

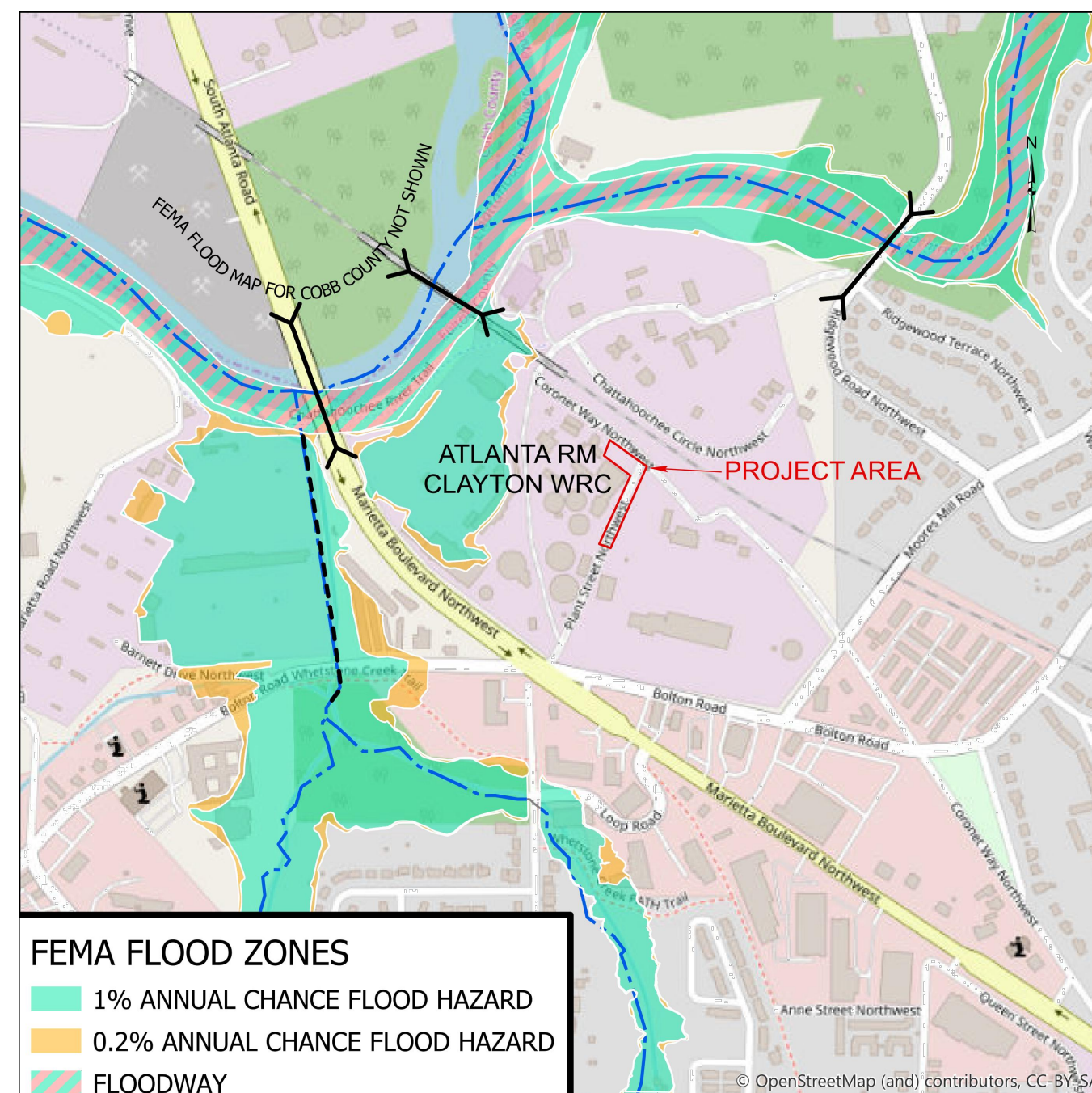
CITY OF ATLANTA

DEPARTMENT OF WATERSHED MANAGEMENT

OFFICE OF ENGINEERING SERVICES

CITY OF ATLANTA
KEISHA LANCE BOTTOMS
 MAYOR

DEPARTMENT OF WATERSHED MANAGEMENT
KISHIA L. POWELL, P.E.
 COMMISSIONER



VICINITY MAP

N.T.S.



DRAWING INDEX		
SHEET	DWG. NO.	DESCRIPTION
01	G-1	COVER SHEET
02	G-2	GENERAL NOTES
03	C-1	RM CLAYTON WM (STA. 0+00 TO 2+75)
04	C-2	RM CLAYTON WM (STA. 2+75 TO 4+87)
05	C-3	STANDARD DETAILS
06	C-4	STANDARD DETAILS
07	ES-1	EROSION CONTROL STANDARD DETAILS
08	ES-2	EROSION CONTROL STANDARD DETAILS

THIS PROJECT CONSISTS OF INSTALLING APPROXIMATELY 500 LF OF WATER MAIN AT RM CLAYTON WRC TO PROVIDE FIRE PROTECTION TO THE NEW BIO-SOLIDS FACILITY

ATLANTA RM CLAYTON WRC BIO-SOLIDS FIRE PROTECTION WATERMAIN



Know what's below.
 Call before you dig.

FILE: E:\ACTIVE PROJECTS\RM CLAYTON WATERLINE\RM CLAYTON WATERLINE.DWG SAVED BY: SAM PC SAVE DATE: 7/5/2019 1:57 PM

PLOT DATE: 7/5/2019 1:58 PM



SUBMITTED BY: RUDY CHEN <small>PROJECT MANAGER</small> DATE: 7/5/2019	LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY) DESIGNED BY: SB DRAWN BY: SB CHECKED BY: EA APPROVED BY:
APPROVED BY:	APPROVED BY:
DATE:	DATE:

PLAT CARDS		REVISIONS				
REV.	DATE	BY	CHK.	APP.	DESCRIPTION	
XXX						

**ATLANTA RM CLAYTON WRC BIO-SOLIDS
 FIRE PROTECTION WATERMAIN**

COVER SHEET

FILE NAME RM CLAYTON WATERLINE.DWG
BMMLLC PROJECT NUMBER XXX
CLIENT PROJECT NUMBER XXX
DRAWING NUMBER G-1
SHEET NUMBER SHEET 1 OF 8

GENERAL NOTES:

- THE MINIMUM COVER SHALL BE THREE (3) FEET UNLESS OTHERWISE SHOWN ON THE PLANS.
- WHERE REQUIRED TO CLEAR EXISTING UTILITIES, THE VERTICAL ALIGNMENT OF THE PROPOSED WATER MAIN SHALL BE ADJUSTED TO ALLOW A MINIMUM CLEARANCE OF 18-INCHES FOR GAS OR SEWER LINES AND 12-INCHES FOR OTHER UTILITIES. SUCH ADJUSTMENT SHALL CONFORM TO THE DEPTH OF COVER REQUIREMENTS AS STATED ABOVE. CONTRACTOR SHALL MAINTAIN A MINIMUM HORIZONTAL DISTANCE OF TEN (10) FEET FROM THE OUTSIDE EDGE OF THE WATERLINE TO THE OUTSIDE EDGE OF THE SANITARY SEWER UNLESS NOTED OTHERWISE ON THE PLANS. CONTRACTOR SHALL MAINTAIN A MINIMUM VERTICAL SEPARATION OF EIGHTEEN (18) INCHES BETWEEN THE TOP OF THE SEWER AND BOTTOM OF THE WATER MAIN.
- IF OBSTRUCTIONS SHOULD BE ENCOUNTERED THAT REQUIRE A DEVIATION FROM THE ORIGINAL PLANS, THE ENGINEER SHALL HAVE THE AUTHORITY TO ORDER SUCH DEVIATIONS AS REQUIRED.
- THE CONTRACTOR SHALL MAKE NECESSARY EXCAVATIONS TO DETERMINE THE LOCATION OF EXISTING UNDERGROUND STRUCTURES IN PREPARATION TO OPENING OF TRENCHES. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR DAMAGES CAUSED TO SUCH STRUCTURES.
- TEMPORARY SUPPORT AND ADEQUATE PROTECTION AND MAINTENANCE OF ALL UNDERGROUND AND SURFACE STRUCTURES, DRAINS, UTILITIES, SEWERS, CURBS AND OTHER OBSTRUCTIONS ENCOUNTERED IN THE PROGRESS OF THE WORK SHALL BE FURNISHED BY THE CONTRACTOR AT THEIR EXPENSE AND UNDER THE DIRECTION OF THE ENGINEER. THE STRUCTURES OR UTILITIES WHICH HAVE BEEN DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO EQUAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE.
- WHENEVER NECESSARY TO DEFLECT THE PIPE FROM A STRAIGHT LINE, EITHER IN THE HORIZONTAL OR VERTICAL PLANE TO AVOID OBSTRUCTIONS, OR TO PLUMB STEMS, OR WHERE LONG RADIUS CURVES ARE PERMITTED, THE AMOUNT SHALL NOT EXCEED THE MANUFACTURERS RECOMMENDATION WHICHEVER IS MORE STRINGENT.
- THE CONTRACTOR SHALL INSTALL THE NEW WATER MAIN TO WITHIN TEN (10) FEET OF THE PROPOSED TIE-IN LOCATIONS, OR TO THE LIMITS APPROVED BY THE DEPARTMENT, AND SHALL (WHERE REQUIRED) CONSTRUCT THE BACK HALF OF TYPE "A" THRUST BLOCKS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING SIZE AND PIPE TYPE IF EXISTING LINE TO BE CONNECTED. CONTRACTOR SHALL HAVE THE APPROPRIATE MATERIALS, COUPLINGS, ADAPTORS, ETC. TO COMPLETE TIE-IN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TYING INTO THE EXISTING WATER MAIN.
- ALL EXISTING WATER SERVICE CONNECTIONS TO BUILDINGS ARE NOT NECESSARILY SHOWN ON THE DRAWINGS, BUT ALL WORK OF RELOCATING AND CONSTRUCTING SAME SHALL BE PERFORMED BY THE CONTRACTOR AS FOLLOWS TO ENSURE CONTINUOUS SERVICE.
- CONTRACTOR MUST MAINTAIN CONTINUOUS SERVICE TO ALL EXISTING METERS AND FIRE SERVICES EXCEPT AS AUTHORIZED BY THE DEPARTMENT. ANY NECESSARY TEMPORARY SERVICE CONNECTION SHALL BE MADE BY THE CONTRACTOR. TEMPORARY SERVICE LINES SHALL BE INSTALLED WHERE NOTED ON THE PLANS.
- CONTRACTOR SHALL NOT OPERATE ANY VALVES, FIRE HYDRANTS, NOR MAKE ANY CONNECTIONS ON OR TO, EXISTING WATER MAINS FOR OTHER SYSTEM CONTROL DEVICES WHICH ARE AN OPERATIONAL PART OF THE ATLANTA WATER SYSTEM EXCEPT UNDER SUPERVISION OF CITY'S AUTHORIZED REPRESENTATIVE.
- CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE NEW WATER MAIN TO MINIMIZE CONFLICTS WITH NEW SEWER LATERALS. CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT EXISTING SEWER LATERALS AND SEWER MAINS. IF THE LATERAL OR SEWER MAIN IS DAMAGED DUE TO CONTRACTOR'S CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS AND DO ALL WORK NECESSARY TO REPAIR THE SEWER LATERAL OR MAIN AT THE CONTRACTOR'S EXPENSE.
- TRENCHES WITHIN RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED TO NOT LESS THAN 98% OF MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST (ASTM D698) OR AS PER GADOT REQUIREMENT.
- ALL WATERLINE PIPING SHALL BE CEMENT LINED DUCTILE IRON PIPE, PRESSURE CLASS 350 PSI.
- BEFORE APPLYING THE SPECIFIED TEST PRESSURE, ALL AIR SHALL BE EXPELLED FROM THE PIPE. IF FIRE HYDRANTS OR BLOW-OFFS ARE NOT AVAILABLE AT THE HIGH POINTS OF THE LINE, THEN THE CONTRACTOR SHALL MAKE THE NECESSARY TAPS AT POINTS OF HIGHEST ELEVATION BEFORE THE TEST IS MADE AND INSERT PLUGS AFTER THE TEST HAS BEEN COMPLETED, ALL AT THE CONTRACTOR'S EXPENSE.
- PRIOR TO DISINFECTION, ALL DIRT AND FOREIGN MATERIAL SHALL BE REMOVED BY A THOROUGH FLUSHING THROUGH THE HYDRANTS, BLOW-OFFS, OR BY OTHER MEANS. EACH VALVED SECTION OF NEWLY LAID PIPE SHALL BE FLUSHED INDEPENDENTLY. THIS SHALL BE DONE AFTER THE TRENCH HAS BEEN BACKFILLED.
- CONNECTIONS TO EXISTING WATERLINES SHALL NOT BE COMPLETED UNTIL THE PROPOSED WATER MAIN HAS BEEN PRESSURE TESTED AND BACTERIOLOGICAL CLEARED AND ACCEPTED BY THE BUREAU OF DRINKING WATER.
- CONTRACTOR TO NOTIFY DEPARTMENT OF WATERSHED MANAGEMENT PRIOR TO CONNECTIONS TO EXISTING WATER MAINS A MINIMUM OF 48 HOURS IN ADVANCE.

- PROPOSED FIRE HYDRANT AND VALVE LOCATIONS ARE APPROXIMATE, AND MAY BE ADJUSTED BY THE ENGINEER DURING CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN WATER SERVICE TO HOUSES/BUILDINGS DURING CONSTRUCTION. WHEN CONTRACTOR NEEDS TO DISCONNECT WATER CONNECTIONS IN ORDER TO COMPLETE THE WORK, THE OUTAGE SHALL BE LIMITED TO A MAXIMUM OF 6 HOURS. AFFECTED OCCUPANTS SHALL BE NOTIFIED OF THE PROPOSED OUTAGE A MINIMUM OF FORTY-EIGHT (48) HOURS IN ADVANCE. OUTAGES SHALL OCCUR BETWEEN THE HOURS OF 10 AM TO 4 PM OR AS APPROVED BY THE ENGINEER.
- NO METERS SHALL BE REPLACED AS PART OF THIS PROJECT. THE CONTRACTOR WILL PROVIDE NEW SERVICE LINE OF THE SIZE SPECIFIED FROM THE NEW MAIN TO THE EXISTING METER BOX AND MAKE THE FINAL CONNECTION.
- ALL ROADWAY IMPACTED BY TRENCHING OPERATIONS SHALL BE RESTORED TO EQUAL OR BETTER CONDITION.

DESIGN CRITERIA

- THE PROPOSED WATER MAIN ALIGNMENT HAS BEEN DESIGNED IN ACCORDANCE WITH RULES AND REGULATIONS GOVERNING DEVELOPMENT OF DESIGN AND INSTALLATION OF WATER MAINS, PROVIDED BY CITY OF ATLANTA.
- ALL EXISTING WATER MAINS ARE ASSUMED TO HAVE LESS THAN FOUR (4) FEET OF COVER. ESTIMATED DEPTHS OF COVER ARE DOCUMENTED IN THE SUBSURFACE UTILITY INFORMATION REPORT. ACTUAL DEPTHS OF COVER TO BE VERIFIED DURING CONSTRUCTION.
- ALL WATER MAINS WILL BE A MINIMUM OF 6 - INCHES IN DIAMETER.
- ALL NEW WATER MAINS SHALL BE POLYETHYLENE ENCASED DUCTILE IRON PUSH ON PIPE, EXCEPT WHERE RESTRAINED JOINTS ARE REQUIRED ON BOTH SIDES OF FITTINGS ACCORDING TO RESTRAINED JOINT TABLE BELOW. CLASS OF PIPE SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS.
- THE PROPOSED WATER MAIN IS ALIGNED ON CITY OF ATLANTA PROPERTY, SUCH THAT AT NO POINT DOES THE PROPOSED WATER MAIN CARY WITHIN TEN (10) FEET OF ANY SANITARY OR STORM SEWER WITH PARALLEL ALIGNMENT, MEASURED FROM PIPE EDGE TO PIPE EDGE, OR MAINTAINS A MINIMUM OF EIGHTEEN (18) INCHES OF VERTICAL SEPARATION FROM ANY SANITARY OR STORM SEWER WITH PARALLEL ALIGNMENT WHERE POSSIBLE.

PROJECT NOTES:

- PROJECT PURPOSE
THIS PROJECT CONSISTS OF INSTALLING APPROXIMATELY 500 LF OF 6" & 8" DIP WATER MAIN TO PROVIDE FIRE PROTECTION TO THE NEW BIO-SOLIDS FACILITY AT ATLANTA RM CLAYTON WATER RECLAMATION PLANT.
- OWNER / DEVELOPER
CITY OF ATLANTA
72 MARIETTA STREET
ATLANTA, GEORGIA 30303
(404)-546-0311 OFFICE
(770)-979-6787 FAX
- 24-HOUR CONTACT
CITY OF ATLANTA, DEPARTMENT OF WATERSHED MANAGEMENT
XXXXXX XXXXXX
(XXX)-XXX-XXXX OFFICE
(XXX)-XXX-XXXX CELL
- PROJECT ADDRESS / LOCATION
THIS PROJECT IS LOCATED AT THE ATLANTA RM CLAYTON WATER RECLAMATION PLANT.
2440 BOLTON RD NW, ATLANTA, GA 30318
- PROJECT FUNDING
SOURCE NAME: CITY OF ATLANTA DEPARTMENT OF WATERSHED MANAGEMENT
- SITE VISIT
THE PROPOSED ROUTE AND IMMEDIATE VICINITY WAS VISITED BY THE PLAN DESIGNER ON JUNE 12, 2019 PRIOR TO COMPLETING THE DESIGN AND EROSION CONTROL PLAN.
- TOTAL PROJECT AREA: 1750 S.F. (0.04 ACRES)
TOTAL DISTURBED AREA: 1750 S.F. (0.04 ACRES)
- 100-YEAR FLOOD PLAIN
THIS PROJECT DOES NOT APPEAR TO CROSS IDENTIFIED 100-YEAR FLOOD PLAIN HAZARD AREAS IN FULTON OR COBB COUNTY AS PER THE FOLLOWING LOCATIONS:
CITY OF ATLANTA F.I.R.M. COMMUNITY PANEL:
FIRM PANELS 13121C0229F DATED SEPTEMBER 18, 2013
- WETLANDS
BASED ON VISUAL RECONNAISSANCE ON JANUARY 18, 2019 WETLANDS DO NOT APPEAR TO EXIST ALONG THE PROJECT ROUTE.
- STATE WATERS
BASED ON VISUAL RECONNAISSANCE ON JANUARY 18, 2019, THE PROJECT ROUTE DOES NOT APPEAR TO CROSS STATE WATER.

FILE E:\ACTIVE PROJECTS\RM CLAYTON WATERLINE\RM CLAYTON WATERLINE.DWG SAVED BY: SAM-PC SAVE DATE: 7/6/2019 1:57 PM

PLOT DATE: 7/6/2019 1:59 PM

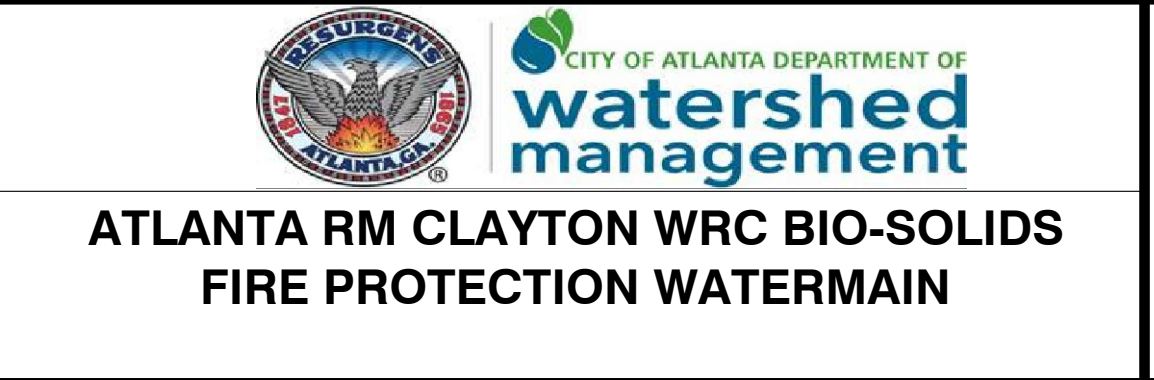


101 MARIETTA STREET - STE 2000
30302
TEL: (404) 581-9655
FAX: (404) 581-0158

SUBMITTED BY: RUDY CHEN <small>PROJECT MANAGER</small> DATE: 7/5/2019 APPROVED BY: DATE:	LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY) DESIGNED BY: SB DRAWN BY: SB CHECKED BY: EA APPROVED BY:
---	--

PLAT CARDS	
XXX	

REVISIONS						DESCRIPTION
REV.	DATE	BY	CHK.	APP.		

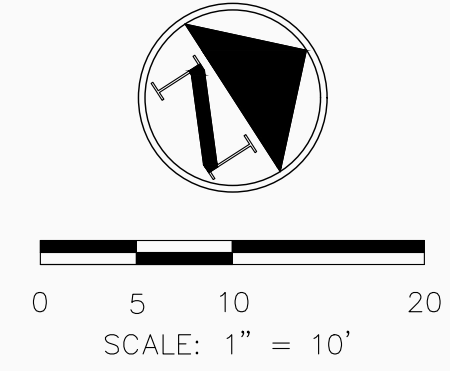
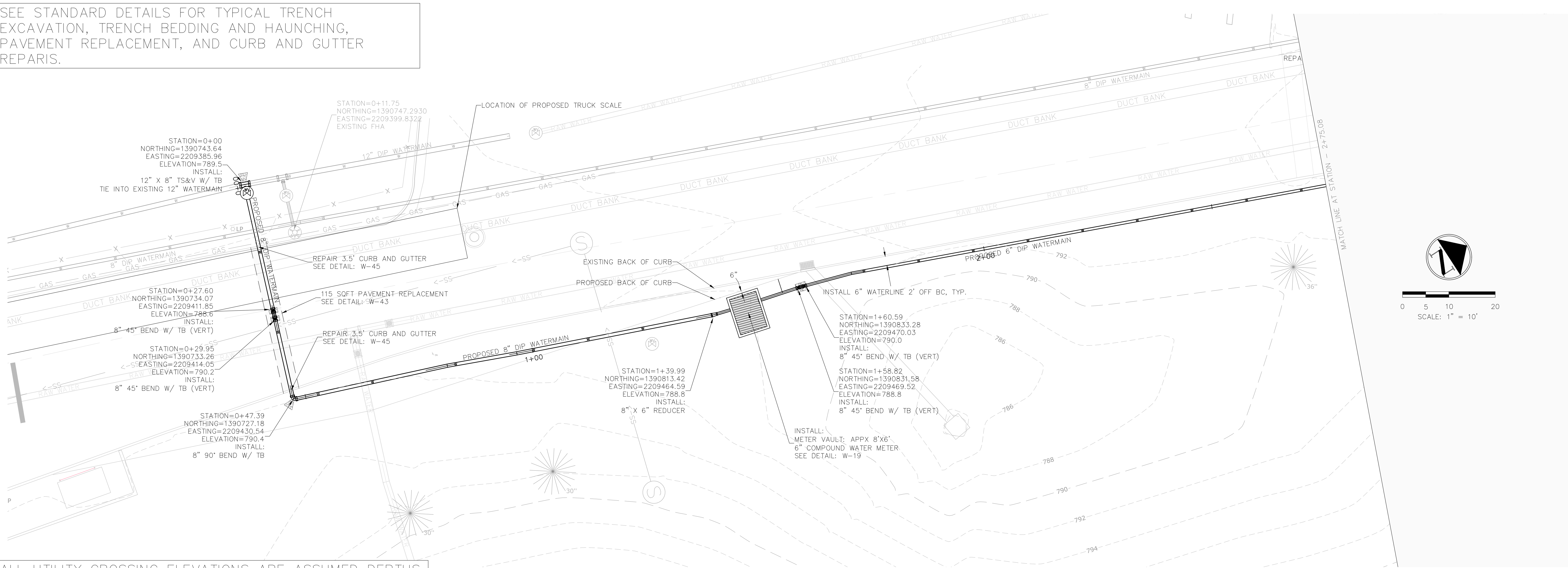


**ATLANTA RM CLAYTON WRC BIO-SOLIDS
FIRE PROTECTION WATERMAIN**

GENERAL NOTES

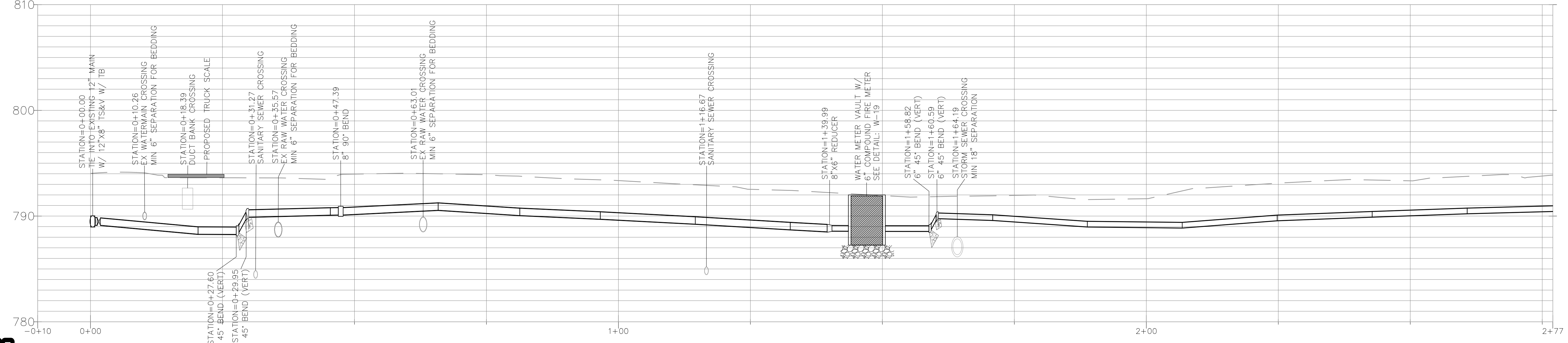
FILE NAME RM CLAYTON WATERLINE.DWG
BMLLC PROJECT NUMBER XXX
CLIENT PROJECT NUMBER XXX
DRAWING NUMBER G-2
SHEET NUMBER SHEET 2 OF 8

SEE STANDARD DETAILS FOR TYPICAL TRENCH EXCAVATION, TRENCH BEDDING AND HAUNCHING, PAVEMENT REPLACEMENT, AND CURB AND GUTTER REPAIRS.



ALL UTILITY CROSSING ELEVATIONS ARE ASSUMED DEPTHS. CONTRACTOR MUST FIELD VERIFY ALL UTILITY CROSSINGS PRIOR TO INSTALLING NEW WATERMAIN.

PROPOSED WATER PROFILE



HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'



Know what's below.
Call before you dig.

BENCH MARK
MANAGEMENT
401 MARIETTA STREET - STE 2000
30302
TEL: (404) 581-9655
FAX: (404) 581-0158

PROJECT MANAGER

DATE: 7/5/2019

APPROVED BY:

DATE:

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

DESIGNED BY: SB

DRAWN BY: SB

CHECKED BY: EA

APPROVED BY:

PLAT CARDS

XXX					
-----	--	--	--	--	--

REVISIONS

REV.	DATE	BY	CHK.	APP.	DESCRIPTION

ATLANTA RM CLAYTON WRC BIO-SOLIDS
FIRE PROTECTION WATERMAIN

RM CLAYTON WATERMAIN

C-1

SHEET NUMBER
SHEET 3 OF 6

FILE NAME: RM CLAYTON WATERLINE.DWG

BMLLC PROJECT NUMBER: XXX

CLIENT PROJECT NUMBER: XXX

DRAWING NUMBER: C-1

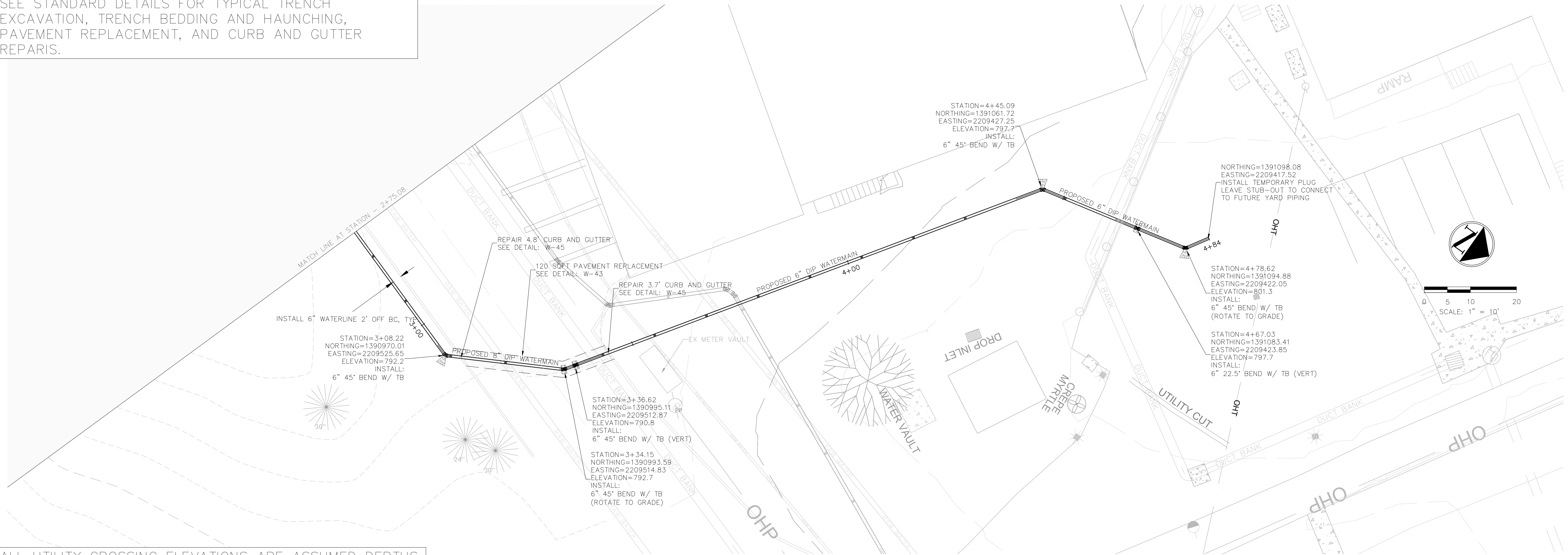
SHEET NUMBER: C-1

SHEET 3 OF 6

FILE: E:\ACTIVE PROJECTS\RM CLAYTON WATERLINE\RM CLAYTON WATERLINE.DWG SAVED BY: SAM-PC SAVE DATE: 7/6/2019 1:57 PM

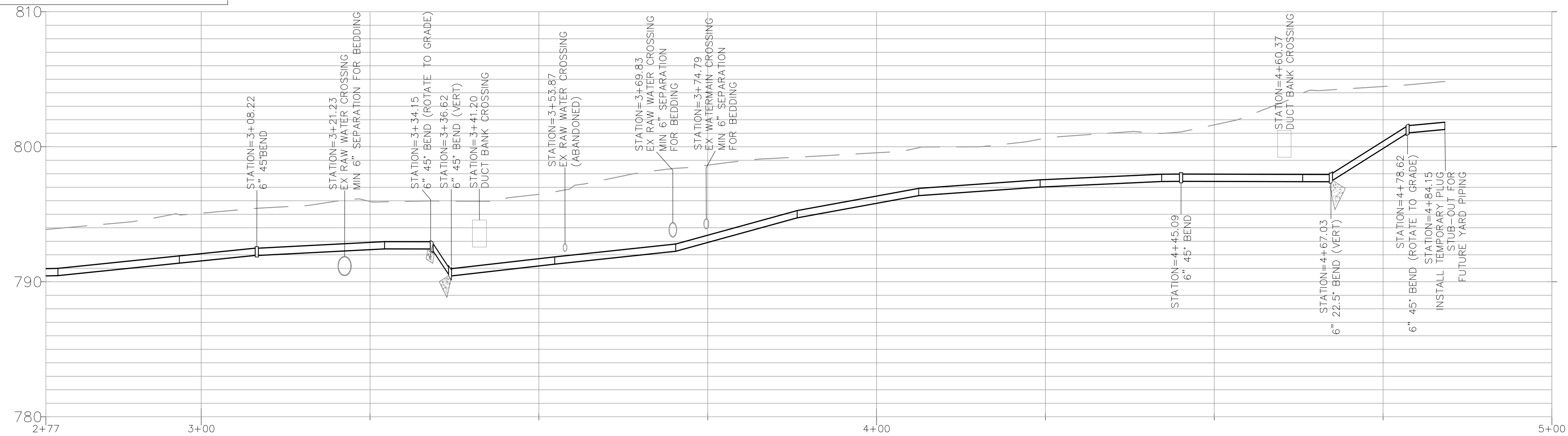
PLOT DATE: 7/6/2019 1:59 PM

SEE STANDARD DETAILS FOR TYPICAL TRENCH EXCAVATION, TRENCH BEDDING AND HAUNCHING, PAVEMENT REPLACEMENT, AND CURB AND GUTTER REPAIRS.



ALL UTILITY CROSSING ELEVATIONS ARE ASSUMED DEPTHS. CONTRACTOR MUST FIELD VERIFY ALL UTILITY CROSSINGS PRIOR TO INSTALLING NEW WATERMAIN.

PROPOSED WATER PROFILE



HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'



Know what's below.
Call before you dig.

FILE: E:\ACTIVE PROJECTS\RM CLAYTON WATERLINE\RM CLAYTON WATERLINE.DWG SAVED BY: SAM-PC SAVE DATE: 7/6/2019 1:57 PM



SUBMITTED BY:
RUDY CHEN
PROJECT MANAGER
DATE: 7/5/2019
DESIGNED BY: SB
DRAWN BY: SB
CHECKED BY: EA
APPROVED BY:
DATE:

LINE IS 2 INCHES
AT FULL SIZE
(IF NOT 2" - SCALE ACCORDINGLY)
DESIGNED BY: SB
DRAWN BY: SB
CHECKED BY: EA
APPROVED BY:

PLAT CARDS	
XXX	

REVISIONS					
REV.	DATE	BY	CHK.	APP.	DESCRIPTION



ATLANTA RM CLAYTON WRC BIO-SOLIDS
FIRE PROTECTION WATERMAIN

RM CLAYTON WATERMAIN

FILE NAME
RM CLAYTON WATERLINE.DWG
BIMLLC PROJECT NUMBER
XXX
CLIENT PROJECT NUMBER
XXX
DRAWING NUMBER
C-2
SHEET NUMBER
SHEET 4 OF 6

STANDARD DETAILS
TYPICAL WATER MAIN TERMINATION

DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-4

MAIN DIA.	CONCRETE COLLAR DIM.				REINFORCING STEEL
	A	B	C	D	
6" OR 8"	1'-0"	4'-6"	4'-6"	1'-0"	#9 @ 12" O.C. E.W.E.F.
12"	1'-2"	5'-4"	5'-2"	1'-2"	#9 @ 12" O.C. E.W.E.F.
16"	1'-3"	5'-10"	5'-7"	1'-3"	#9 @ 12" O.C. E.W.E.F.
20"	1'-6"	6'-8"	6'-2"	1'-6"	#9 @ 12" O.C. E.W.E.F.

STANDARD DETAILS
TYPICAL BURIED GATE VALVE BOX & CONCRETE PAD

DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-7

STANDARD DETAILS
WATER VALVE MARKER

DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-8

STANDARD DETAILS
MAXIMUM PERMISSIBLE JOINT DEFLECTIONS

DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-14

SIZE (NOM)	MAXIMUM PERMISSIBLE DEFLECTIONS			
	PUSH-ON JOINT (18 FT. JOINTS) (20 FT. JOINTS)		MECHANICAL JOINT (18 FT. JOINTS) (20 FT. JOINTS)	
	DEGREE	MAX. OFFSET	DEGREE	MAX. OFFSET
3"			4.5	17"
4"	4.0	15"	4.5	17"
6"	4.0	15"	4.5	17"
8"	4.0	15"	4.5	17"
10"	4.0	15"	4.5	17"
12"	4.0	15"	4.5	17"
14"	2.5	9.4"	3.0	11"
16"	2.0	7.5"	2.0	7.5"
20"	2.0	7.5"	2.0	7.5"
24"	2.0	7.5"	2.0	7.5"
30"	1.5	5.5"	2.0	7.5"
36"	1.5	5.5"	2.0	7.5"
42"	1.5	5.5"	1.5	5.5"
48"	1.5	5.5"	1.5	5.5"

STANDARD DETAILS
TYPICAL F.M. METER INSTALLATION

DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-19

ITEM	DESCRIPTION
1.	20" 3" D.I.P. (SHORT SIDE)
2.	1 50" 3" D.I.P. (LONG SIDE)
3.	2 GATE VALVES (SIZE OF MAIN) T.S.&V. (OR CUT-N-WALVE)
4.	2 TEES (SIZE OF METER)
5.	2 90° BEND (SIZE OF METER)
6.	1 STRAINER (SIZE OF METER)
7.	1 METER (SIZE OF METER)
8.	1 TEST PORT (SIZE OF METER)
9.	4 NIPPLES (SIZE OF METER)
10.	2 METERS COUPLINGS (SIZE OF METER)
11.	16 RING BOLTS & GASKET (SIZE OF METER)
12.	16 MEGALOCKS (SIZE OF METER)

STANDARD DETAILS
TYPICAL DOWNWARD THRUST BLOCK

DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-34

BEND SIZE	MINIMUM DIMENSIONS IN FEET FOR CONCRETE BLOCKING				VOLUME CUBIC YD.
	A	B	C	D	
6"	1.0	1.0	7"	1.0	0.03
8"	1.0	1.25	7"	1.0	0.04
12"	1.0	2.0	11"	2.0	0.1
16"	2.0	3.0	15"	2.0	0.3
20"	2.0	3.0	19"	3.0	0.5
24"	3.0	4.0	22"	3.0	0.8
6"	1.0	1.5	7"	1.0	0.04
8"	1.0	2.0	7"	2.0	0.1
12"	2.0	3.0	11"	2.0	0.3
16"	2.0	4.0	15"	3.0	0.6
20"	3.0	5.0	19"	3.0	1.0
24"	4.0	6.0	22"	4.0	2.3
6"	1.5	2.0	7"	1.5	0.11
8"	2.0	3.0	7"	2.0	0.3
12"	2.0	4.0	11"	3.0	0.7
16"	3.0	5.0	15"	4.0	1.4
20"	4.0	6.0	19"	5.0	2.8
24"	5.0	8.0	22"	6.0	5.0
6"	1.75	2.5	7"	2.0	0.2
8"	2.0	3.0	7"	3.0	0.4
12"	4.0	6.0	11"	4.0	2.1
16"	4.0	7.0	15"	5.0	3.1
20"	5.0	8.0	19"	7.0	5.3
24"	6.0	10.0	22"	8.0	10.5
6"	1.5	2.0	7"	1.75	0.13
8"	2.0	3.0	7"	2.0	0.3
12"	2.0	4.0	11"	4.0	0.5
16"	3.0	5.0	15"	5.0	1.5
20"	4.0	7.0	19"	6.0	3.9
24"	5.0	8.0	22"	7.0	5.5

STANDARD DETAILS
TYPICAL UPWARD THRUST BLOCK

DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-34A

STANDARD DETAILS
TYPICAL HORIZONTAL THRUST BLOCK

DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-35

STANDARD DETAILS
TYPICAL BLOCKING

DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-36A

NOM. PIPE DIA.	BELL DEPTH	BOLTS				JOINTS ACCESSORY WEIGHT-Lbs.
		DIAMETER	LENGTH	NUMBER PER JOINT	REC.TORQUE FT.-Lbs.	
4	2"	3/4"	3"	4	75-90	10
6	2"	3/4"	3"	6	75-90	16
8	2"	3/4"	4"	6	75-90	25
10	2"	3/4"	4"	8	75-90	30
12	2"	3/4"	4"	8	75-90	40
14	3 1/2"	3/4"	4"	10	75-90	45
16	3 1/2"	3/4"	4"	12	75-90	55
18	3 1/2"	3/4"	4"	12	75-90	65
20	3 1/2"	3/4"	4"	14	75-90	85
24	3 1/2"	3/4"	5"	16	75-90	105
30	4"	1"	6"	20	100-120	220
36	4"	1"	6"	24	100-120	285
42	4"	1 1/4"	6"	28	120-150	400
48	4"	1 1/4"	6"	32	120-150	475

STANDARD DETAILS
MECHANICAL JOINT BOLT USAGE CHART

DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-39

NOTES:
1. THIS IS A GENERAL DRAWING AND CONTAINS STANDARD CITY OF ATLANTA WATER DISTRIBUTION SYSTEM DETAILS.
2. SOME OF THE DETAILS SHOWN ON THIS DRAWING MAY NOT BE REQUIRED TO COMPLETE THE WORK UNDER THIS CONTRACT.

FILE: E:\ACTIVE PROJECTS\RM CLAYTON WATERLINE.DWG DATE: 7/6/2019 1:57 PM



SUBMITTED BY: RUDY CHEN
DATE: 7/5/2019
APPROVED BY: [Signature]
DATE: [Blank]

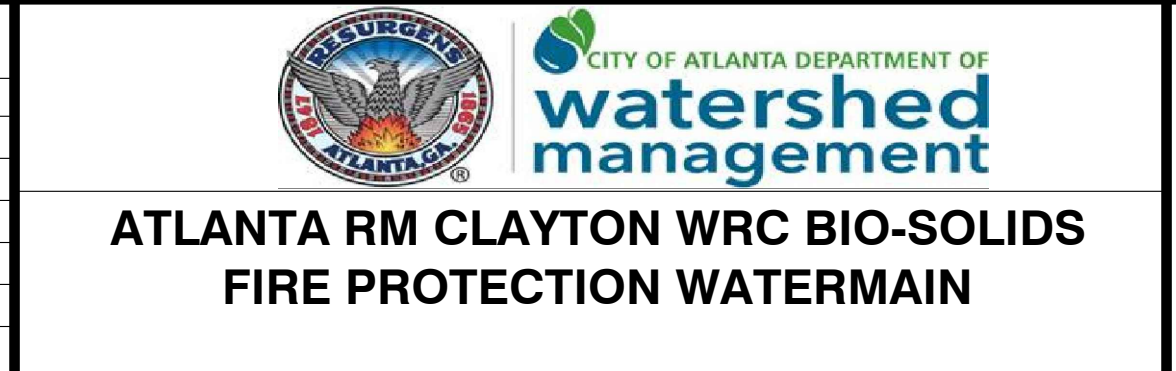
LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)
DESIGNED BY: SB
DRAWN BY: SB
CHECKED BY: EA
APPROVED BY: [Signature]

PLAT CARDS

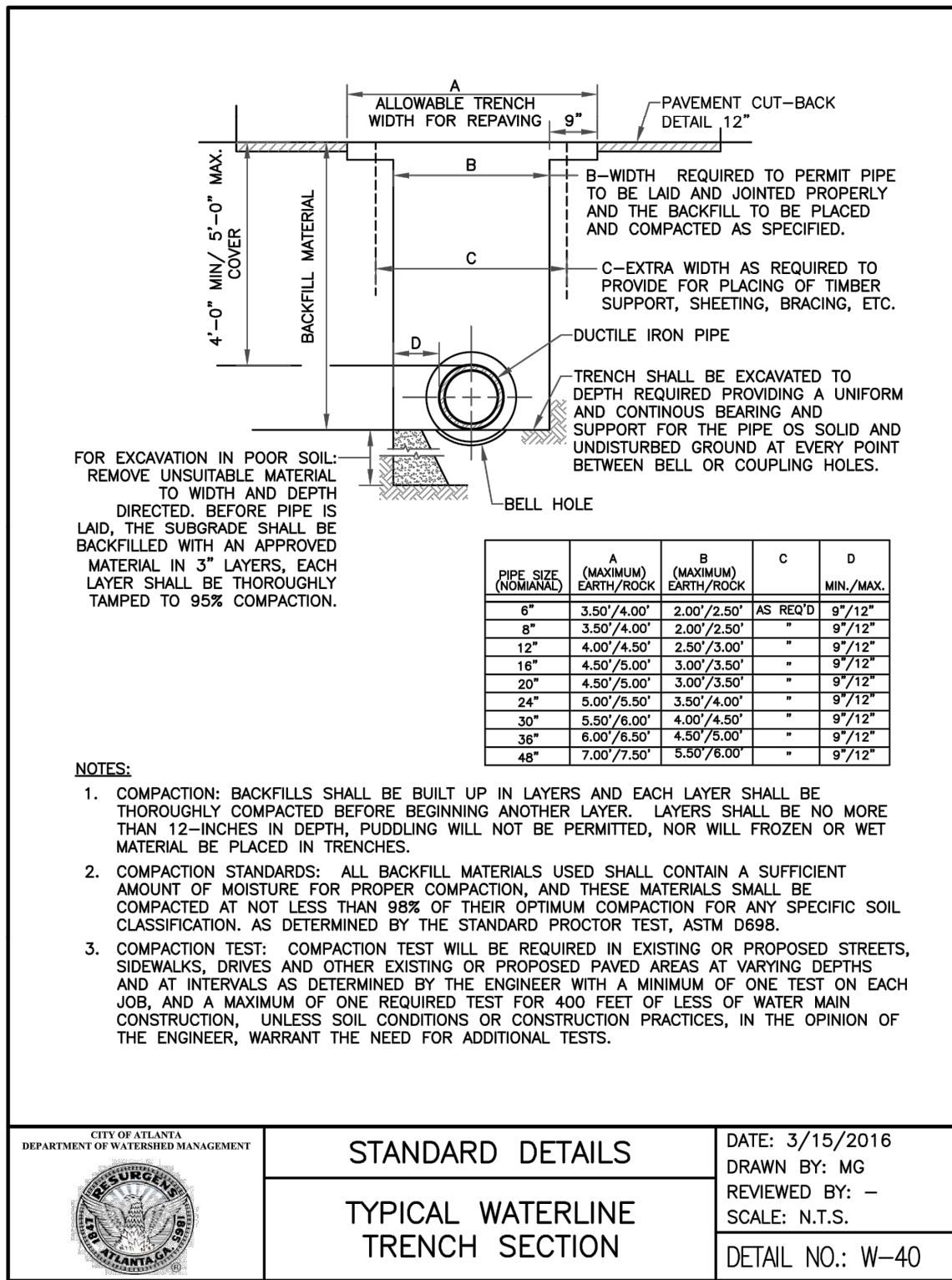
XXX	REV.	DATE	BY	CHK.	APP.

REVISIONS

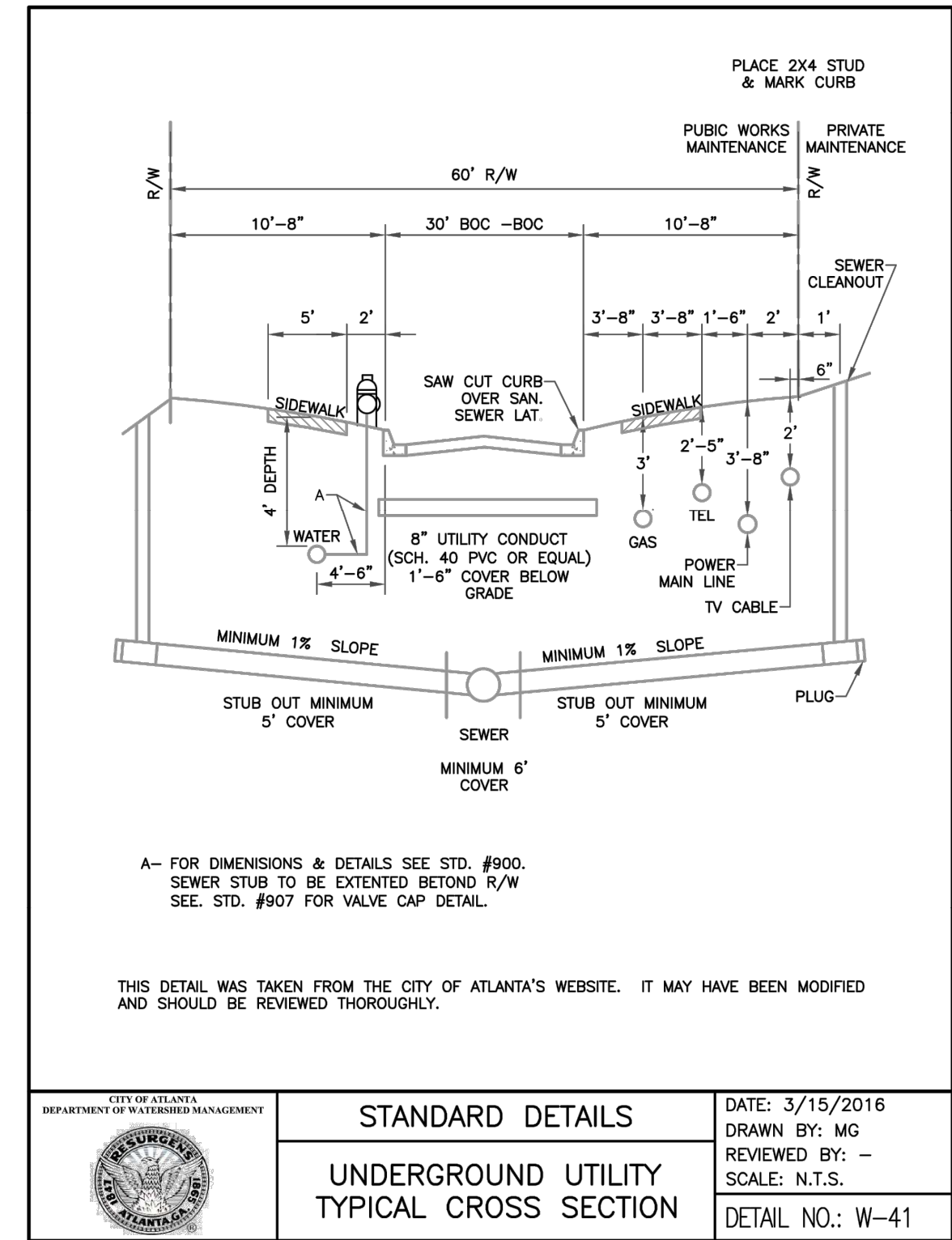
NO.	DESCRIPTION



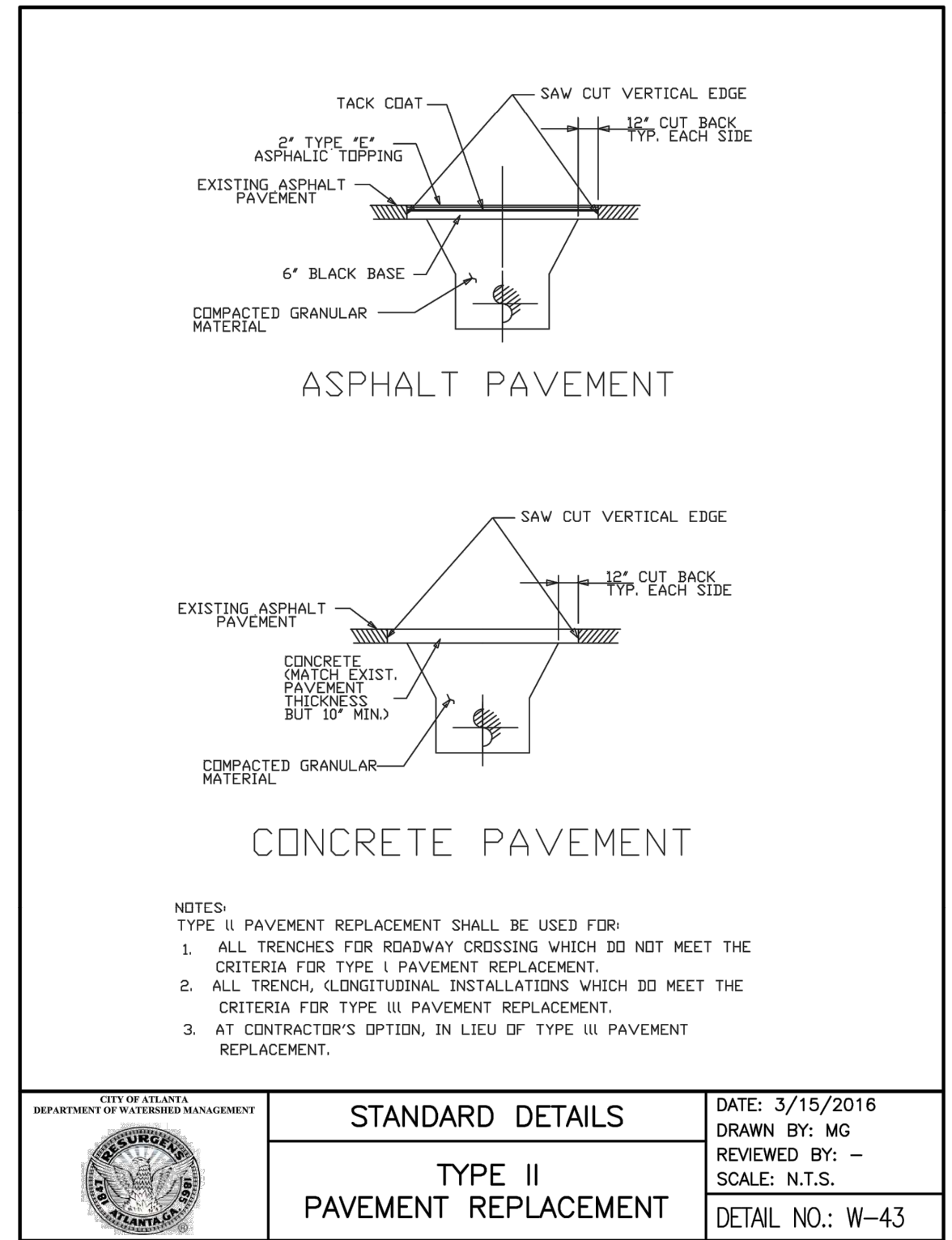
FILE NAME: RM CLAYTON WATERLINE.DWG
BMLLC PROJECT NUMBER: XXX
CLIENT PROJECT NUMBER: XXX
DRAWING NUMBER: C-3
SHEET NUMBER: 8
SHEET 5 OF 8



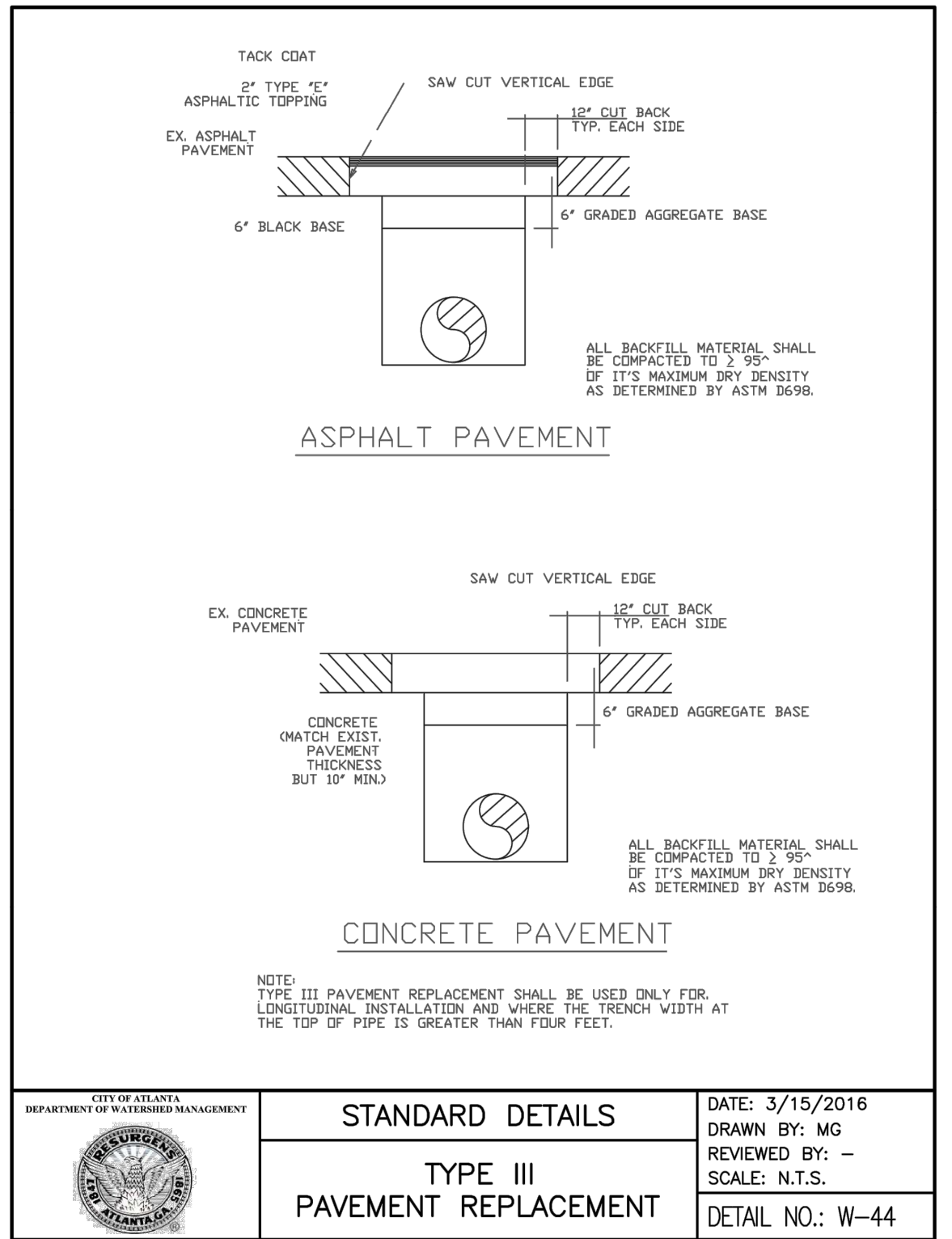
DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-40



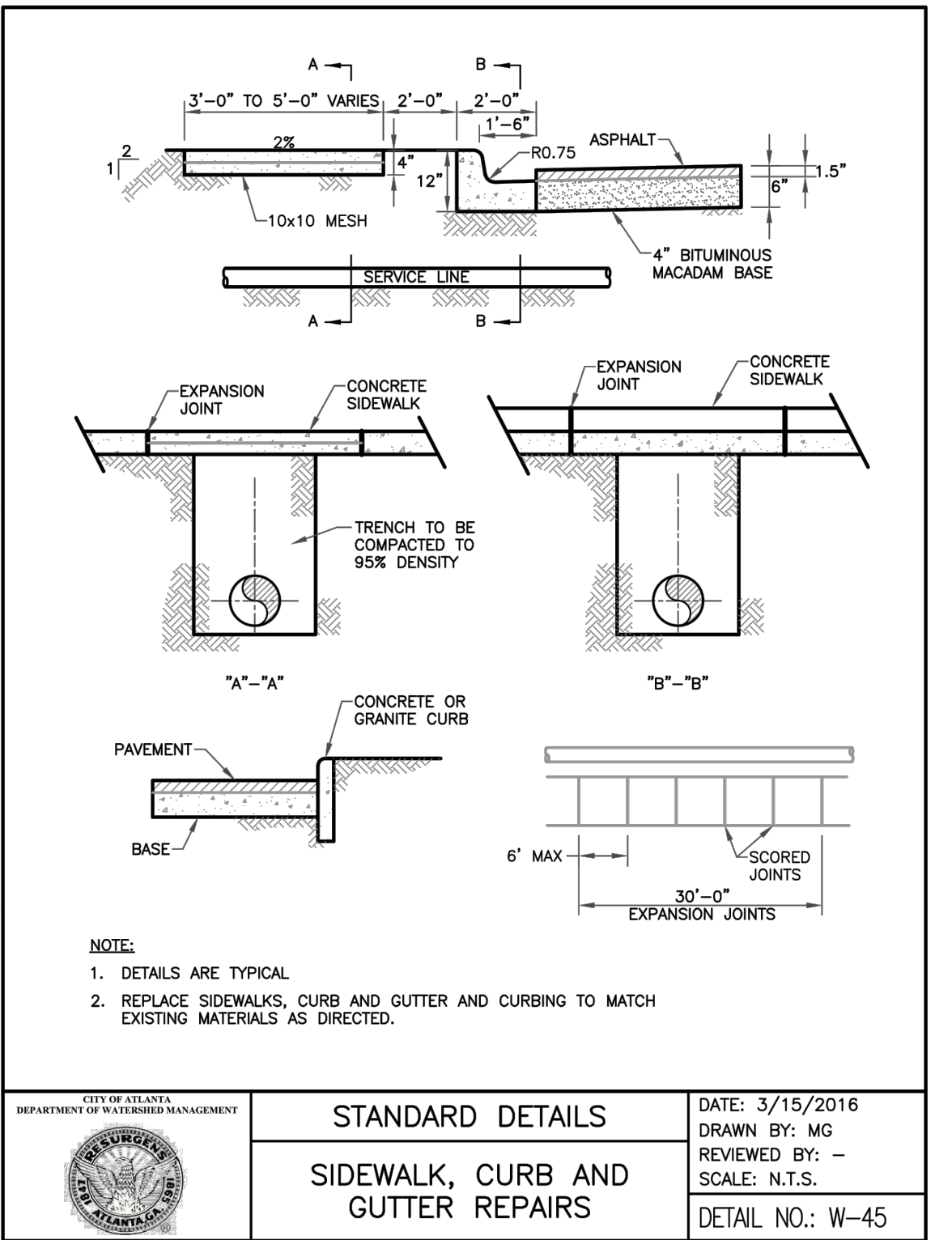
DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-41



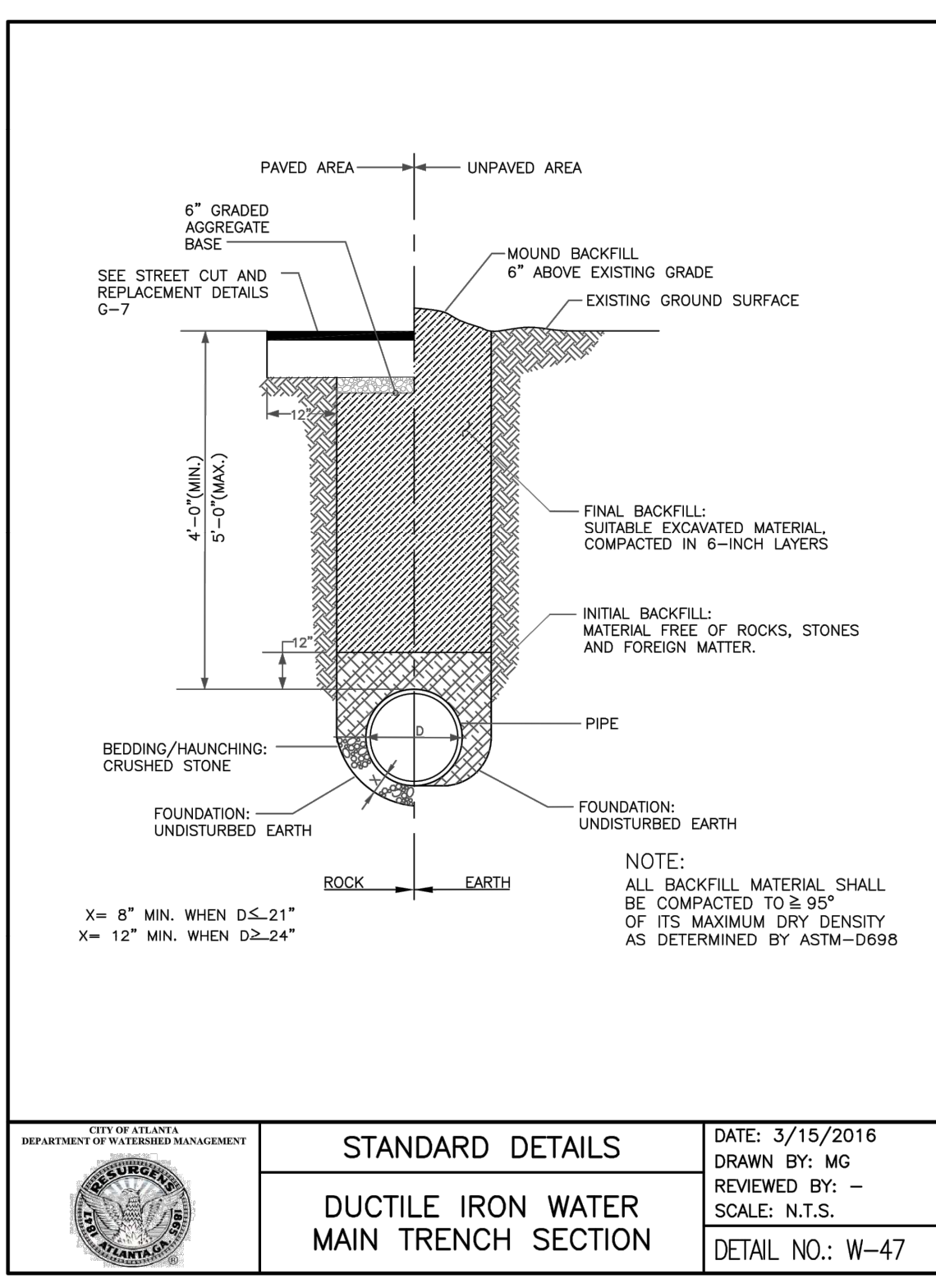
DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-43



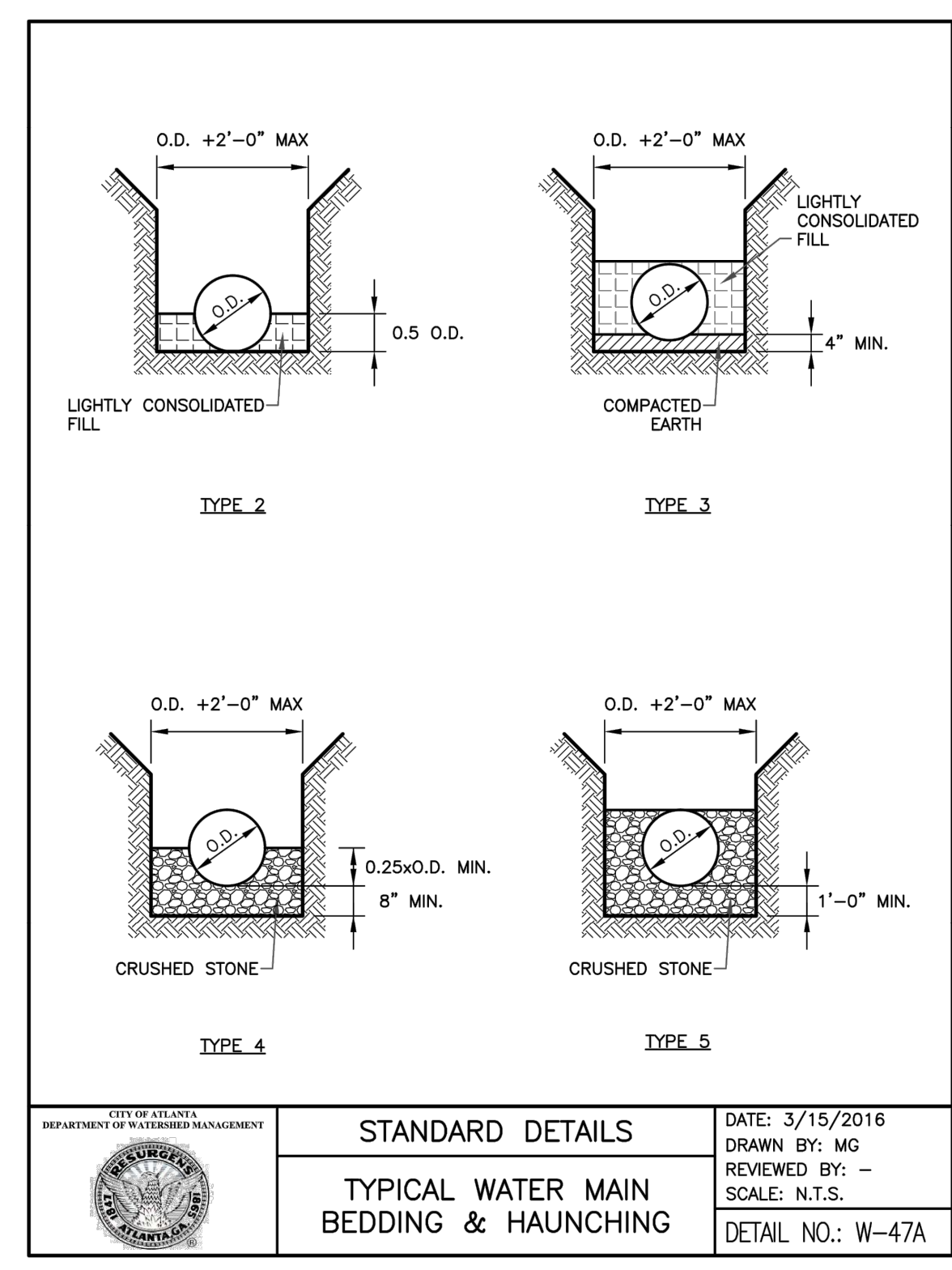
DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-44



DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-45



DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-47



DATE: 3/15/2016
DRAWN BY: MG
REVIEWED BY: -
SCALE: N.T.S.
DETAIL NO.: W-47A

NOTES:
1. THIS IS A GENERAL DRAWING AND CONTAINS STANDARD CITY OF ATLANTA WATER DISTRIBUTION SYSTEM DETAILS.
2. SOME OF THE DETAILS SHOWN ON THIS DRAWING MAY NOT BE REQUIRED TO COMPLETE THE WORK UNDER THIS CONTRACT.

FILE E:\ACTIVE PROJECTS\RM CLAYTON WATERLINE.DWG SAVED BY: SAM-PC SAVE DATE: 7/6/2019 1:57 PM



SUBMITTED BY: RUDY CHEN PROJECT MANAGER	DATE: 7/5/2019	LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)
DESIGNED BY: SB	DRAWN BY: SB	CHECKED BY: EA
APPROVED BY:	DATE:	APPROVED BY:

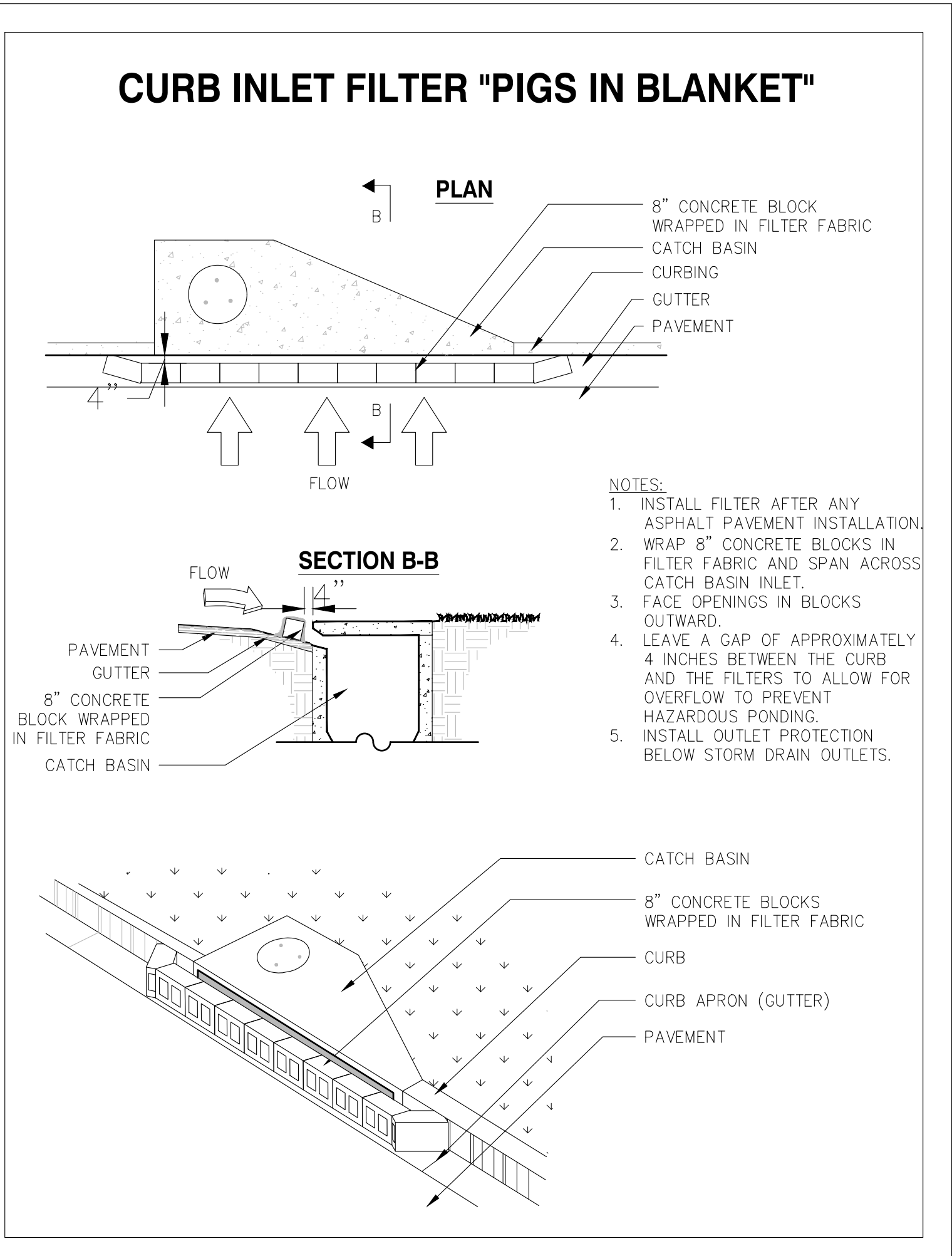
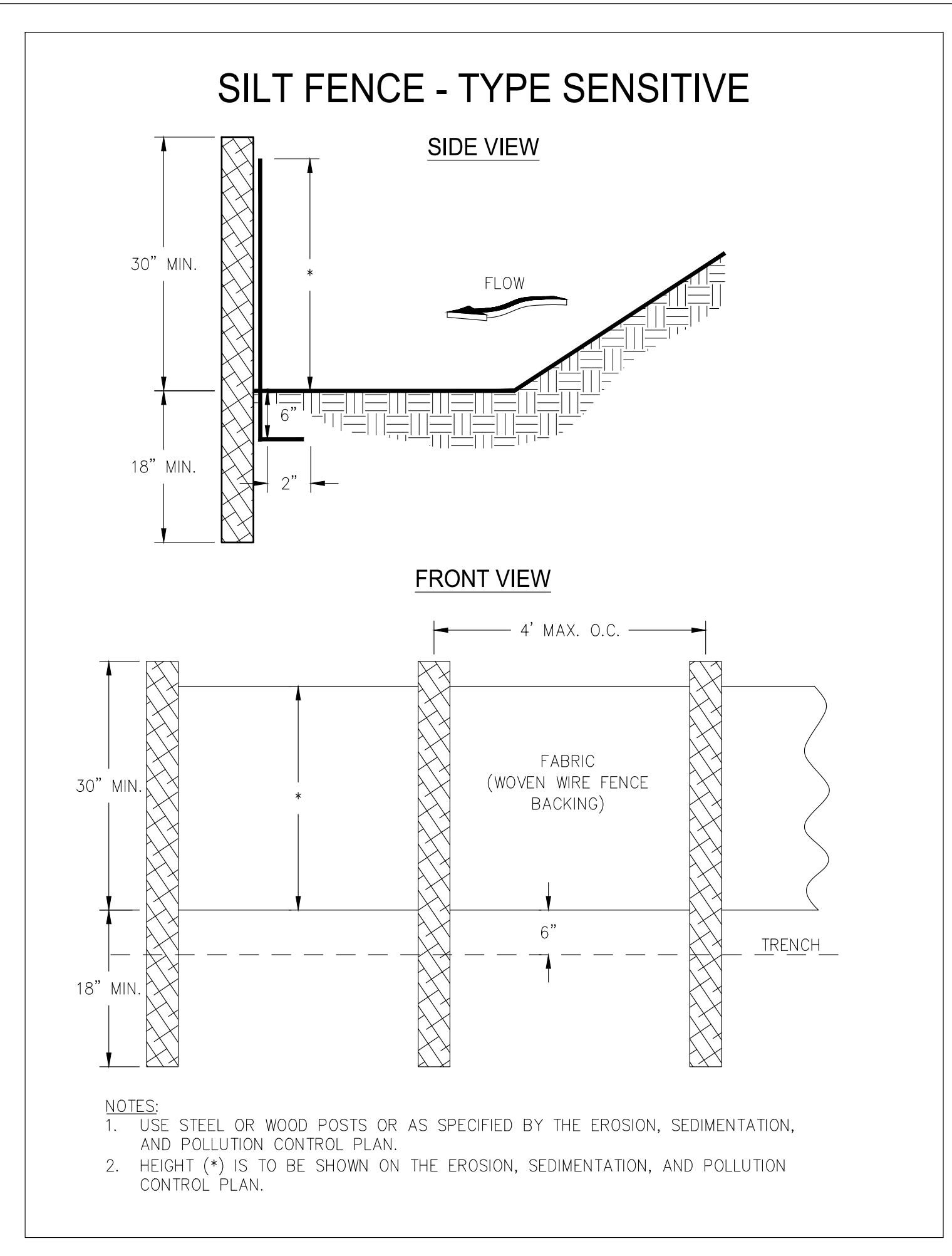
PLAT CARDS	REV.	DATE	BY	CHK.	APP.	DESCRIPTION
XXX						

REVISIONS						
REV.	DATE	BY	CHK.	APP.	DESCRIPTION	

ATLANTA RM CLAYTON WRC BIO-SOLIDS
FIRE PROTECTION WATERMAIN

STANDARD DETAILS

FILE NAME RM CLAYTON WATERLINE.DWG
BMLLC PROJECT NUMBER XXX
CLIENT PROJECT NUMBER XXX
DRAWING NUMBER C-4
SHEET NUMBER SHEET 6 OF 6



STRUCTURAL PRACTICES

CODE	PRACTICE	MAP SYMBOL	DESCRIPTION
Sd1	SEDIMENT BARRIER		A BARRIER TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. IT MAY BE SANDBAGS, BALES OF STRAW OR HAY, BRUSH, LOGS AND POLES, GRAVEL, OR A SEDIMENT FENCE.
Sd2	SEDIMENT TRAP, TEMPORARY		AN IMPOUNDING AREA CREATED BY EXCAVATING AROUND A STORM DRAIN DROP INLET. THE EXCAVATED AREA WILL BE FILLED AND STABILIZED ON COMPLETION OF CONSTRUCTION ACTIVITIES.

VEGETATIVE MEASURES

Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		ESTABLISHING A TEMPORARY PROTECTION FOR DISTURBED AREAS WHERE SEED MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDING COVER
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY VEGETATION)		ESTABLISHING TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEED ON DISTURBED AREAS.
Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)		ESTABLISHING PERMANENT VEGETATIVE COVER SUCH AS TREES, SHRUBS, VINES, GRASSES, SOD OR LEGUMES ON DISTURBED AREAS.
Ds4	DISTURBED AREA STABILIZATION (WITH SODDING)		A PERMANENT VEGETATIVE COVER USING SOD ON HIGHLY ERODIBLE OR CRITICALLY ERODED LANDS.

VEGETATIVE PLAN

(FOR TEMPORARY)				FERTILIZER (LBS./1000 S.F.)
SPECIES	RATE/1000 S.F.	DATES	LIME	10-10-10
RYEGRASS, ANNUAL	1.5 - 2 LBS.	8/1-4/15	NOT REQUIRED	16
*WEEPING LOVEGRASS	2-3 LBS.	3/15-6/15	NOT REQUIRED	18
(FOR PERMANENT)				FERTILIZER (LBS./ACRE)
SPECIES	RATE/1000 S.F.	DATES	LIME	6-12-12
HULLED BERMUDA	2 LBS.	3/1-7/1	1-2 TONS/ACRE	1500
UNHULLED BERMUDA	2 LBS.	10/1-3/1	1-2 TONS/ACRE	1500
FESCUE	5 - 10 LBS.	8/15-11/1	1-2 TONS/ACRE	1500

*HYDROSEED ON ALL 2:1 (H:V) SLOPES.

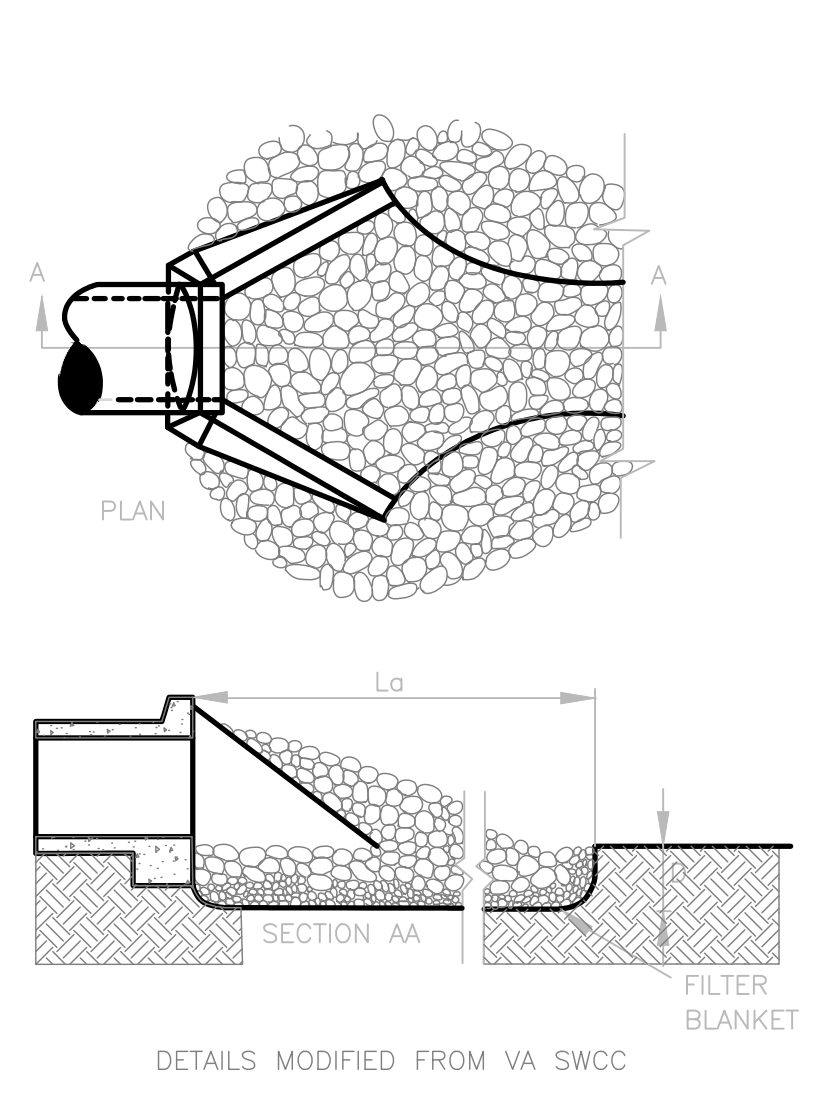
NOTE: (1) TEMPORARY STABILIZATION (MULCHING ONLY) WHEN SEEDING WILL NOT HAVE A SUITABLE GROWING SEASON MAY BE ACCOMPLISHED WITH: STRAW OR HAY-2.5 TONS/ACRE WOOD WASTE, BARK, SAWDUST-2-3" DEEP (APPROX. 6-9 TONS/ACRE)

(2) MULCHING RATE FOR PERMANENT GRASSING - APPLY DRY STRAW AT THE RATE OF TWO TONS PER ACRE. APPLY DRY HAY AT THE RATE OF 2 1/2 TONS PER ACRE.

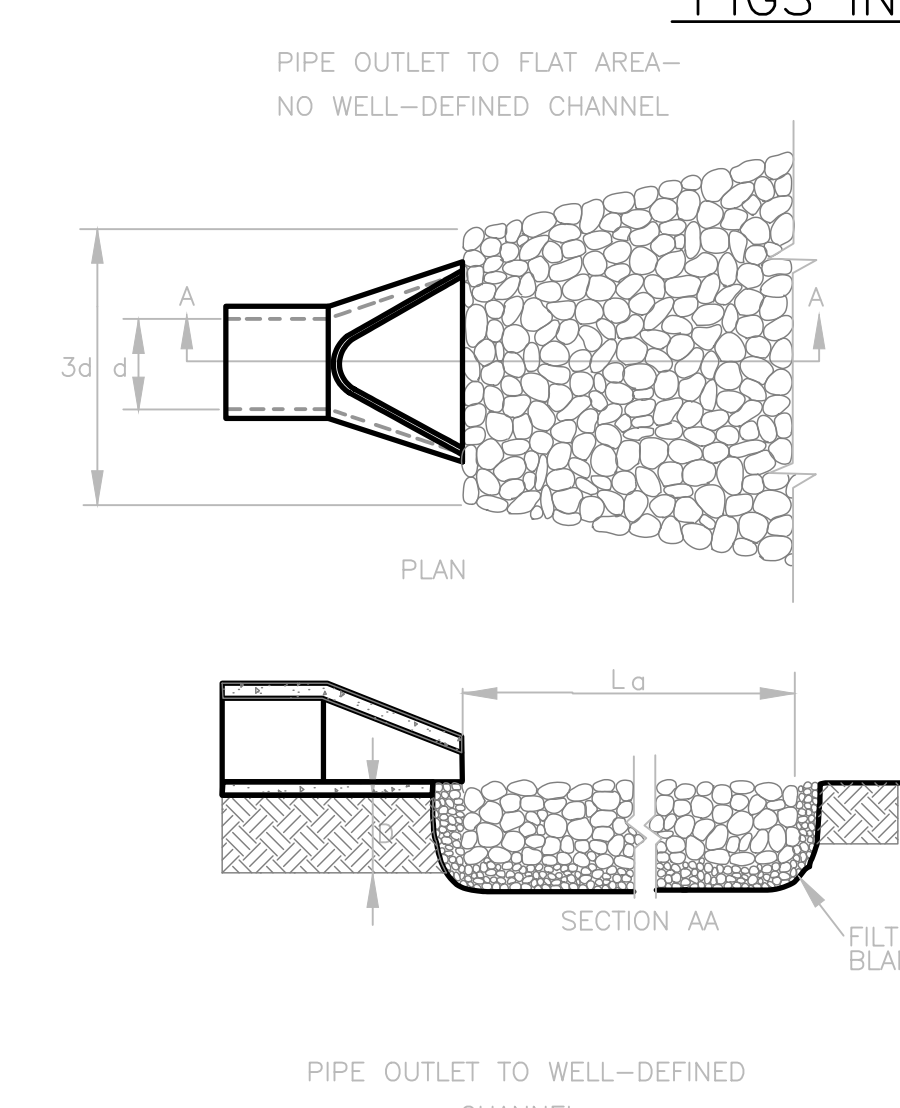
GENERAL NOTES:

- EROSION CONTROL MEASURES SHALL BE AT MINIMUM IN CONFORMANCE WITH THE LATEST EDITION OF "THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" BY THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION.
- ANY AND ALL SILT LEAVING THE SITE IS THE COMPLETE RESPONSIBILITY OF THE CONTRACTOR.
- ALL EROSION AND SEDIMENT CONTROL DEVICES AND STORMWATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO INITIATION OF CONSTRUCTION.
- SILT FENCE SHALL MEET THE REQUIREMENTS OF SECTION 171-TEMPORARY SILT FENCE FOR THE DEPARTMENT OF TRANSPORTATION, STATE OF GEORGIA, STANDARD SPECIFICATIONS, LATEST EDITION.
- EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
- AS CONDITIONS DEMAND, REPAIR AND/OR CLEAN OUT ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE OR SITE ONTO PUBLIC ROADWAY OR INTO STORM DRAIN MUST BE REMOVED IMMEDIATELY.
- ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UPSTREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVEWAYS HAVE BEEN REPAVED.
- FAILURE TO INSTALL, OPERATE OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB UNTIL SUCH MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB UNTIL SUCH MEASURES ARE CORRECTED.
- SEDIMENT/EROSION CONTROL DEVICES SHALL BE CHECKED AFTER EACH STORM EVENT. EACH DEVICE SHALL BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE DEVICE.
- ALL GRASSING SHALL BE IN ACCORDANCE WITH CHAPTER 6, SECTION III "VEGETATIVE PRACTICES" OF THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA.
- ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD LESS THAN 2 WEEKS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING (Ds1). DISTURBED AREAS LEFT IDLE FOR TWO TO FOUR WEEKS, WILL BE ESTABLISHED TO TEMPORARY VEGETATION (Ds2). DISTURBED AREAS LEFT IDLE FOR FOUR WEEKS OR MORE WILL BE ESTABLISHED TO PERMANENT VEGETATION (Ds3) (Ds4).
- WHEN HAND PLANTING, MULCH (HAY OR STRAW) SHALL BE UNIFORMLY SPREAD OVER SEEDED AREA WITHIN 24 HOURS OF SEEDING.
- DURING UNSTABLE GROWING SEASONS, MULCH SHALL BE USED AS A TEMPORARY COVER (Ds1). ON SLOPES THAT ARE 4:1 OR STEEPER, MULCH SHALL BE ANCHORED.
- THERE ARE NO DISCHARGES OF STORM WATER OR WASTEWATER FROM THE CONSTRUCTION ACTIVITIES OF THE PROJECT INTO IMPAIRED STREAMS SEGMENTS.
- THERE ARE NO CRITICAL AREAS ANTICIPATED FOR THE PROJECT.
- SOIL SERIES INCLUDED WITHIN PROJECT SITE: XX-XXX SOIL TYPE.
- THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.
- NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFER AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

Sd1-S SILT FENCE - SENSITIVE



Sd2-P CURB INLET FILTER "PIGS IN BLANKET"



NOTES ON DETAILS

- aL IS THE LENGTH OF THE RIPRAP APRON.
- $D = 1.5$ TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
- IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OF TO THE TOP OF THE BANK, WHICHEVER IS LESS.
- A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

APRON LENGTH AND THICKNESS

THE APRON LENGTH AND d_{50} , STONE MEDIAN SIZE, SHALL BE DETERMINED FROM THE CURVES ACCORDING TO THE TAILWATER CONDITIONS:

MINIMUM TAILWATER- USE FIG. 6-24.1
 MAXIMUM TAILWATER- USE FIGURE 6-24.2
 MAXIMUM STONE SIZE= $1.5 \times d_{50}$
 APRON THICKNESS= $1.5 \times d_{max}$

St STORM DRAIN OUTLET PROTECTION

TO BE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN

- THE FLOW CHARACTERISTICS OF THE PIPE AT FULL FLOW INCLUDING PIPE DIAMETER, FLOW RATE (CFS), VELOCITY (FPS), AND TAILWATER CONDITION
- THE DIMENSIONS OF THE APRON INCLUDING LENGTH (L_a), WIDTH AT THE HEADWALL (W_1), DOWNSTREAM WIDTH (W_2), AVERAGE STONE DIAMETER (d_{50}), MAX STONE SIZE (d_{max}) AND STONE DEPTH (D) DESIGNED IN ACCORDANCE WITH FIGURES 6-24.1 AND 6-24.2 IN GREEN BOOK.

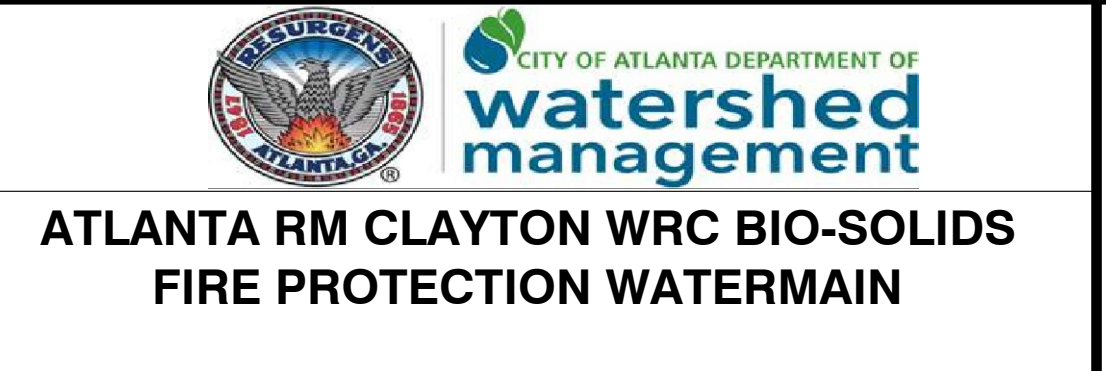
Cd-S STORM DRAIN OUTLET PROTECTION

PLOT DATE: 7/6/2019 2:00 PM FILE: E:\ACTIVE PROJECTS\RM CLAYTON WATERLINE\RM CLAYTON WATERLINE.DWG SAVED BY: SAM-PC SAVE DATE: 7/6/2019 1:57 PM



SUBMITTED BY: RUDY CHEN	LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)
DATE: 7/5/2019	DESIGNED BY: SB
APPROVED BY:	DRAWN BY: SB
DATE:	CHECKED BY: EA
	APPROVED BY:

PLAT CARDS						REVISIONS								
XXX						REV.	DATE	BY	CHK.	APP.	DESCRIPTION			



FILE NAME RM CLAYTON WATERLINE.DWG
BMLLC PROJECT NUMBER XXX
CLIENT PROJECT NUMBER XXX
DRAWING NUMBER ES-1
SHEET NUMBER SHEET 7 OF 8

EROSION CONTROL STANDARD DETAILS

PLANTS, PLANTING RATES, AND PLANTING DATES FOR TEMPORARY COVER OR COMPANION CROPS 1/

SPECIES	BROADCAST RATES 2/		RESOURCE AREA 4/	PLANTING DATES												REMARKS	
	PER ACRE	PLS 3/ PER 1000 S.F.		J	F	M	A	M	J	J	A	S	O	N	D		
LESPEDEZA, ANNUAL (Lespedeza striata)	40 LBS.	0.9 LBS.	M-L P C														200,000 SEED PER POUND. MAY VOLUNTEER FOR SEVERAL YEARS. USE INOCULANT EL.
LOVEGRASS, WEEPING (Eragrostis curvula)	4 LBS.	0.1 LBS.	M-L P C														1,500,000 SEED PER POUND. MAY LAST FOR SEVERAL YEARS. MIX WITH SERICEA LESPEDEZA
MILLET, BROWNTOP (Panicum fasciculatum)	40 LBS.	0.9 LBS.	M-L P C														137,000 SEED PER POUND. QUICK DENSE COVER. WILL PROVIDE TOO MUCH COMPETITION IN MIXTURES IF SEEDED AT HIGH RATES.
MILLET, PEARL (Pennisetum glaucum)	50 LBS.	1.1 LBS.	M-L P C														88,000 SEED PER POUND. QUICK, DENSE COVER. MAY REACH 5 FEET IN HEIGHT. NOT RECOMMENDED FOR MIXTURES.
RYEGRASS, ANNUAL (Lolium temulentum)	40 LBS.	0.9 LBS.	M-L P C														227,000 SEED PER POUND. DENSE COVER. VERY COMPETITIVE AND IS NOT TO BE USED IN MIXTURES.
WHEAT (Triticum aestivum)	180 LBS.	4.1 LBS.	M-L P C														15,000 SEED PER POUND. WINTERHARDY.

- 1/ TEMPORARY COVER CROPS ARE VERY COMPETITIVE AND WILL CROWN OUT PERENNIALS IF SEEDED TOO HEAVILY.
- 2/ REDUCE SEEDING RATES BY 50% WHEN DRILLED.
- 3/ PLS IS AN ABBREVIATION FOR PURE LIVE SEED.
- 4/ M-L REPRESENTS THE MOUNTAIN; BLUE RIDGE; AND RIDGES AND VALLEYS MLRA'S
P REPRESENTS THE SOUTHERN PIEDMONT MLRA
C REPRESENTS THE SOUTHERN COASTAL PLAIN; SAND HILLS; BLACK LANDS; AND ATLANTIC COAST FLATWOODS MLRAS

Ds2 TEMPORARY GRASSING

REFER TO THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" FOR FURTHER DETAILS AND SPECIFICATIONS.

FERTILIZER REQUIREMENTS

- 1) APPLY IN SPRING FOLLOWING SEEDING.
- 2) APPLY IN SPLIT APPLICATIONS WHEN HIGH RATES ARE USED.
- 3) APPLY IN 3 SPLIT APPLICATIONS.
- 4) APPLY WHEN PLANTS ARE PRUNED.
- 5) APPLY TO GRASS SPECIES ONLY.
- 6) APPLY WHEN PLANTS GROW TO A HEIGHT OF 2 TO 4 INCHES.

TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT N-P-K	RATE	N TOP DRESSING RATE
1.) COOL SEASON GRASSES	FIRST SECOND MAINTENANCE	6-12-12 6-12-12 10-10-10	1500 LBS./AC. 1000 LBS./AC. 400 LBS./AC.	50-100 LBS./AC. 1/2/ ---
2.) COOL SEASON AND LEGUMES	FIRST SECOND MAINTENANCE	6-12-12 10-10-10 10-10-10	1500 LBS./AC. 1000 LBS./AC. 400 LBS./AC.	0-50 LBS./AC. 1/ ---
3.) GROUND COVERS	FIRST SECOND MAINTENANCE	10-10-10 10-10-10 10-10-10	1300 LBS./AC. 1300 LBS./AC. 1100 LBS./AC.	---
4.) TEMPORARY COVER CROPS SEEDED ALONE	FIRST	10-10-10	500 LBS./AC.	30 LBS./AC. 5/
5.) WARM SEASON GRASSES	FIRST SECOND MAINTENANCE	6-12-12 6-12-12 10-10-10	1500 LBS./AC. 800 LBS./AC. 400 LBS./AC.	50-100 LBS./AC. 2/6/ 50-100 LBS./AC. 2/ 30 LBS./AC
6.) WARM SEASON GRASSES AND LEGUMES	FIRST SECOND MAINTENANCE	6-12-12 10-10-10 10-10-10	1500 LBS./AC. 1000 LBS./AC. 400 LBS./AC.	50 LBS./AC. /6/

NOTES:

1. APPLY TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE.
2. IF DISTURBED AREAS ARE TO BE LEFT UNDISTURBED FOR LESS THAN 6 MONTHS USE TEMPORARY GRASSING, OTHERWISE USE PERMANENT GRASSING.
3. SOIL TO RECEIVE GRASSING IS TO BE SCARIFIED TO PROVIDE A PLACE FOR THE SEED TO LODGE AND GERMINATE.
4. APPLY AGRICULTURAL LIME AT A RATE OF ONE TON PER ACRE.
5. FOR LOW FERTILITY SOILS, APPLY 500-700 LBS. OF 10-10-10 FERTILIZER PER ACRE. APPLY BEFORE LAND PREPARATION AND INCORPORATE WITH A DISK, RIPPER OR CHISEL.
6. APPLY SEED BY HAND, CYCLONE SEEDER, DRILL CULTIPACKER-SEEDER OR HYDRAULIC SEEDER. RAKE SOIL LIGHTLY TO COVER SEED WHEN APPLIED BY HAND.
7. PROVIDE WATER AS REQUIRED TO GERMINATE AND MAINTAIN A HEALTHY, THICK COVER OF GRASS.

MAINTENANCE REQUIREMENTS:

INSPECT ALL AREAS WHERE TEMPORARY GRASSING HAS BEEN APPLIED. WHERE COVER IS SPARSE, SCARIFY THE AREA, TEST SOIL FERTILITY, APPLY FERTILIZER AS NECESSARY AND RESEED. WHERE EROSION HAS OCCURRED, REGRADE PRIOR TO ABOVE STEPS.

PLANTS, PLANTING RATES, AND PLANTING DATES FOR PERMANENT COVER

SPECIES	BROADCAST RATES 1/ - PLS 2/		RESOURCE AREA 3/	PLANTING DATES												REMARKS	
	PER ACRE	PER 1000 S.F.		J	F	M	A	M	J	J	A	S	O	N	D		
BERMUDA, COMMON (Cynodon dactylon) HULLED SEED	10 LBS.	0.2 LBS.	P C														1,787,000 SEED PER POUND. QUICK COVER. LOW GROWING AND SOO FORMING. FULL SUN. GOOD FOR ATHLETIC FIELDS.
BERMUDA, COMMON (Cynodon dactylon) UNHULLED SEED	10 LBS.	0.2 LBS.	P C														PLANT WITH WINTER ANNUALS. PLANT WITH TALL FESCUE.
BERMUDA SPRIGS (Cynodon dactylon)	40 C.F.	0.9 C.F.	M-L P C														A CUBIC FOOT CONTAINS APPROXIMATELY 850 SPRIGS. A BUSHEL CONTAINS 1.25 CUBIC FEET OR APPROXIMATELY 800 SPRIGS. SAME AS ABOVE. SOUTHERN COASTAL PLAIN ONLY.
CENTPEDE (Eremochloa ophioides)	BLOCK SOD ONLY		P C														DROUGHT TOLERANT. FULL SUN OR PARTIAL SHADE. EFFECTIVE ADJACENT TO CONC. AND IN CONCENTRATED FLOW AREAS. IRRIGATION IS NEEDED UNTIL FULLY ESTABLISHED. DO NOT PLANT NEAR PASTURES. WINTERHARDY AS FAR NORTH AS ATHENS AND ATLANTA.
CROWNVEITCH (Coronilla varia)	15 LBS.	0.3 LBS.	M-L P														100,000 SEED PER POUND. DENSE GROWTH. ATTRACTIVE ROSE, PINK, AND WHITE BLOSSOMS SPRING TO LATE FALL. MIX W/ 50 LBS. OF TALL FESCUE OR 15 LBS. OF RYE. INOCULATE SEED WITH M INOCULANT. USE FROM NORTH ATLANTA AND NORTHWARD.
FESCUE, TALL (Festuca arundinacea)	50 LBS.	1.1 LBS.	M-L P														227,000 SEED PER POUND. USE ALONE ONLY ON BETTER SITES. NOT FOR DROUGHTY SOILS. MIX WITH PERENNIAL LESPEDEZAS OR CROWNVEITCH. APPLY TOPDRESSING IN SPRING FOLLOWING FALL PLANTING NOT FOR HEAVY USE AREAS OR ATHLETIC FIELDS.
LOVEGRASS, WEEPING (Eragrostis curvula)	4 LBS.	0.1 LBS.	M-L P C														1,500,000 SEED PER POUND. QUICK COVER. DROUGHT TOLERANT. GROWS WELL WITH SERICEA LESPEDEZA ON ROADBANKS.

SOLID LINES INDICATE OPTIMUM DATES, DOTTED LINES INDICATE PERMISSIBLE BUT MARGINAL DATES.

- 1/ REDUCE SEEDING RATES BY 50% WHEN DRILLED.
- 2/ PLS IS AN ABBREVIATION FOR PURE LIVE SEED. REFER TO SECTION V.E. OF THESE SPECIFICATIONS.
- 3/ M-L REPRESENTS THE MOUNTAIN; BLUE RIDGE; AND RIDGES AND VALLEYS MLRA'S
P REPRESENTS THE SOUTHERN PIEDMONT MLRA
C REPRESENTS THE SOUTHERN COASTAL PLAIN; SAND HILLS; BLACK LANDS; AND ATLANTIC COAST FLATWOODS MLRAS

Ds3 PERMANENT GRASSING

REFER TO THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" FOR FURTHER DETAILS AND SPECIFICATIONS.

STRUCTURAL PRACTICES

CODE	PRACTICE	MAP SYMBOL	DESCRIPTION
Ds1	SEDIMENT BARRIER		A BARRIER TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. IT MAY BE SANDBAGS, BALES OF STRAW OR HAY, BRUSH, LOGS AND POLES, GRAVEL, OR A SEDIMENT FENCE.
Ds2	SEDIMENT TRAP, TEMPORARY		AN IMPOUNDING AREA CREATED BY EXCAVATING AROUND A STORM DRAIN DROP INLET. THE EXCAVATED AREA WILL BE FILLED AND STABILIZED ON COMPLETION OF CONSTRUCTION ACTIVITIES.

VEGETATIVE MEASURES

CODE	MEASURE	DESCRIPTION
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)	ESTABLISHING A TEMPORARY PROTECTION FOR DISTURBED AREAS WHERE SEED MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDING COVER
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY VEGETATION)	ESTABLISHING TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEED ON DISTURBED AREAS.
Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)	ESTABLISHING PERMANENT VEGETATIVE COVER SUCH AS TREES, SHRUBS, VINES, GRASSES, SOD OR LEGUMES ON DISTURBED AREAS.
Ds4	DISTURBED AREA STABILIZATION (WITH SODDING)	A PERMANENT VEGETATIVE COVER USING SOD ON HIGHLY ERODIBLE OR CRITICALLY ERODED LANDS.

NOTES:

1. PERMANENT GRASSING SHALL BE APPLIED TO GRADED AREAS THAT WILL BE UNDISTURBED FOR MORE THAN 6 MONTHS.
2. APPLY TO ALL AREAS IMMEDIATELY AFTER THEY HAVE REACHED FINAL GRADE.
3. APPLY AGRICULTURAL LIME AT A RATE OF 1-2 TONS PER ACRE UNLESS SOIL TESTS INDICATE OTHERWISE.
4. RYE GRASS SHALL NOT BE USED IN ANY SEEDING MIXTURE CONTAINING PERENNIAL SPECIES DUE TO ITS ABILITY TO OUT-COMPETE DESIRED SPECIES CHOSEN FOR PERMANENT PERENNIAL COVER.
5. FOR HYDRAULIC SEEDING, MIX SEED, FERTILIZER AND WOOD CELLULOSE OR WOOD PULP FIBER WITH WATER AND APPLY IN SLURRY UNIFORMLY OVER THE TREATED AREA. APPLY WITHIN 1 HOUR OF MIXING. MULCH IS TO BE APPLIED AT A RATE OF 400 LBS. PER ACRE.
6. FOR CONVENTIONAL SEEDING USE A CULTIPACKER-SEEDER, DRILL, ROTARY SEEDER, OTHER MECHANICAL SEEDER OR HAND SEED UNIFORMLY OVER THE TREATED AREA. LIGHTLY COVER THE SEED WITH 1/8" TO 1/4" OF SOIL. PROVIDE TEMPORARY MULCHING WITHIN 24 HOURS OF SPREADING SEED. MULCH SHALL COVER 75% OF THE SOIL SURFACE.

MAINTENANCE REQUIREMENTS:

PROVIDE PERIODIC INSPECTIONS AND AFTER EACH RAINFALL EVENT AND REGRASS AREAS THAT ARE BARE OR HAVE ERODED. EXCLUDE TRAFFIC ON GRASSED AREAS UNTIL GRASS IS ESTABLISHED. MOW AS REQUIRED.

VEGETATIVE PLAN

(FOR TEMPORARY)				FERTILIZER (LBS./1000 S.F.)
SPECIES	RATE/1000 S.F.	DATES	LIME	10-10-10
RYEGRASS, ANNUAL	1.5 - 2 LBS.	8/1-8/15	NOT REQUIRED	16
*WEEDING LOVEGRASS	2-3 LBS	3/15-6/15	NOT REQUIRED	16
(FOR PERMANENT)				FERTILIZER (LBS./ACRE)
SPECIES	RATE/1000 S.F.	DATES	LIME	6-12-12
HULLED BERMUDA	2 LBS.	3/1-7/1	1-2 TONS/ACRE	1500
UNHULLED BERMUDA	2 LBS.	10/1-3/1	1-2 TONS/ACRE	1500
FESCUE	5 - 10 LBS.	8/15-11/1	1-2 TONS/ACRE	1500

*HYDROSEED ON ALL 2:1 (H:V) SLOPES.

NOTE: (1) TEMPORARY STABILIZATION (MULCHING ONLY) WHEN SEEDING WILL NOT HAVE A SUITABLE GROWING SEASON MAY BE ACCOMPLISHED WITH: STRAW OR HAY-2.5 TONS/ACRE
WOOD WASTE, BARK, SAWDUST-2-3" DEEP (APPROX. 6-9 TONS/ACRE)

(2) MULCHING RATE FOR PERMANENT GRASSING - APPLY DRY STRAW AT THE RATE OF TWO TONS PER ACRE. APPLY DRY HAY AT THE RATE OF 2 1/2 TONS PER ACRE.



FILE: E:\ACTIVE PROJECTS\RM CLAYTON WATERLINE.DWG SAVED BY: SAM-PC SAVE DATE: 7/6/2019 1:57 PM

PLOT DATE: 7/6/2019 2:00 PM



SUBMITTED BY: RUDY CHEN PROJECT MANAGER	LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)
DATE: 7/5/2019	DESIGNED BY: SB
APPROVED BY:	DRAWN BY: SB
DATE:	CHECKED BY: EA
	APPROVED BY:

PLAT CARDS				
XXX	REV.	DATE	BY	CHK.

REVISIONS				
DESCRIPTION	DATE	BY	CHK.	APP.

ATLANTA RM CLAYTON WRC BIO-SOLIDS FIRE PROTECTION WATERMAIN

FILE NAME RM CLAYTON WATERLINE.DWG
BMMLLC PROJECT NUMBER XXX
CLIENT PROJECT NUMBER XXX
DRAWING NUMBER ES-2
SHEET NUMBER SHEET 8 OF 8

EROSION CONTROL STANDARD DETAILS