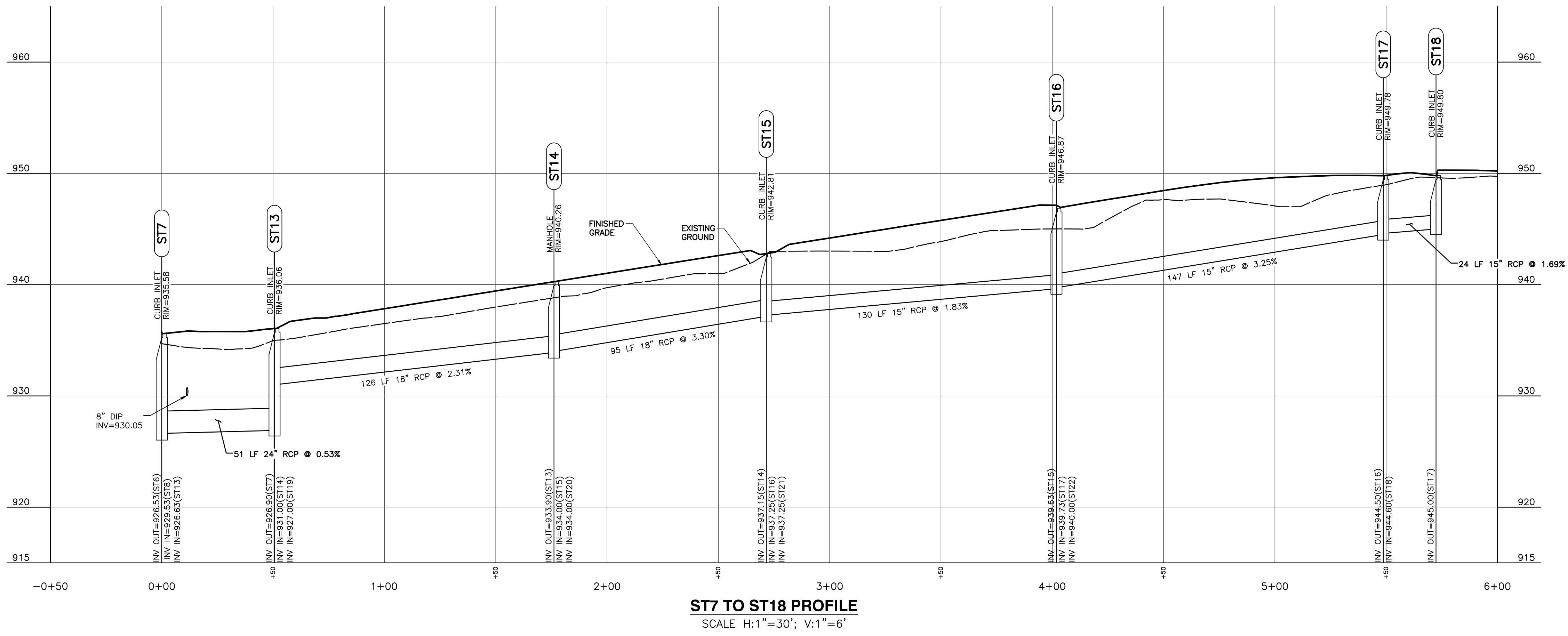
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**KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION
 FIVE POINTS PHASE 3
 INFRASTRUCTURE IMPROVEMENTS
 KNOXVILLE, KNOX COUNTY, TN**

DRAINAGE PLAN	
DATE:	JULY 26, 2017
DWG SCALE:	AS SHOWN
PROJECT NO.:	172-455
APPROVED BY:	GHP
DRAWING NO.:	C400



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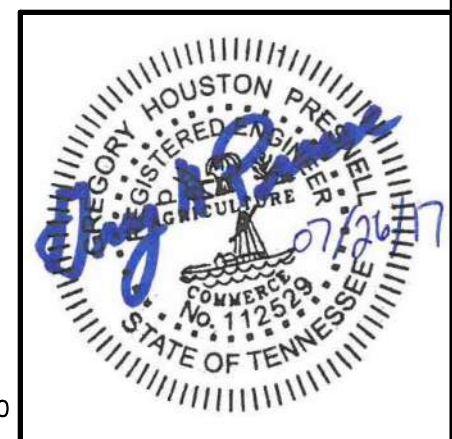
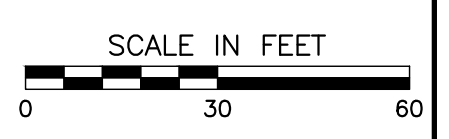
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1	08/11/17	ADD/REMOVE

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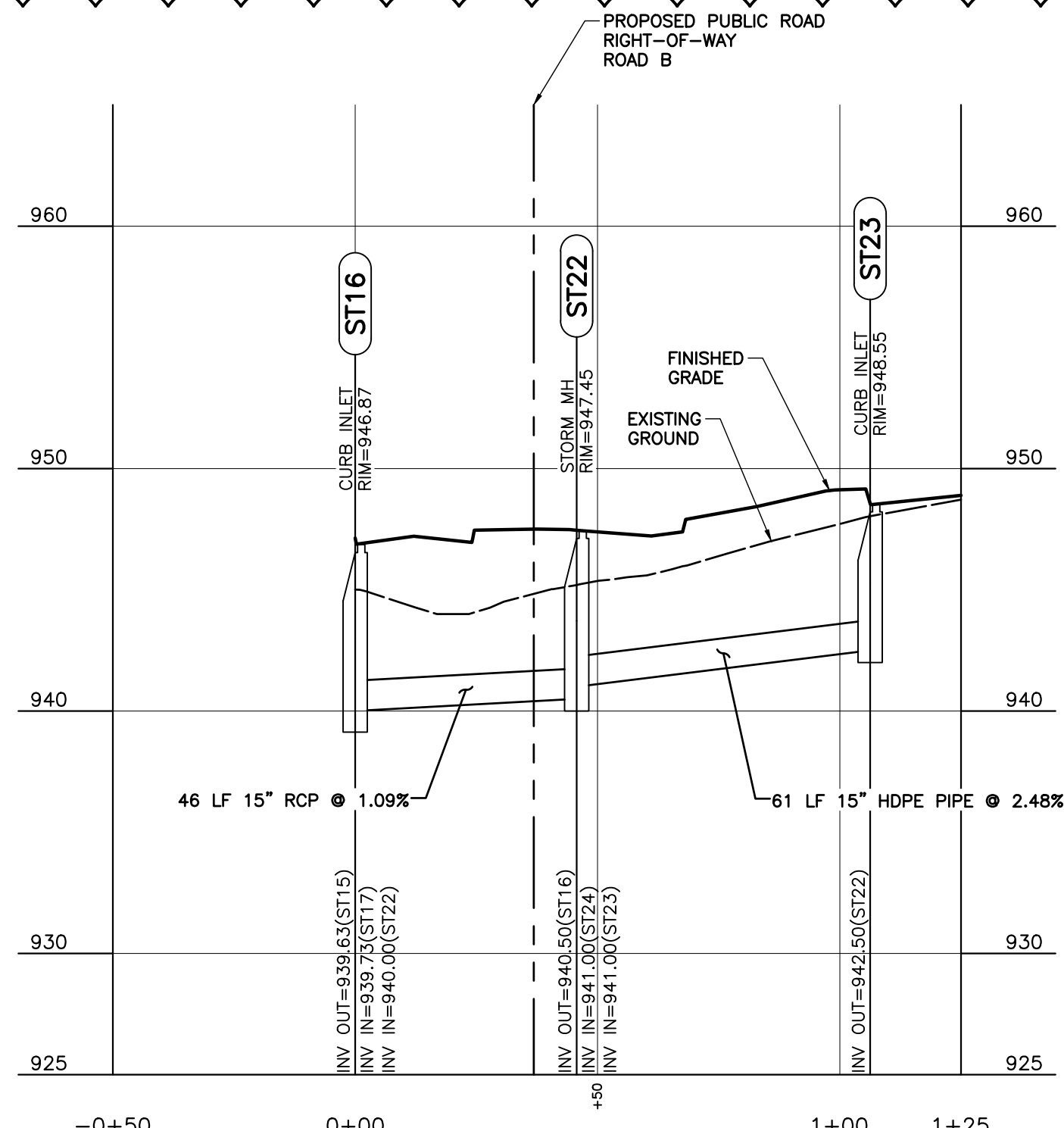
KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION
FIVE POINTS PHASE 3
INFRASTRUCTURE IMPROVEMENTS
KNOXVILLE, KNOX COUNTY, TN

STORM SEWER PROFILES	
DATE:	JULY 26, 2017
DWG SCALE:	AS SHOWN
PROJECT NO.:	172-455
APPROVED BY:	GHP

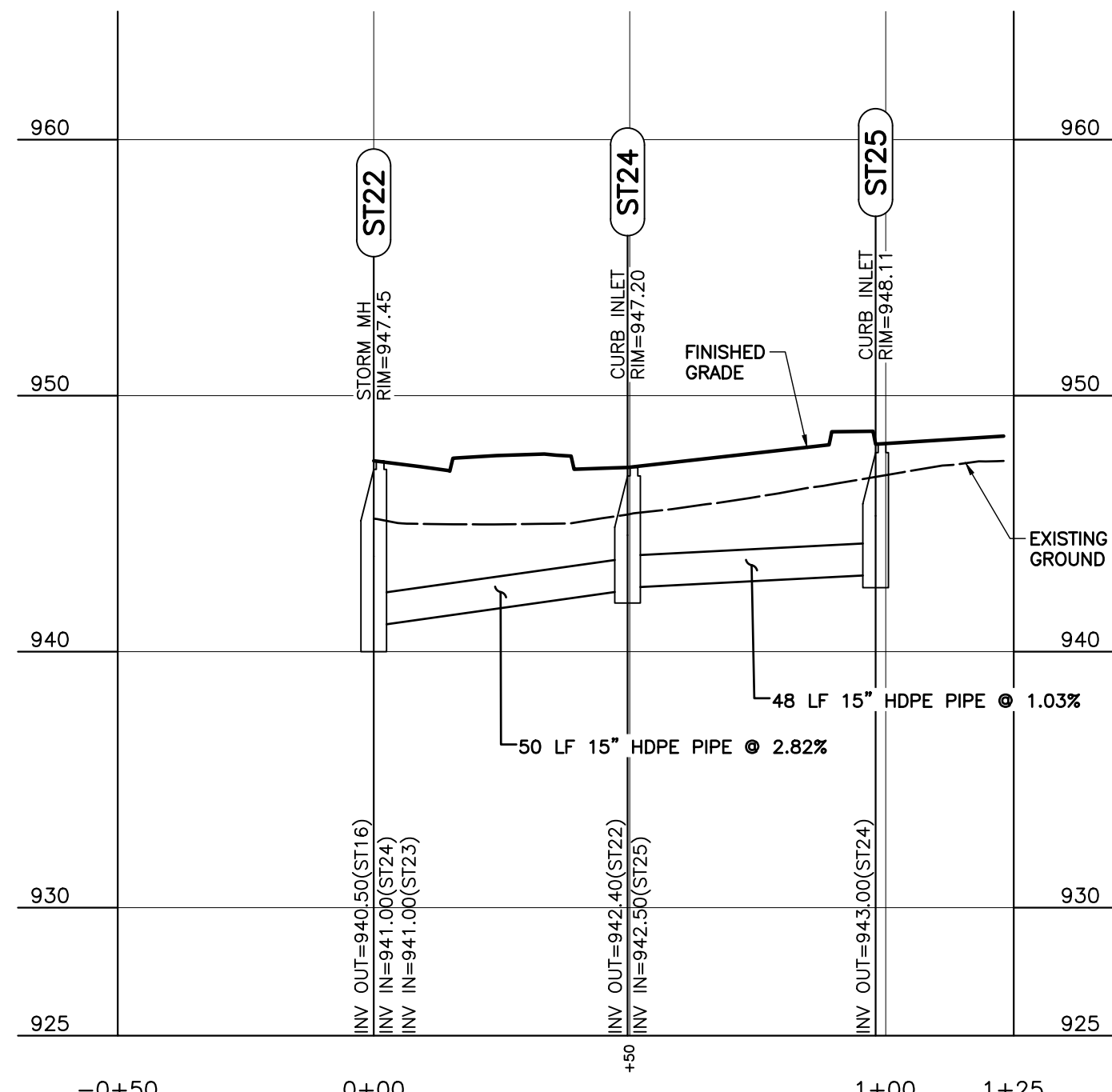
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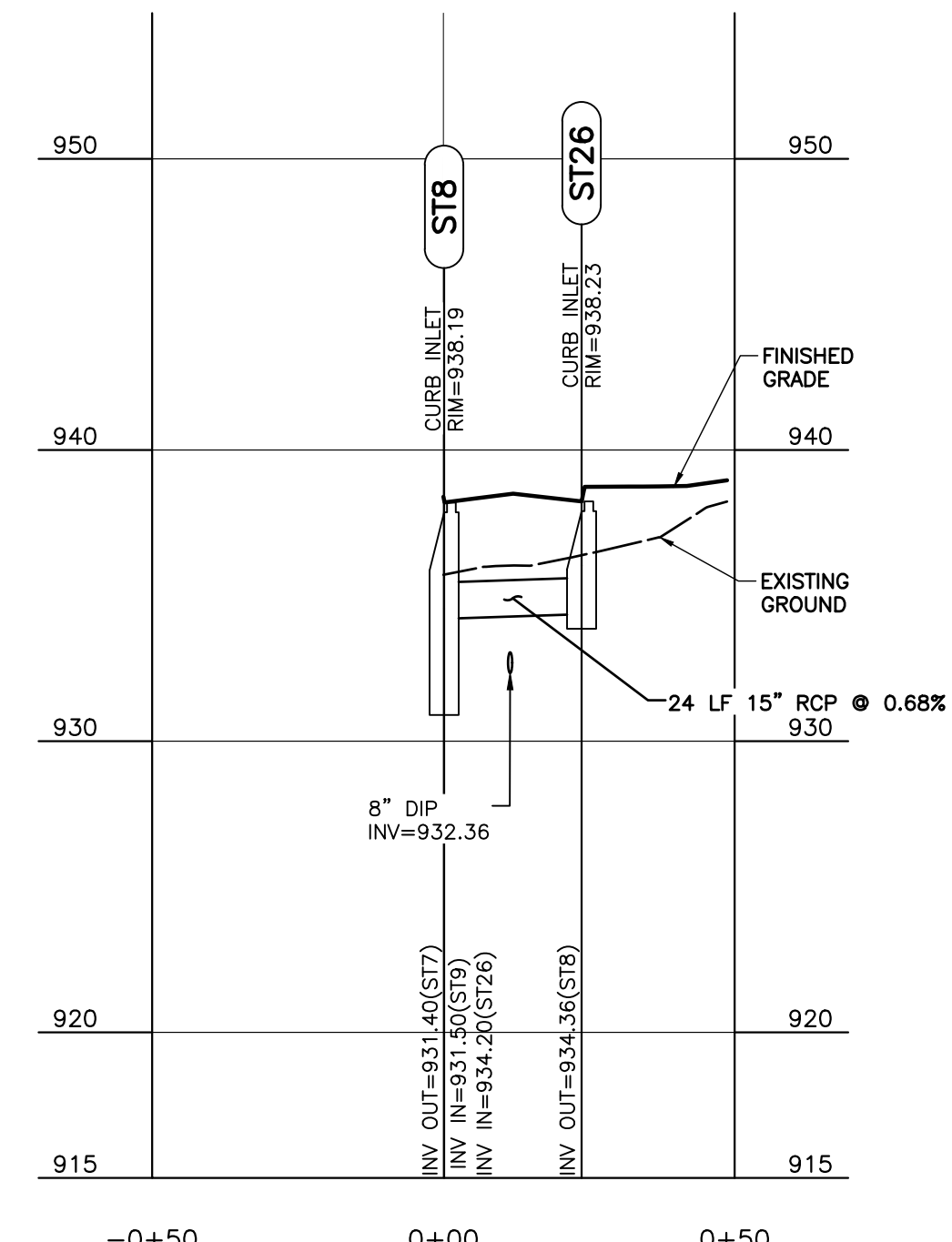
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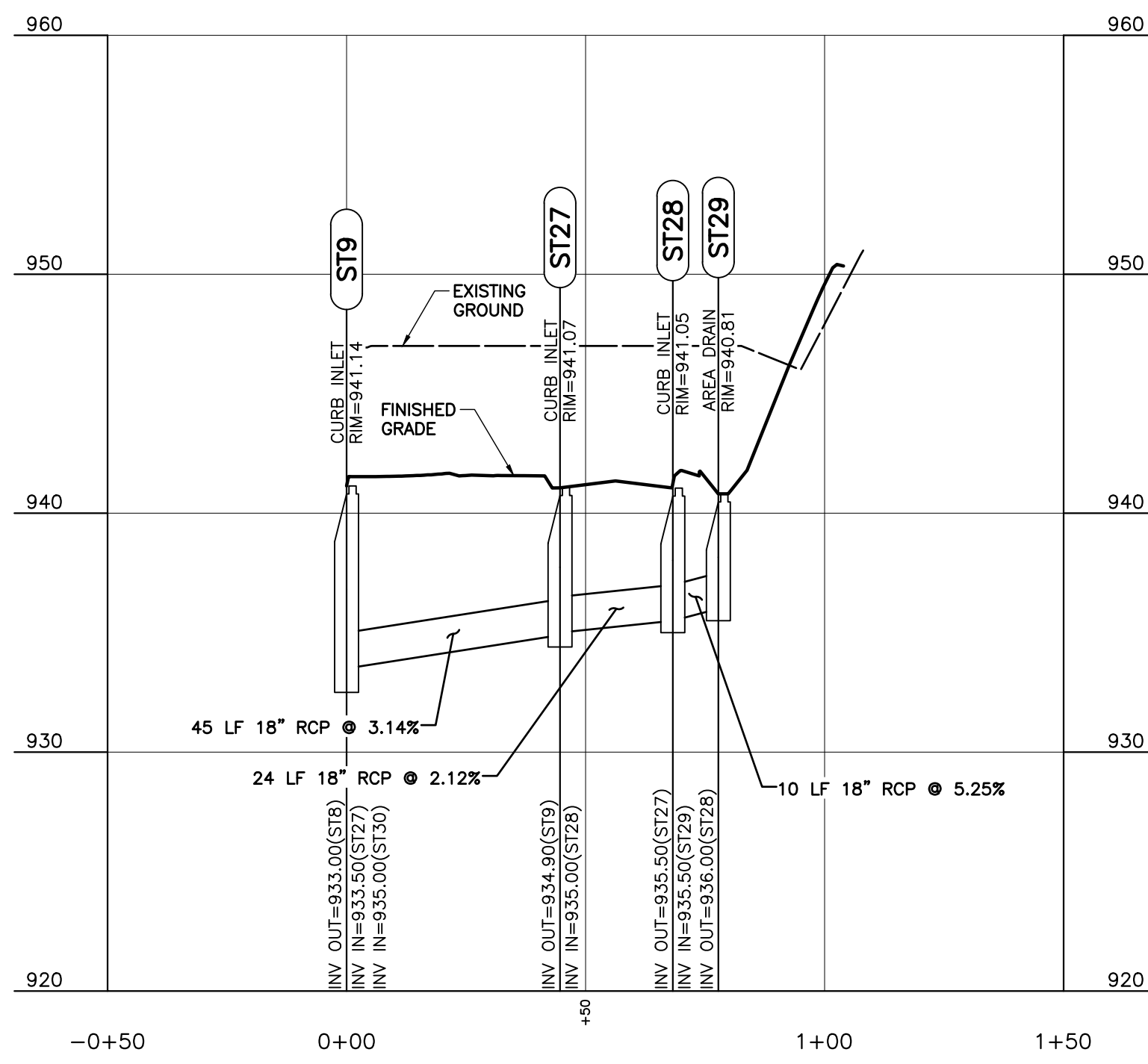
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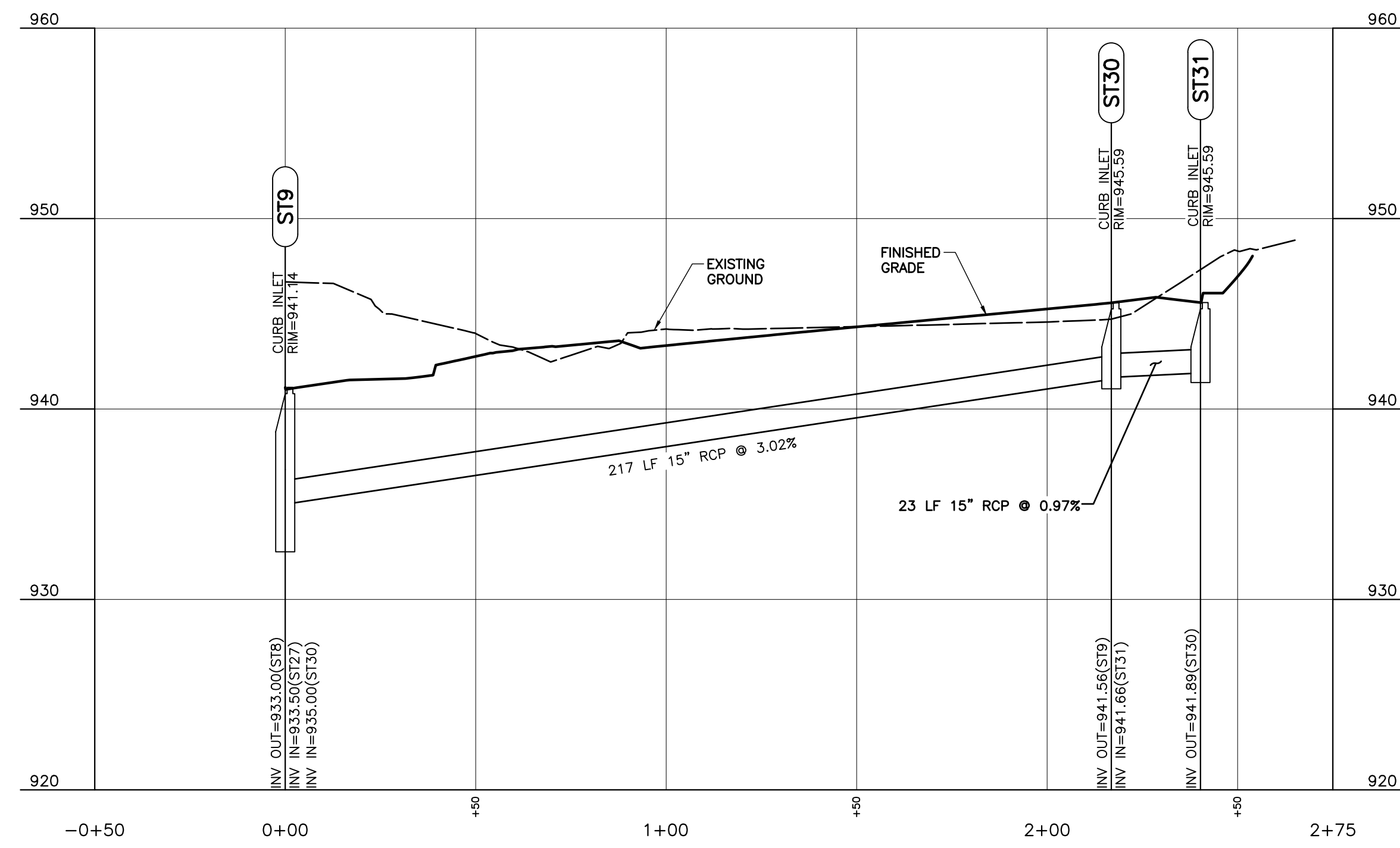
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ST8 TO ST26 PROFILE
SCALE H:1"=30'; V:1"=6'



ST9 TO ST29 PROFILE
SCALE H:1"=30'; V:1"=6'



ST9 TO ST31 PROFILE
SCALE H:1"=30'; V:1"=6'

NO.	DATE	DESCRIPTION
1	08/11/17	ADD/REMOVE

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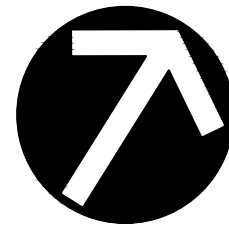
KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION
FIVE POINTS PHASE 3
INFRASTRUCTURE IMPROVEMENTS
KNOXVILLE, KNOX COUNTY, TN

STORM SEWER PROFILES	
DATE:	JULY 26, 2017
DWG SCALE:	AS SHOWN
PROJECT NO.:	172-455
APPROVED BY:	GHP
DRAWN BY:	CER
CHECKED BY:	GHP

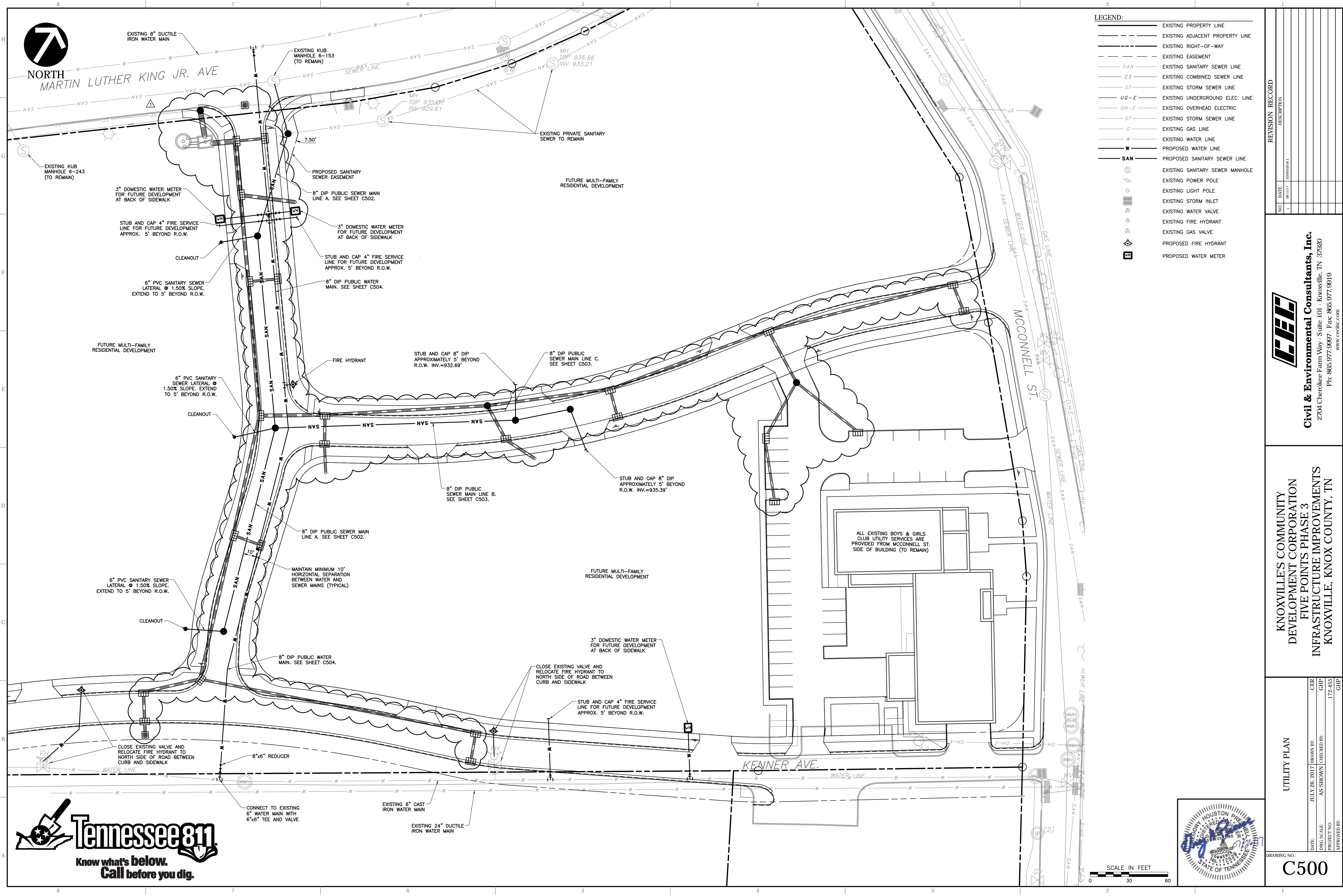
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NORTH
MARTIN LUTHER KING JR. AVE



LEGEND:

---	EXISTING PROPERTY LINE
- - -	EXISTING ADJACENT PROPERTY LINE
- - - -	EXISTING RIGHT-OF-WAY
- - - - -	EXISTING EASEMENT
SAN	EXISTING SANITARY SEWER LINE
CS	EXISTING COMBINED SEWER LINE
ST	EXISTING STORM SEWER LINE
UG-E	EXISTING UNDERGROUND ELEC. LINE
OH-E	EXISTING OVERHEAD ELECTRIC
ST	EXISTING STORM SEWER LINE
G	EXISTING GAS LINE
W	EXISTING WATER LINE
W	PROPOSED WATER LINE
SAN	PROPOSED SANITARY SEWER LINE
⊙	EXISTING SANITARY SEWER MANHOLE
⊙	EXISTING POWER POLE
⊙	EXISTING LIGHT POLE
⊙	EXISTING STORM INLET
⊙	EXISTING WATER VALVE
⊙	EXISTING FIRE HYDRANT
⊙	EXISTING GAS VALVE
⊙	PROPOSED FIRE HYDRANT
⊙	PROPOSED WATER METER

REVISION RECORD

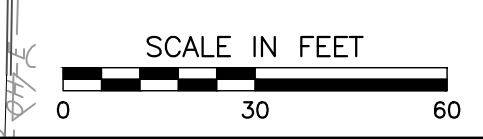
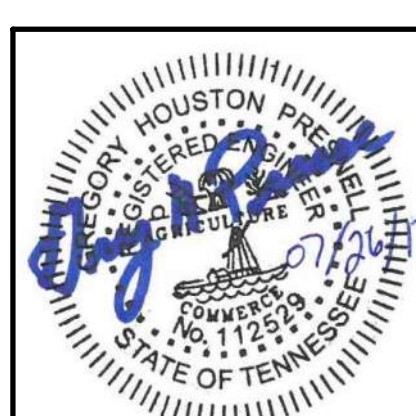
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1	08/11/17	AUTOMATIC

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**KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION
 FIVE POINTS PHASE 3
 INFRASTRUCTURE IMPROVEMENTS
 KNOXVILLE, KNOX COUNTY, TN**

UTILITY PLAN

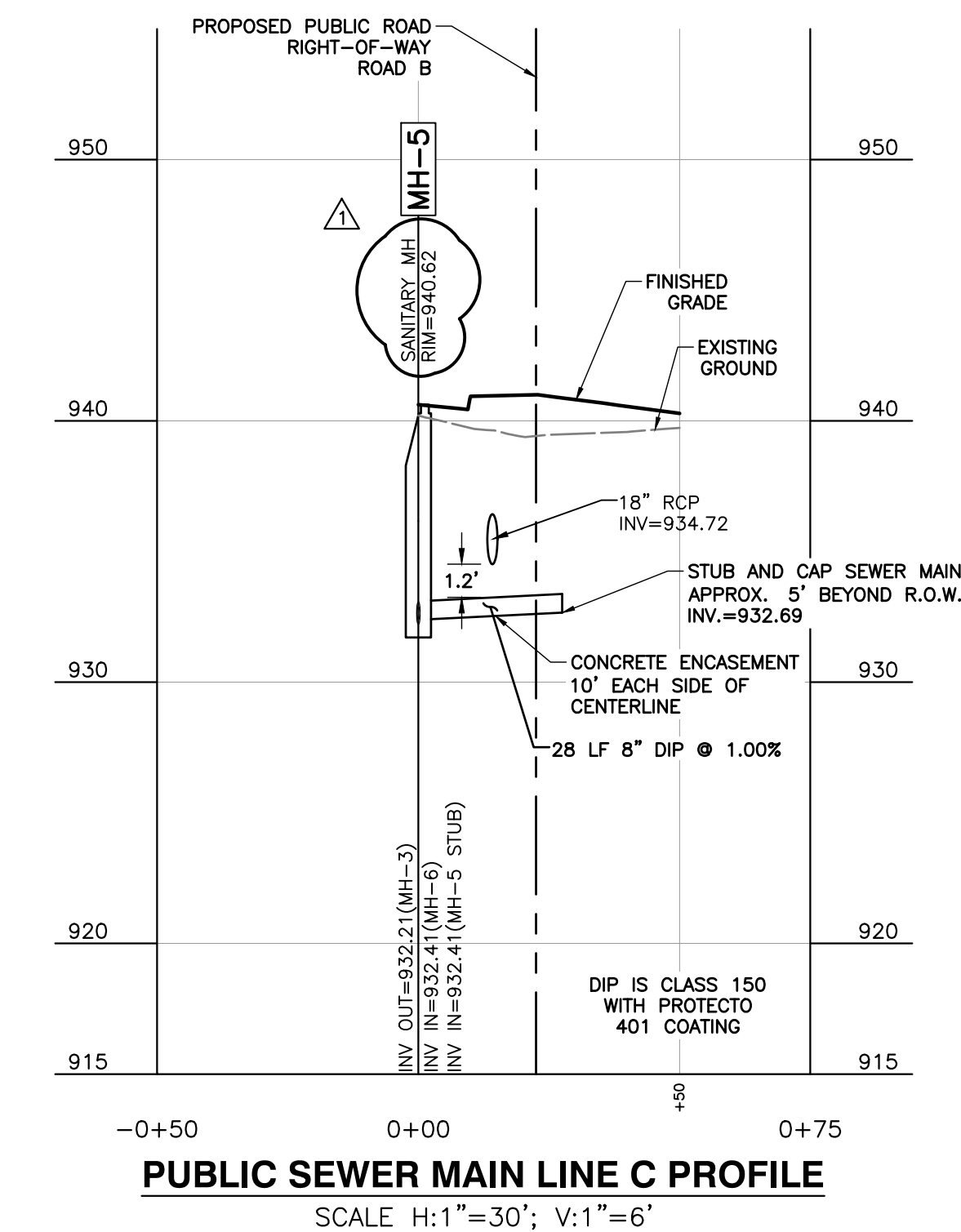
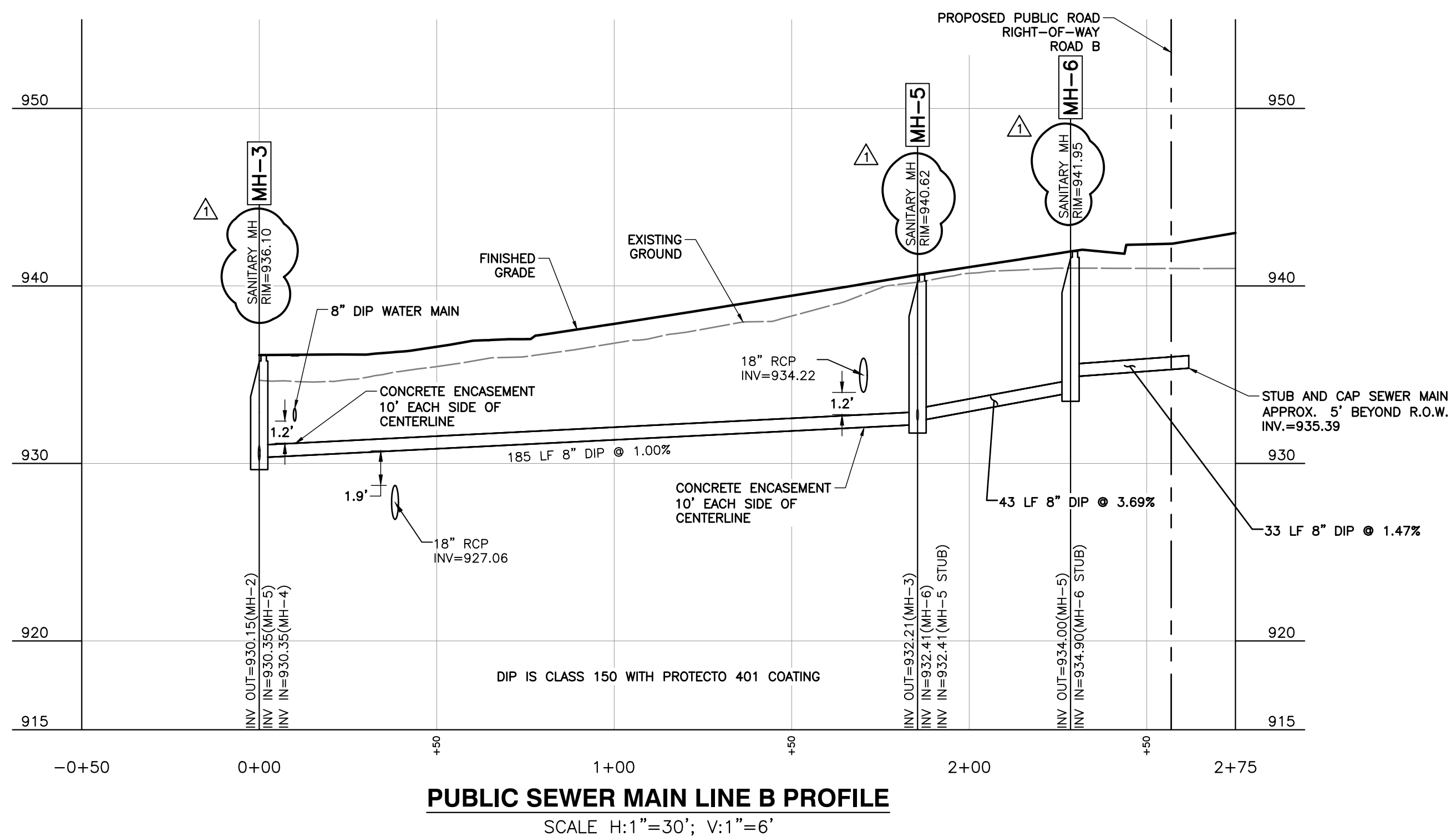
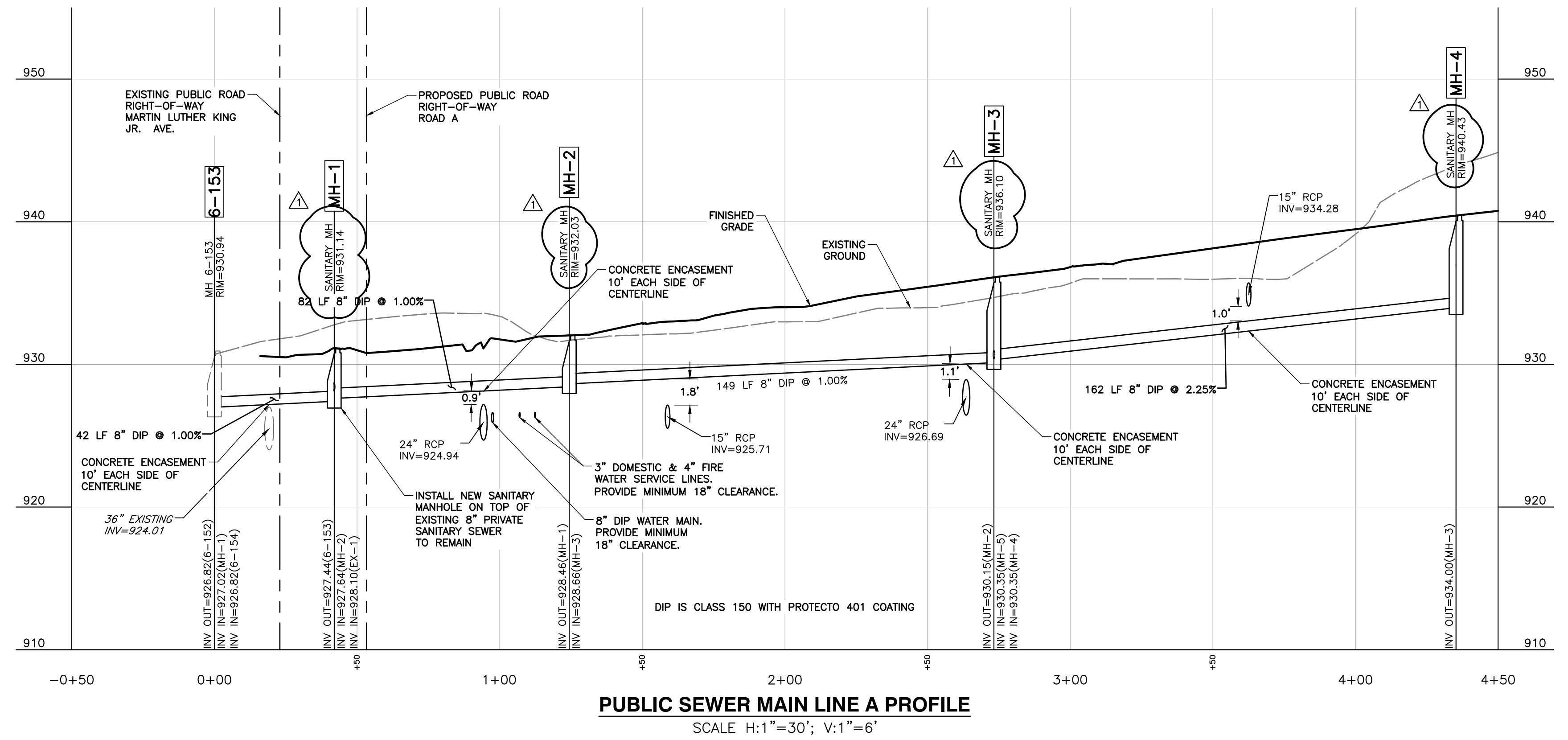
DATE: JULY 28, 2017
 DRAWN BY: GHP
 AS SHOWN / CHECKED BY: GHP
 PROJECT NO: 172-455
 APPROVED BY: GHP



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Structure Name	RIM E.	INVERT IN	INVERT OUT	REMARKS
6-152	929.19	6-152 to 6-153 = 923.74		MH 6-152
6-153	930.94	6-153 to MH-1 = 927.02	6-152 to 6-153 = 926.82	MH 6-153
6-154	934.50	6-153 to 6-154 = 926.82	6-153 to 6-154 = 927.80	MH 6-154
EX-1	932.82		MH-1 to EX-1 = 929.61	EXISTING MH
MH-1	931.14	MH-1 to MH-2 = 927.64	6-153 to MH-1 = 927.44	SANITARY MH
MH-2	932.03	MH-2 to MH-3 = 928.66	MH-1 to MH-2 = 928.46	SANITARY MH
MH-3	936.10	MH-3 to MH-5 = 930.35	MH-2 to MH-3 = 930.15	SANITARY MH
MH-4	940.43	MH-3 to MH-4 = 930.35		SANITARY MH
MH-5	940.62	MH-5 to MH-6 = 932.41	MH-3 to MH-5 = 932.21	SANITARY MH
MH-5 STUB	933.41	MH-5 to STUB = 932.41	MH-5 to STUB = 932.68	STUB
MH-6	941.95	MH-6 to STUB = 934.90	MH-5 to MH-6 = 934.00	SANITARY MH
MH-6 STUB	937.61	MH-6 to STUB = 935.39	MH-6 to STUB = 935.39	STUB

Pipe Name	Size (in)	Length (ft)	Slope	MATERIAL
6-152 to 6-153	8	211.8	1.45%	EXISTING
6-153 to 6-154	8	180.9	0.54%	EXISTING
6-153 to MH-1	8	42.0	1.00%	DIP
MH-1 to EX-1	8	73.9	2.04%	EXISTING
MH-1 to MH-2	8	82.4	1.00%	DIP
MH-2 to MH-3	8	148.9	1.00%	DIP
MH-3 to MH-4	8	162.0	2.25%	DIP
MH-3 to MH-5	8	185.5	1.00%	DIP
MH-5 to MH-6	8	43.1	3.69%	DIP
MH-5 to STUB	8	27.5	1.00%	DIP
MH-6 to STUB	8	33.3	1.47%	DIP



NO.	DATE	DESCRIPTION
1	08/11/17	ADDITION 1

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KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION
FIVE POINTS PHASE 3
INFRASTRUCTURE IMPROVEMENTS
KNOXVILLE, KNOX COUNTY, TN

SANITARY SEWER PROFILES

DATE: JULY 26, 2017
 DRAWN BY: GHP
 DWG SCALE: AS SHOWN
 CHECKED BY: GHP
 PROJECT NO: 172-455
 APPROVED BY: GHP

DRAWING NO.: **C501**



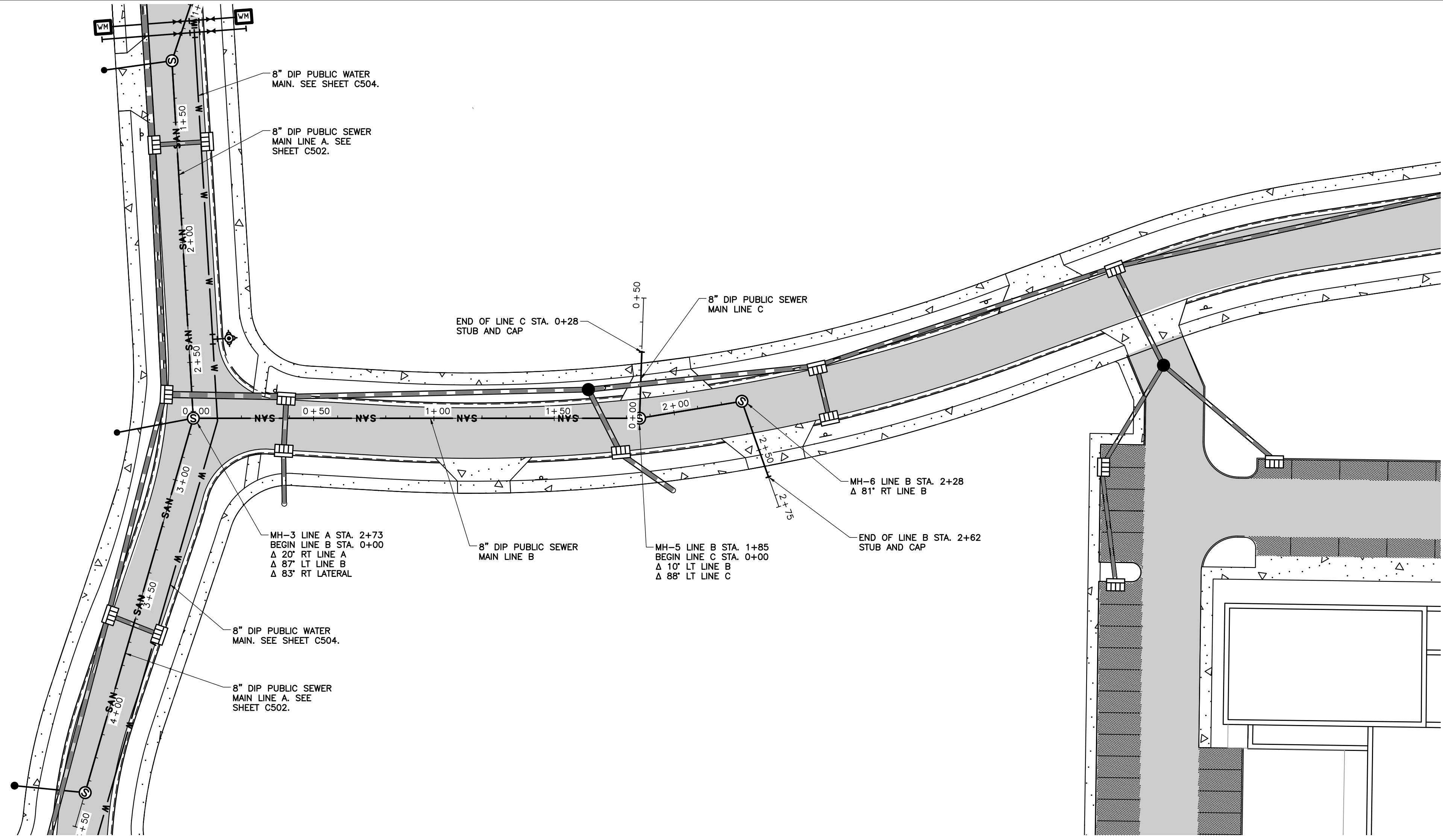
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LEGEND

- EXISTING SANITARY MANHOLE
- PROPOSED SANITARY MANHOLE
- EXISTING SANITARY LINE
- PROPOSED SANITARY LINE
- WATER STOP

WHERE:

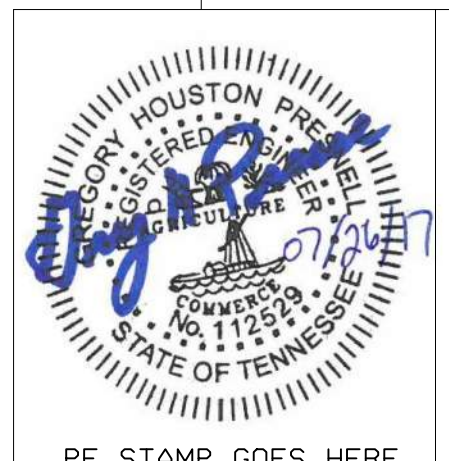
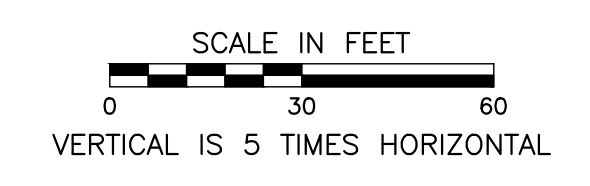
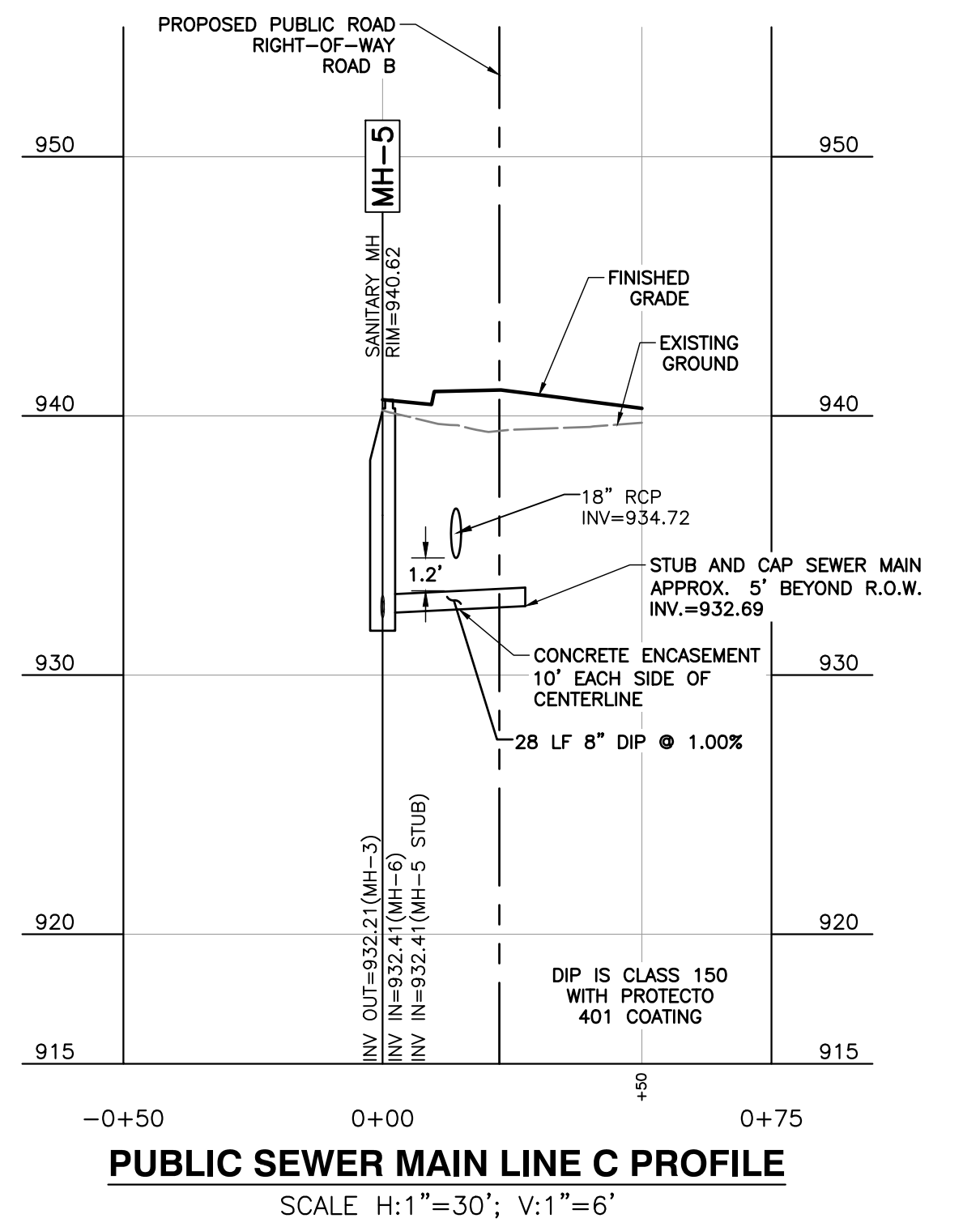
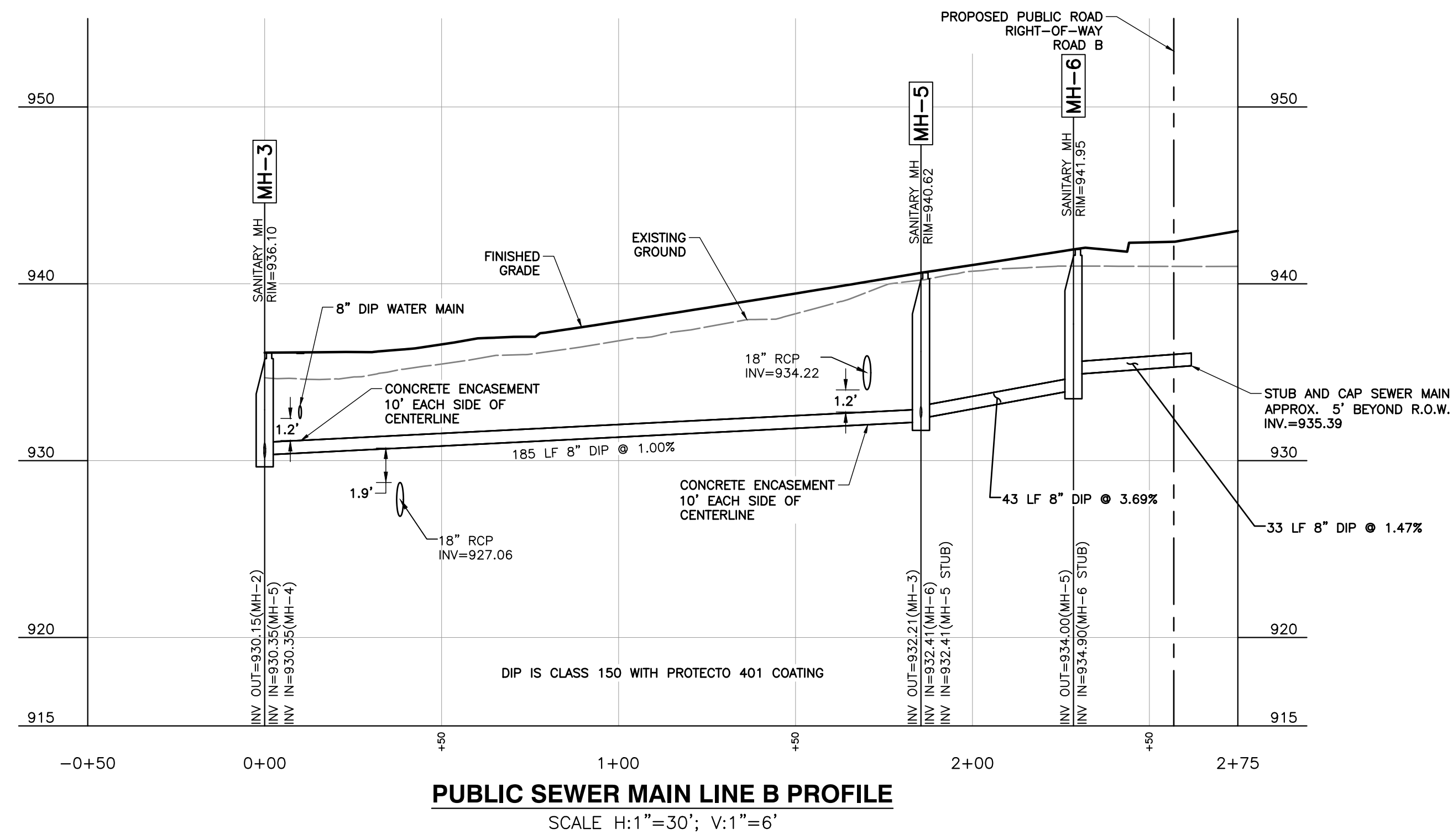
- A - *FT LENGTH OF THE LATERAL FROM THE MAIN TO THE PROPERTY LINE
- B - *FT OF DEPTH WHERE THE LATERAL TAPS INTO THE SEWER MAIN (NOT NECESSARY UNTIL AS-BUILTS)
- C - *FT FROM THE NEAREST DOWNSTREAM MANHOLE



- #### KUB WASTEWATER CONSTRUCTION NOTES:
- ROAD RIGHT-OF-WAYS SHALL BE GRADED AND SLOPED TO REQUIRED SPECIFICATIONS OR AS APPROVED BY KUB PRIOR TO STAKING AND INSTALLING WASTEWATER MAINS.
 - THE DEVELOPER'S AUTHORIZED REPRESENTATIVE SHALL STAKE THE PROPOSED WASTEWATER MAIN LAYOUTS, PROPERTY CORNERS, AND EASEMENT LOCATIONS, ETC. PRIOR TO CONSTRUCTION TO ALLOW AMPLE TIME FOR KUB'S INSPECTORS TO INSPECT THE LAYOUTS PRIOR TO CONSTRUCTION. KUB WILL DETERMINE IF STAKING MAY BE REQUIRED PRIOR TO APPROVAL OF PLANS.
 - CONSTRUCTION MATERIALS MUST MEET KUB SPECIFICATIONS. KUB REPRESENTATIVES MUST APPROVE MATERIALS SUBMITTALS PRIOR TO CONSTRUCTION.
 - WASTEWATER MAIN INSTALLATION MUST BE INSPECTED BY KUB CONTACT KUB FIELD SERVICES AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION AT 558-2786. TRENCHES SHALL BE LEFT OPEN AND NOT BACKFILLED UNTIL INSPECTED BY KUB.
 - CONTACT KUB FIELD SERVICES AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION AT 558-2786 TO INSPECT FROM CLEANOUT TO STRUCTURE WHEN PROJECT IS LOCATED OUTSIDE OF CITY OF KNOXVILLE LIMITS.
 - CONTRACTOR MUST HAVE A VALID STATE OF TENNESSEE MUNICIPAL UTILITY LICENSE FOR CONSTRUCTION OF WASTEWATER MAINS.
 - A H-LOCK OR Z-LOCK GASKET SHALL BE PROVIDED FOR EACH WASTEWATER MAIN OR LATERAL CONNECTING TO A NEW MANHOLE. EACH TAP TO AN EXISTING MANHOLE MUST BE MECHANICALLY CORED AND PROPERLY BOTTED.
 - THE CONTRACTOR MUST INSTALL LATERALS INSTALLED ACROSS STREETS BEFORE ANY SURFACE COVER IS FINALIZED TO INCLUDE PAVING, CONCRETE DRIVEWAYS, ETC.
 - WATER STOPS SHALL BE INSTALLED IN SEWER LINE TRENCHES NO MORE THAN 500 FEET APART TO PREVENT WATER FROM DRAINING THROUGH THE GRAVEL BEDDING. THE STOPS SHALL CONSIST OF COMPACTED CLAY AT LEAST THREE (3) FEET THICK FROM THE BOTTOM OF THE TRENCH TO THE TOP OF THE TRENCH. THE STOPS SHALL BE CUT A MINIMUM DEPTH OF TWO (2) FEET INTO BOTH WALLS OF THE TRENCH. THE PREFERRED LOCATION OF A WATER STOP IS UPSTREAM OF EACH MANHOLE. ALL STREAM CROSSINGS SHALL INCLUDE WATER STOPS ON BOTH SIDES OF CROSSING.

- #### KUB GENERAL WASTEWATER NOTES:
- ALL SANITARY SEWER LINES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE KNOXVILLE UTILITIES BOARD'S STANDARD SEWER SYSTEM SPECIFICATIONS AND DETAILS.
 - LOCATION OF ALL EXISTING UTILITIES IS APPROXIMATE. CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES PRIOR TO EXCAVATION.
 - ALL PIPE SHALL BE INSTALLED IN THE PRESENCE OF THE OWNER.
 - UTILITIES SHALL BE INSTALLED AFTER GRADING HAS BEEN COMPLETED AND APPROVED BEFORE ANY SURFACE COVER IS FINALIZED TO INCLUDE PAVING, CONCRETE DRIVEWAYS, ETC.
 - TRENCH DESIGN AND SAFETY FOR PIPELINE CONSTRUCTION IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE, AND OSHA REGULATIONS.
 - REQUIREMENTS FOR PROPER TRENCH AND BACKFILL OPERATIONS MUST MEET OR EXCEED CITY OF KNOXVILLE, KNOX COUNTY, AND TROT STANDARDS.
 - AFTER COMPLETING EACH SECTION OF THE SEWER, ALL DEBRIS AND CONSTRUCTION MATERIALS SHALL BE REMOVED FROM THE WORK SITE AS WELL AS SMOOTHLY GRADING THE DISTURBED GROUND SURFACE ON THE PROJECT SITE.
 - THE CONTRACTOR SHALL OBTAIN PLASTIC WARNING TAPE FOR WASTEWATER MAINS AND BURY IT ONE FOOT ABOVE THE ENTIRE LENGTH OF EACH LATERAL. A 3/8-INCH DIAMETER STEEL REBAR SHALL BE DRIVEN INTO THE GROUND AT THE END OF EACH LATERAL AND PAINTED GREEN. THE BURRED END OF THE REBAR SHALL BE BENT TO FORM A HOOK.
 - SANITARY SEWER FLOW CONTROL (SECTION 02542 OF KUB STANDARDS AND SPECIFICATIONS) REQUIREMENTS ARE FULLY UNDERSTOOD AND IMPLEMENTED IN THE WASTEWATER PROJECT.
 - THE APPROPRIATE KUB REPRESENTATIVE BEFORE CONSTRUCTION MUST APPROVE ANY FIELD CHANGES TO APPROVED PLANS.
 - A COPY OF THE LATEST APPROVED SET OF UTILITY PLANS DESIGNATED BY THE KUB RED STAMP MUST BE PRESENT DURING ALL TIMES OF CONSTRUCTION OF THE APPROPRIATE UTILITIES.
 - SEWER SERVICE LATERALS SHALL BE CONNECTED TO CLEANOUT AS DEPICTED IN FIGURE 2-02532-B. SECTION 02542 OF KUB STANDARDS AND SPECIFICATIONS. SEWER SERVICE LATERALS SHALL NOT BE CONNECTED TO SERVICE RISERS OR LATERAL COMPONENTS OF CLEANOUT.

- #### KUB GRAVITY SEWER NOTES:
- LASERS SHALL BE USED TO INSTALL ALL WASTEWATER LINES.
 - ALL REQUIREMENTS FOR INSTALLATION OF GRAVITY SEWER (PART 3 IN SECTION 02532 OF KUB STANDARDS AND SPECIFICATIONS) ARE TO BE UNDERSTOOD BY THE CONTRACTOR AND FULLY IMPLEMENTED IN THE ENTIRE WASTEWATER PROJECT.
 - ALL REQUIREMENTS FOR SEWER LATERALS (PART 3 IN SECTION 02532 OF KUB STANDARDS AND SPECIFICATIONS) ARE TO BE UNDERSTOOD BY THE CONTRACTOR AND FULLY IMPLEMENTED IN THE ENTIRE WASTEWATER PROJECT.
 - ALL REQUIREMENTS FOR TESTING OF GRAVITY SEWERS (PART 3 IN SECTION 02532 OF KUB STANDARDS AND SPECIFICATIONS) ARE TO BE UNDERSTOOD BY THE CONTRACTOR AND FULLY IMPLEMENTED IN THE ENTIRE WASTEWATER PROJECT.
 - THE MINIMUM WASTEWATER LATERAL HAS A 6-INCH DIAMETER PVC (SDR 26) FROM THE MAIN TO THE PROPERTY LINE OR EDGE OF EASEMENT.
 - ALL SEWER LATERALS SHALL INCLUDE 6-INCH TEES OF THE SAME MATERIAL AS THE SEWER MAINS.
 - TWO WAY DIRECTIONAL CLEANOUT TEES WILL BE REQUIRED ON ALL LATERALS. CLEANOUTS SHOULD BE LOCATED AT THE PROPERTY LINE OR EASEMENT LINE IN MOST CASES AND SHALL BE SDR 35 MANUFACTURED BY PLASTIC TRENCH, INC.
 - ALL LATERALS AND CLEANOUTS SHALL HAVE CAPS WITH SCREWED PLUGS INSTALLED.
 - ALL SEWER APPURTENANCES ARE REQUIRED TO HAVE WATERTIGHT FITTINGS.
 - ALL REQUIREMENTS WITH FLEXIBLE COUPLINGS AND SADDLE TEES (PARTS 202 AND 203 IN SECTION 02532 OF KUB STANDARDS AND SPECIFICATIONS) ARE TO BE FULLY UNDERSTOOD AND IMPLEMENTED.



TDEC APPROVAL STAMP GOES HERE

ENGINEER
CEC
Civil & Environmental Consultants, Inc.
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(865) 977-9897
www.cecinc.com

DEVELOPER
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION
901 N BROADWAY ST
KNOXVILLE, TN 37917
865-403-1150

DESIGNED CER
DRAWN CER
CHECKED GHP

NO.	DATE	REVISION
1	08/11/17	ADDENDUM 1

REVISION

APPR. GHP

SCALE AS-SHOWN
DATE 07/26/17



PUBLIC SEWER MAIN EXTENSION
FIVE POINTS PHASE 3
INFRASTRUCTURE IMPROVEMENTS
KNOXVILLE, KNOX COUNTY, TN

SHEET 1 OF 2 SHEETS
C503

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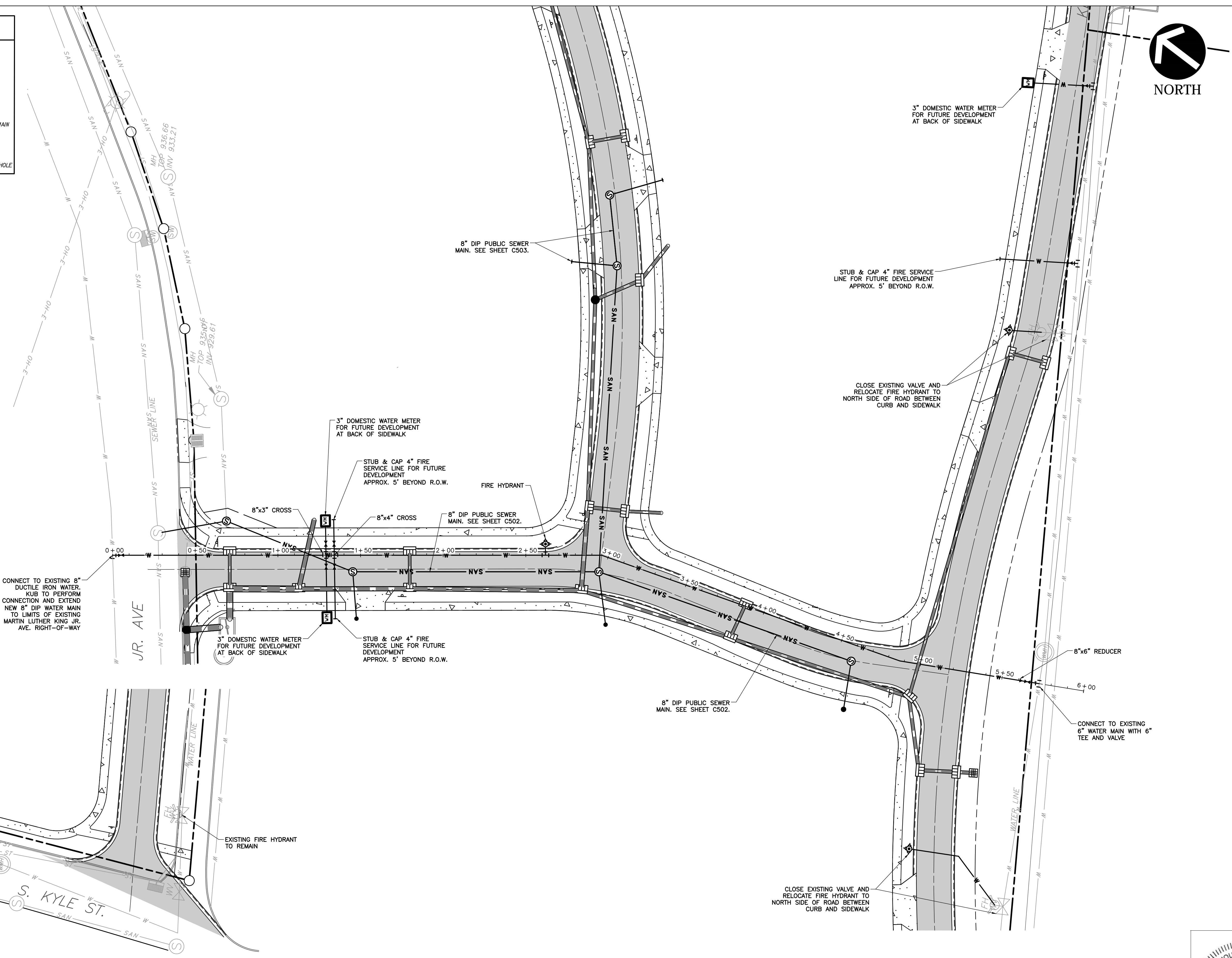
LEGEND

- EXISTING SANITARY MANHOLE
- PROPOSED SANITARY MANHOLE
- EXISTING SANITARY LINE
- PROPOSED SANITARY LINE
- WATER STOP

WHERE:

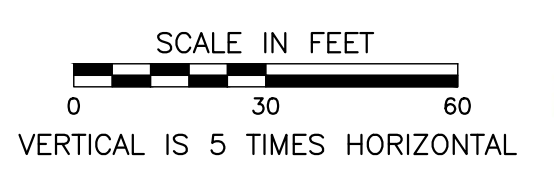
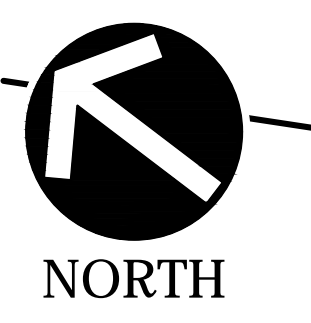
- A - *FT LENGTH OF THE LATERAL FROM THE MAIN TO THE PROPERTY LINE
- B - *FT OF DEPTH WHERE THE LATERAL TAPS INTO THE SEWER MAIN (NOT NECESSARY UNTIL AS-BUILT'S)
- C - *FT FROM THE NEAREST DOWNSTREAM MANHOLE

PROPERTY UNITS	
8" DIP	563 LF
6" DIP	111 LF
4" DIP	104 LF
3" DIP	90 LF
8" VALVES	1
6" VALVES	1
4" VALVES	3
3" VALVES	3
REDUCERS	1
CROSSES	2
FIRE HYDRANTS	1
TEES	2



- #### KUB WATER CONSTRUCTION NOTES:
- ROAD RIGHT-OF-WAYS OR UTILITY EASEMENTS SHALL BE TO FINISHED GRADE AND SLOPED TO MEET REQUIRED SPECIFICATIONS OR AS APPROVED BY KUB PRIOR TO STAKING AND INSTALLING WATER MAINS.
 - THE DEVELOPER'S AUTHORIZED REPRESENTATIVE SHALL STAKE THE PROPOSED WATER MAIN LAYOUTS, PROPERTY CORNERS, AND EASEMENT LOCATIONS ETC. PRIOR TO CONSTRUCTION OR APPROVAL OF PLANS OR BOTH TO ALLOW AMPLE TIME FOR KUB'S INSPECTORS TO INSPECT THE LAYOUTS PRIOR TO CONSTRUCTION. KUB WILL DETERMINE IF STAKING MAY BE REQUIRED PRIOR TO APPROVAL OF PLANS.
 - CONSTRUCTION MATERIALS MUST MEET KUB SPECIFICATIONS. KUB REPRESENTATIVES MUST APPROVE MATERIAL SUBMITTALS PRIOR TO CONSTRUCTION.
 - WATER MAIN INSTALLATION MUST BE INSPECTED BY KUB. CONTACT KUB FIELD SERVICES AT LEAST THREE (3) DAYS PRIOR TO CONSTRUCTION AT 558-2786. TRENCHES SHALL BE LEFT OPEN AND NOT BACKFILLED UNTIL INSPECTED BY KUB.
 - CONTRACTOR WILL STERILIZE WATER MAINS WHEN INSTALLATION AND TESTING ARE COMPLETE. CONTRACTOR MUST HAVE A VALID STATE OF TENNESSEE MUNICIPAL UTILITY LICENSE FOR CONSTRUCTION OF WATER MAINS ON SITE AT ALL TIMES.
 - AIR RELEASE VALVES SHALL BE INSTALLED ON HIGH POINTS ON THE MAINS IN ACCORDANCE WITH THE PLANS AND/OR AS REQUESTED BY KUB'S INSPECTORS.
 - THE CONTRACTOR MUST HAVE WATER SERVICE LINES INSTALLED ACROSS STREETS BEFORE ANY SURFACE COVER IS FINALIZED TO INCLUDE PAVING, CONCRETE DRIVEWAYS, ETC.

- #### KUB GENERAL WATER NOTES:
- ALL WATER LINES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE KNOXVILLE UTILITIES BOARD'S STANDARD WATER SYSTEM SPECIFICATIONS AND DETAILS.
 - REQUIREMENTS FOR PROPER TRENCH AND BACKFILL OPERATIONS MUST MEET OR EXCEED CITY OF KNOXVILLE, KNOX COUNTY, AND TDD STANDARDS.
 - LOCATION OF ALL EXISTING UTILITIES IS APPROXIMATE. CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES PRIOR TO EXCAVATION.
 - WATER SERVICES SHALL BE BURIED AT A MINIMUM DEPTH OF 24 INCHES TO PREVENT FREEZING.
 - MINIMUM 36 INCHES DEPTH OF COVER FOR WATER MAINS.
 - UTILITIES SHALL BE INSTALLED AFTER GRADING HAS BEEN COMPLETED AND APPROVED BEFORE ANY SURFACE COVER IS FINALIZED TO INCLUDE PAVING, CONCRETE DRIVEWAYS, ETC.
 - AFTER COMPLETING EACH SECTION OF THE WATER, ALL DEBRIS AND CONSTRUCTION MATERIALS SHALL BE REMOVED FROM THE WORK SITE. THE DISTURBED GROUND SURFACE SHALL BE SMOOTHLY GRADED.
 - ALL WATER VALVES SHALL CONFORM TO KUB STANDARDS AND SPECIFICATIONS.
 - KUB PERSONNEL WILL TEST WATER SERVICE TO THE EXISTING PUBLIC ROW OR EASEMENT FROM THE EXISTING SYSTEM FOR THE PROPOSED WATER SYSTEM.
 - HORIZONTAL SEPARATION BETWEEN WATER AND SEWER MAINS IS A MINIMUM OF 10 FEET.
 - WATER MAINS ARE NOT INSTALLED IN THE SAME TRENCH WITH OTHER UTILITIES UNLESS APPROVED THROUGH KUB ENGINEERING IN WRITING.
 - ANY FIELD CHANGES TO APPROVED PLANS MUST BE APPROVED BY THE APPROPRIATE KUB REPRESENTATIVE BEFORE CONSTRUCTION.
 - A COPY OF THE LATEST APPROVED SET OF UTILITY PLANS DESIGNATED BY THE KUB/TDEC RED STAMP MUST BE PRESENT DURING ALL TIMES OF CONSTRUCTION OF THE APPROPRIATE UTILITIES.



PE STAMP GOES HERE TDEC APPROVAL STAMP GOES HERE

A: 12/17/17 11:28 AM (12/17/17 11:28 AM) - (12/17/17 11:28 AM) - (12/17/17 11:28 AM) - (12/17/17 11:28 AM)

ENGINEER

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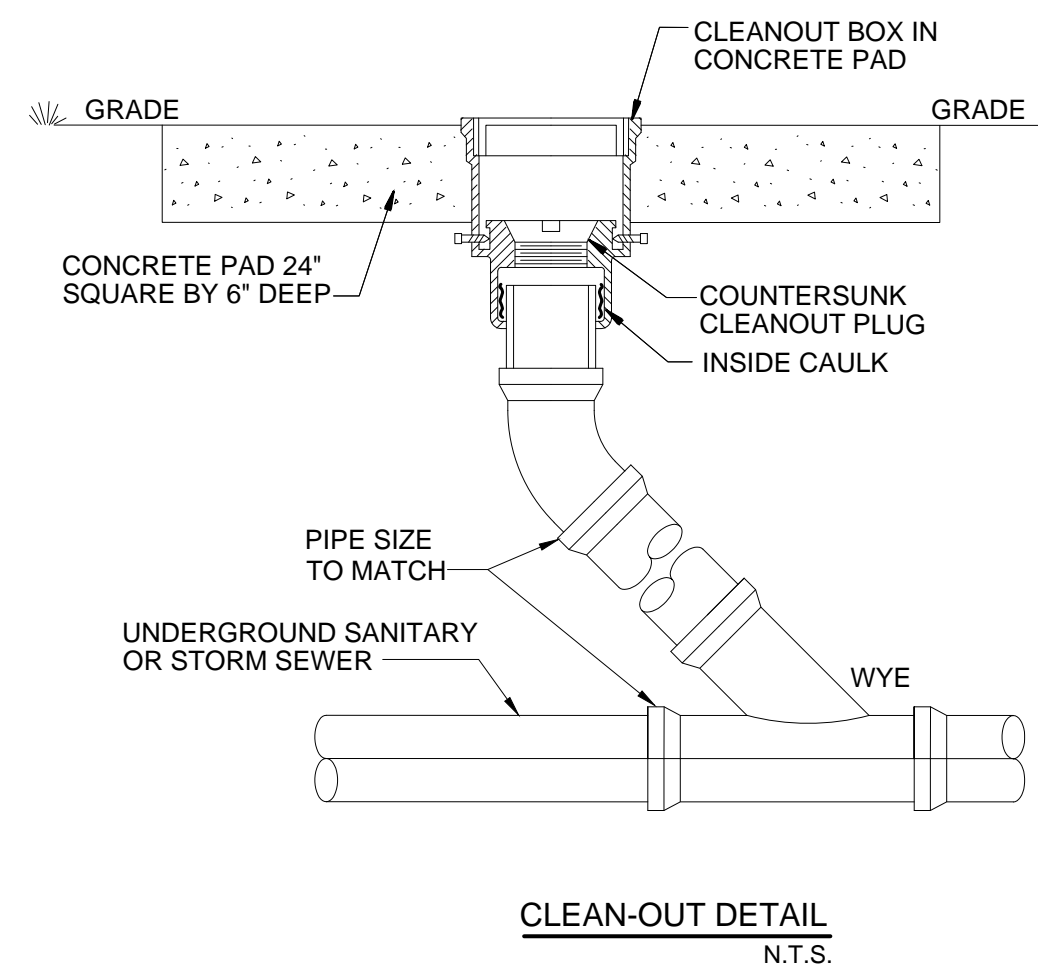
NO.	DATE	REVISION	APPR.
1	08/11/17	ADDENDUM 1	GHP

SCALE	AS-SHOWN
DATE	07/26/17

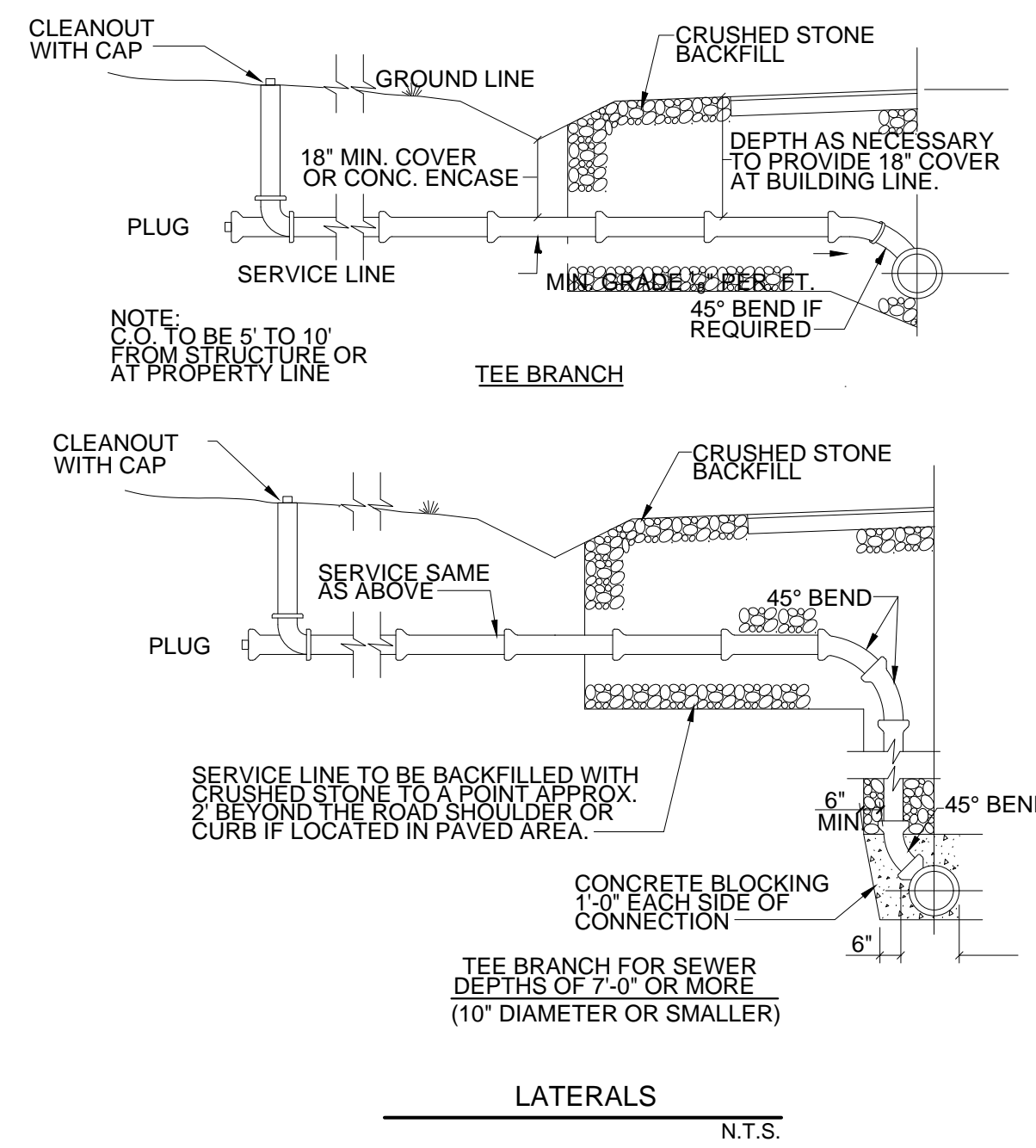


PUBLIC WATER MAIN EXTENSION
 FIVE POINTS PHASE 3
 INFRASTRUCTURE IMPROVEMENTS
 KNOXVILLE, KNOX COUNTY, TN

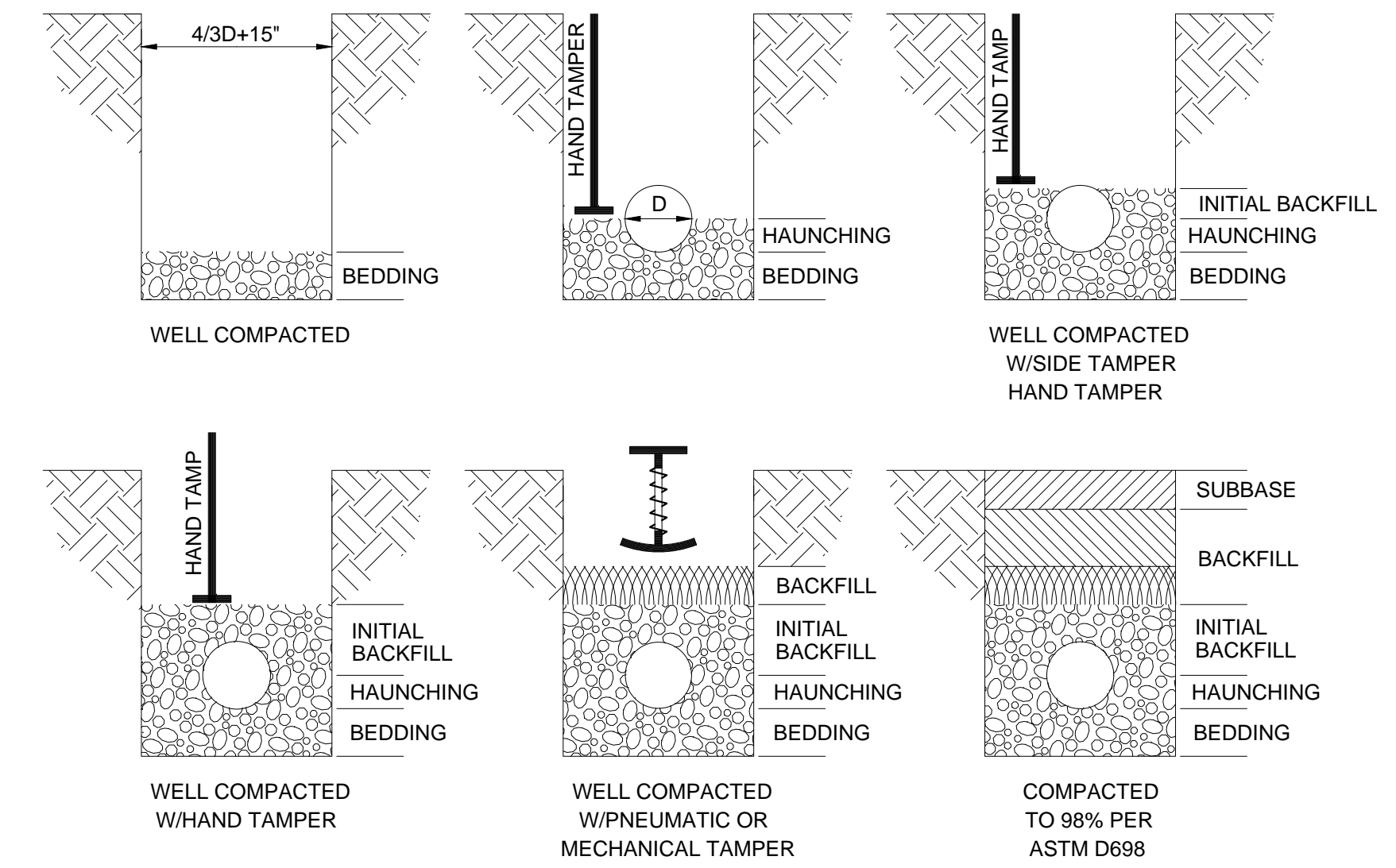
SHEET 1 OF 1 SHEETS
C504



CLEAN-OUT DETAIL
N.T.S.

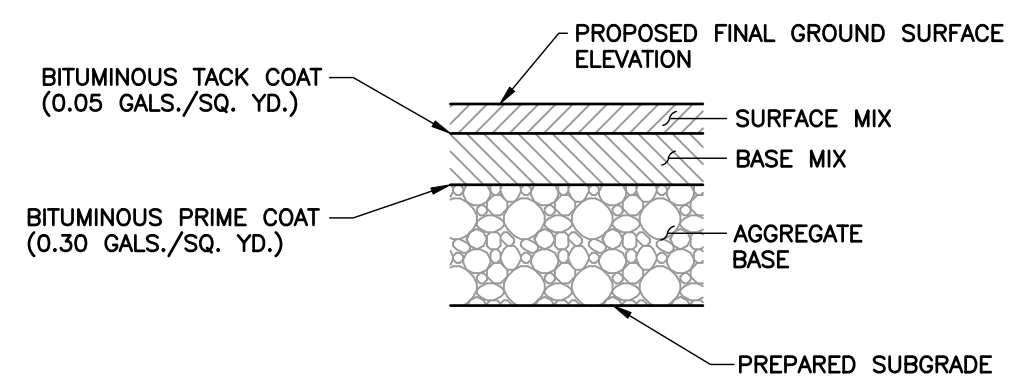


LATERALS
N.T.S.



LAYER	DEPTH	MATERIAL
BEDDING	6" MIN.	CLASS I FOR FLEXIBLE PIPE, CLASS I-IV FOR RIGID PIPE
HAUNCHING	VARIES	CLASS I FOR FLEXIBLE PIPE, CLASS I-IV FOR RIGID PIPE, TAMPED IN 6" MAXIMUM LAYERS.
INITIAL BACKFILL	VARIES	CLASS I FOR FLEXIBLE PIPE, CLASS I-IV FOR RIGID PIPE
BACKFILL	VARIES	CLASS I-IV FOR ALL PIPE, 75% OF BACKFILL MATERIAL MAY CONTAIN BROKEN STONES NOT EXCEEDING 6" IN DIAMETER - TAMPED IN 6" MAXIMUM LAYERS
SUBBASE	12"	CLASS I-IV FOR ALL PIPE - EXCEPT USE T.D.O.T. MINERAL AGGREGATE BASE TYPE A, ACROSS OR ALONG EXISTING PAVEMENT

TRENCH BACKFILLING & COMPACTION IN UNIMPROVED AND IMPROVED AREAS
N.T.S.

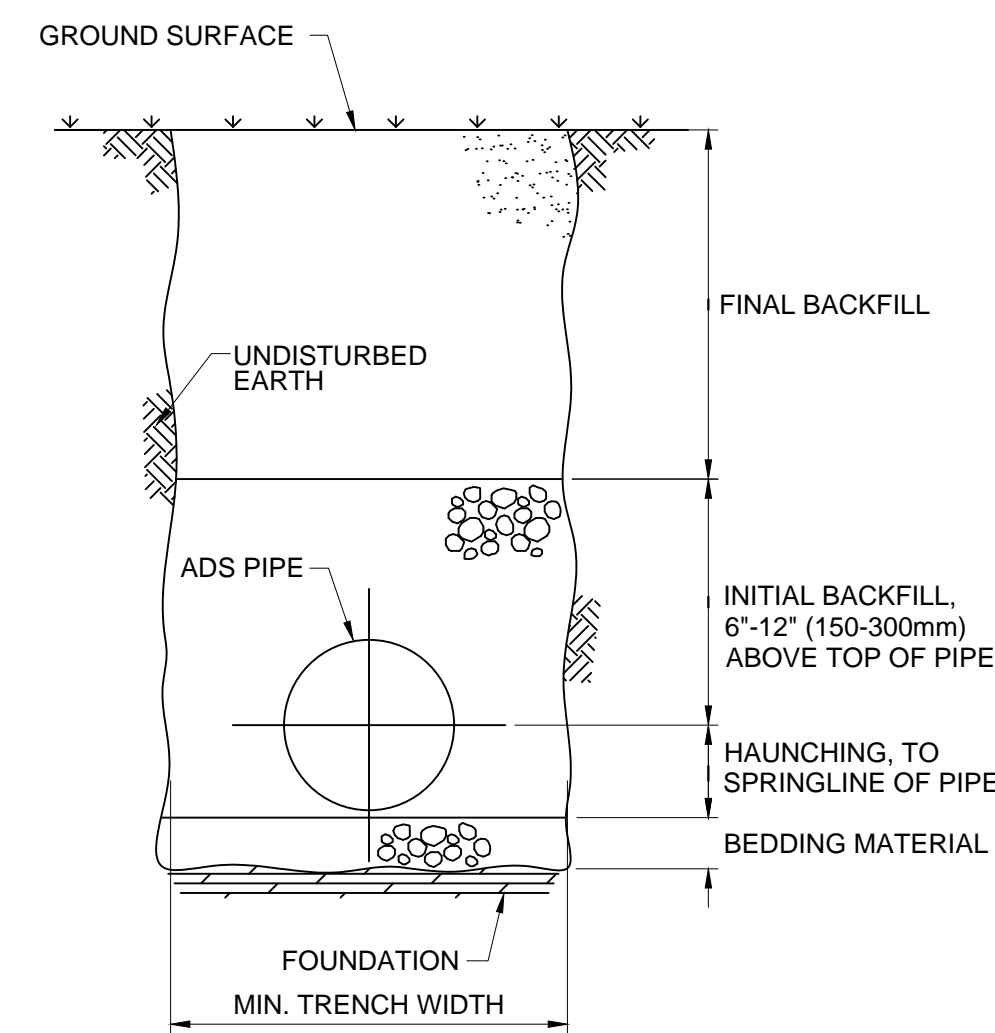


TDOT SPECIFICATION	ITEM	ASPHALT PAVEMENT SECTIONS	
		LIGHT-DUTY	HEAVY-DUTY
SECTION 411, GRADING "E"	BITUMINOUS ASPHALT SURFACE MIX	1.5"	1.5"
SECTION 307, GRADING "BM"	BITUMINOUS ASPHALT BASE MIX	2"	2.5"
SECTION 903.05, TYPE A, CLASS A GRADING D	COMPACTED CRUSHED AGGREGATE BASE	6"	8"

NOTES:

- PAVEMENT DESIGN PER "REPORT OF GEOTECHNICAL EXPLORATION, KDC FIVE POINTS PHASE 3 INFRASTRUCTURE IMPROVEMENTS" DATED 08/08/2017 PREPARED BY GEOSERVICES, LLC.
- THE PAVEMENT SUBGRADE SHALL BE PREPARED AS FOLLOWS:
 - PAVEMENT SUBGRADE SHALL BE PROOFROLLED AND COMPACTED TO AT LEAST 100% OF ITS MAXIMUM DRY DENSITY AND WITHIN ± 3% OF ITS OPTIMUM MOISTURE CONTENT, AS DETERMINED BY ASTM D1557 (MODIFIED PROCTOR). ANY SOFT AREAS SHALL BE OVEREXCAVATED TO A FIRM AND COMPETENT MATERIAL AND BACKFILLED AS DESCRIBED IN 1B.
 - ALL APPROVED FILL SHALL BE PLACED IN MAXIMUM 8" THICK, LOOSE LIFTS AND COMPACTED TO 100% OF ITS MAXIMUM DRY DENSITY AND WITHIN ± 3% OF ITS OPTIMUM MOISTURE CONTENT. THE FILL MATERIAL'S MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT SHALL BE DETERMINED BY ASTM D1557 (MODIFIED PROCTOR).
 - AFTER COMPACTION, THE PAVEMENT SUBGRADE SHALL PROVIDE A FIRM UNYIELDING FOUNDATION WITH NO SUDDEN, SHARP OR ABRUPT CHANGES OR BREAKS IN GRADES. NO STANDING WATER OR EXCESS MOISTURE SHALL BE PRESENT. ALL SOFT AND YIELDING AREAS SHALL BE REWORKED BY OVEREXCAVATING TO A FIRM AND COMPETENT MATERIAL, AND BACKFILLED AS DESCRIBED IN 1B.
 - THE SUBGRADE SHALL BE GRADED AND SHAPED AS REQUIRED TO CONSTRUCT THE AGGREGATE BASE COURSE IN CONFORMANCE WITH THE GRADES, LINES AND THICKNESSES SHOWN ON THE DRAWINGS.
- THE BITUMINOUS COURSES SHALL BE TAPERED INTO THE STORM SEWER INLETS WHILE MAINTAINING FULL PAVEMENT SECTION DEPTH.

PAVEMENT SECTIONS
NOT TO SCALE



TYPICAL TRENCH CROSS-SECTION

NOTE:
DETAIL FOR ADS N-12 PIPE ONLY.
REFER TO MANUFACTURER'S INSTALLATION SPECIFICATIONS FOR OTHER PIPE USED.

- FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2321, "STANDARD PRACTICE FOR INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS," LATEST EDITION; AS AN ALTERNATIVE AND AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC.
- BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4'-24" (100-600mm) CORRUGATED POLYETHYLENE PIPE (CPEP); 6" (150mm) FOR 30'-60" (750-1500mm) CPEP.
- HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
- UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM TRENCH WIDTHS SHALL BE AS FOLLOWS:

NOMINAL Ø in (mm)	MIN. RECOMMENDED TRENCH WIDTH, in (mm)
4 (100)	21 (530)
6 (150)	23 (580)
8 (200)	25 (630)
10 (250)	28 (710)
12 (300)	31 (790)
15 (375)	34 (860)
18 (450)	39 (990)
24 (600)	48 (1220)
30 (750)	66 (1680)
36 (900)	78 (1980)
42 (1050)	83 (2110)
48 (1200)	89 (2260)
60 (1500)	102 (2590)

SURFACE LIVE LOADING CONDITION	MINIMUM RECOMMENDED COVER, in (mm)
H25 (FLEXIBLE PAVEMENT)	12 (300), 24 (600) FOR 60" (1500) PIPE
H25 (RIGID PAVEMENT)	12 (300), 24 (600) FOR 60" (1500) PIPE
E80 RAILWAY	24 (600)
HEAVY CONSTRUCTION	48 (1200)

* TOP OF PIPE TO BOTTOM OF BITUMINOUS PAVEMENT SECTION

TRENCH INSTALLATION
N.T.S.

NO.	DATE	DESCRIPTION
1	08/11/17	ADDENDUM 1

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KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION
FIVE POINTS PHASE 3
INFRASTRUCTURE IMPROVEMENTS
KNOXVILLE, KNOX COUNTY, TN

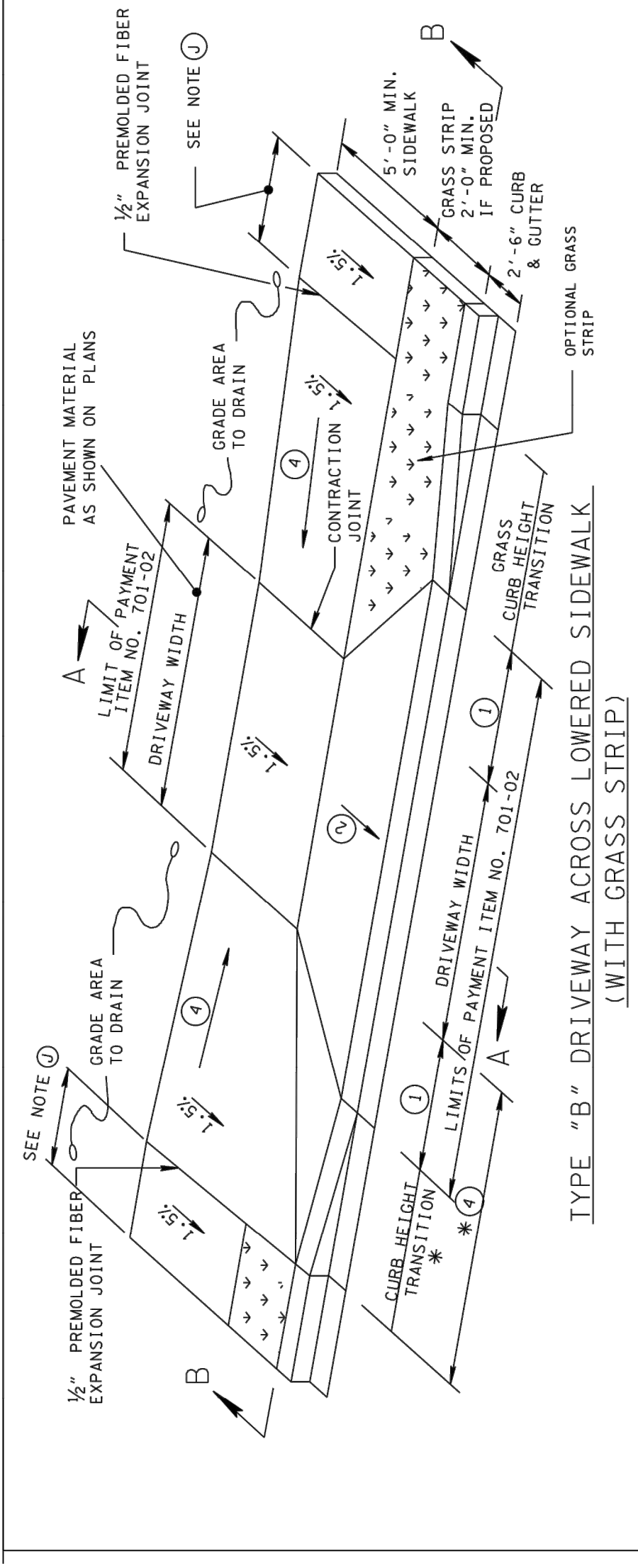
DETAILS

DATE: JULY 26, 2017 DRAWN BY: CER
DWG SCALE: AS SHOWN CHECKED BY: GHP
PROJECT NO: 172-455
APPROVED BY: GHP

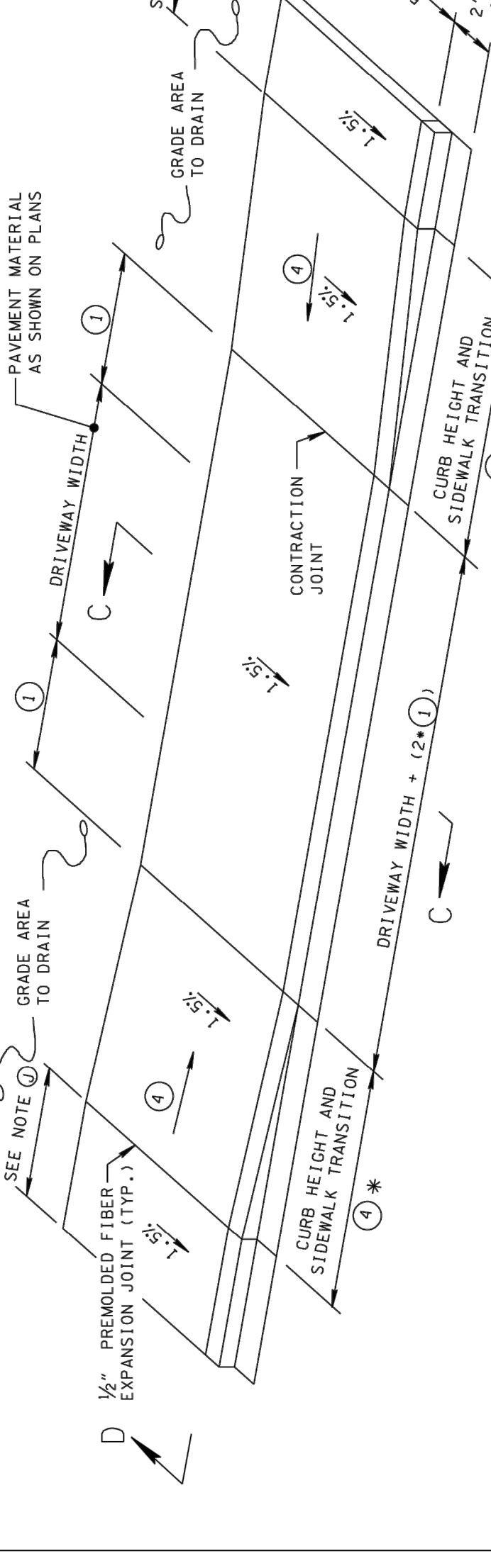
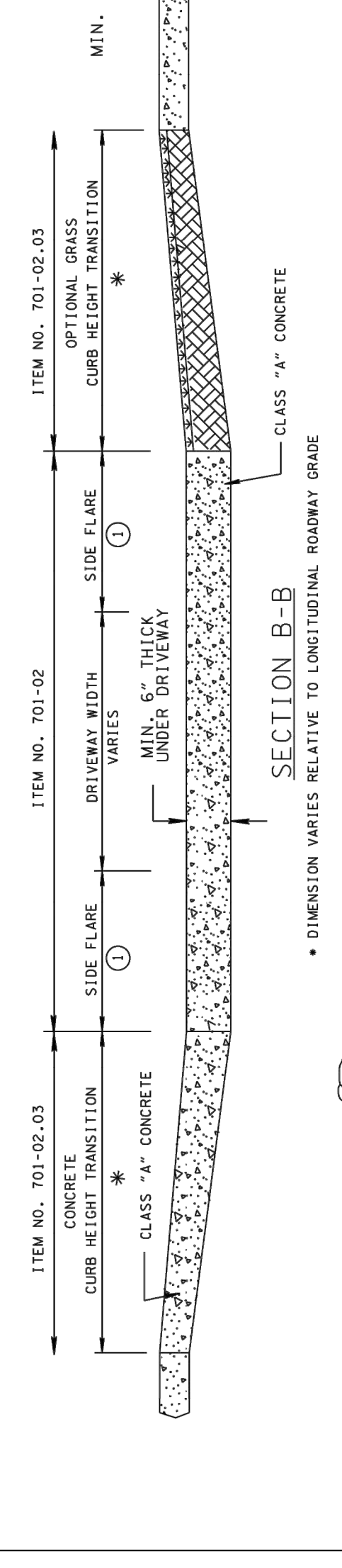


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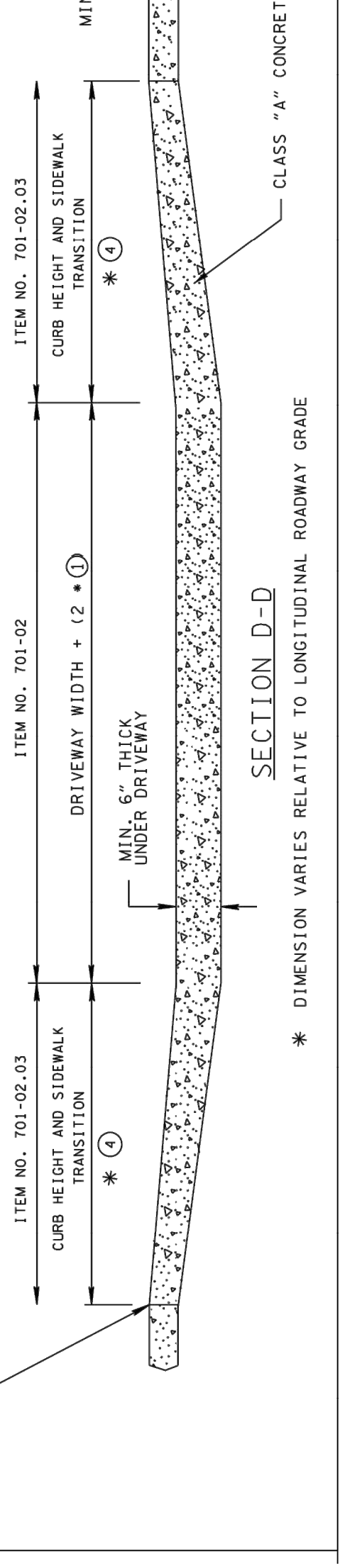
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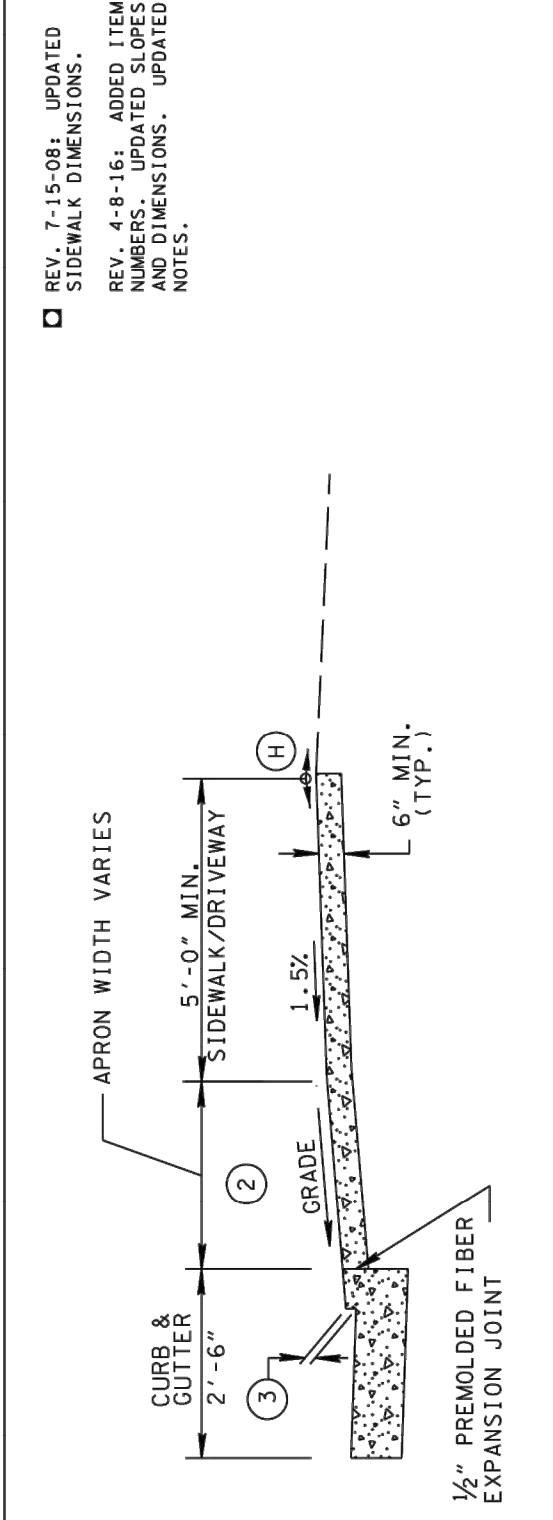
TYPE "B" DRIVEWAY ACROSS LOWERED SIDEWALK (WITH GRASS STRIP)



TYPE "C" DRIVEWAY ACROSS LOWERED SIDEWALK



SECTION D-D - DIMENSION VARIES RELATIVE TO LONGITUDINAL ROADWAY GRADE



SECTION A-A

GENERAL NOTES

- A 5'-0" MINIMUM SIDEWALK WITH A MAXIMUM CROSS SLOPE OF 1.5% THROUGH DRIVEWAYS.
- B DESIGNER TO CHECK GUTTER FLOW DEPTH AT DRIVEWAY LOCATIONS TO ASSURE THAT THE DESIGN FLOW DOES NOT OVERTOP THE SIDEWALK AREA. IF OVERTOPPING OCCURS PLACE AN INLET AT THE USTREAM SIDE OF THE DRIVEWAY OR PERFORM OTHER DESIGN MITIGATION.
- C THE CROSS SLOPE OF THE LANDING AREA SHALL NOT EXCEED 1.5% IN THE SIDEWALK AREA.
- D DRIVEWAYS TO BE BUILT COMPLETE OR IN PART AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- E ALL CONCRETE DRIVEWAYS TO BE 6" UNIFORM THICKNESS, UNLESS OTHERWISE SHOWN ON PLANS.
- F EXPANSION JOINTS TO BE PLACED AS INDICATED ON THE PLANS EXCEPT JOINT AT BACK OF DRIVEWAY WHICH WILL BE PLACED WHEN DRIVEWAY ABUTS A RIGID DRIVEWAY OR A BUILDING.
- G THE ROADWAY DESIGNER SHALL CONSIDER THE USE OF A CATCH BASIN ON EITHER SIDE OF DRIVEWAY WHEN THE DRIVEWAY IS IN A VERTICAL SAG CURVE.
- H ALGEBRAIC DIFFERENCE NOT TO EXCEED 10.0%.

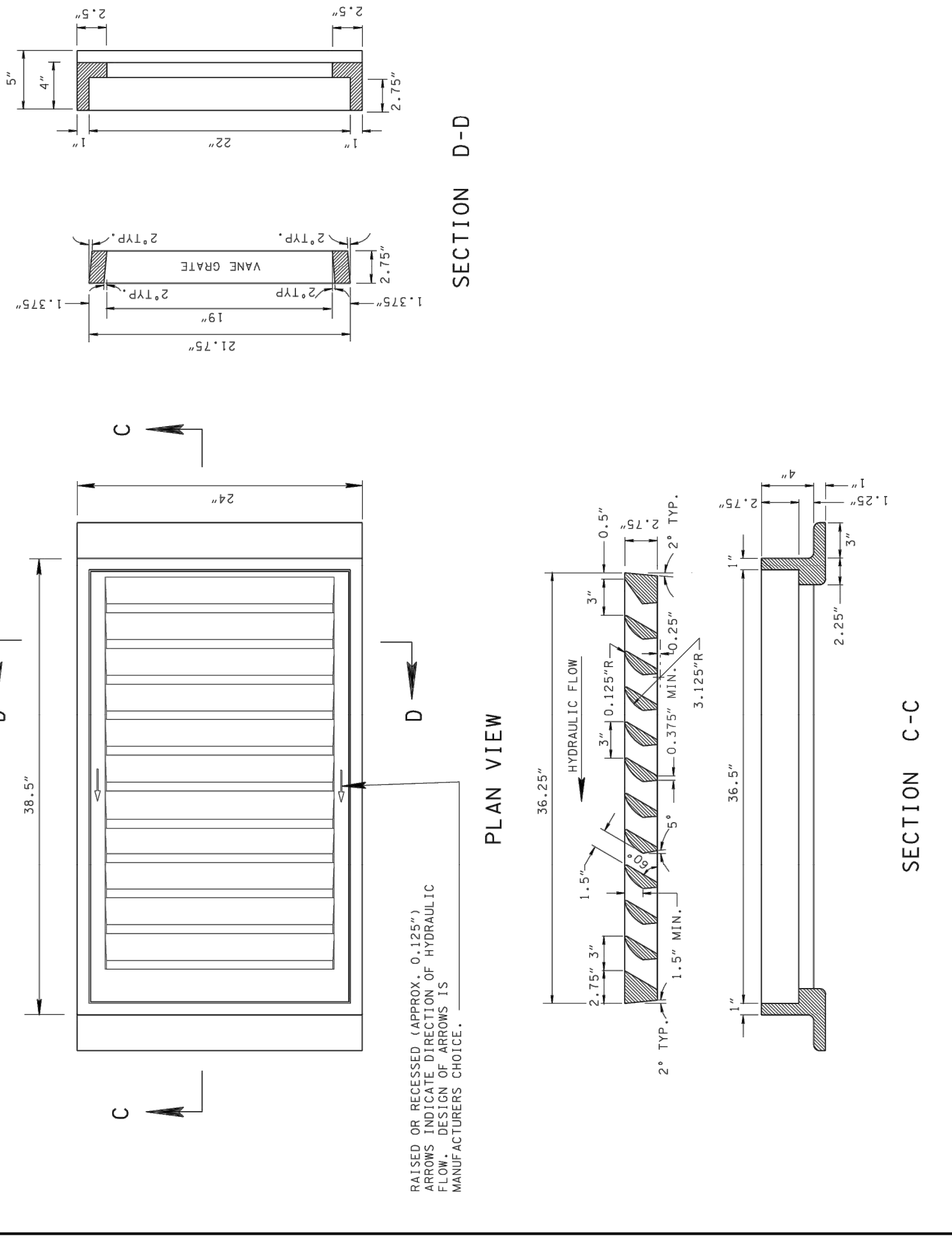
- I ITEM NOS:
 - 101-02-03 CONCRETE DRIVEWAY PER SF
 - 701-02-03 CONCRETE RAMP
- J WHEN MORE THAN 2 DRIVEWAYS ARE PROPOSED, USE TYPE "A" DRIVEWAY AS SHOWN ON STANDARD PLAN AND TYPE "B" DRIVEWAY FOR RESIDENTIAL AND TYPE "C" DRIVEWAY FOR COMMERCIAL.
- K TYPICAL DRIVEWAY WIDTHS ARE 12' (14' TWO WAY) FOR RESIDENTIAL AND 24' (40' MAX.) FOR COMMERCIAL.
- L REFER TO SECTION 5.1.3 IN THE MANUAL FOR CONSTRUCTING DRIVEWAY ENTRANCES ON STATE HIGHWAYS (2015) FOR RADIUS OF CURVATURE GUIDANCE.

FOOTNOTES

- 1 SIDE FLARE WIDTH SHOULD BE A MINIMUM 7'-0" FOR COMMERCIAL DRIVEWAYS. SIDE FLARE WIDTH SHOULD BE A MINIMUM 3'-6" FOR RESIDENTIAL DRIVEWAYS.
- 2 DRIVEWAY RAMP GRADE VARIES, 15% MAX. (10% RECOMMENDED). APRON GRADE FOR RESIDENTIAL DRIVEWAYS, 8% MAX. (5% RECOMMENDED). APRON GRADE FOR COMMERCIAL DRIVEWAYS.
- 3 HEIGHT OF LOWERED CURB SHALL BE 2.25 INCHES. SEE STD. DWG. RP-NC-10.
- 4 THE SLOPE OF THE SIDEWALK AND/OR CURB HEIGHT TRANSITION VARIES TO A MAXIMUM OF 8.33% LENGTH OF TRANSITION IS RELATIVE TO THE LONGITUDINAL ROADWAY GRADE.

MINOR REVISION - PER APPROVAL NOT REQUIRED.
 STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 DETAILS OF LOWERED SIDEWALK CONCRETE DRIVEWAYS
 2-15-07 RP-D-16

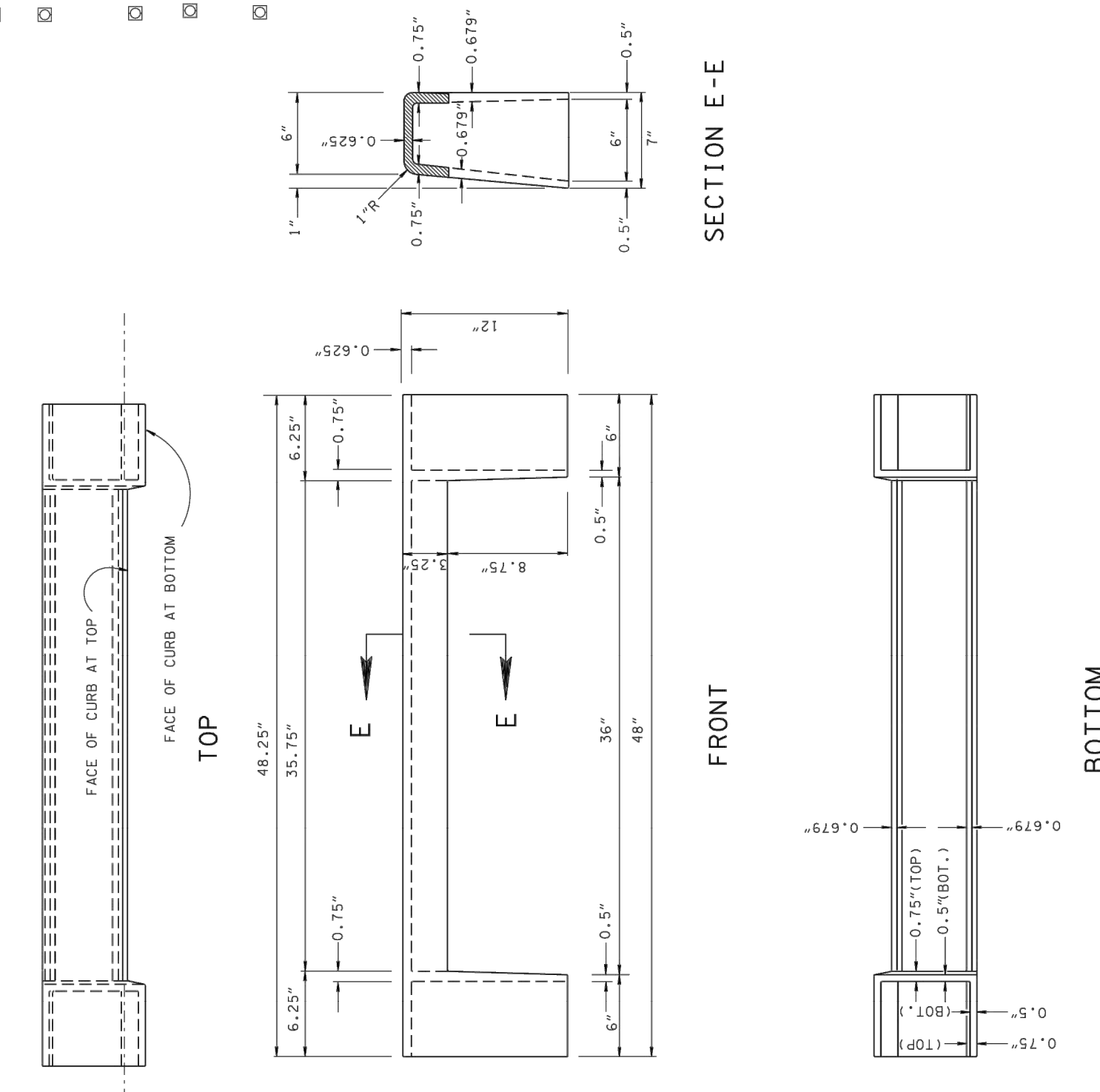
GRATE AND FRAME DETAILS



GENERAL NOTES

- A WHEN A SIX (6) INCH NONMOUNTABLE CURB IS REQUIRED USE THIS DRAWING ON ALL VARIATIONS OF NUMBER 10, 12, 14, 16, AND 17 CATCH BASINS CONTAINED IN THIS SECTION OF THE STANDARD DRAWINGS.
- B FOR CLEARNESS, ALL CORNERS ARE SHOWN ON THIS DRAWING BY STRAIGHT LINES WITH THE EXCEPTION OF THE 1" RADIUS AT THE TOP OF FACE OF CURB. ALL INSIDE CORNERS SHOULD BE MADE WITH 1/2" x 1/2" FILLETS OR 3/4" RADIUS FILLETS FOR EASE IN MOLDING.
- C IF PAID FOR SEPARATELY CAST IRON USED IN CASTINGS IS TO BE PAID FOR UNDER ITEM NO. 611-03.04 GRAY IRON CASTINGS (CATCH BASIN) PER POUND.
- D IF CATCH BASIN IS PAID FOR UNDER EACH, THEN COST OF CAST IRON USED IN CASTINGS IS TO BE PAID FOR UNDER THE SPECIFIC ITEM BID FOR THAT CATCH BASIN. SEE STANDARD DRAWINGS FOR TYPE 10, 12, 14, 16, AND 17 CATCH BASINS FOR APPLICABLE PAY ITEMS FOR EACH TYPE OF CATCH BASIN.

CURB INLET CASTING



FRACTION TABLE

1/8"	0.125"
1/4"	0.250"
3/8"	0.375"
1/2"	0.500"
5/8"	0.625"
1 1/8"	0.688"
3/4"	0.750"

WEIGHTS

- (SINGLE GRATE CATCH BASIN)
- FRAME 265 LBS.
- GRATE 250 LBS.
- CURB INLET 155 LBS.
- * TOTAL 670 LBS.
- * NOTE: WEIGHT OF TWO GRATES = 1,340 LBS.
- * NOTE: FOR NO. 10 CATCH BASIN, DEDUCT 155 LBS. PER "GRATE", SINCE NO CURB INLET IS REQUIRED.

MINOR REVISION - PER APPROVAL NOT REQUIRED.
 STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 TYPE "B" CAST IRON FRAME, GRATE & NONMOUNTABLE INLET FOR DRIVEWAYS 10, 12, 14, 16 & 17 TYPE CATCH BASIN
 1-20-84 D-CBB-12A



DETAILS

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PROJECT NO.:	172-455	APPROVED BY:	GHP

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REVISION RECORD

NO.	DATE	DESCRIPTION
1	06/17/17	ADDENDUM 1

DRAWING NO.: **C801**

ASPHALT STREET REPAIR

CONCRETE STREET REPAIR

CONCRETE SIDEWALK / DRIVEWAY REPAIR

CLASS B

TRENCH BEDDING

D	G (MIN.)
27" AND SMALLER	3"
30" TO 60"	4"
66" AND LARGER	6"

DEPTH OF BEDDING MATERIAL BELOW PIPE

CLASS B

CLASS B

CLASS B

CLASS B

CLASS B

CLASS B

- NOTES:**
- ALL SECTIONS NOTED BELOW REFER TO THE CITY OF KNOXVILLE STANDARD SPECIFICATIONS UNLESS OTHERWISE SPECIFIED.
 - ASPHALTIC CONCRETE SURFACE, GRADING D, SECTION 10.0, MATCH EXISTING DEPTH OR MINIMUM THICKNESS OF ONE AND ONE-HALF (1.5) INCHES.
 - CONCRETE PLANT MIX BASE, GRADING B, OR C, SECTION 9.0, MATCH EXISTING DEPTH OR MINIMUM THICKNESS OF TWO AND ONE-HALF (2.5) INCHES. CONCRETE SURFACE GRADING D, BUT SHALL BE COMPACTED IN TWO LIFTS.
 - TACK COAT, SECTION 7.0.
 - PORTLAND CEMENT CONCRETE PAVEMENT, SECTION 11.0, JOINTS SHALL BE DONE AS DETAILED IN SECTION 11.0.
 - MINERAL AGGREGATE BASE, CLASS A, APPROPRIATE GRADING D, SECTION 5.0, COMPACTED IN SIX (6) INCH LIFTS TO 100% OF THE STANDARD PROCTOR OR 95% LEAST ON GRAVIMETRY METHOD. USE OF POLYMER MODIFIED ASPHALT IS PERMITTED FOR APPROXIMATELY 1.5 TIMES THE CONCRETE THICKNESS PLUS THE ASPHALT OVERLAY THICKNESS.
 - WHEN A TEMPORARY ASPHALT PATCH IS USED, IT SHALL BE PLACED OVER THE EXISTING PAVEMENT AND THE ASPHALT REPAIRING THE CONCRETE REPAIR MUST BE REPLACED PERMANENTLY WITHIN 90 DAYS.
 - CONCRETE SIDEWALKS, DRIVEWAYS, AND MEDIAN STRIP, SECTION 13.0.
 - LIMITS OF REMOVAL SHALL BE FROM THE NEAREST EXPANSION OR CONTRACTION JOINT.
 - COMPACTED BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 20.0. THE ROADWAY UNDER CURBS, GUTTERS, AND SIDEWALKS SHALL MEET THE REQUIREMENTS OF SECTION 5.0 (MINERAL AGGREGATE BASE).
 - BEDDING MATERIAL, GRADING SIZE NO. 57 OR NO. 67, SHALL BE IN ACCORDANCE WITH SECTION 20.0.
 - EXISTING CONCRETE STREETS THAT HAVE BEEN OVERLAIN WITH ASPHALT SHALL BE REPAIRED WITH ASPHALT. THE DEPTH OF THE ASPHALT REPAIRING THE CONCRETE SHALL BE 1.5 TIMES THE CONCRETE THICKNESS PLUS THE ASPHALT OVERLAY THICKNESS.

CITY OF KNOXVILLE
DEPARTMENT OF ENGINEERING

STANDARD DETAIL FOR
STORM POND BEDDING
AND BACKFILL

COK-5

APPROVED: CH

DATE: 02-04-2009

SCALE: N.T.S.

LOCAL ROAD CROSS SECTION

CITY OF KNOXVILLE
ENGINEERING DIVISION

SEE ASPHALT PAVING DETAIL
CONCRETE SIDEWALK OPTION
WITH GRASS PLOT (SEE COK-6)

PRIME COAT: 0.2 TO 0.5 GALLONS PER SQ. YARD
TACK COAT: 0.05 TO 0.10 GALLONS PER SQ. YARD

ASPHALT PAVING DETAIL
N.T.S.



DETAILS

DATE:	JULY 26, 2017	DRAWN BY:	CER
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PROJECT NO.:	172-455		
APPROVED BY:			GHP

C802

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REVISION RECORD

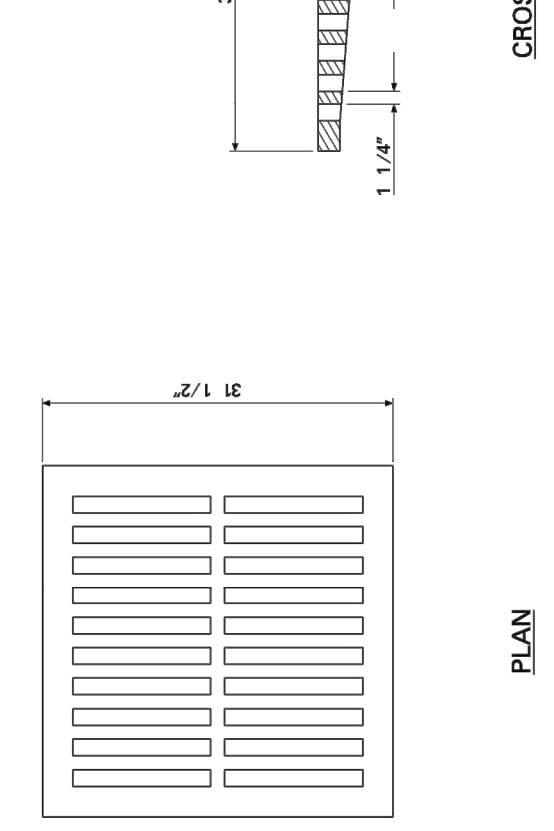
NO.	DATE	DESCRIPTION
1	08/11/17	AMENDMENT 1

REVISIONS	
NO.	DESCRIPTION
1.	REVISION 1
2.	REVISION 2
3.	REVISION 3
4.	REVISION 4
5.	REVISION 5
6.	REVISION 6
7.	REVISION 7
8.	REVISION 8
9.	REVISION 9
10.	REVISION 10

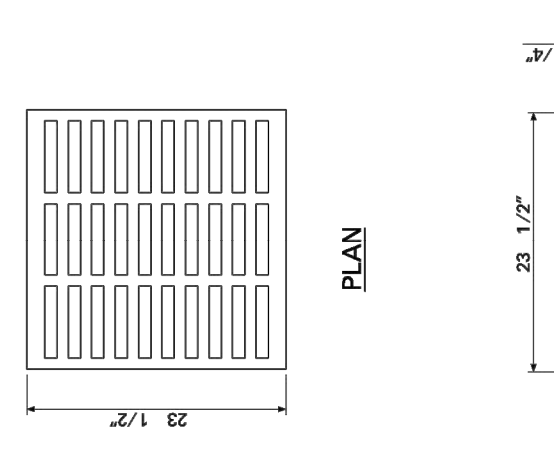
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1.	08/11/17	AMMENDMENT	

NO.	DATE	BY	DESCRIPTION
1.	08/11/17	AMMENDMENT	

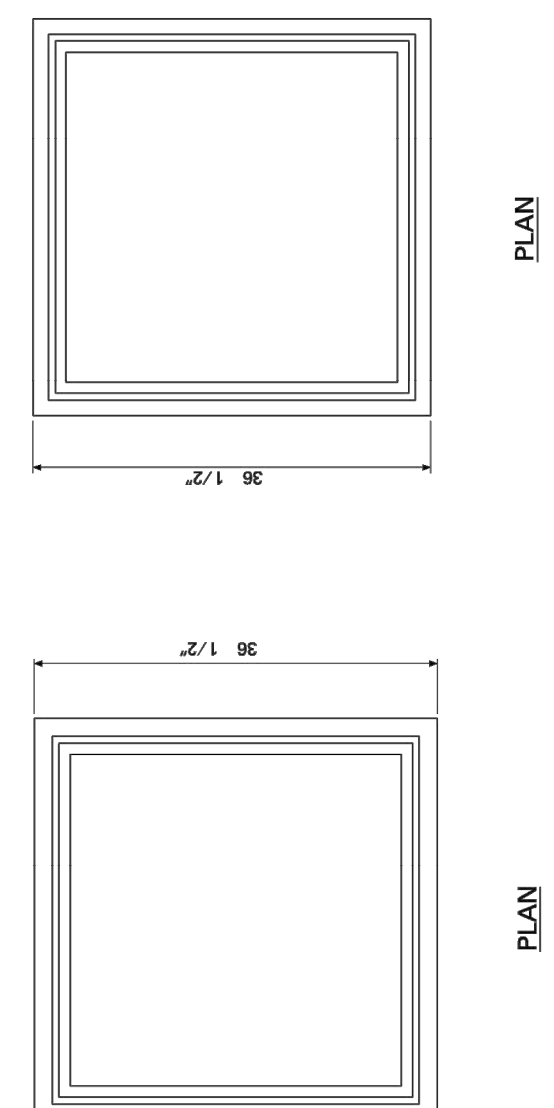
NO.	DATE	BY	DESCRIPTION
1.	08/11/17	AMMENDMENT	



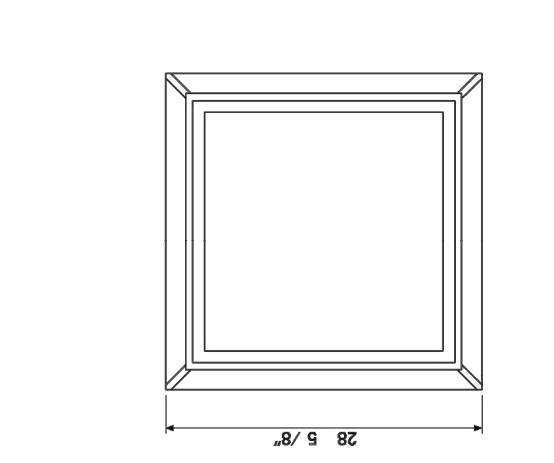
TYPE A and B



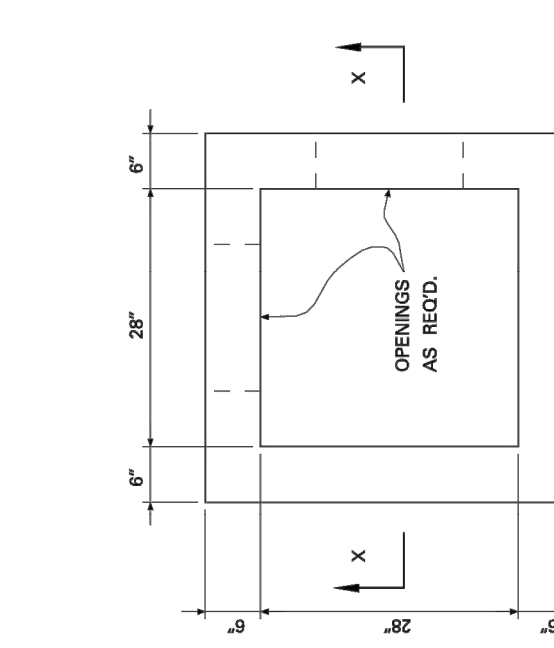
TYPE C



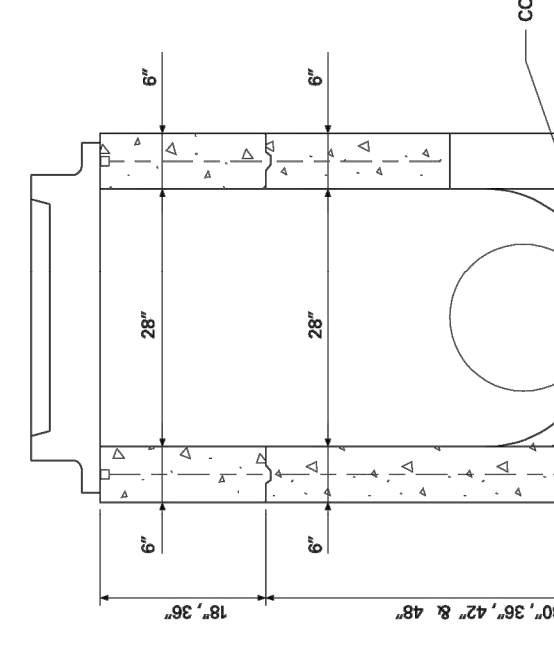
TYPE A



TYPE B



PLAN



SECTION X-X

- NOTES:**
1. ALL CASTINGS SHALL CONFORM TO ASTM A88 CLASS 30.
 2. ALL GRATES AND FRAMES SHALL BE APPROVED FOR HS-20 TRAFFIC LOADING.
 3. EACH SECTION OF THE PRECAST STRUCTURE SHALL HAVE NOT MORE THAN THREE HOLES FOR THE PURPOSE OF HANDLING AND LAYING.
 4. ALL HOLES SHALL BE 1/2" MIN. DIA. AND SHALL BE PAPERED AND PLUGGED WITH STOPPERS OF MATCHING MATERIAL.
 5. CONCRETE INVERTS SHALL BE CONSTRUCTED IN THE FIELD AS TO PROVIDE POSITIVE FLOW.
 6. CASTINGS SHALL BE TREATED WITH TWO COATS OF BITUMINOUS PAINT.
 7. MINIMUM CONCRETE STRENGTH 4000 POUNDS PER SQUARE INCH.
 8. REINFORCING SHALL BE 1/2" DIA. STEEL BARS WITH 18" ON CENTER.
 9. STEEL REINFORCING SHALL BE 1/2" DIA. STEEL BARS WITH 18" ON CENTER. DRILLS TO FIT OR EQUIVALENT WITH A MINIMUM WATERED LETTER THE THICK OF 1/2".

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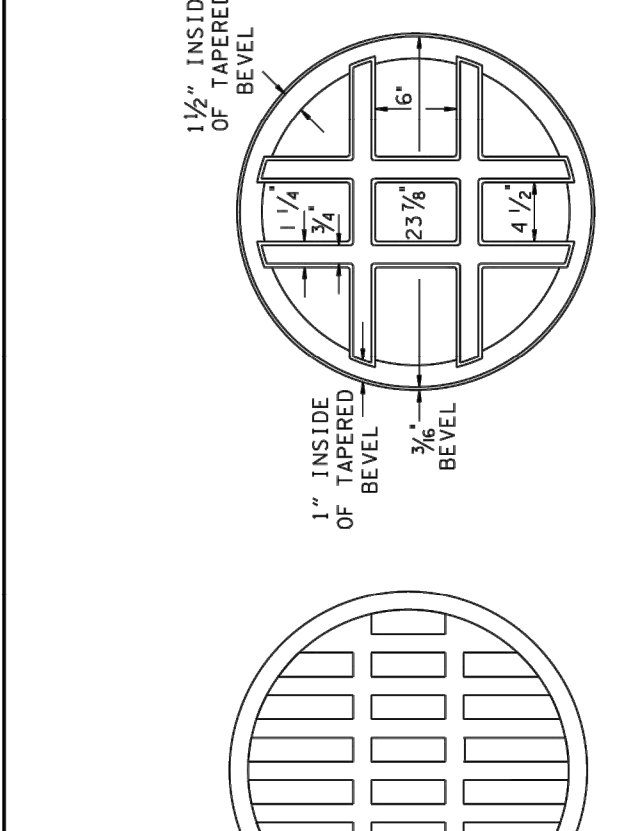
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CITY OF KNOXVILLE
DEPARTMENT OF ENGINEERING

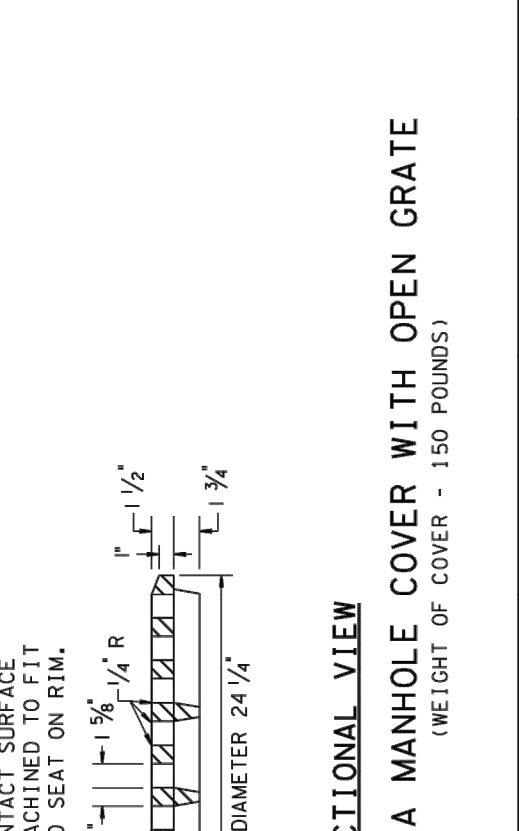
STANDARD DETAIL FOR
AREA DRAIN

COK-1

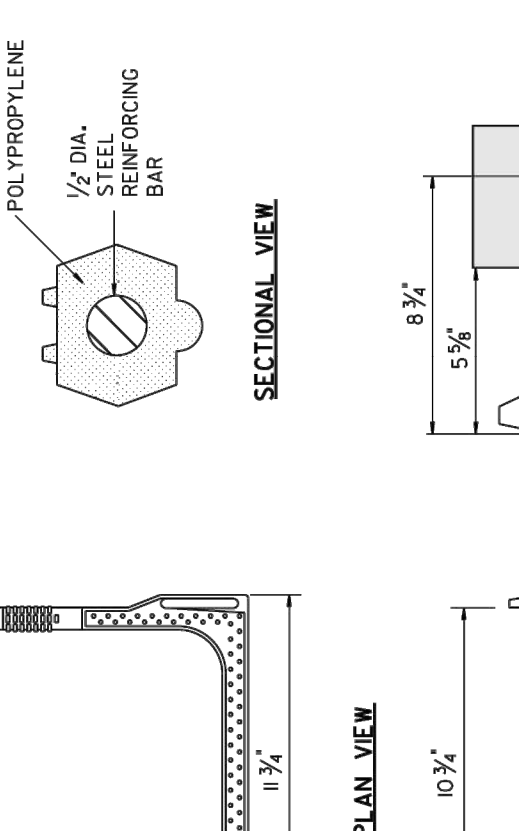
COK-1



TOP VIEW
THIS CONTACT SURFACE TO BE MACHINED TO FIT MACHINED SEAT ON RIM.



SECTIONAL VIEW

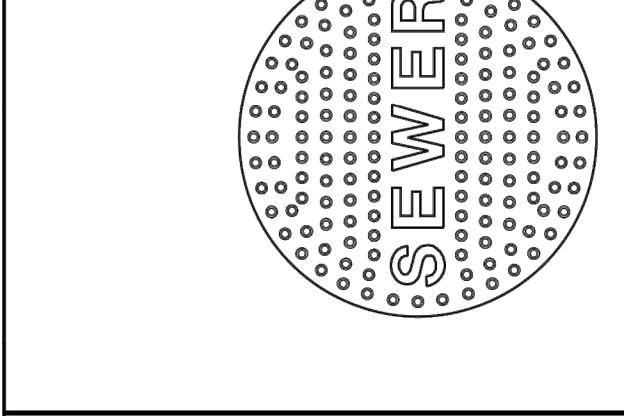


FRONT VIEW

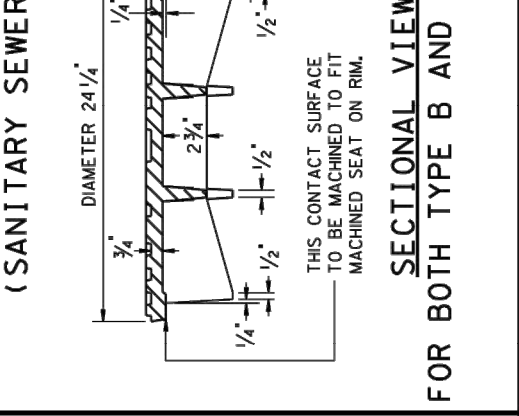
MATERIAL SPECIFICATIONS

THE POLYPROPYLENE, CONFORMING TO AN ASTM D-4101 SPECIFIC GRADE 60 STEEL REINFORCING BAR, THIS STEP EASILY MEETS THE REQUIREMENTS OF ASTM C-478, JASHTO M-199 AND CSMA INSTRUCTION STD. I-11-3.

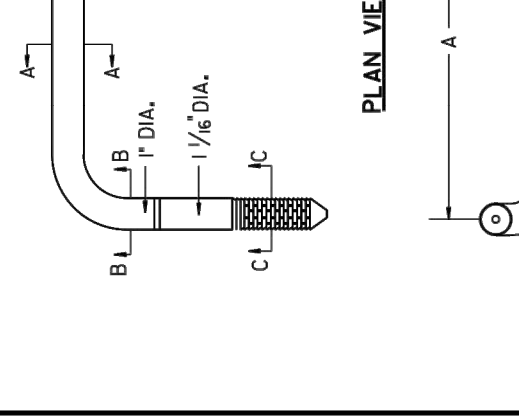
10 INCH PLASTIC MANHOLE STEP



TOP VIEW
THIS CONTACT SURFACE TO BE MACHINED TO FIT MACHINED SEAT ON RIM.



SECTIONAL VIEW
FOR BOTH TYPE B AND C COVERS

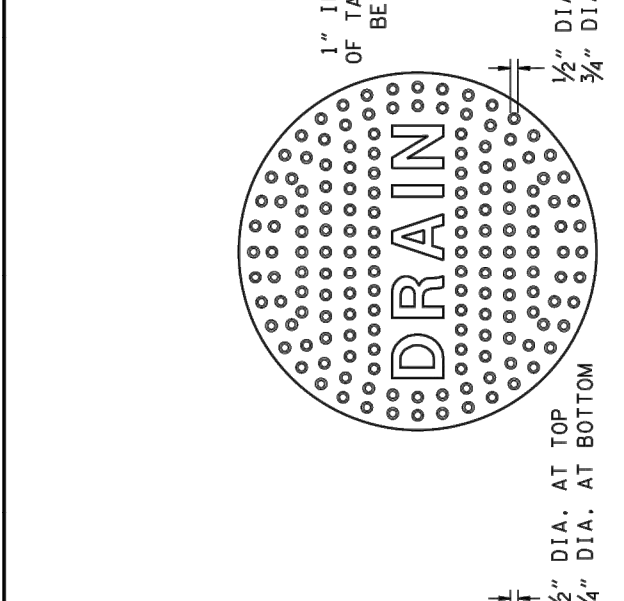


FRONT VIEW

WIDTH OF STEP TABLE

DIMENSION A	DIMENSION B
10"	8 3/4"
14"	8 3/4"
16"	8 3/4"
18"	9 3/4"

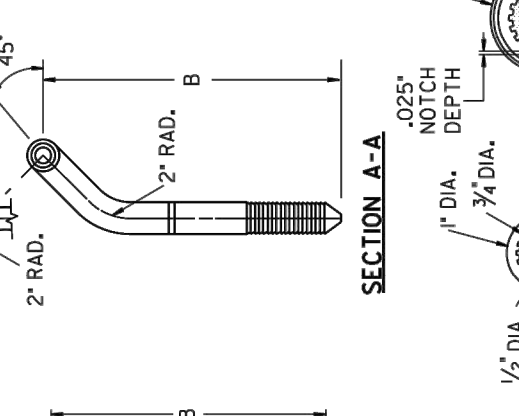
POLYETHYLENE COATED ALUMINUM STEPS



TOP VIEW
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SECTIONAL VIEW
FOR BOTH TYPE B AND C COVERS

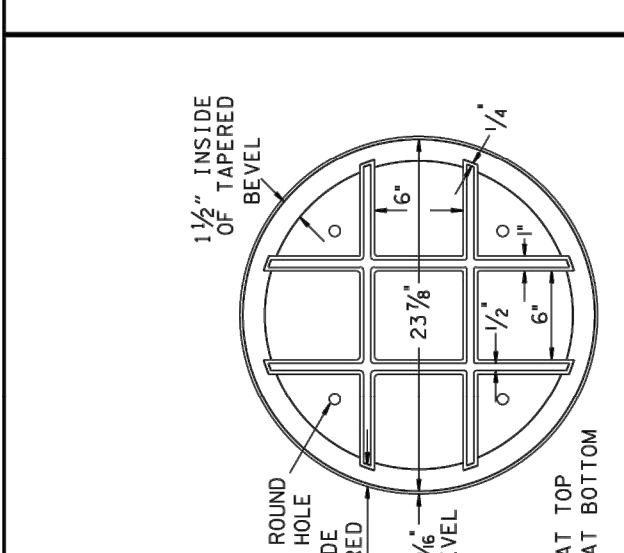


FRONT VIEW

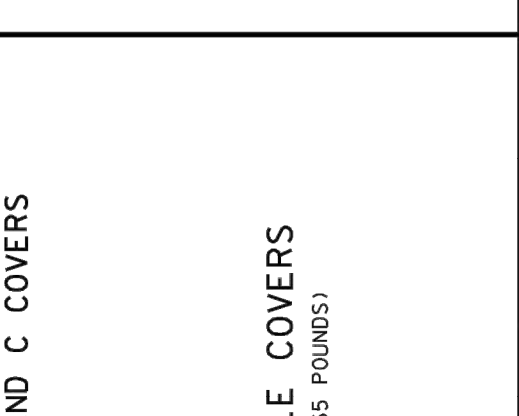
MATERIAL SPECIFICATIONS

ALUMINUM 6355-T6, CSA-S157-1983(CSA-H45) MATERIAL.
POLYETHYLENE-LOW DENSITY, VIRGIN MATERIAL.

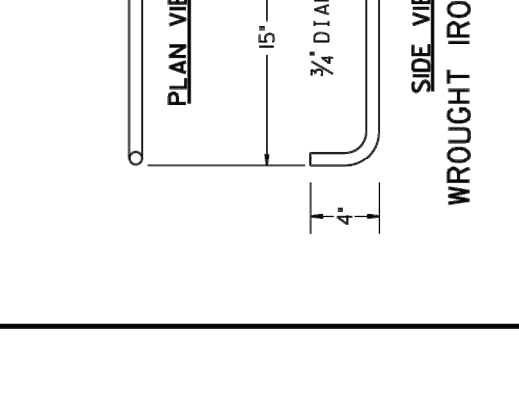
POLYETHYLENE COATED ALUMINUM STEPS



TOP VIEW
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SECTIONAL VIEW
FOR BOTH TYPE B AND C COVERS

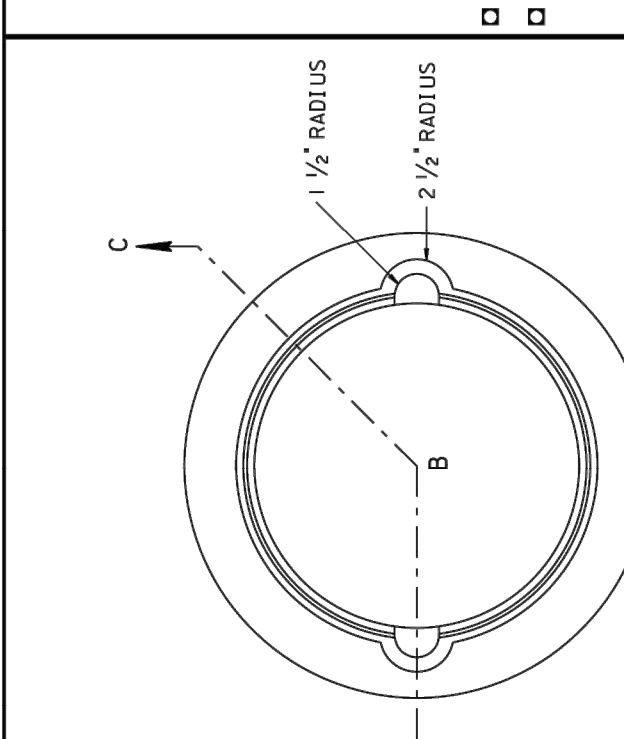


FRONT VIEW

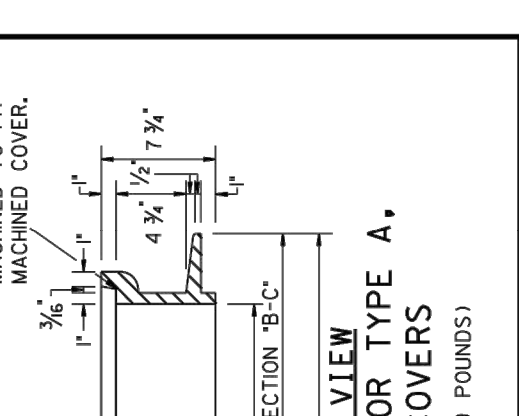
MATERIAL SPECIFICATIONS

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POLYETHYLENE-LOW DENSITY, VIRGIN MATERIAL.

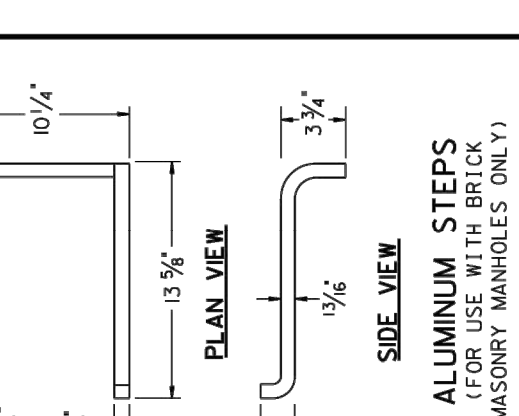
POLYETHYLENE COATED ALUMINUM STEPS



TOP VIEW
THIS SEAT TO BE MACHINED COVER.



SECTIONAL VIEW
FOR BOTH TYPE B AND C COVERS

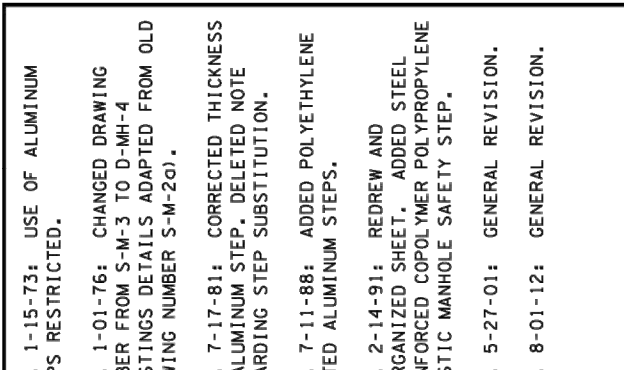


SIDE VIEW

MATERIAL SPECIFICATIONS

ALUMINUM 6355-T6, CSA-S157-1983(CSA-H45) MATERIAL.
POLYETHYLENE-LOW DENSITY, VIRGIN MATERIAL.

POLYETHYLENE COATED ALUMINUM STEPS



TOP VIEW
THIS SEAT TO BE MACHINED COVER.



SECTIONAL VIEW
FOR BOTH TYPE B AND C COVERS

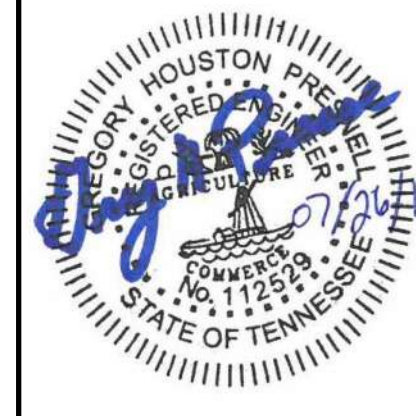


SIDE VIEW

MATERIAL SPECIFICATIONS

ALUMINUM 6355-T6, CSA-S157-1983(CSA-H45) MATERIAL.
POLYETHYLENE-LOW DENSITY, VIRGIN MATERIAL.

POLYETHYLENE COATED ALUMINUM STEPS



REVISION RECORD

NO.	DATE	DESCRIPTION
1.	08/11/17	AMMENDMENT

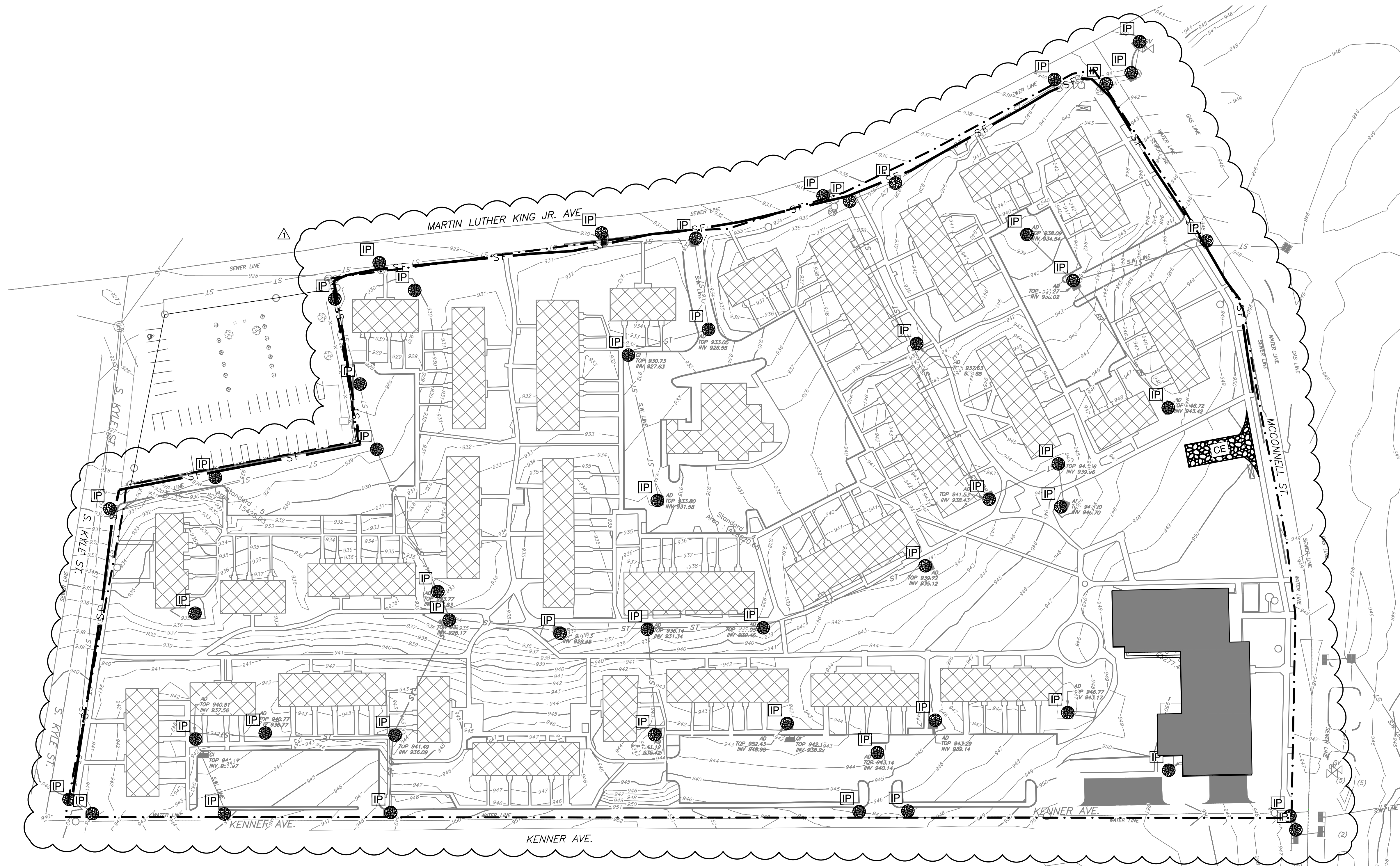
DETAILS

DATE: JULY 26, 2017
DRAWN BY: CER
DWG SCALE: AS SHOWN
CHECKED BY: GHP
PROJECT NO: 172-455
APPROVED BY: GHP

KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION
FIVE POINTS PHASE 3
INFRASTRUCTURE IMPROVEMENTS
KNOXVILLE, KNOX COUNTY, TN

Civil & Environmental Consultants, Inc.
2704 Cherokee Farm Way - Suite 101 - Knoxville, TN 37920
Ph: 885.977.9667 - Fax: 885.977.9919
www.cetinc.com

DRAWING NO: **C804**



- LEGEND:**
- EXISTING PROPERTY LINE
 - EXISTING STORM SEWER LINE
 - LIMITS OF DISTURBANCE
 - SILT FENCE
 - EXISTING SANITARY SEWER LINE
 - EXISTING COMBINED SEWER LINE
 - EXISTING STORM SEWER LINE
 - EXISTING UNDERGROUND ELEC. LINE
 - EXISTING OVERHEAD ELECTRIC
 - EXISTING GAS LINE
 - EXISTING WATER LINE
 - EXISTING STORM INLET
 - INLET PROTECTION
 - CONSTRUCTION EXIT
 - EXISTING SANITARY SEWER LINE
 - EXISTING POWER POLE
 - EXISTING LIGHT POLE
 - EXISTING WATER VALVE
 - EXISTING FIRE HYDRANT
 - EXISTING GAS VALVE
 - EXISTING BUILDING TO REMAIN
 - BUILDINGS TO BE REMOVED

REVISION RECORD

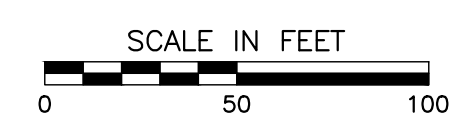
NO.	DATE	BY	DESCRIPTION

Civil & Environmental Consultants, Inc.
 2704 Cherokee Farm Way - Suite 101 - Knoxville, TN 37920
 Ph: 865.977.5667 - Fax: 865.977.5919
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**KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION
 FIVE POINTS PHASE 3
 INFRASTRUCTURE IMPROVEMENTS
 KNOXVILLE, KNOX COUNTY, TN**

INITIAL EROSION PREVENTION AND SEDIMENT CONTROL PLAN

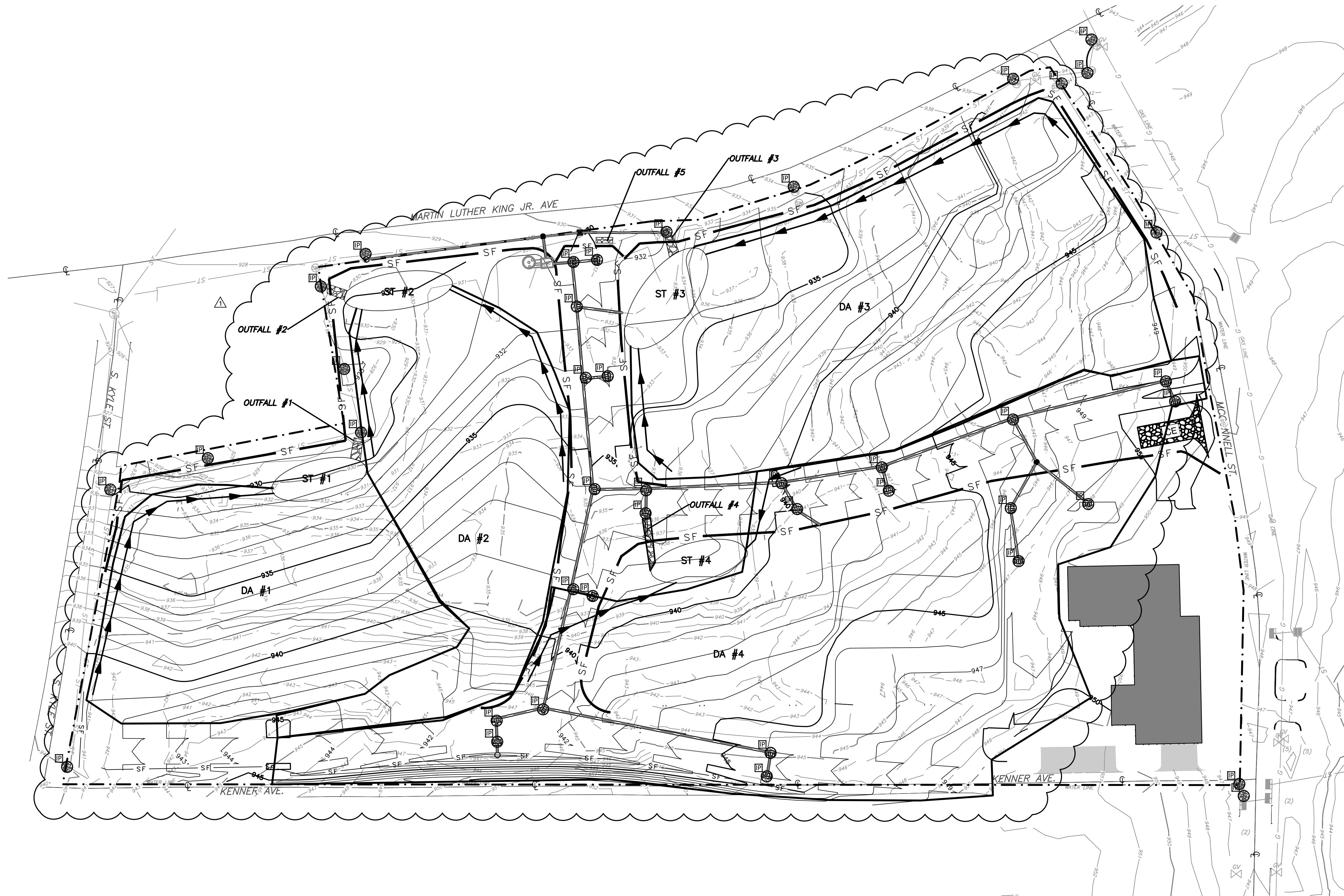
DATE: JULY 26, 2017 DRAWN BY: CER
 DWG SCALE: AS SHOWN CHECKED BY: GHP
 PROJECT NO: 172-455
 APPROVED BY: GHP



DRAWING NO: **C900**

P:\2017\172-455-C900.dwg | 172455-C900-001-0000.dwg | LS(8/11/2017) - 6pm) - LP: 8/11/2017 1:20 PM





- LEGEND:**
- LIMITS OF DISTURBANCE
 - - - EXISTING ADJACENT PROPERTY LINE
 - EXISTING RIGHT-OF-WAY
 - - - EXISTING EASEMENT
 - SF SILT FENCE
 - CS EXISTING COMBINED SEWER LINE
 - ST EXISTING STORM SEWER LINE
 - UG-E EXISTING UNDERGROUND ELEC. LINE
 - OH-E EXISTING OVERHEAD ELECTRIC
 - ST EXISTING STORM SEWER LINE
 - G EXISTING GAS LINE
 - W EXISTING WATER LINE
 - IP INLET PROTECTION
 - EP EXISTING POWER POLE
 - EL EXISTING LIGHT POLE
 - SI EXISTING STORM INLET
 - WV EXISTING WATER VALVE
 - FH EXISTING FIRE HYDRANT
 - GV EXISTING GAS VALVE
 - PROPOSED DIVERSION CHANNEL

DRAINAGE AREA/ SEDIMENT TRAP DETAILS:

DRAINAGE AREA #	ACRES	SED TRAP #	TOP OF EMBANKMENT EL.	EMERGENCY SPILLWAY EL.	BOTTOM WIDTH OF EMERGENCY SPILLWAY (FT)	DEPTH (BELOW EMERGENCY SPILLWAY) (FT)	LENGTH (FT)	WIDTH (FT)	STORAGE VOLUME (CY)
DA #1	1.37	ST #1	931	929.5	6	3	50	25	139
DA #2	1.41	ST #2	931	929.5	6	3	52	26	150
DA #3	2.52	ST #3	934	932.5	8	3	70	35	272
DA #4	3.73	ST #4	939	937.5	10	3	80	40	356

REVISION RECORD

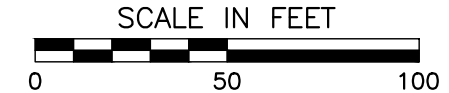
NO.	DATE	DESCRIPTION

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 2704 Cherokee Farm Way - Suite 101 - Knoxville, TN 37920
 Ph: 865.977.5667 - Fax: 865.977.9919
 www.cecinc.com

**KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION
 FIVE POINTS PHASE 3
 INFRASTRUCTURE IMPROVEMENTS
 KNOXVILLE, KNOX COUNTY, TN**

INTERIM EROSION PREVENTION AND SEDIMENT CONTROL PLAN

DATE: JULY 26, 2017
 DRAWN BY: CER
 DWG SCALE: AS SHOWN
 CHECKED BY: GHP
 PROJECT NO: 172-455
 APPROVED BY: GHP



DRAWING NO.: **C901**

P:\2017\172-455-C901.dwg | 172455-C901.dwg | 08/11/2017 - 6:00pm - LP: 8/11/2017 1:23 PM





NOTE:
 1. INLET PROTECTION DEVICES SHOWN ON SHEET C901 SHALL BE MAINTAINED UNTIL SITE HAS BEEN FULLY STABILIZED.

- LEGEND:**
- LIMITS OF DISTURBANCE
 - EXISTING ADJACENT PROPERTY LINE
 - EXISTING RIGHT-OF-WAY
 - EXISTING EASEMENT
 - SAN EXISTING SANITARY SEWER LINE
 - CS EXISTING COMBINED SEWER LINE
 - ST EXISTING STORM SEWER LINE
 - UG-E EXISTING UNDERGROUND ELEC. LINE
 - OH-E EXISTING OVERHEAD ELECTRIC
 - ST EXISTING STORM SEWER LINE
 - G EXISTING GAS LINE
 - W EXISTING WATER LINE
 - ⊙ EXISTING POWER POLE
 - ⊙ EXISTING LIGHT POLE
 - ⊙ EXISTING WATER VALVE
 - ⊙ EXISTING FIRE HYDRANT
 - ⊙ EXISTING GAS VALVE
 - PS PERMANENT SEEDING
 - TS TEMPORARY SEEDING



NO.	DATE	DESCRIPTION
1	08/11/17	ISSUED FOR PERMIT

Civil & Environmental Consultants, Inc.
 2704 Cherokee Farm Way - Suite 101 - Knoxville, TN 37920
 Ph: 865.977.9697 - Fax: 865.977.9919
 www.cetinc.com

**KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION
 FIVE POINTS PHASE 3
 INFRASTRUCTURE IMPROVEMENTS
 KNOXVILLE, KNOX COUNTY, TN**

FINAL EROSION PREVENTION AND SEDIMENT CONTROL PLAN
 DATE: JULY 26, 2017 DRAWN BY: CER
 DWG SCALE: AS SHOWN CHECKED BY: GHP
 PROJECT NO: 172-455
 APPROVED BY: GHP

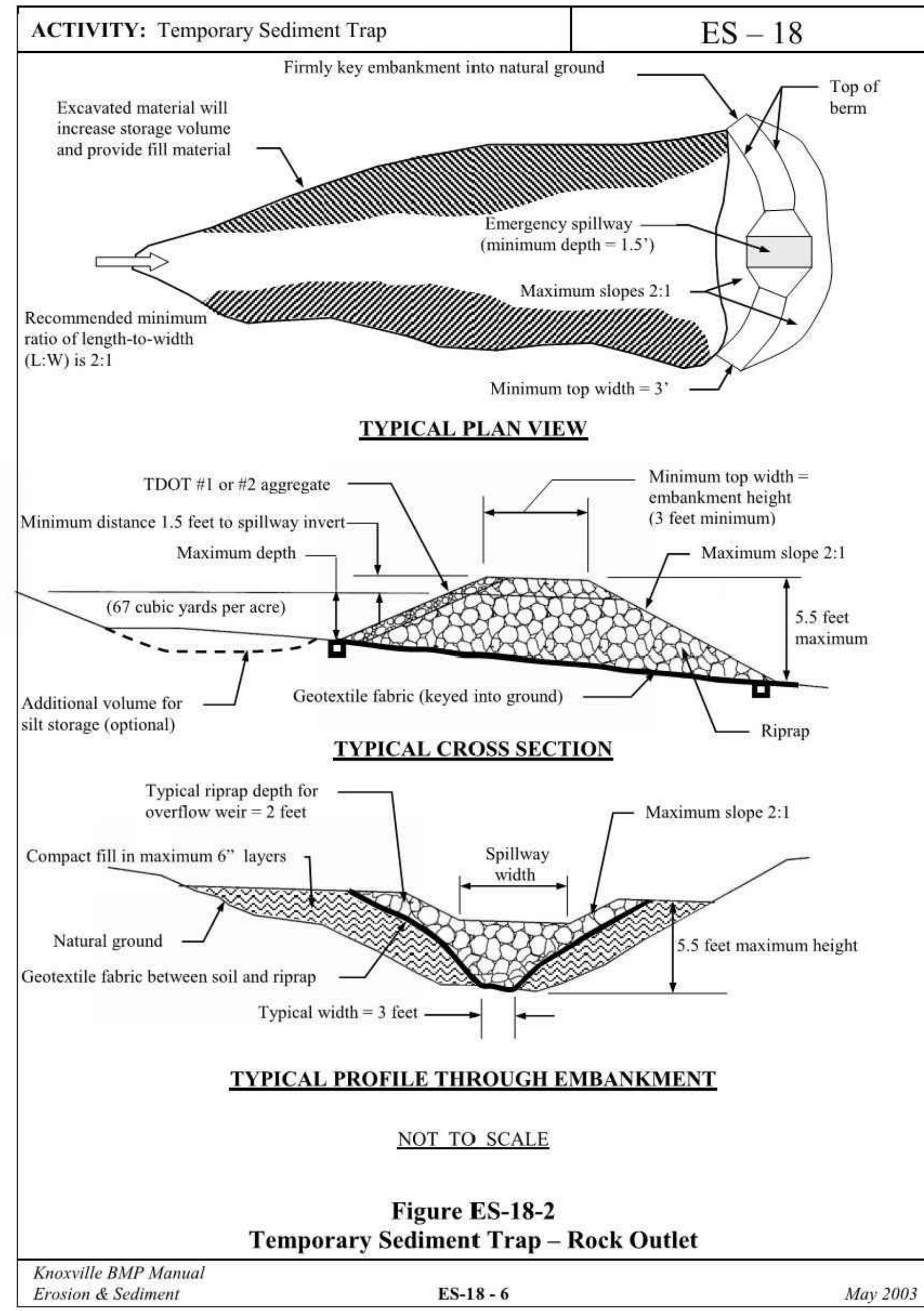


SCALE IN FEET
 0 50 100

DRAWING NO. **C902**

A:19/172-455-000 (copy) 172455-001-002.dwg(202) LS(8/11/2017 - 9:00am) - LP: 8/11/2017 1:24 PM





REVISION RECORD	
NO	DATE / DESCRIPTION
1	08/11/17 ADDENDUM 1

Civil & Environmental Consultants, Inc.
2704 Cherokee Farm Way - Suite 101 - Knoxville, TN 37920
Ph: 865.977.9667 - Fax: 865.977.9919
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**KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION
FIVE POINTS PHASE 3
INFRASTRUCTURE IMPROVEMENTS
KNOXVILLE, KNOX COUNTY, TN**

EROSION CONTROL DETAILS AND NOTES	
DATE:	JULY 26, 2017
DWG SCALE:	AS SHOWN
PROJECT NO.:	172-455
APPROVED BY:	GHP
DRAWN BY:	GHP
CHECKED BY:	GHP



DRAWING NO.: **C904**

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