TENN.	YEAR	SHEET NO.
	2017	U1-1
STATE PROJ. NO.	60LPLM-S3-022	
FED. AID PROJ. NO.		

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO. ____

Index Of Sheets	
SHEET NAME	SHEET NUMBER
UTILITIES INDEX, UTILITIES OWNERS	U1-1 THRU U1-6
WATER: CITY OF SPRING HILL	U2-1 THRU U2-9
SEWER: CITY OF SPRING HILL	U3-1 THRU U3-10

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

MAURY COUNTY

SIA-INDUSTRIAL ACCESS ROAD SERVING
PROJECT SHOTGUN IN SPRING HILL

STATE HIGHWAY SR-247 F.A.H.S. -N/A

ONLY CITY OF SPRING HILL WATER AND SEWER,ATMOS GAS, AT&T AND COLUMBIA POWER HAVE CONFLICT WITH THIS PROJECT

STANDARD LEGEND

EXISTING UTILITES

POWER — P — P
TELEPHONE — T — T
WATER — W — W
CABLE TV — C — C
SANITARY SEWER — SA — SA
UNDERGROUND TELEPHONE — T (UG) —
GAS — G — G
FORCE MAIN SEWER — FMS —
UNDERGROUND POWER — P (UG) —
UNDERGROUND FIBER OPTIC — F (UG) —

POWER POLE
TELEPHONE POLE
POWER/TELEPHONE POLE
MANHOLE
WATER METER W.M.
WATER VALVE W.V.
LIGHT POLE

PROPOSED UTILITIES & MODIFICATIONS

POWER — P — P
UNDERGROUND POWER — P (UG) —
TELEPHONE — T — T
WATER — W — W
CABLE TV — C — C
UNDERGROUND TELEPHONE — T (UG) —
GAS — G — G
FORCE MAIN SEWER — FMS —
UNDERGROUND FIBER OPTIC — F (UG) —
EX. WATER LINE (RETIRED IN PLACE) — 6" W RIP —
EX.GAS LINE (RETIRED IN PLACE) — 8" G RIP —
EX.SEWER LINE (RETIRED IN PLACE) — 8" FMS RIP —
EX.TELEPHONE LINE (RETIRED IN PLACE) — T(UG) RIP —

POWER POLE ●P
TELEPHONE POLE ●T
WATER METER W.M.

(R) REMOVE (A) ABANDON

UTILITY OWNERS AND CONTACTS:

TELEPHONE:	AT & T 116 SOUTH CANON AVENUE MURFREESBORO, TN 37129 KENNETH LEE KORNEGAY kk4096@att.com O: 615-848-2082		CITY OF SPRING HILL 199 TOWN CENTER PARKWAY SPRING HILL,TN 37174 VICTOR LAY vlay@springhilltn.org O: 931-486-2252 Ext. 215
WATER	COLUMBIA WATER 201 PICKENS LANE COLUMBIA,TN 38401 JONATHON HARDIN jonathon.harden@cpws.com O: 931-375-7646	CABLE:	CHARTER COMMUNICATION 215 INDUSTRIAL BLVD. TULLAHOMA, TN 37388 RICHARD RIDDLE richard.riddle@charter.com O: 931-461-4315
SEWER:	COLUMBIA WASTE WATER PLANT 1244 TREATMENT PLANT RD. COLUMBIA, TN 38401 MIKE WILLIAMS doug,burgess@cpws.com O: 931-560-1001	GAS:	ATMOS ENERGY 810 CRESCENT CENTER DRIVE SUITE 600 FRANKLIN, TN 37067 ROBERT ARNOLD robert.arnold@atmosenergy.com O: 615-771-8311 C: 615-310-3020
ELECTRIC:	COLUMBIA POWER 201 PICKENS LANE COLUMBIA, TN 38401 DOUG BURGESS doug.burgess@cpws.com O: 931-375-7740	FIBER OPTICS:	COLUMBIA BROADBAND 201 PICKENS LANE COLUMBIA, TN 38401 GLENN JERNIGAN glenn.jernigan@cpws.com O: 931-375-7681

SPECIAL NOTES

SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC. AT 1-800-351-1111

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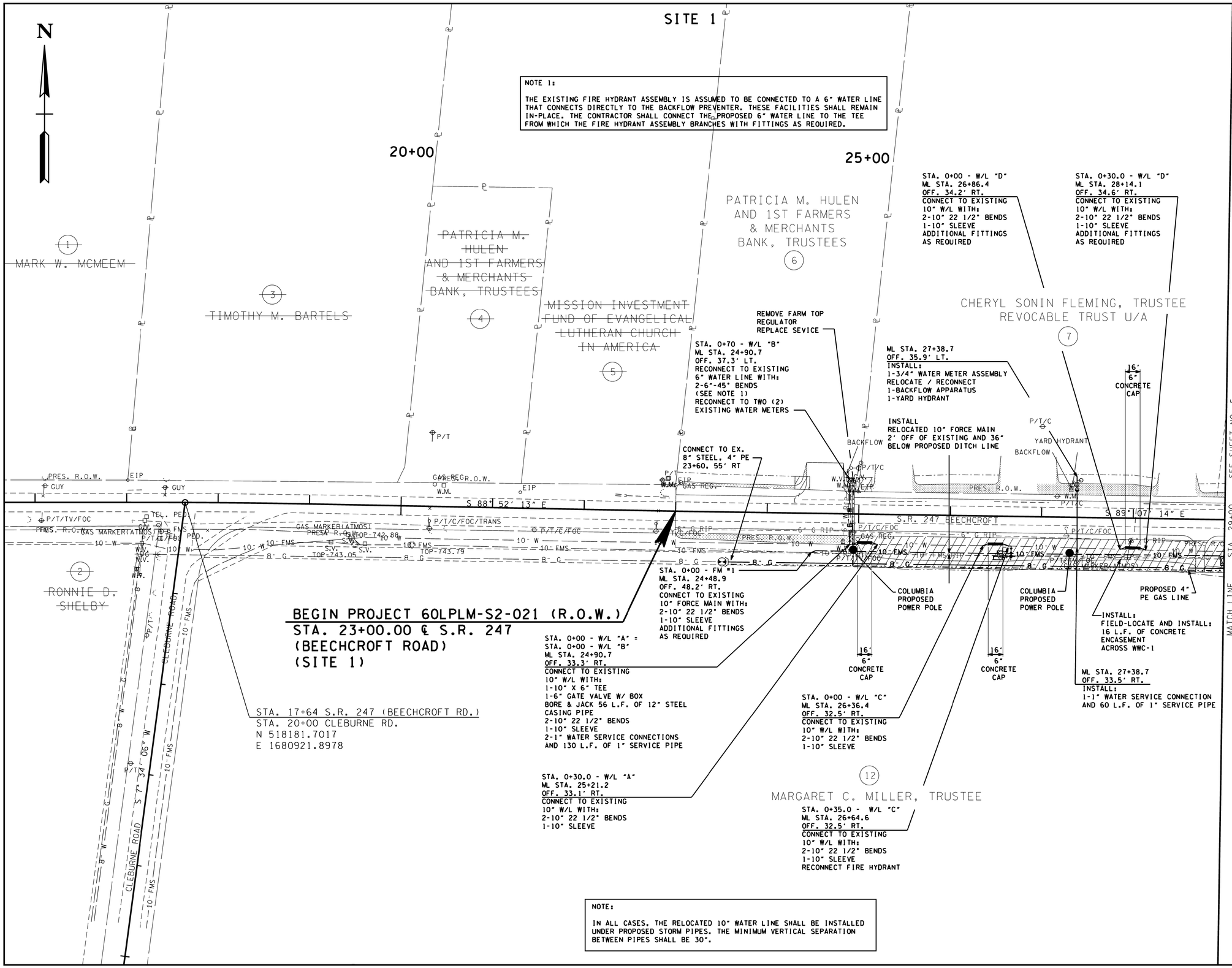
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2017	60LPLM-S3-022	U1-2

SITE 1



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COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00008 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

UTILITIES

BEGIN TO STA.29+00
(SITE 1)

SCALE: 1"=50'

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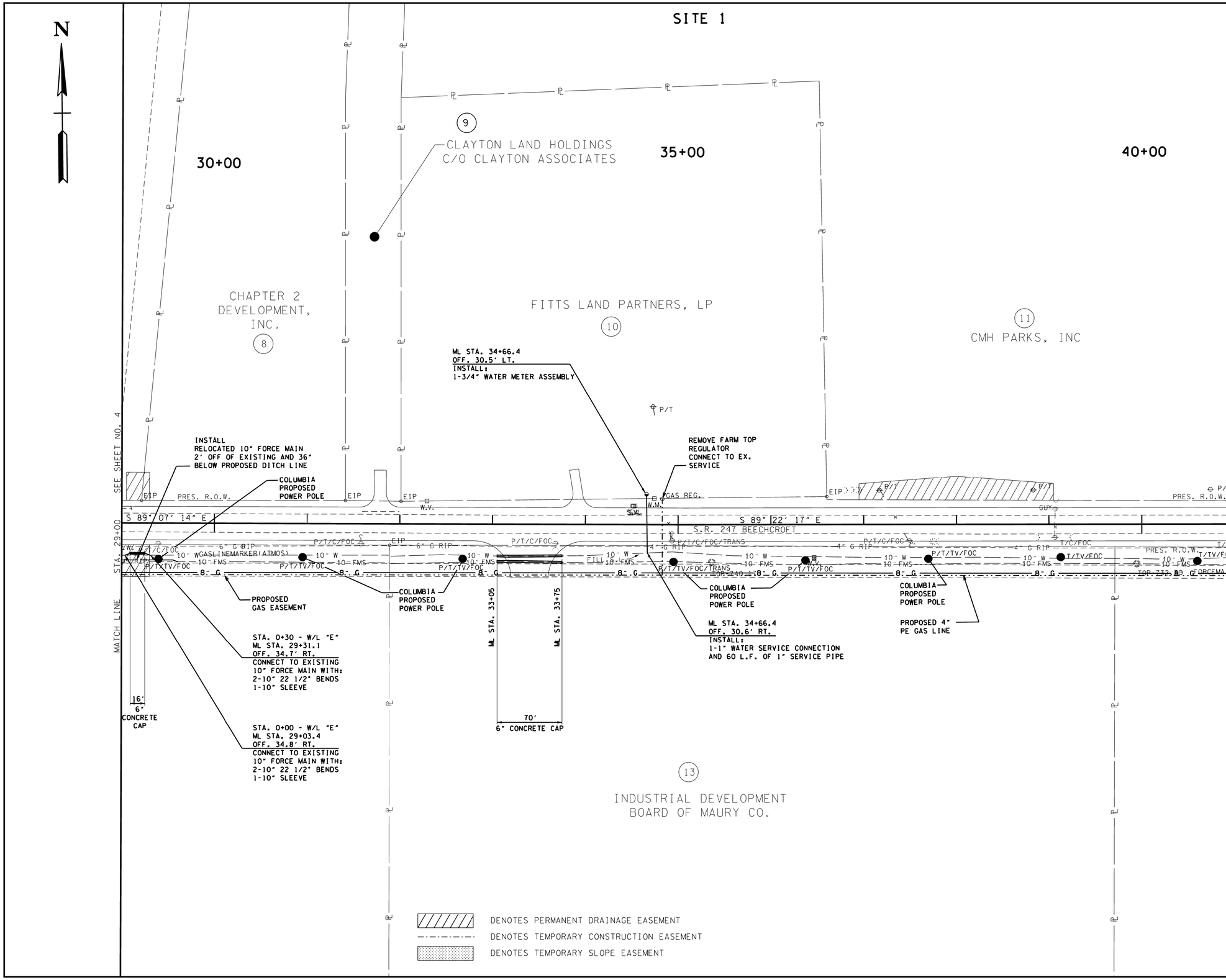
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2017	60LPLM-S3-022	UI-3



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

UTILITIES

STA.29+00 TO STA.41+00
(SITE 1)

SCALE: 1"=50'

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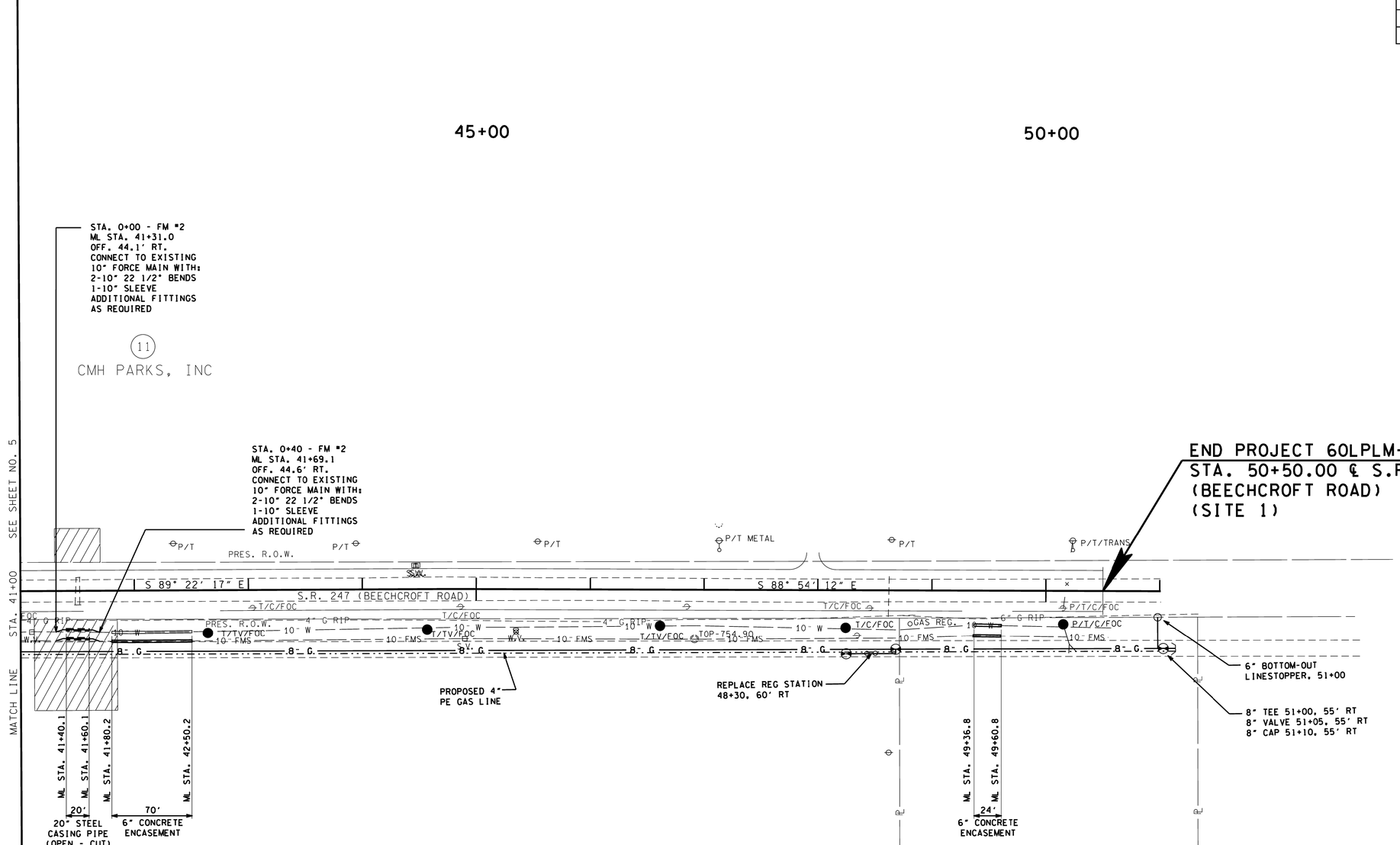
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2017	60LPLM-S3-022	UI-4

SITE 1



CASING PIPE NOTE:

PROPOSED 20" STEEL CASING PIPE TO BE INSTALLED 36" BELOW THE BOX BRIDGE FOUNDATION.

DENOTES PERMANENT DRAINAGE EASEMENT

DENOTES TEMPORARY CONSTRUCTION EASEMENT

DENOTES TEMPORARY SLOPE EASEMENT

SEALED BY

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

UTILITIES

STA.41+00 TO END
(SITE 1)

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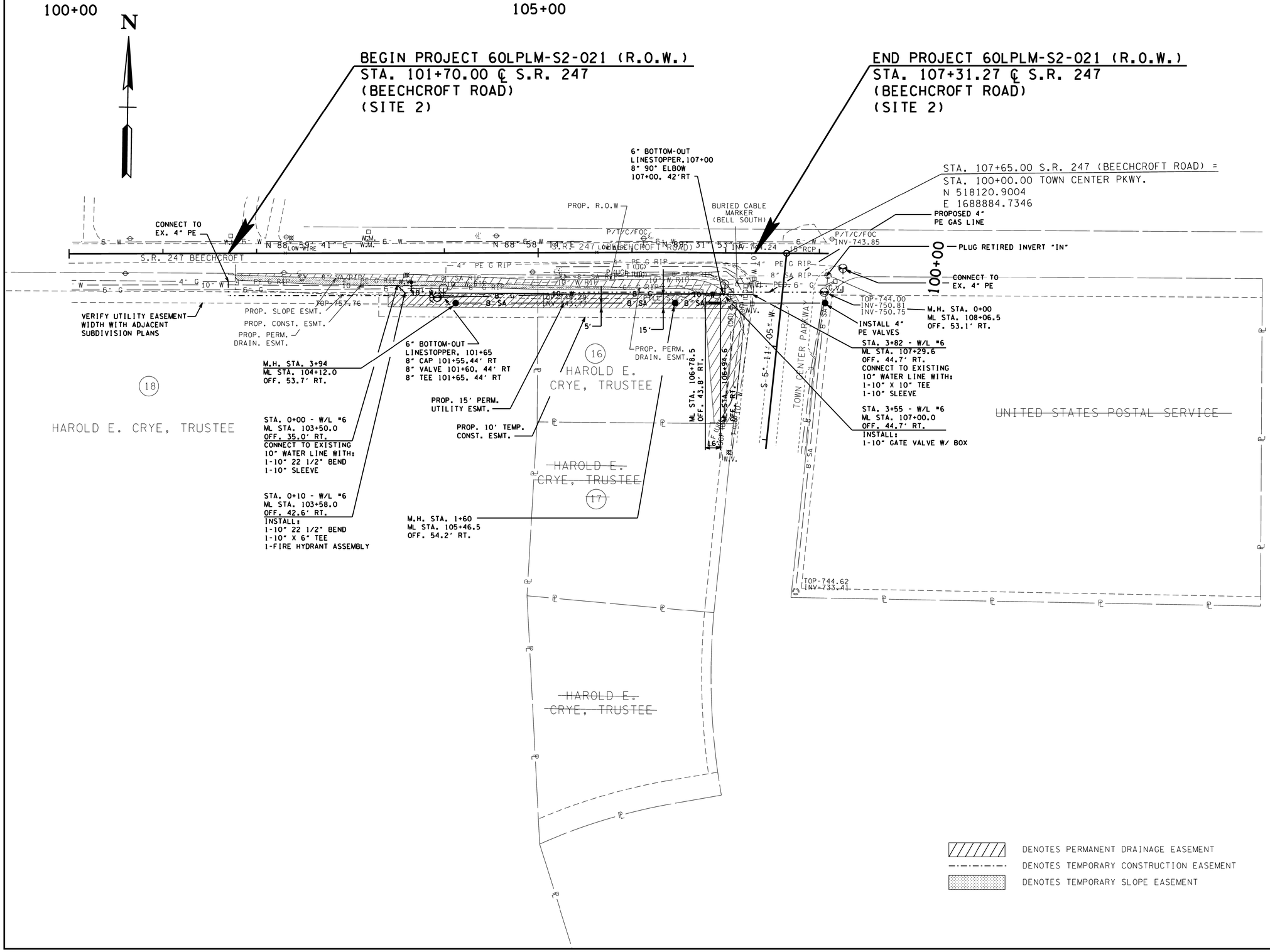
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2017	60LPLM-S3-022	UI-5

REV. 03/14/16: REVISED TRACTS 17 & 18 AND LINED THROUGH UNAFFECTED TRACTS.

SITE 2



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

UTILITIES

BEGIN TO END
(SITE 2)

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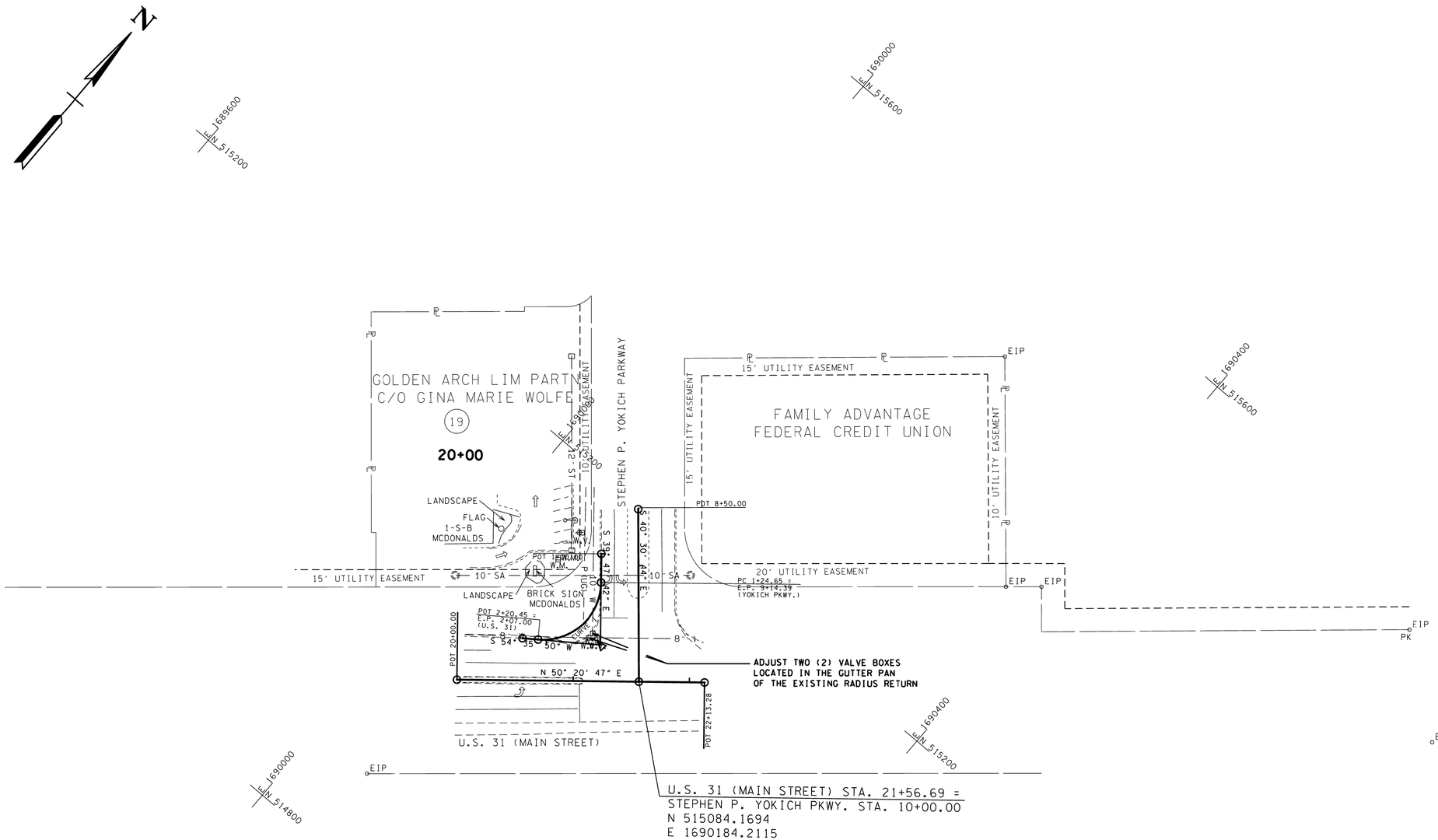
SITE 3

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2017	60LPLM-S3-022	U1-6

REV. 03/14/16: LINED THROUGH UNAFFECTED TRACTS.



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

UTILITIES

INT. OF U.S. 31 &
STEPHEN P. YOKICH PKWY
(SITE 3)

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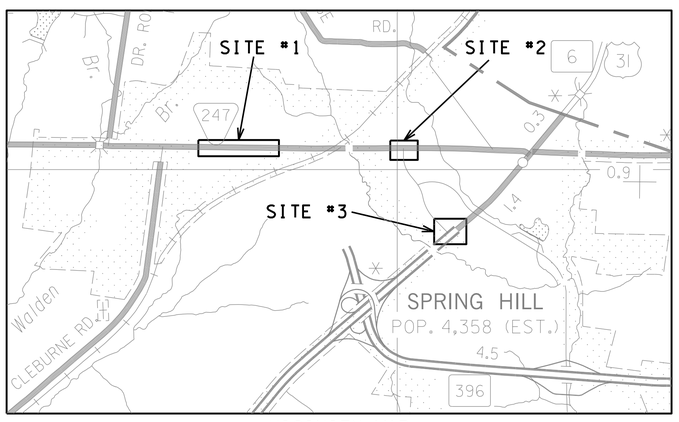
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	
CONST.	2017	60LPLM-S3-022	U2-1

STATE PROJECT NO. 60LPLM-S3-022

S.R. 247 , INDUSTRIAL ACCESS ROAD
SERVING PROJECT SHOTGUN IN SPRING HILL
MAURY COUNTY PIN 121394.00

WATER LINE RELOCATION
INDEX OF SHEETS

SHEET NO.	DESCRIPTION
U2-1	COVER SHEET, ESTIMATED QUANTITIES, UTLITY CONTACT AND LEGEND
U2-2	GENERAL NOTES AND EASEMENTS
U2-3	UTILITY EASEMENTS
SITE #1	
U2-4	SR 247 (BEECHCROFT ROAD)-LINES "A", "B" AND "C"
U2-5	SR 247 (BEECHCROFT ROAD)-LINE "D"
U2-6	SR 247 (BEECHCROFT ROAD)-LINE "E"
SITE #2	
U2-7	TOWN CENTER PARKWAY-LINE "F"
SITE #3	
U2-8	US 31 (MAIN STREET)
U2-9	STANDARD DETAILS



VICINITY MAP
SCALE: NONE

WATER DEPARTMENT CONTACT:

T.C. NORMAN
WATER DISTRIBUTION MANAGER
CITY OF SPRING HILL
3893 MAHLON MOORE ROAD
SPRING HILL, TN 37174
931-486-1265

ESTIMATED WATER UTILITY QUANTITIES-SIA SR247 (BEECHCROFT ROAD)

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	% UTILITY	% PROJECT	FOOTNOTE
WATER LINE ITEMS - SITE #1						
795-03.04	4IN PVC WATER LINE	L.F.	70	19.00	81.00	1
795-03.07	10IN PVC WATER LINE	L.F.	139	19.00	81.00	1
795-05.42	HDD 2IN FPVC CASING PIPE-UNCON	L.F.	240	19.00	81.00	2
795-05.61	BORE/JACK 8IN STEEL CASING PIPE-UNCON	L.F.	40	19.00	81.00	3
795-06.03	CONNECT TO 4IN WATER LINE	EACH	1	19.00	81.00	4
795-06.06	CONNECT TO 10IN WATER LINE	EACH	8	19.00	81.00	4
795-08.03	4IN GATE VALVE ASSEMBLY	EACH	1	19.00	81.00	5
795-09.01	3/4IN WATER SERVICE METER ASSEMBLY	EACH	2	19.00	81.00	6
795-09.15	1IN HDPE SERVICE PIPE	L.F.	250	19.00	81.00	7
795-09.51	RECONNECT SERVICE ASSEMBLY	EACH	2	19.00	81.00	8
795-11.02	FIRE HYDRANT ASSEMBLY	EACH	1	19.00	81.00	9
795-12.04	REMOVE EX BACKFLOW APPARATUS	LS	1	19.00	81.00	10
795-12.05	REMOVE BLOW-OFF ASSEMBLY	EACH	1	19.00	81.00	11
795-13.01	DI FITTINGS	LBS	4,200	19.00	81.00	13
795-14.05	CONCRETE ENCASEMENT	L.F.	230	19.00	81.00	14
795-15.01	8IN STEEL CASING PIPE OPEN CUT METHOD	L.F.	10	19.00	81.00	15
795-15.05	20IN STEEL CASING PIPE OPEN CUT METHOD	L.F.	20	19.00	81.00	15
WATER LINE ITEMS - SITE #2						
795-03.07	10IN PVC WATER LINE	L.F.	382	19.00	81.00	1
795-06.06	CONNECT TO 10IN WATER LINE	EACH	2	19.00	81.00	4
795-08.06	10IN GATE VALVE ASSEMBLY	EACH	1	19.00	81.00	5
795-11.02	FIRE HYDRANT ASSEMBLY	EACH	1	19.00	81.00	9
795-13.01	DI FITTINGS	LBS	1,320	19.00	81.00	13
795-14.05	CONCRETE ENCASEMENT	L.F.	16	19.00	81.00	14
WATER LINE ITEMS - SITE #3						
795-12.20	ADJUSTMENT EXISTING VALVE BOXES	EACH	2	19.00	81.00	12
WATER LINE ITEMS - TOTAL FOR ALL SITES						
795-03.04	4IN PVC WATER LINE	L.F.	70	19.00	81.00	1
795-03.07	10IN PVC WATER LINE	L.F.	521	19.00	81.00	1
795-05.42	HDD 2IN FPVC CASING PIPE-UNCON	L.F.	240	19.00	81.00	2
795-05.61	BORE/JACK 8IN STEEL CASING PIPE-UNCON	L.F.	40	19.00	81.00	3
795-06.03	CONNECT TO 4IN WATER LINE	EACH	1	19.00	81.00	4
795-06.06	CONNECT TO 10IN WATER LINE	EACH	10	19.00	81.00	4
795-08.03	4IN GATE VALVE ASSEMBLY	EACH	1	19.00	81.00	5
795-08.06	10IN GATE VALVE ASSEMBLY	EACH	1	19.00	81.00	5
795-09.01	3/4IN WATER SERVICE METER ASSEMBLY	EACH	2	19.00	81.00	6
795-09.15	1IN HDPE SERVICE PIPE	L.F.	250	19.00	81.00	7
795-09.51	RECONNECT SERVICE ASSEMBLY	EACH	2	19.00	81.00	8
795-11.02	FIRE HYDRANT ASSEMBLY	EACH	2	19.00	81.00	9
795-12.04	REMOVE EX BACKFLOW APPARATUS	LS	1	19.00	81.00	10
795-12.05	REMOVE BLOW-OFF ASSEMBLY	EACH	1	19.00	81.00	11
795-12.20	ADJUST EXISTING VALVE BOXES	EACH	2	19.00	81.00	12
795-13.01	DI FITTINGS	LBS	5,520	19.00	81.00	13
795-14.05	CONCRETE ENCASEMENT	L.F.	246	19.00	81.00	14
795-15.01	8IN STEEL CASING PIPE OPEN CUT METHOD	L.F.	10	19.00	81.00	15
795-15.05	20IN STEEL CASING PIPE OPEN CUT METHOD	L.F.	20	19.00	81.00	15

ESTIMATED WATER QUANTITIES FOOTNOTES-SIA S.R. 247 (BEECHCROFT ROAD)

FOOTNOTE	DESCRIPTION
1	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY FOR A COMPLETE INSTALLATION OF PIPE INCLUDING BUT NOT LIMITED TO EXCAVATION, IN BOTH UNCONSOLIDATED SOIL AND ROCK, REMOVAL AND REPLACEMENT OF UNSUITABLE SOIL, ENVELOPE / BEDDING MATERIALS, BACKFILLING, FLOWABLE FILL, THRUST BLOCKING, CONCRETE DEADMAN, TRACER WIRE, WARNING TAPE, APPURTENANCES, TEMPORARY / PERMANENT SHORING, MAINTAINING THE TRENCH, TESTING, FLUSHING, DISINFECTION, BACTERIOLOGICAL SAMPLING, TEMPORARY / PERMANENT SURFACING RESTORATION, AND ANY OTHER LABOR OR MATERIALS REQUIRED TO COMPLETE THE WORK PER THE PROJECT SPECIFICATIONS AND / OR AS CALLED OUT ON THE PLANS.
2	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT FOR COMPLETE INSTALLATION OF SERVICE CASING PIPE INCLUDING BUT NOT LIMITED TO FLUID CONTAINMENT. THE SERVICE PIPE SHALL BE PAID FOR SEPARATELY UNDER ITS RESPECTIVE ITEM NUMBER. THE SPRING HILL STANDARD FOR SERVICE CASING PIPE IS SCHEDULE 40 PVC. FPVC MAY BE SUBSTITUTED.
3	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY FOR A COMPLETE IN-PLACE INSTALLATION OF THE CASING PIPE, INCLUDING BUT NOT LIMITED TO BORE PIT EXCAVATION AND BACKFILL, BUTT-WELDING, PIPE SPACERS, CASING END SEALS, FITTINGS, UTILITY LINE MARKERS AND VENT(S). CARRIER PIPE, SHALL BE PAID FOR AS AN OPEN CUT INSTALLATION UNDER ITS RESPECTIVE ITEM NUMBER.
4	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY FOR CONNECTING A PROPOSED WATER LINE TO AN EXISTING WATER LINE, INCLUDING BUT NOT LIMITED TO SLEEVES, AND RESTRAINING GLANDS.
5	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT INCLUDING BUT NOT LIMITED TO VALVE, RESTRAINING GLANDS, VALVE STEM EXTENSIONS, CAST IRON VALVE BOX AND COVER, VALVE BOX ADJUSTMENT, CONCRETE VALVE BOX COLLAR, VALVE MARKER AND BLOCKING.
6	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT FOR CONNECTING A NEW / RELOCATED METER ASSEMBLY TO THE PROPOSED WATER SERVICE PIPE AND CONNECTING THE METER ASSEMBLY TO THE CUSTOMER'S EXISTING WATER SERVICE LINE. ADDITIONAL SERVICE LINE NECESSARY FOR MAKING THE CONNECTION TO THE CUSTOMER'S EXISTING WATER SERVICE LINE FROM THE NEW METER ASSEMBLY SHALL BE CONSIDERED INCIDENTAL.
7	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT FOR COMPLETE INSTALLATION OF THE WATER SERVICE PIPE FROM THE MAIN TO THE PROPOSED METER ASSEMBLY PER THE STANDARD DETAILS.
8	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY FOR CONNECTING A PROPOSED WATER SERVICE PIPE TO AN EXISTING WATER SERVICE METER ASSEMBLY.
9	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT INCLUDING BUT NOT LIMITED TO MACHINERY, TOOLS OR APPARATUS NECESSARY FOR INSTALLATION OF EACH ASSEMBLY. EACH ASSEMBLY SHALL INCLUDE 6" PVC PIPE, 6" GATE VALVE, PRECAST CONCRETE VALVE BOX, CAST IRON VALVE BOX FRAME & COVER, 4 1/2" FIRE HYDRANT, RESTRAINING GLANDS, RODDING, THRUST BLOCKING, AND INCIDENTALS.
10	FOR PURPOSES OF THIS PROJECT, THIS ITEM SHALL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY FOR THE REMOVAL, RELOCATION AND RECONNECTION OF THE EXISTING BACKFLOW PREVENTER.
11	FOR PURPOSES OF THIS PROJECT, THIS ITEM SHALL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY FOR THE REMOVAL, RELOCATION AND RECONNECTION OF THE EXISTING YARD HYDRANT.
12	FOR PURPOSES OF THIS PROJECT, THIS ITEM SHALL INCLUDE THE ADJUSTMENT OF THE VALVE BOXES ONLY.
13	INCLUDES ALL DUCTILE IRON FITTINGS (PER AWWA C-110) AND RESTRAINING GLANDS DESCRIBED IN POUNDS. THIS ITEM DOES NOT INCLUDE SLEEVES AND RESTRAINING GLANDS USED FOR MAKING CONNECTIONS TO EXISTING WATER LINES-SEE FOOTNOTE #5 ABOVE.
14	CONCRETE ENCASEMENT SHALL BE CLASS "A" PLANT MIX CONCRETE.
15	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY FOR A COMPLETE IN-PLACE INSTALLATION OF THE CASING PIPE, INCLUDING BUT NOT LIMITED TO EXCAVATION AND BACKFILL, BUTT WELDING, PIPE SPACERS, CASING END SEALS, FITTINGS, UTILITY LINE MARKERS, AND VENT(S). CARRIER PIPE, SHALL BE PAID FOR AS AN OPEN CUT INSTALLATION UNDER ITS RESPECTIVE ITEM NUMBER.

LEGEND

- EXISTING WATER LINE-TO REMAIN
- EXISTING WATER LINE-RETIRE IN-PLACE OR REMOVE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER, VALVE (OR AS INDICATED)
- PROPOSED WATER LINE
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE
- PROPOSED WATER METER
- PROPOSED CASING PIPE
- PROPOSED CONCRETE ENCASEMENT

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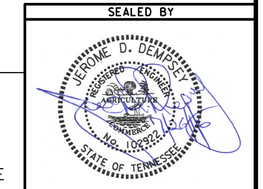

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SPRING HILL
WATER SYSTEM
COVER SHEET

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	
CONST.	2017	60LPLM-S3-022	U2-2

TDOT STANDARD GENERAL NOTES:

1. EXCEPT FOR EROSION CONTROL ITEMS, NO ROADWAY OR BRIDGE ITEMS SHALL BE UTILIZED TO COMPENSATE FOR WORK METHODS OR MATERIALS ASSOCIATED WITH AND/OR SPECIFIED FOR THE UTILITY INSTALLATION, EVEN THOUGH THE SAME OR SIMILAR ROADWAY OR BRIDGE MATERIALS MAY HAVE BEEN CALLED FOR IN THE UTILITY SPECIFICATIONS OR DRAWINGS.

2. ALL MATERIALS, METHODS, AND/OR INTEGRAL MATERIALS OUTLINED IN THE UTILITY SPECIFICATIONS OR DRAWINGS NECESSARY TO PROVIDE A COMPLETE AND FUNCTIONAL INSTALLATION MUST BE INCLUDED IN THE UNIT PRICE FOR THE ASSOCIATED UTILITY WORK ITEM.

3. THE CONTRACTOR MUST MAINTAIN ALL SERVICES DURING THE CONSTRUCTION OF THE RELOCATED FACILITY. ANY COST ASSOCIATED WITH INSTALLATION OF REQUIRED TEMPORARY SERVICE LINES DUE TO THE ROADWAY CONSTRUCTION SEQUENCE OF WORK (I.E., CUTS, FILLS, PHASING, ETC.) SHALL BE INCLUDED IN THE COST OF THE PERMANENT UTILITY ITEMS. (NOTE TO UTILITY: THE UTILITY RELOCATION PLANS SHALL PROVIDE TO THE CONTRACTOR THE UTILITY' S REQUIREMENTS FOR TEMPORARY TIE-INS (INCLUDING NECESSARY TESTING AND STABILIZATION TO ACCOMPLISH THE TIE-IN) AND ALSO ANY RESTRICTIONS FOR TAKING LINES OUT OF SERVICE. IF A TEMPORARY LINE WILL BE A MAJOR ITEM OF WORK, A SPECIFIC TEMPORIZATION PLAN AND ITEM MUST BE INCLUDED IN THE UTILITY' S PLANS.)

4. IT SHALL BE THE RESPONSIBILITY OF THE PRIME CONTRACTOR'S SURVEYOR TO LAY OUT ALL THE FACILITIES BEING RELOCATED WITHIN THE CONTRACT.

5. FOR BURIED UTILITIES, THE PRIME CONTRACTOR OR SUBCONTRACTOR SHALL BE REQUIRED TO PROVIDE TO THE UTILITY UPON COMPLETION OF THE UTILITY' S RELOCATION WORK A SET OF AS-BUILT DRAWINGS FOR THE RECORDS. THESE AS-BUILT DRAWINGS SHOULD BE PREPARED AS THE JOB PROGRESSES TO ENSURE THEIR ACCURACY.

6. WHERE EROSION CONTROL MEASURES ARE NEEDED FOR THE UTILITY RELOCATION WORK OCCURRING INSIDE OR OUTSIDE STATE RIGHT-OF-WAY, THE CONTRACTOR SHALL SUBMIT TO THE TDOT PROJECT SUPERVISOR FOR APPROVAL A PROPOSED EROSION AND SEDIMENT CONTROL PLAN PRIOR TO THE BEGINNING THE WORK. TDOT APPROVAL MUST BE RECEIVED BEFORE THE EROSION CONTROL PAY ITEMS FOR ROADWAY CONSTRUCTION CAN BE USED FOR ANY ADDITIONAL EROSION CONTROL MEASURES REQUIRED FOR THE UTILITY RELOCATION WORK.

7. DRIVEWAY, SIDEWALK AND ROADWAY TEMPORARY RESTORATION SHALL BE PART OF THE IN-PLACE COST OF PLACING THE UTILITY ITEM WITHIN THE ROW.

8. ANY EXCAVATION OF THE STREAM CHANNEL AREA SHALL BE SEPARATED FROM FLOWING WATER AND ACCOMPLISHED DURING LOW FLOW CONDITIONS. THIS SHALL BE ACCOMPLISHED BY THE USE OF FLUMES, LINED DIVERSION CHANNEL WITH SANDBAG BERM, DIVERSION PIPE WITH SANDBAG DAM AT PIPE INLET, OR IN SOME CASES COFFERDAMS. ALTERNATIVELY, BASED ON FIELD CONDITIONS AND CONTRACTOR SELECTION, THE UTILITY RELOCATION MAY BE ACCOMPLISHED USING BORE TECHNOLOGY WITH NO STREAM CHANNEL IMPACTS.

UTILITY ENVIRONMENT NOTES:

1. RAIN WATER WHICH COLLECTS IN THE UTILITY TRENCH SHALL BE PUMPED INTO A TEMPORARY DEWATERING STRUCTURE OR FILTER BAG.

2. SILT FENCE TO BE INSTALLED ON THE DOWNSTREAM SIDE OF ALL STOCKPILED SOIL. TRENCHING ACROSS WET WEATHER CONVEYANCES TO BE DONE DURING NO FLOW CONDITIONS AND STABILIZED BY THE END OF THE WORK DAY.

3. UTILITY CROSSINGS FOR PERENNIAL STREAMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH TDOT STANDARDS, AND NO WORK SHALL BE CONDUCTED IN FLOWING WATERS. TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) REGULATIONS APPLY TO THE UTILITIES IN THIS PROJECT IN REGARDS TO EROSION CONTROL. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).

4. IT IS THE RESPONSIBILITY OF THE UTILITIES INSTALLER TO PROTECT FROM EROSION EXPOSED EARTH RESULTING FROM HIS OPERATIONS AND TO PROVIDE FOR CONTAINMENT OF SEDIMENT THAT MAY RESULT FROM HIS WORK. PRIOR TO BEGINNING WORK, ADEQUATE MEASURES MUST BE IN PLACE TO TRAP ANY SEDIMENT THAT MAY TRAVEL OFF-SITE IN THE EVENT OF RAIN. DURING THE PROGRESSION OF HIS WORK, EXPOSED EARTH AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE TO PREVENT EROSION. AT NO TIME SHALL EXPOSED EARTH RESULTING FROM HIS OPERATIONS HAVE UNPROTECTED ACCESS TO FLOWING OFF-SITE AND ENTERING WATERS OF THE STATE.

5. THE INSTALLATION OF BURIED UTILITIES (PIPES AND CABLES), TRENCHES SHALL BE BACKFILLED DAILY AS CONSTRUCTION PROCEEDS. BACKFILLED TRENCHES SHALL BE SEEDED AND MULCHED OR SODDED DAILY IF POSSIBLE BUT NO LATER THAN 7 DAYS AFTER TRENCHING. ANY TEMPORARY SPOIL PILE OF EXCAVATED EARTH SHALL BE LOCATED WITHIN THE TDOT ROW EROSION CONTROL MEASURES OR RECIEVE SEPARATE EROSION CONTROL MEASURES. IF TRENCHES ARE NOT BACKFILLED OVERNIGHT, APPROPRIATE EROSION CONTROL MEASURES WILL BE INSTALLED UNTIL SUCH TIME THE TRENCH IS BACKFILLED.

CASING PIPE NOTES:

1. ALL STEEL CASING PIPES SHALL BE ASTM A-252, GRADE 2 WITH A SPECIFIED MINIMUM YIELD STRENGTH (SMYS) OF 35,000 PSI. MINIMUM WALL THICKNESSES ARE AS INDICATED ON THE CASING PIPE PROFILES.

2. MAIN LINE FINISHED GRADE (F.G.) ELEVATIONS SHOWN ON THE CASING PIPE PROFILES WERE TAKEN FROM THE RESPECTIVE TDOT CROSS SECTIONS OR OBTAINED FROM THE TDOT MAIN LINE PROFILE.

3. EXISTING AND PROPOSED STORM PIPE INVERT ELEVATIONS SHOWN IN THE CASING PIPE PROFILES WERE INTERPOLATED FROM TDOT ROADWAY PLANS.

4. THE PVC SERVICE CASING PIPES SHALL BE INSTALLED A MINIMUM OF 30 INCHES BELOW THE TOE-OF-SLOPE OR FLOW LINE OF THE ROADSIDE DITCH IN ALL CASES, WHERE APPLICABLE. THE PLANS DO NOT SHOW CASING PIPE PROFILES FOR SERVICE PIPES.

5. THE SEPARATION BETWEEN THE TOP OF THE STEEL CASING PIPES AND THE INVERT OF ANY CROSSING PROPOSED STORM PIPE SHALL BE 30 INCHES.

6. THE APPROXIMATE LENGTH OF THE BORE ACROSS BEECHCROFT ROAD IS FROM EDGE-OF-PAVEMENT TO EDGE-OF-PAVEMENT PLUS 20 FEET (10 FEET EACH SIDE). CASING PIPES EXTENDING BEYOND THESE LIMITS ARE INSTALLED BY THE OPEN-CUT METHOD.

WATER LINE GENERAL NOTES:

1. ALL PROPOSED WATER LINES SHALL BE AS FOLLOWS:
------ CLASS 200 PVC (SDR 21)
------ SERVICE CASING PIPE: SCHEDULE 40 PVC
------ SERVICE LINE: POLYETHYLENE (SDR 9)

2. ALL MECHANICAL JOINT FITTINGS, VALVES AND FIRE HYDRANTS SHALL BE INSTALLED WITH RESTRAINING GLANDS, THRUST BLOCKING AND RODDING.

3. ALL SERVICE LINES SHALL BE CONNECTED TO THE WATER MAIN WITH A CORPORATION STOP AND SERVICE SADDLE. SERVICE LINES FROM THE METER TO THE MAIN SHALL BE POLYETHYLENE. CORP STOPS OF SERVICE LINES TO BE RETIRED IN-PLACE SHALL BE CLOSED AND MECHANICALLY CAPPED.

4. PROPOSED WATER LINE ALIGNMENT, BRANCHES, CONNECTIONS AND APPURTENANCES (I.E. VALVES, FIRE HYDRANTS, FITTINGS, ETC.) ARE LOCATED BY MAIN LINE STATION AND OFFSET AS WELL AS WATER LINE STATION. SOME INSTALLATIONS INCLUDE MULTIPLE APPURTENANCES AND INVOLVE MUTIPLE CONNECTS IN CLOSE PROXIMITY TO ONE ANOTHER. IN SUCH CASES, ONLY STATIONING FOR THE CENTRALIZED APPURTENANCE OR CHANGE IN ALIGNMENT ARE CALLED OUT.

5. MECHANICAL JOINT FITTINGS CALLED OUT ON THE PLAN ARE INTENDED TO ASSIST THE ENGINEER WITH HIS ESTIMATED QUANTITIES AND ARE A "BEST FIT" FOR THE RESPECTIVE INSTALLATION. ADDITIONAL FITTINGS MAY BE REQUIRED.

6. THE CONTRACTOR SHALL VERIFY INSTALLATION OF ALL EXISTING AND PROPOSED UNDERGROUND UTILITIES AND MAKE NECESSARY FIELD ADJUSTMENTS OF WATER LINE LOCATIONS SO AS NOT TO CONFLICT WITH FIXED GRADE ITEMS SUCH AS STORM COMPONENTS.

7. ALL PROPOSED WATER LINES CROSSING WET WEATHER CONVEYANCES SHALL BE ENCASED IN CONCRETE.

8. ALL WATER MAINS INSTALLED IN CASING PIPES SHALL BE INSTALLED WITH SPACER / INSULATORS AND PULL-ON END SEALS. PVC WATER MAINS SHALL BE INSTALLED WITH POLYETHYLENE SPACER / INSULATORS.

9. PROPOSED WATER METERS ARE SHOWN IN A LOCATION THAT ASSUMES THE SHORTEST DISTANCE FOR RECONNECTION TO THE CUSTOMER'S EXISTING SERVICE LINE. THE CONTRACTOR IS AT LIBERTY TO FIELD-LOCATE AS NECESSARY. NO ADDITIONAL COMPENSATION WILL BE MADE FOR ADDITIONAL SERVICE LINE.

10. IT IS ASSUMED THAT ALL RELOCATED WATER LINES SEGMENTS THAT RUN PARALLEL TO THE EXISTING FORCE MAIN WILL BE OFFSET VERTICALLY TO AVOID PROPOSED STORM PIPES AND WET WEATHER CONVEYANCES (WWC). HOWEVER, SHOULD THE CONTRACTOR ENCOUNTER AN INSTANCE WHERE THE RELOCATED WATER LINE REQUIRES A PARTIAL ROTATION TO THE HORIZONTAL, THE ROTATION SHALL BE TO THE SIDE FARTHEST FROM THE FORCE MAIN.

11. IN ALL CASES, THE RELOCATED WATER LINE SHALL BE INSTALLED UNDER THE PROPOSED STORM PIPES. THE MINIMUM CLEAR SEPARATION BETWEEN PIPES SHALL BE 30 INCHES.

12. ALL EXISTING WATER LINES SEGMENTS BEING RELOCATED SHALL BE RETIRED IN-PLACE UNLESS REMOVED DURING EXCAVATION. THE EXISTING 4-INCH WATER LINE UNDER BEECHCROFT ROAD SHALL BE RETIRED IN-PLACE AND SHALL BE COMPLETELY FILLED WITH FLOWABLE FILL FOR ITS ENTIRE LENGTH AND MECHANICALLY CAPPED OR PLUGGED. SHOULD THE WATER LINE BE LOCATED INSIDE A STEEL CASING PIPE, THE CASING SHALL BE RETIRED IN-PLACE AS WELL.

13. EXISTING FENCE AND POSTS DAMAGED OR DESTROYED DURING WATER LINE INSTALLATION SHALL BE REPLACED IN-KIND.

SPECIAL NOTE CONCERNING "BUY AMERICA":

ALL "IRON AND STEEL PRODUCTS AND THEIR COATINGS THAT ARE PERMANENTLY INCORPORATED INTO THIS PROJECT" SHALL MEET THE REQUIREMENTS OF "BUY AMERICA" (23 CFR; 635.410), NOT "BUY AMERICAN". COMPLIANCE CERTIFICATIONS SHALL BE REQUIRED DURING SHOP DRAWING REVIEW.

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CITY OF SPRING HILL, TN
WATER

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

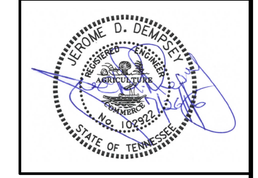
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	
CONST.	2017	60LPLM-S3-022	U2-3

EXISTING UTILITY EASEMENTS-SIA BEECHCROFT (SR 247) TDOT PIN #121394.00

TRACT NO.	PROPERTY OWNER(S)	COUNTY RECORDS				TOTAL AREA (ACRES)	PROPOSED EASEMENT (S.F.)		EXISTING EASEMENT (S.F.)	
		TAX MAP NO.	PARCEL NO.	DEED REFERENCE						
				BOOK	PAGE		PERMANENT	CONSTRUCTION	TYPE	REFERENCE
12*	MARGARET C. MILLER, TRUSTEE	24	18.01	R1866	966		NONE	NONE	10' WATER LINE EASEMENT	BK 1121, PG. 836, ROMC, TN
13	INDUSTRIAL DEVELOPMENT BOARD OF MAURY COUNTY	24	18.03	R2299	1364		NONE	NONE	10' WATER LINE EASEMENT	BK 1121, PG. 836, ROMC, TN
14	INDUSTRIAL DEVELOPMENT BOARD OF MAURY COUNTY	24	18.02	R2299	1423		NONE	NONE	10' WATERLINE EASEMENT	BK 1121, PG. 836, ROMC, TN
16	HAROLD E. CRYE, TRUSTEE	25	14.00	R1762	277		3,128.19	2,273.12	20' PUBLIC UTILITY EASEMENT	TOWN CENTER PLAT BOOK 18, PAGE 277, ROMC, TN
18	HAROLD E. CRYE, TRUSTEE	24	24.00	R1762	277		2,395.22	1,937.25	20' PUBLIC UTILITY EASEMENT	TOWN CENTER PLAT BOOK 18, PAGE 277, ROMC, TN

* THE EXISTING 10' WATER LINE EASEMENT NOTED WAS ORIGINALLY ACQUIRED FROM PARCEL 18.00 PRIOR TO ITS SUBDIVISION INTO PARCELS 18.01, 18.02 AND 18.03. THE EASEMENT EXTENDS THE FULL WIDTH OF TRACTS 12, 13 AND 14.

SEALED BY



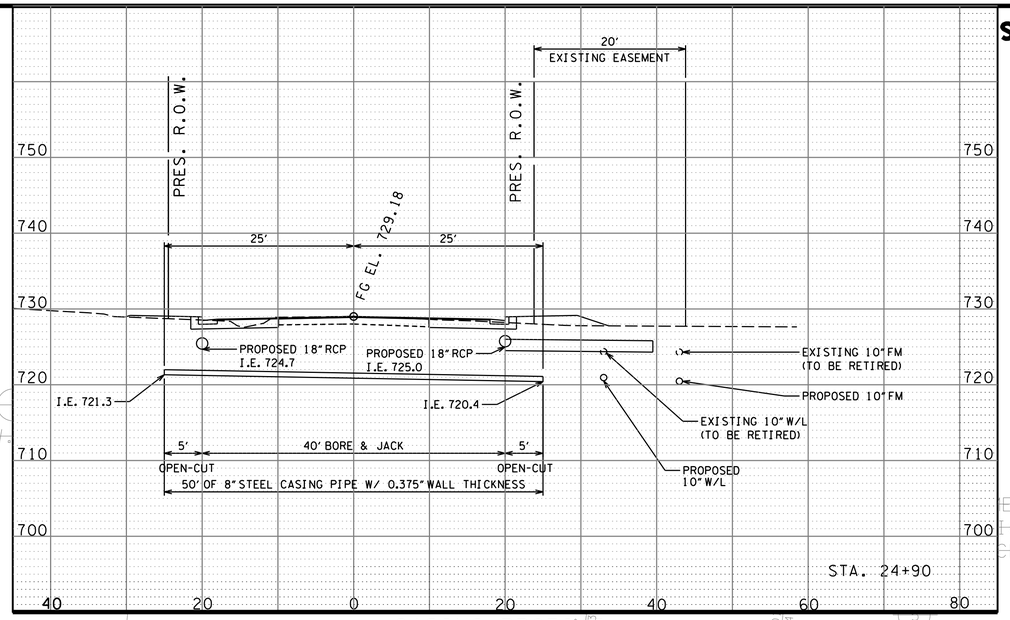
CITY OF SPRING HILL, TN
WATER

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SPRING HILL
UTILITY
EASEMENTS

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

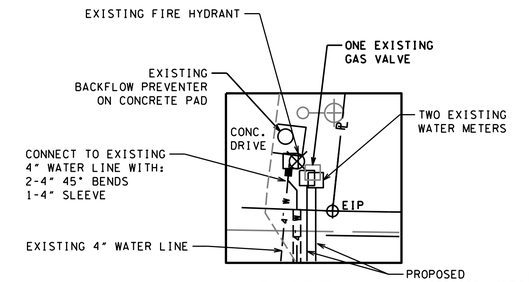
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	4
CONST.	2017	60LPLM-S3-022	U2-4



CASING PROFILE

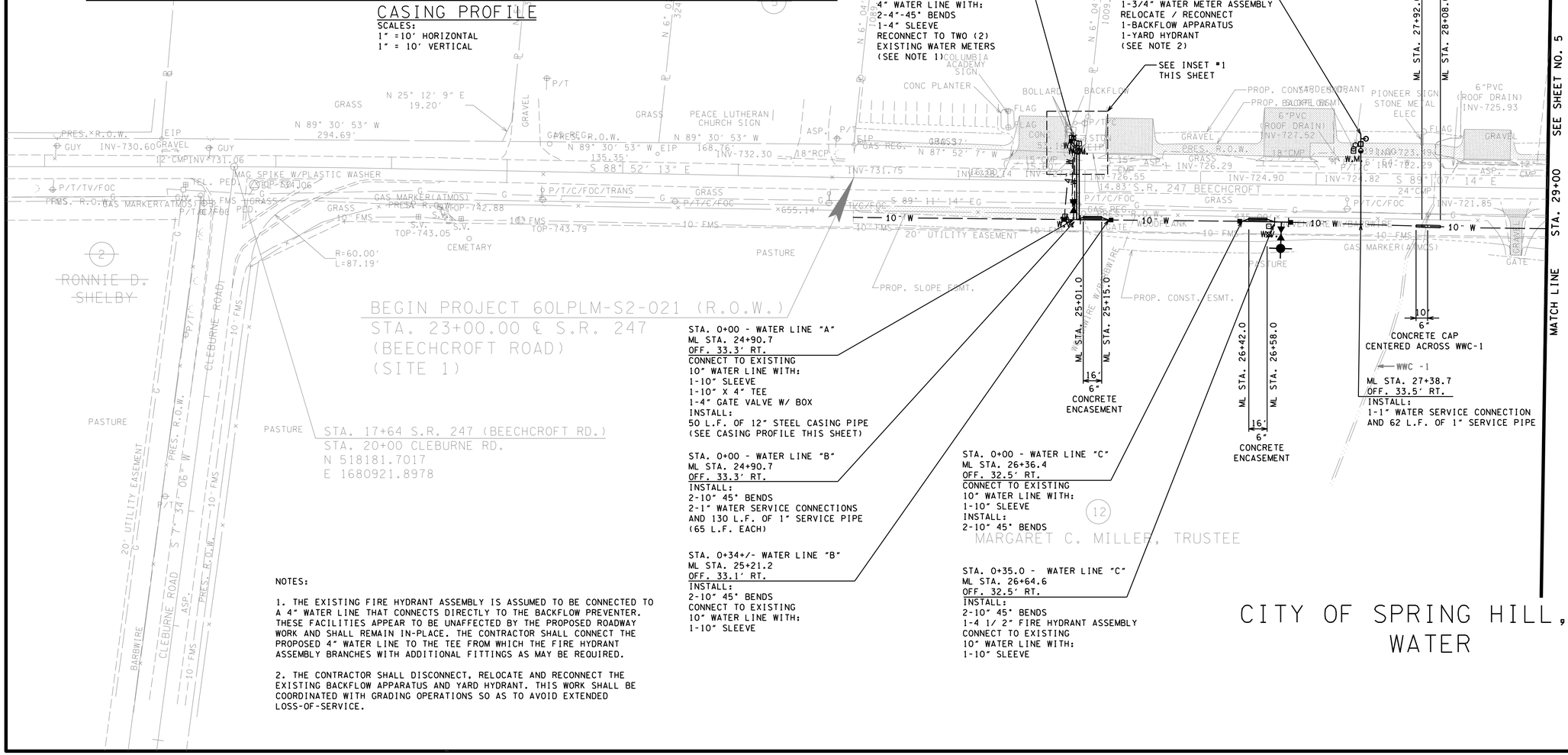
SCALES:
1" =10' HORIZONTAL
1" = 10' VERTICAL

SITE 1



INSET #1

SCALE: 1" = 20'



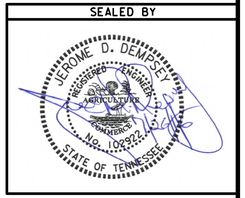
NOTES:

1. THE EXISTING FIRE HYDRANT ASSEMBLY IS ASSUMED TO BE CONNECTED TO A 4" WATER LINE THAT CONNECTS DIRECTLY TO THE BACKFLOW PREVENTER. THESE FACILITIES APPEAR TO BE UNAFFECTED BY THE PROPOSED ROADWAY WORK AND SHALL REMAIN IN-PLACE. THE CONTRACTOR SHALL CONNECT THE PROPOSED 4" WATER LINE TO THE TEE FROM WHICH THE FIRE HYDRANT ASSEMBLY BRANCHES WITH ADDITIONAL FITTINGS AS MAY BE REQUIRED.

2. THE CONTRACTOR SHALL DISCONNECT, RELOCATE AND RECONNECT THE EXISTING BACKFLOW APPARATUS AND YARD HYDRANT. THIS WORK SHALL BE COORDINATED WITH GRADING OPERATIONS SO AS TO AVOID EXTENDED LOSS-OF-SERVICE.

CITY OF SPRING HILL, TN
WATER

SEALED BY



COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00008 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

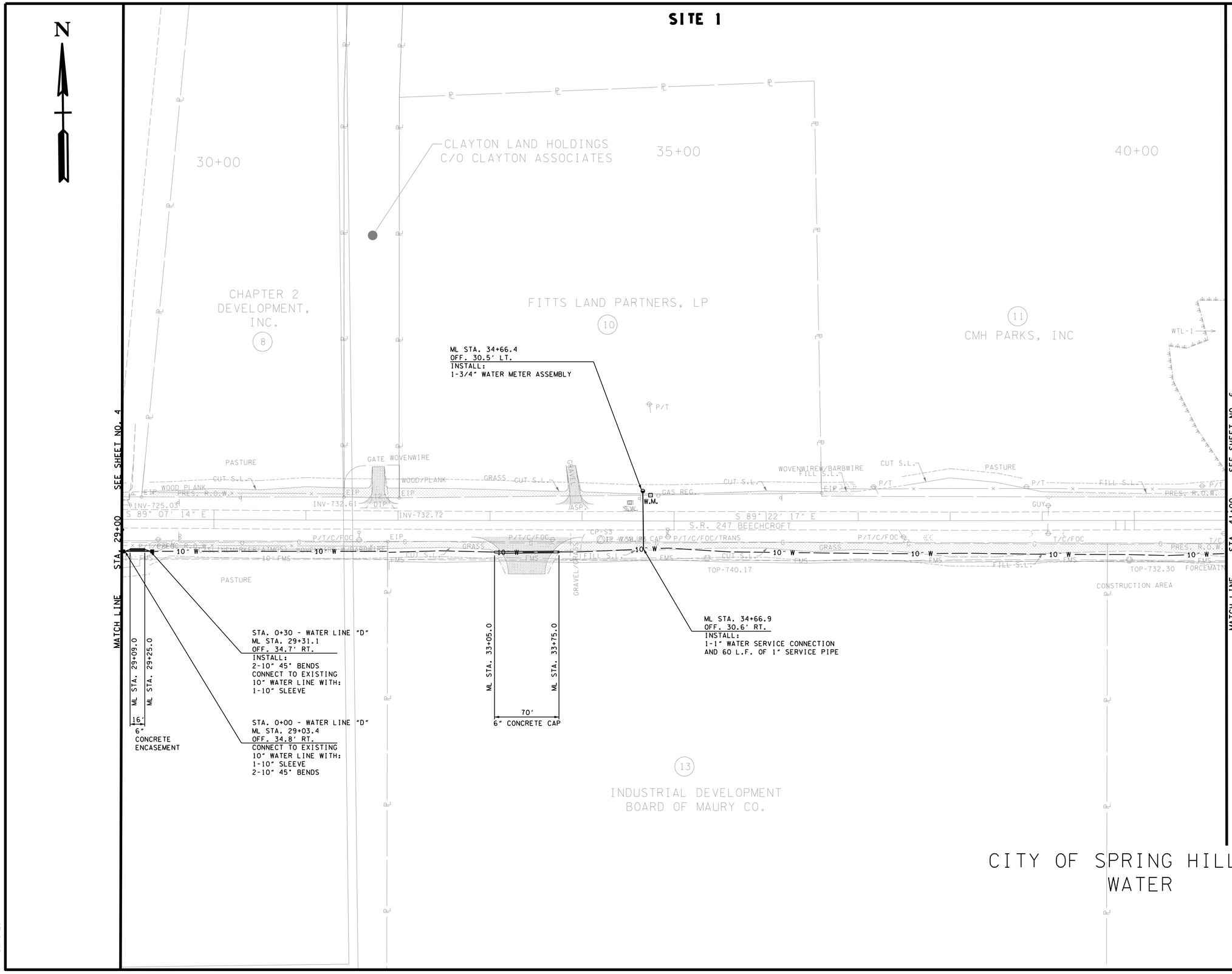
PRESENT LAYOUT

BEGIN TO STA.29+00
(SITE 1)

SCALE: 1"=50'

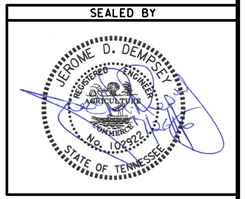
$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	5
CONST.	2017	60LPLM-S3-022	U2-5



CITY OF SPRING HILL, TN
WATER

SEALED BY



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

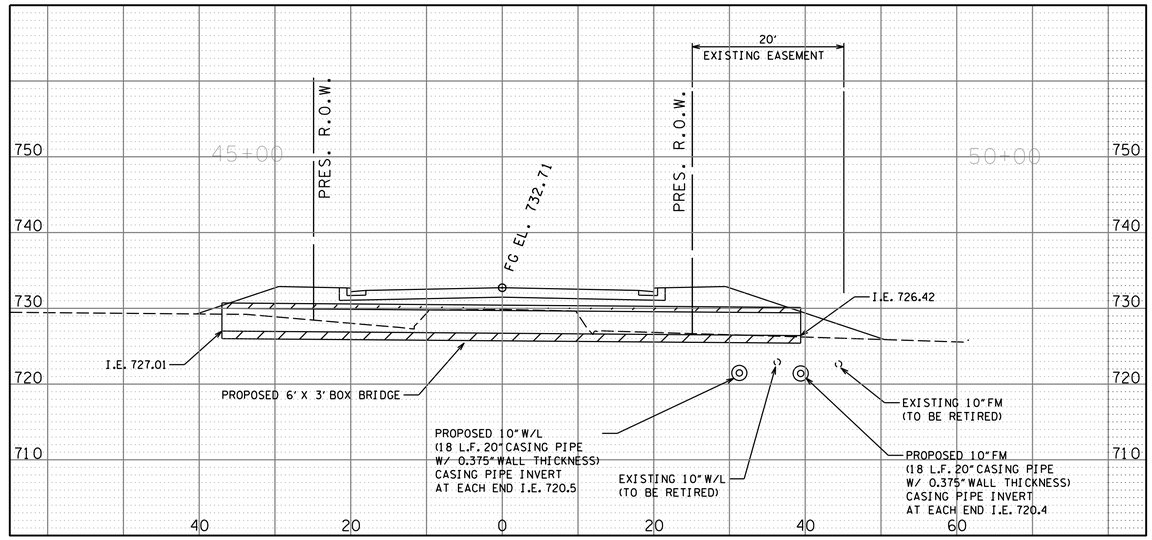
STA.29+00 TO STA.41+00
(SITE 1)

SCALE: 1"=50'

$$$$SYTIME$$$$$$$$
$$$$DGNSPEC$$$$$$$$

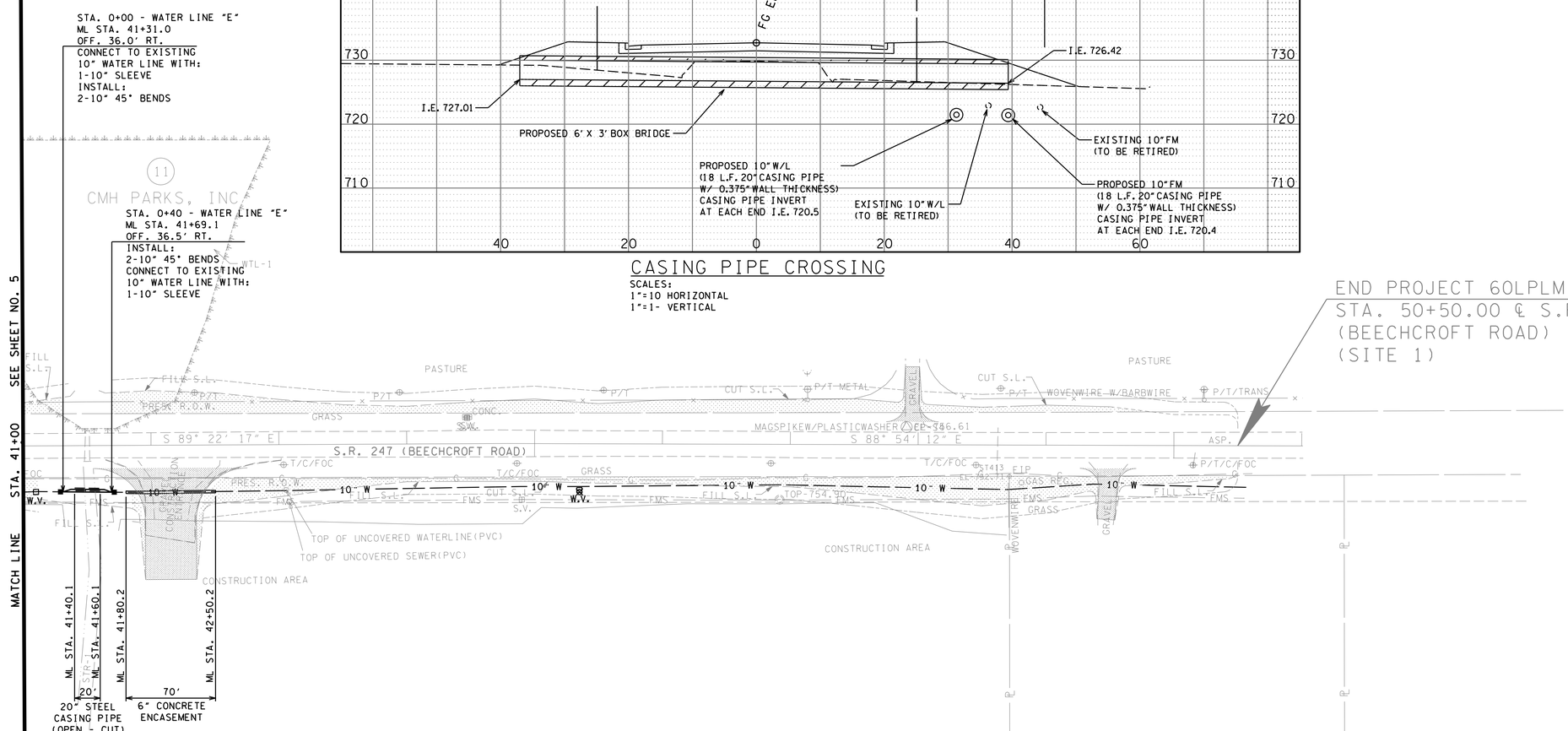
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	6
CONST.	2017	60LPLM-S3-022	U2-6

SITE 1



CASING PIPE CROSSING

SCALES:
1"=10 HORIZONTAL
1"=1- VERTICAL



CASING PIPE NOTE:

THE PROPOSED 20" STEEL CASING PIPE SHALL BE INSTALLED WITH A MINIMUM VERTICAL SEPARATION OF 36" BELOW THE BOX BRIDGE FOUNDATION AND SHALL BE CENTERED ON THE BOX BRIDGE.

CITY OF SPRING HILL, TN
WATER

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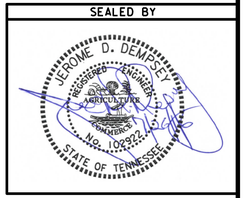

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.41+00 TO END
(SITE 1)

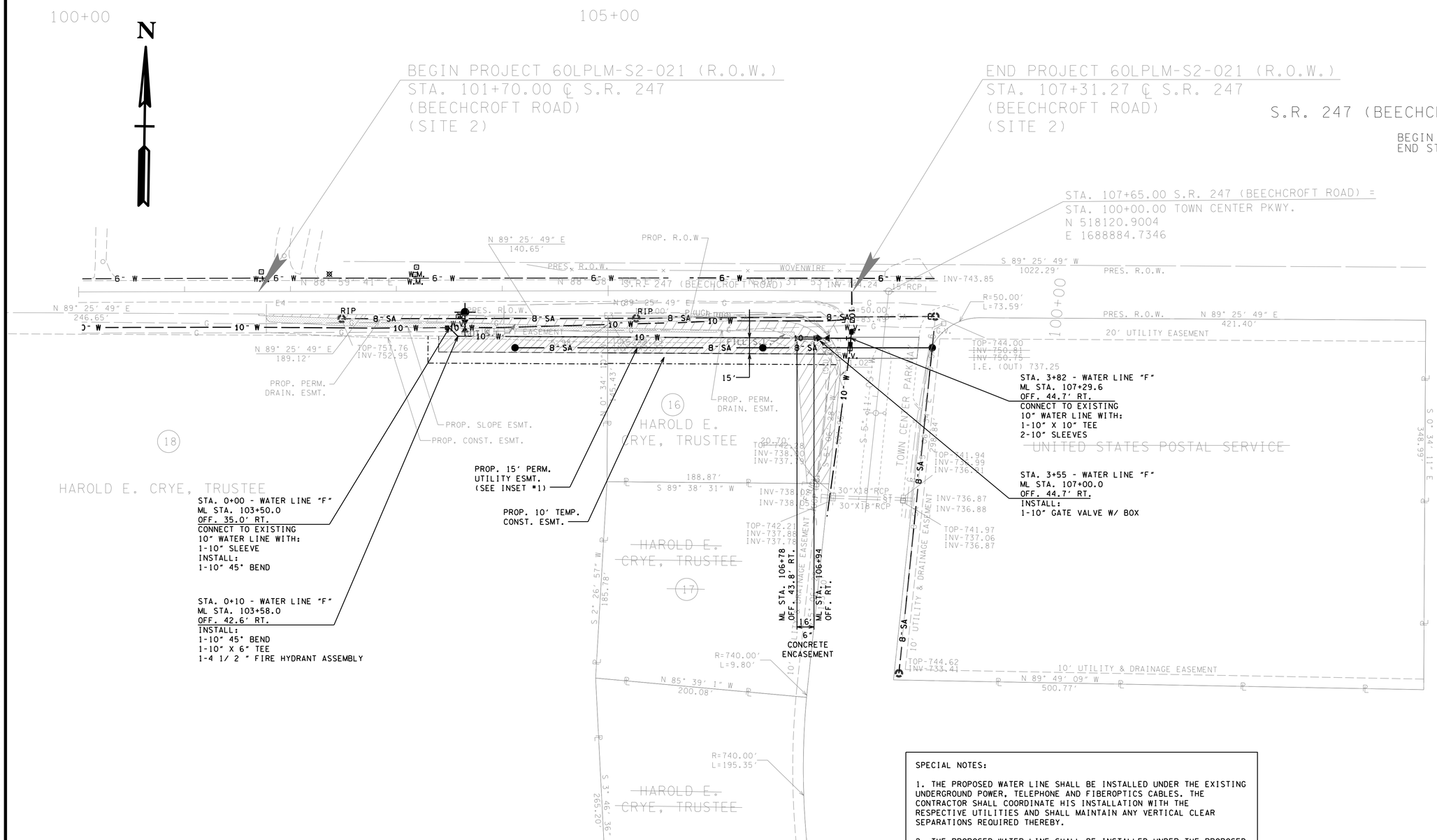
SCALE: 1"=50'

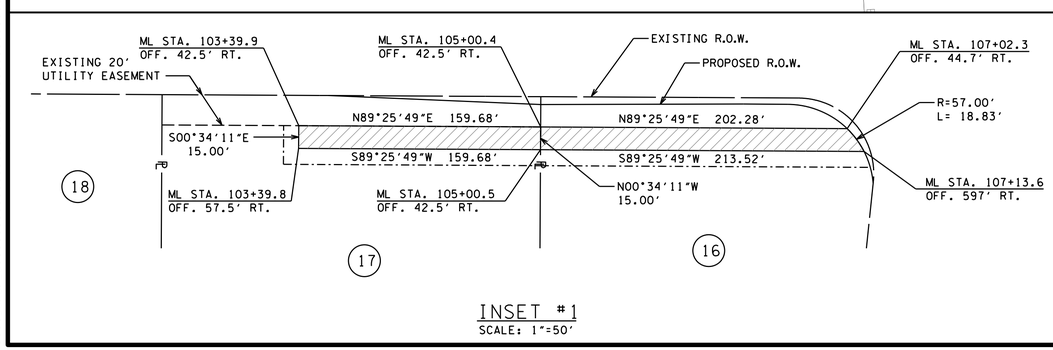
$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

SITE 2

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	7
CONST.	2017	60LPLM-S3-022	U2-7

REV. 03/14/16: REVISED TRACTS 17 & 18 AND LINED THROUGH UNAFFECTED TRACTS.





INSET #1
SCALE: 1"=50'

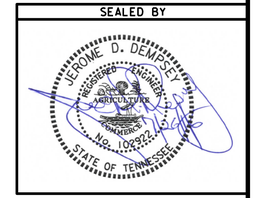
SPECIAL NOTES:

1. THE PROPOSED WATER LINE SHALL BE INSTALLED UNDER THE EXISTING UNDERGROUND POWER, TELEPHONE AND FIBEROPTICS CABLES. THE CONTRACTOR SHALL COORDINATE HIS INSTALLATION WITH THE RESPECTIVE UTILITIES AND SHALL MAINTAIN ANY VERTICAL CLEAR SEPARATIONS REQUIRED THEREBY.

2. THE PROPOSED WATER LINE SHALL BE INSTALLED UNDER THE PROPOSED 18-INCH STORM PIPE WITH A MINIMUM CLEAR SEPARATION OF 18 INCHES.

CITY OF SPRING HILL, TN
WATER

SEALED BY



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

BEGIN TO END
(SITE 2)

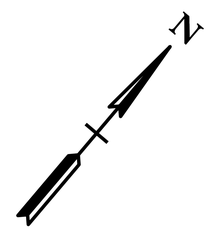
SCALE: 1"=50'

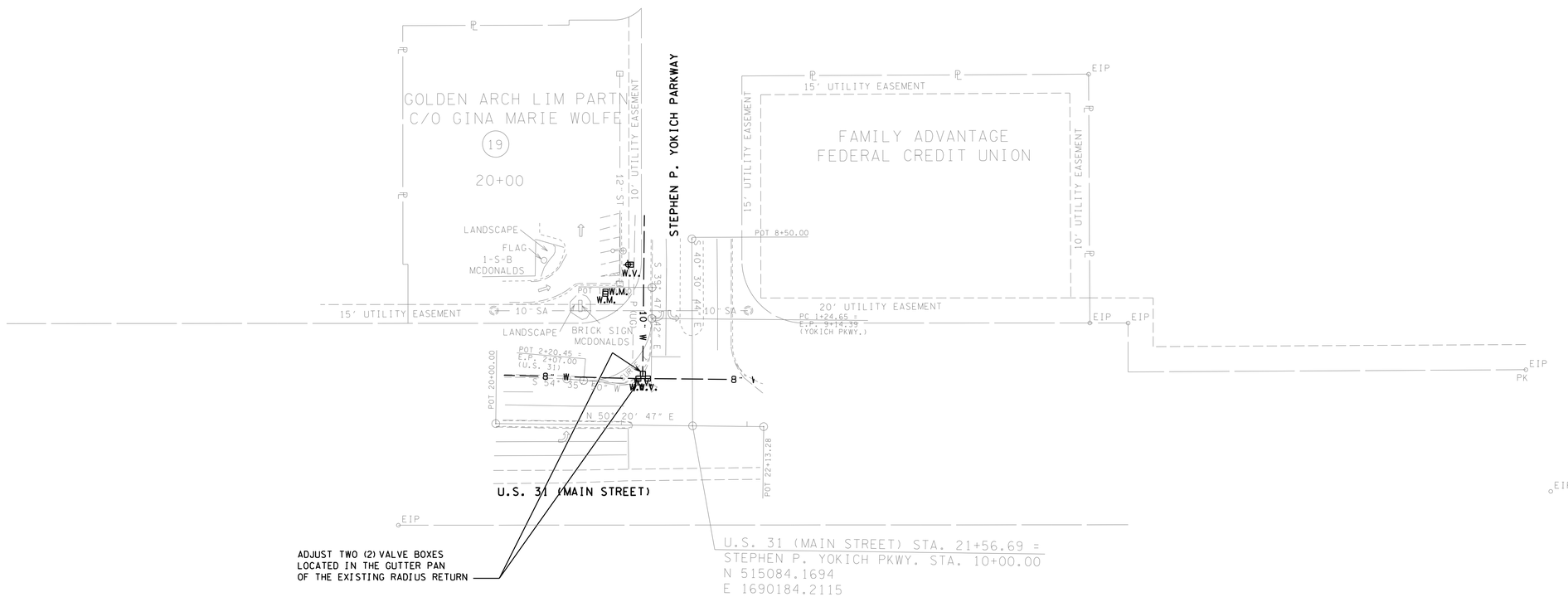
$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

SITE 3

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	8
CONST.	2017	60LPLM-S3-022	U2-8

REV. 03/14/16: LINED THROUGH UNAFFECTED TRACTS.





CITY OF SPRING HILL, TN
WATER

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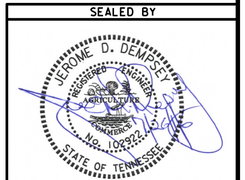

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

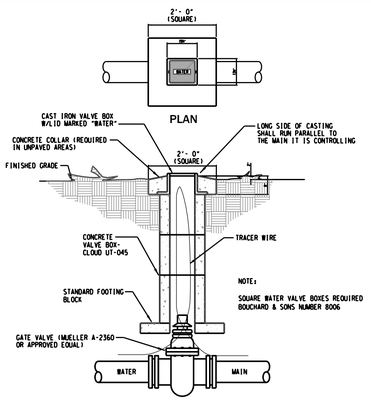
PRESENT LAYOUT

INT. OF U.S. 31 & STEPHEN P. YOKICH PKWY (SITE 3)

SCALE: 1"=50'

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	
CONST.	2017	60LPLM-S3-022	U2-9



GATE VALVE SETTING DETAIL

NO SCALE

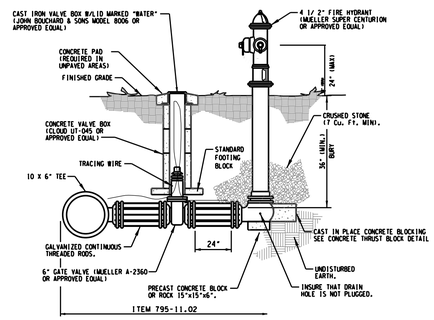
1

NOTES:

1. OPERATING NUT, OPENING DIRECTION, CAP NUTS, THREAD AND CONNECTIONS MUST BE APPROVED IN WRITING BY THE OWNER AS CONFORMING TO TOWN STANDARDS.

2. THE 5 1/4" PUMPER CONNECTION SHALL FACE STREET OR AS DIRECTED BY THE TOWN OF SMYRNA.

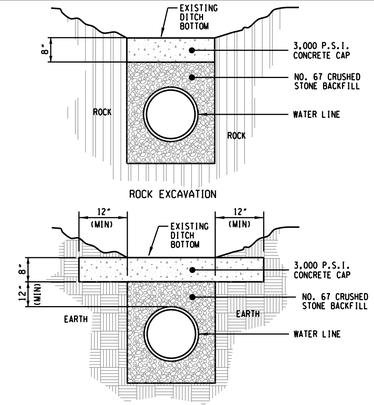
3. ALL MECHANICAL JOINT FITTINGS SHALL BE INSTALLED WITH RESTRAINING GLANDS.



FIRE HYDRANT ASSEMBLY DETAIL

NO SCALE

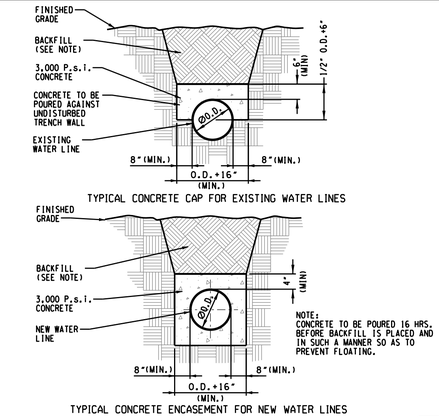
2



CONCRETE CAP DETAIL

NO SCALE

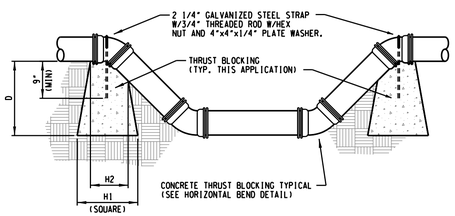
3



CONCRETE PROTECTION FOR WATER LINES

NO SCALE

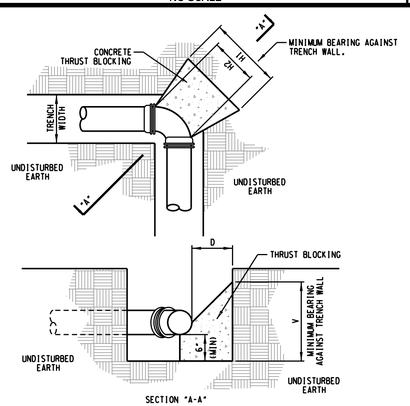
4



CONCRETE THRUST BLOCKING-VERTICAL BENDS (1 OF 4)

NO SCALE

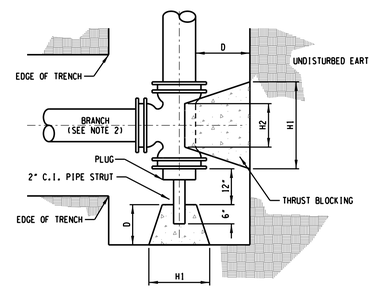
5



CONCRETE THRUST BLOCKING-HORIZONTAL BENDS (2 OF 4)

NO SCALE

6



CONCRETE THRUST BLOCKING-TEES, CROSSES & PLUGS (3 OF 4)

NO SCALE

7

TEES, CROSSES, AND PLUGS					90° BENDS					45° BENDS					22-1/2° BENDS					11-1/4° BENDS					PIPE SIZE
H1	H2	V	D	Cu.Ft	H1	H2	V	D	Cu.Ft	H1	H2	V	D	Cu.Ft	H1	H2	V	D	Cu.Ft	H1	H2	V	D	Cu.Ft	
18"	10"	12"	18"	1.90	18"	10"	12"	18"	1.90	18"	6"	12"	18"	1.50	18"	6"	12"	18"	1.50	18"	6"	12"	18"	1.50	2" - 26"
24"	12"	12"	18"	2.25	24"	12"	12"	18"	2.25	18"	8"	12"	18"	1.60	18"	8"	12"	18"	1.60	18"	8"	12"	18"	1.60	3" - 4"
24"	16"	18"	18"	3.50	30"	16"	18"	18"	4.05	24"	10"	16"	18"	3.20	24"	10"	16"	18"	3.20	24"	10"	16"	18"	3.20	6"
36"	18"	18"	24"	5.05	39"	18"	24"	18"	7.30	30"	12"	18"	18"	3.95	24"	12"	18"	18"	3.45	24"	12"	16"	18"	3.40	8"
48"	24"	18"	24"	7.15	54"	32"	24"	18"	10.25	36"	18"	21"	18"	4.60	24"	18"	21"	18"	4.60	24"	18"	21"	18"	4.60	10"
54"	30"	24"	24"	13.40	54"	32"	36"	24"	18.15	42"	18"	24"	24"	5.60	24"	18"	24"	24"	5.60	24"	18"	21"	24"	6.10	12"
60"	32"	30"	24"	17.90	60"	40"	42"	24"	25.00	44"	24"	30"	24"	13.20	30"	24"	24"	24"	5.20	27"	21"	24"	24"	7.90	14"
66"	34"	36"	24"	22.50	69"	48"	48"	24"	29.00	48"	30"	36"	24"	17.00	36"	30"	27"	24"	11.00	27"	24"	27"	24"	9.10	16"
66"	36"	40"	24"	27.50	69"	48"	48"	24"	33.00	48"	30"	36"	24"	17.00	36"	30"	29"	24"	13.00	27"	30"	29"	24"	11.00	18"
	38"		24"			48"		24"			40"		24"			36"		24"			30"	40"		28"		20"
	42"		24"			60"		24"			48"		24"			42"		24"				42"		32"		24"
	58"		24"			96"		24"			72"		24"			72"		24"				48"		36"		36"

NOTES:

1. THRUST BLOCKING SHALL BE CLASS "A" CONCRETE AND SHALL BE INCIDENTAL TO THE INSTALLATION OF THE WATER LINES. NO SEPARATE PAYMENT SHALL BE MADE.

2. THRUST BLOCKING DIMENSIONS ARE CONTROLLED BY DIAMETER OF BRANCH MAIN.

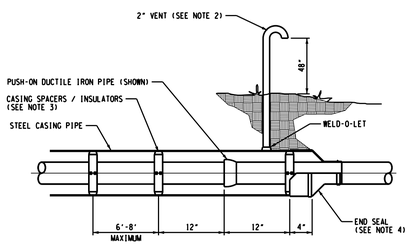
3. THRUST BLOCKING SHALL BE PLANT MIX CONCRETE. BAGGED CONCRETE MIX SHALL NOT BE ALLOWED.

4. ALL MECHANICAL JOINT FITTINGS SHALL BE INSTALLED WITH RESTRAINING GLANDS AND RODDING.

CONCRETE THRUST BLOCKING-NOTES (4 OF 4)

NO SCALE

8



SECTION VIEW

NOTES:

1. ALL STEEL CASING PIPE SHALL BE ASTM A252, GRADE 2 AND SHALL COMPLY WITH THE "BUY AMERICAN" PROVISION OF THE PROJECT SEPCIFICATIONS.

2. ALL CASING PIPES WITH A LENGTH LESS TAHN OE EQUAL TO 150' SHALL INCLUDE ONE VENT. THE VENT SHALL BE INSTALLED ON THE HIGH END OF THE CASING INSTALLATION. ALL CASING PIPES WITH A LENGTH GREATER 150' SHALL INCLUDE TWO VENTS. EACH VENT SHALL BE 2" DIA. SCHEDULE 40 STEEL WITH A STAINLESS STEEL SCREENED TURNDOWN. THE TURN DOWN SHALL BE NO LONGER THAN 4' FROM THE GROUND LINE BELOW IT. THE VENT SHALL BE PRIMED AND PAINTED SAFETY YELLOW. INSTALL VENT(S) WITHIN 4 FEET OF CASING END AND CLEAR OF END SEALS.

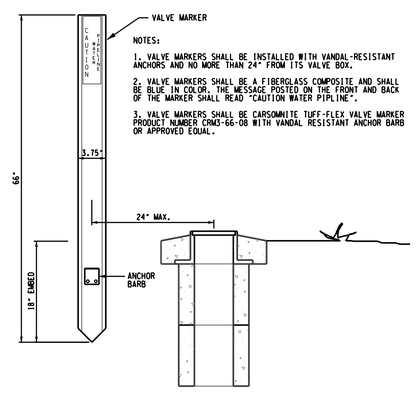
3. STAINLESS STEEL SPACERS / INSULATORS SHALL BE INSTALLED WITH DUCTILE IRON CARRIER PIPE. POLYETHYLENE SPACER / INSULATOR SHALL BE INSTALL WITH PVC CARRIERS PIPE. SPACER / INSULATORS SHALL BE ADVANCE PRODUCTS & SYSTEMS, INC.

4. PULL-ON END SEALS SHALL BE INSTALLED AT EACH END OF EACH STEEL CASING PIPE. END SEALS SHALL BE ADVANCE PRODUCTS & SYSTEMS MODEL AC OR APPROVED EQUAL.

CASING PIPE DETAIL

NO SCALE

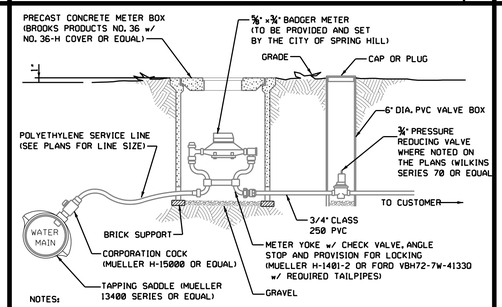
9



WATER VALVE MARKER DETAIL

NO SCALE

10



NOTES:

1. THE SERVICE LINE FROM THE MAIN TO THE METER SHALL BE INSTALLED IN A 2" SCHEDULE 40 PVC CASING PIPE. ALL SERVICE CASING PIPES SHALL BE INSTALLED BY DIRECTIONAL DRILLING.

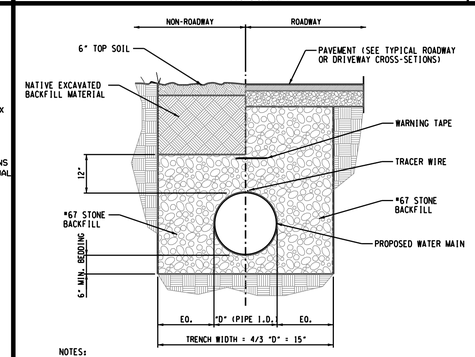
2. THE POLYETHYLENE SERVICE LINE SHALL BE INSTALLED WITH STAINLESS STEEL ADAPTERS AND TUBE FITTINGS SUITABLE FOR APPLICATIONS WITH COMPRESSION COUPLINGS.

3. THE CONTRATOR SHALL PROVIDE ALL OPERATIONS AND INSTALL ALL MATERIALS FOR EACH WATER SERVICE EXCEPT FOR THE WATER METER. THE CITY OF SPRING HILL WATER DEPARTMENT SHALL PROVIDE AND INSTALL THE WATER METER.

3/4" SERVICE ASSEMBLY w/ PRESSURE REDUCING VALVE

NO SCALE

11



NOTES:

1. TAPE 12-GAGE SHIELDED SOLID COPPER TRACER WIRE TO PVC PIPE FOR DETECTION PURPOSES.

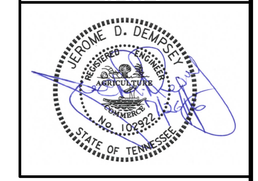
2. METALLIC WARNING TAPE SHALL BE INSTALLED 12" BELOW SUBGRADE. TAPE SHALL READ "CAUTION BURIED WATER LINE BELOW".

TRENCH AND BACKFILL DETAIL

NO SCALE

12

SEALED BY



COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00008 AND TIED TO THE TCRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CITY OF SPRING HILL, TN
WATER

STANDARD DETAILS

$$$$SYTIME$$$$$$$$
$$$$DONSPEC$$$$$$$$

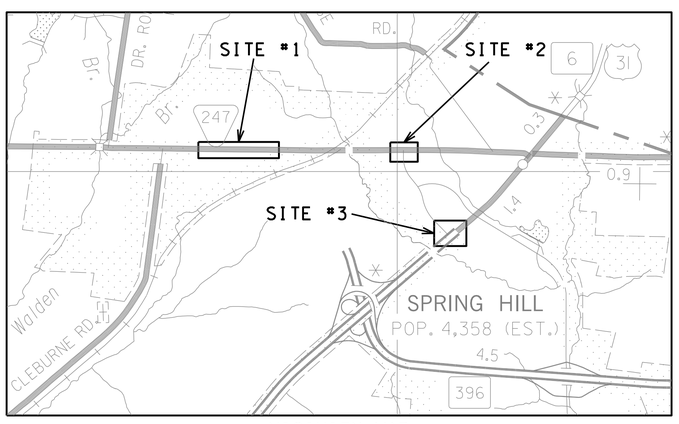
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	
CONST.	2017	60LPLM-S3-022	U3-1

STATE PROJECT NO. 60LPLM-S3-022

S.R. 247 , INDUSTRIAL ACCESS ROAD
SERVING PROJECT SHOTGUN IN SPRING HILL
MAURY COUNTY PIN 121394.00

SEWER LINE RELOCATION
INDEX OF SHEETS

SHEET NO.	DESCRIPTION
U3-1	COVER SHEET, ESTIMATED QUANTITIES, UTLITY CONTACT AND LEGEND
U3-2	GENERAL NOTES AND EASEMENTS
U3-3	UTILITY EASEMENTS
SITE #1	
U3-4	SR 247 (BEECHCROFT ROAD)-FORCE MAIN #1
U3-5	SR 247 (BEECHCROFT ROAD)-FORCE MAIN #1
U3-6	SR 247 (BEECHCROFT ROAD)-FORCE MAIN #2
SITE #2	
U2-7	TOWN CENTER PARKWAY-GRAVITY SEWER LINE #1
U2-7A	TOWN CENTER PARKWAY-GRAVITY SEWER LINE #1-PROFILE
SITE #3	
U3-8	US 31 (MAIN STREET)-NO WORK
U3-9, U3-10	STANDARD DETAILS



VICINITY MAP
SCALE: NONE

WASTEWATER COLLECTION SYSTEM CONTACT:

JIM VRDOLJAK
WASTEWATER COLLECTIONS SUPERINTENDENT
CITY OF SPRING HILL
3893 MAHLON MOORE ROAD
SPRING HILL, TN 37174
931-486-1265

ESTIMATED SEWER UTILITY QUANTITIES-SIA SR247 (BEECHCROFT ROAD)

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	% UTILITY	% PROJECT	FOOTNOTE
FORCE MAIN ITEMS - SITE #1						
797-03.09	10IN PVC FORCE MAIN	L.F.	542	12.00	88.00	1
797-06.92	OPEN CUT 20IN STEEL CASING PIPE	L.F.	20	12.00	88.00	2
797-08.01	DI FITTINGS	LBS	1,400	12.00	88.00	4
797-10.19	CONNECT TO 10 INCH FORCE MAIN	EACH	4	12.00	88.00	5
797-11.38	BY-PASS PUMPING	LS	1	12.00	88.00	8
797-40.01	CONCRETE ENCASEMENT	L.F.	222	12.00	88.00	9
GRAVITY SEWER LINE ITEMS - SITE #2						
797-05.52	8IN PVC GRAVITY SEWER 6FT-12FT DEPTH	L.F.	394	12.00	88.00	1
797-07.03	48IN MANHOLE 6FT-8FT DEPTH	EACH	3	12.00	88.00	3
797-11.25	RETIRE IN PLACE 48" MANHOLE	EACH	2	12.00	88.00	6
797-11.31	RETIRE IN PLACE EXISING SEWER 8IN-14IN	L.F.	560	12.00	88.00	7
797-11.38	BY-PASS PUMPING	LS	1	12.00	88.00	8
797-11.39	TV INSPECTION	L.F.	394	12.00	88.00	9
797-11.40	RESTORE ASPHALT	S.Y.	49	12.00	88.00	10
797-11.64	RESTORE CONCRETE CURB & GUTTER	L.F.	16	12.00	88.00	11
797-11.65	REMOVAL OF CONCRETE CURB & GUTTER	L.F.	16	12.00	88.00	12
797-40.01	CONCRETE ENCASEMENT	L.F.	16	12.00	88.00	13
SEWER LINE ITEMS - SITE #3						
	NONE					
SEWER LINE ITEMS - TOTAL FOR ALL SITES						
797-03.09	10IN PVC FORCE MAIN	L.F.	542	12.00	88.00	1
797-05.52	8IN PVC GRAVITY SEWER 6FT-12FT DEPTH	L.F.	394	12.00	88.00	1
797-06.92	OPEN CUT 20IN STEEL CASING PIPE	L.F.	20	12.00	88.00	2
797-07.03	48IN MANHOLE 6FT-8FT DEPTH	EACH	2	12.00	88.00	3
797-08.01	DI FITTINGS	LBS	1,400	12.00	88.00	4
797-10.19	CONNECT TO 10 INCH FORCE MAIN	EACH	4	12.00	88.00	5
797-11.25	RETIRE IN PLACE 48" MANHOLE	EACH	2	12.00	88.00	6
797-11.31	RETIRE IN PLACE EXISING SEWER 8IN-14IN	L.F.	560	12.00	88.00	7
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797-11.39	TV INSPECTION	L.F.	394	12.00	88.00	9
797-11.40	RESTORE ASPHALT	S.Y.	49	12.00	88.00	10
797-11.64	RESTORE CONCRETE CURB & GUTTER	L.F.	16	12.00	88.00	11
797-11.65	REMOVAL OF CONCRETE CURB & GUTTER	L.F.	16	12.00	88.00	12
797-40.01	CONCRETE ENCASEMENT	L.F.	222	12.00	88.00	13

ESTIMATED SEWER QUANTITIES FOOTNOTES-SIA S.R. 247 (BEECHCROFT ROAD)

FOOTNOTE	DESCRIPTION
1	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT FOR A COMPLETE INSTALLATION INCLUDING BUT NOT LIMITED TO EXCAVATION, BEDDING, BACKFILLING, THRUST BLOCKING, PIPE FUSION, APPURTENANCES, FLOWABLE FILL, MAINTAINING THE TRENCH, TESTING, CHECK DAMS, AND ANY OTHER LABOR OR MATERIALS REQUIRED TO COMPLETE THE INSTALLATION OF A GRAVITY SEWER LINE OR FORCE MAIN AS SPECIFIED ON THE PLANS.
2	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY FOR A COMPLETE IN-PLACE INSTALLATION OF THE CASING PIPE, INCLUDING BUT NOT LIMITED TO EXCAVATION AND BACKFILL, BUTT WELDING, PIPE SPACERS, CASING END SEALS, FITTINGS, UTILITY LINE MARKERS, AND VENT(S). CARRIER PIPE SHALL BE PAID FOR AS AN OPEN CUT INSTALLATION UNDER ITS RESPECTIVE ITEM NUMBER.
3	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT FOR A COMPLETE INSTALLATION OF PRECAST MANHOLE, WITH BASE OR OPEN-BOTTOM (DOGHOUSE) INCLUDING BUT NOT LIMITED TO EXCAVATION, CRUSHED STONE, BLOCKING, POURED CONCRETE BASE, FORMED BENCH AND INVERTS, SAWCUTTING AND REMOVAL OF TOP OF EXISTING SEWER PIPE, VENT ASSEMBLY, WHERE REQUIRED, PIPE-TO-MANHOLE CONNECTORS, BACKFILL, BUTYL RESIN GASKET, MANHOLE STEPS, ASPHALTIC WATERPROOFING AND FRAME AND COVER.
4	INCLUDES ALL DUCTILE IRON FITTINGS (PER AWWA C-110) AND RESTRAINING GLANDS DESCRIBED IN POUNDS. THIS ITEM DOES NOT INCLUDE SLEEVES AND RESTRAINING GLANDS USED FOR MAKING CONNECTIONS TO EXISTING FORCE MAIN LINES-SEE FOOTNOTE #7 BELOW.
5	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY FOR CONNECTING TO AN EXISTING FORCE MAIN, INCLUDING BUT NOT LIMITED TO SLEEVES, AND RESTRAINING GLANDS.
6	INCLUDES ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY FOR THE DISPOSAL OF WASTE MATERIAL, REMOVAL OF NECESSARY BARREL SECTION(S) FOR PROPER GRADE,WHERE APPLICABLE, BACKFILL FOR VOIDS CREATED BY BARREL REMOVAL, COMPACTION, DRILLING HOLES IN BASE FOR PROPER DRAINAGE, STONE OR SAND BACKFILL AND ANY OTHER ADDITIONAL MATERIALS AND LABOR REQUIRED TO ENSURE THE COMPLETE RETIREMENT OF THE MANHOLE.
7	INCLUDES ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO REMOVE OR RETIRE IN-PLACE EXISTING GRAVITY SEWER AND FORCE MAIN PIPES INCLUDING, BUT NOT LIMITED TO, PUMPING FLOWABLE FILL INTO LINES LOCATED IN PUBLIC RIGHT-OF-WAY UNDER EXISTING AND PROPOSED ROADWAYS AND MECHANICAL CAPS OR PLUGS. SECTIONS OF EXISTING PIPE THAT ARE BEING REPLACED OR RELOCATED WHICH ARE NOT LOCATED INSIDE PUBLIC RIGHT-OF-WAY SHALL BE MECHANICALLY CAPPED OR PLUGGED AND RETIRED IN-PLACE. ONLY THOSE LINE SEGMENTS THAT ARE DAMAGED OR DESTROYED DURING EXCAVATION FOR THE INSTALLATION OF PROPOSED UTILITY LINES SHALL BE REMOVED.
8	THIS ITEM SHALL INCLUDE ALL MATERIALS, LABOR, EQUIPMENT AND POWER NECESSARY TO TEMPORARILY REROUTE SEWAGE AROUND A WORK AREA WHILE A SEGMENT OF GRAVITY SEWER LINE OR FORCE MAIN IS BEING REPLACED OR INSTALLED.
9	INCLUDES ALL MATERIALS, LABOR, VIDEO INSPECTION, WRITTEN LOG, COPY OF INSPECTION DVD AND ALL APPURTENANCES COMPLETE IN-PLACE.
10	THIS ITEM SHALL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY FOR RESTORING THE EXISTING PAVEMENT (TRENCH). THE MATERIALS REQUIRED SHALL BE THE SAME AS THOSE IN THE "PROPOSED PAVEMENT SCHEDULE" OF THE TDOT ROADWAY PLANS. BEDDING AND BACKFILL MATERIAL SHALL BE #57 STONE WHICH SHALL EXTEND THE FULL DEPTH OF THE TRENCH TO ROADWAY SUBGRADE.
11	THIS ITEM SHALL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY FOR RESTORING THE EXISTING CURB & GUTTER. THE MATERIALS AND CROSS-SECTION REQUIRED SHALL BE THE SAME AS THAT SHOWN ON THE TDOT TYPICAL SECTIONS.
12	THIS ITEM SHALL INCLUDE ALL LABOR AND EQUIPMENT NECESSARY FOR THE COMPLETE REPOVAL AND DISPOSAL OF THE ITEM, INCLUDING BUT NOT LIMITED TO PAVEMENT SAWCUTTING.
13	CONCRETE ENCASEMENT SHALL BE CLASS "A" PLANT MIX CONCRETE. FOR PURPOSES OF THIS PROJECT, CONCRETE ENCASEMENT SHALL INCLUDE CONCRETE CAP. EACH SHALL BE PLACED AS CALLED OUT IN THE PLANS.

LEGEND

SA	EXISTING GRAVITY SEWER LINE-TO REMAIN
SA	EXISTING GRAVITY SEWER LINE-RETIRE IN-PLACE OR REMOVE
FMS	EXISTING FORCE MAIN-TO REMAIN
FMS	EXISTING FORCE MAIN-RETIRE IN-PLACE OR REMOVE
	EXISTING MANHOLE-TO REMAIN
RIP	EXISTING MANHOLE-RETIRE IN-PLACE OR REMOVE
SA	PROPOSED GRAVITY SEWER LINE
FMS	PROPOSED FORCE MAIN
	PROPOSED MANHOLE
	PROPOSED CASING PIPE
	PROPOSED CONCRETE ENCASEMENT

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SPRING HILL
SEWER SYSTEM
COVER SHEET

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	
CONST.	2017	60LPLM-S3-022	U3-2

TDOT STANDARD GENERAL NOTES:

1. EXCEPT FOR EROSION CONTROL ITEMS, NO ROADWAY OR BRIDGE ITEMS SHALL BE UTILIZED TO COMPENSATE FOR WORK METHODS OR MATERIALS ASSOCIATED WITH AND/OR SPECIFIED FOR THE UTILITY INSTALLATION, EVEN THOUGH THE SAME OR SIMILAR ROADWAY OR BRIDGE MATERIALS MAY HAVE BEEN CALLED FOR IN THE UTILITY SPECIFICATIONS OR DRAWINGS.

2. ALL MATERIALS, METHODS, AND/OR INTEGRAL MATERIALS OUTLINED IN THE UTILITY SPECIFICATIONS OR DRAWINGS NECESSARY TO PROVIDE A COMPLETE AND FUNCTIONAL INSTALLATION MUST BE INCLUDED IN THE UNIT PRICE FOR THE ASSOCIATED UTILITY WORK ITEM.

3. THE CONTRACTOR MUST MAINTAIN ALL SERVICES DURING THE CONSTRUCTION OF THE RELOCATED FACILITY. ANY COST ASSOCIATED WITH INSTALLATION OF REQUIRED TEMPORARY SERVICE LINES DUE TO THE ROADWAY CONSTRUCTION SEQUENCE OF WORK (I.E., CUTS, FILLS, PHASING, ETC.) SHALL BE INCLUDED IN THE COST OF THE PERMANENT UTILITY ITEMS. (NOTE TO UTILITY: THE UTILITY RELOCATION PLANS SHALL PROVIDE TO THE CONTRACTOR THE UTILITY' S REQUIREMENTS FOR TEMPORARY TIE-INS (INCLUDING NECESSARY TESTING AND STABILIZATION TO ACCOMPLISH THE TIE-IN) AND ALSO ANY RESTRICTIONS FOR TAKING LINES OUT OF SERVICE. IF A TEMPORARY LINE WILL BE A MAJOR ITEM OF WORK, A SPECIFIC TEMPORIZATION PLAN AND ITEM MUST BE INCLUDED IN THE UTILITY' S PLANS.)

4. IT SHALL BE THE RESPONSIBILITY OF THE PRIME CONTRACTOR'S SURVEYOR TO LAY OUT ALL THE FACILITIES BEING RELOCATED WITHIN THE CONTRACT.

5. FOR BURIED UTILITIES, THE PRIME CONTRACTOR OR SUBCONTRACTOR SHALL BE REQUIRED TO PROVIDE TO THE UTILITY UPON COMPLETION OF THE UTILITY' S RELOCATION WORK A SET OF AS-BUILT DRAWINGS FOR THE RECORDS. THESE AS-BUILT DRAWINGS SHOULD BE PREPARED AS THE JOB PROGRESSES TO ENSURE THEIR ACCURACY.

6. WHERE EROSION CONTROL MEASURES ARE NEEDED FOR THE UTILITY RELOCATION WORK OCCURRING INSIDE OR OUTSIDE STATE RIGHT-OF-WAY, THE CONTRACTOR SHALL SUBMIT TO THE TDOT PROJECT SUPERVISOR FOR APPROVAL A PROPOSED EROSION AND SEDIMENT CONTROL PLAN PRIOR TO THE BEGINNING THE WORK. TDOT APPROVAL MUST BE RECEIVED BEFORE THE EROSION CONTROL PAY ITEMS FOR ROADWAY CONSTRUCTION CAN BE USED FOR ANY ADDITIONAL EROSION CONTROL MEASURES REQUIRED FOR THE UTILITY RELOCATION WORK.

7. DRIVEWAY, SIDEWALK AND ROADWAY TEMPORARY RESTORATION SHALL BE PART OF THE IN-PLACE COST OF PLACING THE UTILITY ITEM WITHIN THE ROW.

8. ANY EXCAVATION OF THE STREAM CHANNEL AREA SHALL BE SEPARATED FROM FLOWING WATER AND ACCOMPLISHED DURING LOW FLOW CONDITIONS. THIS SHALL BE ACCOMPLISHED BY THE USE OF FLUMES, LINED DIVERSION CHANNEL WITH SANDBAG BERM, DIVERSION PIPE WITH SANDBAG DAM AT PIPE INLET, OR IN SOME CASES COFFERDAMS. ALTERNATIVELY, BASED ON FIELD CONDITIONS AND CONTRACTOR SELECTION, THE UTILITY RELOCATION MAY BE ACCOMPLISHED USING BORE TECHNOLOGY WITH NO STREAM CHANNEL IMPACTS.

UTILITY ENVIRONMENT NOTES:

1. RAIN WATER WHICH COLLECTS IN THE UTILITY TRENCH SHALL BE PUMPED INTO A TEMPORARY DEWATERING STRUCTURE OR FILTER BAG.

2. SILT FENCE TO BE INSTALLED ON THE DOWNSTREAM SIDE OF ALL STOCKPILED SOIL. TRENCHING ACROSS WET WEATHER CONVEYANCES TO BE DONE DURING NO FLOW CONDITIONS AND STABILIZED BY THE END OF THE WORK DAY.

3. UTILITY CROSSINGS FOR PERENNIAL STREAMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH TDOT STANDARDS, AND NO WORK SHALL BE CONDUCTED IN FLOWING WATERS. TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) REGULATIONS APPLY TO THE UTILITIES IN THIS PROJECT IN REGARDS TO EROSION CONTROL. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).

4. IT IS THE RESPONSIBILITY OF THE UTILITIES INSTALLER TO PROTECT FROM EROSION EXPOSED EARTH RESULTING FROM HIS OPERATIONS AND TO PROVIDE FOR CONTAINMENT OF SEDIMENT THAT MAY RESULT FROM HIS WORK. PRIOR TO BEGINNING WORK, ADEQUATE MEASURES MUST BE IN PLACE TO TRAP ANY SEDIMENT THAT MAY TRAVEL OFF-SITE IN THE EVENT OF RAIN. DURING THE PROGRESSION OF HIS WORK, EXPOSED EARTH AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE TO PREVENT EROSION. AT NO TIME SHALL EXPOSED EARTH RESULTING FROM HIS OPERATIONS HAVE UNPROTECTED ACCESS TO FLOWING OFF-SITE AND ENTERING WATERS OF THE STATE.

5. THE INSTALLATION OF BURIED UTILITIES (PIPES AND CABLES), TRENCHES SHALL BE BACKFILLED DAILY AS CONSTRUCTION PROCEEDS. BACKFILLED TRENCHES SHALL BE SEEDED AND MULCHED OR SODDED DAILY IF POSSIBLE BUT NO LATER THAN 7 DAYS AFTER TRENCHING. ANY TEMPORARY SPOIL PILE OF EXCAVATED EARTH SHALL BE LOCATED WITHIN THE TDOT ROW EROSION CONTROL MEASURES OR RECIEVE SEPARATE EROSION CONTROL MEASURES. IF TRENCHES ARE NOT BACKFILLED OVERNIGHT, APPROPRIATE EROSION CONTROL MEASURES WILL BE INSTALLED UNTIL SUCH TIME THE TRENCH IS BACKFILLED.

CASING PIPE NOTES:

1. ALL STEEL CASING PIPES SHALL BE ASTM A-252, GRADE 2 WITH A SPECIFIED MINIMUM YIELD STRENGTH (SMYS) OF 35,000 PSI. MINIMUM WALL THICKNESSES ARE AS INDICATED ON THE CASING PIPE PROFILES.

2. MAIN LINE FINISHED GRADE (F.G.) ELEVATIONS SHOWN ON THE CASING PIPE PROFILES WERE TAKEN FROM THE RESPECTIVE TDOT CROSS SECTIONS OR OBTAINED FROM THE TDOT MAIN LINE PROFILE.

3. EXISTING AND PROPOSED STORM PIPE INVERT ELEVATIONS SHOWN IN THE CASING PIPE PROFILES WERE INTERPOLATED FROM TDOT ROADWAY PLANS.

4. THE SEPARATION BETWEEN THE TOP OF THE STEEL CASING PIPES AND THE INVERT OF ANY CROSSING PROPOSED STORM PIPE SHALL BE 30 INCHES.

SEWER LINE GENERAL NOTES:

1. ALL PROPOSED GRAVITY SEWER LINES SHALL BE SDR 26 PVC. ALL FORCE MAIN LINES SHYALL BE CLASS 200 (SDR 21) PVC.

2. ALL MECHANICAL JOINT FITTINGS SHALL BE INSTALLED WITH RESTRAINING GLANDS, THRUST BLOCKING AND RODDING.

3. THE PROPOSED GRAVITY SEWER AND FORCE MAIN LINE ALIGNMENTS, CONNECTIONS AND APPURTENANCES (I.E. FITTINGS, MANHOLES, ETC.) ARE LOCATED BY MAIN LINE STATION AND OFFSET AS WELL AS LINE STATION.

4. MECHANICAL JOINT FITTINGS CALLED OUT ON THE PLAN ARE INTENDED TO ASSIST THE ENGINEER WITH HIS ESTIMATED QUANTITIES AND ARE A "BEST FIT" FOR THE RESPECTIVE INSTALLATION. ADDITIONAL FITTINGS MAY BE REQUIRED.

5. THE CONTRACTOR SHALL VERIFY INSTALLATION OF ALL EXISTING AND PROPOSED UNDERGROUND UTILITIES AND MAKE NECESSARY FIELD ADJUSTMENTS OF SEWER LINE LOCATIONS SO AS NOT TO CONFLICT WITH FIXED GRADE ITEMS SUCH AS STORM COMPONENTS.

6. ALL PROPOSED SEWER LINES CROSSING WET WEATHER CONVEYANCES SHALL BE ENCASED IN CONCRETE.

7. ALL FORCE MAINS INSTALLED IN CASING PIPES SHALL BE INSTALLED WITH SPACER / INSULATORS AND PULL-ON END SEALS. PVC SEWER MAINS SHALL BE INSTALLED WITH POLYETHYLENE SPACER / INSULATORS.

8. IT IS ASSUMED THAT ALL RELOCATED FORCE MAIN LINE SEGMENTS THAT RUN PARALLEL TO THE EXISTING WATER LINE WILL BE OFFSET VERTICALLY TO AVOID PROPOSED STORM PIPES AND WET WEATHER CONVEYANCES (WWC). HOWEVER, SHOULD THE CONTRACTOR ENCOUNTER AN INSTANCE WHERE THE RELOCATED WATER LINE REQUIRES A PARTIAL ROTATION TO THE HORIZONTAL, THE ROTATION SHALL BE TO THE SIDE CLOSEST TO THE WATER LINE DUE TO LACK OF EASEMENT WIDTH.

9. IN ALL CASES, THE RELOCATED SEWER LINES SHALL BE INSTALLED UNDER THE PROPOSED STORM PIPES. THE MINIMUM CLEAR SEPARATION BETWEEN PIPES AT THE CROSSING SHALL BE 30 INCHES.

10. ALL EXISTING SEWER LINE SEGMENTS BEING RELOCATED SHALL BE RETIRED IN-PLACE UNLESS REMOVED DURING EXCAVATION. GRAVITY SEWER LINES UNDER EXISTING AND PROPOSED ROADWAYS IN PUBLIC RIGHT-OF-WAY SHALL BE FILLED WITH FLOWABLE FILL FOR THEIR ENTIRE LENGTH AND MECHANICALLY CAPPED OR PLUGGED. SEWER LINES LOCATED OUSIDE OF PUBLIC RIGHT-OF-WAY THAT ARE NOT REMOVED DURING EXCAVATION SHALL BE CAPPED AND PLUGGED AND RETIRED IN-PLACE.

11. EXISTING FENCE AND POSTS DAMAGED OR DESTROYED DURING WATER LINE INSTALLATION SHALL BE REPLACED IN-KIND.

SPECIAL NOTE CONCERNING "BUY AMERICA":

ALL "IRON AND STEEL PRODUCTS AND THEIR COATINGS THAT ARE PERMANENTLY INCORPORATED INTO THIS PROJECT" SHALL MEET THE REQUIREMENTS OF "BUY AMERICA" (23 CFR; 635.410), NOT "BUY AMERICAN". COMPLIANCE CERTIFICATIONS SHALL BE REQUIRED DURING SHOP DRAWING REVIEW.

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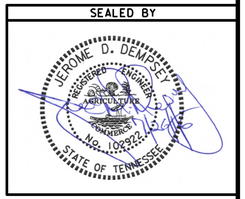

CITY OF SPRING HILL, TN
SEWER

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	
CONST.	2017	60LPLM-S3-022	U3-3

EXISTING UTILITY EASEMENTS-SIA BEECHCROFT (SR 247) TDOT PIN #121394.00

TRACT NO.	PROPERTY OWNER(S)	COUNTY RECORDS				TOTAL AREA (ACRES)	PROPOSED EASEMENT (S.F.)		EXISTING EASEMENT (S.F.)	
		TAX MAP NO.	PARCEL NO.	DEED REFERENCE						
				BOOK	PAGE		PERMANENT	CONSTRUCTION	TYPE	REFERENCE
12*	MARGARET C. MILLER, TRUSTEE	24	18.01	R1866	966		NONE	NONE	10' WATER LINE EASEMENT	BK 1121, PG. 836, ROMC, TN
13	INDUSTRIAL DEVELOPMENT BOARD OF MAURY COUNTY	24	18.03	R2299	1364		NONE	NONE	10' WATER LINE EASEMENT	BK 1121, PG. 836, ROMC, TN
14	INDUSTRIAL DEVELOPMENT BOARD OF MAURY COUNTY	24	18.02	R2299	1423		NONE	NONE	10' WATERLINE EASEMENT	BK 1121, PG. 836, ROMC, TN
16	HAROLD E. CRYE, TRUSTEE	25	14.00	R1762	277		3,128.19	2,273.12	20' PUBLIC UTILITY EASEMENT	TOWN CENTER PLAT BOOK 18, PAGE 277, ROMC, TN
18	HAROLD E. CRYE, TRUSTEE	24	24.00	R1762	277		2,395.22	1,937.25	20' PUBLIC UTILITY EASEMENT	TOWN CENTER PLAT BOOK 18, PAGE 277, ROMC, TN

* THE EXISTING 10' WATER LINE EASEMENT NOTED WAS ORIGINALLY ACQUIRED FROM PARCEL 18.00 PRIOR TO ITS SUBDIVISION INTO PARCELS 18.01, 18.02 AND 18.03. THE EASEMENT EXTENDS THE FULL WIDTH OF TRACTS 12, 13 AND 14.

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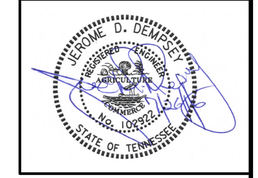


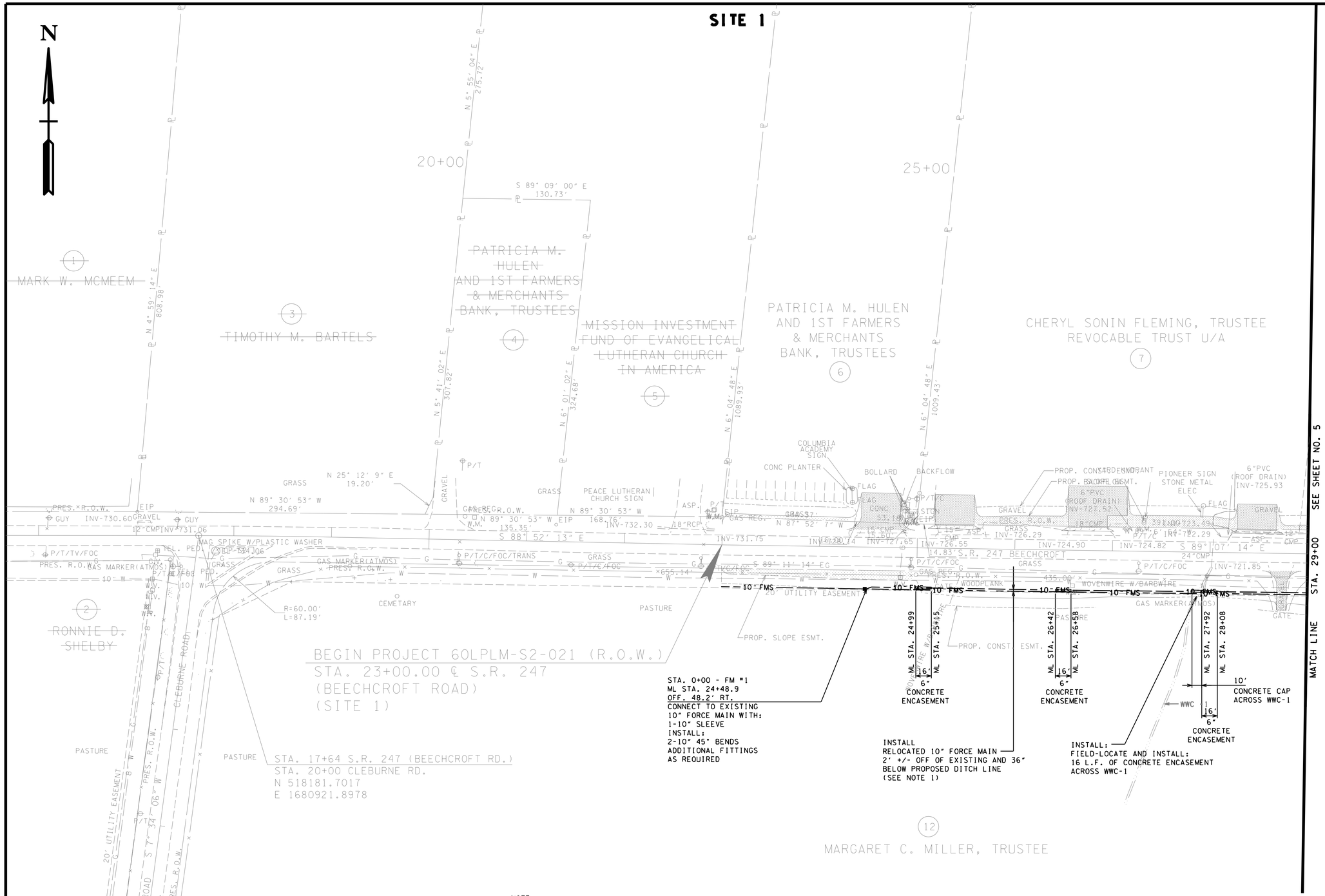
CITY OF SPRING HILL, TN
SEWER

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SPRING HILL
UTILITY
EASEMENTS

$$$$SYTIME$$$$$$$$
$$$$DGNSPEC$$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	4
CONST.	2017	60LPLM-S3-022	U3-4

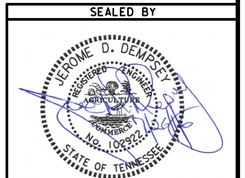


NOTE:

1. IT IS THE INTENT OF THE ENGINEER THAT THE RELOCATED FORCE MAIN IN ALL INSTANCES BE INSTALLED AS NEAR AS IS PRACTICAL TO THE EXISTING FORCE MAIN IN ORDER TO MAXIMIZE THE HORIZONTAL DISTANCE FROM THE EXISTING WATER LINE. THE 2'+/- DISTANCE IS ONLY AN APPROXIMATION.

CITY OF SPRING HILL, TN
SEWER

SEALED BY



COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00008 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

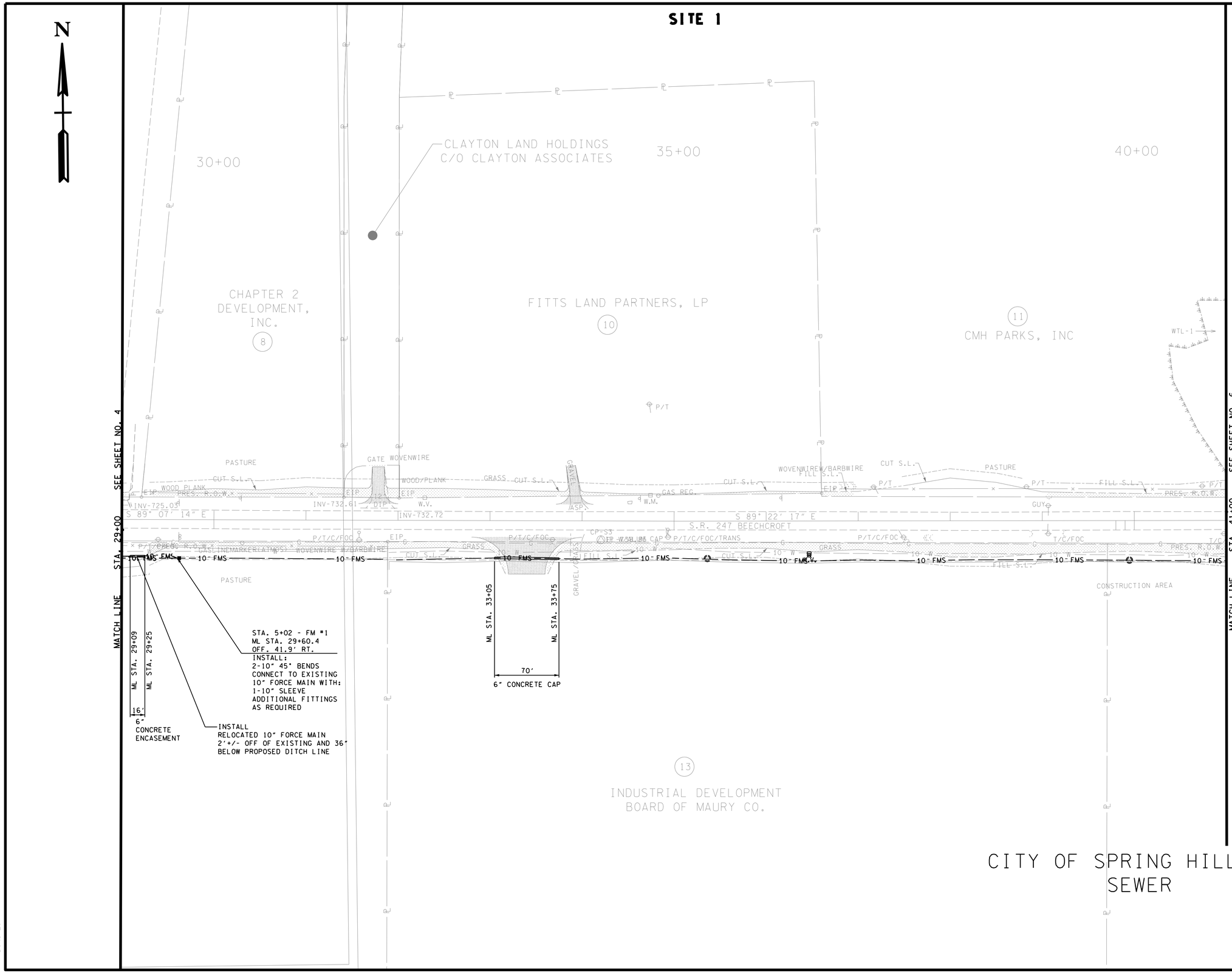
PRESENT LAYOUT

BEGIN TO STA.29+00
(SITE 1)

SCALE: 1"=50'

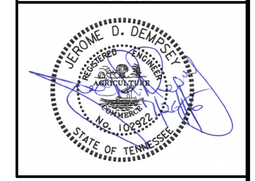
$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	5
CONST.	2017	60LPLM-S3-022	U3-5



CITY OF SPRING HILL, TN
SEWER

SEALED BY



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

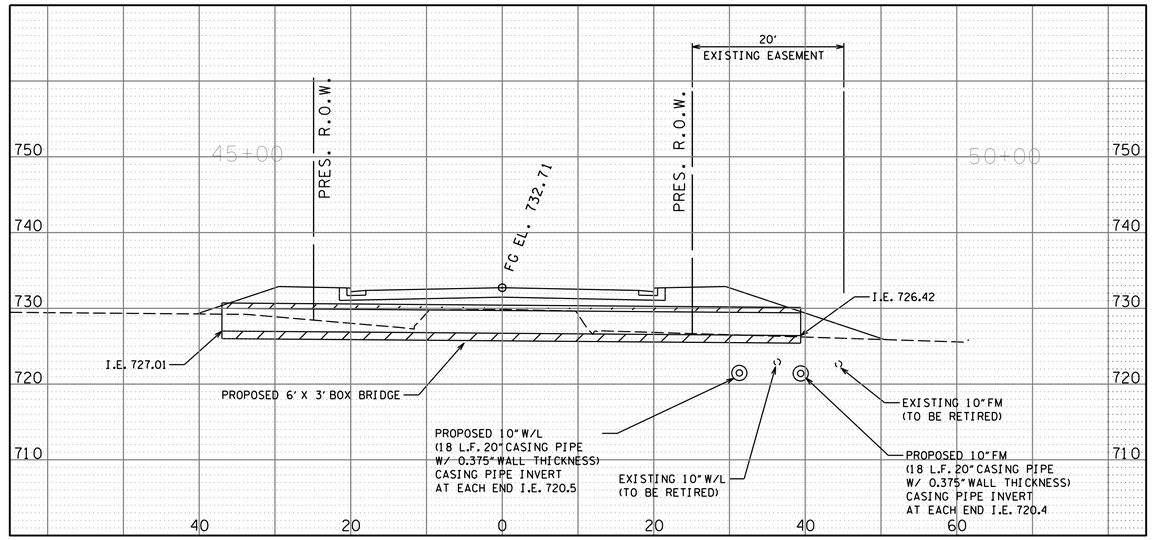
STA.29+00 TO STA.41+00
(SITE 1)

SCALE: 1"=50'

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

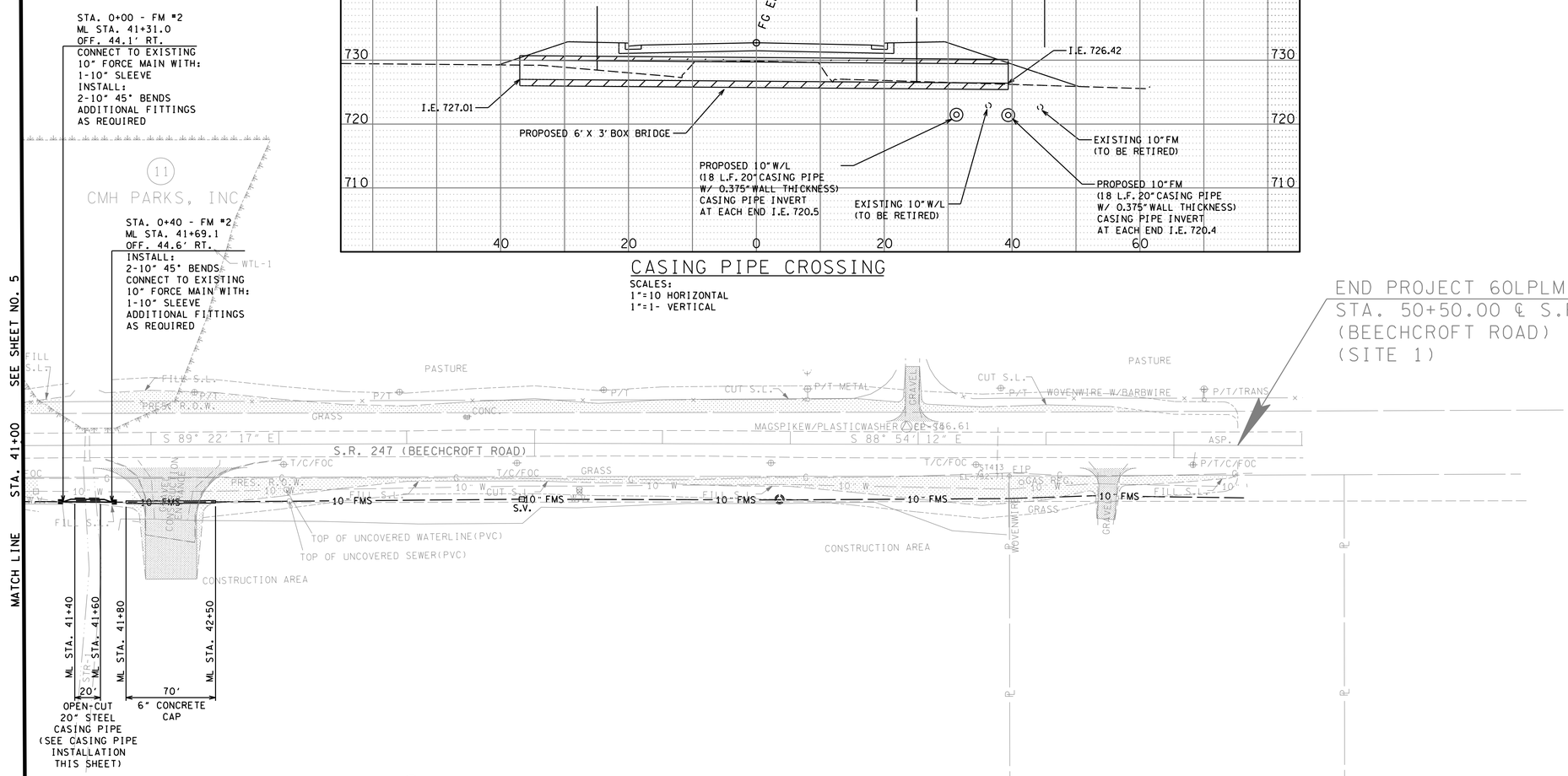
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	6
CONST.	2017	60LPLM-S3-022	U3-6

SITE 1



CASING PIPE CROSSING

SCALES:
1"=10 HORIZONTAL
1"=1- VERTICAL

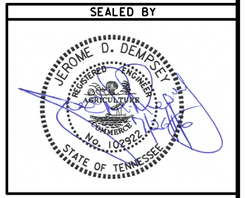


CASING PIPE NOTE:

PROPOSED 20" STEEL CASING PIPE TO BE INSTALLED 36" BELOW THE BOX BRIDGE FOUNDATION.

CITY OF SPRING HILL, TN
SEWER

SEALED BY



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA.41+00 TO END
(SITE 1)

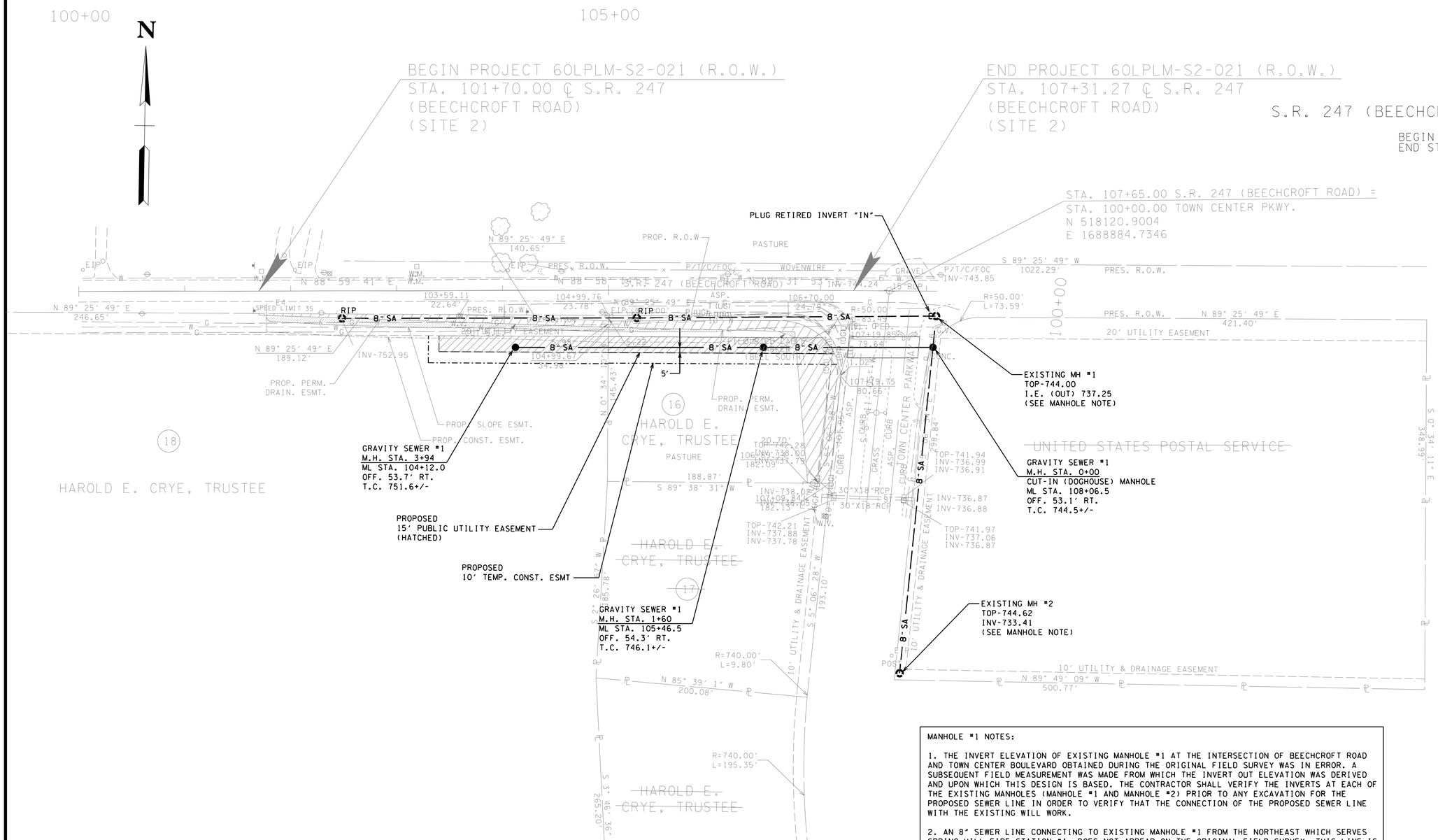
SCALE: 1"=50'

$$$$SYTIME$$$$$$$$
$$$$DGNSPEC$$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	7
CONST.	2017	60LPLM-S3-022	U3-7

REV. 03/14/16: REVISED TRACTS 17 & 18 AND LINED THROUGH UNAFFECTED TRACTS.

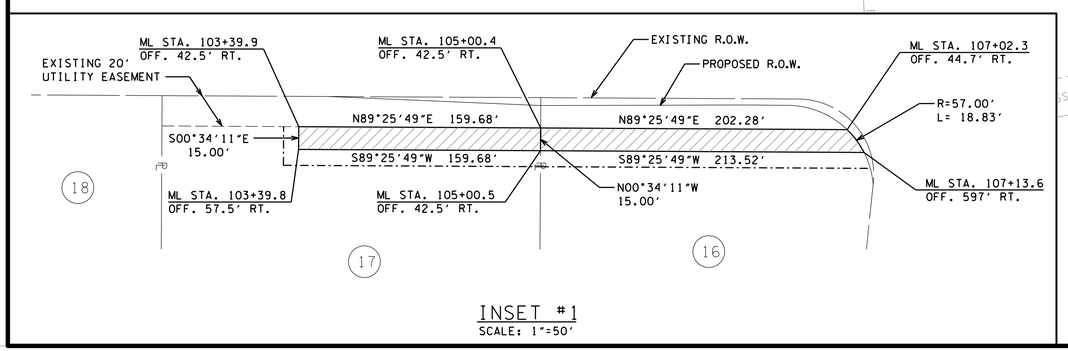
SITE 2



MANHOLE #1 NOTES:

1. THE INVERT ELEVATION OF EXISTING MANHOLE #1 AT THE INTERSECTION OF BEECHCROFT ROAD AND TOWN CENTER BOULEVARD OBTAINED DURING THE ORIGINAL FIELD SURVEY WAS IN ERROR. A SUBSEQUENT FIELD MEASUREMENT WAS MADE FROM WHICH THE INVERT OUT ELEVATION WAS DERIVED AND UPON WHICH THIS DESIGN IS BASED. THE CONTRACTOR SHALL VERIFY THE INVERTS AT EACH OF THE EXISTING MANHOLES (MANHOLE #1 AND MANHOLE #2) PRIOR TO ANY EXCAVATION FOR THE PROPOSED SEWER LINE IN ORDER TO VERIFY THAT THE CONNECTION OF THE PROPOSED SEWER LINE WITH THE EXISTING WILL WORK.

2. AN 8" SEWER LINE CONNECTING TO EXISTING MANHOLE #1 FROM THE NORTHEAST WHICH SERVES SPRING HILL FIRE STATION #1 DOES NOT APPEAR ON THE ORIGINAL FIELD SURVEY. THIS LINE IS "TO REMAIN" AND SHALL NOT BE AFFECTED BY PROPOSED CONSTRUCTION.



INSET #1
SCALE: 1"=50'

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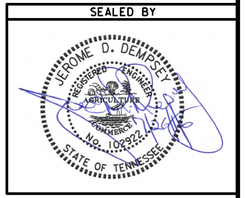

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CITY OF SPRING HILL, TN
SEWER

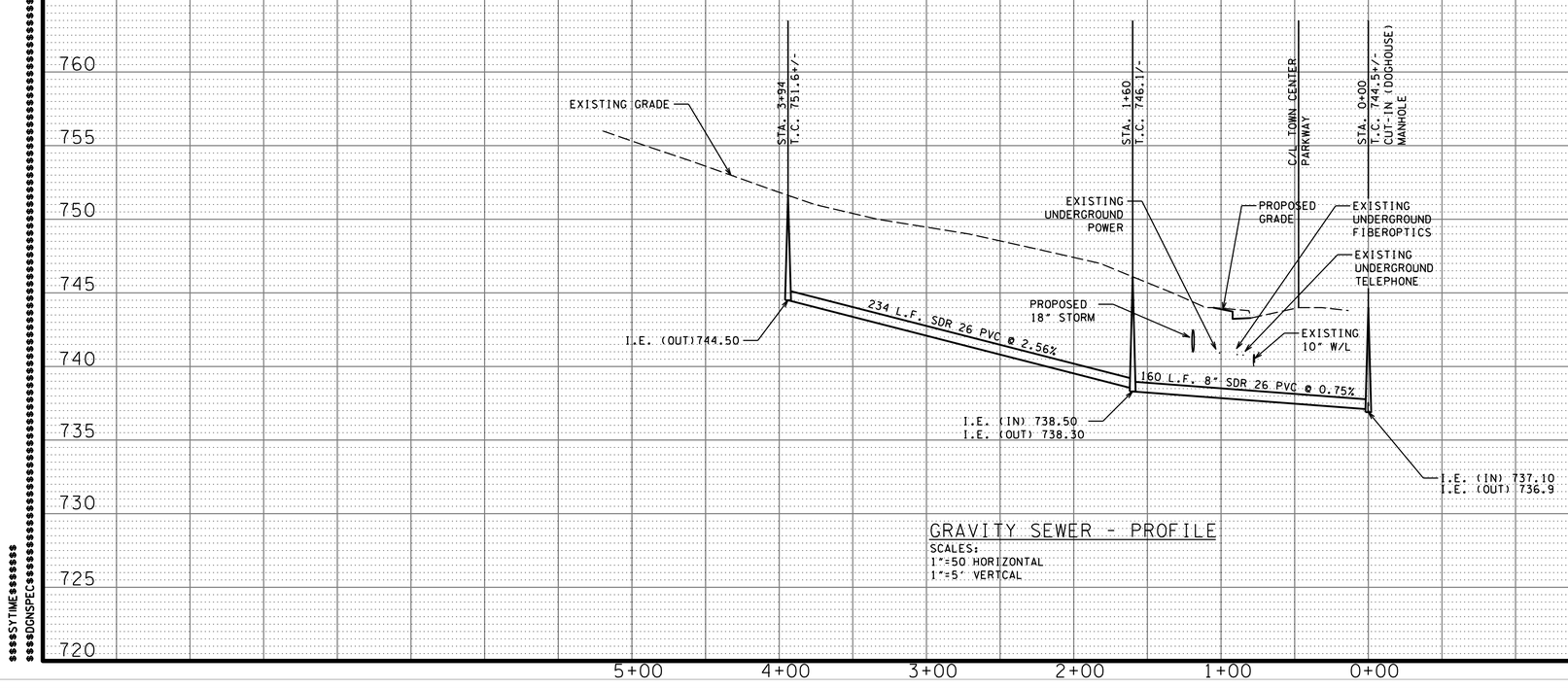
PRESENT LAYOUT

BEGIN TO END
(SITE 2)

SCALE: 1"=50'

$$$$SYTIME$$$$$$$$
$$$$DGNSPEC$$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	
CONST.	2017	60LPLM-S3-022	U3-7A



GRAVITY SEWER - PROFILE

SCALES:
1"=50 HORIZONTAL
1"=5' VERTICAL

CITY OF SPRING HILL, TN
SEWER

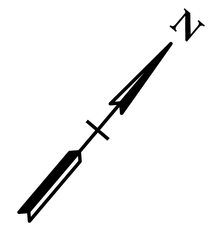
JEROME D. DEMPSEY
REGISTERED ENGINEER
AGRICULTURE
NUMBER
NO. 102872
STATE OF TENNESSEE

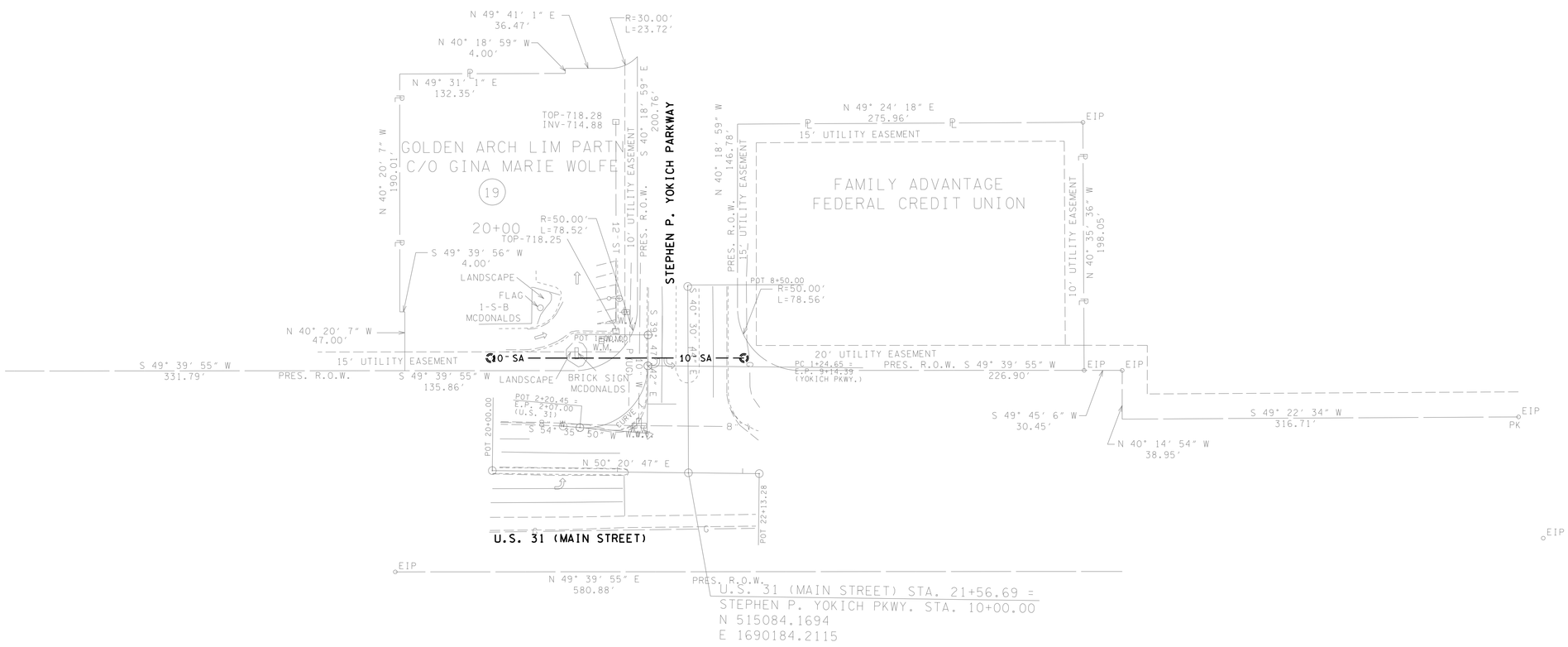
$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

SITE 3

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	8
CONST.	2017	60LPLM-S3-022	U3-8

REV. 03/14/16: LINED THROUGH UNAFFECTED TRACTS.





NO SEWER WORK THIS SHEET

CITY OF SPRING HILL, TN
SEWER

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00008 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

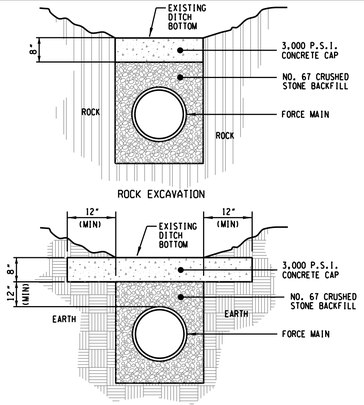
PRESENT LAYOUT

INT. OF U.S. 31 & STEPHEN P. YOKICH PKWY (SITE 3)

SCALE: 1"=50'

$$$$SYTIME$$$$$$$
$$$$DGNSPEC$$$$$$$

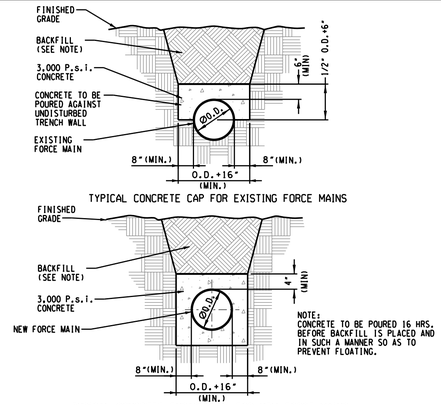
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	
CONST.	2017	60LPLM-S3-022	U3-9



CONCRETE CAP DETAIL

NO SCALE

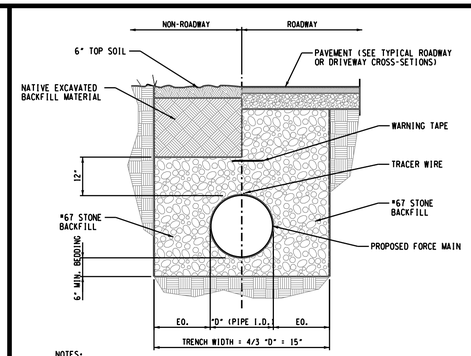
1



CONCRETE PROTECTION FOR FORCE MAINS

NO SCALE

2



NOTES:

1. TAPE 12-GAGE SHIELDED SOLID COPPER TRACER WIRE TO PVC PIPE FOR DETECTION PURPOSES.

2. METALLIC WARNING TAPE SHALL BE INSTALLED 12" BELOW SUBGRADE. TAPE SHALL READ "CAUTION BURIED SEWER LINE BELOW".

TRENCH AND BACKFILL DETAIL

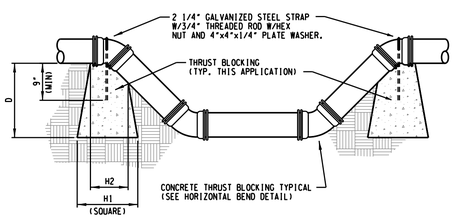
NO SCALE

3

NOT USED

NO SCALE

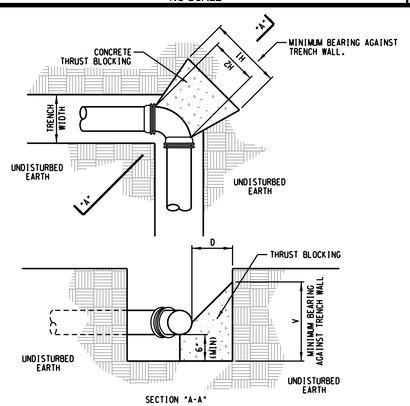
4



CONCRETE THRUST BLOCKING-VERTICAL BENDS (1 OF 4)

NO SCALE

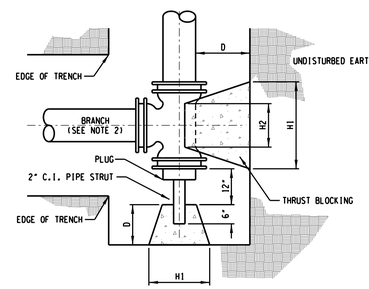
5



CONCRETE THRUST BLOCKING-HORIZONTAL BENDS (2 OF 4)

NO SCALE

6



CONCRETE THRUST BLOCKING-TEES, CROSSES & PLUGS (3 OF 4)

NO SCALE

7

TEES, CROSSES, AND PLUGS				90° BENDS				45° BENDS				22-1/2° BENDS				11-1/4° BENDS				PIPE SIZE
H1	H2	V	D	Cu.Ft	H1	H2	V	D	Cu.Ft	H1	H2	V	D	Cu.Ft	H1	H2	V	D	Cu.Ft	
18"	10"	12"	18"	1.90	18"	10"	12"	18"	1.90	18"	6"	12"	18"	1.50	18"	6"	12"	18"	1.50	2" - 26"
24"	12"	12"	18"	2.25	24"	12"	12"	18"	2.25	18"	8"	12"	18"	1.60	18"	8"	12"	18"	1.60	3" - 4"
24"	16"	18"	18"	3.50	30"	16"	18"	18"	4.05	24"	10"	16"	18"	3.20	24"	10"	16"	18"	3.20	6"
36"	18"	18"	24"	5.05	39"	18"	24"	18"	7.30	30"	12"	18"	18"	3.95	24"	12"	18"	18"	3.45	8"
48"	24"	18"	24"	7.15	54"	32"	24"	18"	10.25	36"	18"	21"	18"	4.60	24"	18"	21"	18"	4.60	10"
54"	30"	24"	24"	13.40	54"	32"	36"	24"	18.15	42"	18"	24"	24"	5.60	24"	18"	24"	24"	6.60	12"
60"	32"	30"	24"	17.90	60"	40"	42"	24"	25.00	44"	24"	30"	24"	13.20	30"	24"	24"	24"	9.20	14"
66"	34"	36"	24"	22.50	69"	48"	48"	24"	29.00	48"	30"	36"	24"	17.00	36"	30"	27"	24"	11.00	16"
66"	36"	40"	24"	27.50	69"	48"	48"	24"	33.00	48"	30"	36"	24"	17.00	36"	30"	29"	24"	13.00	18"
	38"		24"			48"		24"			40"		24"			36"		24"		20"
	42"		24"			60"		24"			48"		24"			42"		24"		24"
	58"		24"			96"		24"			72"		24"			72"		24"		36"

NOTES:

1. THRUST BLOCKING SHALL BE CLASS "A" CONCRETE AND SHALL BE INCIDENTAL TO THE INSTALLATION OF THE SEWER LINES. NO SEPARATE PAYMENT SHALL BE MADE.

2. THRUST BLOCKING DIMENSIONS ARE CONTROLLED BY DIAMETER OF BRANCH MAIN.

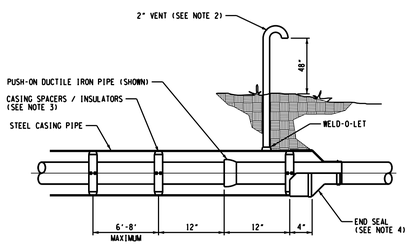
3. THRUST BLOCKING SHALL BE PLANT MIX CONCRETE. BAGGED CONCRETE MIX SHALL NOT BE ALLOWED.

4. ALL MECHANICAL JOINT FITTINGS SHALL BE INSTALLED WITH RESTRAINING GLANDS AND RODDING.

CONCRETE THRUST BLOCKING-NOTES (4 OF 4)

NO SCALE

8



SECTION VIEW

NOTES:

1. ALL STEEL CASING PIPE SHALL BE ASTM A252, GRADE 2 AND SHALL COMPLY WITH THE "BUY AMERICAN" PROVISION OF THE PROJECT SEPCIFICATIONS.

2. ALL CASING PIPES WITH A LENGTH LESS TAHN OE EQUAL TO 150' SHALL INCLUDE ONE VENT. THE VENT SHALL BE INSTALLED ON THE HIGH END OF THE CASING INSTALLATION. ALL CASING PIPES WITH A LENGTH GREATER 150' SHALL INCLUDE TWO VENTS. EACH VENT SHALL BE 2" DIA. SCHEDULE 40 STEEL WITH A STAINLESS STEEL SCREENED TURNDOWN. THE TURN DOWN SHALL BE NO LONER THAN 4' FROM THE GROUND LINE BELOW IT. THE VENT SHALL BE PRIMED AND PAINTED SAFETY YELLOW. INSTALL VENT(S) WITHIN 4 FEET OF CASING END AND CLEAR OF END SEALS.

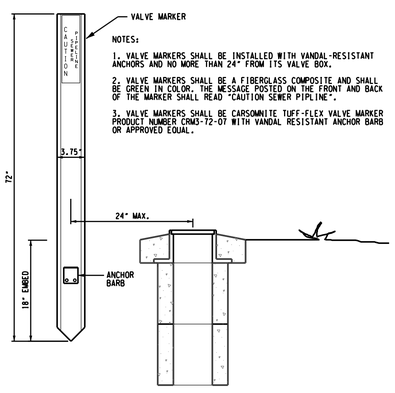
3. STAINLESS STEEL SPACERS / INSULATORS SHALL BE INSTALLED WITH DUCTILE IRON CARRIER PIPE. POLYETHYLENE SPACER / INSULATOR SHALL BE INSTALL WITH PVC CARRIERS PIPE. SPACER / INSULATORS SHALL BE ADVANCE PRODUCTS & SYSTEMS, INC.

4. PULL-ON END SEALS SHALL BE INSTALLED AT EACH END OF EACH STEEL CASING PIPE. END SEALS SHALL BE ADVANCE PRODUCTS & SYSTEMS MODEL AC OR APPROVED EQUAL.

CASING PIPE DETAIL

NO SCALE

9



NOTES:

1. VALVE MARKERS SHALL BE INSTALLED WITH VANDAL-RESISTANT ANCHORS AND NO MORE THAN 24" FROM ITS VALVE BOX.

2. VALVE MARKERS SHALL BE A FIBERGLASS COMPOSITE AND SHALL BE GREEN IN COLOR. THE MESSAGE POSTED ON THE FRONT AND BACK OF THE MARKER SHALL READ "CAUTION SEWER PIPLINE".

3. VALVE MARKERS SHALL BE CARSONITE TUFF-FLEX VALVE MARKER PRODUCT NUMBER CMM-72-OT WITH VANDAL RESISTANT ANCHOR BARB OR APPROVED EQUAL.

SEWER VALVE MARKER DETAIL

NO SCALE

10

NOT USED

NO SCALE

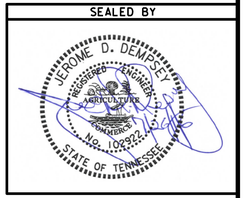
11

NOT USED

NO SCALE

12

SEALED BY



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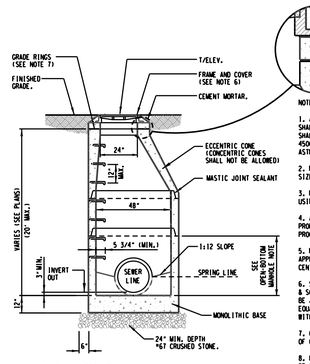
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CITY OF SPRING HILL, TN
SEWER

STANDARD DETAILS

$$$$SYTIME$$$$$$$$
$$$$DGNSPEC$$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2015	60LPLM-S2-021	
CONST.	2017	60LPLM-S3-022	U3-10



NOTES:

1. ALL PRECAST CONCRETE MANHOLE COMPONENTS SHALL BE CLOUD PRODUCTS OR APPROVED EQUAL AND SHALL CONFORM TO ASTM C-478. CONCRETE SHALL BE 4500 PSI @ 28 DAYS. REINFORCING STEEL SHALL BE ASTM A615. GRADE 60.

2. MANHOLE TO BE CONSTRUCTED OF SUFFICIENT SIZE TO ACCOMMODATE INLET AND OUTLET PIPES.

3. MANHOLE COMPONENTS SHALL BE ASSEMBLED USING BIDCO C-56R SEALANTS OR APPROVED EQUAL.

4. ALL PRECAST MANHOLE COMPONENTS SHALL BE PRODUCED WITH THE XYPEX ADMIN C-1000 WATER-PROOFING ADMIXTURE OR APPROVED EQUAL.

5. MANHOLE STEPS SHALL BE M.A. INDUSTRIES OR APPROVED EQUAL AND SHALL BE SPACED AT 12" CENTERS AND TO WITHIN 12" OF TOP OF THE CONE.

6. STANDARD FRAME & COVER TO BE JOHN BOUCHARD & SONS NO. 1150. WATERTIGHT FRAME & COVER TO BE JOHN BOUCHARD & SONS NO. 1123. OR APPROVED EQUALS. EACH MANHOLE COVER SHALL BE EMBOSSED WITH "SANITARY SEWER".

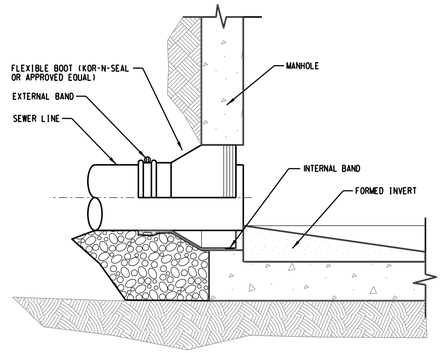
7. GRADE RINGS ARE REQUIRED TO ADJUST TOP OF CASTING ELEVATION.

8. FLEXIBLE PIPE-TO-MANHOLE CONNECTORS SHALL BE KOR-N-SEAL BOOT CONNECTORS OR APPROVED EQUAL.

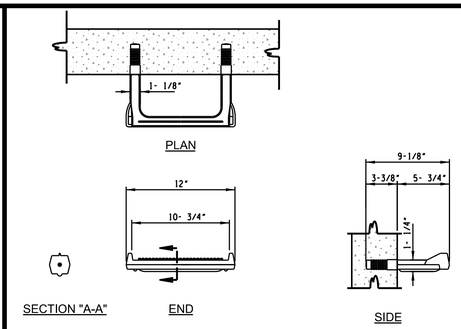
OPEN-BOTTOM MANHOLE NOTE:

OPEN-BOTTOM (DOGHOUSE) MANHOLES SHALL BE INSTALLED WITH CAST-IN-PLACE REINFORCED CONCRETE BASES. BASES SHALL BE REINFORCED AS PER CLOUD MM-080. INVERTS AND BENCHES SHALL BE FORMED AS SHOWN FOR STANDARD PRECAST MANHOLES.

48" STANDARD PRECAST MANHOLE DETAIL
NO SCALE
1



FLEXIBLE BOOT CONNECTION DETAIL
NO SCALE
2



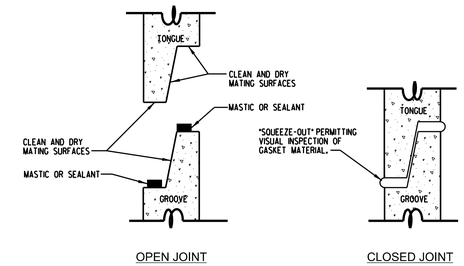
NOTES:

1. MANHOLE STEPS SHALL BE M.A. INDUSTRIES, INC. OR APPROVED EQUAL.

2. STEP SHALL BE STEEL REINFORCED AND SHALL BE ENCAPSULATED IN POLYPROPYLENE PLASTIC.

3. THE 1/2" DIAMETER STEEL REINFORCEMENT SHALL BE GRADE 60.

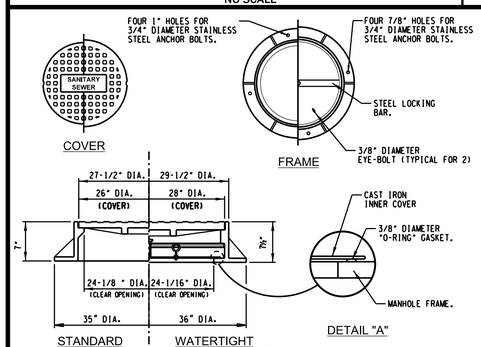
MANHOLE STEP DETAIL
NO SCALE
3



NOTE:

WHERE GASKET MATERIAL DOES NOT PROTRUDE FROM JOINTS, POINT UP WITH GROUT INSIDE AND OUT.

MANHOLE MASTIC / SEALANT INSTALLATION DETAIL
NO SCALE
4



NOTES:

1. STANDARD FRAME & COVER TO BE JOHN BOUCHARD & SONS NO. 1150. WATERTIGHT FRAME & COVER TO BE JOHN BOUCHARD & SONS NO. 1123. OR APPROVED EQUALS.

2. MANHOLE FRAMES AND COVERS SHALL BE H20 RATED.

MANHOLE FRAME & CASTING DETAIL
NO SCALE
5

NOT USED
NO SCALE
6

NOT USED
NO SCALE
7

NOT USED
NO SCALE
8

NOT USED
NO SCALE
9

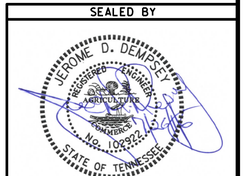
NOT USED
NO SCALE
10

NOT USED
NO SCALE
11

NOT USED
NO SCALE
12

CITY OF SPRING HILL, TN
SEWER

SEALED BY



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