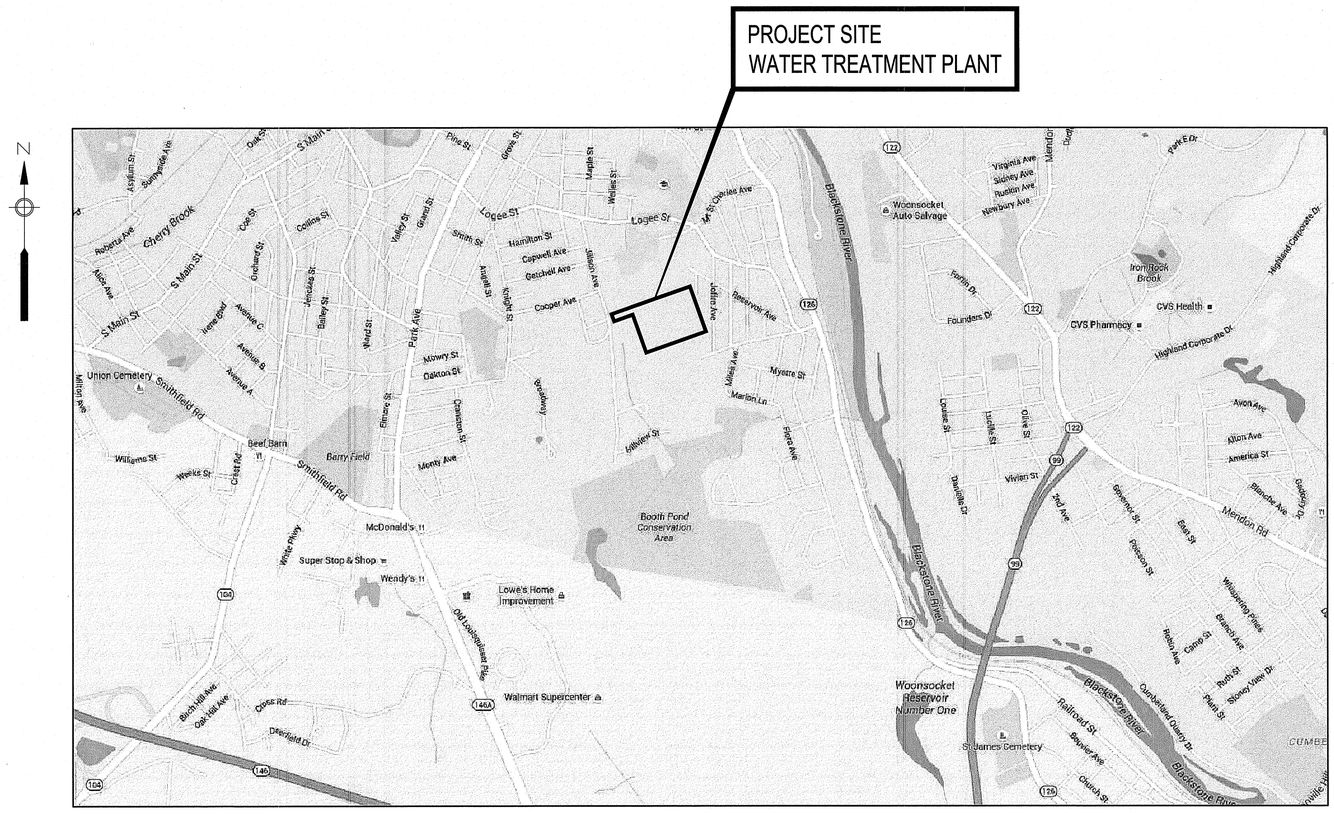
CITY OF WOONSOCKET, RHODE ISLAND
WATER TREATMENT PLANT
DESIGN-BUILD-OPERATE
PACKAGE 3: WATER TREATMENT PLANT
SEPTEMBER 2018



LOCATION PLAN

SCALE: 1"=1000'

0 1000 2000 3000

SCALE 1" = 1000' FEET

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JUN 07 2019 FILE # 18-0113
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Environmental Management
APR 12 2019
Office of Water Resources

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\G - TREATMENT PLANT\G00 G-001.DWG
LAST UPDATE: Friday, April 05, 2019 3:17:58 PM
PLOT DATE: Friday, April 05, 2019 3:34:18 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

CONSULTANT

WOONSOCKET WATER SERVICES, INC.
250 APOLLO DRIVE
CHELMSFORD, MA 01824
PHONE: (978) 905-2100
www.aecom.com

REGISTRATION

JEFFREY DEINNOCENTIS
No. 11368
REGISTERED PROFESSIONAL ENGINEER
CIVIL
4-5-19

ISSUE

CONSTRUCTION

REVISION

I/R	DATE	DESCRIPTION

PROJECT NUMBER

60552844

Designed By:	M. RIBEIRO
Drawn By:	C. BENZIGER
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	SEPTEMBER 2018
Scale:	AS NOTED

DISCIPLINE

GENERAL

SHEET TITLE

COVER SHEET AND LOCATION PLAN

SHEET NUMBER

00 G-001

INDEX OF DRAWINGS

SHEET NO. TITLE

GENERAL

00 G-001 COVER SHEET AND LOCATION PLAN
00 G-002 INDEX OF DRAWINGS I

CIVIL

00 C-001 LEGEND, ABBREVIATIONS AND GENERAL NOTES
90 C-101 JILLSON AVENUE ROAD PLAN AND PROFILE I
90 C-102 JILLSON AVENUE ROAD PLAN AND PROFILE II
90 C-103 JILLSON AVENUE ROAD PLAN AND PROFILE III
90 C-501 JILLSON AVENUE DETAILS I

95 C-101 ACRES AVENUE ROAD PLAN AND PROFILE
95 C-501 ACRES AVENUE DETAILS I

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JUN 07 2019 FILE # 18-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\G00 G-002 PERMITTING.DWG
LAST UPDATE: Tuesday, April 02, 2019 2:35:46 PM
PLOT DATE: Friday, April 05, 2019 9:34:44 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
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REGISTRATION

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No. 11368
REGISTERED PROFESSIONAL ENGINEER
CIVIL
4-5-19

ISSUE

CONSTRUCTION

REVISION

1	SEPT 2018	
I/R	DATE	DESCRIPTION

PROJECT NUMBER

60552844

Designed By:	S. NAPOLITANO
Drawn By:	S. NAPOLITANO
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	SEPTEMBER 2018
Scale:	AS NOTED

DISCIPLINE

PERMITTING

SHEET TITLE

INDEX OF DRAWINGS

SHEET NUMBER

00 G-002

GENERAL NOTES:

1. EXISTING SURVEY AND SITE TOPOGRAPHY INFORMATION COMPILED FROM THE FOLLOWING PROVIDED BY THE CITY:

- 2001 BLENDING CHAMBER/RESERVOIR SITE IN NORTH SMITHFIELD – SURVEY PROVIDED BY: MERIDIAN ENGINEERING INC. THE SURVEYED AREA OF EXISTING CONDITIONS SPANS APPROXIMATELY 2,000 FEET FROM THE SURGE RELIEF VALVE AND METERING CHAMBER AT THE SOUTHERN END, TO JUST NORTH OF THE EXISTING ELECTRIC TRANSMISSION TOWER. THE PLAN IS BORDERED TO THE EAST BY MANVILLE ROAD AND TO THE WEST BY LYDIA AVENUE. THE EXISTING CONDITIONS PLAN CONTAINS LAND IN BOTH WOONSOCKET AND NORTH SMITHFIELD, AND INCLUDES UTILITIES, STRUCTURES, ROADS, TOPOGRAPHY, AND WETLAND DELINEATIONS.

- 2004 WATER MAIN REHABILITATION PROJECT – SURVEY PROVIDED BY BRYANT ASSOCIATES, INC., AND COMMONWEALTH ENGINEERS & CONSULTANTS INC., INCLUDES:
  - LYDIA AVENUE
  - WANDA AVENUE
  - FLORA AVENUE
  - LILAC AVENUE
  - BERTENSHAW ROAD
  - FAIRFIELD AVENUE
  - RESERVOIR ROAD (FAIRFIELD AVENUE TO JOFFRE AVENUE)
  - LOGEE STREET (BERTENSHAW ROAD TO FRONT STREET)

- 2010 MANVILLE ROAD WATER MAIN REHABILITATION – SURVEY PROVIDED BY SURVEYING AND MAPPING CONSULTANTS, INC. (SMC), BRAINTREE, MASSACHUSETTS AND THE CITY OF WOONSOCKET.

- 2012 – BERNON HEIGHTS SITE FOR PROPOSED WTP – SURVEY PROVIDED BY SMC OF BRAINTREE, MASSACHUSETTS.

- 2015 SURVEY PROVIDED BY GARAFALO AND ASSOCIATES, PROVIDENCE, RHODE ISLAND.
  - PROPOSED RAW WATER PUMP STATION LOCATION JUST OFF MANVILLE ROAD.
  - JILLSON AVENUE (LOGEE STREET TO TALBOT AVENUE).
  - LAND AREA EAST OF JILLSON AVENUE (WET AREA) APPROXIMATELY 450 LINEAR FEET ALONG JILLSON AVENUE AND 400 LINEAR FEET EAST OF JILLSON AVENUE (APPROXIMATELY 4 ACRES).
  - ACRES AVENUE, RESERVOIR AVENUE (ACRES AVENUE TO JOFFRE AVENUE), JOFFRE AVENUE (RESERVOIR AVENUE TO LOGEE STREET).

2. COORDINATES, IN U.S. SURVEY FEET, ARE REFERENCED TO THE RHODE ISLAND STATE PLANE, REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83),

3. ELEVATIONS, IN U.S. SURVEY FEET, ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). PROPERTY LINES WHERE SHOWN ARE APPROXIMATE AND INTENDED FOR GENERAL INFORMATION ONLY.

4. UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE ONLY. ADDITIONAL UTILITIES MAY BE PRESENT. CONTRACTOR SHALL CONTACT DIG SAFE AT 811 PRIOR TO EXCAVATION ACTIVITIES.

5. ERECT EROSION CONTROL CHECKS PRIOR TO COMMENCING ANY EXCAVATION OR STORAGE OF BACKFILL MATERIAL ON–SITE.

6. EXCAVATION OF ANY TYPE SHALL BE ACCOMPLISHED IN SUCH A MANNER THAT UNDERGROUND UTILITIES OR STRUCTURES ARE NOT DAMAGED. ALL SIDEWALKS, AND OTHER STRUCTURES DISTURBED BY CONSTRUCTION IN OR OUTSIDE THE PROJECT AREA SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AND SHALL BE GRADED TO MEET PROPOSED CONSTRUCTION.

7. NECESSARY MEASURES AND CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE AND STRENGTH SHALL BE PROVIDED, AS APPLICABLE, TO PREVENT ACCESS TO ALL OPEN EXCAVATIONS AT THE COMPLETION OF EACH DAYS WORK.

8. STOCKPILING OF CONSTRUCTION MATERIALS WITHIN 50 FT. OF WATERWAYS IS PROHIBITED.

9. EXISTING UTILITIES INTERFERING WITH THE WORK SHALL BE RELOCATED AS DIRECTED.

10. EXACT HORIZONTAL LOCATION OF PIPE TO BE INSTALLED SHALL MATCH AS CLOSELY AS POSSIBLE TO THE LOCATION SHOWN ON THE PLANS. PLACEMENT OF FITTINGS, ETC. MAY VARY FROM PLAN LOCATIONS ACCORDING TO LAYING LENGTHS OF PIPE.

11. PIPING WHICH IS EXPOSED DURING EXCAVATION AND IS NOT TO BE DEMOLISHED, SHALL BE SUPPORTED, BRACED OR OTHERWISE PROTECTED DURING CONSTRUCTION ACTIVITIES.

12. FINAL GRADING SHALL BE UNIFORM BETWEEN SPOT ELEVATIONS AND CONTOURS.

13. AREAS ADJACENT TO NEW CONSTRUCTION SHALL BE FILLED AND GRADED FOR POSITIVE DRAINAGE.

14. ALL AREAS OF EXCAVATION, BACKFILL, FILL AND GRADING SHALL BE RETURNED TO THE ORIGINAL GRADE UNLESS SHOWN ON THE DRAWINGS.

15. ALL COVERS, FRAMES, AND GRATES FROM STRUCTURES WHICH ARE ABANDONED UNDER THIS CONTRACT SHALL BE PROTECTED FROM DAMAGE AND SHALL BE TURNED OVER TO THE CITY.

16. ALL UTILITY BOXES, FRAMES, GRATES, ETC. NOT TO BE ABANDONED SHALL BE RESET TO THE PROPER GRADE.

17. EXISTING TREES, BUSHES, AND SHRUBS SHALL BE PROTECTED FROM DAMAGE UNLESS IN DIRECT CONFLICT WITH PROPOSED STRUCTURES, ROADWAYS, OR PATHS.

18. UNPAVED AREAS TO BE DISTURBED SHALL BE CLEARED AND GRUBBED, IF REQUIRED, AND RESTORED WITH RHODE ISLAND BLEND LOAM AND SEED MIX.

19. INTERRUPTION TO WATER AND OTHER UTILITIES SHALL BE COORDINATED WITH THE CITY.

20. ALL BURIED WATER AND DRAIN PIPES SHALL HAVE A MINIMUM 4 FOOT DEPTH OF COVER.

21. ALL MATERIALS AND EQUIPMENT COMING INTO CONTACT WITH POTABLE WATER SHALL COMPLY WITH ANSI/NSF STANDARD 61.

22. WETLANDS SHOWN HEREON WERE FLAGGED BY PARE CORPORATION BETWEEN THE DATES OF 9/17/17 AND 10/3/17 AND WERE FIELD LOCATED BY NATIONAL LAND SURVEYORS AND DEVELOPERS, INC.

ABBREVIATIONS

ASSF	AREA SUBJECT TO STORM FLOWAGE
BFV	BUTTERFLY VALVE
DIA	DIAMETER
EL	ELEVATION
EXIST	EXISTING
T.O.C	TOP OF CONCRETE
R/U	ROLL–UP (DOOR)
G	GAS
*	REFER TO MECHANICAL PIPE SCHEDULE SHEET 00 D–003 FOR ALL PIPING INDICATED

PROPOSED

- STRUCTURE
- LIMIT OF WORK
- SEDIMENTATION AND EROSION CONTROL
- PIPE – 8" DIAM. or LESS
- PIPE – 10" DIAM. AND GREATER
- BUTTERFLY VALVE
- TEE
- WYE
- 90° PIPE BEND
- 45° PIPE BEND
- 22 1/2° PIPE BEND
- 11 1/4° PIPE BEND
- PIPE CAP
- × 326.5 SPOT ELEVATION
- 327 GROUND CONTOUR (MINOR) LINE
- 330 GROUND CONTOUR (MAJOR) LINE

EROSION CONTROL NOTES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, MONITORED, AND MAINTAINED IN ACCORDANCE WITH THE RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK; THE RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE DESIGN AND OTHER SPECIFICATIONS AND STANDARD DETAILS; AND THE SITE SPECIFIC STORMWATER POLLUTION PREVENTION PLAN PREPARED FOR THE PROJECT.

2. AS FAR AS IS PRACTICABLE, EXISTING VEGETATION SHALL BE PROTECTED AND LEFT IN PLACE, IN ACCORDANCE WITH THE CLEARING LIMITS SHOWN ON THE APPROVED PLANS. PRIOR TO ANY LAND DISTURBANCE ACTIVITIES COMMENCING ON THE SITE, THE CONTRACTOR SHALL PHYSICALLY MARK LIMITS OF DISTURBANCE (LOD) ON THE SITE AND ANY AREAS TO BE PROTECTED WITHIN THE SITE, SO THAT WORKERS CAN CLEARLY IDENTIFY THE AREAS TO BE PROTECTED.

3. INSTALLATION OF EROSION AND SEDIMENT CONTROLS THAT ARE REQUIRED FOR A PARTICULAR PHASE OF THE WORK SHALL BE IN PLACE AND FUNCTIONAL BEFORE ANY EARTHWORK BEGINS ON THAT PARTICULAR PHASE.

4. CARE WILL BE TAKEN TO AVOID HAVING UNSTABILIZED AREAS EXPOSED DURING PRECIPITATION EVENTS. WEATHER FORECASTS WILL BE ROUTINELY CHECKED, AND IN THE CASE OF AN EXPECTED PRECIPITATION EVENT OF OVER 0.25–INCHES OVER A 24–HOUR PERIOD, ALL BMPS WILL BE INSPECTED, AND MAINTAINED AS NECESSARY, PRIOR TO THE WEATHER EVENT. IN THE CASE OF AN EXTREME WEATHER FORECAST (GREATER THAN ONE–INCH OF RAIN OVER A 24–HOUR PERIOD), ADDITIONAL EROSION/SEDIMENT CONTROLS WILL BE INSTALLED WHERE APPROPRIATE.

5. EROSION AND POLLUTION CONTROLS WILL BE CLEANED AS REQUIRED; AFTER A RAINSTORM; AND/OR WHENEVER MAINTENANCE IS REQUIRED AS DETERMINED BY ROUTINE INSPECTION.

6. EROSION CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED EARTH HAS BEEN SECURELY STABILIZED AND ACCEPTED BY THE SITE OWNER. BEFORE FINAL REMOVAL, ALL ACCUMULATED SEDIMENT ON THE UPSTREAM SIDE SHALL BE REMOVED AND LEGALLY DISPOSED OF.

7. ALL STORMWATER CONTROL MEASURES, DISTURBED AREAS, AREAS USED FOR THE STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION (INCLUDING UNSTABILIZED SOIL STOCKPILES), DISCHARGE LOCATIONS, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE MUST BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY–FOUR (24) HOURS AFTER ANY STORM EVENT WHICH GENERATES AT LEAST 0.25–INCHES OF PRECIPITATION PER TWENTY FOUR (24) HOUR PERIOD AND/OR AFTER A SIGNIFICANT AMOUNT OF RUNOFF OR SNOWMELT. A SEPARATE INSPECTION REPORT WILL BE PREPARED FOR EACH INSPECTION. THE INSPECTION REFERENCE NUMBER SHALL BE A COMBINATION OF THE RIPDES CONSTRUCTION GENERAL PERMIT NUMBER CONSECUTIVELY NUMBERED INSPECTIONS. AS AN EXAMPLE, INSPECTION REFERENCE NUMBER FOR THE 4TH INSPECTION OF A PROJECT WOULD BE: RIR100##–4. EACH REPORT WILL BE SIGNED AND DATED BY THE INSPECTOR AND MUST BE KEPT ONSITE AS REQUIRED BY PART II.D OF THE RIPDES CONSTRUCTION GENERAL PERMIT. EACH REPORT WILL BE SIGNED AND DATED BY THE SITE OPERATOR AND RETURNED TO THE INSPECTOR WITHIN 24 HOURS OF RECEIPT. IT IS THE RESPONSIBILITY OF THE SITE OPERATOR TO MAINTAIN A COPY OF THE SWPPP, COPIES OF ALL COMPLETED INSPECTION REPORTS, AND AMENDMENTS AS PART OF THE SWPPP DOCUMENTATION AT THE SITE DURING CONSTRUCTION.

8. IF SITE INSPECTOR DETERMINES THAT CORRECTIVE ACTION IS REQUIRED, THE INSPECTOR SHALL NOTE SUCH ON THE INSPECTION REPORT AND SHALL INFORM THE SITE OPERATOR THAT CORRECTIVE ACTION IS NECESSARY. THE SITE OPERATOR MUST MAKE ALL NECESSARY REPAIRS WHENEVER MAINTENANCE OF THE EROSION AND POLLUTION CONTROLS IS REQUIRED NO LATER THAN SEVEN (7) CALENDAR DAYS FROM THE DATE OF INSPECTION.

LEGEND

EXISTING

SB	STONE BOUND	TOB	TOP BELL END OF PIPE
CB	CONCRETE BOUND	HWALL	HEAD WALL
RIHB	MASS HIGHWAY BOUND	RET	RETAINING WALL
DH	DRILL HOLE	SED	SEDIMENTATION
IP	IRON PIPE	FNC	FENCE
	PK. REBAR, NAIL, SPIKE	LST	LANDSCAPING TIMBER
H/T	HUB & TACK	CC	CONCRETE CURB
SSM	STEEL SURVEY MARKER	BIT PATCH	BITUMINOUS CONCRETE PATCH
FND	FOUND	EOC	EDGE OF CONCRETE
N/F	NOW OR FORMERLY	EOG	EDGE OF GRAVEL
W/	WITH	(M)	MARKED
(S)	SURVEY	DMH	DRAIN MANHOLE
(R)	RECORD	CB	CATCH BASIN
	DENOTES COMMON OWNERSHIP (FEE HOOK)	R	RIM
MISC	MISCELLANEOUS	I	INVERT
N.T.S.	NOT TO SCALE	NPV	NO PIPE VISIBLE
	PROPERTY LINE	CMP	CORRUGATED METAL PIPE
	TREE LINE	RCP	REINFORCED CONCRETE PIPE
	DECIDUOUS TREE	CIP	CAST IRON PIPE
		PVC	POLYVINYL CHLORIDE
	BOULDER	VCP	VITREOUS CLAY PIPE
	STONE WALL	CPP	CORRUGATED PLASTIC PIPE
	GUARD RAIL	AC	ASBESTOS CONCRETE
	BARBED WIRE FENCE	GG	GAS GATE
	CHAIN LINK FENCE	GM	GAS METER
CLF	RETAINING WALL	EMH	ELECTRIC MANHOLE
RET WALL		EM	ELECTRIC METER
BIT CONC	BITUMINOUS CONCRETE	SMH	SEWER MANHOLE
GRAN	GRANITE	WG	WATER GATE
	TOP OF CURB		HYDRANT
100.51 × 100.06	BOTTOM OF CURB	WMH	WATER MANHOLE
	EDGE OF STREAM	W	WATER LINE
	EDGE OF MARSH	S	SEWER LINE
	EDGE OF VEGETATED WETLAND	TEL	TELEPHONE LINE
WF#4–1	WETLAND FLAG	E	ELECTRIC LINE
	MARSH	D	DRAIN LINE
WP	WOOD POST (BOLLARD)	G	GAS LINE
MP	METAL POST (BOLLARD)	OW	OVERHEAD WIRE
GP	GRANITE POST (BOLLARD)	MW	MONITORING WELL
CP	CONCRETE POST (BOLLARD)		WELL
T	TRANSFORMER	+ 330.3	SPOT ELEVATION
FF	FINISHED FLOOR		INTERMEDIATE CONTOUR
TH	THRESHOLD	320	INDEX CONTOUR
	SIGN		RIPRAP
MB	MAILBOX		
HH	HANDHOLE		200' RIVERBANK OFFSET
	GUY POLE		50' WETLAND OFFSET
	GUY WIRE		
UP#	UTILITY POLE	TP–17–1	TEST PIT
UP/LP	UTILITY POLE/LIGHT POLE	B–5	BORING
LP	LIGHT POLE	P–17–2	ROCK PROBE
DI	DUCTILE IRON		
CLDI	CONCRETE LINED DUCTILE IRON		
HDPE	HIGH DENSITY POLY ETHELENE		
STL	STEEL		
RTW	RAW TRANSIT WATER		
FBD	FILTER BACKWASH DRAIN		
FW	FINISHED WATER		
RFM	RESIDUALS FORCE MAIN		
FTWD	FILTER TO WASTE DRAIN		
ABAN	ABANDONED		
UTILS	UTILITIES		
ELEC	ELECTRICAL		
THRU	SEALED PIPE TRAVERSING THRU A MANHOLE		

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
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DATED JUN 07 2019 FILE # 18-1069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Signature O. Enbeck

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PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C00 C-001.DWG
LAST UPDATE: Thursday, September 27, 2018 8:52:33 AM
PLOT DATE: Friday, April 05, 2019 3:26:08 PM

WOONSOCKET WATER SERVICES, LLC

AECOM suez

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
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401.767.9209 tel
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CONSULTANT

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REGISTRATION

JEFFREY DEINNOCENTIS
No. 11368
REGISTERED PROFESSIONAL ENGINEER
CIVIL
4-5-19

ISSUE

CONSTRUCTION

REVISION

I/R	DATE	DESCRIPTION

PROJECT NUMBER

60552844

Designed By:	M. RIBEIRO
Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	SEPTEMBER 2018
Scale:	AS NOTED

DISCIPLINE

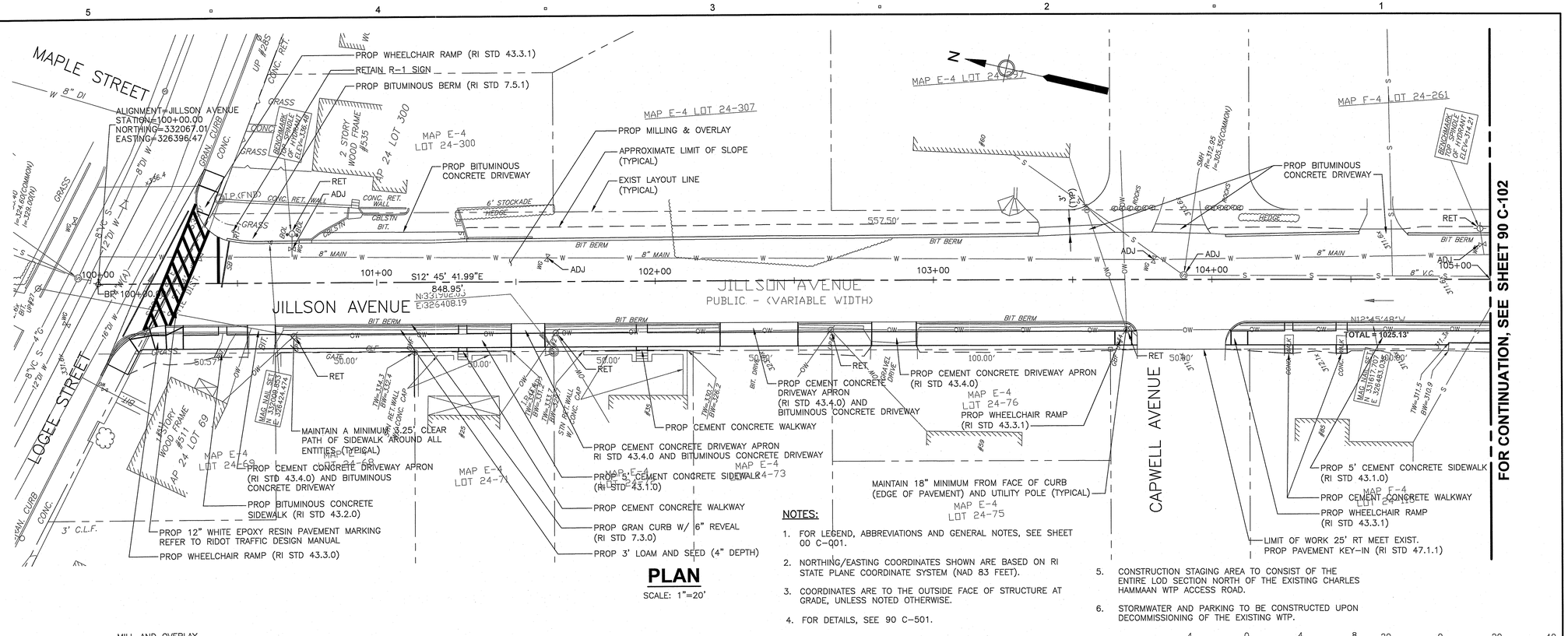
CIVIL

SHEET TITLE

LEGEND, ABBREVIATIONS AND GENERAL NOTES

SHEET NUMBER

00 C-001



PLAN

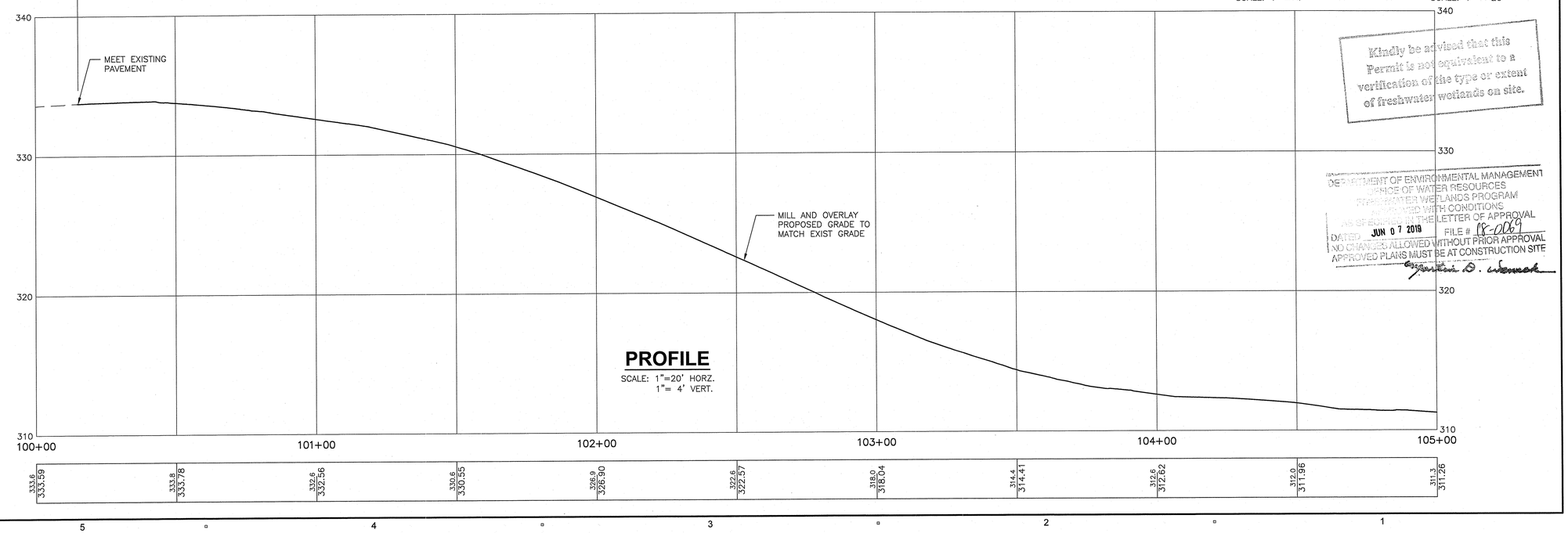
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NOTES:

1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET 00 C-001.
2. NORTHING/EASTING COORDINATES SHOWN ARE BASED ON RI STATE PLANE COORDINATE SYSTEM (NAD 83 FEET).
3. COORDINATES ARE TO THE OUTSIDE FACE OF STRUCTURE AT GRADE, UNLESS NOTED OTHERWISE.
4. FOR DETAILS, SEE 90 C-501.
5. CONSTRUCTION STAGING AREA TO CONSIST OF THE ENTIRE LOD SECTION NORTH OF THE EXISTING CHARLES HAMMAAN WTP ACCESS ROAD.
6. STORMWATER AND PARKING TO BE CONSTRUCTED UPON DECOMMISSIONING OF THE EXISTING WTP.

SCALE: 1" = 4'

SCALE: 1" = 20'



PROFILE

SCALE: 1"=20' HORZ.
1"= 4' VERT.

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LAST UPDATE: Friday, April 05, 2019 11:19:34 AM
PLOT DATE: Friday, April 05, 2019 3:35:19 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

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CONSULTANT

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REGISTRATION

JEFFREY DEINNOCENTIS
No. 11368
REGISTERED PROFESSIONAL ENGINEER
CIVIL
4-5-19

ISSUE

CONSTRUCTION

REVISION

1	SEPT 2018	
I/R	DATE	DESCRIPTION

PROJECT NUMBER

60552844

Designed By:	J. DEINNOCENTIS
Drawn By:	S. NAPOLITANO
Dept Check:	K. SCHAEFFER
Proj Check:	R. POGODZIENSKI
Date:	SEPTEMBER 2018
Scale:	AS NOTED

DISCIPLINE

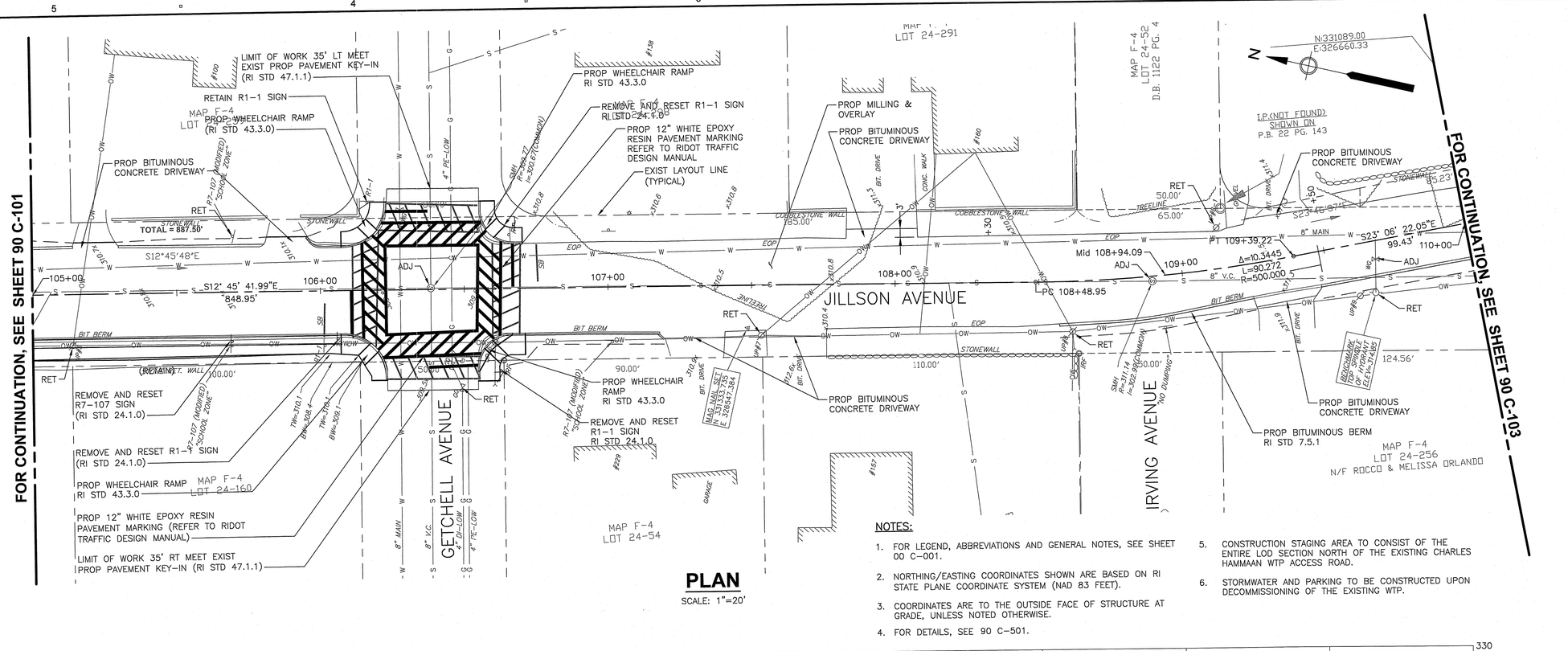
CIVIL

SHEET TITLE

JILLSON AVENUE ROAD PLAN AND PROFILE I

SHEET NUMBER

90 C-101

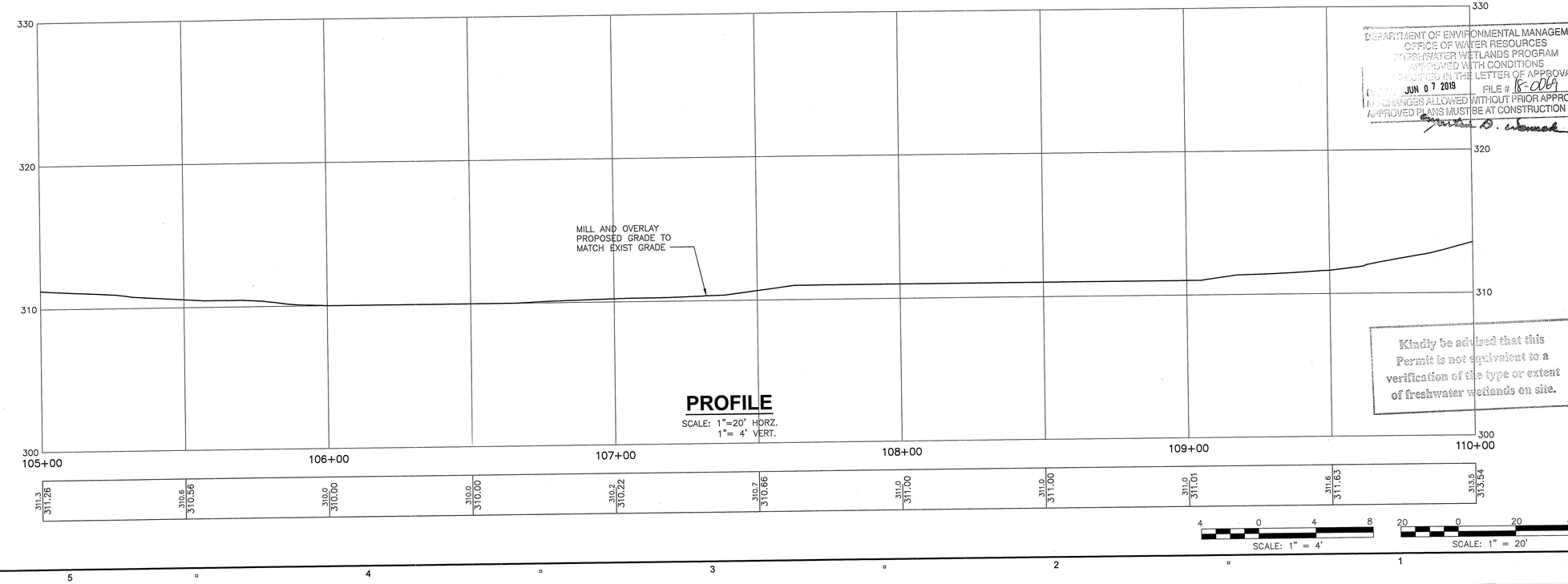


PLAN

SCALE: 1"=20'

NOTES:

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2. NORTHING/EASTING COORDINATES SHOWN ARE BASED ON RI STATE PLANE COORDINATE SYSTEM (NAD 83 FEET).
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PROFILE

SCALE: 1"=20' HORZ.
1"= 4' VERT.

SCALE: 1" = 4'

SCALE: 1" = 20'

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
NOTED IN THE LETTER OF APPROVAL
DATE JUN 07 2019 FILE # 18-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C90 C-102.DWG
LAST UPDATE: Friday, April 05, 2019 12:18:49 PM
PLOT DATE: Friday, April 05, 2019 2:37:37 PM

WOONSOCKET WATER SERVICES, LLC

AECOM suez

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

CONSULTANT

WOONSOCKET WATER SERVICES, INC.
250 APOLLO DRIVE
CHELMSFORD, MA 01824
PHONE: (978) 905-2100
www.aecom.com

REGISTRATION

JEFFREY DEINNOCENTIS
No. 11368
REGISTERED PROFESSIONAL ENGINEER CIVIL
4-5-19

ISSUE

CONSTRUCTION

REVISION

I/R	DATE	DESCRIPTION
1	SEPT 2018	

PROJECT NUMBER

60552844

Designed By:	J. DEINNOCENTIS
Drawn By:	S. NAPOLITANO
Dept Check:	K. SCHAEFFER
Proj Check:	R. POGODZIENSKI
Date:	SEPTEMBER 2018
Scale:	AS NOTED

DISCIPLINE

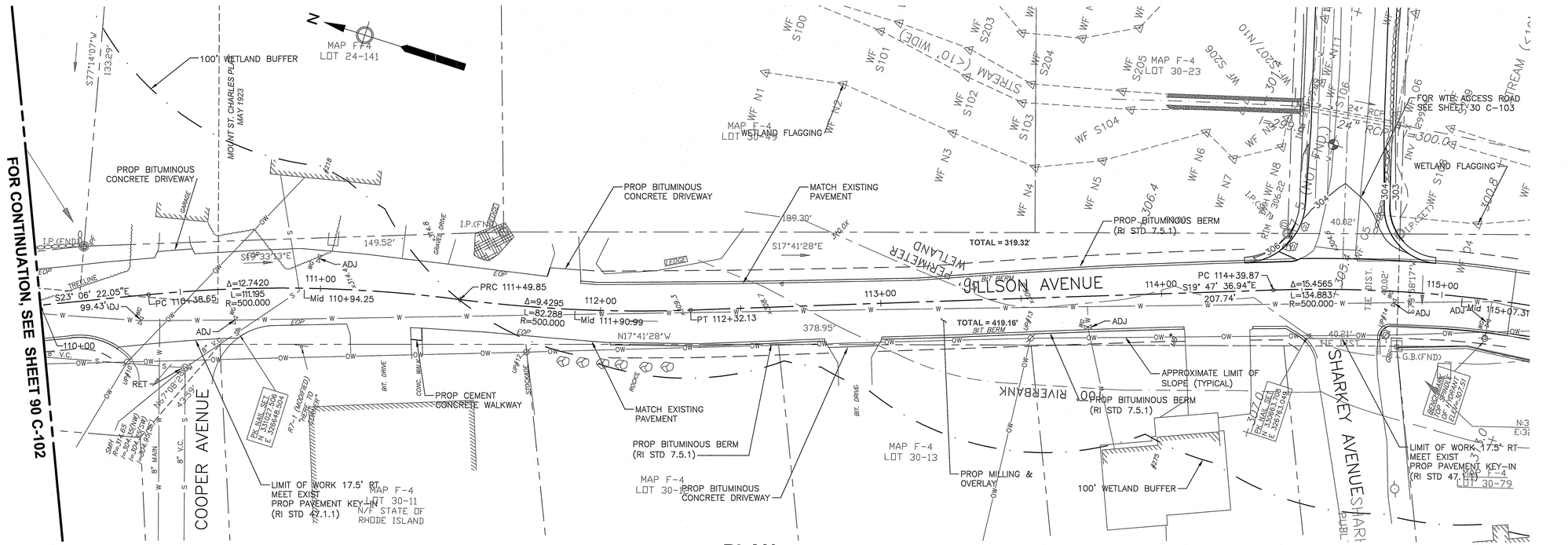
CIVIL

SHEET TITLE

JILLSON AVENUE ROAD PLAN AND PROFILE II

SHEET NUMBER

90 C-102



PLAN

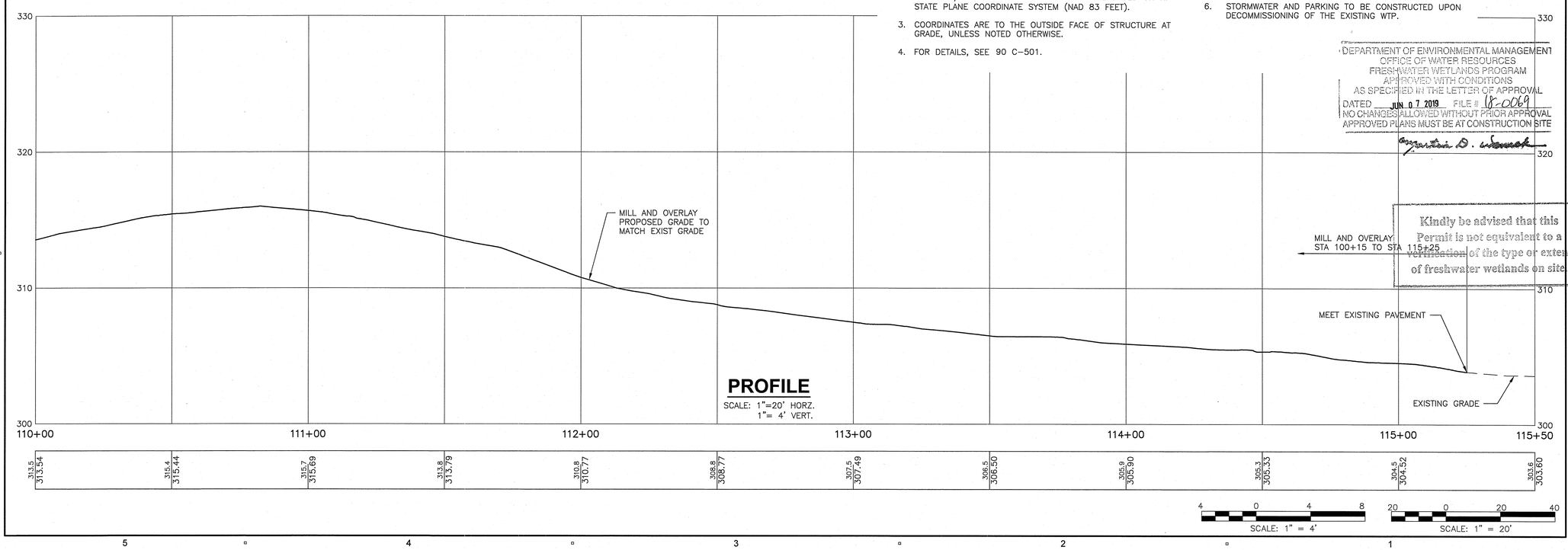
SCALE: 1"=20'

NOTES:

1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET 00 C-001.
2. NORTHING/EASTING COORDINATES SHOWN ARE BASED ON RI STATE PLANE COORDINATE SYSTEM (NAD 83 FEET).
3. COORDINATES ARE TO THE OUTSIDE FACE OF STRUCTURE AT GRADE, UNLESS NOTED OTHERWISE.
4. FOR DETAILS, SEE 90 C-501.
5. CONSTRUCTION STAGING AREA TO CONSIST OF THE ENTIRE LOD SECTION NORTH OF THE EXISTING CHARLES HAMMAAN WTP ACCESS ROAD.
6. STORMWATER AND PARKING TO BE CONSTRUCTED UPON DECOMMISSIONING OF THE EXISTING WTP.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JUN 07 2019 FILE # 18-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

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PROFILE

SCALE: 1"=20' HORZ.
1"= 4' VERT.

SCALE: 1" = 4'

SCALE: 1" = 20'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C90 C-103.DWG
LAST UPDATE: Friday, April 05, 2019 3:21:27 PM
PLOT DATE: Friday, April 05, 2019 3:39:06 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

CONSULTANT

WOONSOCKET WATER SERVICES, INC.
250 APOLLO DRIVE
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PHONE: (978) 905-2100
www.aecom.com

REGISTRATION

JEFFREY DEINNOCENTIS
No. 11368
REGISTERED PROFESSIONAL ENGINEER
CIVIL
4-5-19

ISSUE

CONSTRUCTION

REVISION

1	SEPT 2018	
I/R	DATE	DESCRIPTION

PROJECT NUMBER

60552844

Designed By:	J. DEINNOCENTIS
Drawn By:	S. NAPOLITANO
Dept Check:	K. SCHAEFFER
Proj Check:	R. POGODZIENSKI
Date:	SEPTEMBER 2018
Scale:	AS NOTED

DISCIPLINE

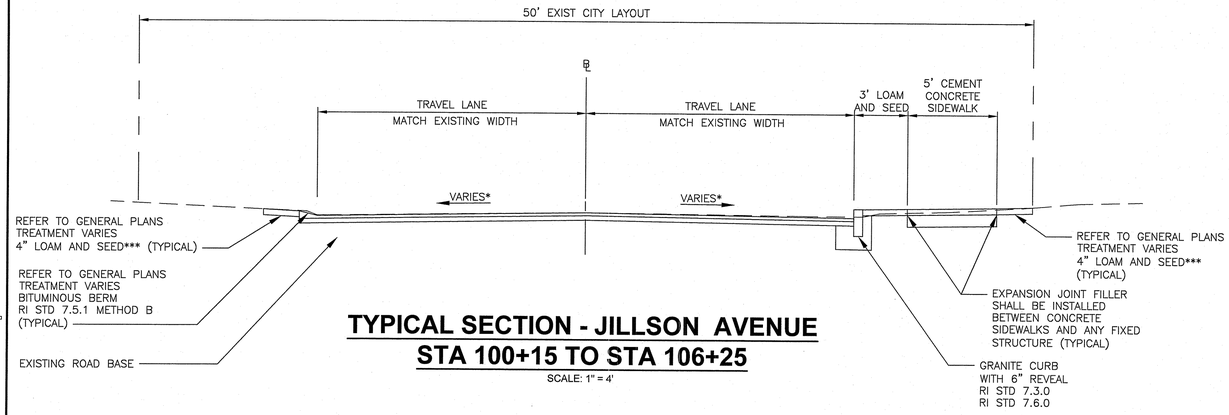
CIVIL

SHEET TITLE

JILLSON AVENUE ROAD PLAN AND PROFILE III

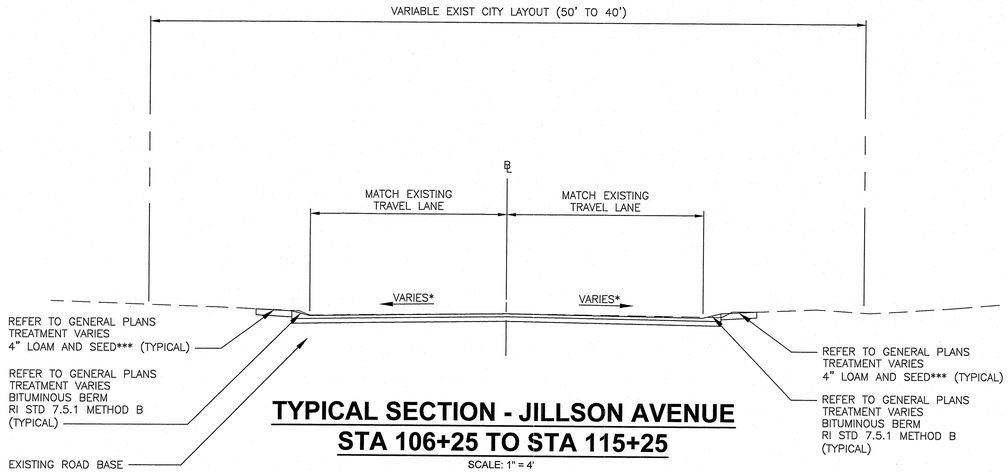
SHEET NUMBER

90 C-103



TYPICAL SECTION - JILLSON AVENUE
STA 100+15 TO STA 106+25

SCALE: 1" = 4'



TYPICAL SECTION - JILLSON AVENUE
STA 106+25 TO STA 115+25

SCALE: 1" = 4'

DESIGN PARAMETERS

NO REDESIGN

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

LEGEND

MILLING AND OVERLAY:	MILL 4" PAVEMENT TYPE TO BE II-B 2-IN. BITUMINOUS SURFACE COURSE TYPE I-1 2-IN. BITUMINOUS BINDER COURSE
CEMENT CONCRETE SIDEWALK/WALKWAY**:	RI STD 43.1.0
CEMENT CONCRETE DRIVEWAY**:	RI STD 43.4.1
BITUMINOUS CONCRETE SIDEWALK**:	RI STD 43.2.0
BITUMINOUS CONCRETE DRIVEWAY**:	MILL 4" PAVEMENT TYPE TO BE II-B 2-IN. BITUMINOUS SURFACE COURSE TYPE I-1 2-IN. BITUMINOUS BINDER COURSE
BITUMINOUS POROUS PAVEMENT SIDEWALK:	1.5" HOT MIX ASPHALT SURFACE COURSE – OPEN GRADED FRICTION COURSE POLYMER MODIFIED (OGFC-P) 2.5" HOT MIX ASPHALT INTERMEDIATE COURSE – POROUS HOT MIX ASPHALT BINDER POLYMER MODIFIED (OGFC-P) 4" GRANULAR STORAGE/RECHARGE BED COURSE OVER 12" STONE FOR DRAINAGE BED

**DRIVEWAYS AND RESIDENTIAL WALKS SHALL BE MATCHED IN KIND OR AS SHOWN ON THE PLANS. THE CONSTRUCTION METHODS, MATERIALS, MEASUREMENT AND PAYMENT SHALL BE IN ACCORDANCE WITH THE CURRENT RHODE ISLAND DOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. EXISTING SIDEWALK GRAVEL SUBBASE THAT IS CONSIDERED TO BE SUITABLE BY THE RESIDENT ENGINEER SHALL REMAIN IN PLACE AND BE USED AS SIDEWALK SUBBASE.

***4" LOAM AND SEEDED AREAS TO BE 2' MINIMUM IN WIDTH AND SLOPES NO GREATER THAN 3:1.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JUN 07 2019 FILE # 6-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Justin D. Schmock

WOONSOCKET WATER SERVICES, LLC

AECOM suez

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
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REGISTRATION

JEFFREY DEINNOCENTIS
No. 11368
REGISTERED PROFESSIONAL ENGINEER
CIVIL
4-5-19

ISSUE

CONSTRUCTION

REVISION

I/R	DATE	DESCRIPTION
1	SEPT 2018	

PROJECT NUMBER

60552844

Designed By:	J. DEINNOCENTIS
Drawn By:	S. NAPOLITANO
Dept Check:	K. SCHAEFFER
Proj Check:	R. POGODZIENSKI
Date:	SEPTEMBER 2018
Scale:	AS NOTED

DISCIPLINE

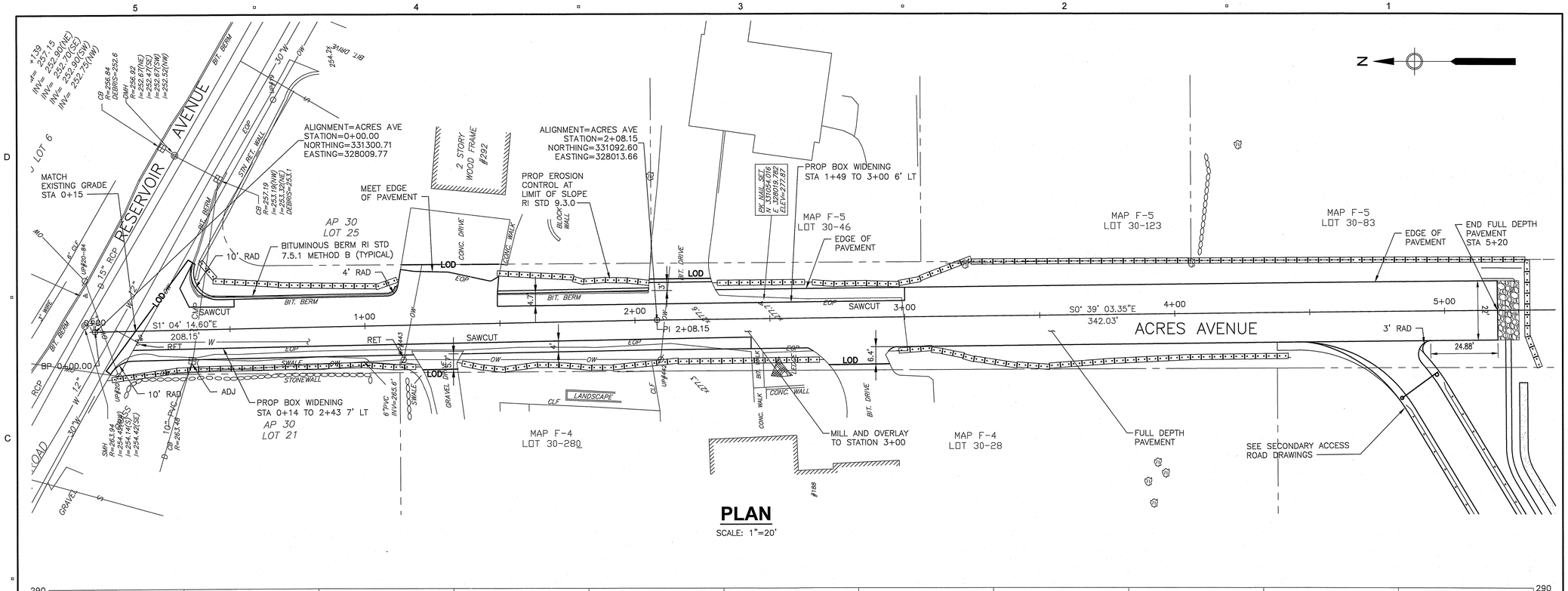
CIVIL

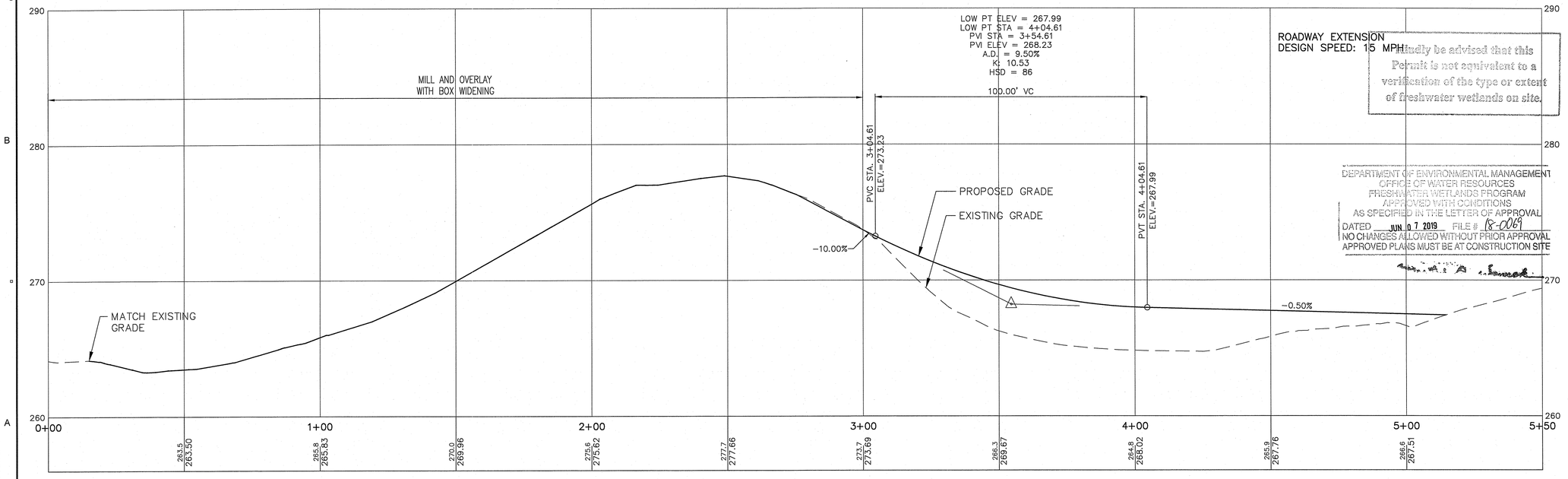
SHEET TITLE

JILLSON AVENUE DETAILS I

SHEET NUMBER

90 C-501





PROFILE
SCALE: 1"=20' HORZ.
1"= 4' VERT.

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JUN 07 2019 FILE # 18-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

4 0 4 8 SCALE: 1" = 4'
20 0 20 40 SCALE: 1" = 20'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C95 C-101.DWG
LAST UPDATE: Friday, April 05, 2019 2:13:40 PM
PLOT DATE: Friday, April 05, 2019 3:41:21 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
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CONSULTANT

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REGISTRATION

JEFFREY DEINNOCENTIS
No. 11368
REGISTERED PROFESSIONAL ENGINEER
CIVIL
4-5-19

ISSUE

CONSTRUCTION

REVISION

1	SEPT 2018	
I/R	DATE	DESCRIPTION

PROJECT NUMBER

60552844

Designed By:	J. DEINNOCENTIS
Drawn By:	S. NAPOLITANO
Dept Check:	K. SCHAEFFER
Proj Check:	R. POGODZIENSKI
Date:	SEPTEMBER 2018
Scale:	AS NOTED

DISCIPLINE

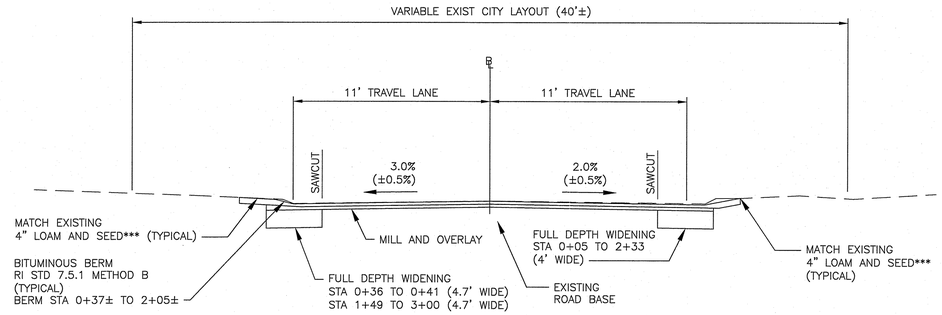
CIVIL

SHEET TITLE

ACRES AVENUE ROAD PLAN AND PROFILE

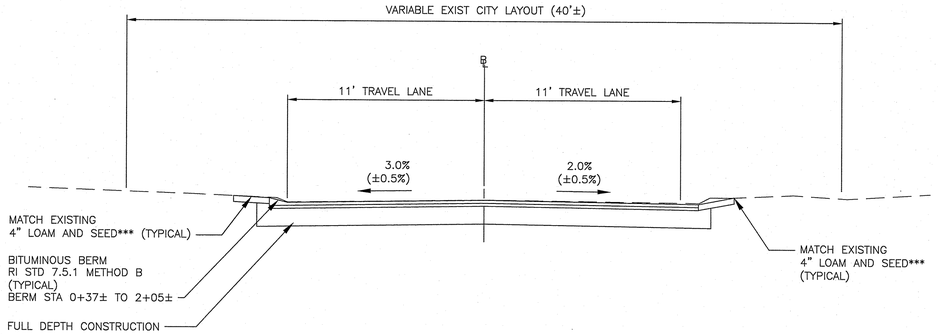
SHEET NUMBER

95 C-101



TYPICAL SECTION - ACRE AVENUE
STA 0+15 TO 3+00

SCALE: 1" = 4'



TYPICAL SECTION - ACRE AVENUE
STA 3+00 TO 5+20

SCALE: 1" = 4'

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LEGEND

MILLING AND OVERLAY:	MILL 4" PAVEMENT TYPE TO BE II-B 2-IN. BITUMINOUS SURFACE COURSE TYPE I-1 2-IN. BITUMINOUS BINDER COURSE
FULL DEPTH WIDENING:	PAVEMENT TYPE TO BE II-B 2-IN. BITUMINOUS SURFACE COURSE TYPE I-1 2-IN. BITUMINOUS BINDER COURSE 12-IN. GRAVEL BORROW SUBBASE COURSE OR RECLAIMED MATERIAL MEETING M.01.0; GRADATION OF AGGREGATES, TABLE I COLUMN I. WIDENING 4' + WIDTH
BITUMINOUS CONCRETE DRIVEWAY**:	2-IN. BITUMINOUS SURFACE COURSE TYPE I-1 2-IN. BITUMINOUS BINDER COURSE

**DRIVEWAYS AND RESIDENTIAL WALKS SHALL BE MATCHED IN KIND OR AS SHOWN ON THE PLANS. THE CONSTRUCTION METHODS, MATERIALS, MEASUREMENT AND PAYMENT SHALL BE IN ACCORDANCE WITH THE CURRENT RHODE ISLAND DOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. EXISTING SIDEWALK GRAVEL SUBBASE THAT IS CONSIDERED TO BE SUITABLE BY THE RESIDENT ENGINEER SHALL REMAIN IN PLACE AND BE USED AS SIDEWALK SUBBASE.

***4" LOAM AND SEEDED AREAS TO BE 2' MINIMUM IN WIDTH AND SLOPES NO GREATER THAN 3:1.

DESIGN PARAMETERS

ROADWAY EXTENSION
DESIGN SPEED:
15 MPH

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JUN 07 2019 FILE # 18-0064
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

CONSULTANT

WOONSOCKET WATER SERVICES, INC.
250 APOLLO DRIVE
CHELMSFORD, MA 01824
PHONE: (978) 905-2100
www.aecom.com

REGISTRATION

JEFFREY DEINNOCENTIS
No. 11368
REGISTERED
PROFESSIONAL ENGINEER
CIVIL
4-5-19

ISSUE

CONSTRUCTION

REVISION

1	SEPT 2018	
I/R	DATE	DESCRIPTION

PROJECT NUMBER

60552844

Designed By:	J. DEINNOCENTIS
Drawn By:	S. NAPOLITANO
Dept Check:	K. SCHAEFFER
Proj Check:	R. POGODZIENSKI
Date:	SEPTEMBER 2018
Scale:	AS NOTED

DISCIPLINE

CIVIL

SHEET TITLE

ACRES AVENUE
DETAILS I

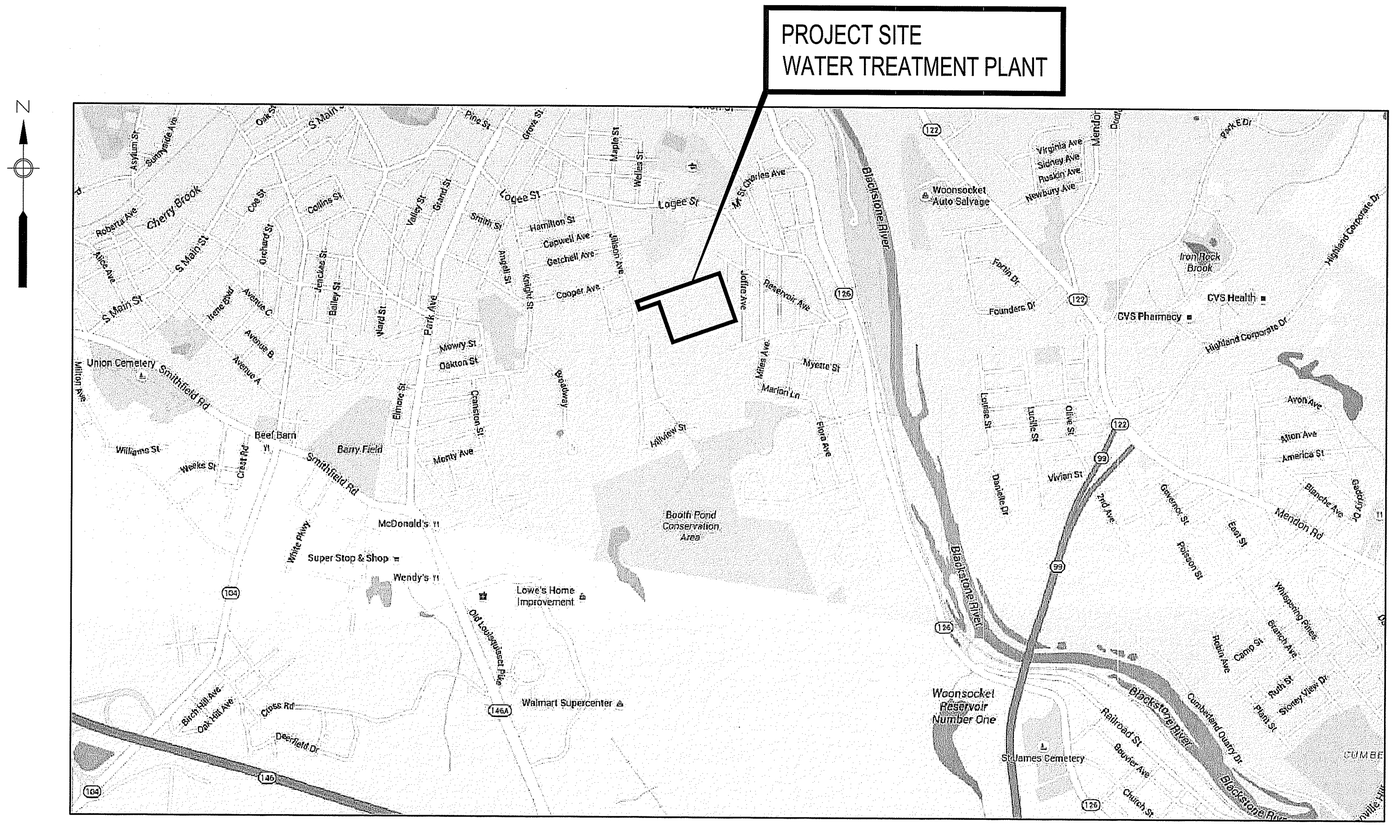
SHEET NUMBER

95 C-501

CITY OF WOONSOCKET, RHODE ISLAND
WATER TREATMENT PLANT
DESIGN-BUILD-OPERATE
FINAL PLAN SUBMISSION
AUGUST 2018
VOLUME 1 WATER TREATMENT PLANT

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0061
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



LOCATION PLAN
SCALE: 1"=1000'

0 1000 2000 3000
SCALE 1" = 1000' FEET

INDEX OF DRAWINGS

SHEET NO. TITLE

GENERAL
00 G-001 COVER SHEET, LOCATION PLAN AND INDEX OF DRAWINGS
00 G-002 STRUCTURE DESIGNATION KEY PLAN

CIVIL
00 C-001 LEGEND, ABBREVIATIONS AND GENERAL NOTES
30 C-100 WTP SITE EROSION AND SEDIMENTATION CONTROL PLAN
30 C-101 WTP SITE LAYOUT PLAN
30 C-102 WTP OVERALL SITE FINISHED GRADING PLAN
30 C-103 WTP FINISHED GRADING PLAN I
30 C-104 WTP FINISHED GRADING PLAN II
30 C-105 WTP FINISHED GRADING PLAN III
30 C-106 WTP FINISHED GRADING PLAN IV
30 C-107 WTP MAIN ACCESS ROAD PLAN AND PROFILE
30 C-108 WTP SECONDARY ACCESS ROAD PLAN
30 C-109 WTP SECONDARY ACCESS ROAD PROFILE
30 C-110 WTP PLATFORM ROAD PLAN
30 C-111 WTP OVERALL YARD PIPING PLAN
30 C-205 WTP OVERALL SITE STORM MANAGEMENT PLAN
30 C-206 WTP SITE STORM MANAGEMENT PLAN I
30 C-207 WTP SITE STORM MANAGEMENT PLAN II
30 C-208 WTP SITE STORM MANAGEMENT PLAN III
30 C-209 WTP SITE STORM MANAGEMENT PLAN IV
99 C-501 DETAILS I
99 C-502 DETAILS II
99 C-503 DETAILS III
99 C-504 DETAILS IV
99 C-505 DETAILS V
99 C-506 DETAILS VI
99 C-507 DETAILS VII
99 C-508 DETAILS VIII
99 C-509 DETAILS IX
99 C-510 DETAILS X

LANDSCAPE
30 L-101 BIORETENTION PLANTING PLAN

SURVEY
JILLSON AVENUE – PLOT PLAN

Environmental Management
AUG - 6 2018
Office of Water Resources

WOONSOCKET WATER SERVICES, LLC
AECOM SUEZ

PROJECT
Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

Civil Early Works Package

CLIENT
City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
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CHELMSFORD, MA 01824
PHONE: (978) 905-2100
www.aecom.com

REGISTRATION

MATTHEW RIBEIRO
No. 11725
REGISTERED PROFESSIONAL ENGINEER
CIVIL
8/1/2018

ISSUE
RIDEM PERMIT SUBMITTAL
NOTE: This document is preliminary only and is not intended for any purpose except review and comment by the owner and its agents.

REVISION

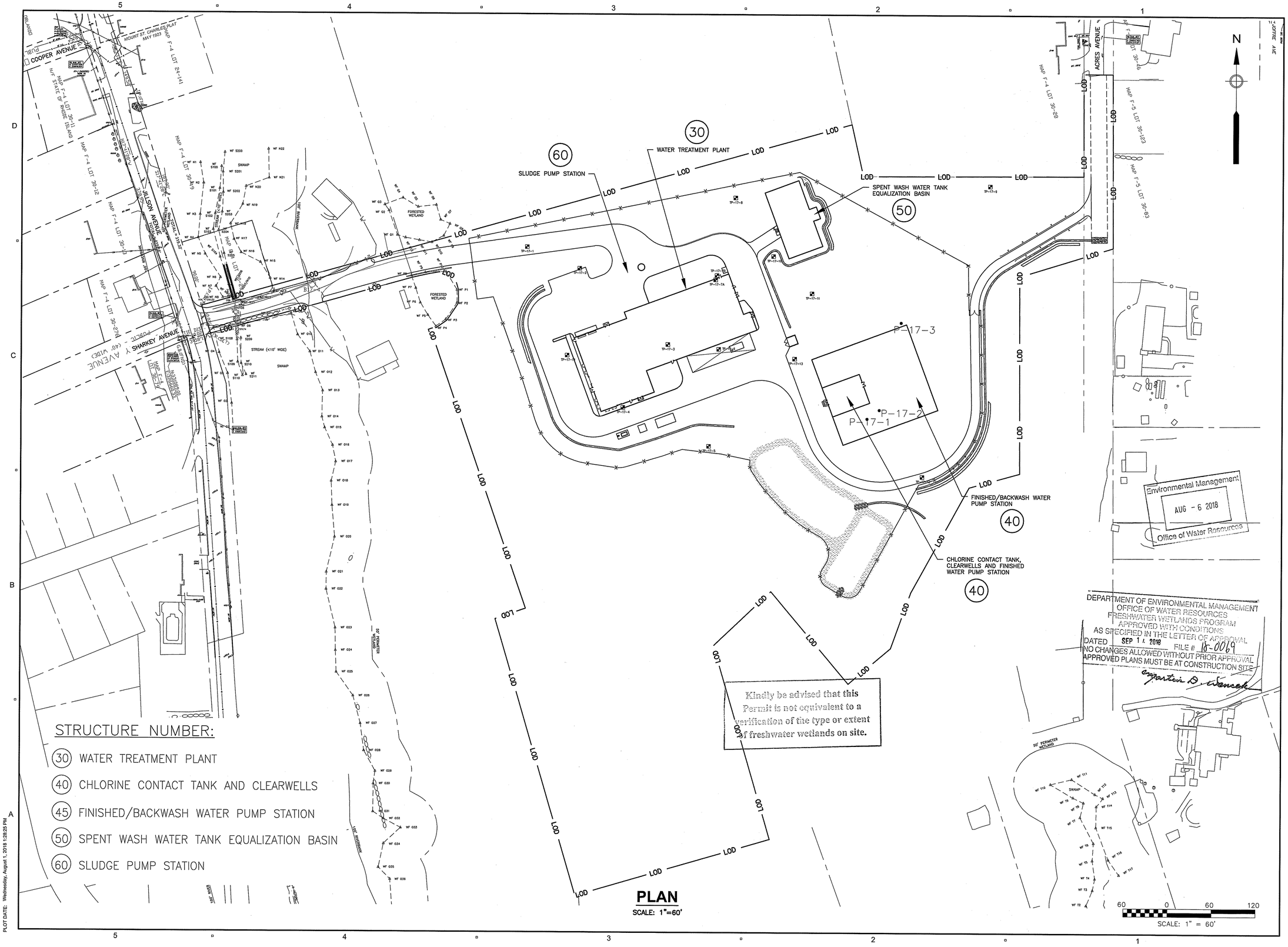
I/R	DATE	DESCRIPTION

PROJECT NUMBER
60552844

Designed By:	M. RIBEIRO
Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE
RIDEM PERMIT
SHEET TITLE
COVER SHEET, LOCATION PLAN AND INDEX OF DRAWINGS
SHEET NUMBER
00 G-001
SHEET 1 OF 32

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C_-_TREATMENT PLANTING\00 G-001_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 1:56:39 PM
PLOT DATE: Wednesday, August 1, 2018 1:10:42 PM



STRUCTURE NUMBER:

- (30) WATER TREATMENT PLANT
- (40) CHLORINE CONTACT TANK AND CLEARWELLS
- (45) FINISHED/BACKWASH WATER PUMP STATION
- (50) SPENT WASH WATER TANK EQUALIZATION BASIN
- (60) SLUDGE PUMP STATION

PLAN
SCALE: 1"=60'

SCALE: 1" = 60'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C- TREATMENT PLANT\G\00 G-002_RIDENLDWG
LAST UPDATE: Tuesday, July 3, 2018 10:27:04 AM
PLOT DATE: Wednesday, August 1, 2018 1:28:25 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
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REGISTRATION

MATTHEW RIBEIRO
No. 11725
REGISTERED PROFESSIONAL ENGINEER
CIVIL
8/1/2018

ISSUE

RIDEM PERMIT SUBMITTAL

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REVISION

I/R	DATE	DESCRIPTION

PROJECT NUMBER

60552844

Designed By:	M. RIBEIRO
Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

RIDEM PERMIT

SHEET TITLE

STRUCTURE DESIGNATION KEY PLAN

SHEET NUMBER

00 G-002

SHEET 2 OF 32

GENERAL NOTES:

1. EXISTING SURVEY AND SITE TOPOGRAPHY INFORMATION COMPILED FROM THE FOLLOWING PROVIDED BY THE CITY:

- 2001 BLENDING CHAMBER/RESERVOIR SITE IN NORTH SMITHFIELD – SURVEY PROVIDED BY: MERIDIAN ENGINEERING INC. THE SURVEYED AREA OF EXISTING CONDITIONS SPANS APPROXIMATELY 2,000 FEET FROM THE SURGE RELIEF VALVE AND METERING CHAMBER AT THE SOUTHERN END, TO JUST NORTH OF THE EXISTING ELECTRIC TRANSMISSION TOWER. THE PLAN IS BORDERED TO THE EAST BY MANVILLE ROAD AND TO THE WEST BY LYDIA AVENUE. THE EXISTING CONDITIONS PLAN CONTAINS LAND IN BOTH WOONSOCKET AND NORTH SMITHFIELD, AND INCLUDES UTILITIES, STRUCTURES, ROADS, TOPOGRAPHY, AND WETLAND DELINEATIONS.

- 2004 WATER MAIN REHABILITATION PROJECT – SURVEY PROVIDED BY BRYANT ASSOCIATES, INC., AND COMMONWEALTH ENGINEERS & CONSULTANTS INC., INCLUDES:
  - LYDIA AVENUE
  - WANDA AVENUE
  - FLORA AVENUE
  - LILAC AVENUE
  - BERTENSHAW ROAD
  - FAIRFIELD AVENUE
  - RESERVOIR ROAD (FAIRFIELD AVENUE TO JOFFRE AVENUE)
  - LOGEE STREET (BERTENSHAW ROAD TO FRONT STREET)

- 2010 MANVILLE ROAD WATER MAIN REHABILITATION – SURVEY PROVIDED BY SURVEYING AND MAPPING CONSULTANTS, INC. (SMC), BRAINTREE, MASSACHUSETTS AND THE CITY OF WOONSOCKET.

- 2012 – BERNON HEIGHTS SITE FOR PROPOSED WTP – SURVEY PROVIDED BY SMC OF BRAINTREE, MASSACHUSETTS.

- 2015 SURVEY PROVIDED BY GARAFALO AND ASSOCIATES, PROVIDENCE, RHODE ISLAND.
  - PROPOSED RAW WATER PUMP STATION LOCATION JUST OFF MANVILLE ROAD.
  - JILLSON AVENUE (LOGEE STREET TO TALBOT AVENUE).
  - LAND AREA EAST OF JILLSON AVENUE (WET AREA) APPROXIMATELY 450 LINEAR FEET ALONG JILLSON AVENUE AND 400 LINEAR FEET EAST OF JILLSON AVENUE (APPROXIMATELY 4 ACRES).
    ACRES AVENUE, RESERVOIR AVENUE (ACRES AVENUE TO JOFFRE AVENUE), JOFFRE
  - AVENUE (RESERVOIR AVENUE TO LOGEE STREET).

2. COORDINATES, IN U.S. SURVEY FEET, ARE REFERENCED TO THE RHODE ISLAND STATE PLANE, REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83),

3. ELEVATIONS, IN U.S. SURVEY FEET, ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). PROPERTY LINES WHERE SHOWN ARE APPROXIMATE AND INTENDED FOR GENERAL INFORMATION ONLY.

4. UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE ONLY. ADDITIONAL UTILITIES MAY BE PRESENT. CONTRACTOR SHALL CONTACT DIG SAFE .AT 811 PRIOR TO EXCAVATION ACTIVITIES.

5. ERECT EROSION CONTROL CHECKS PRIOR TO COMMENCING ANY EXCAVATION OR STORAGE OF BACKFILL MATERIAL ON–SITE.

6. EXCAVATION OF ANY TYPE SHALL BE ACCOMPLISHED IN SUCH A MANNER THAT UNDERGROUND UTILITIES OR STRUCTURES ARE NOT DAMAGED. ALL SIDEWALKS, AND OTHER STRUCTURES DISTURBED BY CONSTRUCTION IN OR OUTSIDE THE PROJECT AREA SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AND SHALL BE GRADED TO MEET PROPOSED CONSTRUCTION.

7. NECESSARY MEASURES AND CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE AND STRENGTH SHALL BE PROVIDED, AS APPLICABLE, TO PREVENT ACCESS TO ALL OPEN EXCAVATIONS AT THE COMPLETION OF EACH DAYS WORK.

8. STOCKPILING OF CONSTRUCTION MATERIALS WITHIN 50 FT. OF WATERWAYS IS PROHIBITED.

9. EXISTING UTILITIES INTERFERING WITH THE WORK SHALL BE RELOCATED AS DIRECTED.

10. EXACT HORIZONTAL LOCATION OF PIPE TO BE INSTALLED SHALL MATCH AS CLOSELY AS POSSIBLE TO THE LOCATION SHOWN ON THE PLANS. PLACEMENT OF FITTINGS, ETC. MAY VARY FROM PLAN LOCATIONS ACCORDING TO LAYING LENGTHS OF PIPE.

11. PIPING WHICH IS EXPOSED DURING EXCAVATION AND IS NOT TO BE DEMOLISHED, SHALL BE SUPPORTED, BRACED OR OTHERWISE PROTECTED DURING CONSTRUCTION ACTIVITIES.

12. FINAL GRADING SHALL BE UNIFORM BETWEEN SPOT ELEVATIONS AND CONTOURS.

13. AREAS ADJACENT TO NEW CONSTRUCTION SHALL BE FILLED AND GRADED FOR POSITIVE DRAINAGE.

14. ALL AREAS OF EXCAVATION, BACKFILL, FILL AND GRADING SHALL BE RETURNED TO THE ORIGINAL GRADE UNLESS SHOWN ON THE DRAWINGS.

15. ALL COVERS, FRAMES, AND GRATES FROM STRUCTURES WHICH ARE ABANDONED UNDER THIS CONTRACT SHALL BE PROTECTED FROM DAMAGE AND SHALL BE TURNED OVER TO THE CITY.

16. ALL UTILITY BOXES, FRAMES, GRATES, ETC. NOT TO BE ABANDONED SHALL BE RESET TO THE PROPER GRADE.

17. EXISTING TREES, BUSHES, AND SHRUBS SHALL BE PROTECTED FROM DAMAGE UNLESS IN DIRECT CONFLICT WITH PROPOSED STRUCTURES, ROADWAYS, OR PATHS.

18. UNPAVED AREAS TO BE DISTURBED SHALL BE CLEARED AND GRUBBED, IF REQUIRED, AND RESTORED WITH RHODE ISLAND BLEND LOAM AND SEED MIX.

19. INTERRUPTION TO WATER AND OTHER UTILITIES SHALL BE COORDINATED WITH THE CITY.

20. ALL BURIED WATER AND DRAIN PIPES SHALL HAVE A MINIMUM 4 FOOT DEPTH OF COVER.

21. ALL MATERIALS AND EQUIPMENT COMING INTO CONTACT WITH POTABLE WATER SHALL COMPLY WITH ANSI/NSF STANDARD 61.

22. WETLANDS SHOWN HEREON WERE FLAGGED BY PARE CORPORATION BETWEEN THE DATES OF 9/17/17 AND 10/3/17 AND WERE FIELD LOCATED BY NATIONAL LAND SURVEYORS AND DEVELOPERS, INC.

ABBREVIATIONS

ASSF	AREA SUBJECT TO STORM FLOWAGE
BFV	BUTTERFLY VALVE
DIA	DIAMETER
EL	ELEVATION
EXIST	EXISTING
T.O.C	TOP OF CONCRETE
R/U	ROLL–UP (DOOR)
G	GAS
*	REFER TO MECHANICAL PIPE SCHEDULE SHEET 00 D–003 FOR ALL PIPING INDICATED

PROPOSED

- STRUCTURE
- LIMIT OF WORK
- LOD — LIMIT OF DISTURBANCE
- SEDIMENTATION AND EROSION CONTROL
- PIPE – 8" DIAM. or LESS
- PIPE – 10" DIAM. AND GREATER
- BUTTERFLY VALVE
- TEE
- WYE
- 90° PIPE BEND
- 45° PIPE BEND
- 22 1/2° PIPE BEND
- 11 1/4° PIPE BEND
- PIPE CAP
- × 326.5 — SPOT ELEVATION
- 327 — GROUND CONTOUR (MINOR) LINE
- 330 — GROUND CONTOUR (MAJOR) LINE

EROSION CONTROL NOTES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, MONITORED, AND MAINTAINED IN ACCORDANCE WITH THE RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK; THE RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE DESIGN AND OTHER SPECIFICATIONS AND STANDARD DETAILS; AND THE SITE SPECIFIC STORMWATER POLLUTION PREVENTION PLAN PREPARED FOR THE PROJECT.

2. AS FAR AS IS PRACTICABLE, EXISTING VEGETATION SHALL BE PROTECTED AND LEFT IN PLACE, IN ACCORDANCE WITH THE CLEARING LIMITS SHOWN ON THE APPROVED PLANS. PRIOR TO ANY LAND DISTURBANCE ACTIVITIES COMMENCING ON THE SITE, THE CONTRACTOR SHALL PHYSICALLY MARK LIMITS OF DISTURBANCE (LOD) ON THE SITE AND ANY AREAS TO BE PROTECTED WITHIN THE SITE, SO THAT WORKERS CAN CLEARLY IDENTIFY THE AREAS TO BE PROTECTED.

3. INSTALLATION OF EROSION AND SEDIMENT CONTROLS THAT ARE REQUIRED FOR A PARTICULAR PHASE OF THE WORK SHALL BE IN PLACE AND FUNCTIONAL BEFORE ANY EARTHWORK BEGINS ON THAT PARTICULAR PHASE.

4. CARE WILL BE TAKEN TO AVOID HAVING UNSTABILIZED AREAS EXPOSED DURING PRECIPITATION EVENTS. WEATHER FORECASTS WILL BE ROUTINELY CHECKED, AND IN THE CASE OF AN EXPECTED PRECIPITATION EVENT OF OVER 0.25–INCHES OVER A 24–HOUR PERIOD, ALL BMPS WILL BE INSPECTED, AND MAINTAINED AS NECESSARY, PRIOR TO THE WEATHER EVENT. IN THE CASE OF AN EXTREME WEATHER FORECAST (GREATER THAN ONE–INCH OF RAIN OVER A 24–HOUR PERIOD), ADDITIONAL EROSION/SEDIMENT CONTROLS WILL BE INSTALLED WHERE APPROPRIATE.

5. EROSION AND POLLUTION CONTROLS WILL BE CLEANED AS REQUIRED; AFTER A RAINSTORM; AND/OR WHENEVER MAINTENANCE IS REQUIRED AS DETERMINED BY ROUTINE INSPECTION.

6. EROSION CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED EARTH HAS BEEN SECURELY STABILIZED AND ACCEPTED BY THE SITE OWNER. BEFORE FINAL REMOVAL, ALL ACCUMULATED SEDIMENT ON THE UPSTREAM SIDE SHALL BE REMOVED AND LEGALLY DISPOSED OF.

7. ALL STORMWATER CONTROL MEASURES, DISTURBED AREAS, AREAS USED FOR THE STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION (INCLUDING UNSTABILIZED SOIL STOCKPILES), DISCHARGE LOCATIONS, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE MUST BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY–FOUR (24) HOURS AFTER ANY STORM EVENT WHICH GENERATES AT LEAST 0.25–INCHES OF PRECIPITATION PER TWENTY FOUR (24) HOUR PERIOD AND/OR AFTER A SIGNIFICANT AMOUNT OF RUNOFF OR SNOWMELT. A SEPARATE INSPECTION REPORT WILL BE PREPARED FOR EACH INSPECTION. THE INSPECTION REFERENCE NUMBER SHALL BE A COMBINATION OF THE RIPDES CONSTRUCTION GENERAL PERMIT NUMBER CONSECUTIVELY NUMBERED INSPECTIONS. AS AN EXAMPLE, INSPECTION REFERENCE NUMBER FOR THE 4TH INSPECTION OF A PROJECT WOULD BE: RIR100###–4. EACH REPORT WILL BE SIGNED AND DATED BY THE INSPECTOR AND MUST BE KEPT ONSITE AS REQUIRED BY PART II.D OF THE RIPDES CONSTRUCTION GENERAL PERMIT. EACH REPORT WILL BE SIGNED AND DATED BY THE SITE OPERATOR AND RETURNED TO THE INSPECTOR WITHIN 24 HOURS OF RECEIPT. IT IS THE RESPONSIBILITY OF THE SITE OPERATOR TO MAINTAIN A COPY OF THE SWPPP, COPIES OF ALL COMPLETED INSPECTION REPORTS, AND AMENDMENTS AS PART OF THE SWPPP DOCUMENTATION AT THE SITE DURING CONSTRUCTION.

8. IF SITE INSPECTOR DETERMINES THAT CORRECTIVE ACTION IS REQUIRED, THE INSPECTOR SHALL NOTE SUCH ON THE INSPECTION REPORT AND SHALL INFORM THE SITE OPERATOR THAT CORRECTIVE ACTION IS NECESSARY. THE SITE OPERATOR MUST MAKE ALL NECESSARY REPAIRS WHENEVER MAINTENANCE OF THE EROSION AND POLLUTION CONTROLS IS REQUIRED NO LATER THAN SEVEN (7) CALENDAR DAYS FROM THE DATE OF INSPECTION.

LEGEND

EXISTING

SB	STONE BOUND	TOB	TOP BELL END OF PIPE
CB	CONCRETE BOUND	HWALL	HEAD WALL
RIHB	MASS HIGHWAY BOUND	RET	RETAINING WALL
DH	DRILL HOLE	SED	SEDIMENTATION
IP	IRON PIPE	FNC	FENCE
•	PK. REBAR, NAIL, SPIKE	LST	LANDSCAPING TIMBER
H/T	HUB & TACK	CC	CONCRETE CURB
SSM	STEEL SURVEY MARKER	BIT PATCH	BITUMINOUS CONCRETE PATCH
FND	FOUND	EOC	EDGE OF CONCRETE
N/F	NOW OR FORMERLY	EOG	EDGE OF GRAVEL
W/	WITH	(M)	MARKED
(S)	SURVEY	DMH	DRAIN MANHOLE
(R)	RECORD	CB	CATCH BASIN
	DENOTES COMMON OWNERSHIP	R	RIM
	(FEE HOOK)	I	INVERT
MISC	MISCELLANEOUS	NPV	NO PIPE VISIBLE
N.T.S.	NOT TO SCALE	CMP	CORRUGATED METAL PIPE
	PROPERTY LINE	RCP	REINFORCED CONCRETE PIPE
	TREE LINE	CIP	CAST IRON PIPE
	DECIDUOUS TREE	PVC	POLYVINYL CHLORIDE
	BOULDER	VCP	VITREOUS CLAY PIPE
	STONE WALL	CPP	CORRUGATED PLASTIC PIPE
	GUARD RAIL	AC	ASBESTOS CONCRETE
	BARBED WIRE FENCE	GG	GAS GATE
CLF	CHAIN LINK FENCE	GM	GAS METER
RET WALL	RETAINING WALL	EMH	ELECTRIC MANHOLE
		EM	ELECTRIC METER
BIT CONC	BITUMINOUS CONCRETE	SMH	SEWER MANHOLE
GRAN	GRANITE	WG	WATER GATE
	TOP OF CURB	WMH	HYDRANT
100.51 × 100.06	BOTTOM OF CURB	W	WATER MANHOLE
	EDGE OF STREAM	S	WATER LINE
	EDGE OF MARSH	TEL	SEWER LINE
	EDGE OF VEGETATED WETLAND	E	TELEPHONE LINE
WF#4–1	WETLAND FLAG	D	ELECTRIC LINE
	MARSH	G	DRAIN LINE
WP	WOOD POST (BOLLARD)	OW	GAS LINE
MP	METAL POST (BOLLARD)	MW	OVERHEAD WIRE
GP	GRANITE POST (BOLLARD)		MONITORING WELL
CP	CONCRETE POST (BOLLARD)	W	WELL
T	TRANSFORMER	+ 330.3	SPOT ELEVATION
FF	FINISHED FLOOR		INTERMEDIATE CONTOUR
TH	THRESHOLD	320	INDEX CONTOUR
	SIGN		RIPRAP
MB	MAILBOX		
HH	HANDHOLE		200' RIVERBANK OFFSET
	GUY POLE		50' WETLAND OFFSET
	GUY WIRE		
UP#	UTILITY POLE	TP–17–1	TEST PIT
UP/LP	UTILITY POLE/LIGHT POLE	B–5	BORING
LP	LIGHT POLE	P–17–2	ROCK PROBE
DI	DUCTILE IRON		
CLDI	CONCRETE LINED DUCTILE IRON		
HDPE	HIGH DENSITY POLY ETHELENE		
STL	STEEL		
RTW	RAW TRANSIT WATER		
FBD	FILTER BACKWASH DRAIN		
FW	FINISHED WATER		
RFM	RESIDUALS FORCE MAIN		
FTWD	FILTER TO WASTE DRAIN		
ABAN	ABANDONED		
UTILS	UTILITIES		
ELEC	ELECTRICAL		
THRU	SEALED PIPE TRAVERSING THRU A MANHOLE		

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Martin D. Wencek

WOONSOCKET WATER SERVICES, LLC

AECOM suez

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

CONSULTANT

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PHONE: (978) 905-2100
www.aecom.com

REGISTRATION

Environmental Management
AUG - 6 2018
Office of Water Resources

MATTHEW RIBEIRO
No. 11725
REGISTERED PROFESSIONAL ENGINEER
CIVIL
8/1/2018

ISSUE

RIDEM PERMIT SUBMITTAL

NOTE: This document is preliminary only and is not intended for any purpose except review and comment by the owner and its agents.

REVISION

I/R	DATE	DESCRIPTION

PROJECT NUMBER

60552844

Designed By:	M. RIBEIRO
Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

RIDEM PERMIT

SHEET TITLE

LEGEND, ABBREVIATIONS AND GENERAL NOTES

SHEET NUMBER

00 C-001

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C00 C-001_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 8:38:11 AM
PLOT DATE: Wednesday, August 1, 2018 11:4:24 PM



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Environmental Management
AUG - 6 2018
Office of Water Resources

PLAN
SCALE: 1"=60'

NOTES:
1. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.
2. LIMIT OF CLEARING CORRESPONDS WITH LIMIT OF DISTURBANCE (LOD).

60 0 60 120
SCALE: 1" = 60'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C100 C-100_RIDEM.DWG
LAST UPDATE: Tuesday, July 3, 2018 10:37:25 AM
PLOT DATE: Wednesday, August 1, 2018 1:45:32 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

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Scale:	AS NOTED

DISCIPLINE

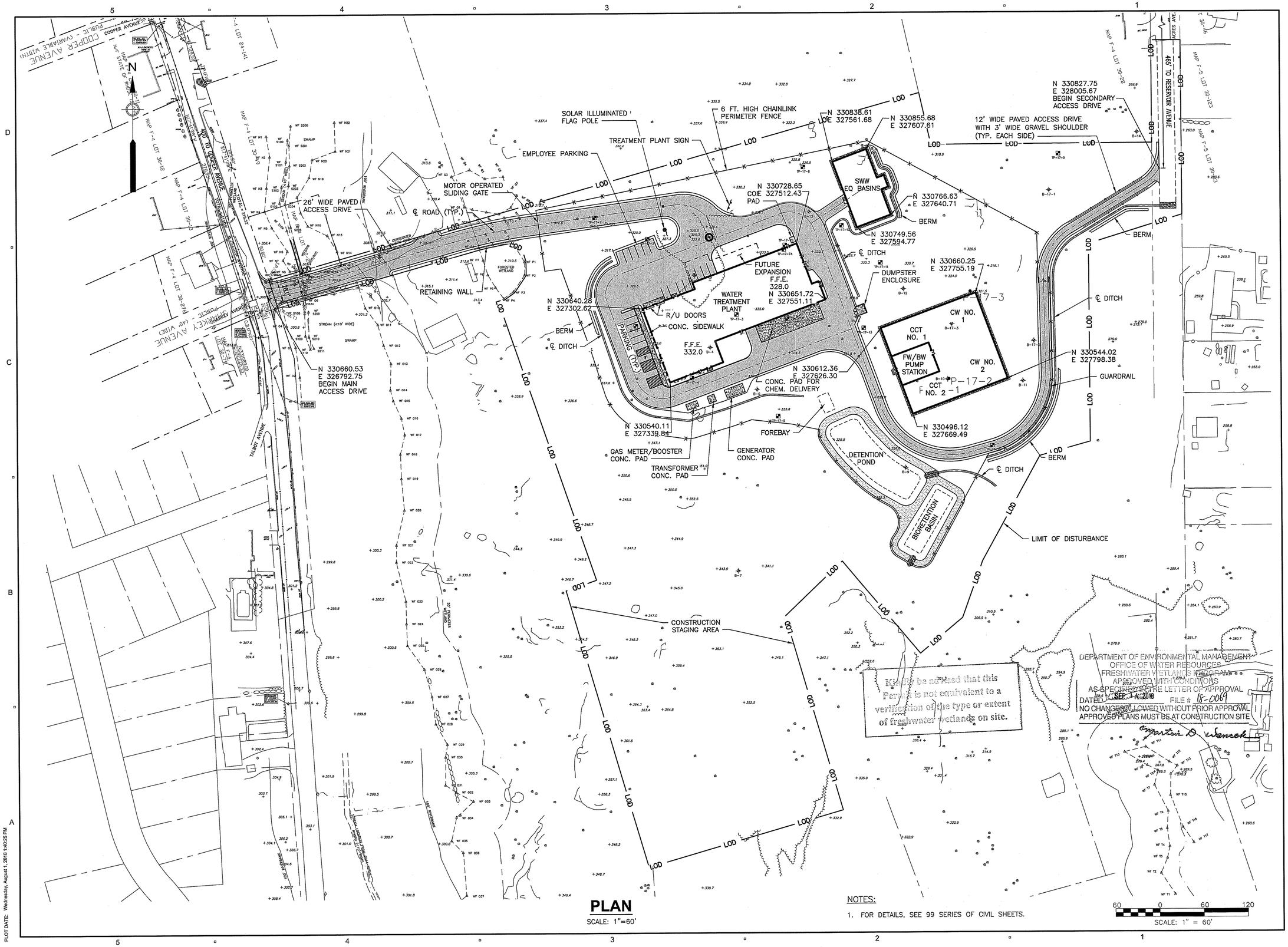
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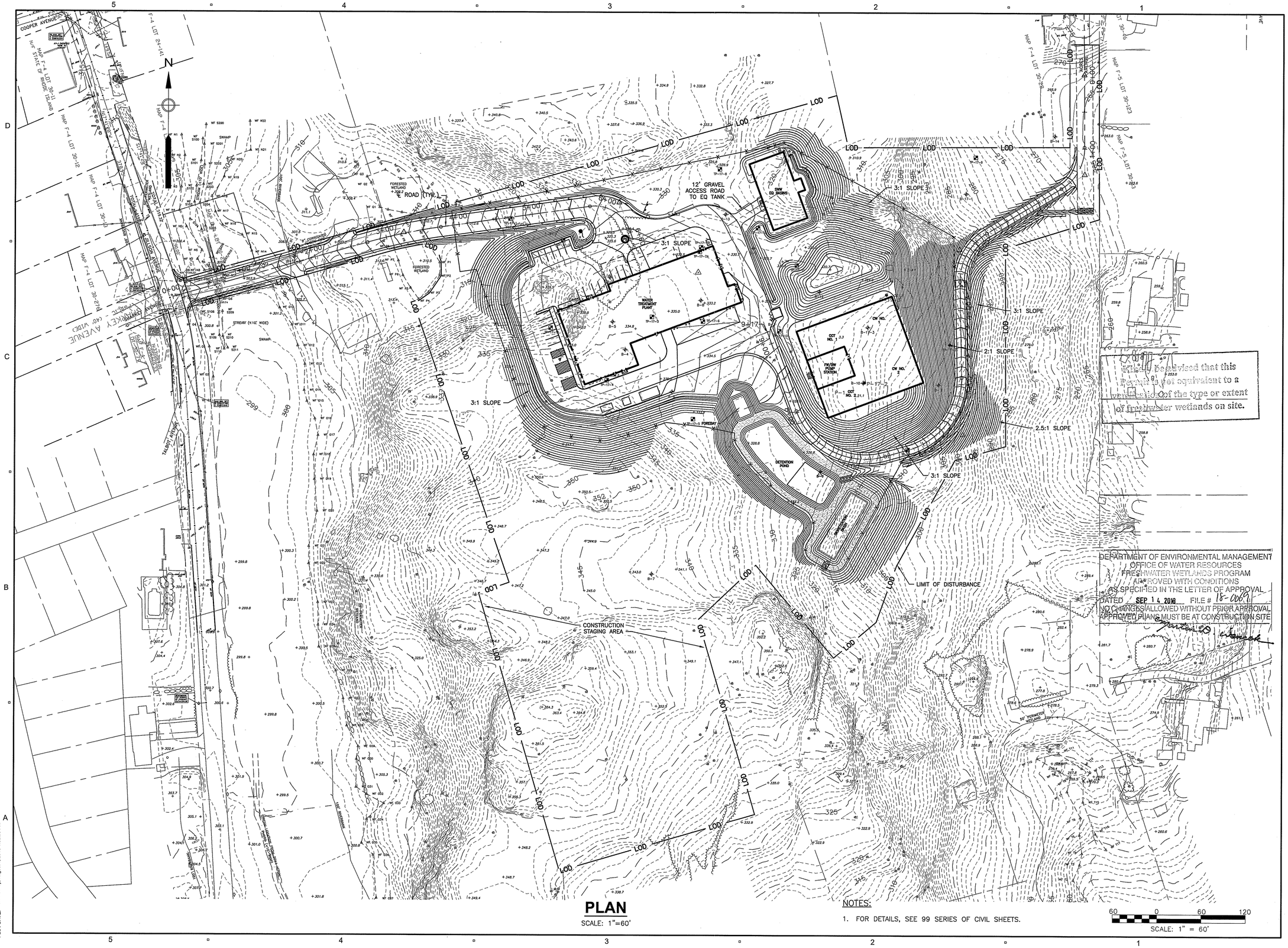
SHEET TITLE

WTP SITE EROSION AND SEDIMENTATION CONTROL PLAN

SHEET NUMBER

30 C-100


N
SCALE: 1"=60'
PLAN
SCALE: 1" = 60'
60 0 60 120
N 330660.53
E 326792.75
BEGIN MAIN ACCESS DRIVE
26' WIDE PAVED ACCESS DRIVE
MOTOR OPERATED SLIDING GATE
℄ ROAD (TYP.)
EMPLOYEE PARKING
SOLAR ILLUMINATED FLAG POLE
TREATMENT PLANT SIGN
6 FT. HIGH CHAINLINK PERIMETER FENCE
N 330838.61
E 327561.68
N 330855.68
E 327607.61
N 330827.75
E 328005.67
BEGIN SECONDARY ACCESS DRIVE
12' WIDE PAVED ACCESS DRIVE WITH 3' WIDE GRAVEL SHOULDER (TYP. EACH SIDE)
400' TO COOPER AVENUE
485' TO RESERVOIR AVENUE
N 330728.65
E 327512.43
COIE PAD
SWW EQ BASINS
N 330766.63
E 327640.71
BERM
N 330749.56
E 327594.77
FUTURE EXPANSION F.F.E. 328.0
N 330651.72
E 327551.11
WATER TREATMENT PLANT
F.F.E. 332.0
R/U DOORS
CONC. SIDEWALK
PARKING (TYP.)
N 330640.28
E 327302.62
BERM
℄ DITCH
RETAINING WALL
℄ DITCH
N 330660.25
E 327755.19
DUMPSTER ENCLOSURE
CW NO. 1
CCT NO. 1
FW/BW PUMP STATION
CW NO. 2
CCT NO. 2
N 330612.36
E 327626.30
CONC. PAD FOR CHEM. DELIVERY
N 330544.02
E 327798.38
GUARDRAIL
N 330496.12
E 327669.49
N 330540.11
E 327339.84
FOREBAY
GAS METER/BOOSTER CONC. PAD
TRANSFORMER CONC. PAD
GENERATOR CONC. PAD
DETENTION POND
BIORETENTION BASIN
℄ DITCH
BERM
LIMIT OF DISTURBANCE
CONSTRUCTION STAGING AREA
LOD
STREAM (<10' WIDE)
SWAMP
FORESTED WETLAND
100' RIVERBANK
50' PERIMETER WETLAND
TALBOT AVENUE
COOPER AVENUE
RESERVOIR AVENUE
MAP F-4 LOT 30-12
MAP F-4 LOT 30-9
MAP F-4 LOT 30-10
MAP F-4 LOT 30-11
MAP F-4 LOT 30-14
MAP F-5 LOT 30-123
MAP F-5 LOT 30-16
MAP F-4 LOT 30-28
MAP F-4 LOT 30-141
MAP F-4 LOT 30-142
MAP F-4 LOT 30-143
MAP F-4 LOT 30-144
MAP F-4 LOT 30-145
MAP F-4 LOT 30-146
MAP F-4 LOT 30-147
MAP F-4 LOT 30-148
MAP F-4 LOT 30-149
MAP F-4 LOT 30-150
MAP F-4 LOT



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Environmental Management
AUG - 6 2018
Office of Water Resources

PLAN
SCALE: 1"=60'

NOTES:
1. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

60 0 60 120
SCALE: 1" = 60'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C030 C-102_RIDEM.DWG
LAST UPDATE: Tuesday, July 3, 2018 10:36:14 AM
PLOT DATE: Wednesday, August 1, 2018 1:36:08 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

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DISCIPLINE

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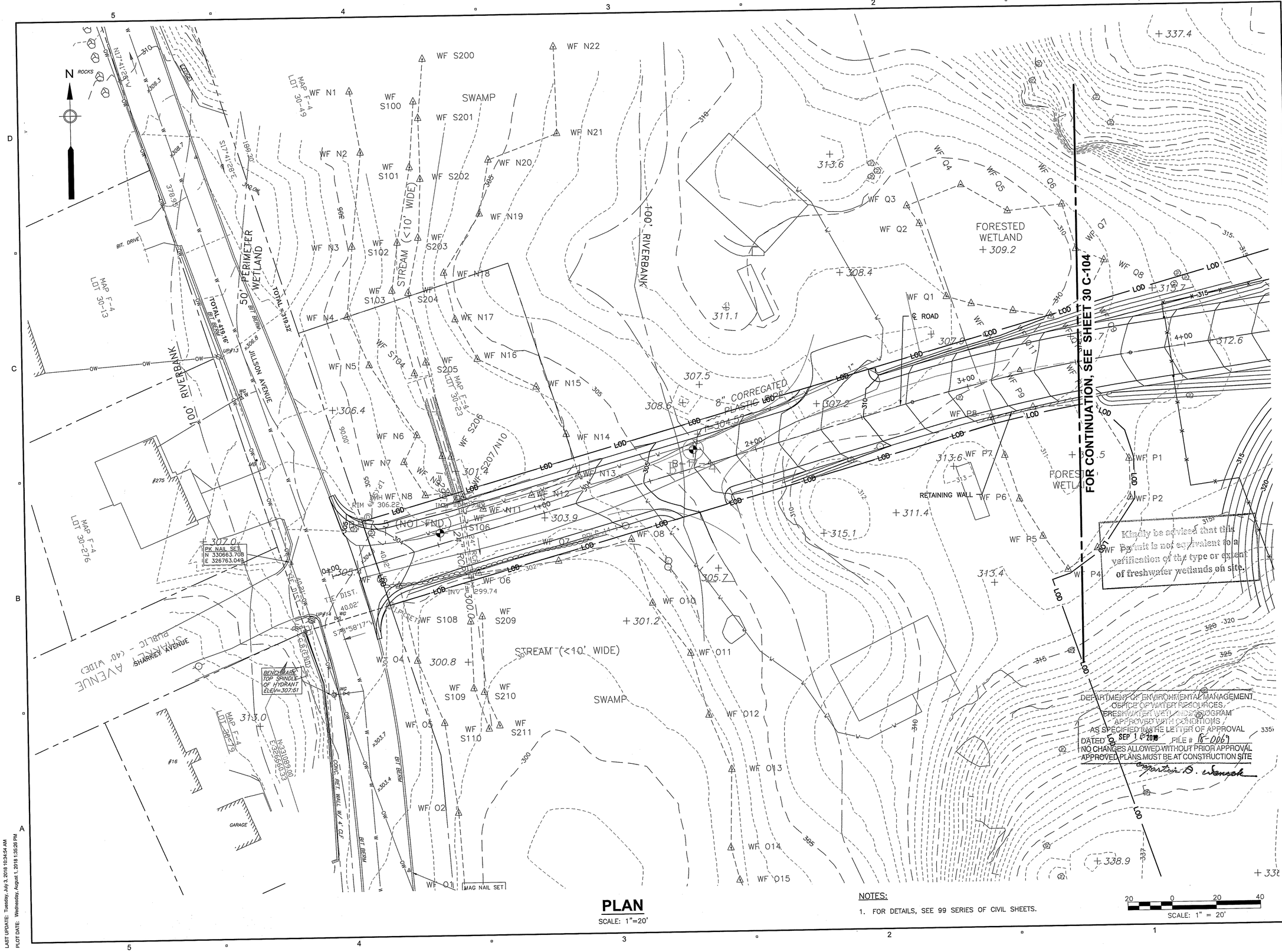
SHEET TITLE

WTP OVERALL SITE FINISHED GRADING PLAN

SHEET NUMBER

30 C-102

SHEET 6 OF 32



PLAN

SCALE: 1"=20'

NOTES:

1. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

20 0 20 40

SCALE: 1" = 20'

PATHFILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANTS\30 C-103_RIDEM.DWG
LAST UPDATE: Tuesday, July 3, 2018 10:34:54 AM
PLOT DATE: Wednesday, August 1, 2018 1:35:26 PM

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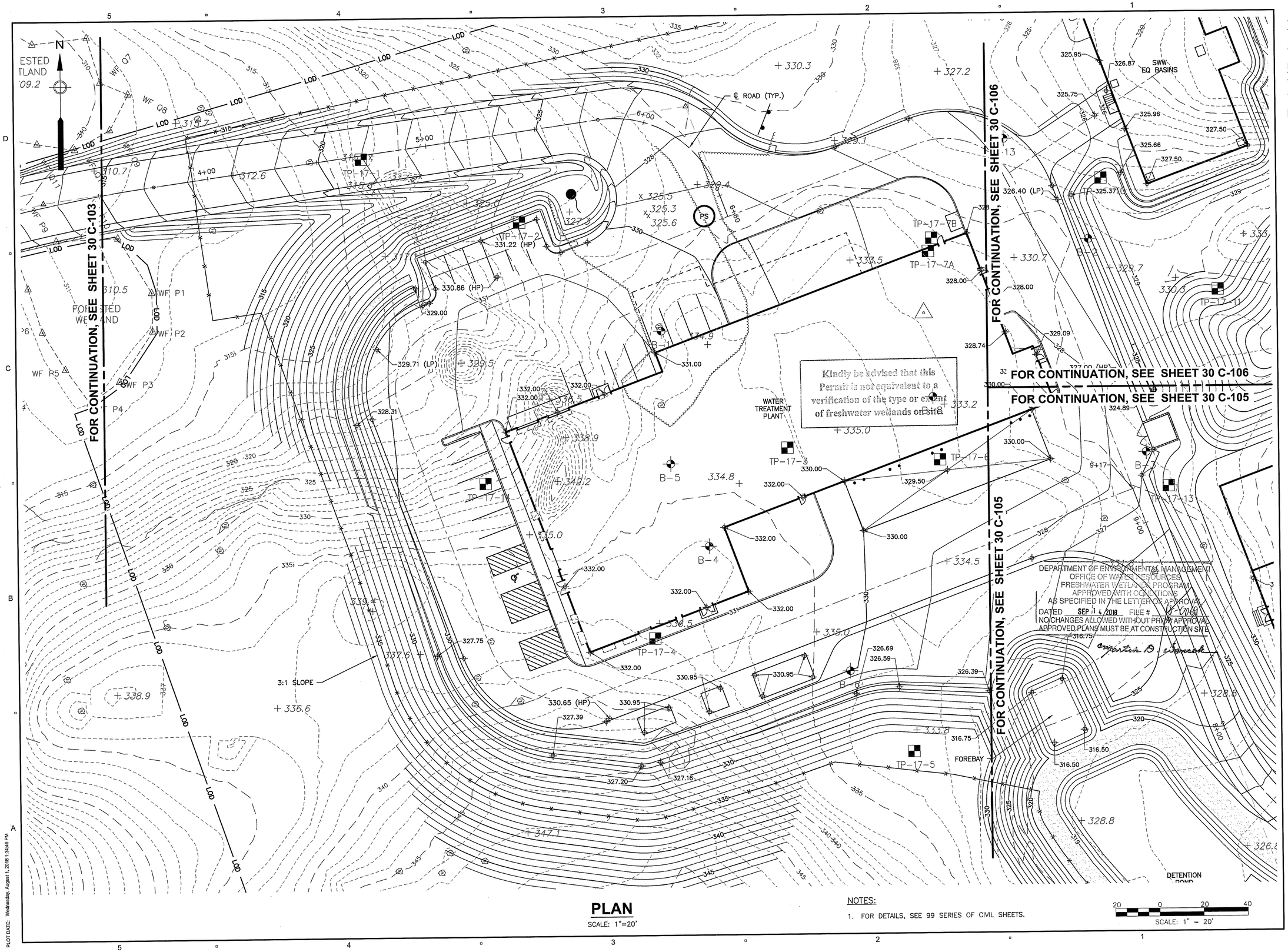
SHEET TITLE

WTP FINISHED GRADING PLAN I

SHEET NUMBER

30 C-103

SHEET 7 OF 32



PLAN
SCALE: 1"=20'

NOTES:
1. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

SCALE: 1" = 20'

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AECOM SUEZ

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RIDEM PERMIT

SHEET TITLE

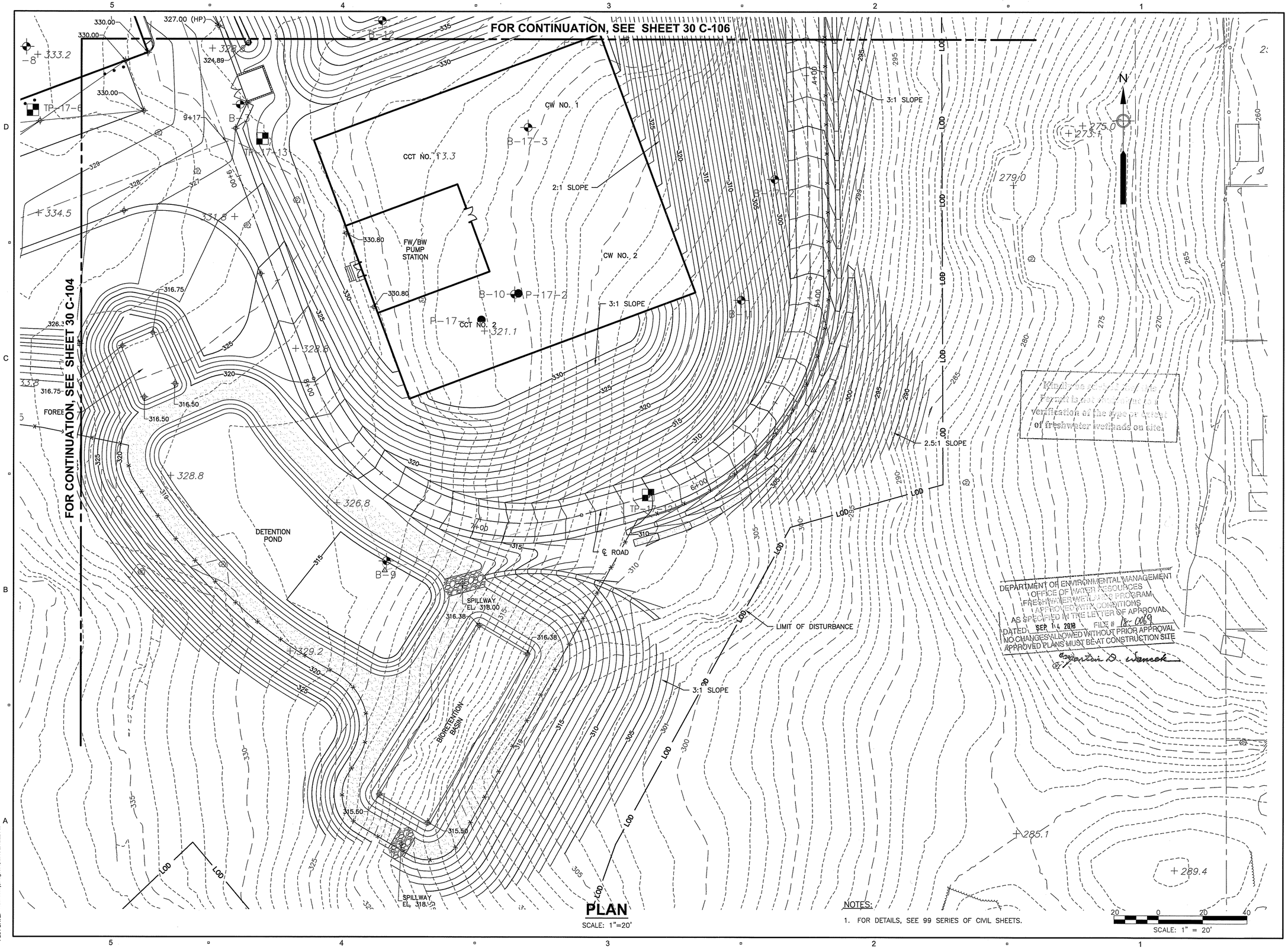
WTP FINISHED GRADING PLAN II

SHEET NUMBER

30 C-104

SHEET 8 OF 32

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C030 C-104_RIDEM.DWG
LAST UPDATE: Tuesday, July 3, 2018 10:34:23 AM
PLOT DATE: Wednesday, August 1, 2018 1:34:46 PM



PLAN
SCALE: 1"=20'

SCALE: 1" = 20'

NOTES:
1. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\5[SHEETS]\C - TREATMENT PLANT\C30 C-105_RIDEM.DWG
LAST UPDATE: Wednesday, August 1, 2018 1:34:15 PM
PLOT DATE: Wednesday, August 1, 2018 2:16:32 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI

Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

CONSULTANT

WOONSOCKET WATER SERVICES, INC.
250 APOLLO DRIVE
CHELMSFORD, MA 01824
PHONE: (978) 905-2100
www.aecom.com

REGISTRATION

MATTHEW RIBEIRO
No. 11725
REGISTERED PROFESSIONAL ENGINEER
CIVIL
8/1/2018

ISSUE

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REVISION

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PROJECT NUMBER

60552844

Designed By:	M. RIBEIRO
Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

RIDEM PERMIT

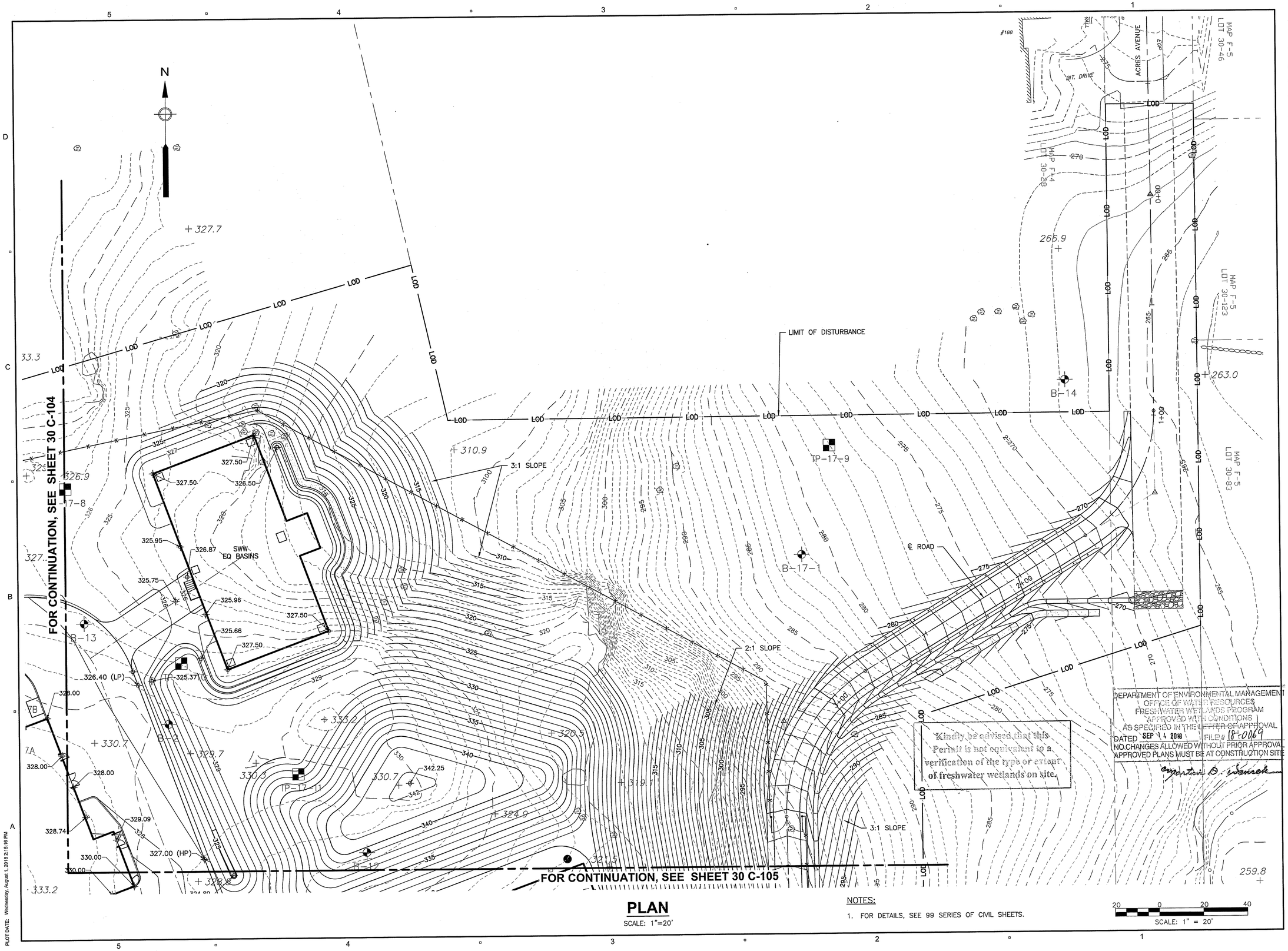
SHEET TITLE

WTP FINISHED GRADING PLAN III

SHEET NUMBER

30 C-105

SHEET 9 OF 32



PLAN
SCALE: 1"=20'

NOTES:
1. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

SCALE: 1" = 20'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C030 C-106_RIDEM.DWG
LAST UPDATE: Tuesday, July 3, 2018 10:43:53 AM
PLOT DATE: Wednesday, August 1, 2018 2:15:16 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

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Environmental Management
AUG - 6 2018
Office of Water Resources

REGISTRATION

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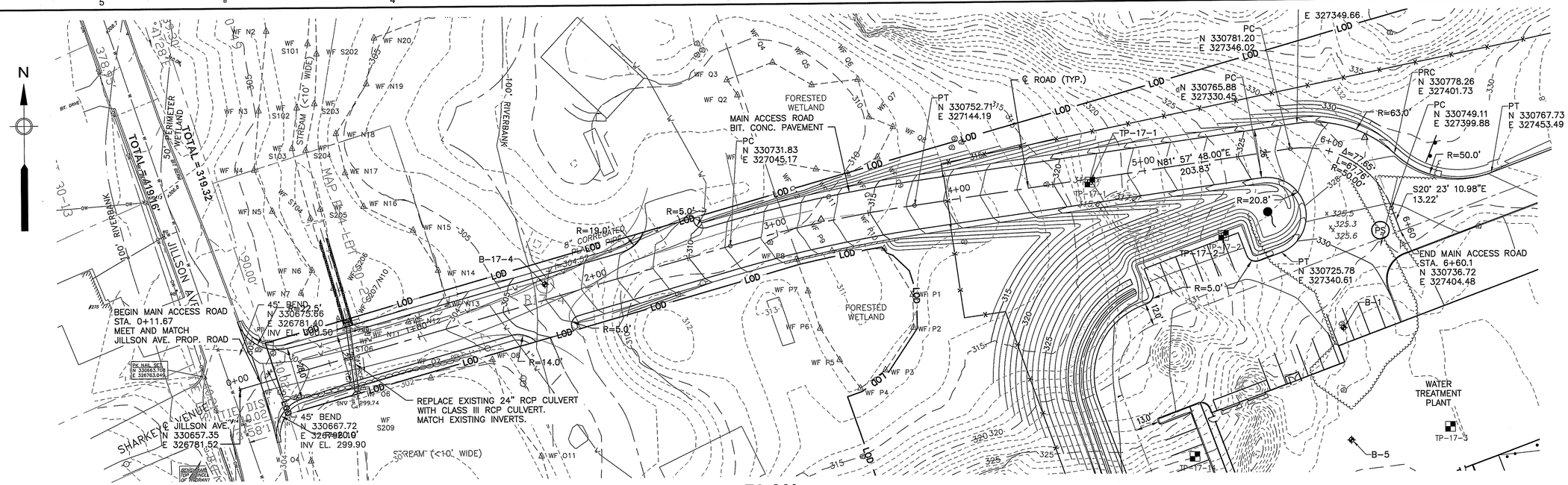
SHEET TITLE

WTP FINISHED GRADING PLAN IV

SHEET NUMBER

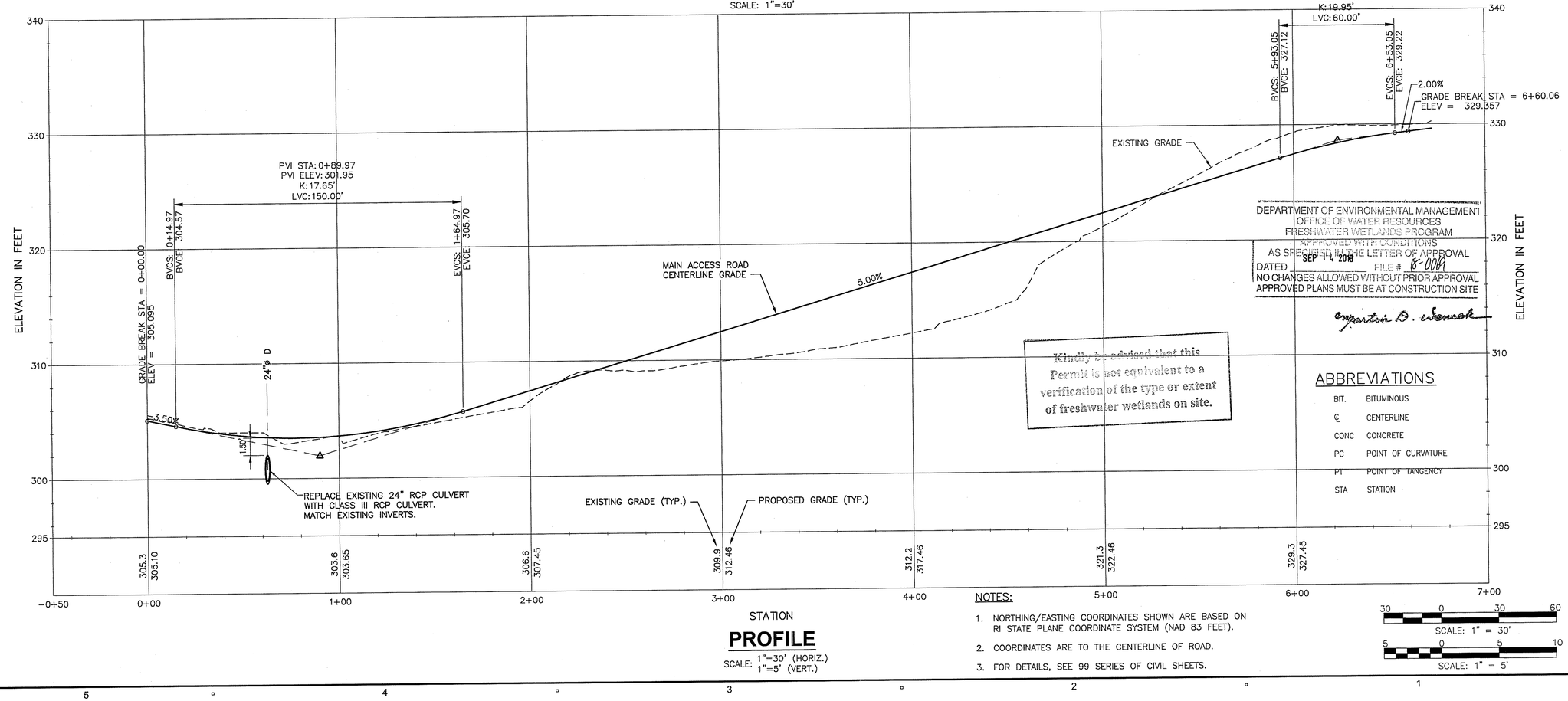
30 C-106

SHEET 10 OF 32



PLAN

SCALE: 1"=30'



PROFILE

SCALE: 1"=30' (HORIZ.)
1"=5' (VERT.)

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0019
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

ABBREVIATIONS

BIT.	BITUMINOUS
℄	CENTERLINE
CONC	CONCRETE
PC	POINT OF CURVATURE
PT	POINT OF TANGENCY
STA	STATION

NOTES:

1. NORTHING/EASTING COORDINATES SHOWN ARE BASED ON RI STATE PLANE COORDINATE SYSTEM (NAD 83 FEET).
2. COORDINATES ARE TO THE CENTERLINE OF ROAD.
3. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

30 0 30 60
SCALE: 1" = 30'

5 0 5 10
SCALE: 1" = 5'

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

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Water Treatment Plant
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CLIENT

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Environmental Management
AUG - 6 2018
Office of Water Resources

REGISTRATION

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REGISTERED PROFESSIONAL ENGINEER
CIVIL
8/1/2018

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Designed By:	M. RIBEIRO
Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

RIDEM PERMIT

SHEET TITLE

WTP MAIN ACCESS ROAD PLAN AND PROFILE

SHEET NUMBER

30 C-107

SHEET 11 OF 32

PATH\FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C30 C-107_RIDEM.DWG
LAST UPDATE: Wednesday, August 1, 2018 2:09:56 PM
PLOT DATE: Wednesday, August 1, 2018 2:14:11 PM

ABBREVIATIONS

BIT.	BITUMINOUS
℄	CENTERLINE
CONC	CONCRETE
PC	POINT OF CURVATURE
PT	POINT OF TANGENCY
STA	STATION

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PC
N 330862.86
E 328015.73

PT
N 330806.81
E 327984.27

BEGIN SECONDARY ACCESS ROAD
STA. 1+35
N 330827.75
E 328005.67

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PC
N 330746.32
E 327883.88

PT
N 330680.59
E 327847.60

PC
N 330550.54
E 327850.19

PT
N 330452.29
E 327777.31

PC
N 330443.82
E 327747.23

PT
N 330505.24
E 327626.39

END SECONDARY ACCESS ROAD
STA. 9+17
N 330611.62
E 327586.81

SECONDARY ACCESS ROAD
BIT. CONC. PAVEMENT

SWW EQ BASINS
CCT NO. 1
CCT NO. 2
CW NO. 1
CW NO. 2
FW/BW PUMP STATION
WATER TREATMENT PLANT
FOREBAY
DETENTION POND

MAP F-5 LOT 30-28
MAP F-5 LOT 30-123
MAP F-5 LOT 30-8

NOTES:

1. NORTHING/EASTING COORDINATES SHOWN ARE BASED ON RI STATE PLANE COORDINATE SYSTEM (NAD 83 FEET).
2. COORDINATES ARE TO THE CENTERLINE OF ROAD.
3. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

PLAN

SCALE: 1"=30'

30 0 30 60
SCALE: 1" = 30'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C108 C-108_RIDEM.DWG
LAST UPDATE: Wednesday, August 1, 2018 1:58:04 PM
PLOT DATE: Wednesday, August 1, 2018 2:02:29 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

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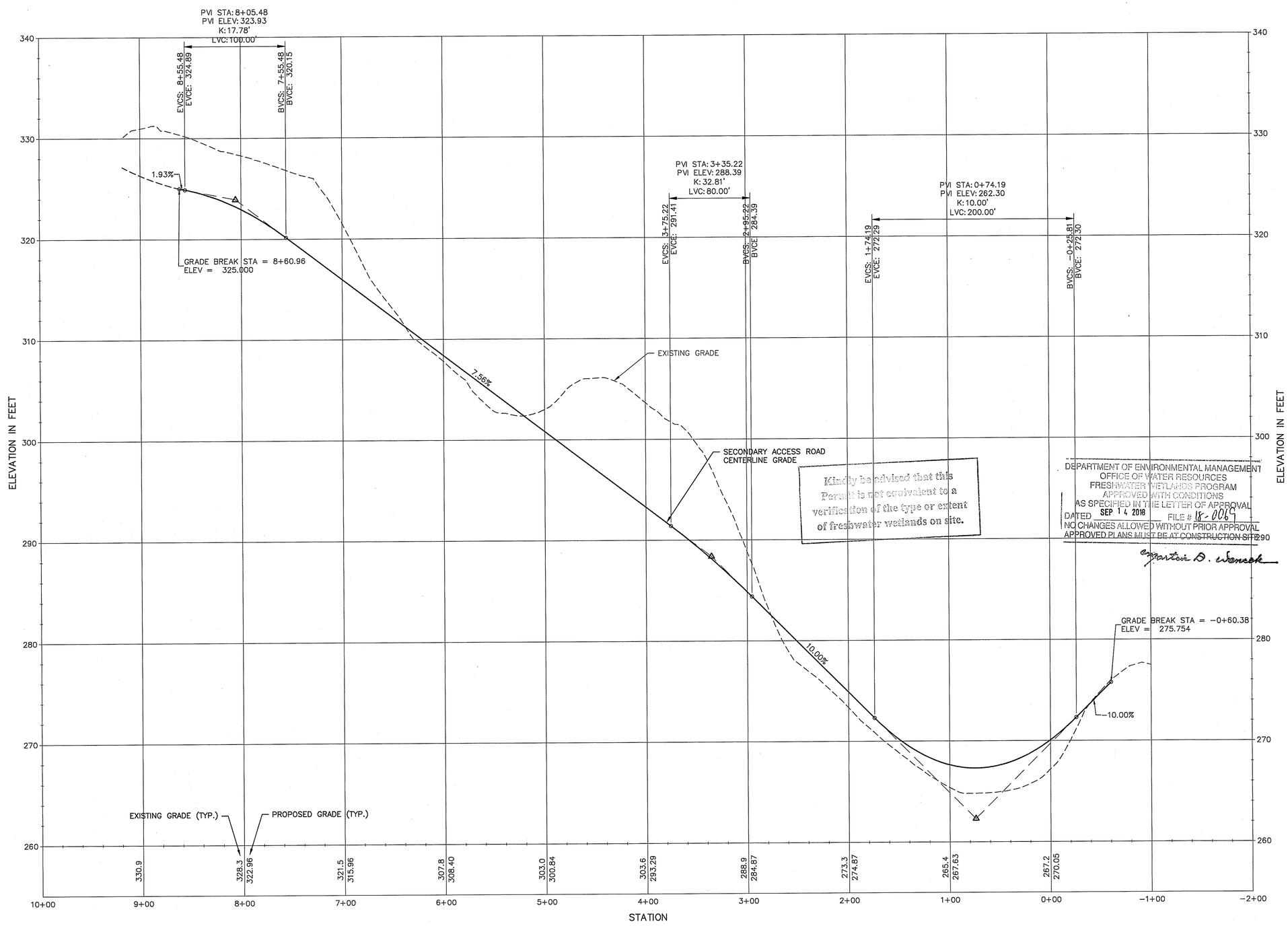
RIDEM PERMIT SHEET TITLE

WTP SECONDARY ACCESS ROAD PLAN

SHEET NUMBER

30 C-108

SHEET 12 OF 32



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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Environmental Management
AUG - 6 2018
Office of Water Resources

PROFILE

SCALE: 1"=50' (HORIZ.)
1"=10' (VERT.)

NOTES:

1. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

50 0 50 100
SCALE: 1" = 50'

10 0 10 20
SCALE: 1" = 10'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C030 C-109_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 8:55:35 AM
PLOT DATE: Wednesday, August 1, 2018 1:54:12 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

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DISCIPLINE

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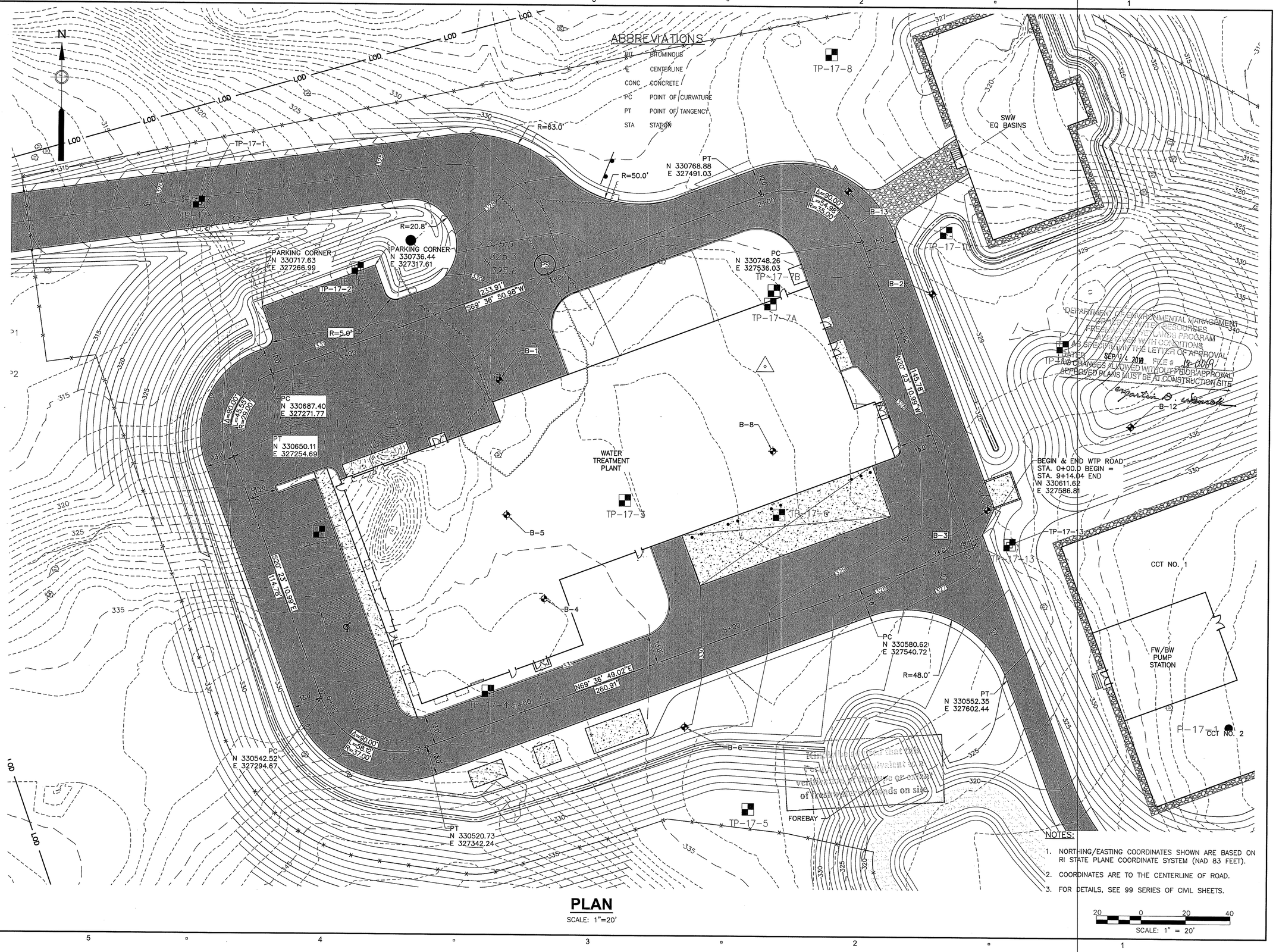
SHEET TITLE

WTP SECONDARY ACCESS ROAD PROFILE

SHEET NUMBER

30 C-109

SHEET 13 OF 32



PLAN

SCALE: 1"=20'

NOTES:

1. NORTHING/EASTING COORDINATES SHOWN ARE BASED ON RI STATE PLANE COORDINATE SYSTEM (NAD 83 FEET).
2. COORDINATES ARE TO THE CENTERLINE OF ROAD.
3. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

20 0 20 40
SCALE: 1" = 20'

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
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www.ci.woonsocket.ri.us.com

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REGISTRATION

MATTHEW RIBEIRO
No. 11725
REGISTERED PROFESSIONAL ENGINEER
STATE OF RHODE ISLAND
8/1/2018

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Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
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DISCIPLINE

RIDEM PERMIT

SHEET TITLE

WTP PLATFORM ROAD PLAN

SHEET NUMBER

30 C-110

SHEET 14 OF 32

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C30 C-110_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 9:30:12 AM
PLOT DATE: Wednesday, August 1, 2018 1:53:41 PM

ABBREVIATIONS

BFV	BUTTERFLY VALVE	HYD	HYDRANT
BW	BACKWASH	MH	MANHOLE
BWW	BACKWASH WATER	NG	NATURAL GAS
CONC	CONCRETE	OV	OVERFLOW
CW	CITY WATER OR CLEARWELL	OX	OXYGEN
D	DRAIN	REC	RECYCLE
DUMP	DUMPSTER	REG	REGULATOR
FES	FLARED END SECTION	RW	RAW WATER
FIL	FILTRATE	SAN	SANITARY
FM	FORCE MAIN	SL	SLUDGE
FP	FIRE PROTECTION	SWW	SPENT WASHWATER
FTW	FILTER TO WASTE	TEMP	TEMPORARY
FW	FINISHED WATER	TSL	TEMPERED SLUDGE
GV	GATE VALVE		

N

FOR CONTINUATION, SEE TRANSMISSION MAIN PLANS, SHEETS 70 C-101 THRU 70 C-110

ST. CHARLES PLAT MAY 1923 MAP F-4 LOT 24-141

MAP F-4 LOT 30-49

MAP F-4 LOT 30-28

MAP F-5 LOT 30-46

MAP F-5 LOT 30-123

MAP F-5 LOT 30-83

MAP F-4 LOT 30-77

TOTAL AREA = 5113.2±

SWAMP

FORESTED WETLAND

STREAM (<10' WIDE)

TOP BANK

TOE WETLAND

100' BUFFER

50' PERIMETER MEDIATED

8" CW

4" PVC SAN FM TO CONNECT TO EXIST. SMH AT COOPER AVENUE

6" NG (BY UTILITY)

8" CW

8" CW CONNECTION TO EXIST. 8" POTABLE CW

SLUDGE PUMP STATION AND VALVE VAULT

6" PVC SAN FM

6" SWW (SOLIDS REMOVAL)

12" FTW

24" SWW

SWW EQ BASINS

24" FW

24" RW

6" SWW

6" REC (DIS)

6" CW

4" W

8" SL

6" SAN.

CHEM. SPILL TANK

6" GV

STORM SEWER (TYP.)

WATER TREATMENT PLANT

24" FILL

CW NO. 1

2-10" CT CHEMICAL I. 1 FEED

24" FIL

6" FP

6" CW

24" BWW

FW/BW PUMP STATION

CW NO. 2

24" EMERGENCY PROCESS OVERFLOW

CCT NO. 2 1

18" OV

6" NG (BY UTILITY)

GAS METER

GAS BOOSTER

FOREBAY

DETENTION POND

SUPERNATANT BASIN

LIMIT OF DISTURBANCE

CONSTRUCTION STAGING AREA

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Environmental Management
AUG - 6 2018
Office of Water Resources

PLAN
SCALE: 1"=50'

NOTES:
1. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

50 0 50 100
SCALE: 1" = 50'

WOONSOCKET WATER SERVICES, LLC

AECOM suez

PROJECT

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Water Treatment Plant
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CLIENT

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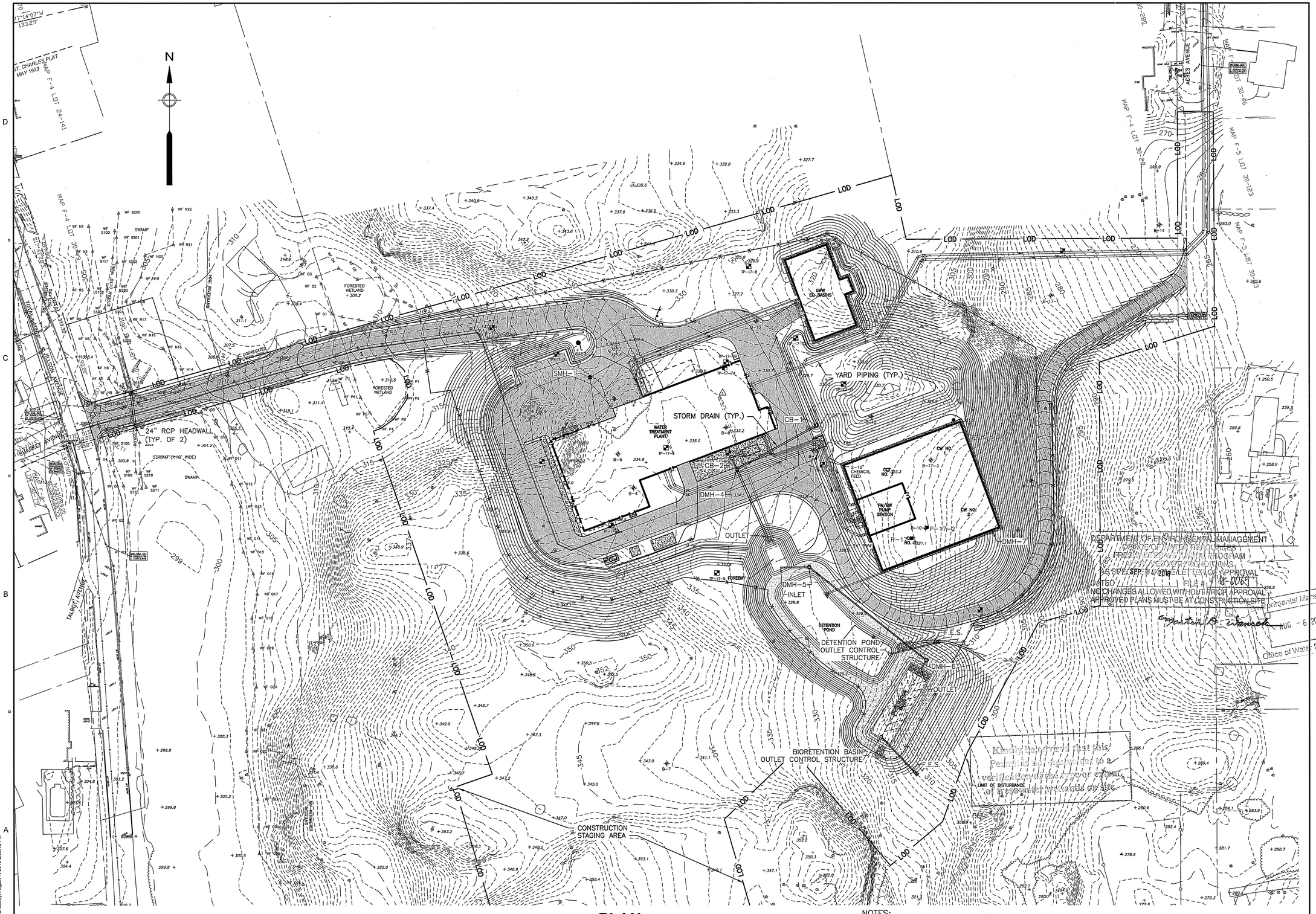
SHEET TITLE

WTP OVERALL YARD PIPING PLAN

SHEET NUMBER

30 C-111

SHEET 15 OF 32



PLAN

SCALE: 1"=50'

NOTES:

1. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

50 0 50 100

SCALE: 1" = 50'

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

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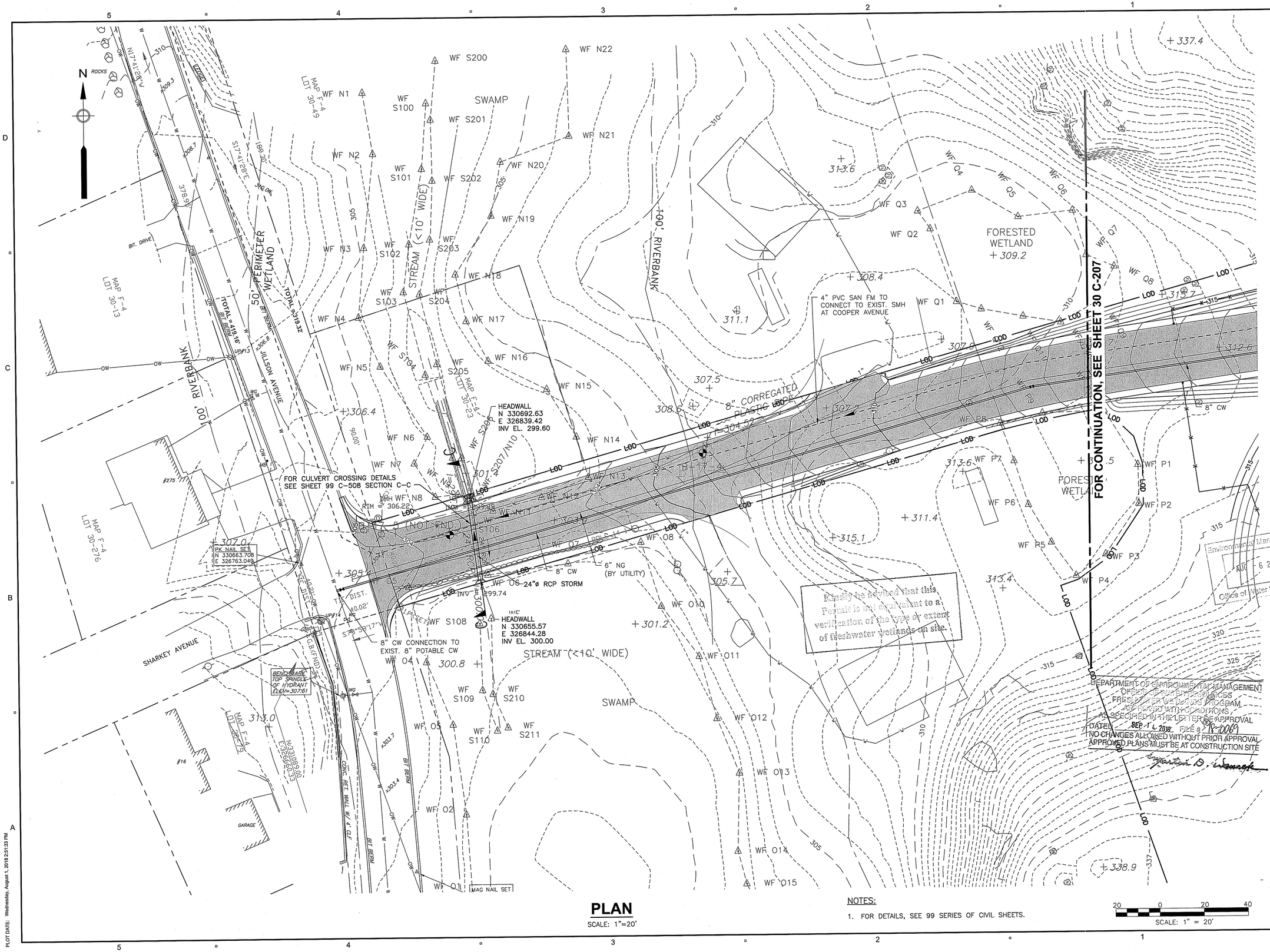
WTP OVERALL SITE STORM MANAGEMENT PLAN

SHEET NUMBER

30 C-205

SHEET 16 OF 32

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C030 C-205_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 9:29:35 AM
PLOT DATE: Wednesday, August 1, 2018 2:52:12 PM



PLAN

SCALE: 1"=20'

NOTES:

1. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

SCALE: 1" = 20'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C030 C-205_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 2:24:03 PM
PLOT DATE: Wednesday, August 1, 2018 2:51:33 PM

WOONSOCKET WATER SERVICES, LLC

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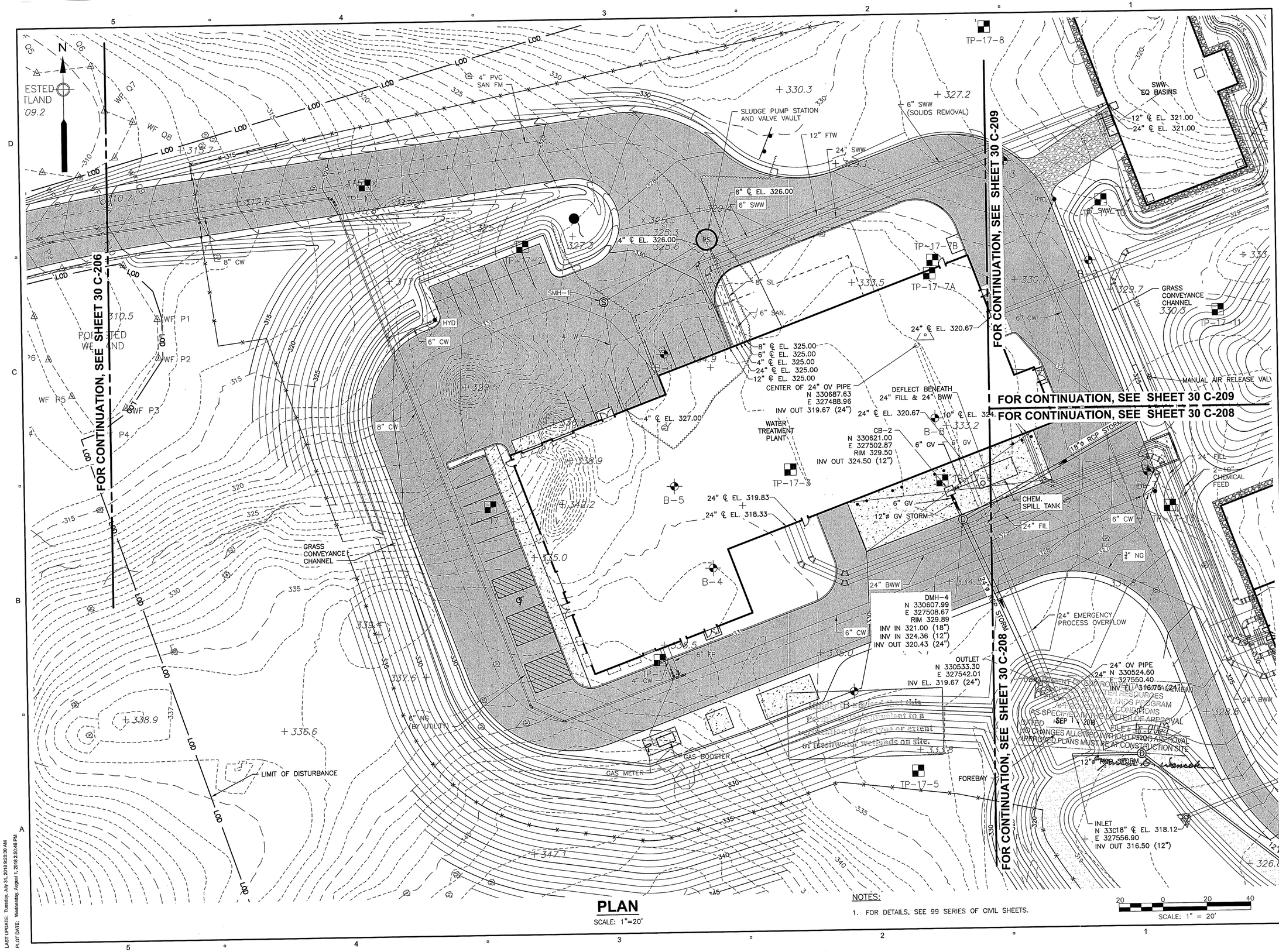
SHEET TITLE

WTP SITE STORM MANAGEMENT PLAN I

SHEET NUMBER

30 C-206

SHEET 17 OF 32



PLAN

SCALE: 1"=20'

NOTES:

1. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

SCALE: 1" = 20'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C30 C-207_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 9:28:30 AM
PLOT DATE: Wednesday, August 1, 2018 2:50:46 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

CONSULTANT

WOONSOCKET WATER SERVICES, INC.
250 APOLLO DRIVE
CHELMSFORD, MA 01824
PHONE: (978) 905-2100
www.aecom.com

REGISTRATION

Environmental Management
AUG - 6 2018
Office of Water Resources

MATTHEW RIBEIRO
No. 11725
REGISTERED PROFESSIONAL ENGINEER
CIVIL
8/1/2018

ISSUE

RIDEM PERMIT SUBMITTAL

NOTE: This document is preliminary only and is not intended for any purpose except review and comment by the owner and its agents.

REVISION

I/R	DATE	DESCRIPTION

PROJECT NUMBER

60552844

Designed By:	M. RIBEIRO
Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

RIDEM PERMIT SHEET TITLE

WTP SITE STORM MANAGEMENT PLAN II

SHEET NUMBER

30 C-207

SHEET 18 OF 32

FOR CONTINUATION, SEE SHEET 30 C-209

FOR CONTINUATION, SEE SHEET 30 C-207

10" ℄ EL. 324.50
6" GV
15"ø RCP STORM
24" FILL
2–10" CHEMICAL FEED
CB–1
N 330656.33
E 327596.68
RIM 324.89
INV OUT 321.50 (18")
24" FIL
6" CW
2" NG
24" ℄ EL. 325.00
FW/BW PUMP/ STATION
10" ℄ EL. 325.00
24" EMERGENCY PROCESS OVERFLOW
24" OV PIPE
24" N 330524.60
E 327550.40
INV EL. 316.75 (24")
24" ℄ EL. 325.00
24" BWW
CCT NO. 2
CW NO. 1
CW NO. 2
DMH–7
N 330538.92
E 327790.63
RIM 324.00
INV OUT 320.65 (18")
18" OV
DRY–SWALE
DMH–5
N 330500.14
E 327588.44
RIM 319.10
INV IN 316.35 (12")
INV OUT 316.35 (12")
12"ø RCP STORM
FOREB.
INLET
N 33C18" ℄ EL. 318.12
E 327556.90
INV OUT 316.50 (12")
18" OV PIPE
N 330471.71
E 327609.78
INV EL. 317.37 (18")
DETENTION POND
DETENTION POND OUTFLOW CONTROL STRUCTURE
N 330403.96
E 327677.47
RIM 316.50
INV OUT 314.25 (12")
F.E.S.
N 330416.06
E 327725.29
INV EL. 314.00 (12")
DMH–6
N 330397.48
E 327717.76
RIM 319.10
INV IN 315.55 (12")
INV OUT 315.55 (12")
LIMIT OF DISTURBANCE
OUTLET
N 330387.64
E 327711.95
INV EL. 315.50 (12")
BIORETENTION BASIN
4" PERFORATED PVC PIPE UNDERDRAIN SYSTEM
BIORETENTION BASIN OUTFLOW CONTROL STRUCTURE
N 330312.99
E 327667.91
RIM 316.25
INV IN 312.00 (4")
INV OUT 312.00 (12")
F.E.S.
N 330275.78
E 327703.02
INV EL. 311.30 (12)
LOD
B-17-3
B-17-2
B-10-P17-2
B-17-1
TP-17-12
TP-17-10
+333.2
+334.4
+331.8
+323.3
+321.1
+323.5
+329.2
+279.0
+275.0
+273.7
+285.1
+289.4

Kindly be advised that this Permit is not contingent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Environmental Management AUG 6 2018 Received

NOTES:
1. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

PLAN
SCALE: 1"=20'

SCALE: 1" = 20'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C_- TREATMENT PLANT\C30 C-209_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 9:28:12 AM
PLOT DATE: Wednesday, August 1, 2018 2:50:05 PM

WOONSOCKET WATER SERVICES, LLC

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Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

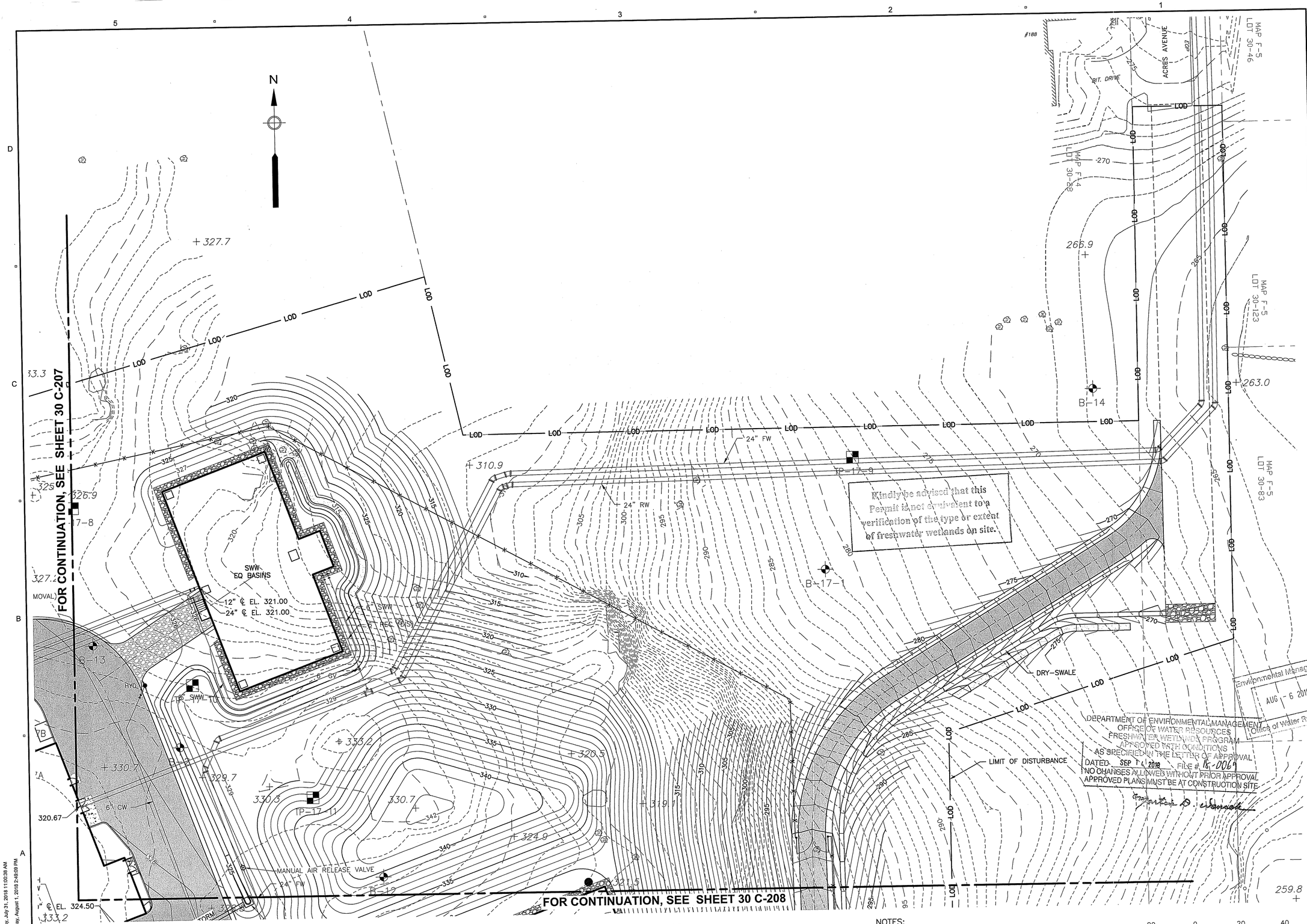
RIDEM PERMIT

SHEET TITLE

WTP SITE STORM MANAGEMENT PLAN III

SHEET NUMBER

30 C-208



PLAN

SCALE: 1"=20'

NOTES:

1. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

20 0 20 40

SCALE: 1" = 20'

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LAST UPDATE: Tuesday, July 31, 2018 11:00:38 AM
PLOT DATE: Wednesday, August 1, 2018 2:49:09 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

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Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

RIDEM PERMIT

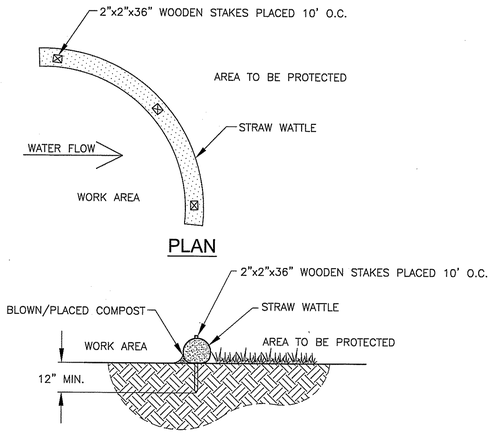
SHEET TITLE

WTP SITE STORM MANAGEMENT PLAN IV

SHEET NUMBER

30 C-209

SHEET 20 OF 32

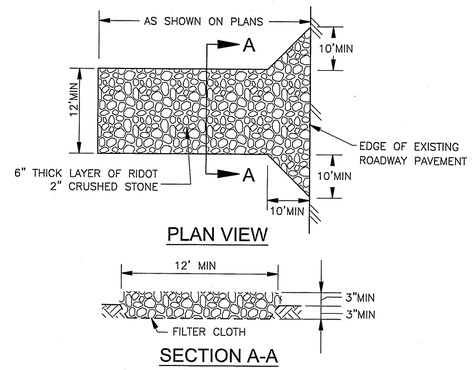


NOTES:

1. SEE SPECIFICATION FOR STRAW WATTLE AND FILL MATERIAL REQUIREMENTS.

STRAW WATTLE

NTS



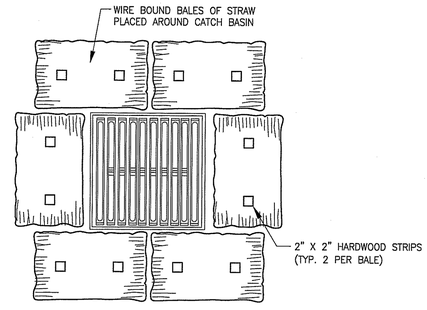
TEMPORARY CONSTRUCTION ENTRANCE

NOT TO SCALE

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Jonathan D. Wenock

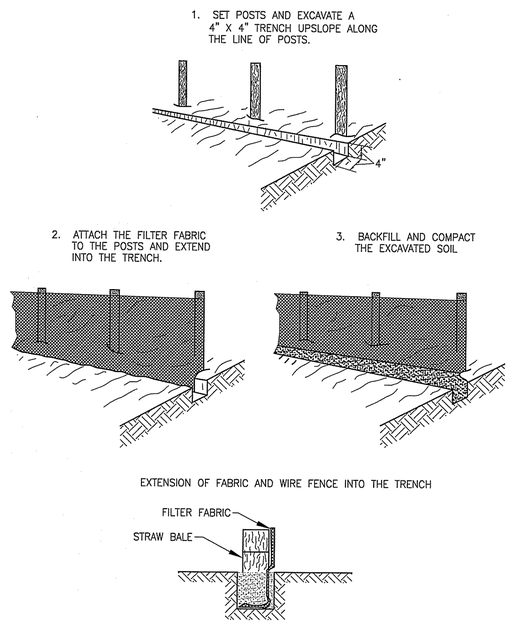


NOTES:

1. RESET CATCHBASIN GRATE WRAPPED IN FILTER FABRIC.
2. PLACE BALES IN A ROW W/ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
3. FOR UNPAVED AREAS SECURELY ANCHOR EACH BALE IN PLACE WITH 2"x2" HARDWOOD STAKES DRIVEN THROUGH THE BALES TO DEPTH OF 1'-6" MINIMUM BELOW GRADE. ANGLE THE FIRST STAKE IN EACH BALE TOWARDS PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
4. FREQUENTLY INSPECT AND PROMPTLY REPAIR OR REPLACE BALES.
5. KEEP SEDIMENT LEVEL IN EACH CATCH BASIN SUMP LOW ENOUGH TO AVOID SEDIMENT ENTERING DISCHARGE PIPING.
6. IN LIEU OF HAYBALES, THE USE OF FILTER FABRIC AND OTHER INLET PROTECTION DEVICES (E.G. SILT SOCKS, ETC) MAY BE USED AS APPROVED.

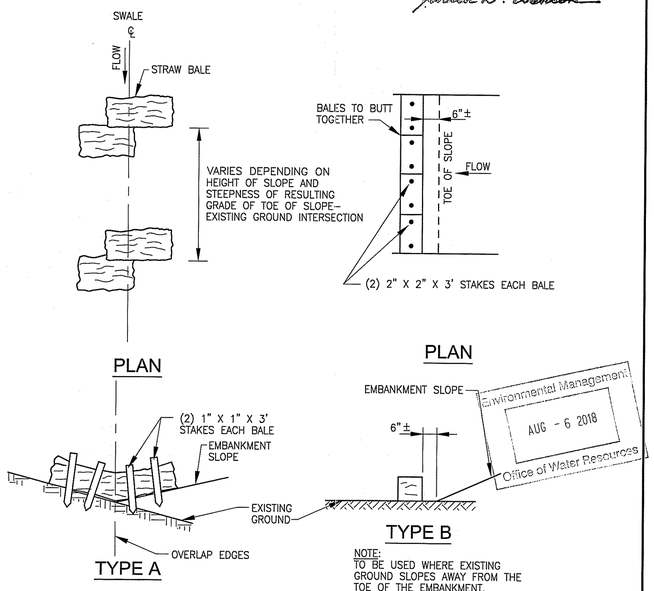
CATCH BASIN / DROP INLET WITH SEDIMENTATION CONTROL

NOT TO SCALE
NS010



SILT FENCE

NTS
2-1.60.3 (REV. 05-20-09)



Environmental Management
AUG - 6 2018
Office of Water Resources

STRAW BALE EROSION CONTROL

NTS
2-1.60.4A (REV. 01-10-13)

WOONSOCKET WATER SERVICES, LLC

AECOM suez

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DISCIPLINE

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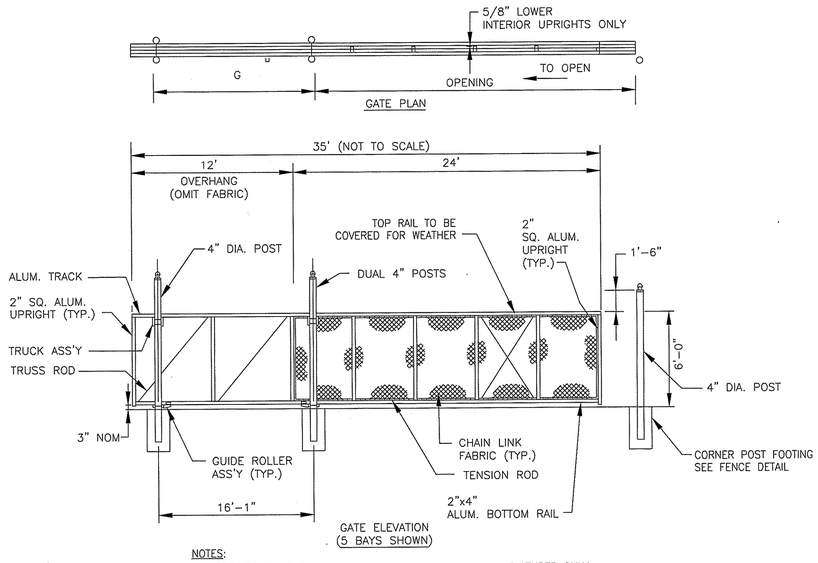
SHEET TITLE

DETAILS I

SHEET NUMBER

99 C-501

SHEET 21 OF 32

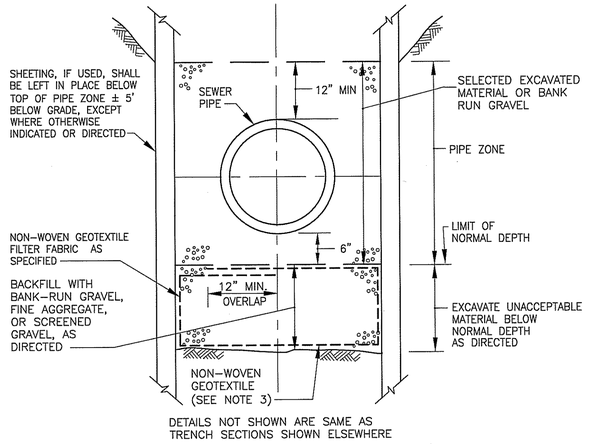


NOTES:

1. SPECIFICATIONS SHOWN CAN BE CHANGED BY THE MANUFACTURER ONLY.
2. FOOTING WIDTH TO (4)X POST WIDTH. MINIMUM DEPTH TO BE 36".
3. GATES MAY BE MANUALLY OR ELECTRICALLY OPERATED. HARDWARE WILL VARY FOR ELECTRICALLY OPERATED GATES.

SINGLE CANTILEVERED SLIDING GATE

NTS



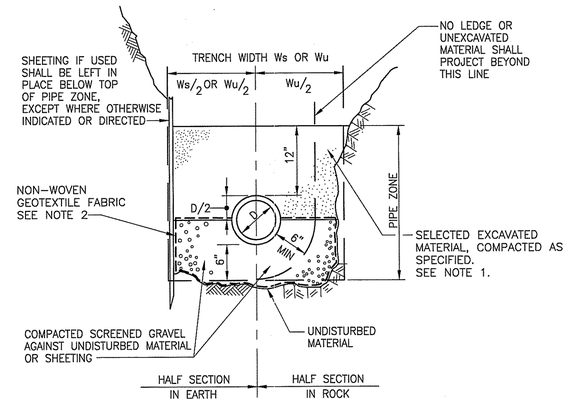
DETAILS NOT SHOWN ARE SAME AS TRENCH SECTIONS SHOWN ELSEWHERE

NOTES:

1. TO BE USED WHERE UNACCEPTABLE FOUNDATION MATERIAL (SEE SPECIFICATION SECTION 02210) EXISTS BELOW NORMAL DEPTH.
2. DETAILS NOT SHOWN ARE SAME TRENCH SECTIONS SHOWN ELSEWHERE.
3. NON-WOVEN GEOTEXTILE SHALL BE PLACED AT UNDISTURBED SUBGRADE WHEN SCREENED GRAVEL OR CRUSHED STONE IS USED AS BACKFILL

TRENCH SECTION IN UNACCEPTABLE MATERIAL

NOT TO SCALE
2-1.1.21 (REV. 06-17-13)

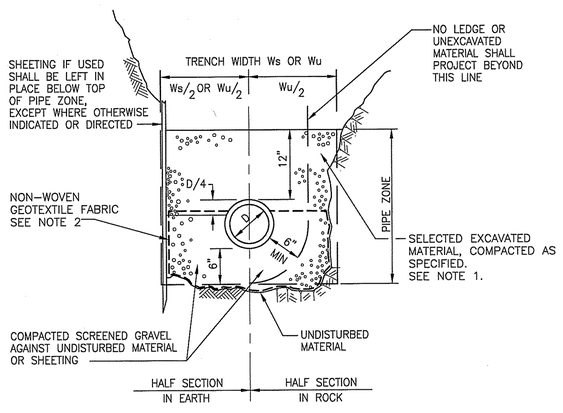


NOTES:

1. SELECTED EXCAVATED MATERIAL SHALL CONSIST OF ACCEPTABLE MATERIAL PER SECTION 02210 BUT WITH MAXIMUM PARTICLE SIZE NO LARGER THAN 3 INCHES.
2. WRAP SCREENED GRAVEL IN NON-WOVEN GEOTEXTILE FABRIC TO PREVENT MIGRATION OF FINES FROM NATIVE SOIL INTO THE GRAVEL.

TRENCH SECTION FOR RC PIPE

NTS
2-1.1.3 (REV. 02-25-10)

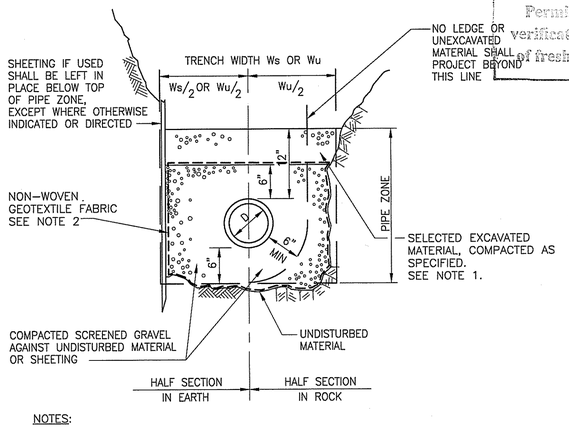


NOTES:

1. SELECTED EXCAVATED MATERIAL SHALL CONSIST OF ACCEPTABLE MATERIAL PER SECTION 02210 BUT WITH MAXIMUM PARTICLE SIZE NO LARGER THAN 3 INCHES.
2. WRAP SCREENED GRAVEL IN NON-WOVEN GEOTEXTILE FABRIC TO PREVENT MIGRATION OF FINES FROM NATIVE SOIL INTO THE GRAVEL.
3. PAYMENT LIMITS FOR ROCK EXCAVATION SHALL BE MEASURED BETWEEN VERTICAL PLANES WHICH ARE A DISTANCE APART EQUAL TO THE NOMINAL INSIDE DIAMETER OF THE PIPE PLUS 24-INCHES ON EITHER SIDE OF THE PIPE.

TRENCH SECTION FOR DI OR PVC PIPE 20 INCH DIAMETER AND LARGER

NTS
2-1.1.2 (REV. 02-25-10)



NOTES:

1. SELECTED EXCAVATED MATERIAL SHALL CONSIST OF ACCEPTABLE MATERIAL PER SECTION 02210 BUT WITH MAXIMUM PARTICLE SIZE NO LARGER THAN 3 INCHES.
2. WRAP SCREENED GRAVEL IN NON-WOVEN GEOTEXTILE FABRIC TO PREVENT MIGRATION OF FINES FROM NATIVE SOIL INTO THE GRAVEL.
3. PAYMENT LIMITS FOR ROCK EXCAVATION SHALL BE MEASURED BETWEEN VERTICAL PLANES WHICH ARE A DISTANCE APART EQUAL TO THE SUM OF 20-INCHES PLUS $1\frac{1}{2}$ TIMES THE NOMINAL INSIDE DIAMETER OF THE PIPE.

TRENCH SECTION FOR DI OR PVC PIPE 18 INCH DIAMETER AND SMALLER

NTS
2-1.1.1 (REV. 02-25-10)

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Jacqueline D. Edmonds

1. PIPE TRENCHES MAY BE EXCAVATED WIDER THAN TRENCH WIDTH Ws (SHEETED) OR Wu (UNSHEETED) ABOVE THE TOP OF PIPE ZONE.
2. TRENCHES SHALL NOT BE EXCAVATED BEYOND THE TRENCH WIDTH Wu BELOW THE TOP OF PIPE ZONE.
3. SHEETING MAY BE USED IF EXCAVATION AND BACKFILL, BELOW NORMAL DEPTH, IS REQUIRED. SHEETING SHALL BE LEFT IN PLACE BELOW A LINE 1'-0" ABOVE THE TOP OF PIPE AND 5'-0" BELOW GRADE.
4. ALL ROCK WITHIN PIPE TRENCH EXCAVATION PIPING, BRANCHES OR STUBS AND DOWN TO A HORIZONTAL PLANE NO MORE THAN 12" BELOW THE BOTTOMS OF SUCH CONNECTIONS, BRANCHES OR STUBS, SHALL BE EXCAVATED.
5. CONTROL DENSITY FILL TO BE USED AS BACKFILL WHERE UTILITIES OR ROAD ARE UNDERMINED OR AS DIRECTED BY THE ENGINEER.

Environmental Management
AUG - 6 2018
Office of Water Resources

TRENCH WIDTH Ws OR Wu (WITH/WITHOUT LEDGE EXCAVATION)		
NOMINAL PIPE DIAMETER D	DEPTH OF PIPE INVERT BELOW GROUND SURFACE	
	0 TO 12'	12' TO 20'
18" AND SMALLER	4'-0"	7'-0"
OVER 20"	D + 3'-0"	D + 5'-0"

GENERAL NOTES FOR PIPE TRENCHES

NOT TO SCALE
2-1.1.11 (REV. 06-17-13)

WOONSOCKET WATER SERVICES, LLC

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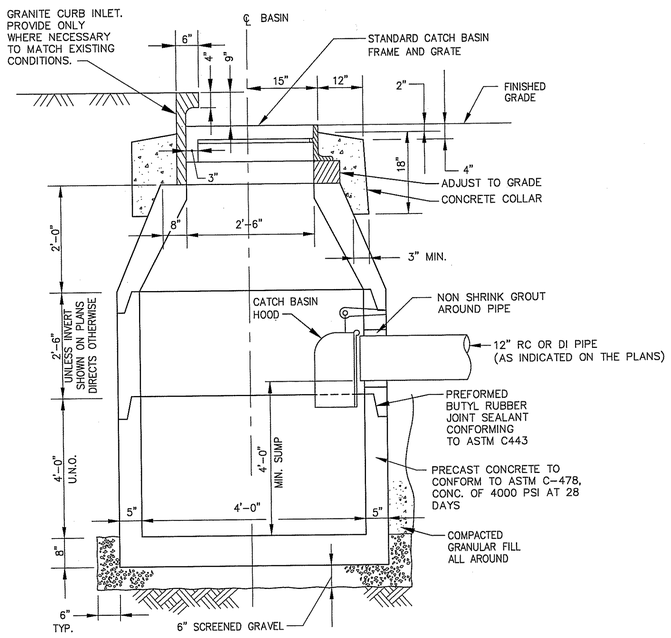
SHEET TITLE

DETAILS II

SHEET NUMBER

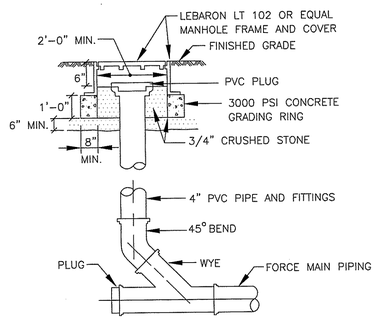
99 C-502

SHEET 22 OF 32



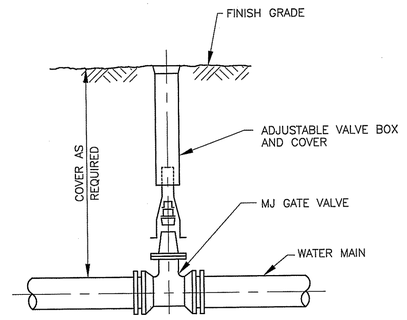
TYPICAL CATCH BASIN

NOT TO SCALE
2-1.5.7 (REV. 06-17-13)



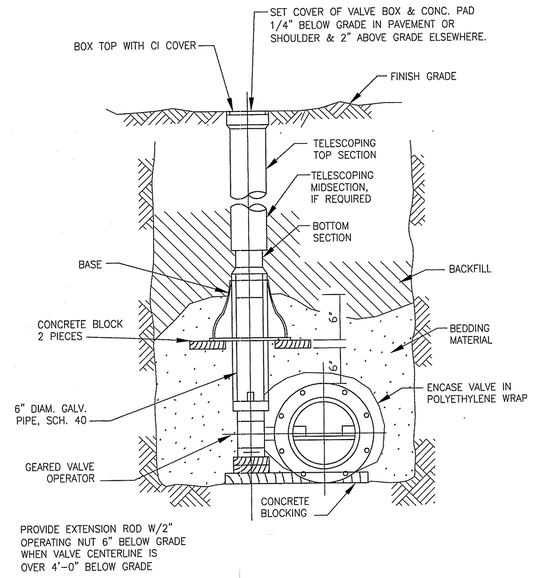
CLEANOUT WITH PLUG

NOT TO SCALE



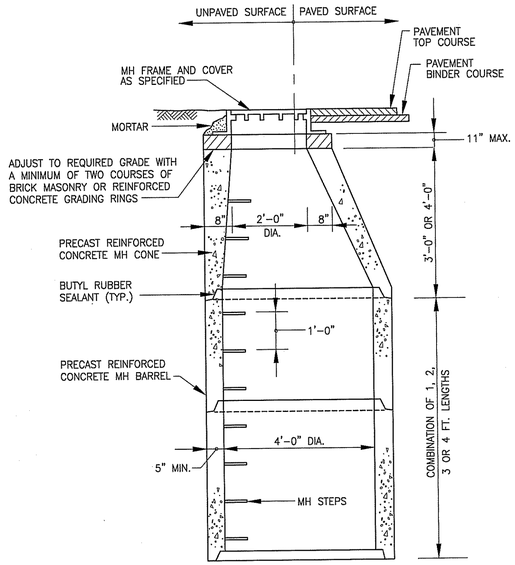
BURIED GATE VALVE

NOT TO SCALE
2-1.24 (REV. 12-15-94)



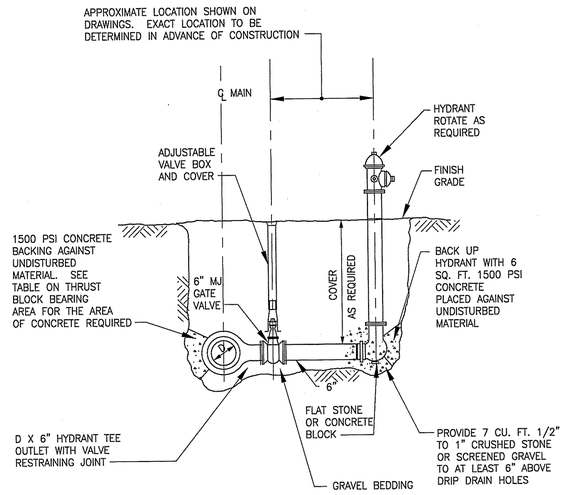
BURIED BUTTERFLY VALVE

NOT TO SCALE



MANHOLE RISER WITH ECCENTRIC CONE TOP

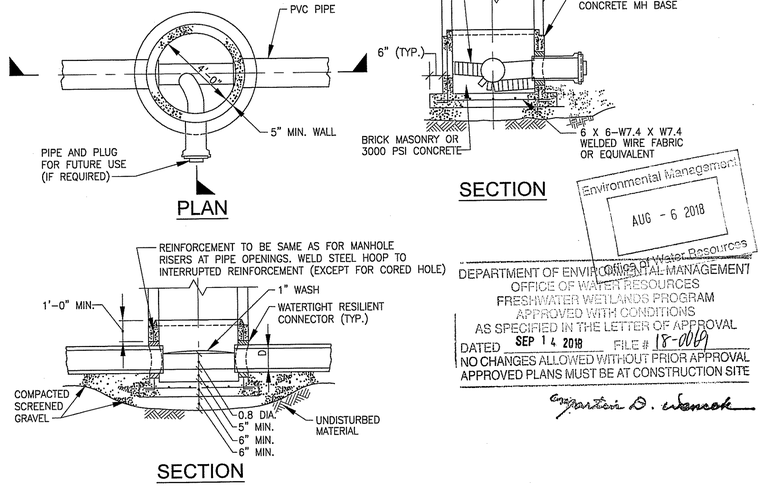
NOT TO SCALE
2-1.5.41 (REV. 04-01-13)



TYPICAL HYDRANT ASSEMBLY WITH DRAIN

NTS
2-1.21 (REV. 12-15-94)

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4'-0" PRECAST REINFORCED CONCRETE MANHOLE BASE FOR PVC SEWERS AND DRAINS

NOT TO SCALE
2-1.5.14 (REV. 03-15-95)

Environmental Management
AUG - 6 2018
Office of Water Resources

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0049
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

CONSULTANT

WOONSOCKET WATER SERVICES, INC.
250 APOLLO DRIVE
CHELMSFORD, MA 01824
PHONE: (978) 905-2100
www.aecom.com

REGISTRATION

MATTHEW RIBEIRO
No. 11725
REGISTERED PROFESSIONAL ENGINEER
8/1/2018

ISSUE

RIDEM PERMIT SUBMITTAL

NOTE: This document is preliminary only and is not intended for any purpose except review and comment by the owner and its agents.

REVISION

I/R	DATE	DESCRIPTION

PROJECT NUMBER

60552844

Designed By:	M. RIBEIRO
Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

RIDEM PERMIT

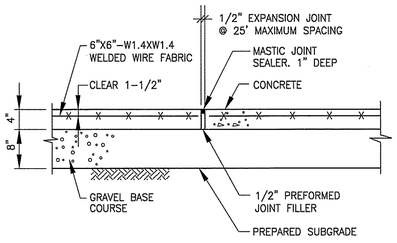
SHEET TITLE

DETAILS III

SHEET NUMBER

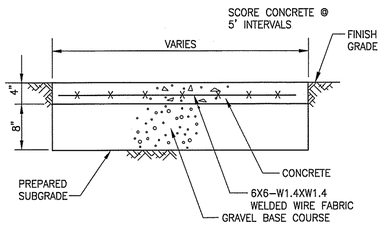
99 C-503

SHEET 23 OF 32



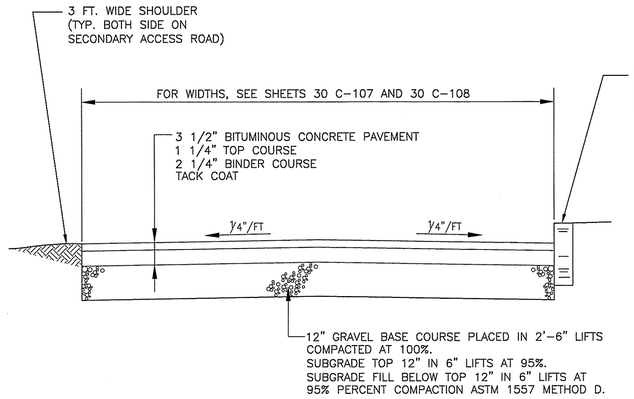
EXPANSION JOINT FOR CONCRETE WALKWAYS

NOT TO SCALE
2-1.41.1.1 (REV. 12-15-94)



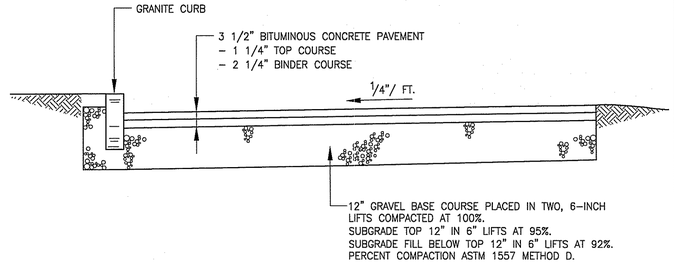
CONCRETE WALKWAY SECTION

NOT TO SCALE
2-1.41.1 (REV. 12-15-94)



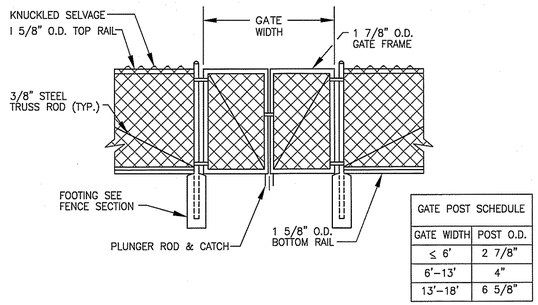
PAVEMENT SECTION - MAIN AND SECONDARY ACCESS ROADS

NOT TO SCALE



NEW WTP PAVEMENT SECTION

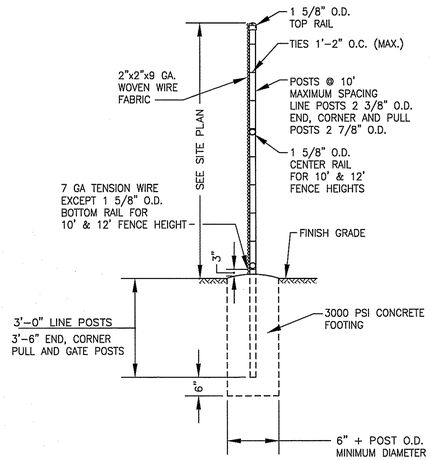
NOT TO SCALE



GATE POST SCHEDULE	
GATE WIDTH	POST O.D.
≤ 6'	2 7/8"
6'-13'	4"
13'-18'	6 5/8"

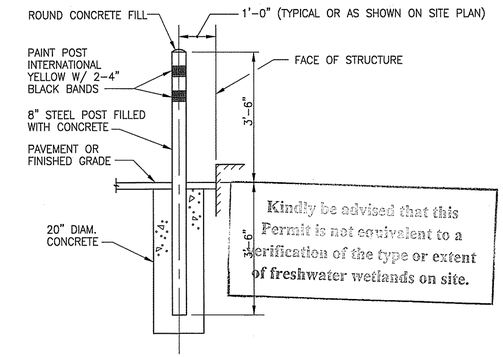
6' HEIGHT DOUBLE LEAF GATE

NOT TO SCALE
2-1.45.4.2 (REV. 12-15-94)



6' HEIGHT CHAIN LINK FENCE SECTION

NOT TO SCALE
2-1.45.2.1 (REV. 12-15-94)

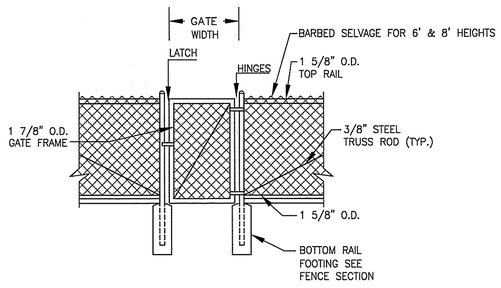


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GUARD POST

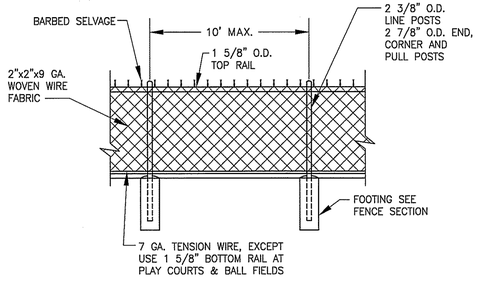
NOT TO SCALE
2-1.44.1 (REV. 12-22-05)

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Augustus D. Warnock



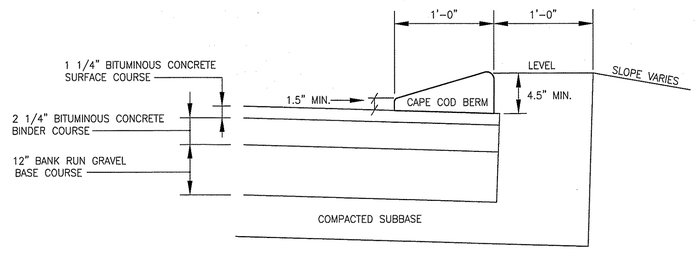
6' HEIGHT SINGLE LEAF GATE

NOT TO SCALE
2-1.45.3.2 (REV. 12-15-94)



6' HEIGHT CHAIN LINK FENCE

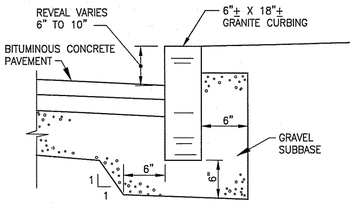
NOT TO SCALE
2-1.45.1.2 (REV. 12-15-94)



CAPE COD BERM

NOT TO SCALE

Environmental Management
AUG - 6 2018
Office of Water Resources



GRANITE CURB

NOT TO SCALE
2-1.42.1 (REV. 12-15-94)

WOONSOCKET WATER SERVICES, LLC

AECOM suez

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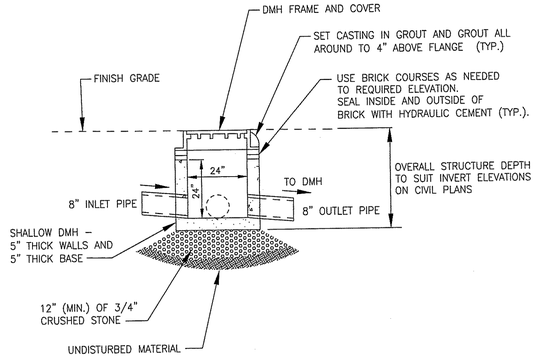
SHEET TITLE

DETAILS IV

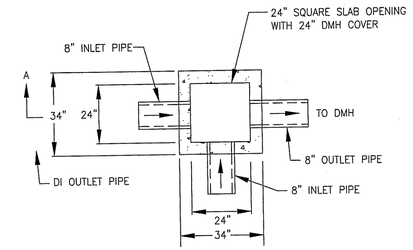
SHEET NUMBER

99 C-504

SHEET 24 OF 32



SECTION



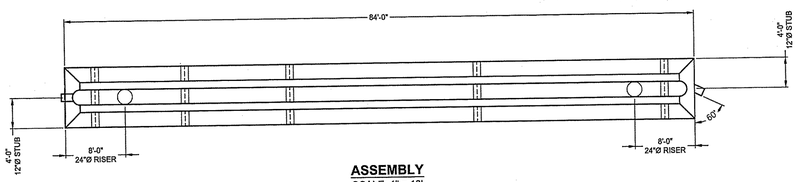
PLAN

NOTE:

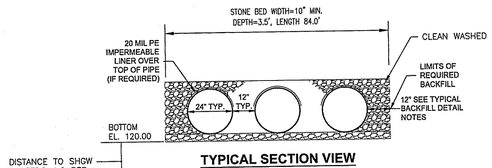
REQUIRED PIPE PENETRATIONS FOR SHALLOW DRAIN MANHOLE LOCATIONS SHALL BE COORDINATED WITH THE CIVIL SITE PLAN.

PRECAST SHALLOW DRAIN MANHOLE

NTS



ASSEMBLY
SCALE: 1" = 10'
PIPE STORAGE: 805 CF
STRUCTURAL BACKFILL STORAGE: 710 CF
TOTAL STORAGE PROVIDED: 1,545 CF
LOADING: H20
PIPE INV. = TBD'±



TYPICAL SECTION VIEW
SCALE: N.T.S.

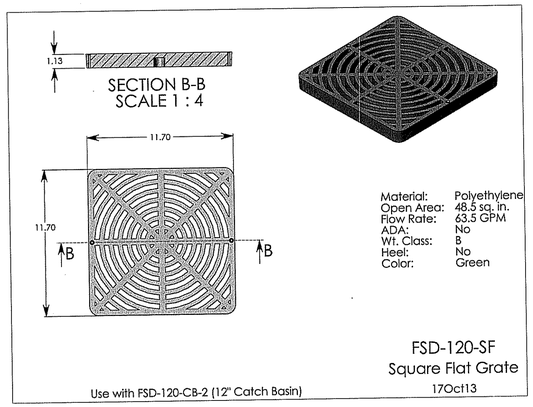
NOTE: IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE.
- ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2⅔" x ½" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE AS REQUIRED, BY CONTRACTOR.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL ACCESS CASTINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE NOT SUPPLIED BY CONTECH

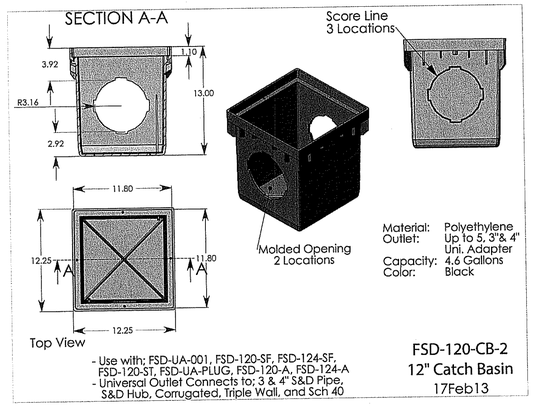
UNDERGROUND INFILTRATION CHAMBER

NTS



GRATE FOR 12" POLYETHYLENE CATCH BASIN

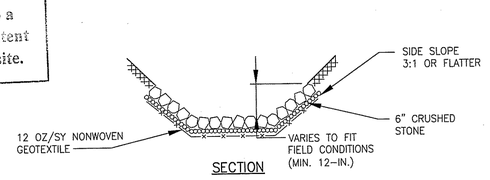
NTS



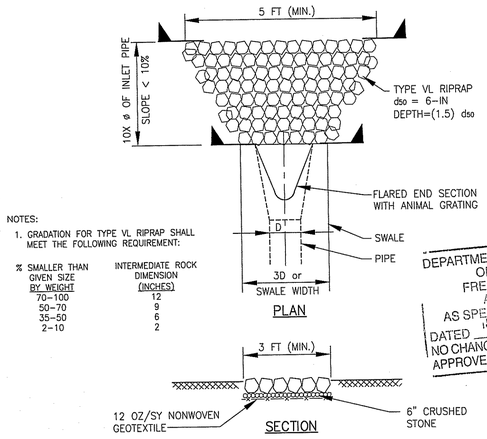
12" POLYETHYLENE CATCH BASIN

NTS

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SECTION



NOTES:
1. GRADATION FOR TYPE VL RIPRAP SHALL MEET THE FOLLOWING REQUIREMENT:

% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSION (INCHES)
70–100	12
50–70	9
35–50	6
2–10	2

PLAN

SECTION

RIP RAP OUTLET PROTECTION

NTS

Environmental Management
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Jonathan D. Wancek

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Designed By:	M. RIBEIRO
Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

RIDEM PERMIT

SHEET TITLE

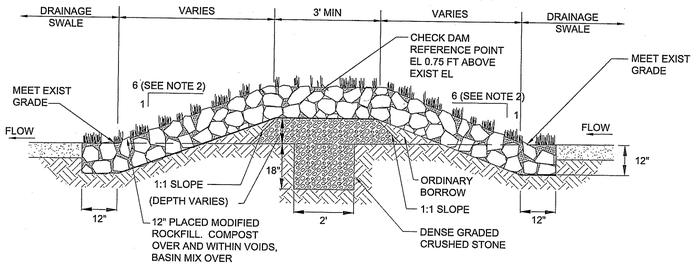
DETAILS V

SHEET NUMBER

99 C-505

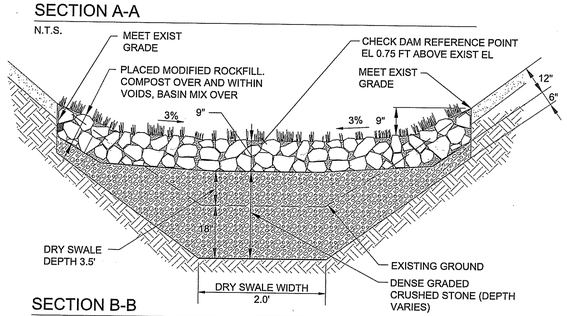
SHEET 25 OF 32

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LAST UPDATE: Tuesday, July 31, 2018 12:47:53 PM
PLOT DATE: Wednesday, August 1, 2018 3:05:05 PM



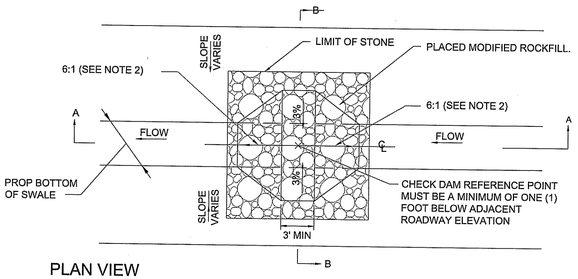
SECTION A-A

N.T.S.



SECTION B-B

N.T.S.



PLAN VIEW

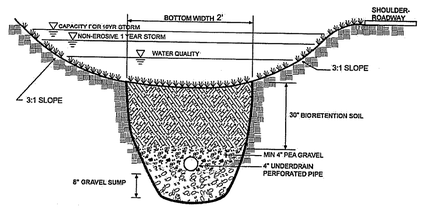
N.T.S.

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY THAT THE DIFFERENCE BETWEEN CHECK DAM REFERENCE POINT ELEVATION AND ADJACENT ROADWAY ELEVATION IS NOT LESS THAN 1-FOOT. IF FIELD CONDITIONS DO NOT RESULT IN 1-FOOT ELEVATION DIFFERENCE BETWEEN PROVIDED CHECK DAM REFERENCE POINT AND ADJACENT ROADWAY ELEVATION AT EDGE OF PAVEMENT, CONTRACTOR SHALL NOTIFY ENGINEER.
2. 6:1 SLOPE. STEEPER TRAVERSE SLOPES ARE PERMISABLE (3:1 MAXIMUM) WITH LONGITUDINAL ROADSIDE BARRIERS, AREAS OUTSIDE THE CLEAR ZONE, OR ON LOW SPEED FACILITIES.
3. APPLY COMPOST MATERIAL OVER AND WITHIN THE MODIFIED ROCKFILL. MATERIAL SHOULD BE PLACED SO THAT SETTLED MATERIAL IS AT OR SLIGHTLY BELOW SURFACE PLANE OF STONE AND SHALL BE WORKED INTO THE VOIDS OF THE MODIFIED ROCK FILL. COMPOST SHALL BE RAKED BY HAND.

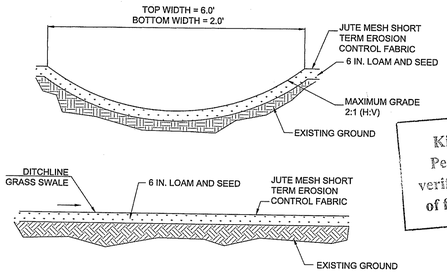
DRY SWALE - ROCK CHECK DAM

NTS



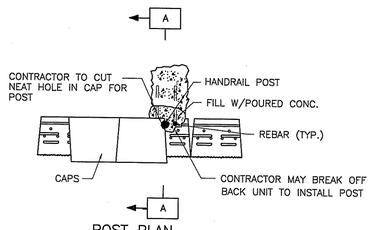
DRY SWALE (SECTION VIEW)

NTS



GRASS CONVEYANCE CHANNEL

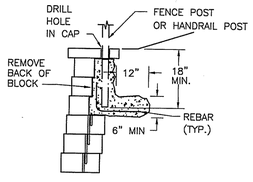
NTS



POST PLAN

TYPICAL HANDRAIL

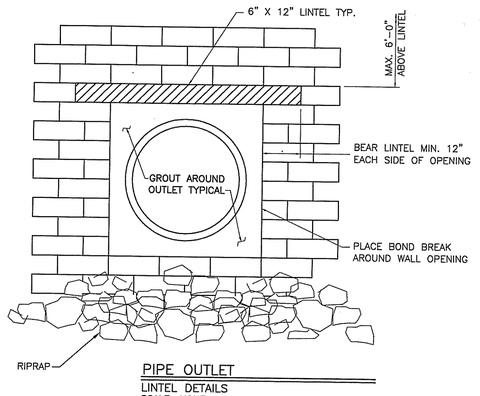
SCALE: NONE



POST SECTION A–A

TYPICAL HANDRAIL AND/OR FENCE POST

SCALE: NONE

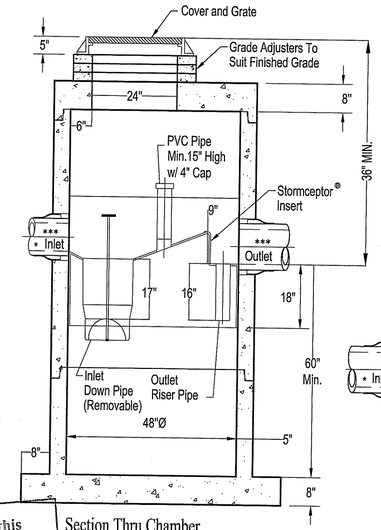


PIPE OUTLET

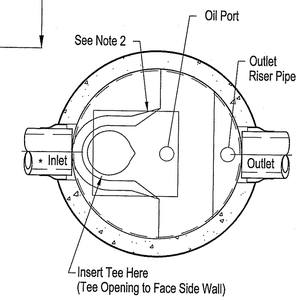
LINTEL DETAILS

SCALE: NONE

STC 450i Precast Concrete Stormceptor®
(450 U.S. Gallon Capacity)



Section Thru Chamber



Plan View

* IF REQUIRED

*** INLET TO OUTLET ELEVATION DIFFERENCE = 3 INCHES

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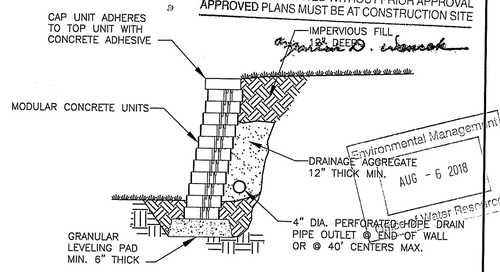
Notes:

1. The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.
2. The Cover Should be Positioned Over The Inlet Drop Pipe and The Oil Port.
3. The Stormceptor System is protected by one or more of the following U.S. Patents: #5753115, #5849181, #6068765, #6371690. #7582216, #7666303.
4. Contact a Concrete Pipe Division representative for further details not listed on this drawing.

Rinker 027

STORMCEPTOR - STC 450i

NTS



TYPICAL SECTION

MODULAR CONCRETE UNIT UNREINFORCED RETAINING WALL

NTS

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ISSUE

RIDEM PERMIT SUBMITTAL

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REVISION

I/R	DATE	DESCRIPTION

PROJECT NUMBER

60552844

Designed By:	M. RIBEIRO
Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

RIDEM PERMIT

SHEET TITLE

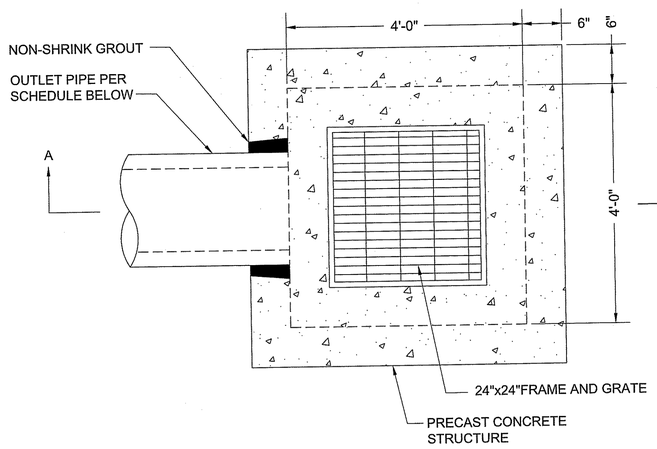
DETAILS VI

SHEET NUMBER

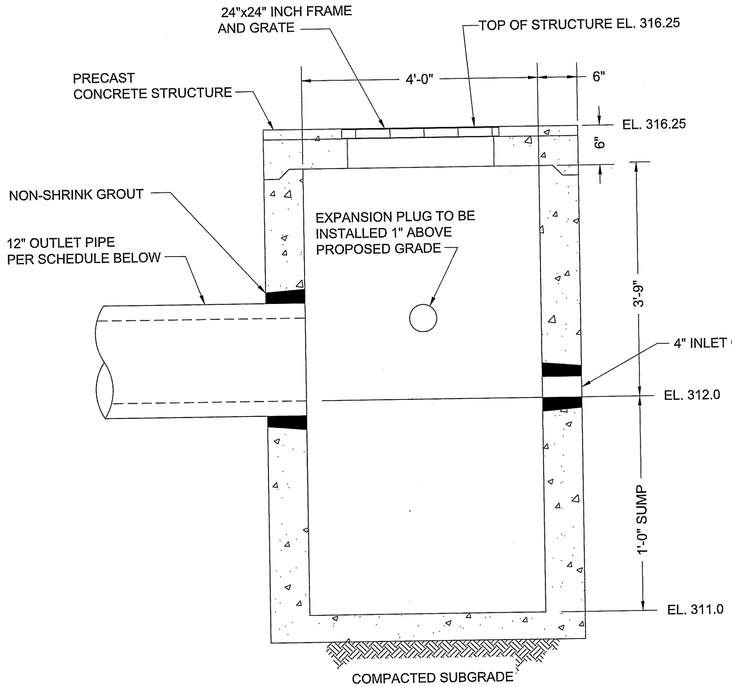
99 C-506

SHEET 26 OF 32

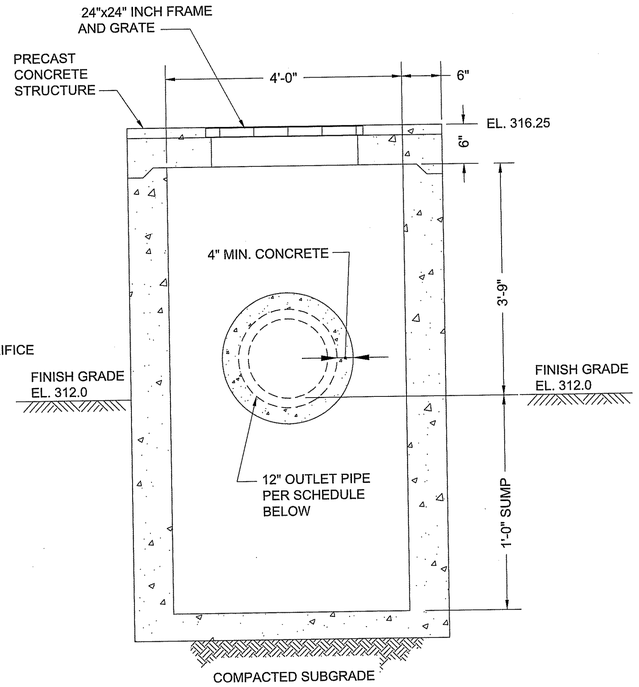
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LAST UPDATE: Tuesday, July 31, 2018 11:27:37 AM
PLOT DATE: Wednesday, August 1, 2018 3:04:46 PM



PLAN



SECTION A-A

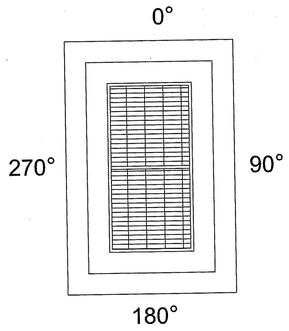


FRONT ELEVATION

BIORETENTION BASIN OUTLET CONTROL STRUCTURE

NTS

OUTLET CONTROL STRUCTURE SCHEDULE			
OUTLET PIPE DIA.	OUTLET PIPE INV. EL.	OUTLET CONTROL STRUCTURE RIM EL.	POSITION
12"	312.0	316.25	90°

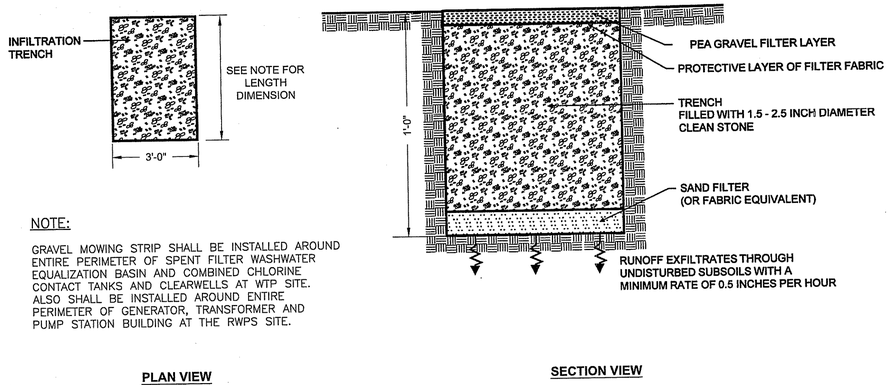


PIPE POSITION ORIENTATION DIAGRAM (SEE OUTLET CONTROL STRUCTURE SCHEDULE)

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Environmental Management
AUG - 6 2018
Office of Water Resources



PLAN VIEW

SECTION VIEW

NOTE:

GRAVEL MOWING STRIP SHALL BE INSTALLED AROUND ENTIRE PERIMETER OF SPENT FILTER WASHWATER EQUALIZATION BASIN AND COMBINED CHLORINE CONTACT TANKS AND CLEARWELLS AT WTP SITE. ALSO SHALL BE INSTALLED AROUND ENTIRE PERIMETER OF GENERATOR, TRANSFORMER AND PUMP STATION BUILDING AT THE RWPS SITE.

GRAVEL MOWING STRIP

NTS

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI

Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

CONSULTANT

WOONSOCKET WATER SERVICES, INC.
250 APOLLO DRIVE
CHELMSFORD, MA 01824
PHONE: (978) 905-2100
www.aecom.com

REGISTRATION

MATTHEW RIBEIRO
No. 11725
REGISTERED PROFESSIONAL ENGINEER
CIVIL
8/1/2018

ISSUE

RIDEM PERMIT SUBMITTAL

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Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

RIDEM PERMIT

SHEET TITLE

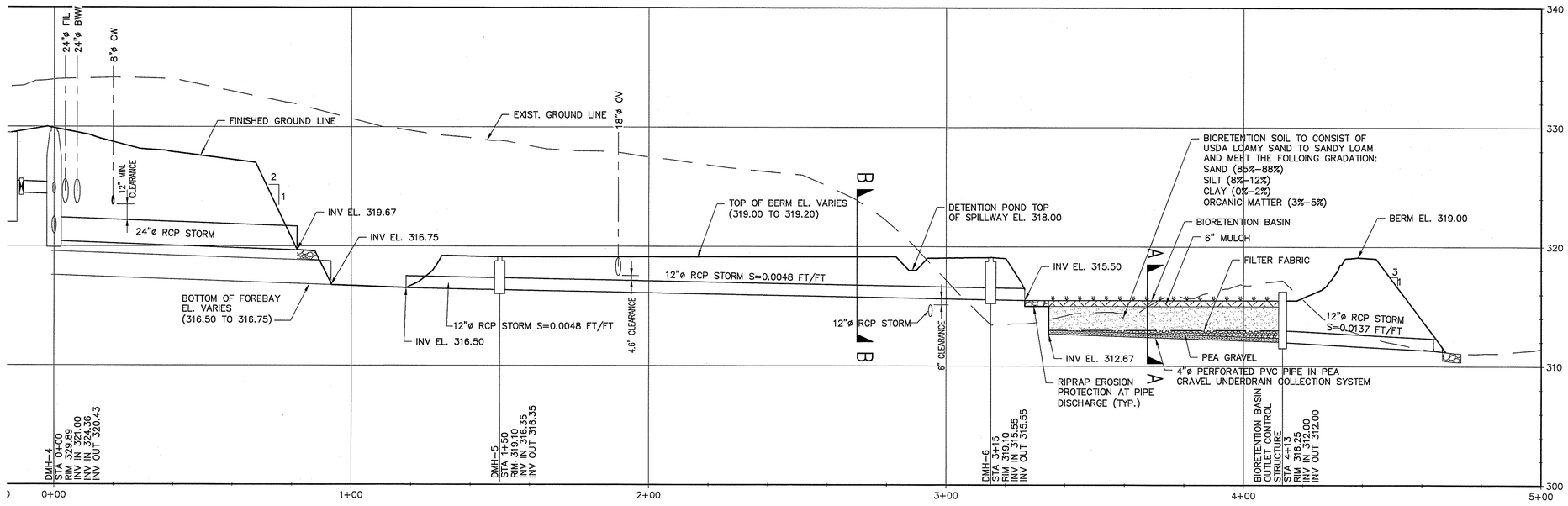
DETAILS VII

SHEET NUMBER

99 C-507

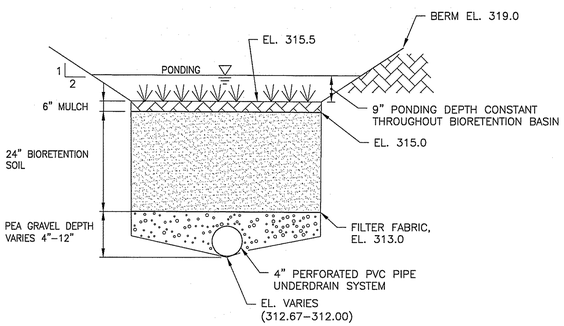
SHEET 27 OF 32

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C699 C-507_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 12:45:57 PM
PLOT DATE: Wednesday, August 1, 2018 3:04:23 PM



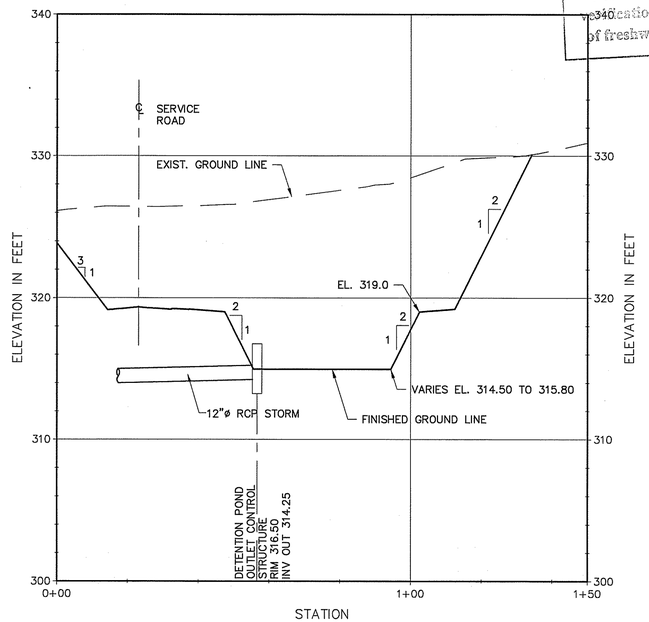
BIORETENTION BASIN AND FOREBAY - LONGITUDIAL SECTION

SCALE: 1"=20' (HORIZ.)
1"= 5' (VERT.)



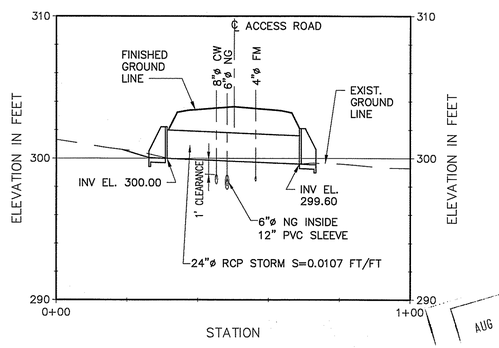
BIORETENTION BASIN - TYPICAL SECTION A-A

NOT TO SCALE



DETENTION POND - SECTION B-B

1"=20' (HORIZ.)
1"= 5' (VERT.)



CULVERT CROSSING DETAIL - SECTION C-C

1"=20' (HORIZ.)
1"= 5' (VERT.)

SCALE: 1" = 20'

SCALE: 1" = 5'

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
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DATED SEP 14 2018 FILE # 18-0069
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AUG - 6 2018

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

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Water Treatment Plant
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CLIENT

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Department of Public Works
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Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

RIDEM PERMIT

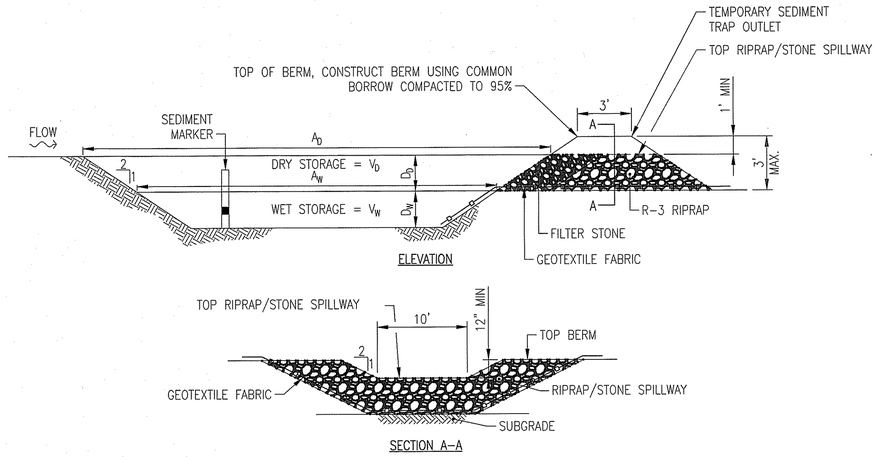
SHEET TITLE

DETAILS VIII

SHEET NUMBER

99 C-508

SHEET 28 OF 32



	L_W (FT)	W_W (FT)	A_W (SF)	D_W	D_D	V_W (CF)	V_D (CF)	TOTAL STORAGE $V_W + V_D$ (CF)
TST-1	120	30	3,600	3.0	2.1	9,180	8,957	18,137
TST-2	75	25	1,875	3.0	2.0	4,781	4,614	9,395
TST-3	60	30	1,800	3.0	2.0	4,590	4,384	8,974
TST-4	50	25	1,250	3.0	2.0	3,188	3,164	6,352

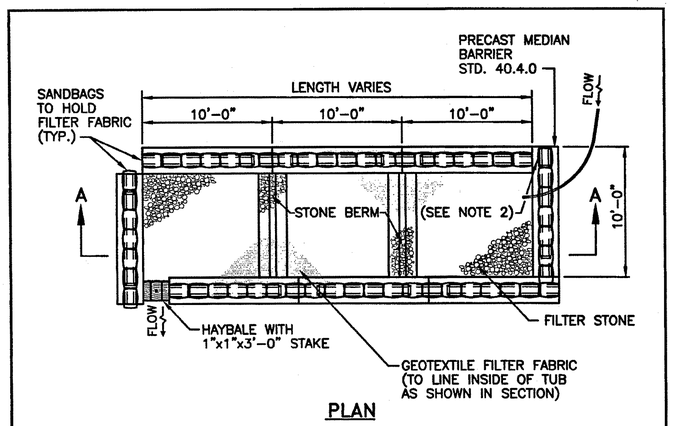
NOTES:

1. TEMPORARY SEDIMENT TRAPS SHALL BE CLEANED OR REMOVED EVERY 6 MONTHS.
2. RIPRAP SHALL MEET RIDOT STANDARD SPECIFICATION M.10.03.2.
3. STONE SHALL MEET RIDOT STANDARD SPECIFICATION M.01.09 TABLE I, COLUMN V (FILTER STONE).
4. SEDIMENT MARKER SHALL BE INSTALLED SUCH THAT TOP OF BLACK ENAMEL BAND IS 1.5' FROM THE BOTTOM OF THE SEDIMENT TRAP.
5. REFER TO SOIL EROSION AND SEDIMENT CONTROL PLANS FOR LIMITS OF A_D AND A_W.

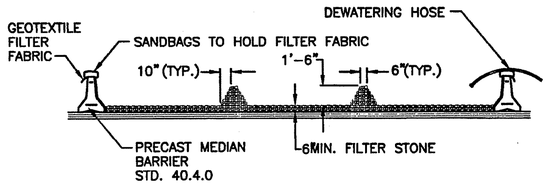
TST-# TEMPORARY SEDIMENT TRAP DETAIL
NOT TO SCALE

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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by Jonathan D. Mercier



PLAN



SECTION

NOTS:
1. SHALL BE IN ACCORDANCE WITH SECTION 208 OF THE R.I. STANDARD SPECIFICATIONS.
2. PROVIDE ADDITIONAL SAND BAGS AS REQUIRED TO FILL SPACE BETWEEN ADJACENT BARRIERS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

DEWATERING BASIN

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 9.7.0

Rhode Island Department of Environmental Management
AUG - 6 2018
Office of Water Resources

WOONSOCKET WATER SERVICES, LLC
AECOM SUEZ

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Date:	AUGUST 2018
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DISCIPLINE

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SHEET TITLE

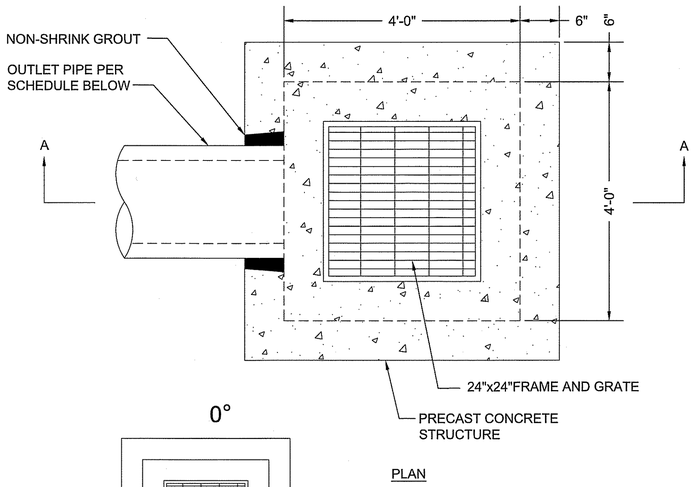
DETAILS IX

SHEET NUMBER

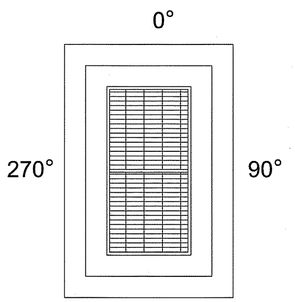
99 C-509

SHEET 29 OF 32

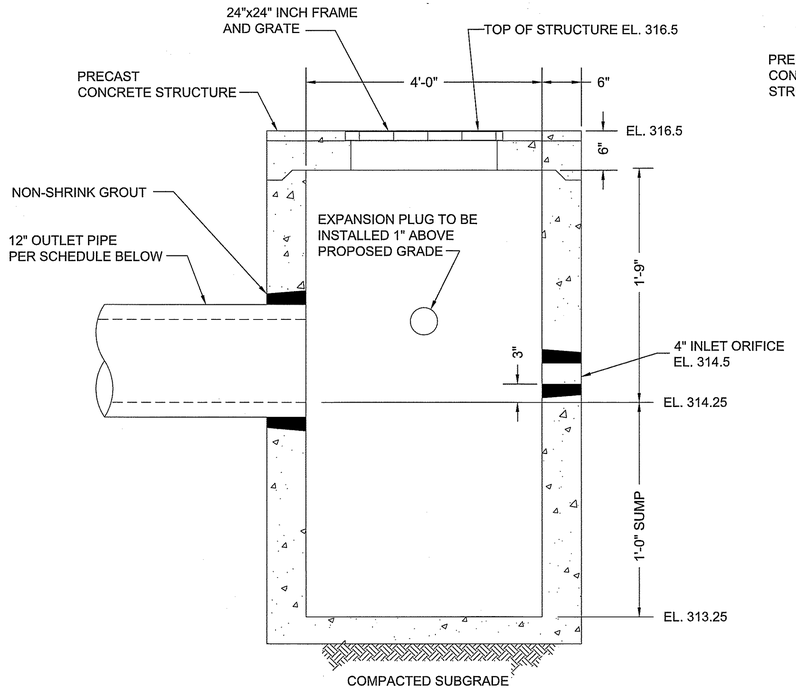
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LAST UPDATE: Tuesday, July 31, 2018 11:30:34 AM
PLOT DATE: Wednesday, August 1, 2018 3:03:24 PM



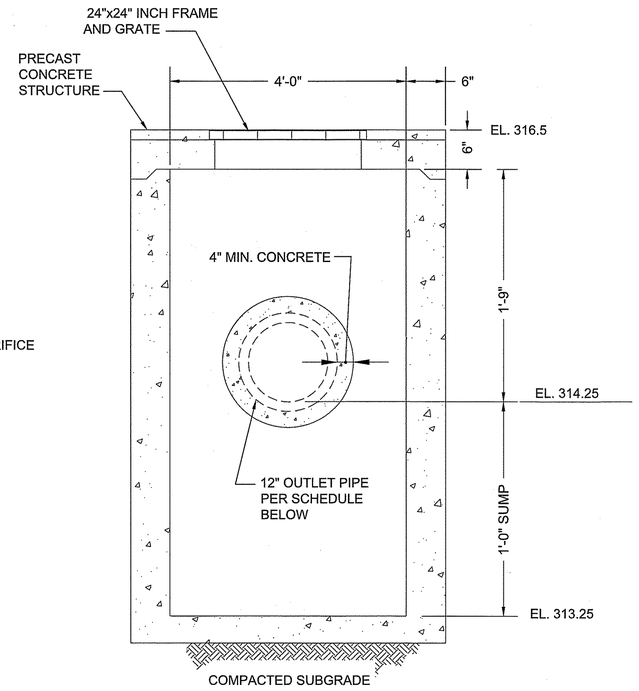
PLAN



PIPE POSITION ORIENTATION DIAGRAM
(SEE OUTLET CONTROL STRUCTURE SCHEDULE)



SECTION A-A



FRONT ELEVATION

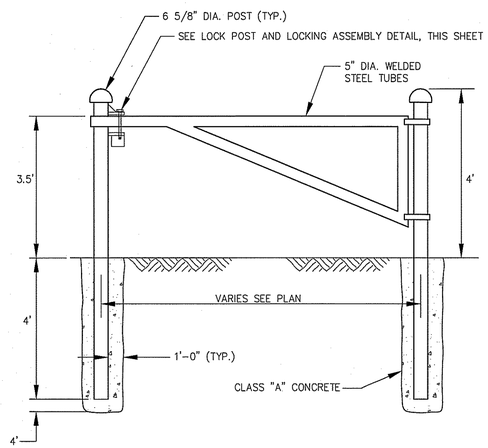
DETENTION POND OUTLET CONTROL STRUCTURE

NTS

OUTLET CONTROL STRUCTURE SCHEDULE			
OUTLET PIPE DIA.	OUTLET PIPE INV. EL.	OUTLET CONTROL STRUCTURE RIM EL.	POSITION
12"	314.25	316.5	90°

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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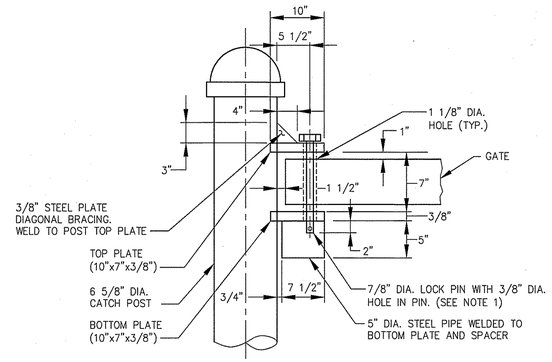


ACCESS GATE

NTS

NOTES:

1. USE ASTM A120 SCHEDULE 40 STEEL PIPING.
2. PROVIDE HEAVY PATTERN GATE HINGES OF ADEQUATE STRENGTH FOR GATE SIZE WITH LARGE BEARING SUFACES FOR CLAMPING OR BOLTING IN POSITION.
3. PROVIDE SUITABLE LATCH WITH PROVISION FOR PADLOCKING.
4. PROVIDE BLACK FINISH COAT IN ACCORDANCE WITH SECTION 09941.
5. PROVIDE TWO LOCK POSTS AND LOCKING ASSEMBLIES AT EACH GATE. LOCATE ONE AS INDICATED ON THE OTHER DRAWING. LOCATE THE OTHER AS DIRECTED BY THE CM FOR LOCKING THE GATE IN OPEN POSITION.



NOTE:

1. WELD AN 18-INCH LONG, 1/8-INCH GALVANIZED STEEL CHAIN HAVING 12 LINKS PER FOOT BETWEEN THE TOP OF THE LOCK PIN AND THE TOP PLATE. FOR GALVANIZING REQUIREMENTS SEE SPECIFICATION SECTION 05500.

LOCK POST AND LOCKING ASSEMBLY

NTS

Environmental Management
AUG - 6 2018
Office of Water Resources

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
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CONSULTANT

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REGISTRATION

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Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

RIDEM PERMIT

SHEET TITLE

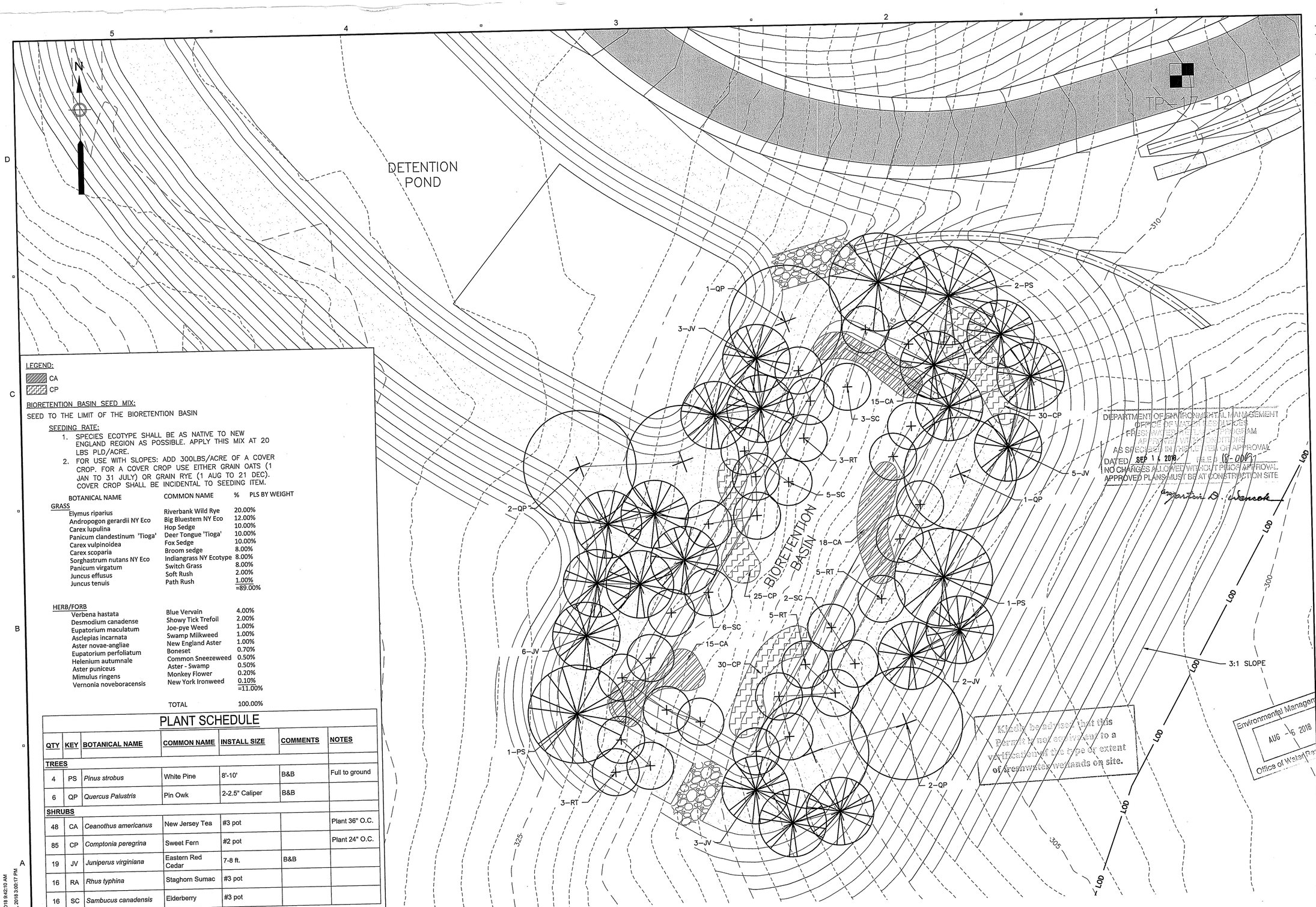
DETAILS X

SHEET NUMBER

99 C-510

SHEET 30 OF 32

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C99 C-510_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 11:29:20 AM
PLOT DATE: Wednesday, August 1, 2018 3:03:10 PM



LEGEND:

CA

CP

BIORETENTION BASIN SEED MIX:

SEED TO THE LIMIT OF THE BIORETENTION BASIN

SEEDING RATE:

1. SPECIES ECOTYPE SHALL BE AS NATIVE TO NEW ENGLAND REGION AS POSSIBLE. APPLY THIS MIX AT 20 LBS PLD/ACRE.
2. FOR USE WITH SLOPES: ADD 300LBS/ACRE OF A COVER CROP. FOR A COVER CROP USE EITHER GRAIN OATS (1 JAN TO 31 JULY) OR GRAIN RYE (1 AUG TO 21 DEC). COVER CROP SHALL BE INCIDENTAL TO SEEDING ITEM.

	BOTANICAL NAME	COMMON NAME	% PLS BY WEIGHT
GRASS			
	Elymus riparius	Riverbank Wild Rye	20.00%
	Andropogon gerardii NY Eco	Big Bluestem NY Eco	12.00%
	Carex lupulina	Hop Sedge	10.00%
	Panicum clandestinum 'Tioga'	Deer Tongue 'Tioga'	10.00%
	Carex vulpinoidea	Fox Sedge	10.00%
	Carex scoparia	Broom sedge	8.00%
	Sorghastrum nutans NY Eco	Indiangrass NY Ecotype	8.00%
	Panicum virgatum	Switch Grass	8.00%
	Juncus effusus	Soft Rush	2.00%
	Juncus tenuis	Path Rush	1.00%
			=89.00%
HERB/FORB			
	Verbena hastata	Blue Vervain	4.00%
	Desmodium canadense	Showy Tick Trefoil	2.00%
	Eupatorium maculatum	Joe-pye Weed	1.00%
	Asclepias incarnata	Swamp Milkweed	1.00%
	Aster novae-angliae	New England Aster	1.00%
	Eupatorium perfoliatum	Boneset	0.70%
	Helenium autumnale	Common Sneezeweed	0.50%
	Aster puniceus	Aster - Swamp	0.50%
	Mimulus ringens	Monkey Flower	0.20%
	Vernonia noveboracensis	New York Ironweed	0.10%
			=11.00%
		TOTAL	100.00%

PLANT SCHEDULE

QTY	KEY	BOTANICAL NAME	COMMON NAME	INSTALL SIZE	COMMENTS	NOTES
TREES						
4	PS	*Pinus strobus*	White Pine	8'-10'	B&B	Full to ground
6	QP	*Quercus Palustris*	Pin Owk	2-2.5" Caliper	B&B	
SHRUBS						
48	CA	*Ceanothus americanus*	New Jersey Tea	#3 pot		Plant 36" O.C.
85	CP	*Comptonia peregrina*	Sweet Fern	#2 pot		Plant 24" O.C.
19	JV	*Juniperus virginiana*	Eastern Red Cedar	7-8 ft.	B&B	
16	RA	*Rhus typhina*	Staghorn Sumac	#3 pot		
16	SC	*Sambucus canadensis*	Elderberry	#3 pot		

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Margaret D. Wancek

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Environmental Management
AUG -6 2018
Office of Water Resources

PLAN

SCALE: 1"=10'

NOTES:

1. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

10 0 10 20
SCALE: 1" = 10'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\L\99 L-101_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 8:42:10 AM
PLOT DATE: Wednesday, August 1, 2018 3:00:17 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

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CLIENT

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CONSULTANT

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PHONE: (978) 905-2100
www.aecom.com

REGISTRATION

REGISTERED LANDSCAPE ARCHITECT
LORAYNE ALGIEN BLACK
No. 284
Loraine Black

ISSUE

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60552844

Designed By:	L. BLACK
Drawn By:	E. CHIARELLI
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

RIDEM PERMIT

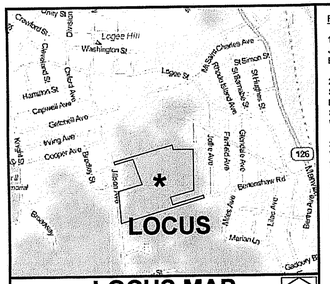
SHEET TITLE

BIORETENTION PLANTING PLAN

SHEET NUMBER

30 L-101

SHEET 31 OF 32



LOCUS MAP
NOT TO SCALE

REFERENCES:

1. RECORDED PLAN ENTITLED " LANDS OF ROBERT M. ROSS WOONSOCKET, RHODE ISLAND JUNE, 1938 SCALE 1"=40' " BY ARNOLD SEAGRAVE, CE AND RECORDED WITH THE WOONSOCKET ENGINEERS OFFICE UNDER PLAN # 1465.

2. RECORDED PLAN ENTITLED " AMENDMENT TO FINAL PLAN FOR PROPOSED ADMINISTRATIVE SUBDIVISION FOR NORTHERN RHODE ISLAND HOMES, JILLSON AVENUE, WOONSOCKET, RHODE ISLAND ASSESSORS MAP F4, LOTS 24-290, 30-8, 30-44, 30-49, & 30-81 DATED: NOVEMBER, 2005 SCALE: 1"=30' AMENDED JULY 25, 2006 " BY MARC N. NYBERG PLS. AND RECORDED IN THE WOONSOCKET REGISTRY OF DEEDS IN PLAN BOOK 22, PAGE 143.

3. RECORDED PLAN ENTITLED " ALSACE PARK PLAT NO. 7 OF THE GEORGE ROSS ESTATE, WOONSOCKET, RHODE ISLAND SCALE: 1"=40' " BY ARNOLD SEAGRAVE, CE AND RECORDED IN THE WOONSOCKET REGISTRY OF DEEDS IN PLAN BOOK 9, PAGE 13.

3. RECORDED PLAN ENTITLED " ROLAND M. & SUZANNE M. MICHAUD MAP F-4 LOTS 30-9, 30-27, 30-48, 30-32 & 30-275 JILLSON & BERTENSHAW ROAD WOONSOCKET, RHODE ISLAND PROPERTY LINE SURVEY" SCALE 1" = 80FT. DATE: DECEMBER 2012 BY NORBERT A. THERIEN PLS AND RECORDED IN THE WOONSOCKET REGISTRY OF DEEDS IN PLAN BOOK 23, PAGE 142.

ZONING CRITERIA

ZONING DISTRICT	R–1
MINIMUM LOT AREA	25,000 SQ. FT.
MINIMUM LOT FRONTAGE	135'
MINIMUM FRONT YARD SETBACK	35'
MINIMUM SIDE YARD SETBACK	25'
MINIMUM REAR YARD SETBACK	50'
MAXIMUM BUILDING COVERAGE	25%
MAXIMUM BUILDING HEIGHT	35'

NO.	DATE	DESCRIPTION	BY

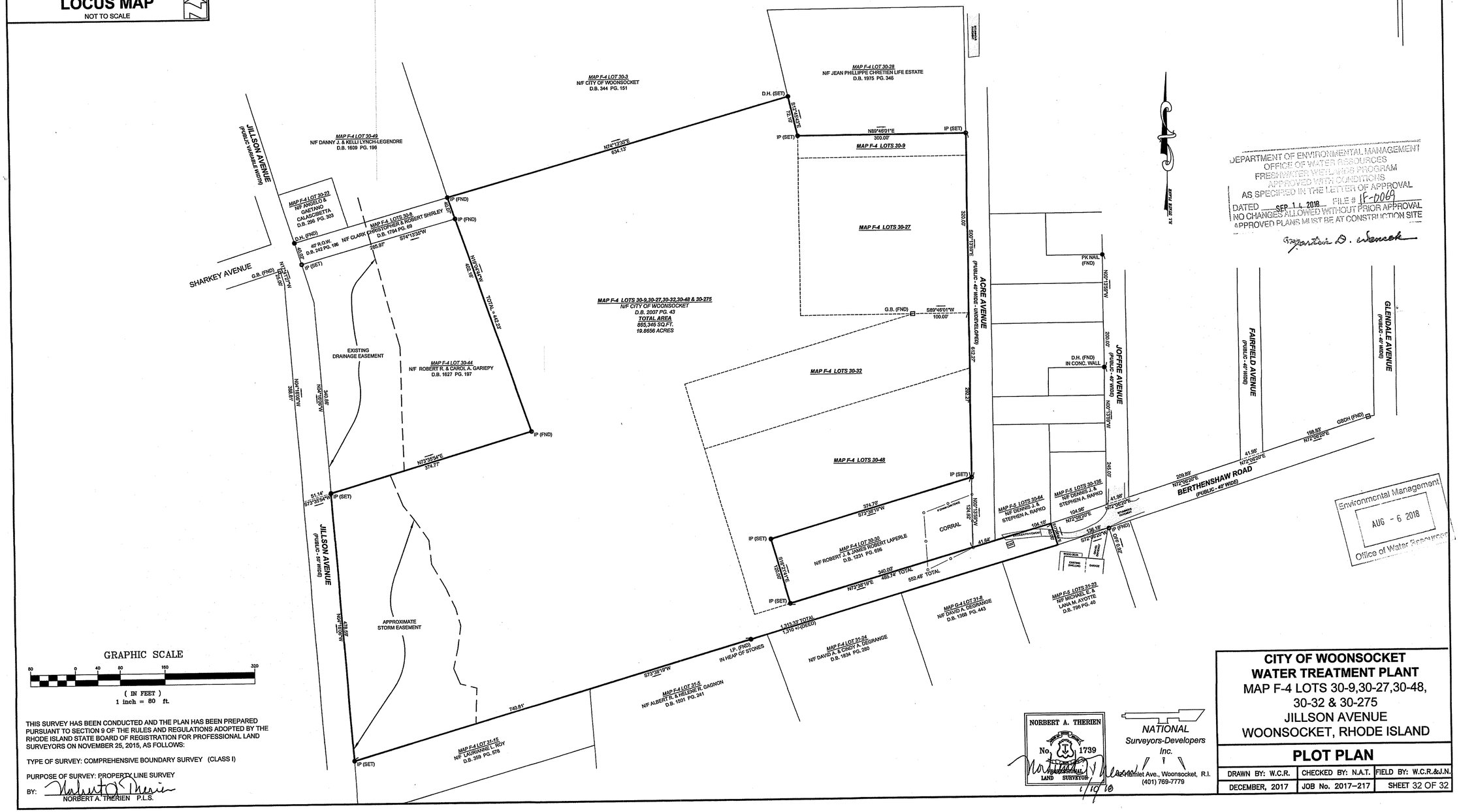
Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

LEGEND
NOT TO SCALE

- BOUNDARY
- ABUTTER
- IRON PIN
- BOUND
- DRILL HOLE
- PK NAIL

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Environmental Management
AUG - 6 2018
Office of Water Resources



GRAPHIC SCALE

80 0 40 80 160 320

(IN FEET)
1 inch = 80 ft.

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON NOVEMBER 25, 2015, AS FOLLOWS:

TYPE OF SURVEY: COMPREHENSIVE BOUNDARY SURVEY (CLASS I)

PURPOSE OF SURVEY: PROPERTY LINE SURVEY

BY: Norbert A. Therien
NORBERT A. THERIEN P.L.S.

NORBERT A. THERIEN
No. 1739
PROFESSIONAL LAND SURVEYOR
1/10/18

NATIONAL
Surveyors-Developers
Inc.
42 Hamlet Ave., Woonsocket, R.I.
(401) 769-7779

CITY OF WOONSOCKET
WATER TREATMENT PLANT
MAP F-4 LOTS 30-9,30-27,30-48,
30-32 & 30-275
JILLSON AVENUE
WOONSOCKET, RHODE ISLAND

PLOT PLAN

DRAWN BY: W.C.R.	CHECKED BY: N.A.T.	FIELD BY: W.C.R.&J.N.
DECEMBER, 2017	JOB No. 2017–217	SHEET 32 OF 32

Woonsocket, RI
Water Treatment Facilities
Design-Build-Operate

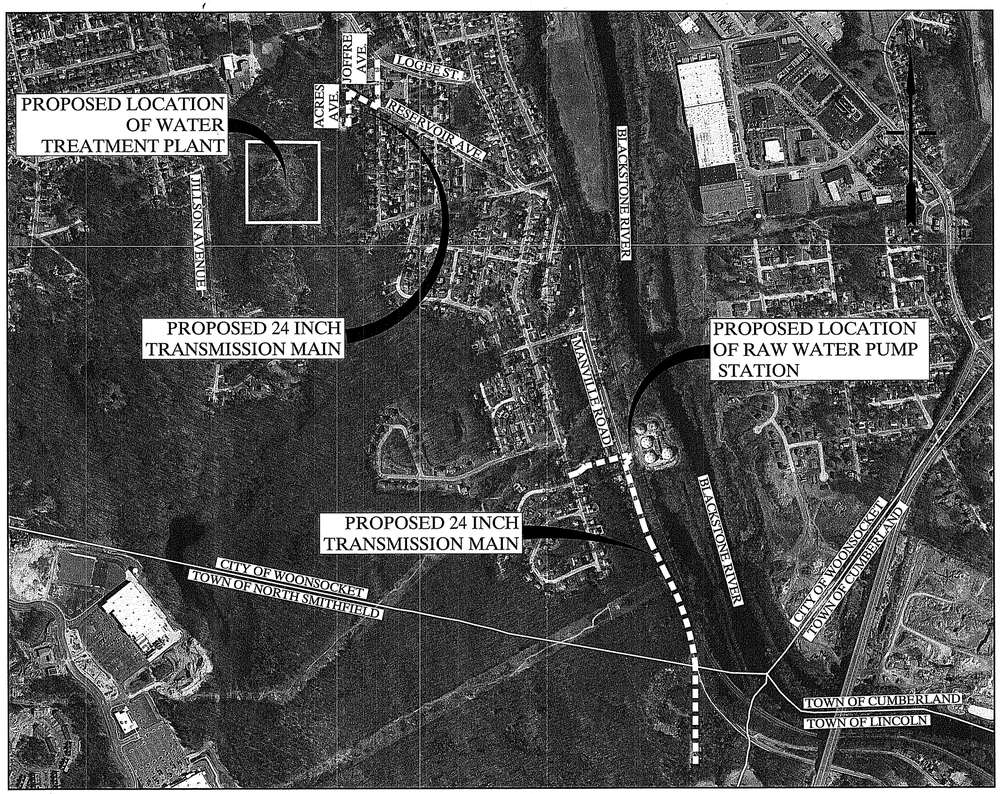
Raw & Finished Water Transmission Main Upgrades

Woonsocket, RI

PARE PROJECT No. 17137.00

Approved Plans, 15-0069

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.



Locus Plan
SCALE: 1" = 600'

Index of Drawings

Sheet No.	Dwg. No.	Description
		COVER
1	70 C-100.1	NOTES AND LEGEND
2	70 C-100.2	OVERALL PLAN
3	70 C-101	RAW WATER SUPPLY MAIN ALIGNMENT CROSS COUNTRY / MANVILLE ROAD PLAN & PROFILE NO. 1
4	70 C-102	RAW WATER SUPPLY MAIN ALIGNMENT CROSS COUNTRY / MANVILLE ROAD PLAN & PROFILE NO. 2
5	70 C-103	RAW WATER SUPPLY MAIN ALIGNMENT CROSS COUNTRY / MANVILLE ROAD PLAN & PROFILE NO. 3
6	70 C-104	RAW WATER SUPPLY MAIN ALIGNMENT CROSS COUNTRY / MANVILLE ROAD PLAN & PROFILE NO. 4
7	70 C-105	RAW WATER SUPPLY MAIN ALIGNMENT CROSS COUNTRY / MANVILLE ROAD PLAN & PROFILE NO. 5
8	70 C-106	RAW WATER SUPPLY MAIN ALIGNMENT CROSS COUNTRY / LYDIA AVENUE PLAN & PROFILE NO. 1
9	70 C-107	RAW WATER SUPPLY MAIN ALIGNMENT CROSS COUNTRY / LYDIA AVENUE PLAN & PROFILE NO. 2
10	70 C-108	RAW WATER & FINISHED WATER TRANSMISSION MAIN ALIGNMENT JOFFRE AVENUE - ACRES AVENUE PLAN & PROFILE NO. 1
11	70 C-109	RAW WATER & FINISHED WATER TRANSMISSION MAIN ALIGNMENT JOFFRE AVENUE - ACRES AVENUE PLAN & PROFILE NO. 2
12	70 C-110	RAW WATER & FINISHED WATER TRANSMISSION MAIN ALIGNMENT JOFFRE AVENUE - ACRES AVENUE PLAN & PROFILE NO. 3
13	70 C-117	DETAILS 1
14	70 C-118	DETAILS 2
15	70 C-119	DETAILS 3
16	70 C-120	BORING LOGS
17	70 C-121	TEST PITS LOGS

Received by Environmental Management JUL 9 2018

Environmental Management JUL - 9 2018 Office of Water Resources

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
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APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Jennifer D. Ebenack

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PARE

PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
401-334-4100

REGISTRATION

RIDEM PERMIT SUBMISSION VOLUME 3
MAY 2018
REVISED JULY 2018

PROJECT DESCRIPTION

1. THE PROJECT INVOLVES THE INSTALLATION OF APPROXIMATELY 4,900 FEET OF 24" DUCTILE IRON TRANSMISSION MAIN ON SEVERAL ROADS THROUGHOUT THE CITY OF WOONSOCKET. THESE ROADS INCLUDE MANVILLE ROAD, LYDIA AVENUE, LOGEE STREET, JOFFEE AVENUE, RESERVOIR AVENUE, AND ACRES AVENUE. THE TRANSMISSION MAIN IS BEING INSTALLED AS PART OF THE NEW RAW WATER SUPPLY AND FINISHED WATER TRANSMISSION MAIN FOR THE NEW WOONSOCKET WATER TREATMENT PLANT. THIS WORK ALSO INCLUDES THE INSTALLATION OF NEW VALVES, FITTINGS, AND FOUR (4) AIR RELEASE VALVES ALONG THE PROPOSED TRANSMISSION MAIN ALIGNMENT.

PLAN NOTES

1. INFORMATION AS SHOWN ON THE DRAWINGS RELATING TO MATERIALS, SIZES, CONDITIONS, AND/OR LOCATIONS OF EXISTING STRUCTURES AND UTILITIES HAS BEEN COMPILED FROM BEST AVAILABLE INFORMATION FROM MULTIPLE SOURCES. THOSE SOURCES INCLUDE THE FOLLOWING:

   CDM SMITH HAS PROVIDED FIELD SURVEYS OF THE PROJECT AREA FROM VARIOUS SOURCES, WHICH WERE GENERATED FROM SEVERAL PAST EVALUATION AND DESIGN PROJECTS. COORDINATES IN U.S. SURVEY FEET, ARE REFERENCED TO THE RHODE ISLAND STATE PLANE COORDINATE SYSTEM, REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD'83). ELEVATIONS IN U.S. SURVEY FEET ARE REFERENCED TO THE NAVD88.

   VARIOUS SURVEYS HAVE BEEN COMPLETED FOR THE PROJECT AREA; SURVEY INFORMATION INCLUDES THE FOLLOWING:

   2001 BLENDING CHAMBER/RESERVOIR SITE IN NORTH SMITHFIELD – SURVEY PROVIDED BY MERIDIAN ENGINEERING INC. THE SURVEYED AREA OF EXISTING CONDITIONS SPANS ABOUT 2,000 FEET FROM THE SURGE RELIEF VALVE AND METERING CHAMBER AT THE SOUTHERN END, TO JUST NORTH OF THE EXISTING ELECTRIC TRANSMISSION TOWER. THE PLAN IS BORDERED TO THE EAST BY MANVILLE ROAD AND TO THE WEST BY LYDIA AVENUE. THE EXISTING CONDITIONS PLAN CONTAINS LAND IN BOTH WOONSOCKET AND NORTH SMITHFIELD, AND INCLUDES UTILITIES, STRUCTURES, ROADS, TOPOGRAPHY, AND WETLAND DELINEATIONS.

   2004 WATER MAIN REHABILITATION PROJECT – SURVEY PROVIDED BY BRYANT ASSOCIATES, INC., AND COMMONWEALTH ENGINEERS & CONSULTANTS INC., INCLUDES:
   - LYDIA AVENUE
   - WANDA AVENUE
   - FLORA AVENUE
   - LILAC AVENUE
   - BERTENSHAW ROAD
   - FAIRFIELD AVENUE
   - RESERVOIR ROAD (FAIRFIELD AVENUE TO JOFFRE AVENUE)
   - LOGEE STREET (BERTENSHAW ROAD TO FRONT STREET)

   2010 MANVILLE ROAD WATER MAIN REHABILITATION – SURVEY PROVIDED BY SURVEYING AND MAPPING CONSULTANTS, INC. (SMC), BRAINTREE MASSACHUSETTS AND THE CITY OF WOONSOCKET.

   2012 – BERNON HEIGHTS SITE FOR PROPOSED WTP – SURVEY PROVIDED BY SMC OF BRAINTREE MASSACHUSETTS

   2015 SURVEY PROVIDED BY GAROFALO AND ASSOCIATES, IN PROVIDENCE RHODE ISLAND.
   - PROPOSED RAW WATER PUMP STATION LOCATION JUST OFF MANVILLE ROAD.
   - JILLSON AVENUE (LOGEE STREET TO TALBOT AVENUE)
   - LAND AREA EAST OF JILLSON AVENUE (WET AREA) APPROXIMATELY 450-LINEAR FEET ALONG JILLSON AVENUE AND 400 LINEAR FEET EAST OF JILLSON AVENUE (APPROXIMATELY 4 ACRES)
   - ACRES AVENUE, RESERVOIR AVENUE (ACRES AVENUE TO JOFFRE AVENUE), JOFFRE AVENUE (RESERVOIR AVENUE TO LOGEE STREET)

   SUBSURFACE EXPLORATIONS PERFORMED BY NEW ENGLAND BORING CONTRACTORS, INC. AND WITNESSED BY PARE CORPORATION BETWEEN NOVEMBER 7, 2017 AND APRIL 11, 2018. A TOTAL OF EIGHT (8) BORINGS AND ELEVEN (11) VACUUM TEST PITS WERE PERFORMED. BORING LOGS CAN BE FOUND ON DRAWING NO. 70 C120. GROUND PENETRATING RADAR (GPR) ACTIVITIES WERE PERFORMED BY GROUND PENETRATING RADAR SERVICES INC. (GPRS INC.) AND WITNESSED BY PARE ON NOVEMBER 3, 2017 AND NOVEMBER 9, 2017. THE PRIMARY OBJECTIVE OF THESE GPR ACTIVITIES WERE TO LOCATE UNDERGROUND UTILITIES AND IDENTIFY THEIR DEPTH(S). THIS INFORMATION SHOULD BE CONSIDERED APPROXIMATE.

   SUBSURFACE INVESTIGATIONS AND GPR PAINT MARKINGS WERE LOCATED BY PARE USING HANDHELD GPS TECHNOLOGY.

EROSION AND SEDIMENTATION CONTROL

1. ALL EROSION AND SEDIMENT CONTROL MATERIALS AND METHODS ARE TO BE PROVIDED IN ACCORDANCE WITH THE RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK AND THE RIDOT STANDARDS.
2. SEDIMENT CONTROL BARRIERS ARE TO BE INSTALLED AS SHOWN ON THE PLANS AND DETAILS PRIOR TO THE COMMENCEMENT OF ANY EARTHWORK IN THOSE AREAS. PROVIDE TEMPORARY SEDIMENT PROTECTION AS SHOWN ON THE DETAILS FOR ALL EXISTING CATCH BASIN OR DRAINAGE INLET STRUCTURES ALONG ROUTE OF THE WATER MAIN CONSTRUCTION.
3. ALL CONSTRUCTION PHASE EROSION CONTROLS SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY-FOUR (24) HOURS AFTER ANY STORM EVENT WHICH GENERATES AT LEAST 0.25 INCHES OF RAIN IN A TWENTY-FOUR (24) HOUR PERIOD. AREAS OF EROSION AND SEDIMENT MIGRATION SHALL BE NOTED, AS WELL AS THE CONDITION AND EFFECTIVENESS OF THE STORMWATER CONTROLS.
4. ACCUMULATED SEDIMENTS SHALL BE EXCAVATED AND PROPERLY DISPOSED OF WHEN THE HEIGHT OF THE SEDIMENT EXCEEDS ONE HALF (1/2) THE HEIGHT OF THE EROSION CONTROL.
5. EROSION CONTROLS SHALL BE REPLACED EVERY SIX (6) MONTHS, AT A MINIMUM, AND MORE FREQUENTLY IF NECESSARY. ANY DAMAGED EROSION CONTROLS SHALL BE PROMPTLY REPLACED.
6. UPON COMPLETION OF EARTHWORK OUTSIDE OF THE PAVED LIMITS, PERMANENT VEGETATION SHALL BE RE-ESTABLISHED.
7. UPON COMPLETION OF THE PROJECT AND PERMANENT STABILIZATION OF THE GROUND SURFACE, ALL SEDIMENT CONTROL BARRIERS SHALL BE REMOVED SO AS NOT TO IMPEDE STORM FLOW OR DRAINAGE AND SHALL BE DISPOSED OF IN AN APPROPRIATE FASHION.
8. ALL WORK SHALL BE PERFORMED WITHIN THE LIMITS OF THE DISTURBANCE SHOWN ON THE PROJECT DRAWINGS.

GENERAL NOTES

1. NOTIFY "DIG-SAFE", AND ANY UTILITY COMPANIES NOT INCLUDED IN "DIG-SAFE" BUT KNOWN TO HAVE SERVICE IN THE AREA, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES. ALL REGULATIONS OF THE UTILITIES INVOLVED SHALL BE ADHERED TO AT ALL TIMES.
2. INFORMATION AS SHOWN ON THE DRAWINGS RELATING TO MATERIALS, SIZES, CONDITIONS, AND/OR LOCATIONS OF EXISTING STRUCTURES AND UTILITIES, INCLUDING THOSE IDENTIFIED WITH GPR, HAS BEEN COMPILED FROM THE BEST AVAILABLE INFORMATION AND IS NOT GUARANTEED CORRECT OR COMPLETE. PRIOR TO BEGINNING WORK, ALL UTILITIES SHALL BE FIELD VERIFIED IN THE IMMEDIATE AREA OF THIS PROJECT (INCLUDING THOSE TO BE CONNECTED TO) THROUGH THE PERFORMANCE OF TEST PITS OR OTHER INVESTIGATION METHODS, TO ASSURE THAT THESE UTILITIES WILL NOT IMPACT THE WORK OF THIS PROJECT. ANY SUBSTANTIAL DISCREPANCY IN UTILITY LOCATIONS, SIZES, MATERIALS, ETC., IDENTIFIED ON THE DRAWINGS SHALL BE CALLED TO THE DESIGN BUILDER'S ATTENTION IMMEDIATELY. ANY DAMAGE TO UTILITIES CAUSED BY THE DESIGN BUILDER SHALL BE THE DESIGN BUILDER'S RESPONSIBILITY, AND COSTS FOR REPAIR OR REPLACEMENT OF SUCH DAMAGED UTILITIES SHALL BE BORNE BY THE DESIGN BUILDER.
3. IN THE EVENT OF DAMAGE TO EXISTING UTILITIES, NOTIFY THE DESIGN BUILDER IMMEDIATELY AND CONTACT THE AGENCY RESPONSIBLE FOR MAINTAINING UTILITIES. UNDER NO CIRCUMSTANCES WILL BE BACKFILLED OR CONCEALED REPAIRS MADE WITHOUT PRIOR APPROVAL OF THESE AGENCIES. THE UTILITY COMPANY SHALL REPAIR THE DAMAGED UTILITY AND THE PARTY AT FAULT RESPONSIBLE TO RESOLVE COST OF REPAIR WITH UTILITY COMPANY. SHOULD THE UTILITY COMPANY PERFORM THE REPAIR, THEN THE UTILITY AGENCIES SHALL INSPECT THE REPAIRED FACILITIES PRIOR TO ANY BACKFILL OR CONCEALMENT.
4. ALL EXISTING SIGNS, POLES, UTILITIES, STRUCTURES, AND MAILBOXES, BOTH ABOVE AND BELOW GROUND, SHALL BE EITHER BRACED AND PROTECTED OR TEMPORARILY REMOVED AND REPLACED TO FACILITATE CONSTRUCTION OF THIS PROJECT. COORDINATE ACTION WITH DESIGN BUILDER OF SIGNS, POLES, UTILITIES, AND STRUCTURES. THERE WILL BE NO SEPARATE PAYMENT FOR THIS WORK.
5. UPON COMPLETION OF THE WORK, ALL DISTURBED AREAS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION.
6. ALL AREAS DISTURBED OUTSIDE OF THE PAYMENT LINES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO EXTRA COST TO THE DESIGN BUILDER. ALL ORIGINAL GRADES SHALL BE RESTORED.
7. EXACT LOCATION OF NEW PIPES, VALVES, FITTINGS, AND APPURTENANCES SHALL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE DESIGN BUILDER.
8. A SET OF FIELD RECORD DRAWINGS DURING PROGRESSION OF THE PROJECT SHALL BE MAINTAINED TO BE UPDATED ON A DAILY BASIS AND SHALL BE SUBMITTED TO THE DESIGN BUILDER AT COMPLETION OF THE PROJECT. FINAL RECORD DRAWINGS WILL BE PREPARED AND SUBMITTED TO THE DESIGN BUILDER FOLLOWING CONSTRUCTION.
9. OBTAIN ALL REQUIRED PERMITS, POST REQUIRED BONDS, AND SUPPLY THE NECESSARY NOTICES REGARDING CONSTRUCTION, UTILITIES, AND INCIDENTAL WORK WITH THE DESIGN BUILDER AND APPLICABLE UTILITY COMPANIES.
10. PROVIDE PROPER TRAFFIC CONTROL MEASURES TO CONTROL AND ENSURE THE SAFETY OF PEDESTRIANS, TRAFFIC, AND WORKERS AT ALL TIMES. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS" AS AMENDED AND APPROVED BY THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION. PROVIDE ACCESS TO DRIVEWAYS AT THE END OF EACH DAY. DESIGN BUILDER SHALL COORDINATE ROAD CLOSURES WITH THE POLICE DEPARTMENT. KEEP AT LEAST ONE LANE OF TRAVEL OPEN AT ALL TIMES FOR LOCAL AND EMERGENCY TRAFFIC.
11. PROVIDE AND MAINTAIN AREAS REQUIRED FOR TEMPORARY PLACEMENT/STORAGE FOR STOCKPILING MATERIALS TO BE USED FOR CONSTRUCTION. ALL AREAS SHALL BE SUBJECT TO THE APPROVAL OF THE CITY OF WOONSOCKET.
12. REMOVE AND DISPOSE OF ALL UNSUITABLE AND EXCESS SOIL AND MATERIALS FROM THE WORK SITE AT NO ADDITIONAL COST TO THE DESIGN BUILDER.
13. ALL TEMPORARY SHEETING, SHORING, DEWATERING, AND BRACING REQUIRED TO MAINTAIN THE STRUCTURAL STABILITY OF ADJACENT STRUCTURES AND UTILITIES SHALL BE PROVIDED DURING CONSTRUCTION. SECURE OPEN EXCAVATIONS IN ACCORDANCE WITH OSHA STANDARDS. NO EXCAVATION SHALL BE OPEN AT THE END OF THE WORK DAY. ALL EXCAVATIONS SHALL BE BACKFILLED OR COMPLETELY COVERED WITH STEEL PLATES AT THE END OF EACH WORK DAY.
14. ALL PAVED SURFACES SHALL BE SWEPT CLEAN AT THE END OF EACH WORK DAY.

HANDLING OF HAZARDOUS AND/OR CONTAMINATED SOILS

1. PREPARE FOR AND HANDLE CONTAMINATED SOILS IN ACCORDANCE WITH RIDEM RULES AND REGULATIONS SET FORTH IN DEM-DSR-01-93 REMEDIATION REGULATIONS IN AREAS WHERE CONTAMINATED SOILS ARE KNOWN AND/OR ENCOUNTERED. CERTAIN AREAS AS DESIGNATED HAVE KNOWN LEVELS OF CONTAMINATION SUBJECT TO RIDEM CONTROLS. ALL PERSONNEL SHALL BE OSHA HAZWOPER APPROVED AT ALL TIMES AND SHALL HAVE A SITE SPECIFIC HEALTH AND SAFETY PLAN PURSUANT TO 29 CFR 1910.120 ON-SITE SUCH THAT NO DELAYS ARE INCURRED. REFER TO APPLICABLE SPECIFICATIONS FOR HEALTH AND SAFETY, DUST AND ODOR CONTROL AND SOIL AND GROUNDWATER MANAGEMENT SPECIFICATION SECTIONS.
2. FOLLOW PRE-ESTABLISHED PROTOCOLS CONSISTENT WITH THOSE OUTLINED IN THE RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 107.17 – HAZARDOUS MATERIAL WHEN HANDLING CONTAMINATED SOIL AND/OR GROUNDWATER. THIS SECTION DEFINES HOW TO IDENTIFY THE PRESENCE OF HAZARDOUS MATERIAL OR TOXIC WASTE BASED ON ABNORMAL CONDITIONS AT THE JOBSITE OR WITHIN THE AREAS DESIGNATED ON THESE DRAWINGS. SECTION 107.17 FURTHER INDICATES THAT, IN THE EVENT ABNORMAL CONDITIONS ARE ENCOUNTERED, THE DESIGN BUILDER SHALL SUSPEND WORK IN THE AREA AND NOTIFY THE DESIGN BUILDER IMMEDIATELY. IF HAZARDOUS MATERIALS OR TOXIC WASTE ARE CONFIRMED AT THE JOBSITE, DISPOSITION OF THE MATERIAL SHALL BE MADE IN ACCORDANCE WITH THE REQUIREMENTS AND REGULATIONS OF THE RIDEM.

SOIL AND BEDROCK PROFILE

1. THE SOIL AND BEDROCK PROFILES PRESENTED ON THE PLANS ARE BASED IN PART UPON THE DATA OBTAINED FROM SUBSURFACE EXPLORATIONS. THE NATURE AND EXTENT OF VARIATIONS BETWEEN THESE EXPLORATIONS MAY NOT BECOME EVIDENT UNTIL CONSTRUCTION.
2. THE GENERALIZED SOIL PROFILE AS SHOWN IS INTENDED TO CONVEY TRENDS IN THE SUBSURFACE CONDITIONS. THE BOUNDARIES BETWEEN STRATA ARE APPROXIMATE AND IDEALIZED AND HAVE BEEN DEVELOPED BY INTERPRETATIONS OF WIDELY SPACED EXPLORATIONS AND SAMPLES; ACTUAL SOIL TRANSITIONS ARE PROBABLY MORE ERRATIC. FOR SPECIFIC INFORMATION, REFER TO THE BORING LOGS, TEST PIT LOGS, AND/OR ROCK PROBE LOGS.
3. WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AND OR TEST PITS AT THE TIMES AND UNDER THE CONDITIONS STATED ON THE BORING LOGS AND/OR TEST PIT LOGS. VARIATIONS IN THE LEVEL OF GROUNDWATER SHOULD BE EXPECTED DUE TO RAINFALL, TEMPERATURE, AND OTHER FACTORS OCCURRING SINCE THE TIME THE MEASUREMENTS WERE MADE.

WATER MAIN INSTALLATION NOTES

1. INSTALLATION: WATER MAIN SHALL BE INSTALLED WITH A MINIMUM 4.5 FEET OF COVER UNLESS OTHERWISE NOTED ON THE DRAWINGS. PIPE SHALL BE INSULATED WITH APPROVED MATERIAL WHERE ADEQUATE COVER IS NOT PROVIDED. PIPE SHALL BE LAID ON COMPACTED GRAVEL BORROW BEDDING AND COVERED WITH GRAVEL BORROW BEDDING MATERIAL AS INDICATED IN THE CONTRACT SPECIFICATIONS AND DRAWINGS.
2. BACKFILL: BACKFILL OF EXCAVATION SHALL BE PERFORMED WITH SUITABLE MATERIAL OR REFILLS FROM SITE EXCAVATION WITH NO PARTICLE LARGER THAN 6 INCHES, AND COMPACTED IN ACCORDANCE WITH AASHTO T 180 METHOD D TO A MINIMUM DRY DENSITY OF 95% IN 6-INCH LIFTS. UNSUITABLE MATERIALS (I.E., PEAT, CLAY, ORGANIC MATTER, DEBRIS) SHALL BE REMOVED OFF SITE FOR DISPOSAL AT NO ADDITIONAL COST TO THE DESIGN BUILDER. STONES OR ROCK FRAGMENTS SHALL NOT EXCEED 40 PERCENT BY WEIGHT OF THE BACKFILL MATERIAL.
3. ALIGNMENT: ALIGNMENT OF WATER MAIN IS DIAGRAMMATIC ONLY AND DOES NOT REFLECT ALL BENDS, FITTINGS, AND APPURTENANCES THAT MAY BE REQUIRED FOR PROPER INSTALLATION.
4. FLUSHING & DISINFECTION: ALL NEW FINISHED WATER TRANSMISSION MAIN SHALL BE FLUSHED AND DISINFECTED IN ACCORDANCE WITH AWWA C651, LATEST REVISION, AND SHALL BE PERFORMED IN THE PRESENCE OF THE DESIGN BUILDER. FORM OF CHLORINE USED FOR DISINFECTION OF FINISHED WATER TRANSMISSION MAIN SHALL BE APPROVED BY THE DESIGN BUILDER.
5. TESTING: ALL NEW WATER MAIN SHALL BE SUBJECTED TO PRESSURE AND LEAKAGE TESTING PER AWWA C600, LATEST REVISION.
6. RESTRAIN ALL FITTINGS AND VALVES AT EACH JOINT IN ACCORDANCE WITH THE RESTRAINED JOINT TABLE. INSTALL A CONCRETE THRUST BLOCK COLLAR AT EACH CONNECTION TO THE EXISTING MAIN. RESTRAINED JOINTS SHALL BE MECHANICAL OR PUSH ON WITH FIELD LOCK GASKET OR RESTRAINED JOINT PIPE. TIE RODS AND FRICTION CLAMPS SHALL ONLY BE USED WHEN APPROVED BY THE DESIGN BUILDER. THE REQUIREMENTS NOTED HEREIN ASSUME BARE DUCTILE IRON PIPE IN A TYPE 5 TRENCH TESTED AT 150 PSI. IF DESIGN BUILDER SHOULD INSTALL A DIFFERENT STYLE TRENCH OR PIPE (I.E. POLY WRAP DUCTILE IRON, C-900 SLEEVE, ETC.) THE DESIGN BUILDER SHALL PROVIDE DIRECTION REGARDING RESTRAINED LENGTH REQUIREMENTS.

PAVING NOTES

RI ROUTE 126 IS A RIDOT ROAD AND THE FINAL ROADWAY RESTORATION REQUIREMENTS CANNOT BE DETERMINED UNTIL A PERMIT IS ISSUED BY RIDOT. A DETAILED DESCRIPTION OF OUR ASSUMED APPROACH FOR RT 126 RECONSTRUCTION BASED ON OUR EXPERIENCE WITH SIMILAR PROJECTS AND WHAT WE BELIEVE WILL BE ACCEPTABLE TO RIDOT IS PROVIDED BELOW:

RAW WATER MAINS – BLENDING CHAMBER TO RAW WATER PUMP STATION
- LOCALIZED TEMPORARY PAVEMENT TRENCH REPAIR – 2" BITUMINOUS CONCRETE
- PERMANENT PAVEMENT TRENCH REPAIR – MATCH EXISTING PAVEMENT STRUCTURE NOT TO EXCEED 12" OF GRAVEL ROAD BASE AND 6" OF BITUMINOUS CONCRETE.
- REMOVE AND REPLACE GRANITE CURB OR REPLACE CURBING IN KIND AS REQUIRED.
- MILL AND OVERLAY 2" BITUMINOUS CONCRETE
- REPLACE PAVEMENT MARKINGS IN KIND (EPOXY PAINT)
- NO REPLACEMENT OF LOOP VEHICLE DETECTORS ANTICIPATED

MANVILLE ROAD (STATE RTE. 126)
- LOCALIZED TEMPORARY PAVEMENT TRENCH REPAIR AS REQUIRED – 2" BITUMINOUS CONCRETE
- PERMANENT PAVEMENT TRENCH REPAIR – MATCH EXISTING PAVEMENT STRUCTURE NOT TO EXCEED 12" OF GRAVEL ROAD BASE AND 6" HMA CLASS 19 (PLACED IN 3" LIFTS).
- REMOVE AND REPLACE GRANITE CURB OR REPLACE CURBING IN KIND AS REQUIRED.
- MILL AND OVERLAY 2" HMA MODIFIED CLASS 12.5
- REPLACE PAVEMENT MARKINGS IN KIND (EPOXY PAINT)
- NO REPLACEMENT OF LOOP VEHICLE DETECTORS ANTICIPATED

NOTE: TEMPORARY PATCH WILL BE REQUIRED FOR 30 DAYS AND PERMANENT PATCH FOR 30 DAYS.

LYDIA AVENUE, LOGEE STREET, JOFFRE AVENUE, AND RESERVOIR AVENUE
- LOCALIZED TEMPORARY PAVEMENT TRENCH REPAIR AS REQUIRED – 2" BITUMINOUS CONCRETE
- PERMANENT PAVEMENT TRENCH REPAIR – 12" ROADWAY BASE, 4" BITUMINOUS CONCRETE
- REMOVE AND REPLACE GRANITE CURB OR REPLACE CURBING IN KIND AS REQUIRED.
- REPLACE PAVEMENT MARKINGS IN KIND (EPOXY PAINT)
- REPLACE SIDEWALKS, APRONS, AND DRIVEWAYS AS REQUIRED IN KIND.
- NO REPLACEMENT OF LOOP VEHICLE DETECTORS ANTICIPATED

ACRES AVENUE
- COMPLETE RECONSTRUCTION PER TYPICAL SECTION – ACRE AVE.: CDM SMITH DRAWING T-1
- REPLACE PAVEMENT MARKINGS IN KIND (EPOXY PAINT)
- NO REPLACEMENT OF LOOP VEHICLE DETECTORS ANTICIPATED

JILLSON AVENUE
- COMPLETE RECONSTRUCTION PER TYPICAL SECTIONS – JILLSON AVE: CDM SMITH DRAWING T-1
- REPLACE PAVEMENT MARKINGS IN KIND (EPOXY PAINT)
- NO REPLACEMENT OF LOOP VEHICLE DETECTORS ANTICIPATED

Environmental Management
JUL - 9 2018
Office of Water Resources

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ABBREVIATIONS

AC	ASBESTOS-CEMENT
DI	DUCTILE IRON
GPR	GROUND PENETRATING RADAR
LOD	LIMIT OF DISTURBANCE
MIN.	MINIMUM
MAX.	MAXIMUM
RCP	REINFORCED CONCRETE PIPE
TYP.	TYPICAL
VC	VITRIFIED CLAY
VTP	VACUUM TEST PIT

LEGEND

LOD — LIMIT OF DISTURBANCE
SAWCUT LINE
COMPOST FILTER SOCK
CLEARING LIMIT
INLET SEDIMENT CONTROL DEVICE
PROPOSED WATER LINE
8+00 BASELINE WITH STATIONING
COMBINATION AIR RELEASE VALVE
TEE/ANCHOR TEE
SOLID SLEEVE COUPLING
BUTTERFLY VALVE
REDUCER
11.25° BEND
22.5° BEND
45° BEND
GATE VALVE
WYE
HYDRANT
BORING/TEST PIT

WOONSOCKET WATER SERVICES, LLC

AECOM suez

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

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PETER GEORGETTI
No. 11857
REGISTERED PROFESSIONAL ENGINEER
7/9/18 (CIVIL)

REGISTRATION

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 17-0069
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APPROVED PLANS MUST BE AT CONSTRUCTION SITE

ISSUE/REVISION

RIDEM Submittal
Final

PROJECT NUMBER

60552844

Designed By:	MFW
Drawn By:	AL, RB
Dept Check:	TPT
Proj Check:	PBG
Date:	MARCH 2018
Scale:	AS NOTED

DISCIPLINE

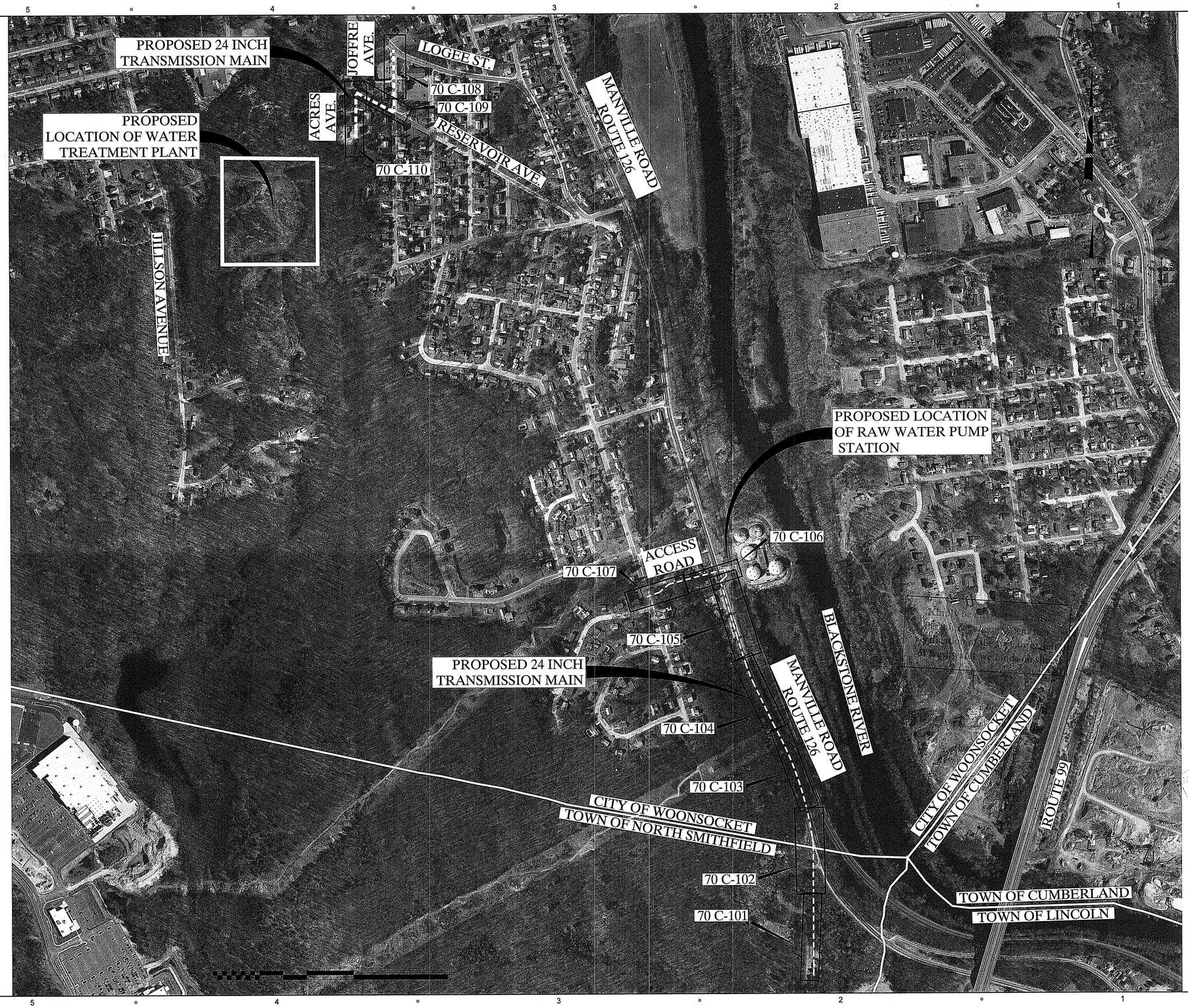
CIVIL

SHEET TITLE

NOTES AND LEGEND

SHEET NUMBER

70 C-100.1 2 of 18



WOONSOCKET WATER SERVICES, LLC

AECOM suez

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Woonsocket, RI
Water Treatment Plant
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Jonathan D. Mansolo

ISSUE/REVISION

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Environmental Management
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Office of Water Resources

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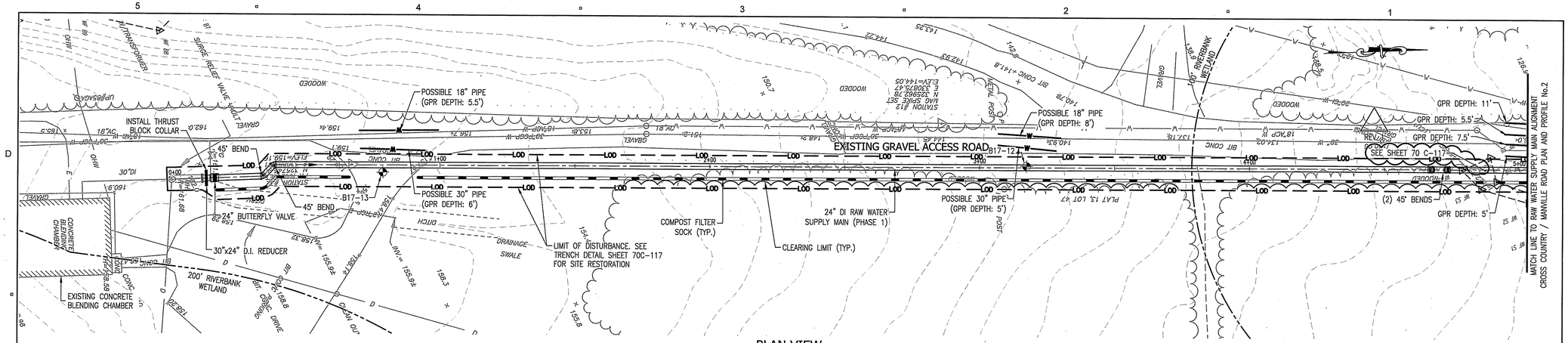
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SHEET TITLE

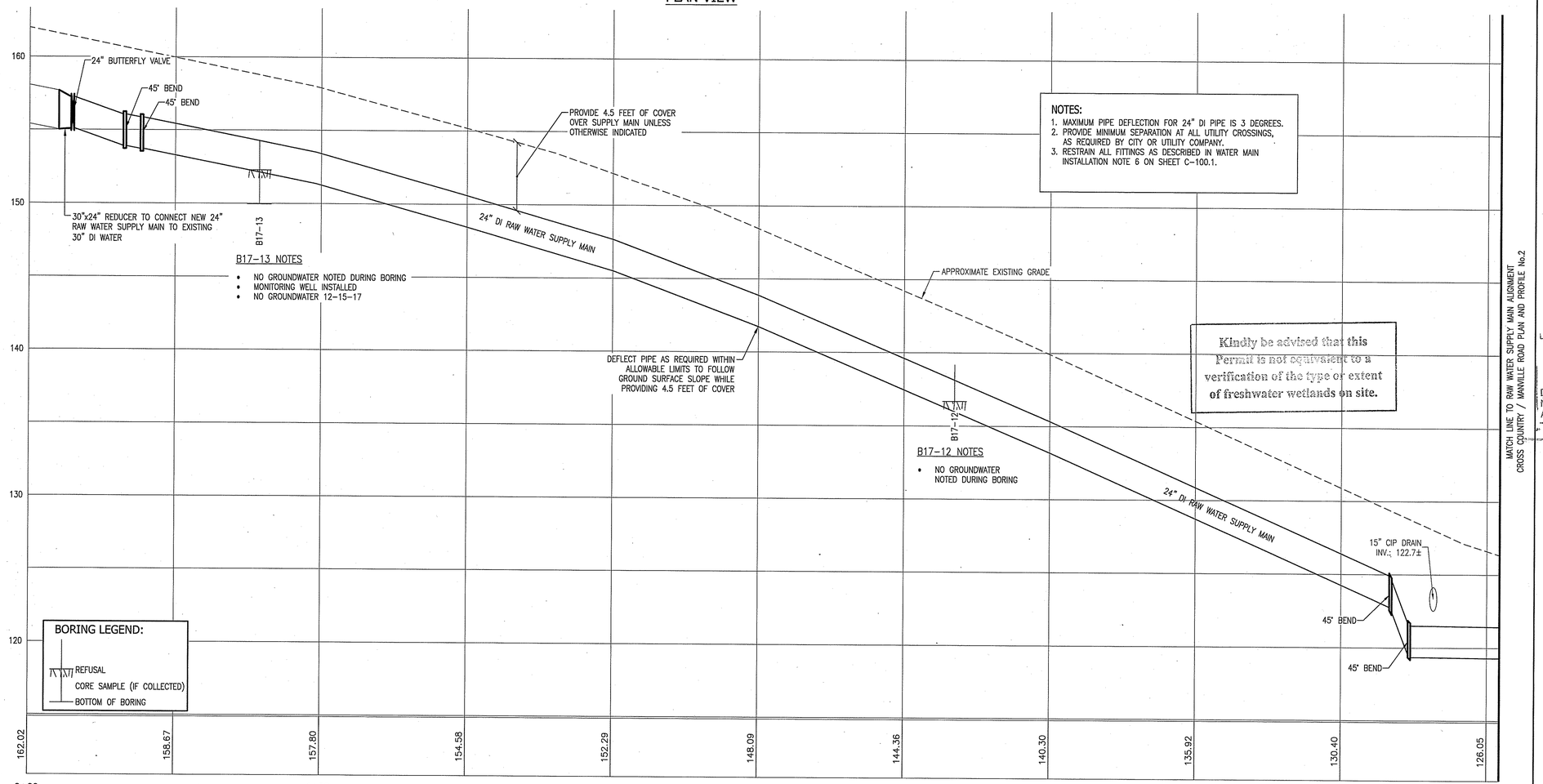
OVERALL PLAN

SHEET NUMBER

70 C-100.2 3 of 18



PLAN VIEW



B17-13 NOTES

- NO GROUNDWATER NOTED DURING BORING
- MONITORING WELL INSTALLED
- NO GROUNDWATER 12-15-17

B17-12 NOTES

- NO GROUNDWATER NOTED DURING BORING

BORING LEGEND:

- REFUSAL
- CORE SAMPLE (IF COLLECTED)
- BOTTOM OF BORING

NOTES:

1. MAXIMUM PIPE DEFLECTION FOR 24" DI PIPE IS 3 DEGREES.
2. PROVIDE MINIMUM SEPARATION AT ALL UTILITY CROSSINGS, AS REQUIRED BY CITY OR UTILITY COMPANY.
3. RESTRAIN ALL FITTINGS AS DESCRIBED IN WATER MAIN INSTALLATION NOTE 6 ON SHEET C-100.1.

Kindly be advised that this Permit is not equivalent to a verification of the type of extent of freshwater wetlands on site.

PROFILE VIEW

Scale: 1"=20' Horizontal
0 10' 20' 40'
0 2' 4' 8'
Scale: 1"=4' Vertical

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

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APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Christine O. Udvarek

1	ADD PLAN REFERENCE	07/06/2018

ISSUE/REVISION

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Final

Environmental Management
JUL - 9 2018
Office of Water Resources

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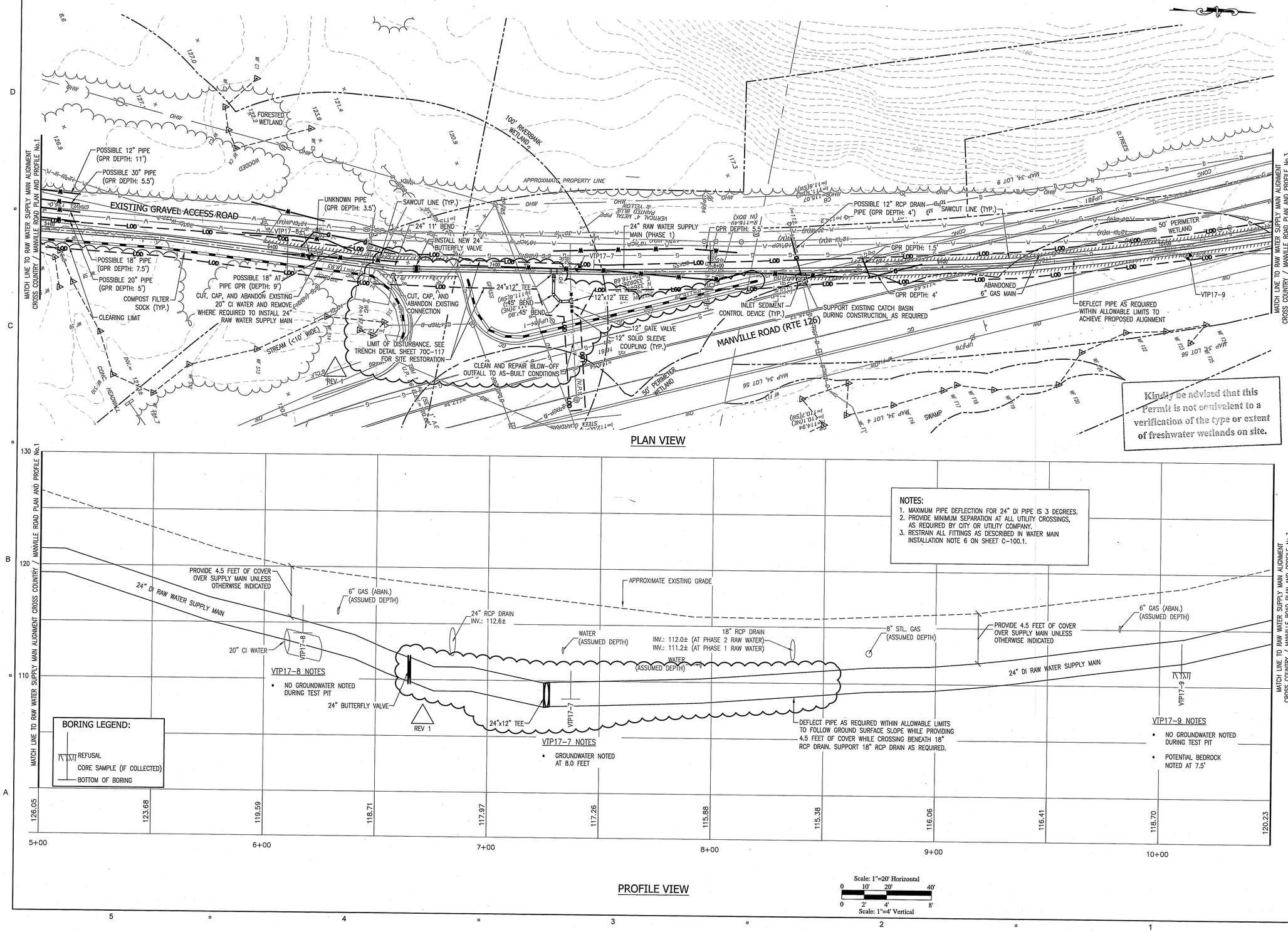
CIVIL

SHEET TITLE

RAW WATER SUPPLY MAIN ALIGNMENT
CROSS COUNTRY / MANVILLE ROAD
PLAN & PROFILE NO. 1

SHEET NUMBER

70 C-101 4 of 18



PLAN VIEW

NOTES:
1. MAXIMUM PIPE DEFLECTION FOR 24" DI PIPE IS 3 DEGREES.
2. PROVIDE MINIMUM SEPARATION AT ALL UTILITY CROSSINGS, AS REQUIRED BY CITY OR UTILITY COMPANY.
3. RESTRAIN ALL FITTINGS AS DESCRIBED IN WATER MAIN INSTALLATION NOTE 6 ON SHEET C-100.1.

PROFILE VIEW

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WOONSOCKET WATER SERVICES, LLC

AECOM suez

PROJECT

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Jennifer D. Ellsworth

1	REVISE PIPE ALIGNMENT	07/06/2018

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Environmental Management
JUL - 9 2018
Office of Water Resources

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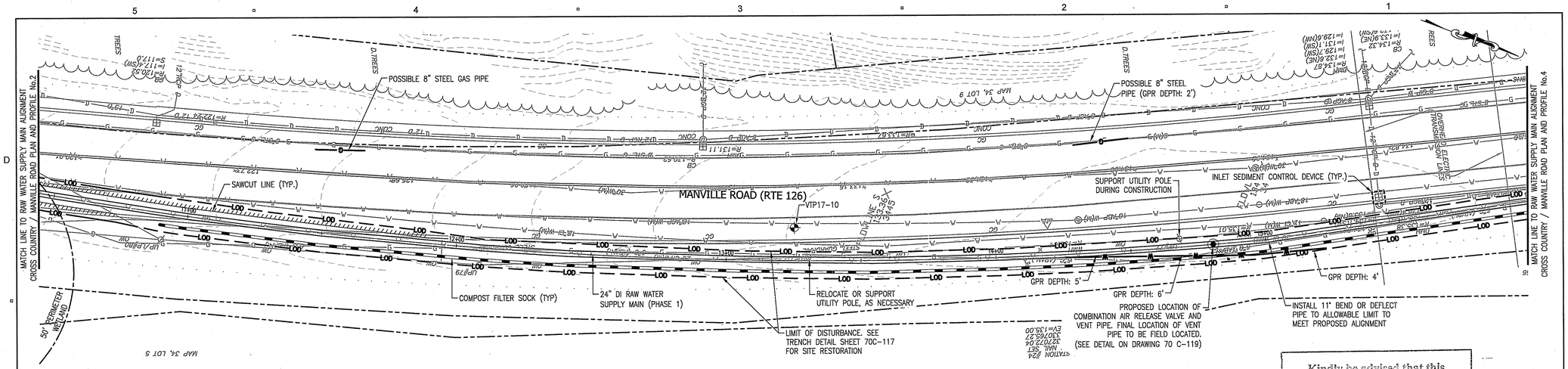
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SHEET TITLE

RAW WATER SUPPLY MAIN ALIGNMENT
CROSS COUNTRY / MANVILLE ROAD
PLAN & PROFILE NO. 2

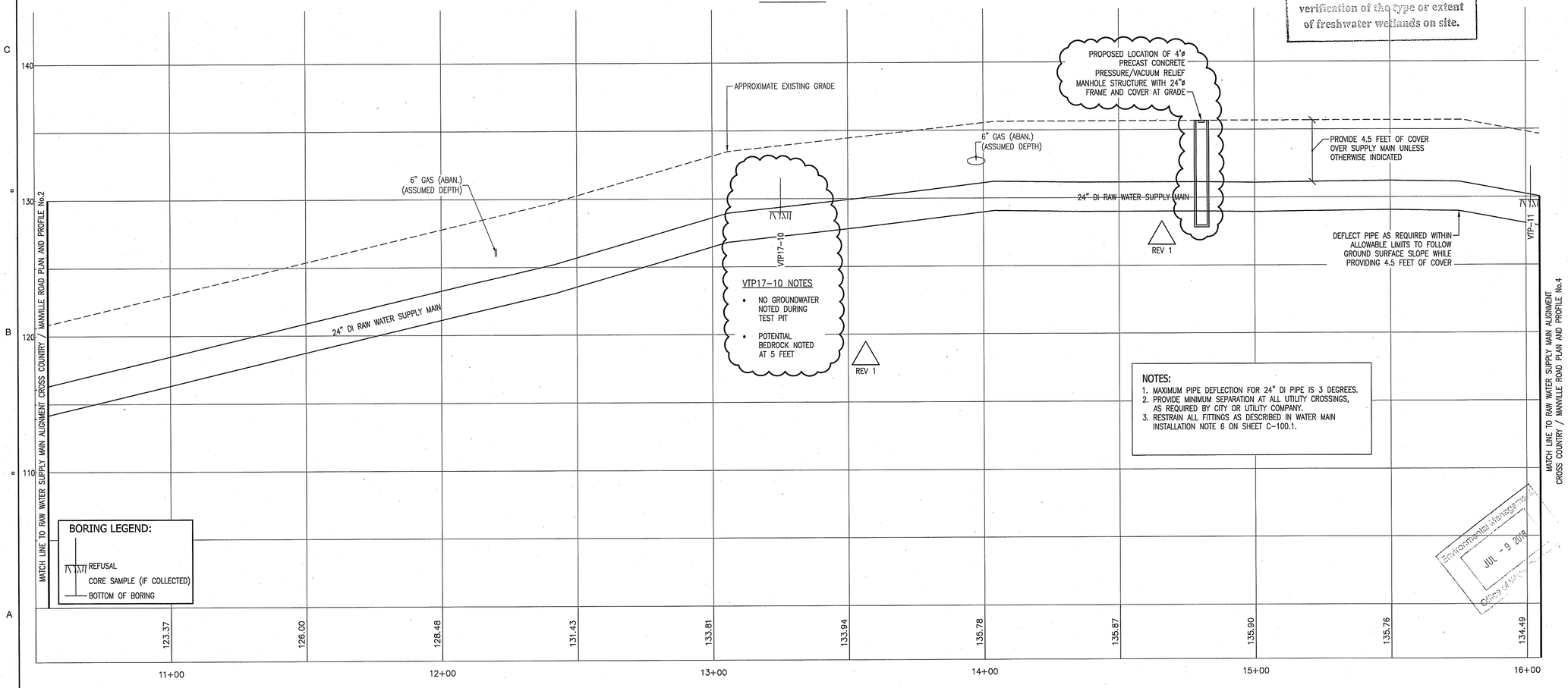
SHEET NUMBER

70 C-102 5 of 18



PLAN VIEW

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PROFILE VIEW

Scale: 1"=20' Horizontal
0 10' 20' 40'
0 2' 4' 8'
Scale: 1"=4' Vertical

Environmental Management
JUL - 9 2018
Office of Water Resources

WOONSOCKET WATER SERVICES, LLC

AECOM suez

PROJECT

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CLIENT

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1	VTP/AIR RELIEF REVISIONS	07/06/2018

ISSUE/REVISION

RIDEM Submittal
Final

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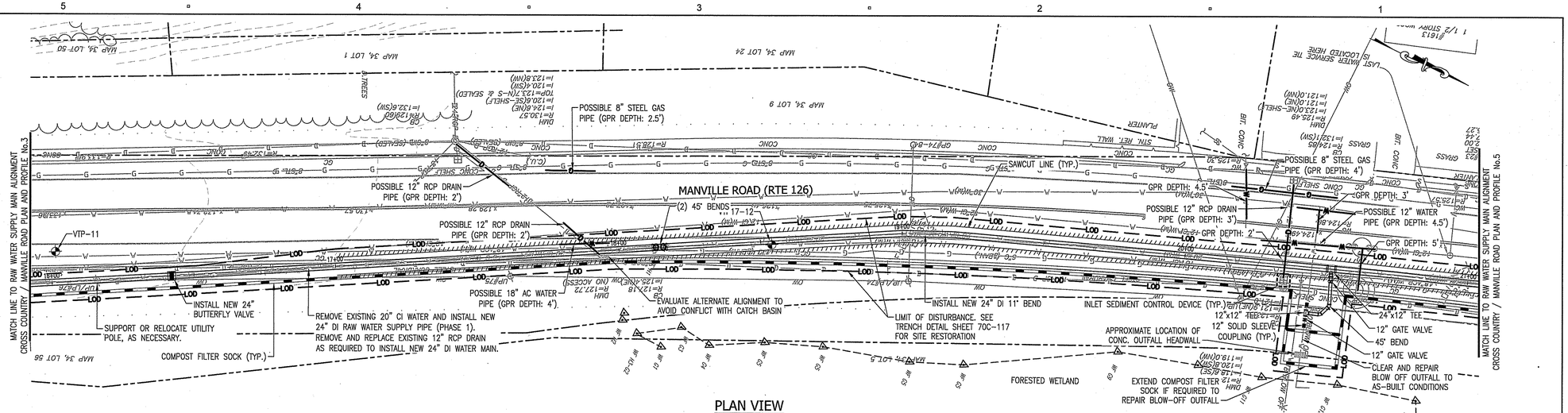
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SHEET TITLE

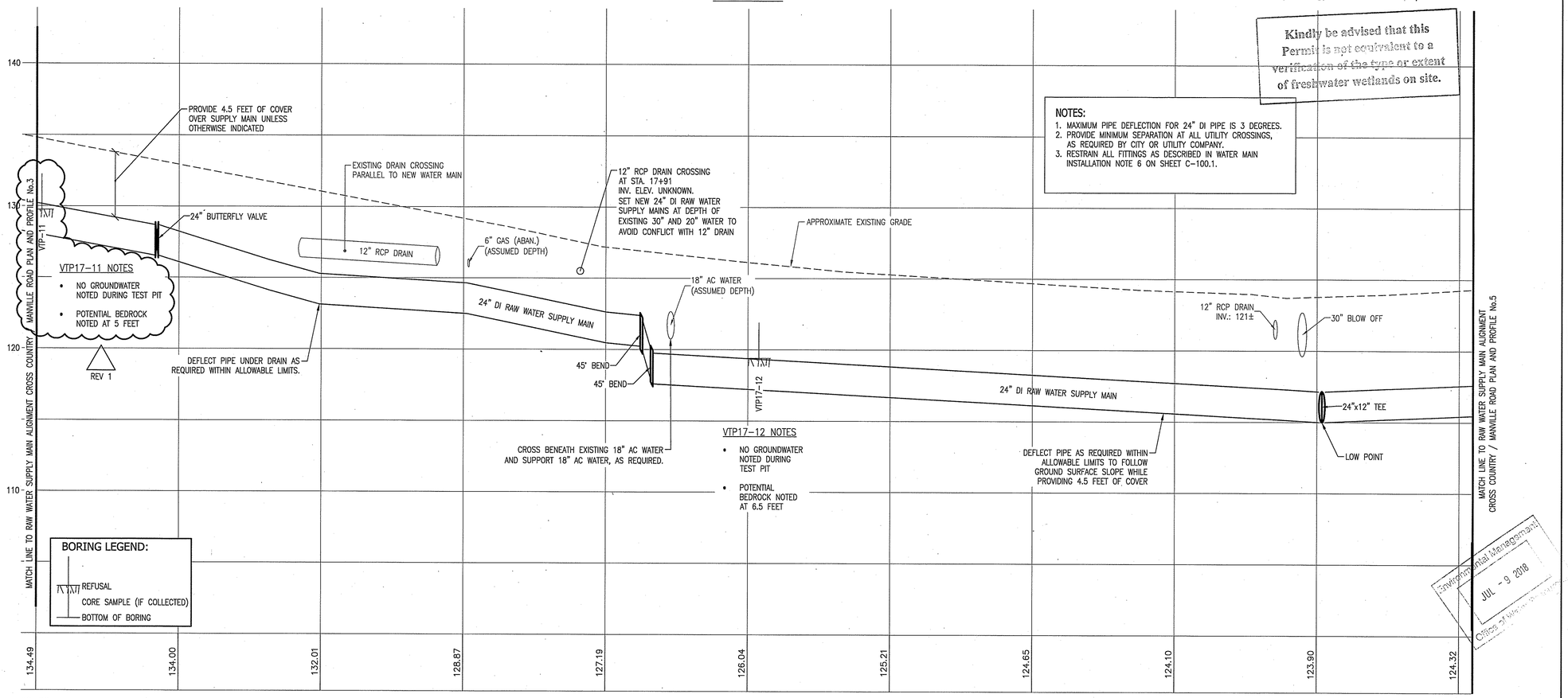
RAW WATER SUPPLY MAIN ALIGNMENT CROSS COUNTRY / MANVILLE ROAD PLAN & PROFILE NO. 3

SHEET NUMBER

70 C-103 6 of 18



PLAN VIEW



PROFILE VIEW

Scale: 1"=20' Horizontal
0 10' 20' 40'
0 2' 4' 8'
Scale: 1"=4' Vertical

NOTES:
1. MAXIMUM PIPE DEFLECTION FOR 24" DI PIPE IS 3 DEGREES.
2. PROVIDE MINIMUM SEPARATION AT ALL UTILITY CROSSINGS, AS REQUIRED BY CITY OR UTILITY COMPANY.
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Environmental Management JUL - 3 2018 Office of Water Resources

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

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REGISTRATION

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1	ADDED VTP	07/06/2018

ISSUE/REVISION

RIDEM Submittal
Final

PROJECT NUMBER

60552844

Designed By:	MFW
Drawn By:	AL, RB
Dept Check:	TPT
Proj Check:	PBG
Date:	MARCH 2018
Scale:	AS NOTED

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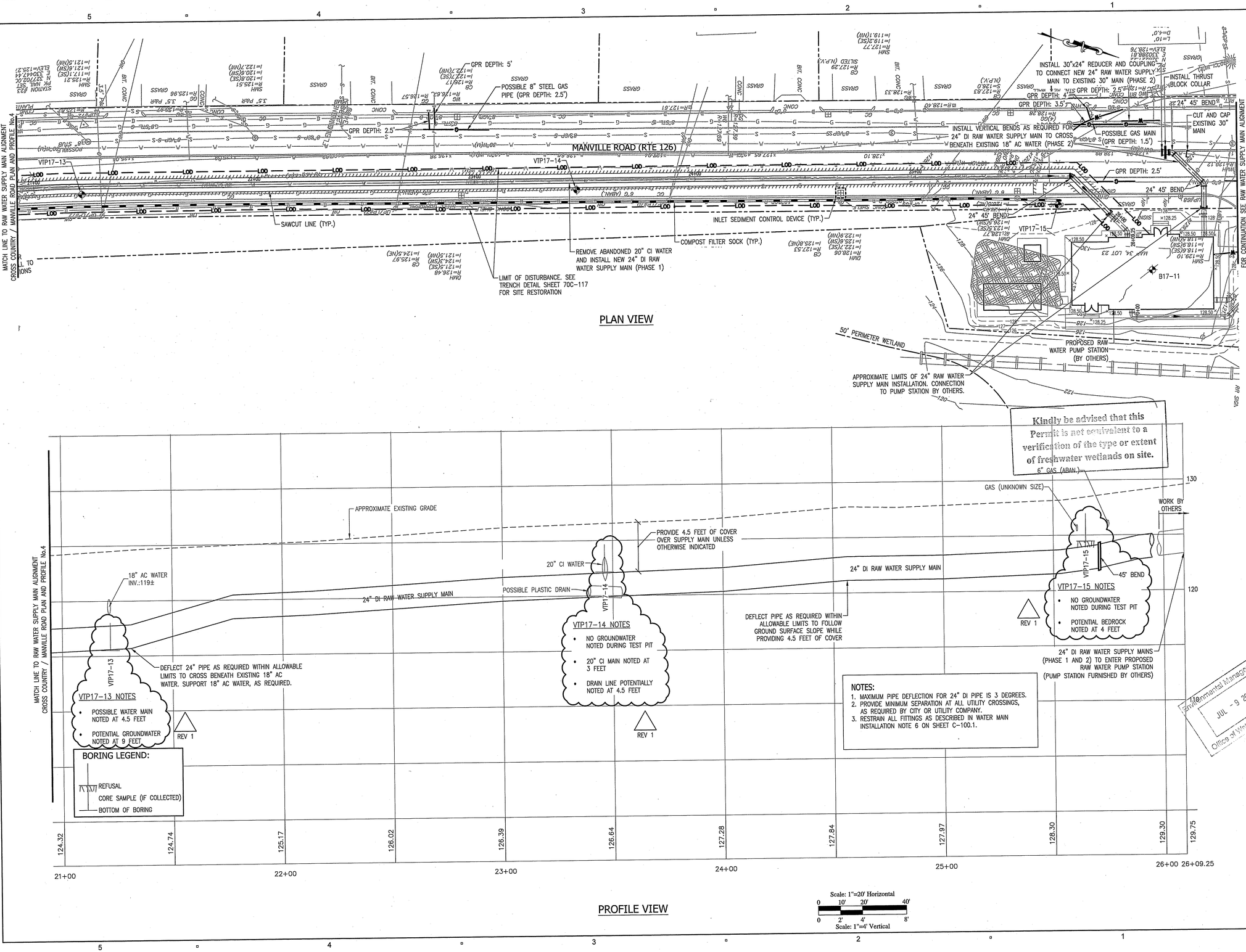
CIVIL

SHEET TITLE

RAW WATER SUPPLY MAIN ALIGNMENT CROSS COUNTRY / MANVILLE ROAD PLAN & PROFILE NO. 4

SHEET NUMBER

70 C-104 7 of 18



WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI Water Treatment Plant Design-Build-Operate

CLIENT

City of Woonsocket, RI

Department of Public Works
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1	ADDED VTP	07/06/2018

ISSUE/REVISION

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Environmental Management
JUL - 9 2018
Office of Water Resources

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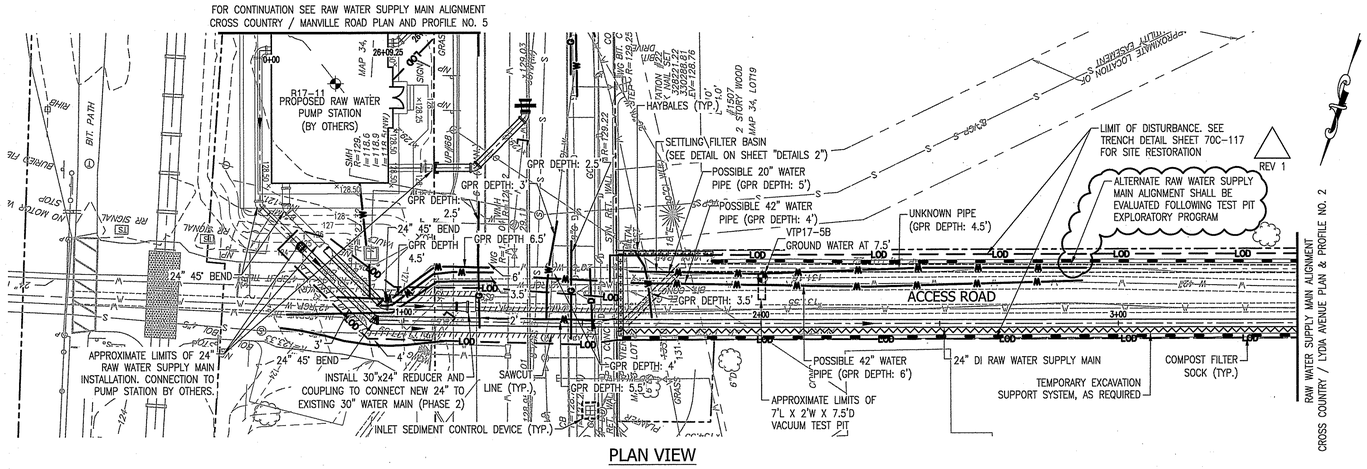
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SHEET TITLE

RAW WATER SUPPLY MAIN ALIGNMENT
CROSS COUNTRY / MANVILLE ROAD
PLAN & PROFILE NO. 5

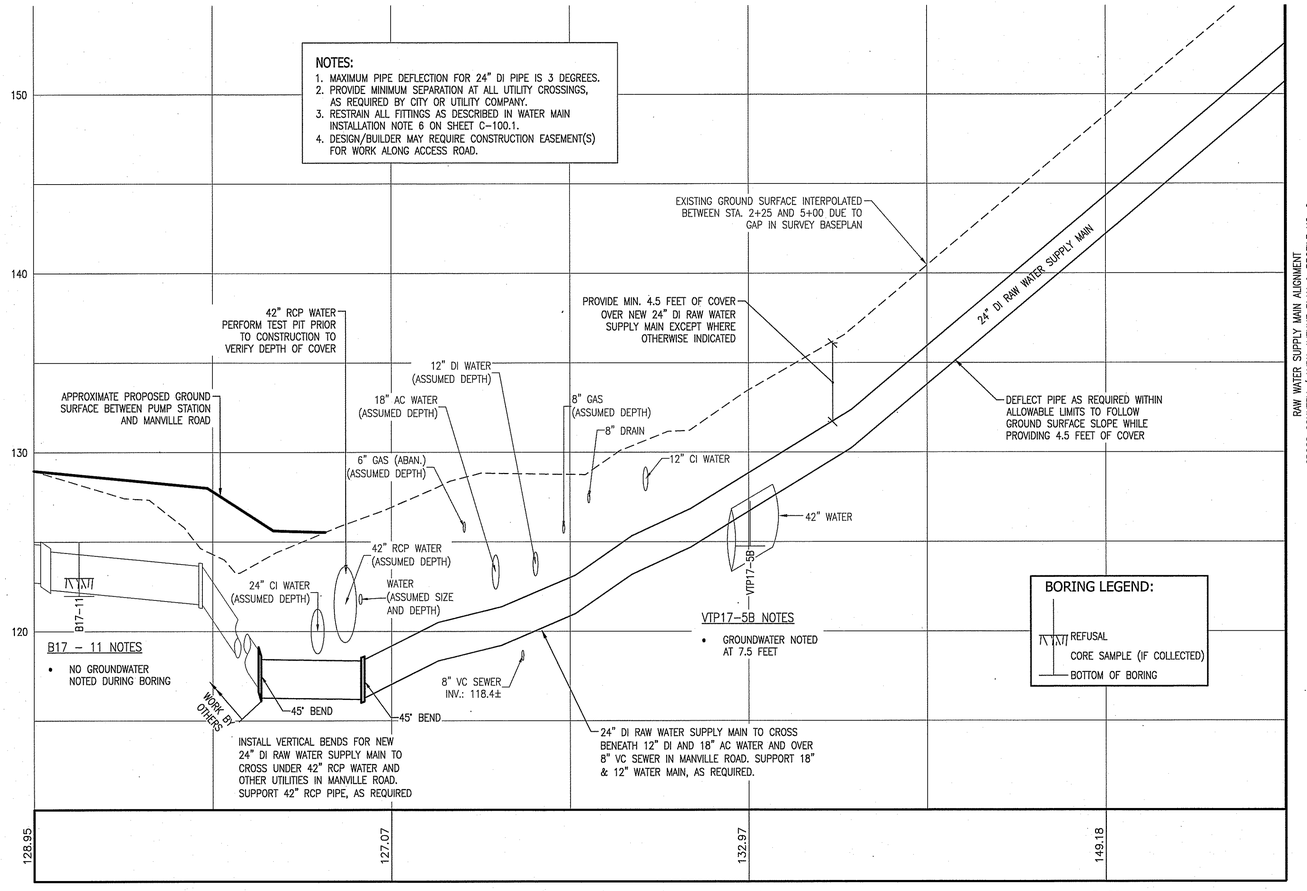
SHEET NUMBER

70 C-105 **8 of 18**



PLAN VIEW

NOTES:
1. MAXIMUM PIPE DEFLECTION FOR 24" DI PIPE IS 3 DEGREES.
2. PROVIDE MINIMUM SEPARATION AT ALL UTILITY CROSSINGS, AS REQUIRED BY CITY OR UTILITY COMPANY.
3. RESTRAIN ALL FITTINGS AS DESCRIBED IN WATER MAIN INSTALLATION NOTE 6 ON SHEET C-100.1.
4. DESIGN/BUILDER MAY REQUIRE CONSTRUCTION EASEMENT(S) FOR WORK ALONG ACCESS ROAD.



PROFILE VIEW

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Scale: 1"=20' Horizontal
0 10' 20' 40'
0 2' 4' 8'
Scale: 1"=4' Vertical

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

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CLIENT

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7/9/18 (CIVIL)

REGISTRATION

Environmental Management
JUL - 9 2018
Office of Water Resources

1	ADDED ALT. ALIGNMENT	07/06/2018

ISSUE/REVISION

RIDEM Submittal
Final

PROJECT NUMBER

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Designed By:	MFW
Drawn By:	AL, RB
Dept Check:	TPT
Proj Check:	PBG
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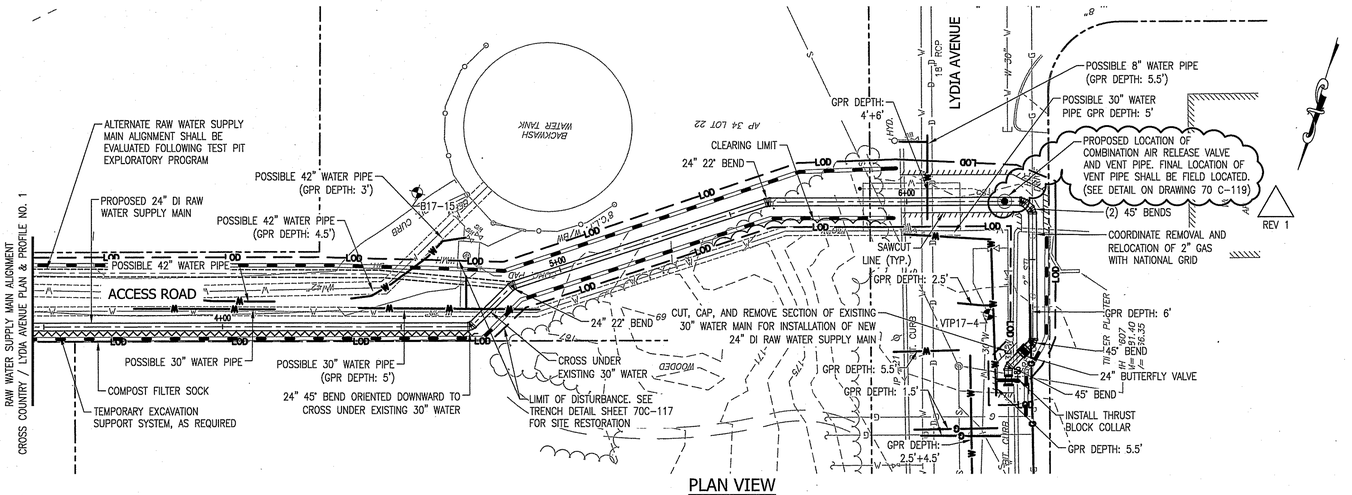
CIVIL

SHEET TITLE

RAW WATER SUPPLY MAIN ALIGNMENT
CROSS COUNTRY / LYDIA AVENUE
PLAN & PROFILE NO. 1

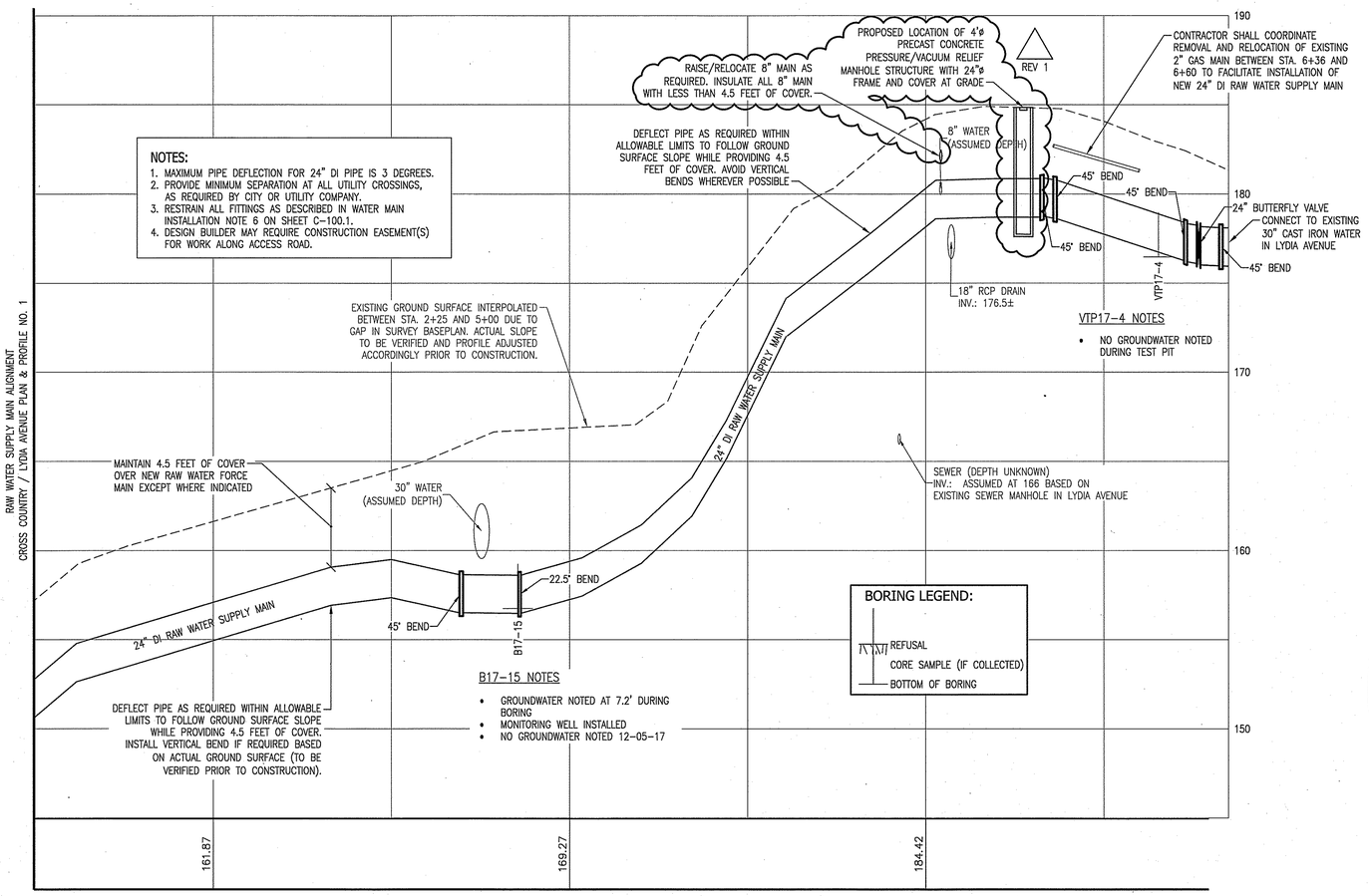
SHEET NUMBER

70 C-106 9 of 18



PLAN VIEW

NOTES:
1. MAXIMUM PIPE DEFLECTION FOR 24" DI PIPE IS 3 DEGREES.
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VTP17-4 NOTES
- NO GROUNDWATER NOTED DURING TEST PIT

B17-15 NOTES
- GROUNDWATER NOTED AT 7.2' DURING BORING
- MONITORING WELL INSTALLED
- NO GROUNDWATER NOTED 12-05-17

BORING LEGEND:
- REFUSAL
- CORE SAMPLE (IF COLLECTED)
- BOTTOM OF BORING

PROFILE VIEW

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Scale: 1"=4' Vertical

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

CONSULTANT

WOONSOCKET WATER SERVICES, INC.
250 APOLLO DRIVE
CHELMSFORD, MA 01824
PHONE: (978) 905-2100
www.aecom.com

PARE CORPORATION
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
PHONE: (401) 334-4100
www.parecorp.com

PETER GEORGETTI
No. 11857
REGISTERED PROFESSIONAL ENGINEER
7/9/18 (CIVIL)

REGISTRATION

Environmental Management
JUL - 9 2018
Office of Water Resources

1	ADDED ALT. ALIGNMENT	07/06/2018

ISSUE/REVISION

RIDEM Submittal
Final

PROJECT NUMBER

60552844

Designed By:	MFW
Drawn By:	AL, RB
Dept Check:	TPT
Proj Check:	PBG
Date:	MARCH 2018
Scale:	AS NOTED

DISCIPLINE

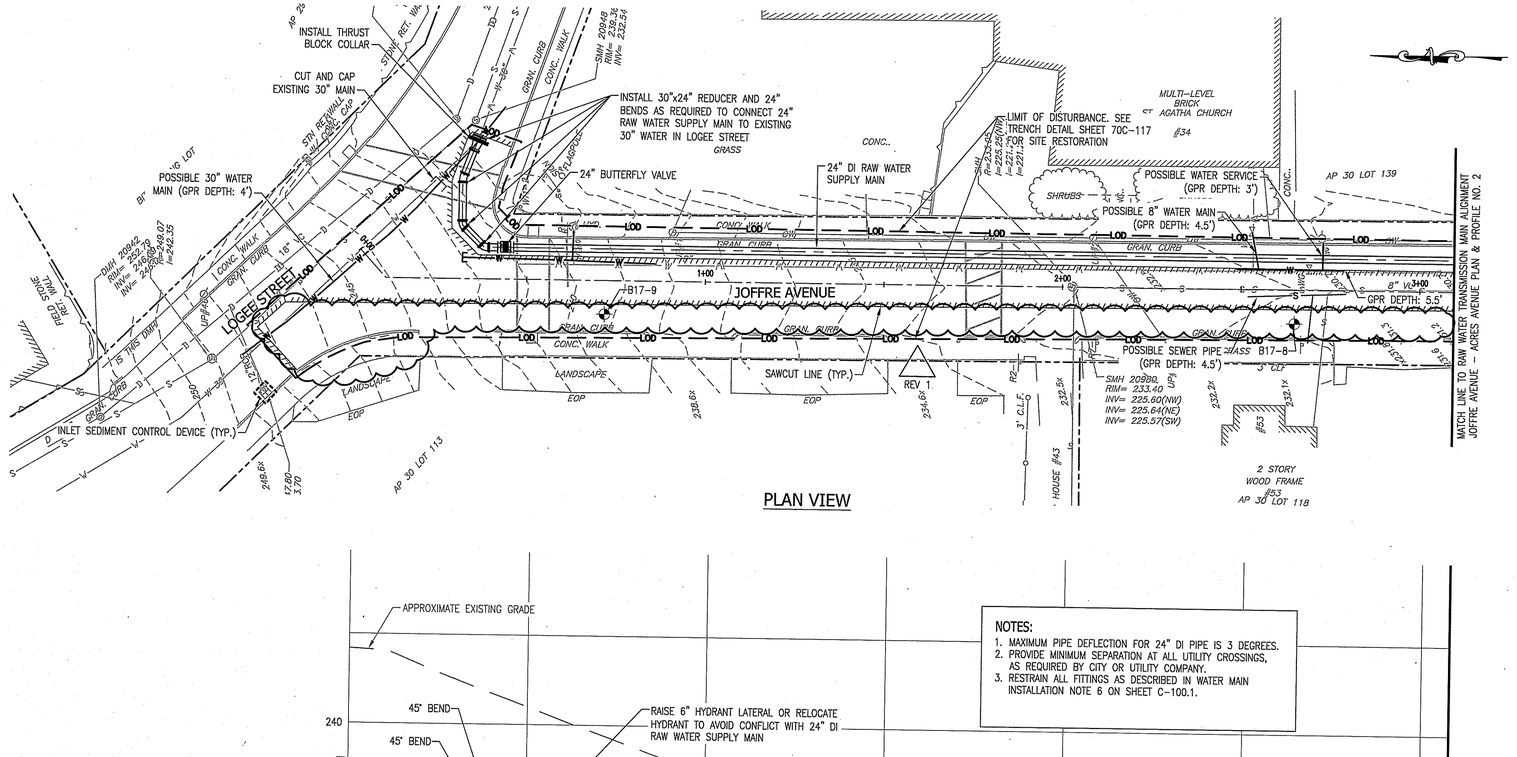
CIVIL

SHEET TITLE

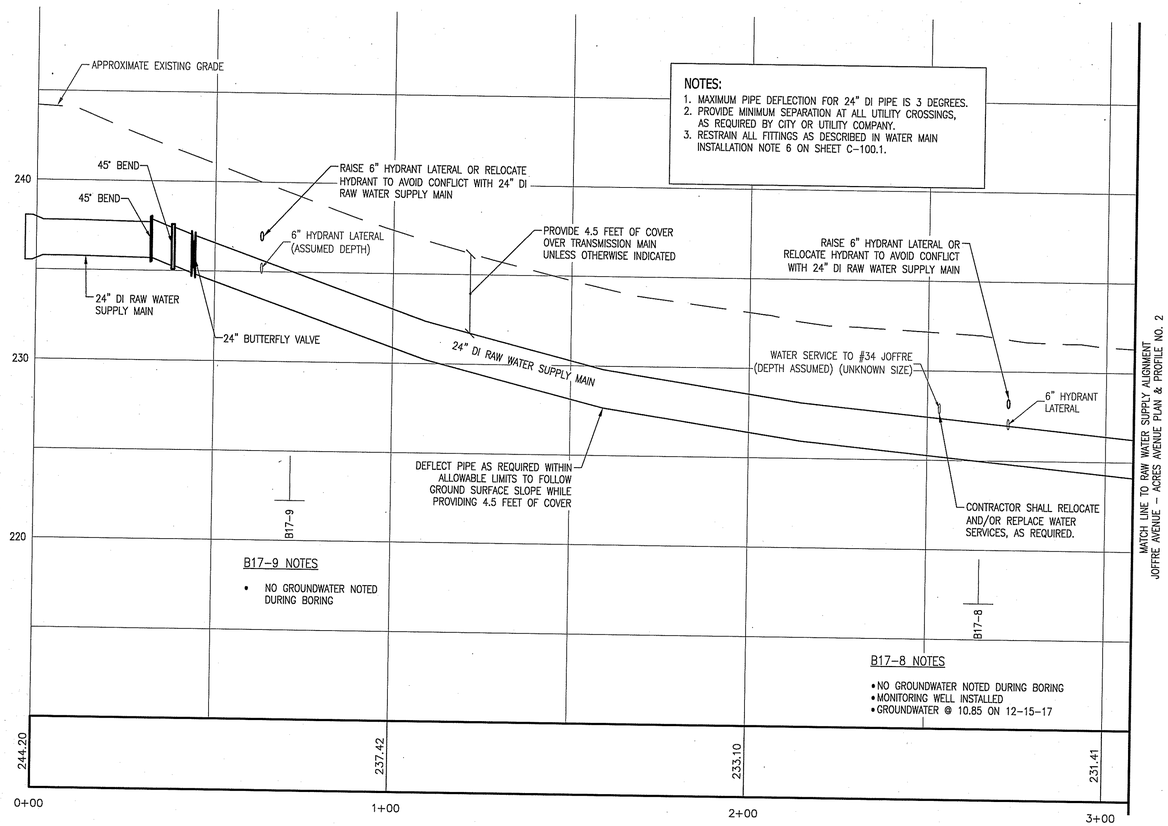
RAW WATER SUPPLY MAIN ALIGNMENT
CROSS COUNTRY / LYDIA AVENUE
PLAN & PROFILE NO. 2

SHEET NUMBER

70 C-107 10 of 18



PLAN VIEW



PROFILE VIEW

B17-9 NOTES

- NO GROUNDWATER NOTED DURING BORING

B17-8 NOTES

- NO GROUNDWATER NOTED DURING BORING
- MONITORING WELL INSTALLED
- GROUNDWATER @ 10.85 ON 12-15-17

NOTES:
1. MAXIMUM PIPE DEFLECTION FOR 24" DI PIPE IS 3 DEGREES.
2. PROVIDE MINIMUM SEPARATION AT ALL UTILITY CROSSINGS, AS REQUIRED BY CITY OR UTILITY COMPANY.
3. RESTRAIN ALL FITTINGS AS DESCRIBED IN WATER MAIN INSTALLATION NOTE 6 ON SHEET C-100.1.

MATCH LINE TO RAW WATER SUPPLY ALIGNMENT JOFFRE AVENUE - ACRES AVENUE PLAN & PROFILE NO. 2

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

BORING LEGEND:
- REFUSAL
- CORE SAMPLE (IF COLLECTED)
- BOTTOM OF BORING

Scale: 1"=20' Horizontal
0 10' 20' 40'
0 2' 4' 8'
Scale: 1"=4' Vertical

WOONSOCKET WATER SERVICES, LLC

AECOM suez

PROJECT

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Water Treatment Plant
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No. 11857
REGISTERED PROFESSIONAL ENGINEER
7/9/18 (CIVIL)

REGISTRATION

Environmental Management
JUL - 9 2018
Office of Water Resources

1	REMOVE FIN. TRANS. MAIN	07/06/2018

ISSUE/REVISION

RIDEM Submittal Final

PROJECT NUMBER

60552844

Designed By:	MFW
Drawn By:	AL, RB
Dept Check:	TPT
Proj Check:	PBG
Date:	MARCH 2018
Scale:	AS NOTED

DISCIPLINE

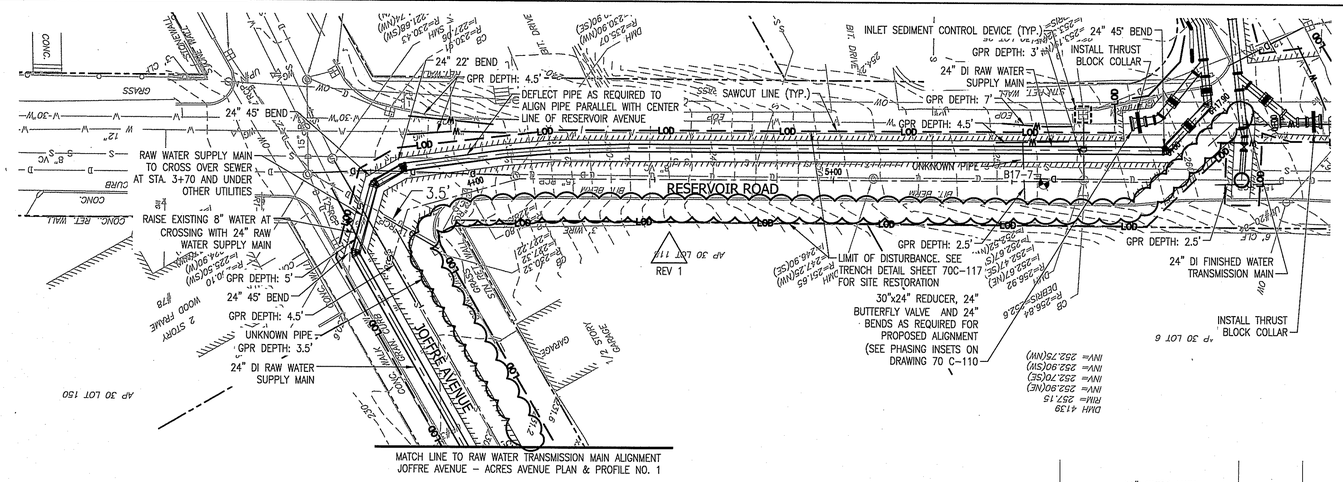
CIVIL

SHEET TITLE

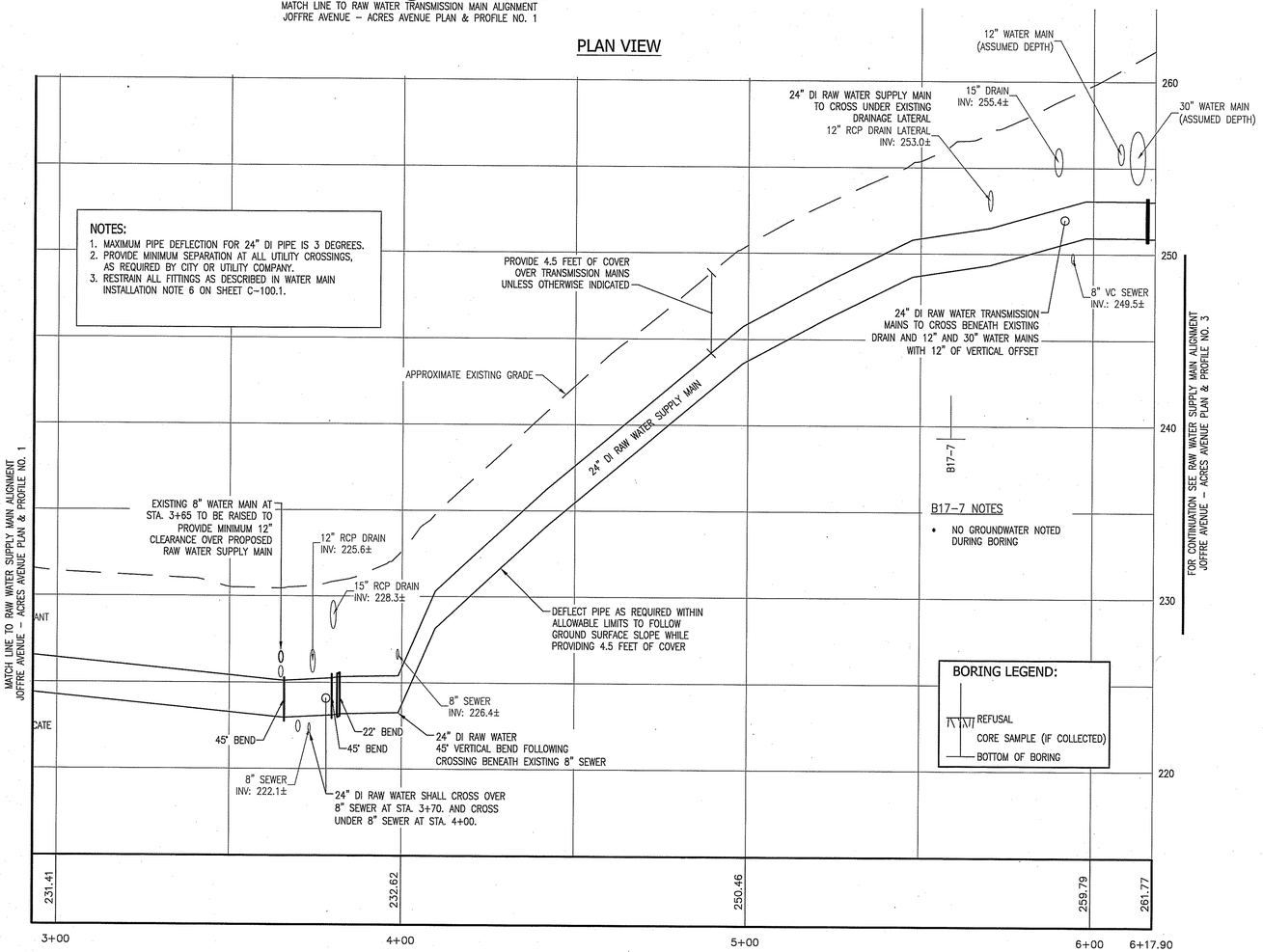
RAW WATER & FINISHED WATER TRANSMISSION MAIN ALIGNMENT JOFFRE AVENUE - ACRES AVENUE PLAN & PROFILE NO. 1

SHEET NUMBER

70 C-108 11 of 18



PLAN VIEW



PROFILE VIEW

Scale: 1"=20' Horizontal
0 10' 20' 40'
0 2' 4' 8'
Scale: 1"=4' Vertical

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0078
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APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Christine D. Udvarek

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

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ISSUE/REVISION

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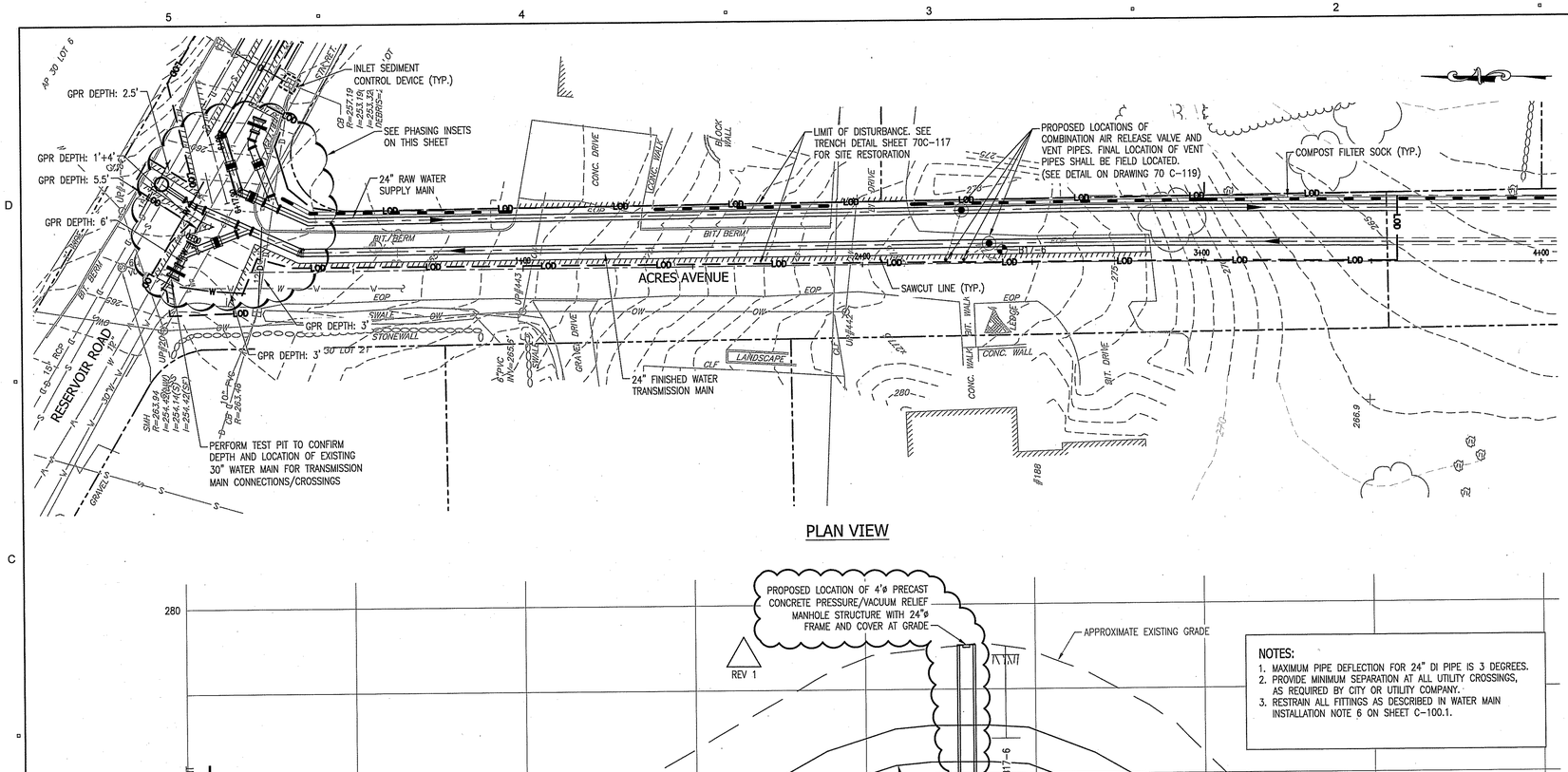
CIVIL

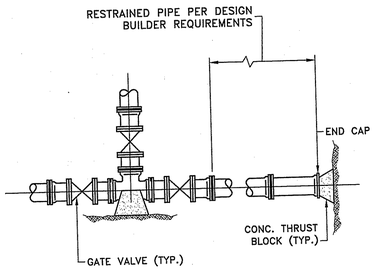
SHEET TITLE

RAW WATER & FINISHED WATER TRANSMISSION MAIN ALIGNMENT JOFFRE AVENUE - ACRES AVENUE PLAN & PROFILE NO. 2

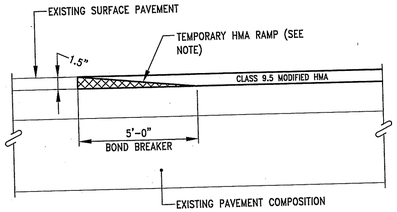
SHEET NUMBER

70 C-109 12 of 18


INLET SEDIMENT CONTROL DEVICE (TYP.)
SEE PHASING INSETS ON THIS SHEET
24" RAW WATER SUPPLY MAIN
LIMIT OF DISTURBANCE. SEE TRENCH DETAIL SHEET 70C-117 FOR SITE RESTORATION
PROPOSED LOCATIONS OF COMBINATION AIR RELEASE VALVE AND VENT PIPES. FINAL LOCATION OF VENT PIPES SHALL BE FIELD LOCATED. (SEE DETAIL ON DRAWING 70 C-119)
COMPOST FILTER SOCK (TYP.)
GPR DEPTH: 2.5'
GPR DEPTH: 1'+4'
GPR DEPTH: 5.5'
GPR DEPTH: 6'
GPR DEPTH: 3'
GPR DEPTH: 3' 30' LOT 2'
ACRES AVENUE
RESERVOIR ROAD
SAWCUT LINE (TYP.)
24" FINISHED WATER TRANSMISSION MAIN
PERFORM TEST PIT TO CONFIRM DEPTH AND LOCATION OF EXISTING 30" WATER MAIN FOR TRANSMISSION MAIN CONNECTIONS/CROSSINGS
CONC. DRIVE
LOUNGE UNIT
BLOCK WALL
BIT. BERM
CONC. WALL
LANDSCAPE
STONEWALL
GRAVEL
SWALE
EOP
CLF
BIT. DRIVE
LODGE
SIGN
SMH
DMH
CB
UP
DW
OW
SW
GAS
TELE
ELEC
8"DI WATER
8"PVC WATER
8"PVC SEWER
12"CMP DRAIN
24"CMP DRAIN
30"CMP DRAIN
266.9
280
270
275
285
290
295
300
305
310
315
320
325
330
335
340
345
350
355
360
365
370
375
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465
470
475
480

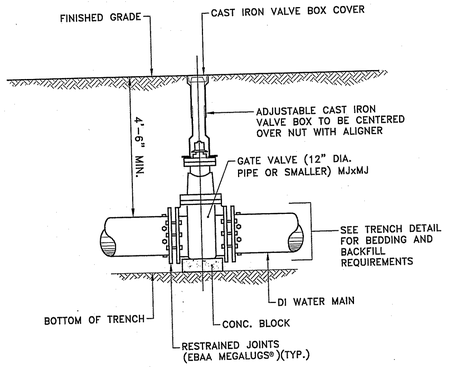


END CAP
NOT TO SCALE

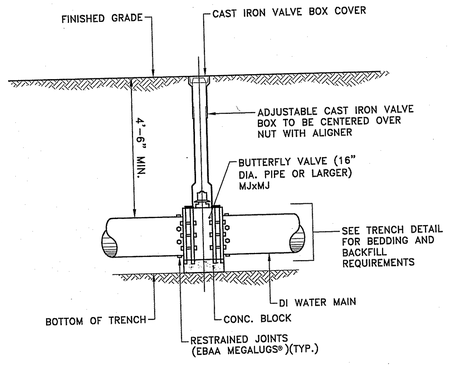


NOTE:
A BOND BREAKER (TAPERED OR EQUIVALENT) SHALL BE PLACED 5'-0" FROM THE JOINT AS A TEMPORARY RAMP. PRIOR TO PLACING THE SURFACE COURSE, THE BOND BREAKER SHALL BE REMOVED.

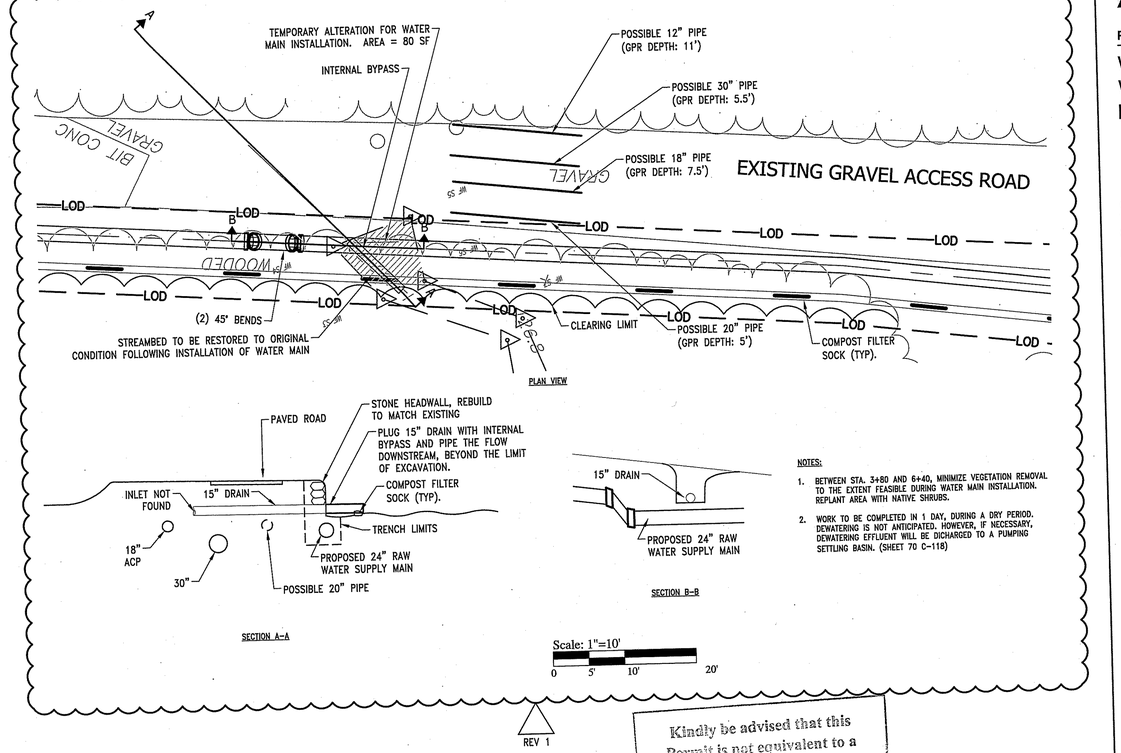
CM **CUT AND MATCH DETAIL**
NOT TO SCALE



VALVE BOX DETAIL
NOT TO SCALE



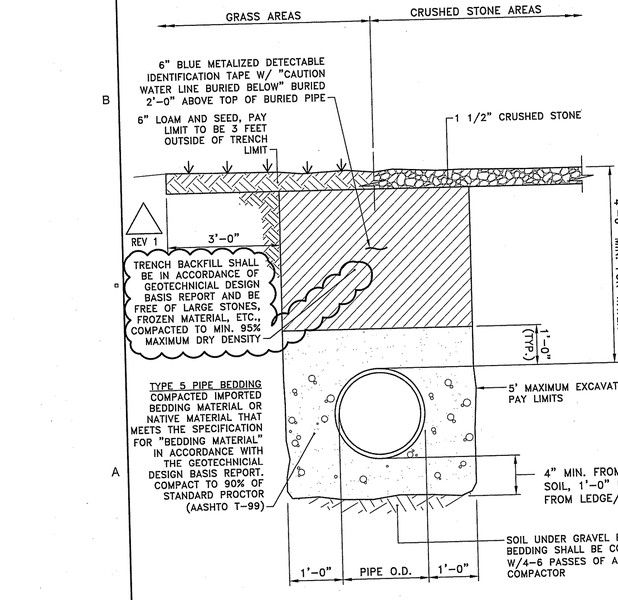
VALVE BOX DETAIL
NOT TO SCALE

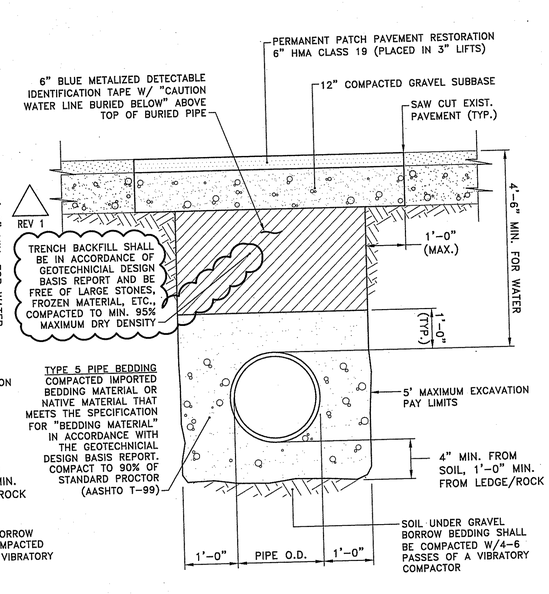


NOTES:
1. BETWEEN STA. 3+80 AND 6+40, MINIMIZE VEGETATION REMOVAL TO THE EXTENT FEASIBLE DURING WATER MAIN INSTALLATION. REPLANT AREA WITH NATIVE SHRUBS.
2. WORK TO BE COMPLETED IN 1 DAY, DURING A DRY PERIOD. DEWATERING IS NOT ANTICIPATED. HOWEVER, IF NECESSARY, DEWATERING EFFLUENT WILL BE DICHARGED TO A PUMPING SETTLING BASIN. (SHEET 70 C-118)

REV 1

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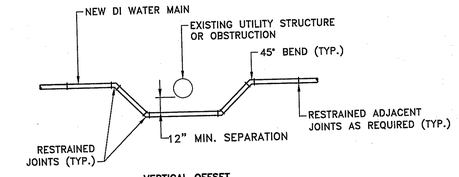
WATER MAIN TRENCH DETAIL
NOT TO SCALE

THRUST RESTRAINT TABLE

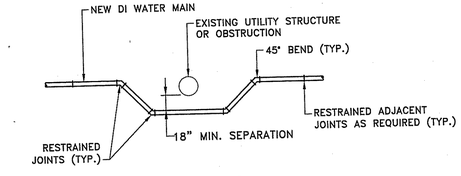
PIPE SIZE (IN)	FITTING	RESTRAINED LENGTH (FT)
30	30"x24" REDUCER	50
24	45° VERTICAL OFFSET	49
24	24"X12" TEE	FITTING ONLY
24	45° HORIZONTAL BEND	21
24	22.5° HORIZONTAL BEND	10
24	11.25° HORIZONTAL BEND	5

NOTES:
1. RESTRAINED LENGTH REFERS TO LENGTH OF PIPE REQUIRED TO BE RESTRAINED ON EACH SIDE OF THE FITTING.
2. WHERE ONE OR MORE FITTINGS FALL WITHIN THE RESTRAINED LENGTH OF ANOTHER, THE RESTRAINED LENGTHS SHALL BE ADDED.
3. RESTRAIN ALL VALVES AT FITTINGS.
4. ALL OTHER FITTINGS SHALL BE RESTRAINED AT THE FITTING ONLY, UNLESS OTHERWISE SPECIFIED BY THE DESIGN BUILDER.
5. TEE FITTINGS REQUIRE A MINIMUM OF 10 FEET OF PIPE ON EACH SIDE OF THE RUN SIDE.

REV 1



VERTICAL OFFSET
PROFILE VIEW



HORIZONTAL OFFSET
PLAN VIEW

NOTES:
1. ALL JOINTS WITHIN OFFSET SHALL BE RESTRAINED MECHANICAL JOINT.
2. OFFSET CAN BE ABOVE OR BELOW CONFLICT UTILITY OR ON EITHER SIDE OF HORIZONTAL OBSTRUCTION.

UTILITY OFFSET
NOT TO SCALE

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0083
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Jacquelin D. Edmonds

1	ADD/REVISE DETAILS	07/06/2018

ISSUE/REVISION

RIDEM Submittal
Final

Received
JUL - 9 2018
Office of Water Resources

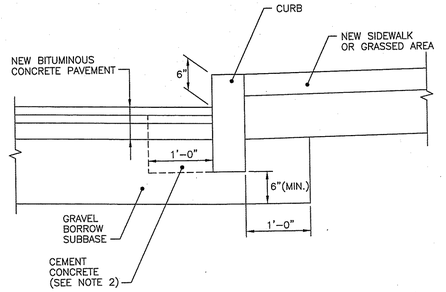
PROJECT NUMBER
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Designed By:	MFW
Drawn By:	AL, RB
Dept Check:	TPT
Proj Check:	PBG
Date:	MARCH 2018
Scale:	AS NOTED

DISCIPLINE
CIVIL

SHEET TITLE
DETAILS 1

SHEET NUMBER
70 C-117 14 of 18



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. CEMENT CONCRETE SHALL BE USED ONLY WHEN THE CURB IS SET AFTER THE BASE AND/OR BINDER COURSES ARE IN PLACE, OTHERWISE THE CEMENT CONCRETE WILL BE ELIMINATED AND THE GRAVEL BROUGHT UP TO BOTTOM OF THE BASE COURSE.

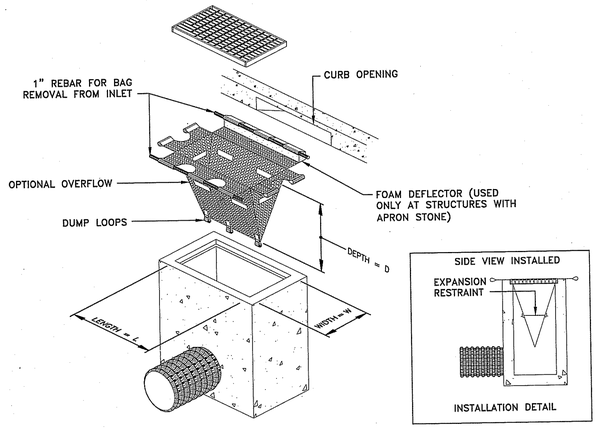
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE
1	MLP	Mar 05

CURB SETTING DETAIL

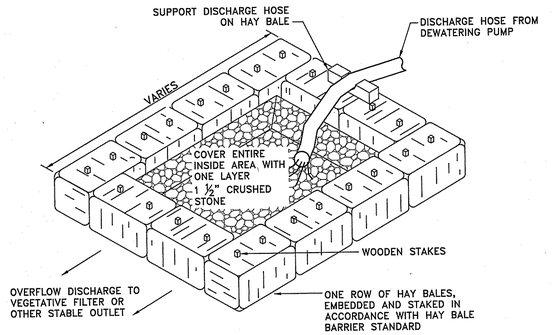
Jean A. Coyle, CHIEF ENGINEER TRANSPORTATION; Edmund B. Roberts Jr., CHIEF DESIGN ENGINEER TRANSPORTATION; JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 7.6.0



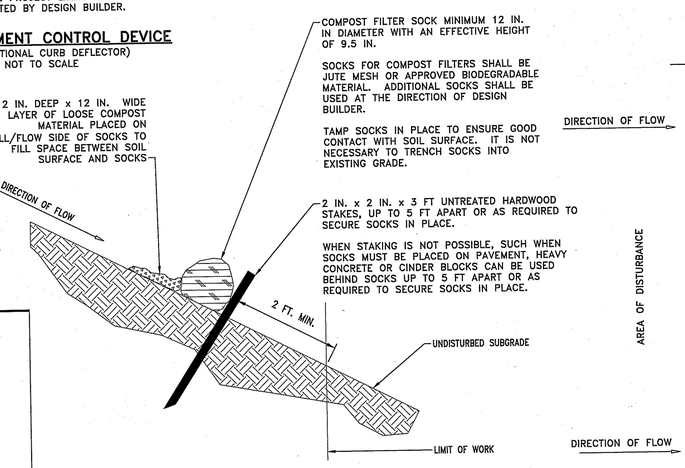
NOTES:
1. INLET SEDIMENT CONTROL DEVICES SHALL BE INSTALLED IN EACH CATCH BASIN WITHIN THE PROJECT LIMITS AND ANY OTHER CATCH BASIN AS DIRECTED BY DESIGN BUILDER.

INLET SEDIMENT CONTROL DEVICE
(WITH OPTIONAL CURB DEFLECTOR)
NOT TO SCALE



NOTES:
1. REQUIRED SIZE OF FILTER BASIN TO BE DETERMINED BY DESIGN BUILDER TO ENSURE DISCHARGE IS CLEAR OF SEDIMENT.
2. FILTER FABRIC SHALL BE USED TO LINE THE INSIDE OF THE HAY BALE BASIN AND ANCHORED BY THE WOODEN STAKES.

TYPE I PUMPING SETTLING BASIN
NOT TO SCALE



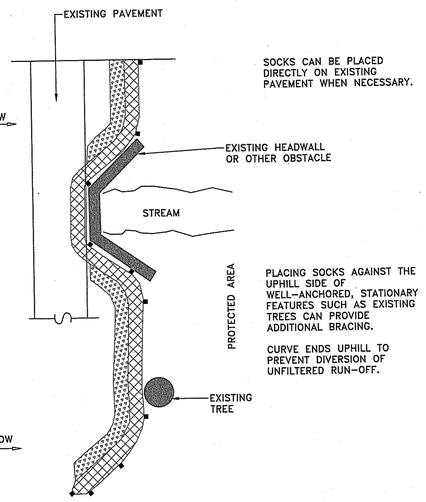
COMPOST FILTER SOCK MINIMUM 12 IN. IN DIAMETER WITH AN EFFECTIVE HEIGHT OF 9.5 IN.

SOCKS FOR COMPOST FILTERS SHALL BE JUTE MESH OR APPROVED BIODEGRADABLE MATERIAL. ADDITIONAL SOCKS SHALL BE USED AT THE DIRECTION OF DESIGN BUILDER.

TAMP SOCKS IN PLACE TO ENSURE GOOD CONTACT WITH SOIL SURFACE. IT IS NOT NECESSARY TO TRENCH SOCKS INTO EXISTING GRADE.

2 IN. x 2 IN. x 3 FT UNTREATED HARDWOOD STAKES, UP TO 5 FT APART OR AS REQUIRED TO SECURE SOCKS IN PLACE.

WHEN STAKING IS NOT POSSIBLE, SUCH WHEN SOCKS MUST BE PLACED ON PAVEMENT, HEAVY CONCRETE OR CINDER BLOCKS CAN BE USED BEHIND SOCKS UP TO 5 FT APART OR AS REQUIRED TO SECURE SOCKS IN PLACE.



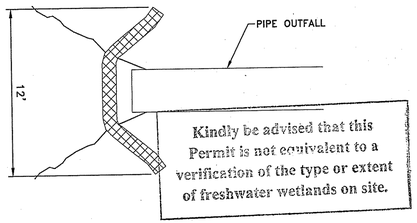
PLACING SOCKS AGAINST THE UPHILL SIDE OF WELL-ANCHORED, STATIONARY FEATURES SUCH AS EXISTING TREES CAN PROVIDE ADDITIONAL BRACING.

CURVE ENDS UPHILL TO PREVENT DIVERSION OF UNFILTERED RUN-OFF.

PLAN VIEW

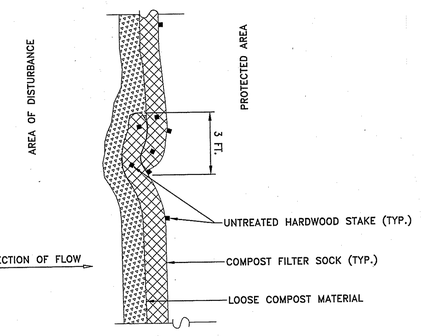
PROVIDE 3 FT. MINIMUM OVERLAP AT ENDS OF SOCKS TO JOIN A CONTINUOUS BARRIER AND MINIMIZE UNIMPEDED FLOW. STAKE JOINING SOCKS SNUGLY AGAINST EACH OTHER TO PREVENT UNFILTERED FLOW BETWEEN THEM.

SECURES ENDS OF SOCKS WITH STAKES SPACED 18 IN. APART THROUGH TOPS OF SOCKS.



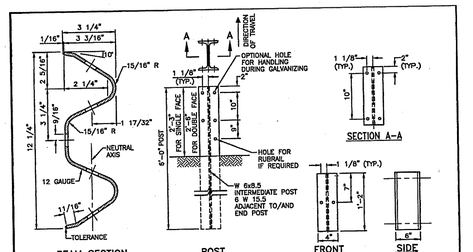
GENERAL NOTES:

1. PROVIDE A MINIMUM SOCK DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER SOCK DIAMETER OR ADDITIONAL COURSING OF FILTER SOCKS TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL SOCKS ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
4. CONFIGURE SOCKS AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.



SINGLE COMPOST FILTER SOCK DETAIL
NOT TO SCALE

PLAN VIEW – JOIN DETAIL



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 901 OF THE R.I. STANDARD SPECIFICATIONS.
1. POST AND OFFSET BRACKET TO BE FABRICATED FROM 6"x4" S 1/2 LBS/FT. STEEL "H" SECTIONS.
2. POST AND BRACKET BOLT HOLES TO BE OVAL UNLESS OTHERWISE SPECIFIED.
4. ALL HOLES IN OFFSET BRACKETS SHALL BE 13/16".

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

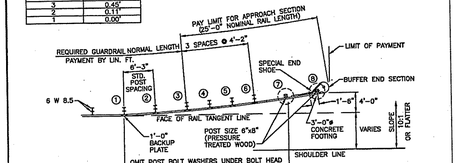
REVISIONS NO.	BY	DATE

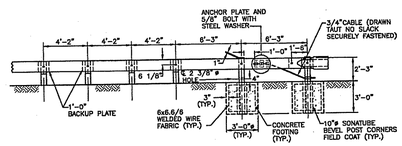
STEEL BEAM GUARDRAIL

Jean A. Coyle, CHIEF ENGINEER TRANSPORTATION; Edmund B. Roberts Jr., CHIEF DESIGN ENGINEER TRANSPORTATION; JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 34.2.0

OFFSET TO FACE OF POST FROM BACK OF RAIL ALIGNMENT	
POST NO.	OFFSET
8	4.00"
7	2.79"
6	1.79"
5	1.05"
4	0.80"
3	0.45"
2	0.11"
1	0.00"





NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 901 OF THE R.I. STANDARD SPECIFICATIONS.
2. THIS STANDARD IS NOT TO BE USED WHEN THE DESIGN SPEED IS EXCEEDS 45 MPH.
3. ALL METAL BEAM RAIL, POST, OFFSET BRACKETS, NUTS, BOLTS, WASHERS, AND ALL OTHER ACCESSORIES SHALL BE HOT DIPPED GALVANIZED.
4. ALL DIMENSIONS SUBJECT TO MANUFACTURERS' TOLERANCES.
5. AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT.
6. THE RAIL ELEMENT SHALL BE SHOP CURVED WHEN THE PLACEMENT OF GUARDRAIL IS ON A CURVE HAVING A RADIUS OF 150'-0" OR LESS. NO ADDITIONAL PAYMENT SHALL BE ALLOWED FOR THIS WORK.
7. POST AND OFFSET BRACKET TO BE FABRICATED FROM 6"x4" S 1/2 LBS. STEEL "H" SECTIONS.
8. POST AND BRACKET BOLT HOLES TO BE OVAL UNLESS OTHERWISE SPECIFIED.
9. ALL HOLES SHALL BE 13/16".
10. FOR DETAILS ON CABLE, ANCHOR PLATE, END POST, BUFFER END SECTION, AND BACKUP PLATE SEE STD. 34.3.3.
11. TO FACILITATE REMOVAL OF BROKEN WOOD POST, 10'-0" (ONLY) PERMANENT CARDBOARD SONATUBES OR METAL SLEEVES ARE TO BE INSTALLED AROUND THE POST PRIOR TO CASTING THE FOOTINGS. CLEAVE TO BE FILLED WITH CONCRETE SAND.) CORNERS OF POST TO BE BEVELED TO FIT 10" SONATUBE. FIELD TREAT THE BEVELS WITH CHROMATED COPPER.
12. FOR TRAILING END OF GUARDRAIL ADJACENT TO ONE-WAY ROADWAY OMIT TERMINAL SECTION. NEXT TO LAST POST TO BE A LINE POST.
13. USE NO WASHERS UNDER POST BOLT HEADS FROM FIRST THRU SEVENTH POSTS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

GUARDRAIL END SECTION

Jean A. Coyle, CHIEF ENGINEER TRANSPORTATION; Edmund B. Roberts Jr., CHIEF DESIGN ENGINEER TRANSPORTATION; JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 34.3.1

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

CONSULTANT

WOONSOCKET WATER SERVICES, INC.
250 APOLLO DRIVE
CHELMSFORD, MA 01824
PHONE: (978) 905-2100
www.aecom.com

PARE CORPORATION
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
PHONE: (401) 334-4100
www.parecorp.com

PETER GEORGETTI
No. 11857
REGISTERED PROFESSIONAL ENGINEER
7/9/18 (CIVIL)

REGISTRATION

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Jeanette D. Wenock

ISSUE/REVISION

RIDEM Submittal
Final

Environmental Management
JUL - 9 2018
Office of Water Resources

PROJECT NUMBER

60552844

Designed By:	MFW
Drawn By:	AL, RB
Dept Check:	TPT
Proj Check:	PBG
Date:	MARCH 2018
Scale:	AS NOTED

DISCIPLINE

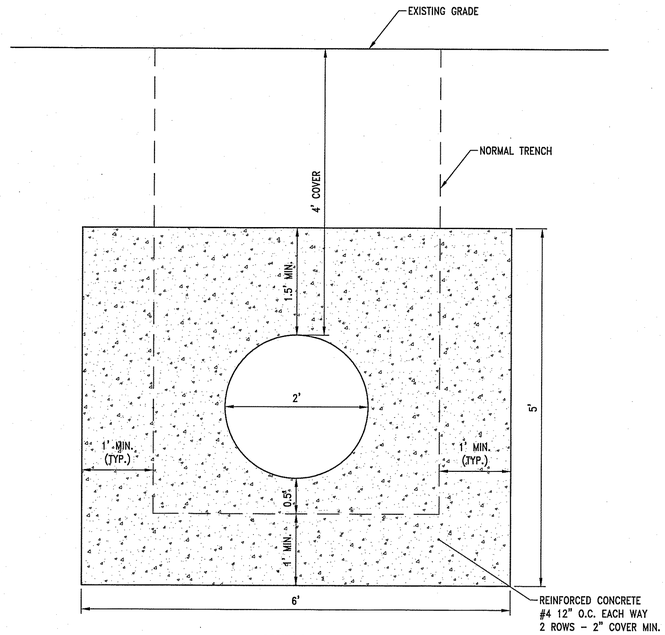
CIVIL

SHEET TITLE

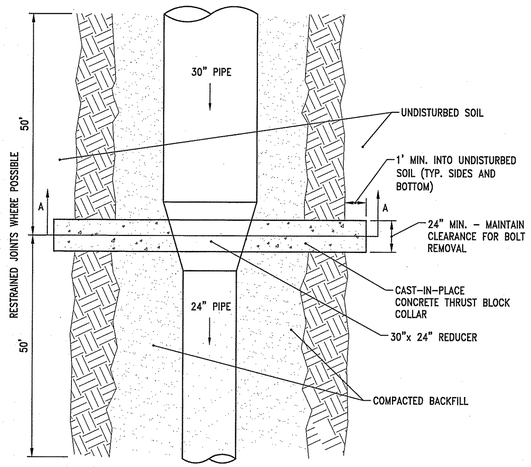
DETAILS 2

SHEET NUMBER

70 C-118 15 of 18



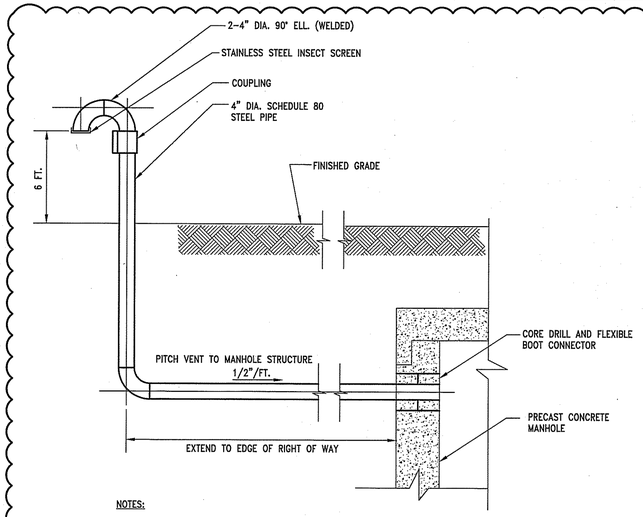
SECTION A-A



PLAN

CAST-IN-PLACE CONCRETE THRUST BLOCK COLLAR
NOT TO SCALE

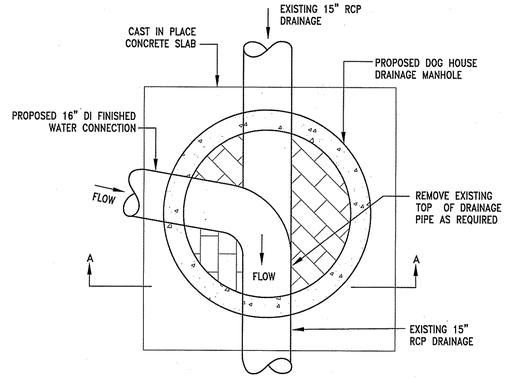
REV 1



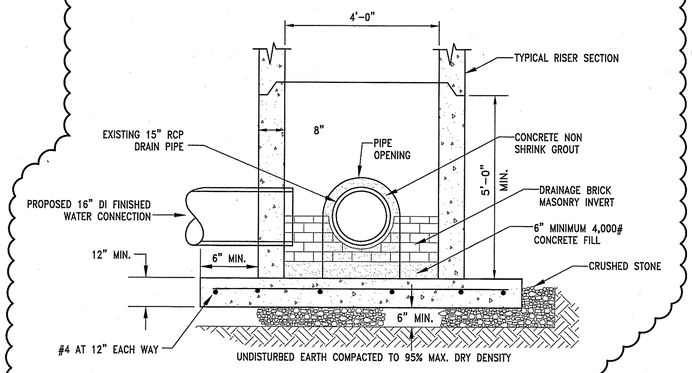
NOTES:

1. REFER TO PRESSURE/VACUUM RELIEF MANHOLE DETAIL ON THIS SHEET.
2. THE VENT SHALL BE PLACED ADJACENT TO THE MANHOLE AND AS DEPICTED ON THE DRAWINGS. FINAL LOCATIONS OF THE VENT SHALL BE FIELD LOCATED.

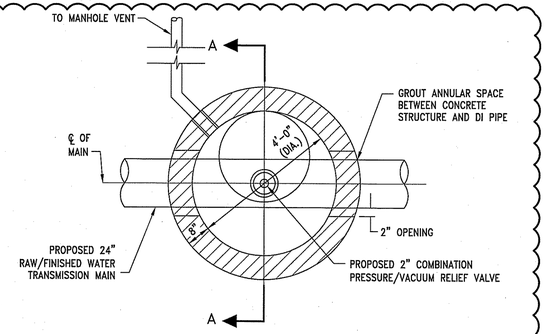
VENTED VACUUM RELIEF MANHOLE CONNECTION
NOT TO SCALE

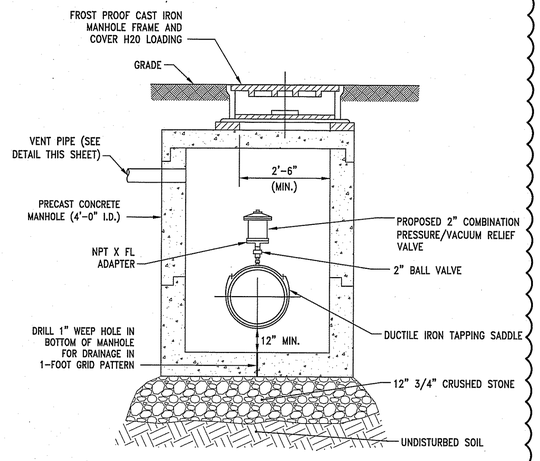


PLAN



DOG HOUSE MANHOLE BASE
NOT TO SCALE





SECTION A-A

NOTES:

1. PROVIDE VENT PER DETAIL THIS SHEET

PRESSURE/VACUUM RELIEF MANHOLE DETAIL
NOT TO SCALE

REV 1

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Augustus D. Ubenack

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

CONSULTANT

WOONSOCKET WATER SERVICES, INC.
250 APOLLO DRIVE
CHELMSFORD, MA 01824
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PARE CORPORATION
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
PHONE: (401) 334-4100
www.parecorp.com

PETER GEORGETTI
No. 11857
REGISTERED PROFESSIONAL ENGINEER
7/9/18 (CIVIL)

REGISTRATION

1	MODIFY DETAILS	07/06/2018

ISSUE/REVISION

RIDEM Submittal
Final

Environmental Management
JUL - 9 2018
Office of Water Resources

PROJECT NUMBER

60552844

Designed By:	MFW
Drawn By:	AL, RB
Dept Check:	TPT
Proj Check:	PBG
Date:	MARCH 2018
Scale:	AS NOTED

DISCIPLINE

CIVIL

SHEET TITLE

DETAILS 3

SHEET NUMBER

70 C-119 **16 of 18**

REV 1

BORING NUMBER B17-6

PAGE 1 OF 1

Pare Corporation
10 Lincoln Road, Suite 210
Foxboro, MA 02035
T: 508-543-1755
F: 508-543-1691

CLIENT AECOM — PROJECT NAME Woonsocket WTP DBO
PROJECT NUMBER 17137.00 — PROJECT LOCATION Woonsocket, RI
DATE STARTED 11/07/17 — COMPLETED 11/07/17 — GROUND ELEVATION — HOLE SIZE 4 inches
DRILLING CONTRACTOR New England Boring Contractors, Inc. — GROUND WATER LEVELS:
DRILLING METHOD Wash and Drive — AT TIME OF DRILLING — Not Observed
LOGGED BY M. Pham — CHECKED BY SJM — AT END OF DRILLING —
BORING LOCATION SEE EXPLORATION LOCATION PLAN

DEPTH (ft)	PID	SAMPLE TYPE NUMBER	RECOVERY/PEN. (in)	DEPTH (FT)	BLOW COUNTS*	SHAFT	GRAPHIC LOG	SAMPLE DESCRIPTION	STRATUM DESCRIPTION
0									4" PAVEMENT
5		C-1	64.5/ 64.5 / 60	0.3 - 5.3	18 (R)			Hard, light gray, slightly weathered, extremely to slightly fractured, coarse grained GRANITE. REC = 60.8% RQD = 23.3%	GRANITE
10									
15									
20									
25									
30									
35									

Bottom of borehole at 5.3 feet.

GRANULAR SOILS: BLOWS/FT — DENSITY: 0 - 4 V. LOOSE; 4 - 10 LOOSE; 10 - 30 M. DENSE; 30 - 50 DENSE; >50 V. DENSE

COHESIVE SOILS: BLOWS/FT — DENSITY: 0 - 4 V. SOFT; 2 - 4 SOFT; 4 - 8 M. STIFF; 8 - 15 STIFF; 15 - 30 V. STIFF; >30 HARD

REMARKS:

SUBMISTER CLASSIFICATION: TRACE 0 - 10%; LITTLE 10 - 20%; SOME 20 - 35%; AND 35 - 50%; PERCENT BY WEIGHT

NOTES: (1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL; (2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS; FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING NUMBER B17-7

PAGE 1 OF 1

Pare Corporation
10 Lincoln Road, Suite 210
Foxboro, MA 02035
T: 508-543-1755
F: 508-543-1691

CLIENT AECOM — PROJECT NAME Woonsocket WTP DBO
PROJECT NUMBER 17137.00 — PROJECT LOCATION Woonsocket, RI
DATE STARTED 11/07/17 — COMPLETED 11/07/17 — GROUND ELEVATION — HOLE SIZE 4 inches
DRILLING CONTRACTOR New England Boring Contractors, Inc. — GROUND WATER LEVELS:
DRILLING METHOD Wash and Drive — AT TIME OF DRILLING — Indeterminate
LOGGED BY M. Pham — CHECKED BY SJM — AT END OF DRILLING — Indeterminate
BORING LOCATION SEE EXPLORATION LOCATION PLAN

DEPTH (ft)	PID	SAMPLE TYPE NUMBER	RECOVERY/PEN. (in)	DEPTH (FT)	BLOW COUNTS*	SHAFT	GRAPHIC LOG	SAMPLE DESCRIPTION	STRATUM DESCRIPTION
0									6" PAVEMENT
	0.1	1	8"/24	0.5 - 2.0	6-4-4-7 (8)			Moist, medium dense, brown SILT, fine sand, trace coarse sand, trace fine gravel.	FILL
5	0.0	2	12"/ 24	5 - 7	13-10-15-16 (34)			Moist, dense, yellowish brown SILT and fine to coarse GRAVEL, some fine sand, trace coarse sand.	GLACIAL DEPOSITS
	0.3	3	14 / 24	10 - 12	17-26-39-47 (65)			Moist, very dense, light brown, fine to medium SAND and fine GRAVEL, some silt, trace coarse sand.	
10	0.0	4	17 / 24	15 - 17	11-15-20-20 (35)			Wet, dense, light brown, fine to medium (SAND), trace coarse sand, trace fine gravel, trace silt.	
15									
20									
25									
30									
35									

Bottom of borehole at 17.0 feet.

GRANULAR SOILS: BLOWS/FT — DENSITY: 0 - 4 V. LOOSE; 4 - 10 LOOSE; 10 - 30 M. DENSE; 30 - 50 DENSE; >50 V. DENSE

COHESIVE SOILS: BLOWS/FT — DENSITY: 0 - 4 V. SOFT; 2 - 4 SOFT; 4 - 8 M. STIFF; 8 - 15 STIFF; 15 - 30 V. STIFF; >30 HARD

REMARKS: 1. Composite environmental sample taken from the fill stratum (F-7) together with the fill stratum at B17-8 and B17-9. 2. Composite environmental sample taken from the glacial deposit stratum (GD-7) together with the glacial deposit stratum at B17-8 and B17-9.

SUBMISTER CLASSIFICATION: TRACE 0 - 10%; LITTLE 10 - 20%; SOME 20 - 35%; AND 35 - 50%; PERCENT BY WEIGHT

NOTES: (1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL; (2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS; FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING NUMBER B17-8

PAGE 1 OF 1

Pare Corporation
10 Lincoln Road, Suite 210
Foxboro, MA 02035
T: 508-543-1755
F: 508-543-1691

CLIENT AECOM — PROJECT NAME Woonsocket WTP DBO
PROJECT NUMBER 17137.00 — PROJECT LOCATION Woonsocket, RI
DATE STARTED 11/07/17 — COMPLETED 11/07/17 — GROUND ELEVATION — HOLE SIZE 4 inches
DRILLING CONTRACTOR New England Boring Contractors, Inc. — GROUND WATER LEVELS:
DRILLING METHOD Wash and Drive — AT TIME OF DRILLING — Indeterminate
LOGGED BY M. Pham — CHECKED BY SJM — AT END OF DRILLING — Indeterminate
BORING LOCATION SEE EXPLORATION LOCATION PLAN

DEPTH (ft)	PID	SAMPLE TYPE NUMBER	RECOVERY/PEN. (in)	DEPTH (FT)	BLOW COUNTS*	SHAFT	GRAPHIC LOG	SAMPLE DESCRIPTION	STRATUM DESCRIPTION
0									6" - 9" PAVEMENT
	0.5	1	8"/24	0.5 - 2.0	23-13-9 (22)			Moist, dense, light brown, fine to coarse GRAVEL and fine to coarse SAND, trace silt.	FILL
5	0.0	2	8"/24	5 - 7	3-7-11 (18)			Moist, medium dense, light brown, fine to medium SAND, some fine gravel, little silt.	GLACIAL DEPOSITS
	1.0	3	15"/ 24	10 - 12	27-34-48 (82)			Wet, very dense, light brown, fine to coarse SAND and fine to coarse GRAVEL, some silt. Rollerbit Refusal @ 13' - Possible bedrock or boulder.	
10									
15									
20									
25									
30									
35									

Bottom of borehole at 13.0 feet.

GRANULAR SOILS: BLOWS/FT — DENSITY: 0 - 4 V. LOOSE; 4 - 10 LOOSE; 10 - 30 M. DENSE; 30 - 50 DENSE; >50 V. DENSE

COHESIVE SOILS: BLOWS/FT — DENSITY: 0 - 4 V. SOFT; 2 - 4 SOFT; 4 - 8 M. STIFF; 8 - 15 STIFF; 15 - 30 V. STIFF; >30 HARD

REMARKS: 1. Monitoring well was installed at approximately 13' deep. 2. Soil sent for environmental testing. 3. Composite environmental sample taken from the fill stratum (F-7) together with the fill stratum at B17-7 and B17-9. 4. Composite environmental sample taken from the glacial deposit stratum (GD-7) together with the glacial deposit stratum at B17-7 and B17-9.

SUBMISTER CLASSIFICATION: TRACE 0 - 10%; LITTLE 10 - 20%; SOME 20 - 35%; AND 35 - 50%; PERCENT BY WEIGHT

NOTES: (1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL; (2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS; FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING NUMBER B17-9

PAGE 1 OF 1

Pare Corporation
10 Lincoln Road, Suite 210
Foxboro, MA 02035
T: 508-543-1755
F: 508-543-1691

CLIENT AECOM — PROJECT NAME Woonsocket WTP DBO
PROJECT NUMBER 17137.00 — PROJECT LOCATION Woonsocket, RI
DATE STARTED 11/07/17 — COMPLETED 11/07/17 — GROUND ELEVATION — HOLE SIZE 4 inches
DRILLING CONTRACTOR New England Boring Contractors, Inc. — GROUND WATER LEVELS:
DRILLING METHOD Wash and Drive — AT TIME OF DRILLING — Indeterminate
LOGGED BY M. Pham — CHECKED BY SJM — AT END OF DRILLING — Indeterminate
BORING LOCATION SEE EXPLORATION LOCATION PLAN

DEPTH (ft)	PID	SAMPLE TYPE NUMBER	RECOVERY/PEN. (in)	DEPTH (FT)	BLOW COUNTS*	SHAFT	GRAPHIC LOG	SAMPLE DESCRIPTION	STRATUM DESCRIPTION
0									6" PAVEMENT
	0.0	1	15"/ 24	0.5 - 2.0	9-10-13-18 (23)			Moist, medium dense, light grey/tan, fine to medium SAND, some fine to coarse gravel, trace fine sand.	
5	72.6	2	8"/24	5 - 7	17-23-31-6 (54)			Moist, very dense, brown, fine to coarse GRAVEL, some silt, some fine to coarse sand.	FILL
	0.2	3	11"/ 24	10 - 12	5-3-28-39 (31)			Wet, dense, yellowish brown, fine SAND and SILT, trace fine gravel, trace coarse sand.	GLACIAL DEPOSITS
10		4	0 / 24	15 - 17	51			Refusal - Possible bedrock/boulder.	
15									
20									
25									
30									
35									

Bottom of borehole at 17.0 feet.

GRANULAR SOILS: BLOWS/FT — DENSITY: 0 - 4 V. LOOSE; 4 - 10 LOOSE; 10 - 30 M. DENSE; 30 - 50 DENSE; >50 V. DENSE

COHESIVE SOILS: BLOWS/FT — DENSITY: 0 - 2 V. SOFT; 2 - 4 SOFT; 4 - 8 M. STIFF; 8 - 15 STIFF; 15 - 30 V. STIFF; >30 HARD

REMARKS: 1. VOA sample for environmental testing at 5'. 2. Composite environmental sample taken from the fill stratum (F-7) together with the fill stratum at B17-7 and B17-8. 3. Composite environmental sample taken from the glacial deposits stratum (GD-7) together with the glacial deposits stratum at B17-7 and B17-8.

SUBMISTER CLASSIFICATION: TRACE 0 - 10%; LITTLE 10 - 20%; SOME 20 - 35%; AND 35 - 50%; PERCENT BY WEIGHT

NOTES: (1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL; (2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS; FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING NUMBER B17-11

PAGE 1 OF 1

Pare Corporation
10 Lincoln Road, Suite 210
Foxboro, MA 02035
T: 508-543-1755
F: 508-543-1691

CLIENT AECOM — PROJECT NAME Woonsocket WTP DBO
PROJECT NUMBER 17137.00 — PROJECT LOCATION Woonsocket, RI
DATE STARTED 11/15/17 — COMPLETED 11/15/17 — GROUND ELEVATION 130 ft — HOLE SIZE 4 inches
DRILLING CONTRACTOR New England Boring Contractors, Inc. — GROUND WATER LEVELS:
DRILLING METHOD Wash and Drive, Automatic Hammer — AT TIME OF DRILLING — Indeterminate
LOGGED BY M. Pham — CHECKED BY SJM — AT END OF DRILLING — Indeterminate
BORING LOCATION SEE EXPLORATION LOCATION PLAN - Proposed Raw Water Pumping Station - Manville Road

DEPTH (ft)	PID	SAMPLE TYPE NUMBER	RECOVERY/PEN. (in)	DEPTH (FT)	BLOW COUNTS*	SHAFT	GRAPHIC LOG	SAMPLE DESCRIPTION	STRATUM DESCRIPTION
0									4" TOPSOIL
	0.1	1	8"/24	0 - 2	4-5-4-3 (9)			Moist, loose, brown, fine to coarse SAND and fine to coarse GRAVEL, some silt.	
5	0.0	2	8"/24	2 - 4	5-4-1-3 (5)			Moist, loose, brown, fine to coarse SAND.	FILL
	0.3	3	3"/24	4 - 6	1-13-13-5 (26)			Moist, medium dense, brown SILT, some fine gravel, little fine to coarse sand.	GLACIAL DEPOSITS
		4	1"/0"	6 - 7	4-50/5"			Moist, medium dense, brown, fine to coarse SAND and SILT.	GRANITE
10		C-1	11"/ 12	7 - 8				Very strong, light grey, slightly weathered, slightly fractured, coarse grained GRANITE. REC = 95.8% RQD = 50%	
15									
20									
25									
30									
35									

Bottom of borehole at 8.0 feet.

GRANULAR SOILS: BLOWS/FT — DENSITY: 0 - 4 V. LOOSE; 4 - 10 LOOSE; 10 - 30 M. DENSE; 30 - 50 DENSE; >50 V. DENSE

COHESIVE SOILS: BLOWS/FT — DENSITY: 0 - 4 V. SOFT; 2 - 4 SOFT; 4 - 8 M. STIFF; 8 - 15 STIFF; 15 - 30 V. STIFF; >30 HARD

REMARKS: 1. S-4 Rock in tip. 2. Composite environmental sample taken from the fill stratum (F-7) together with the fill stratum at B17-12 and B17-13. 3. Composite environmental sample taken from the glacial deposit stratum (GD-7) together with the glacial deposit stratum at B17-12 and B17-13.

SUBMISTER CLASSIFICATION: TRACE 0 - 10%; LITTLE 10 - 20%; SOME 20 - 35%; AND 35 - 50%; PERCENT BY WEIGHT

NOTES: (1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL; (2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS; FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING NUMBER B17-12

PAGE 1 OF 1

Pare Corporation
10 Lincoln Road, Suite 210
Foxboro, MA 02035
T: 508-543-1755
F: 508-543-1691

CLIENT AECOM — PROJECT NAME Woonsocket WTP DBO
PROJECT NUMBER 17137.00 — PROJECT LOCATION Woonsocket, RI
DATE STARTED 11/15/17 — COMPLETED 11/15/17 — GROUND ELEVATION — HOLE SIZE 4 inches
DRILLING CONTRACTOR New England Boring Contractors, Inc. — GROUND WATER LEVELS:
DRILLING METHOD Wash and Drive, Automatic Hammer — AT TIME OF DRILLING — Indeterminate
LOGGED BY M. Pham — CHECKED BY SJM — AT END OF DRILLING — None Observed
BORING LOCATION SEE EXPLORATION LOCATION PLAN - Manville Road

DEPTH (ft)	PID	SAMPLE TYPE NUMBER	RECOVERY/PEN. (in)	DEPTH (FT)	BLOW COUNTS*	SHAFT	GRAPHIC LOG	SAMPLE DESCRIPTION	STRATUM DESCRIPTION
0									
	0.0	1	33"/ 24	0 - 2	14-13-15-12 (27)			A) Moist, medium dense, brown, fine SAND and SILT, trace coarse sand, trace fine gravel. B) Moist, medium dense, light grey/light brown, fine to medium SAND, some fine to coarse gravel, trace silt, trace wood debris.	FILL
5	0.0	2	6 / 6	4 - 4.5	26-50/3"			Very dense, light grey, fine SAND and weathered GRANITE.	GLACIAL DEPOSITS
	4.5	3	6 / 6	4 - 4.5	26-50/3"			Very strong, light grey, slightly weathered, slightly fractured, coarse grained GRANITE.	GRANITE
10									
15									
20									
25									
30									
35									

Bottom of borehole at 8.0 feet.

GRANULAR SOILS: BLOWS/FT — DENSITY: 0 - 4 V. LOOSE; 4 - 10 LOOSE; 10 - 30 M. DENSE; 30 - 50 DENSE; >50 V. DENSE

COHESIVE SOILS: BLOWS/FT — DENSITY: 0 - 4 V. SOFT; 2 - 4 SOFT; 4 - 8 M. STIFF; 8 - 15 STIFF; 15 - 30 V. STIFF; >30 HARD

REMARKS: 1. VOA sample for environmental testing from 0' to 2'. 2. Composite environmental sample taken from the fill stratum (F-7) together with the fill stratum at B17-13, B17-14, and B17-15. 3. Composite environmental sample taken from the glacial deposit stratum (GD-7) together with the glacial deposit stratum at B17-13, B17-14, and B17-15.

SUBMISTER CLASSIFICATION: TRACE 0 - 10%; LITTLE 10 - 20%; SOME 20 - 35%; AND 35 - 50%; PERCENT BY WEIGHT

NOTES: (1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL; (2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS; FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING NUMBER B17-13

PAGE 1 OF 1

Pare Corporation
10 Lincoln Road, Suite 210
Foxboro, MA 02035
T: 508-543-1755
F: 508-543-1691

CLIENT AECOM — PROJECT NAME Woonsocket WTP DBO
PROJECT NUMBER 17137.00 — PROJECT LOCATION Woonsocket, RI
DATE STARTED 11/15/17 — COMPLETED 11/15/17 — GROUND ELEVATION — HOLE SIZE 4 inches
DRILLING CONTRACTOR New England Boring Contractors, Inc. — GROUND WATER LEVELS:
DRILLING METHOD Wash and Drive, Automatic Hammer — AT TIME OF DRILLING — Indeterminate
LOGGED BY M. Pham — CHECKED BY SJM — AT END OF DRILLING — Indeterminate
BORING LOCATION SEE EXPLORATION LOCATION PLAN - Manville Road near Rexcorp

DEPTH (ft)	PID	SAMPLE TYPE NUMBER	RECOVERY/PEN. (in)	DEPTH (FT)	BLOW COUNTS*	SHAFT	GRAPHIC LOG	SAMPLE DESCRIPTION	STRATUM DESCRIPTION
0	0.0	1	10"/ 12	0 - 1.0	9-13-50/7"			A) Moist, very dense, brown, fine to medium SAND, some fine gravel, little silt, trace roots. B) Moist, very dense, grey, fine to medium SAND, some fine to coarse gravel, little silt, trace roots.	FILL
5	0.0	2	6"/ 6	4 - 4.5	31-50/5"			Moist, very dense, light grey, fine to medium SAND, some fine to coarse gravel, trace coarse sand, trace silt.	GLACIAL DEPOSITS
		3	4"/ 24	9.5 - 9.9	33-50/5"			Very, very dense, light grey, fine to medium SAND, some fine to coarse gravel.	GRANITE
10		C-1	17"/ 24	8.5 - 9.5				Strong to very strong, light grey, moderately fractured to slightly fractured, coarse grained GRANITE. REC = 70.8% RQD = 25.8%	
15									
20									
25									
30									
35									

Bottom of borehole at 9.5 feet.

GRANULAR SOILS: BLOWS/FT — DENSITY: 0 - 4 V. LOOSE; 4 - 10 LOOSE; 10 - 30 M. DENSE; 30 - 50 DENSE; >50 V. DENSE

COHESIVE SOILS: BLOWS/FT — DENSITY: 0 - 4 V. SOFT; 2 - 4 SOFT; 4 - 8 M. STIFF; 8 - 15 STIFF; 15 - 30 V. STIFF; >30 HARD

REMARKS: 1. S-4, S-5 Rock in tip. 2. Soil sent for environmental testing from 0' to 1'. 3. Composite environmental sample taken from the fill stratum (F-7) together with the fill stratum at B17-13, B17-14, and B17-15. 4. Composite environmental sample taken from the glacial deposit stratum (GD-7) together with the glacial deposit stratum at B17-13, B17-14, and B17-15.

SUBMISTER CLASSIFICATION: TRACE 0 - 10%; LITTLE 10 - 20%; SOME 20 - 35%; AND 35 - 50%; PERCENT BY WEIGHT

NOTES: (1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL; (2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS; FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING NUMBER B17-15

PAGE 1 OF 1

Pare Corporation
10 Lincoln Road, Suite 210
Foxboro, MA 02035
T: 508-543-1755
F: 508-543-1691

CLIENT AECOM — PROJECT NAME Woonsocket WTP DBO
PROJECT NUMBER 17137.00 — PROJECT LOCATION Woonsocket, RI
DATE STARTED 11/15/17 — COMPLETED 11/15/17 — GROUND ELEVATION — HOLE SIZE 4 inches
DRILLING CONTRACTOR New England Boring Contractors, Inc. — GROUND WATER LEVELS:
DRILLING METHOD Wash and Drive, Automatic Hammer — AT TIME OF DRILLING — Indeterminate
LOGGED BY M. Pham — CHECKED BY — ▼ AT END OF DRILLING 7.20 ft
BORING LOCATION SEE EXPLORATION LOCATION PLAN - Water Tank

DEPTH (ft)	PID	SAMPLE TYPE NUMBER	RECOVERY/PEN. (in)	DEPTH (FT)	BLOW COUNTS*	SHAFT	GRAPHIC LOG	SAMPLE DESCRIPTION	STRATUM DESCRIPTION
0									FILL
	0.1	1	24"/ 36	0 - 2	5-6-8-7 (14)			A) Moist, medium dense, brown, fine SAND and SILT, little fine gravel, trace roots. B) Moist, medium dense, yellowish brown.	
5	0.0	2	16"/ 36	4 - 6	16-45-33-20 (78)			Moist, very dense, light grey, fine to coarse GRAVEL and fine to coarse SAND.	GLACIAL DEPOSITS
	0.0	3	17"/ 21	9 - 10	9-9-11-50/3"			Wet, medium dense, light grey, fine to medium SAND, little fine to coarse gravel.	
10									
15									
20									
25									
30									
35									

Bottom of borehole at 10.0 feet.

GRANULAR SOILS: BLOWS/FT — DENSITY: 0 - 4 V. LOOSE; 4 - 10 LOOSE; 10 - 30 M. DENSE; 30 - 50 DENSE; >50 V. DENSE

COHESIVE SOILS: BLOWS/FT — DENSITY: 0 - 2 V. SOFT; 2 - 4 SOFT; 4 - 8 M. STIFF; 8 - 15 STIFF; 15 - 30 V. STIFF; >30 HARD

REMARKS: 1. S-3 Rock in tip. 2. Soil sent for environmental testing at 6'. 3. Composite environmental sample taken from the fill stratum (F-15) together with the fill stratum at B17-8 and B17-9. 4. Composite environmental sample taken from the glacial deposits stratum (GD-15) together with the glacial deposits stratum at B17-8 and B17-9.

SUBMISTER CLASSIFICATION: TRACE 0 - 10%; LITTLE 10 - 20%; SOME 20 - 35%; AND 35 - 50%; PERCENT BY WEIGHT

NOTES: (1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL; (2) WATER LEVEL READINGS HAVE BEEN MADE IN THE OBSERVATION AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS; FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

REV 1

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

CONSULTANT

WOONSOCKET WATER SERVICES, INC.
250 APOLLO DRIVE
CHELMSFORD, MA 01824
PHONE: (978) 905-2100
www.aecom.com

PARE CORPORATION
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
PHONE: (401) 334-4100
www.parecorp.com

PETER GEORGETTI
No. 11857
REGISTERED PROFESSIONAL ENGINEER
7/9/18 (CIVIL)

REGISTRATION

1	ADDED VTP'S	07/06/2018

ISSUE/REVISION

RIDEM Submittal
Final

Environmental Management
JUL - 9 2018
Office of Water Resources

PROJECT NUMBER

60552844

Designed By:	MFW
Drawn By:	AL, RB
Dept Check:	TPT
Proj Check:	PBG
Date:	MARCH 2018
Scale:	AS NOTED

DISCIPLINE

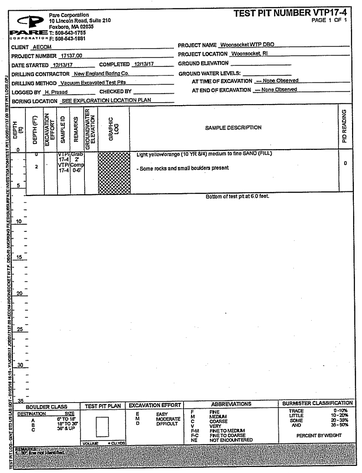
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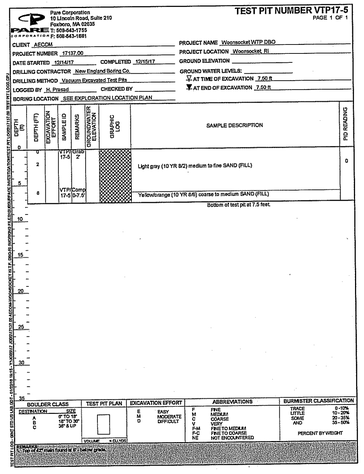
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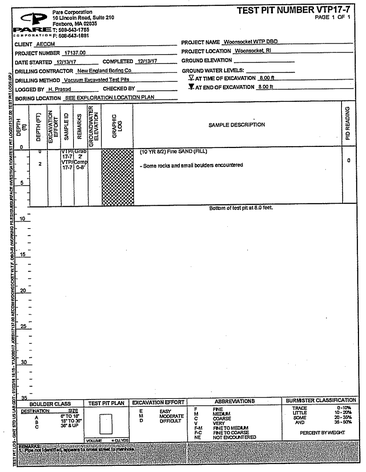
BORING LOGS

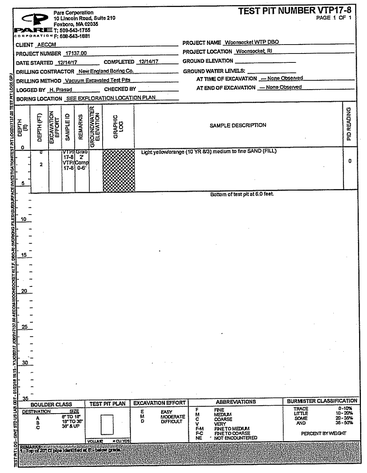
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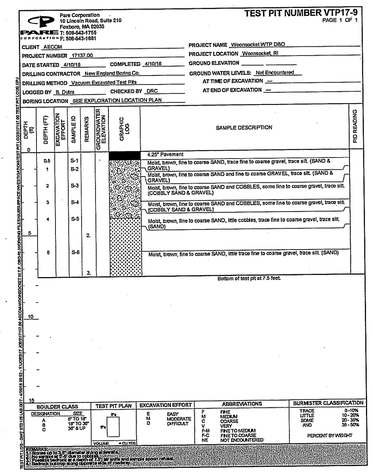
70 C-120 17 of 18

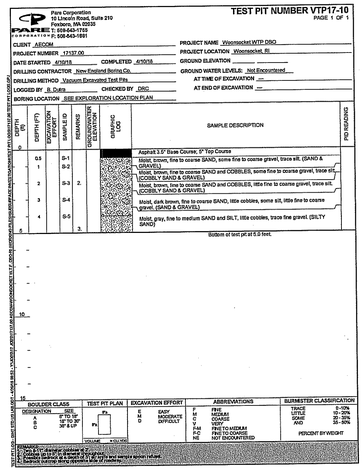


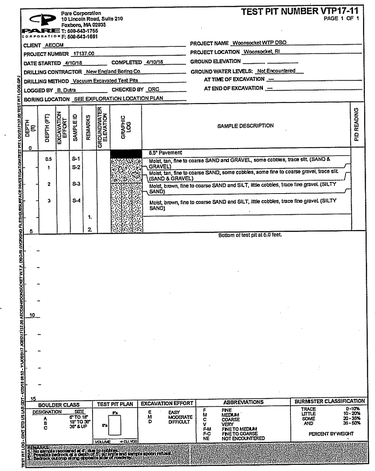


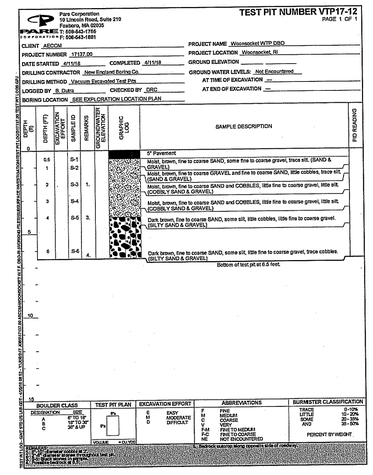


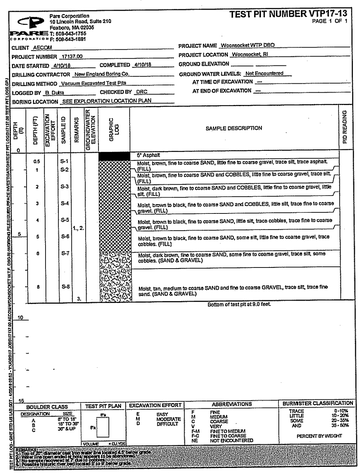


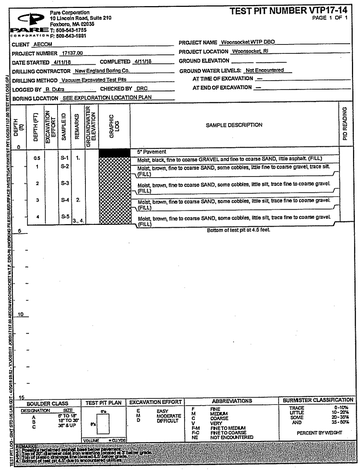


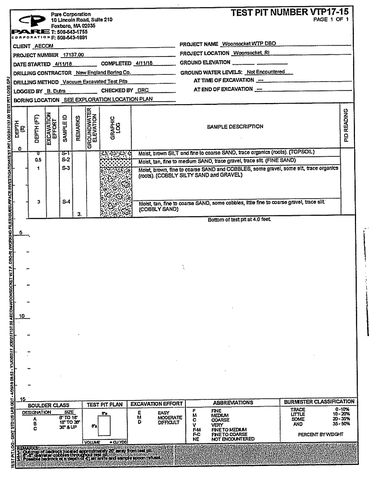












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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0069
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APPROVED PLANS MUST BE AT CONSTRUCTION SITE

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
www.ci.woonsocket.ri.us.com

CONSULTANT

WOONSOCKET WATER SERVICES, INC.
250 APOLLO DRIVE
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PHONE: (978) 905-2100
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PARE CORPORATION
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
PHONE: (401) 334-4100
www.parecorp.com

PETER GEORGETTI
No. 11857
REGISTERED PROFESSIONAL ENGINEER
7/9/18 (CIVIL)

REGISTRATION

ISSUE/REVISION

RIDEM Submittal
Final

Environmental Management
JUL - 9 2018
Office of Water Resources

PROJECT NUMBER

60552844

Designed By:	MFW
Drawn By:	AL, RB
Dept Check:	TPT
Proj Check:	PBG
Date:	MARCH 2018
Scale:	AS NOTED

DISCIPLINE

CIVIL

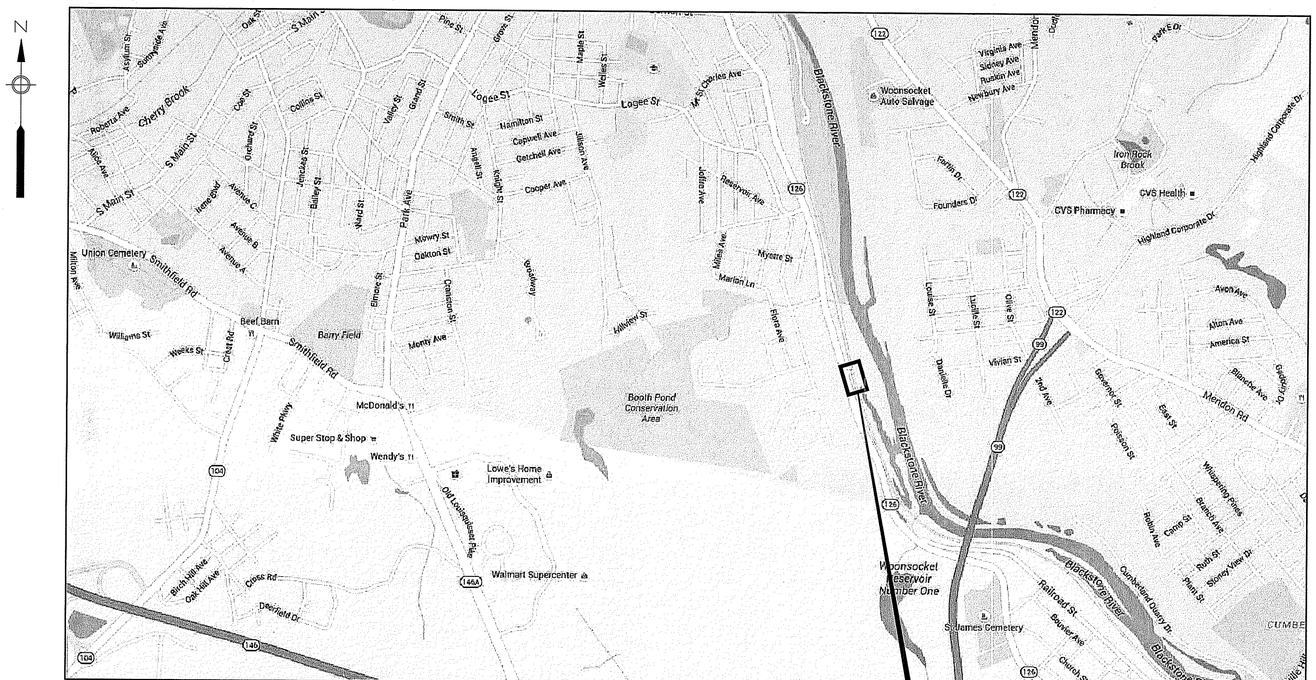
SHEET TITLE

TEST PIT LOGS

SHEET NUMBER

70 C-121 18 of 18

CITY OF WOONSOCKET, RHODE ISLAND
WATER TREATMENT PLANT
DESIGN-BUILD-OPERATE
FINAL PLAN SUBMISSION
AUGUST 2018
VOLUME 2 RAW WATER PUMPING STATION



LOCATION PLAN

SCALE: 1"=1000'

0 1000 2000 3000

SCALE 1" = 1000' FEET

PROJECT SITE
RAW WATER PUMP STATION

INDEX OF DRAWINGS

SHEET NO.	TITLE
GENERAL	
00 G–001	COVER SHEET, LOCATION PLAN AND INDEX OF DRAWINGS
CIVIL	
00 C–001	LEGEND, ABBREVIATIONS AND GENERAL NOTES
20 C–100	EROSION AND SEDIMENTATION CONTROL PLAN
20 C–101	EXISTING CONDITIONS AND DEMOLITION PLAN
20 C–102	SITE LAYOUT, GRADING AND PAVING PLAN I
20 C–103	SITE LAYOUT, GRADING AND PAVING PLAN II
20 C–104	YARD PIPING PLAN
SURVEY	
	MANVILLE ROAD – PLOT PLAN

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0069
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APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Environmental Management
AUG - 6 2018
Office of Water Resources

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WOONSOCKET WATER SERVICES, LLC
AECOM SUEZ

PROJECT
Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

Civil Early Works Package

CLIENT
City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
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CONSULTANT
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250 APOLLO DRIVE
CHELMSFORD, MA 01824
PHONE: (978) 905-2100
www.aecom.com

REGISTRATION

MATTHEW RIBEIRO
No. 11725
REGISTERED PROFESSIONAL ENGINEER
8/1/2018

ISSUE
RIDEM PERMIT SUBMITTAL
NOTE: This document is preliminary only and is not intended for any purpose except review and comment by the owner and its agents.

REVISION

I/R	DATE	DESCRIPTION
		Received RIDEM Wetlands JUL - 9 2018 Office of Water Resources

PROJECT NUMBER
60552844

Designed By:	M. RIBEIRO
Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE
RIDEM PERMIT
SHEET TITLE
COVER SHEET, LOCATION PLAN AND INDEX OF DRAWINGS
SHEET NUMBER
00 G-001

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\0000 G-001_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 1:56:39 PM
PLOT DATE: Wednesday, August 1, 2018 1:11:43 PM

GENERAL NOTES:

1. EXISTING SURVEY AND SITE TOPOGRAPHY INFORMATION COMPILED FROM THE FOLLOWING PROVIDED BY THE CITY:

- 2001 BLENDING CHAMBER/RESERVOIR SITE IN NORTH SMITHFIELD – SURVEY PROVIDED BY: MERIDIAN ENGINEERING INC. THE SURVEYED AREA OF EXISTING CONDITIONS SPANS APPROXIMATELY 2,000 FEET FROM THE SURGE RELIEF VALVE AND METERING CHAMBER AT THE SOUTHERN END, TO JUST NORTH OF THE EXISTING ELECTRIC TRANSMISSION TOWER. THE PLAN IS BORDERED TO THE EAST BY MANVILLE ROAD AND TO THE WEST BY LYDIA AVENUE. THE EXISTING CONDITIONS PLAN CONTAINS LAND IN BOTH WOONSOCKET AND NORTH SMITHFIELD, AND INCLUDES UTILITIES, STRUCTURES, ROADS, TOPOGRAPHY, AND WETLAND DELINEATIONS.
- 2004 WATER MAIN REHABILITATION PROJECT – SURVEY PROVIDED BY BRYANT ASSOCIATES, INC., AND COMMONWEALTH ENGINEERS & CONSULTANTS INC., INCLUDES:
  - LYDIA AVENUE
  - WANDA AVENUE
  - FLORA AVENUE
  - LILAC AVENUE
  - BERTENSHAW ROAD
  - FAIRFIELD AVENUE
  - RESERVOIR ROAD (FAIRFIELD AVENUE TO JOFFRE AVENUE)
  - LOGEE STREET (BERTENSHAW ROAD TO FRONT STREET)
- 2010 MANVILLE ROAD WATER MAIN REHABILITATION – SURVEY PROVIDED BY SURVEYING AND MAPPING CONSULTANTS, INC. (SMC), BRAINTREE, MASSACHUSETTS AND THE CITY OF WOONSOCKET.
- 2012 – BERNON HEIGHTS SITE FOR PROPOSED WTP – SURVEY PROVIDED BY SMC OF BRAINTREE, MASSACHUSETTS.
- 2015 SURVEY PROVIDED BY GARAFALO AND ASSOCIATES, PROVIDENCE, RHODE ISLAND.
  - PROPOSED RAW WATER PUMP STATION LOCATION JUST OFF MANVILLE ROAD.
  - JILLSON AVENUE (LOGEE STREET TO TALBOT AVENUE).
  - LAND AREA EAST OF JILLSON AVENUE (WET AREA) APPROXIMATELY 450 LINEAR FEET ALONG JILLSON AVENUE AND 400 LINEAR FEET EAST OF JILLSON AVENUE (APPROXIMATELY 4 ACRES).
  - ACRES AVENUE, RESERVOIR AVENUE (ACRES AVENUE TO JOFFRE AVENUE), JOFFRE AVENUE (RESERVOIR AVENUE TO LOGEE STREET).

2. COORDINATES, IN U.S. SURVEY FEET, ARE REFERENCED TO THE RHODE ISLAND STATE PLANE, REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83).
3. ELEVATIONS, IN U.S. SURVEY FEET, ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). PROPERTY LINES WHERE SHOWN ARE APPROXIMATE AND INTENDED FOR GENERAL INFORMATION ONLY.
4. UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE ONLY. ADDITIONAL UTILITIES MAY BE PRESENT. CONTRACTOR SHALL CONTACT DIG SAFE AT 811 PRIOR TO EXCAVATION ACTIVITIES.
5. ERECT EROSION CONTROL CHECKS PRIOR TO COMMENCING ANY EXCAVATION OR STORAGE OF BACKFILL MATERIAL ON-SITE.
6. EXCAVATION OF ANY TYPE SHALL BE ACCOMPLISHED IN SUCH A MANNER THAT UNDERGROUND UTILITIES OR STRUCTURES ARE NOT DAMAGED. ALL SIDEWALKS, AND OTHER STRUCTURES DISTURBED BY CONSTRUCTION IN OR OUTSIDE THE PROJECT AREA SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AND SHALL BE GRADED TO MEET PROPOSED CONSTRUCTION.
7. NECESSARY MEASURES AND CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE AND STRENGTH SHALL BE PROVIDED, AS APPLICABLE, TO PREVENT ACCESS TO ALL OPEN EXCAVATIONS AT THE COMPLETION OF EACH DAYS WORK.
8. STOCKPILING OF CONSTRUCTION MATERIALS WITHIN 50 FT. OF WATERWAYS IS PROHIBITED.
9. EXISTING UTILITIES INTERFERING WITH THE WORK SHALL BE RELOCATED AS DIRECTED.
10. EXACT HORIZONTAL LOCATION OF PIPE TO BE INSTALLED SHALL MATCH AS CLOSELY AS POSSIBLE TO THE LOCATION SHOWN ON THE PLANS. PLACEMENT OF FITTINGS, ETC. MAY VARY FROM PLAN LOCATIONS ACCORDING TO LAYING LENGTHS OF PIPE.
11. PIPING WHICH IS EXPOSED DURING EXCAVATION AND IS NOT TO BE DEMOLISHED, SHALL BE SUPPORTED, BRACED OR OTHERWISE PROTECTED DURING CONSTRUCTION ACTIVITIES.
12. FINAL GRADING SHALL BE UNIFORM BETWEEN SPOT ELEVATIONS AND CONTOURS.
13. AREAS ADJACENT TO NEW CONSTRUCTION SHALL BE FILLED AND GRADED FOR POSITIVE DRAINAGE.
14. ALL AREAS OF EXCAVATION, BACKFILL, FILL AND GRADING SHALL BE RETURNED TO THE ORIGINAL GRADE UNLESS SHOWN ON THE DRAWINGS.
15. ALL COVERS, FRAMES, AND GRATES FROM STRUCTURES WHICH ARE ABANDONED UNDER THIS CONTRACT SHALL BE PROTECTED FROM DAMAGE AND SHALL BE TURNED OVER TO THE CITY.
16. ALL UTILITY BOXES, FRAMES, GRATES, ETC. NOT TO BE ABANDONED SHALL BE RESET TO THE PROPER GRADE.
17. EXISTING TREES, BUSHES, AND SHRUBS SHALL BE PROTECTED FROM DAMAGE UNLESS IN DIRECT CONFLICT WITH PROPOSED STRUCTURES, ROADWAYS, OR PATHS.
18. UNPAVED AREAS TO BE DISTURBED SHALL BE CLEARED AND GRUBBED, IF REQUIRED, AND RESTORED WITH RHODE ISLAND BLEND LOAM AND SEED MIX.
19. INTERRUPTION TO WATER AND OTHER UTILITIES SHALL BE COORDINATED WITH THE CITY.
20. ALL BURIED WATER AND DRAIN PIPES SHALL HAVE A MINIMUM 4 FOOT DEPTH OF COVER.
21. ALL MATERIALS AND EQUIPMENT COMING INTO CONTACT WITH POTABLE WATER SHALL COMPLY WITH ANSI/NSF STANDARD 61.
22. WETLANDS SHOWN HEREON WERE FLAGGED BY PARE CORPORATION BETWEEN THE DATES OF 9/17/17 AND 10/3/17 AND WERE FIELD LOCATED BY NATIONAL LAND SURVEYORS AND DEVELOPERS, INC.

ABBREVIATIONS

ASSF	AREA SUBJECT TO STORM FLOWAGE
BFV	BUTTERFLY VALVE
DIA	DIAMETER
EL	ELEVATION
EXIST	EXISTING
T.O.C	TOP OF CONCRETE
R/U	ROLL-UP (DOOR)
G	GAS
*	REFER TO MECHANICAL PIPE SCHEDULE SHEET 00 D-003 FOR ALL PIPING INDICATED

PROPOSED

- STRUCTURE
- LIMIT OF WORK
- LOD — LIMIT OF DISTURBANCE
- SEDIMENTATION AND EROSION CONTROL
- PIPE – 8" DIAM. or LESS
- PIPE – 10" DIAM. AND GREATER
- BUTTERFLY VALVE
- TEE
- WYE
- 90° PIPE BEND
- 45° PIPE BEND
- 22 1/2° PIPE BEND
- 11 1/4° PIPE BEND
- PIPE CAP
- × 326.5 — SPOT ELEVATION
- 327 — GROUND CONTOUR (MINOR) LINE
- 330 — GROUND CONTOUR (MAJOR) LINE

EROSION CONTROL NOTES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, MONITORED, AND MAINTAINED IN ACCORDANCE WITH THE RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK; THE RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE DESIGN AND OTHER SPECIFICATIONS AND STANDARD DETAILS; AND THE SITE SPECIFIC STORMWATER POLLUTION PREVENTION PLAN PREPARED FOR THE PROJECT.
2. AS FAR AS IS PRACTICABLE, EXISTING VEGETATION SHALL BE PROTECTED AND LEFT IN PLACE, IN ACCORDANCE WITH THE CLEARING LIMITS SHOWN ON THE APPROVED PLANS. PRIOR TO ANY LAND DISTURBANCE ACTIVITIES COMMENCING ON THE SITE, THE CONTRACTOR SHALL PHYSICALLY MARK LIMITS OF DISTURBANCE (LOD) ON THE SITE AND ANY AREAS TO BE PROTECTED WITHIN THE SITE, SO THAT WORKERS CAN CLEARLY IDENTIFY THE AREAS TO BE PROTECTED.
3. INSTALLATION OF EROSION AND SEDIMENT CONTROLS THAT ARE REQUIRED FOR A PARTICULAR PHASE OF THE WORK SHALL BE IN PLACE AND FUNCTIONAL BEFORE ANY EARTHWORK BEGINS ON THAT PARTICULAR PHASE.
4. CARE WILL BE TAKEN TO AVOID HAVING UNSTABILIZED AREAS EXPOSED DURING PRECIPITATION EVENTS. WEATHER FORECASTS WILL BE ROUTINELY CHECKED, AND IN THE CASE OF AN EXPECTED PRECIPITATION EVENT OF OVER 0.25-INCHES OVER A 24-HOUR PERIOD, ALL BMPS WILL BE INSPECTED, AND MAINTAINED AS NECESSARY, PRIOR TO THE WEATHER EVENT. IN THE CASE OF AN EXTREME WEATHER FORECAST (GREATER THAN ONE-INCH OF RAIN OVER A 24-HOUR PERIOD), ADDITIONAL EROSION/SEDIMENT CONTROLS WILL BE INSTALLED WHERE APPROPRIATE.
5. EROSION AND POLLUTION CONTROLS WILL BE CLEANED AS REQUIRED; AFTER A RAINSTORM; AND/OR WHENEVER MAINTENANCE IS REQUIRED AS DETERMINED BY ROUTINE INSPECTION.
6. EROSION CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED EARTH HAS BEEN SECURELY STABILIZED AND ACCEPTED BY THE SITE OWNER. BEFORE FINAL REMOVAL, ALL ACCUMULATED SEDIMENT ON THE UPSTREAM SIDE SHALL BE REMOVED AND LEGALLY DISPOSED OF.
7. ALL STORMWATER CONTROL MEASURES, DISTURBED AREAS, AREAS USED FOR THE STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION (INCLUDING UNSTABILIZED SOIL STOCKPILES), DISCHARGE LOCATIONS, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE MUST BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY-FOUR (24) HOURS AFTER ANY STORM EVENT WHICH GENERATES AT LEAST 0.25-INCHES OF PRECIPITATION PER TWENTY FOUR (24) HOUR PERIOD AND/OR AFTER A SIGNIFICANT AMOUNT OF RUNOFF OR SNOWMELT. A SEPARATE INSPECTION REPORT WILL BE PREPARED FOR EACH INSPECTION. THE INSPECTION REFERENCE NUMBER SHALL BE A COMBINATION OF THE RIPDES CONSTRUCTION GENERAL PERMIT NUMBER CONSECUTIVELY NUMBERED INSPECTIONS. AS AN EXAMPLE, INSPECTION REFERENCE NUMBER FOR THE 4TH INSPECTION OF A PROJECT WOULD BE: RIR100###-4. EACH REPORT WILL BE SIGNED AND DATED BY THE INSPECTOR AND MUST BE KEPT ONSITE AS REQUIRED BY PART II.D OF THE RIPDES CONSTRUCTION GENERAL PERMIT. EACH REPORT WILL BE SIGNED AND DATED BY THE SITE OPERATOR AND RETURNED TO THE INSPECTOR WITHIN 24 HOURS OF RECEIPT. IT IS THE RESPONSIBILITY OF THE SITE OPERATOR TO MAINTAIN A COPY OF THE SWPPP, COPIES OF ALL COMPLETED INSPECTION REPORTS, AND AMENDMENTS AS PART OF THE SWPPP DOCUMENTATION AT THE SITE DURING CONSTRUCTION.
8. IF SITE INSPECTOR DETERMINES THAT CORRECTIVE ACTION IS REQUIRED, THE INSPECTOR SHALL NOTE SUCH ON THE INSPECTION REPORT AND SHALL INFORM THE SITE OPERATOR THAT CORRECTIVE ACTION IS NECESSARY. THE SITE OPERATOR MUST MAKE ALL NECESSARY REPAIRS WHENEVER MAINTENANCE OF THE EROSION AND POLLUTION CONTROLS IS REQUIRED NO LATER THAN SEVEN (7) CALENDAR DAYS FROM THE DATE OF INSPECTION.

LEGEND

EXISTING

SB	STONE BOUND	TOB — TOP BELL END OF PIPE
CB	CONCRETE BOUND	HWALL — HEAD WALL
RIHB	MASS HIGHWAY BOUND	RET — RETAINING WALL
DH	DRILL HOLE	SED — SEDIMENTATION
IP	IRON PIPE	FNC — FENCE
•	PK. REBAR, NAIL, SPIKE	LST — LANDSCAPING TIMBER
H/T	HUB & TACK	CC — CONCRETE CURB
SSM	STEEL SURVEY MARKER	BIT PATCH — BITUMINOUS CONCRETE PATCH
FND	FOUND	EOC — EDGE OF CONCRETE
N/F	NOW OR FORMERLY	EOG — EDGE OF GRAVEL
W/	WITH	(M) — MARKED
(S)	SURVEY	DMH — DRAIN MANHOLE
(R)	RECORD	CB — CATCH BASIN
	DENOTES COMMON OWNERSHIP	R — RIM
	(FEE HOOK)	I — INVERT
MISC	MISCELLANEOUS	NPV — NO PIPE VISIBLE
N.T.S.	NOT TO SCALE	CMP — CORRUGATED METAL PIPE
	PROPERTY LINE	RCP — REINFORCED CONCRETE PIPE
	TREE LINE	CIP — CAST IRON PIPE
	DECIDUOUS TREE	PVC — POLYVINYL CHLORIDE
		VCP — VITREOUS CLAY PIPE
	BOULDER	CPP — CORRUGATED PLASTIC PIPE
	STONE WALL	AC — ASBESTOS CONCRETE
	GUARD RAIL	GG — GAS GATE
	BARBED WIRE FENCE	GM — GAS METER
CLF	CHAIN LINK FENCE	EMH — ELECTRIC MANHOLE
RET WALL	RETAINING WALL	EM — ELECTRIC METER
BIT CONC	BITUMINOUS CONCRETE	SMH — SEWER MANHOLE
GRAN	GRANITE	WG — WATER GATE
	TOP OF CURB	HYDRANT
100.51 × 100.06	BOTTOM OF CURB	WMH — WATER MANHOLE
	EDGE OF STREAM	W — WATER LINE
	EDGE OF MARSH	S — SEWER LINE
	EDGE OF VEGETATED WETLAND	TEL — TELEPHONE LINE
WF#4-1	WETLAND FLAG	E — ELECTRIC LINE
	MARSH	D — DRAIN LINE
WP	WOOD POST (BOLLARD)	G — GAS LINE
MP	METAL POST (BOLLARD)	OW — OVERHEAD WIRE
GP	GRANITE POST (BOLLARD)	MW — MONITORING WELL
CP	CONCRETE POST (BOLLARD)	WELL
T	TRANSFORMER	+ 330.3 — SPOT ELEVATION
FF	FINISHED FLOOR	INTERMEDIATE CONTOUR
TH	THRESHOLD	320 — INDEX CONTOUR
	SIGN	RIPRAP
MB	MAILBOX	
HH	HANDHOLE	200' RIVERBANK OFFSET
	GUY POLE	50' WETLAND OFFSET
	GUY WIRE	
UP#	UTILITY POLE	TP-17-1 — TEST PIT
UP/LP	UTILITY POLE/LIGHT POLE	B-5 — BORING
LP	LIGHT POLE	P-17-2 — ROCK PROBE
DI	DUCTILE IRON	
CLDI	CONCRETE LINED DUCTILE IRON	
HDPE	HIGH DENSITY POLY ETHELENE	
STL	STEEL	
RTW	RAW TRANSIT WATER	
FBD	FILTER BACKWASH DRAIN	
FW	FINISHED WATER	
RFM	RESIDUALS FORCE MAIN	
FTWD	FILTER TO WASTE DRAIN	
ABAN	ABANDONED	
UTILS	UTILITIES	
ELEC	ELECTRICAL	
THRU	SEALED PIPE TRAVERSING THRU A MANHOLE	

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Jacqueline D. Hanrahan

WOONSOCKET WATER SERVICES, LLC
AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
Department of Public Works
169 Main Street
Woonsocket, RI 02895
401.767.9209 tel
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CONSULTANT

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CHELMSFORD, MA 01824
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www.aecom.com

REGISTRATION

MATTHEW RIBEIRO
No. 11725
REGISTERED PROFESSIONAL ENGINEER
STATE OF RHODE ISLAND
8/1/2018

ISSUE

RIDEM PERMIT SUBMITTAL

NOTE: This document is preliminary only and is not intended for any purpose except review and comment by the owner and its agents.

REVISION

I/R	DATE	DESCRIPTION

Environmental Management
JUL - 3 2018
Office of Water Resources

PROJECT NUMBER

60552844

Designed By:	M. RIBEIRO
Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	JUNE 2018
Scale:	AS NOTED

DISCIPLINE

RIDEM PERMIT

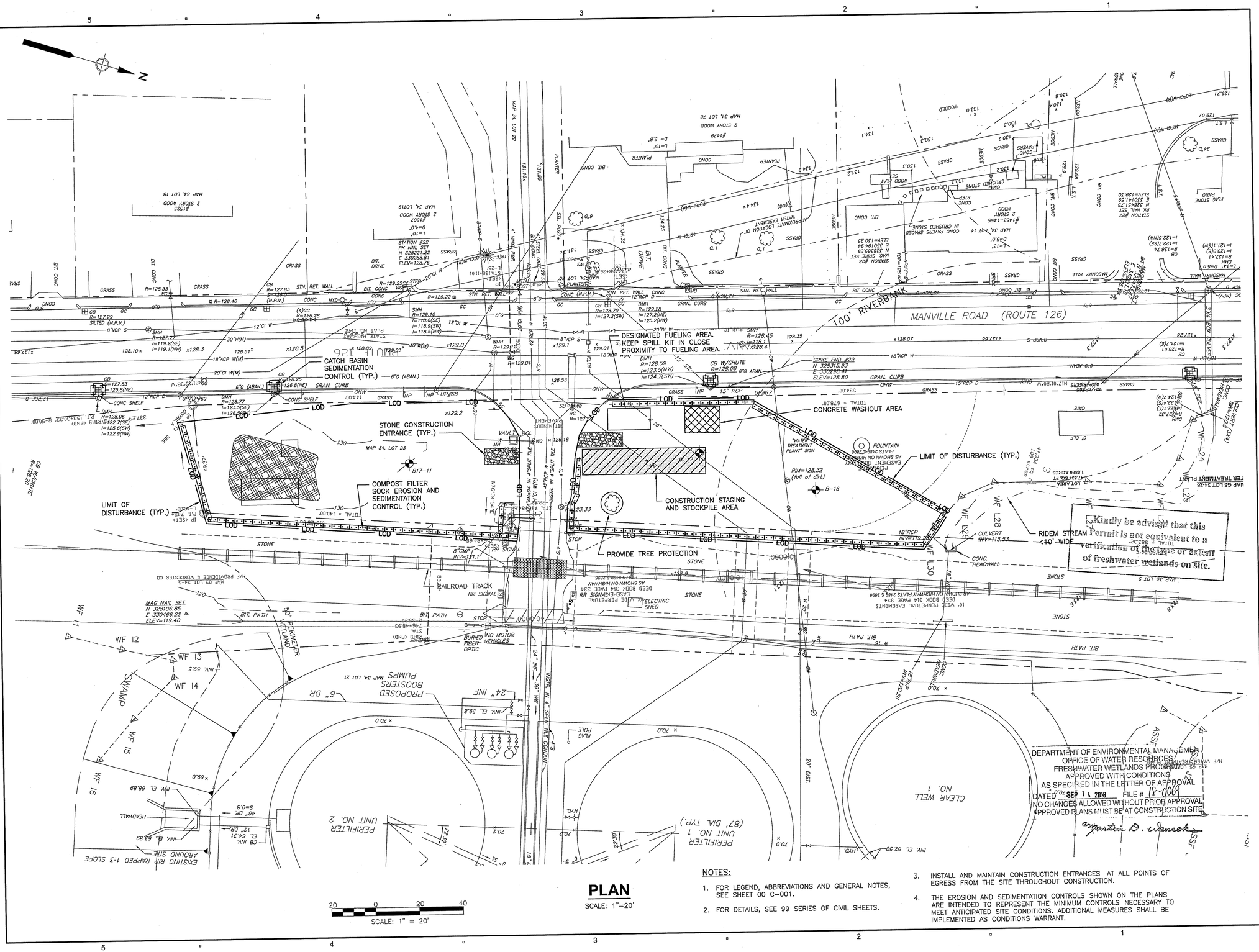
SHEET TITLE

LEGEND, ABBREVIATIONS AND GENERAL NOTES

SHEET NUMBER

00 C-001

PATHFILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C00 C-001_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 8:38:11 AM
PLOT DATE: Wednesday, August 1, 2018 1:14:03 PM



PLAN

SCALE: 1"=20'

SCALE: 1" = 20'

NOTES:

1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET 00 C-001.
2. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.
3. INSTALL AND MAINTAIN CONSTRUCTION ENTRANCES AT ALL POINTS OF EGRESS FROM THE SITE THROUGHOUT CONSTRUCTION.
4. THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE PLANS ARE INTENDED TO REPRESENT THE MINIMUM CONTROLS NECESSARY TO MEET ANTICIPATED SITE CONDITIONS. ADDITIONAL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT.

PATHFILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C\20 C-100_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 1:16:38 PM
PLOT DATE: Wednesday, August 1, 2018 1:20:16 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

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CIVIL
8/1/2018

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Designed By:	M. RIBEIRO
Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

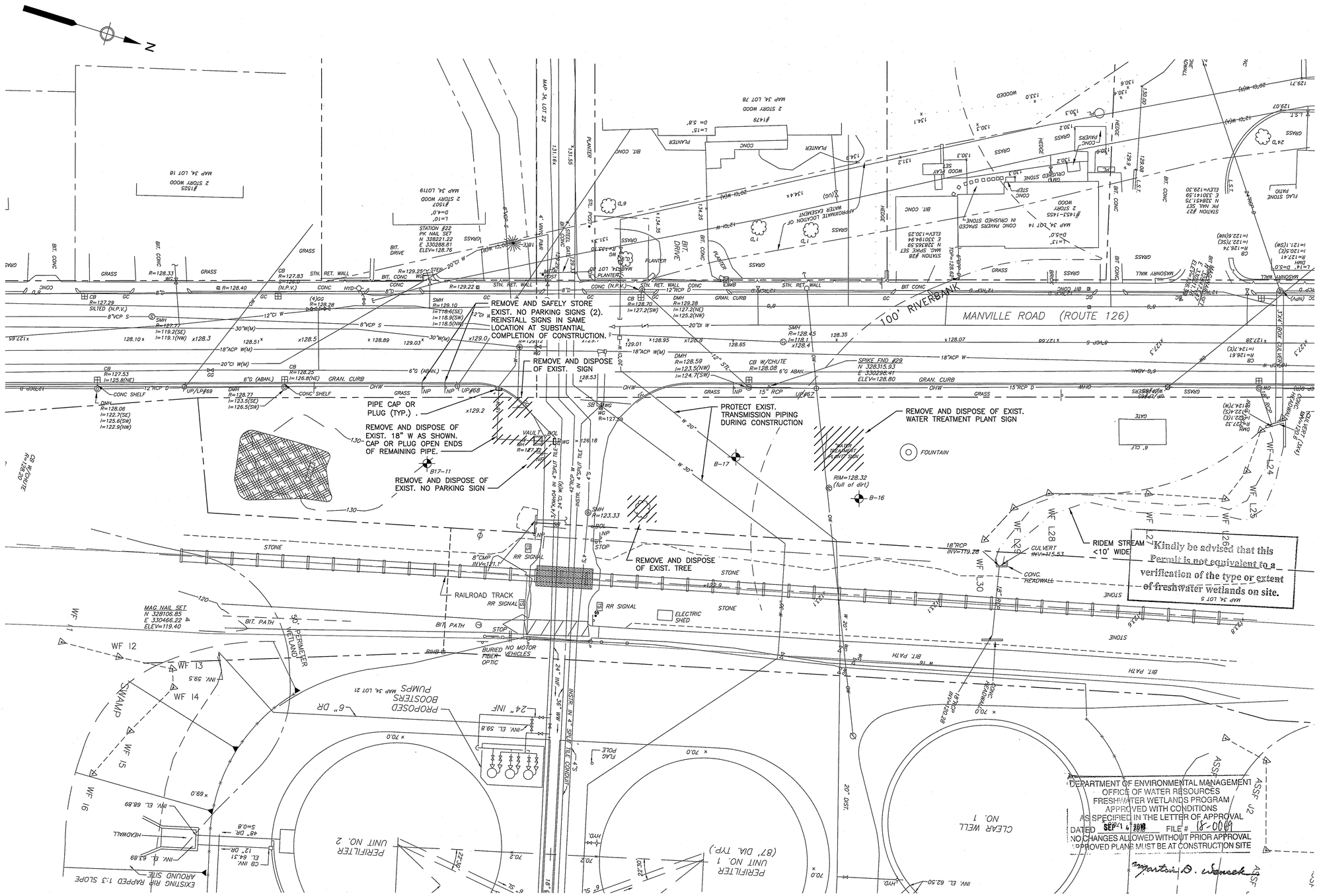
RIDEM PERMIT

SHEET TITLE

EROSION AND SEDIMENTATION CONTROL PLAN

SHEET NUMBER

20 C-100



PLAN

SCALE: 1"=20'

NOTES:

1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET 00 C–001.
2. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

SCALE: 1" = 20'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C20 C-101_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 1:36:09 PM
PLOT DATE: Wednesday, August 1, 2018 1:19:48 PM

WOONSOCKET WATER SERVICES, LLC

AECOM SUEZ

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Environmental Management JUL 9 2018 Office of Water Resources

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Drawn By:	Z. BANKOVIC
Dept Check:	C. BENZIGER
Proj Check:	R. POGODZIENSKI
Date:	AUGUST 2018
Scale:	AS NOTED

DISCIPLINE

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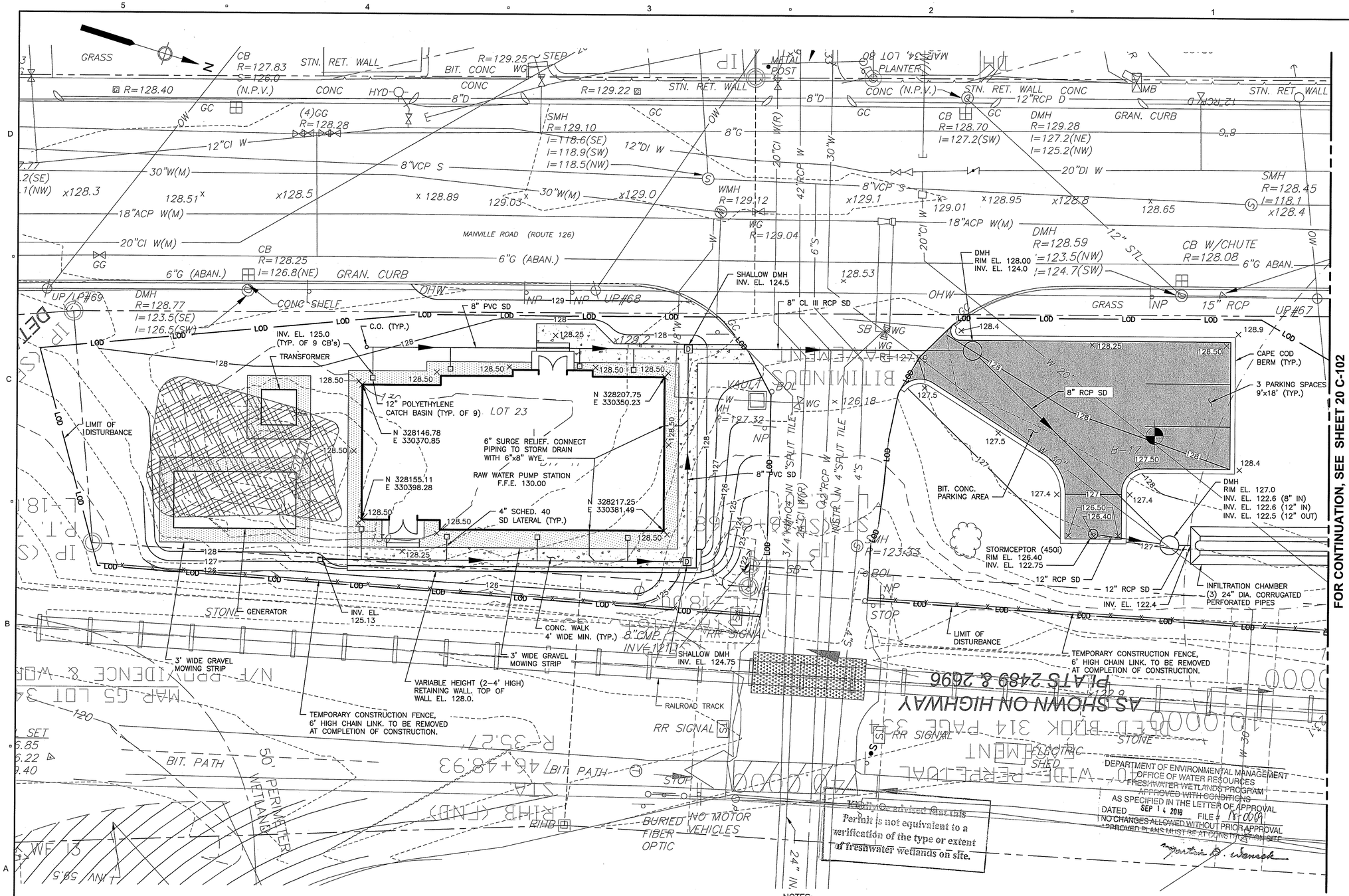
SHEET TITLE

EXISTING CONDITIONS AND DEMOLITION PLAN

SHEET NUMBER

20 C-101

SHEET 4 OF 8



PLAN

SCALE: 1"=10'

NOTES:

1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET 00 C-001.
2. NORTHING/EASTING COORDINATES SHOWN ARE BASED ON RI STATE PLANE COORDINATE SYSTEM (NAD 83 FEET).
3. COORDINATES ARE TO THE OUTSIDE FACE OF STRUCTURE AT GRADE, UNLESS NOTED OTHERWISE.
4. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.
5. CONSTRUCTION STAGING AREA TO CONSIST OF THE ENTIRE LOD SECTION NORTH OF THE EXISTING CHARLES HAMMAAN WTP ACCESS ROAD.

SCALE: 1" = 10'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C020 C-102_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 1:55:50 PM
PLOT DATE: Wednesday, August 1, 2018 1:19:20 PM

WOONSOCKET WATER SERVICES, LLC

AECOM suez

PROJECT

Woonsocket, RI
Water Treatment Plant
Design-Build-Operate

CLIENT

City of Woonsocket, RI
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169 Main Street
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Dept Check:	C. BENZIGER
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DISCIPLINE

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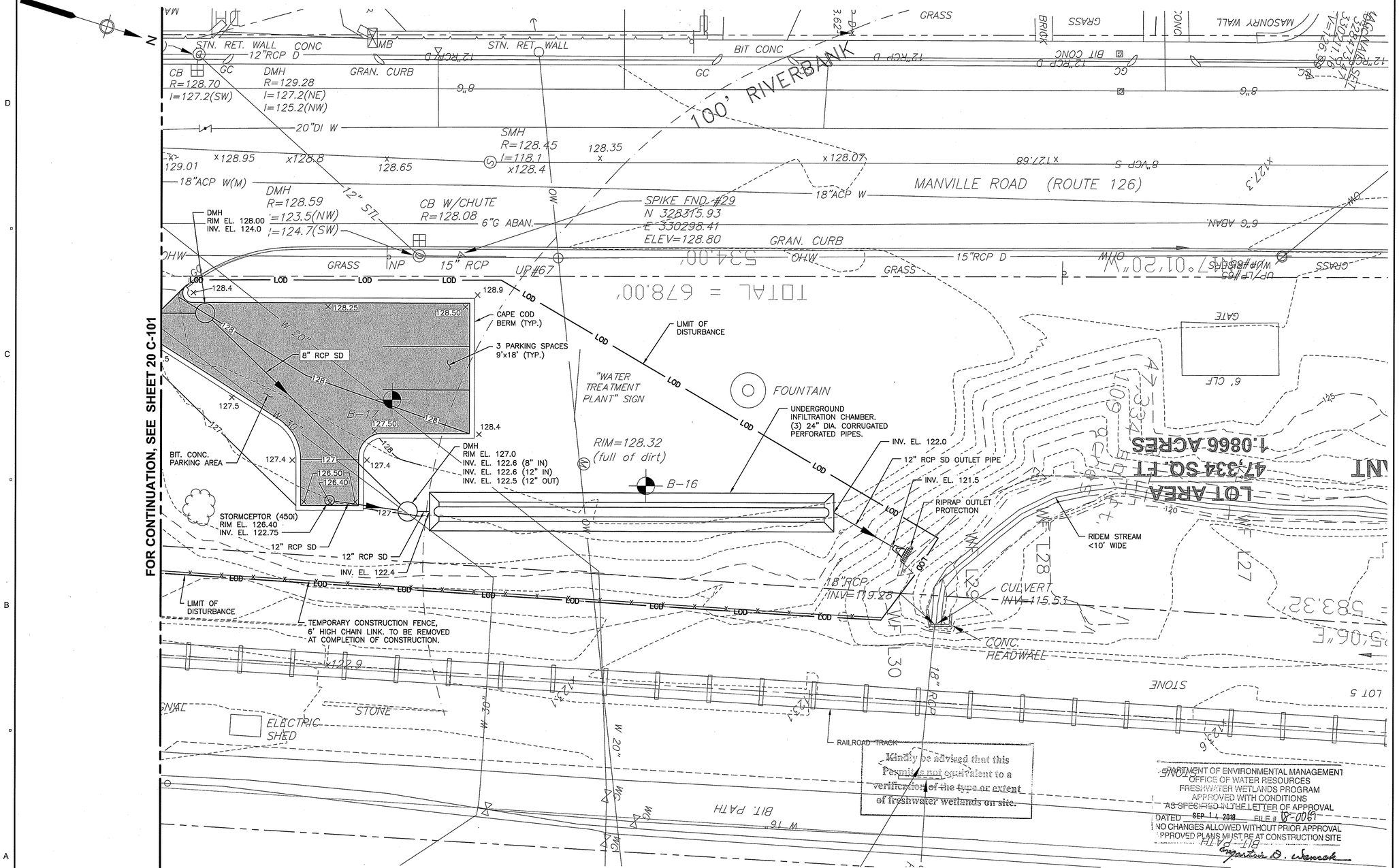
SHEET TITLE

SITE LAYOUT, GRADING AND PAVING PLAN I

SHEET NUMBER

20 C-102

SHEET 5 OF 8



PLAN

SCALE: 1"=10'

NOTES:

1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET 00 C-001.
2. NORTHING/EASTING COORDINATES SHOWN ARE BASED ON RI STATE PLANE COORDINATE SYSTEM (NAD 83 FEET).
3. COORDINATES ARE TO THE OUTSIDE FACE OF STRUCTURE AT GRADE, UNLESS NOTED OTHERWISE.
4. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.

10 0 10 20
SCALE: 1" = 10'

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C20 C-103_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 1:55:23 PM
PLOT DATE: Wednesday, August 1, 2018 1:18:42 PM

WOONSOCKET WATER SERVICES, LLC

AECOM suez

PROJECT

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DISCIPLINE

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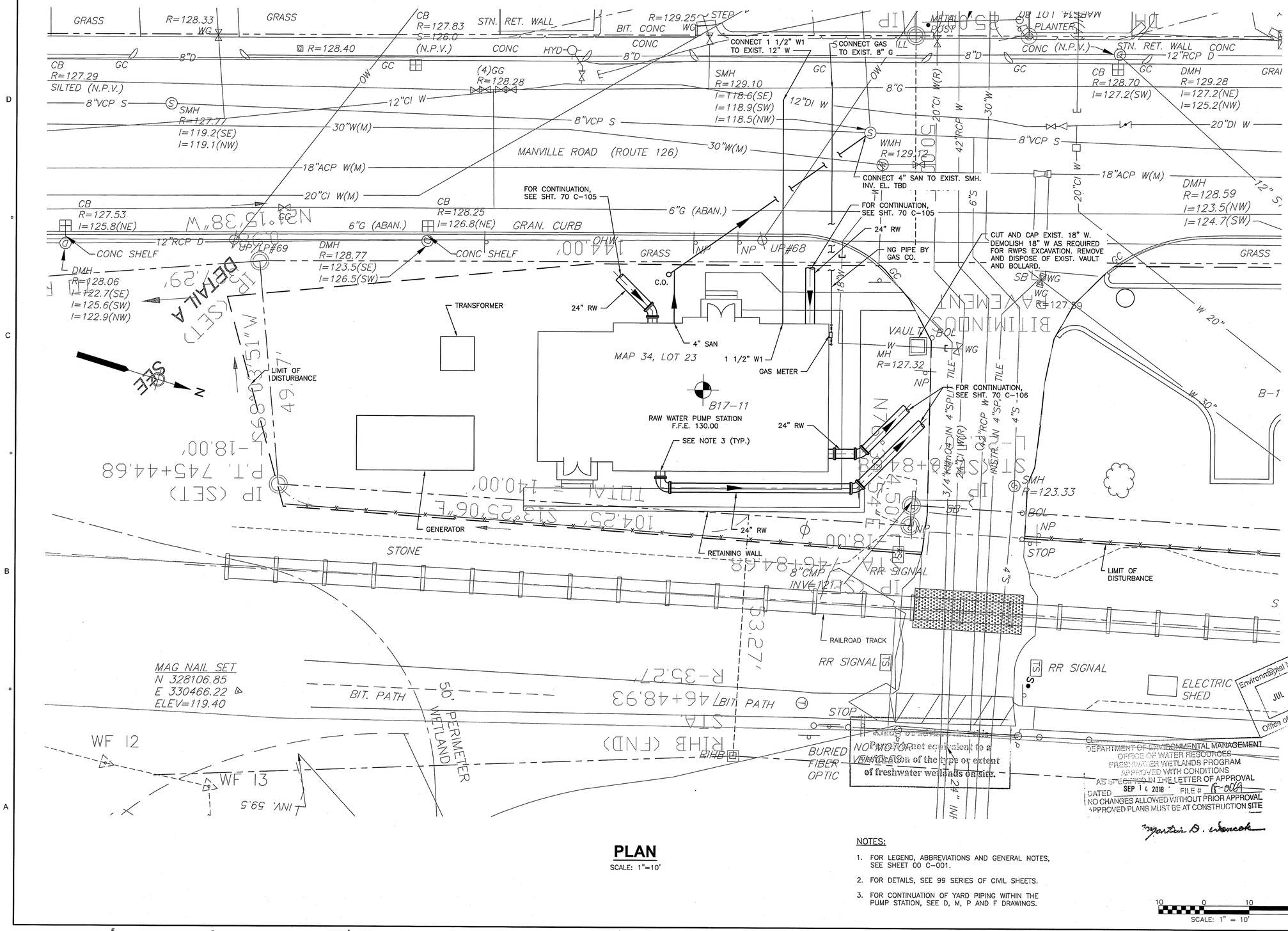
SHEET TITLE

SITE LAYOUT, GRADING AND PAVING PLAN II

SHEET NUMBER

20 C-103

SHEET 6 OF 8



PLAN
SCALE: 1"=10'

NOTES:

1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET 00 C-001.
2. FOR DETAILS, SEE 99 SERIES OF CIVIL SHEETS.
3. FOR CONTINUATION OF YARD PIPING WITHIN THE PUMP STATION, SEE D, M, P AND F DRAWINGS.

SCALE: 1" = 10'

Environmental Management
JUL - 9 2018
Office of Water Resources

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS STIPULATED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0009
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Martin D. Wencek

PATH/FILENAME: P:\60552844 - WOONSOCKET WTP\SHEETS\C - TREATMENT PLANT\C20 C-104_RIDEM.DWG
LAST UPDATE: Tuesday, July 31, 2018 1:54:54 PM
PLOT DATE: Wednesday, August 1, 2018 11:17:09 PM

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AECOM SUEZ

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Scale:	AS NOTED

DISCIPLINE

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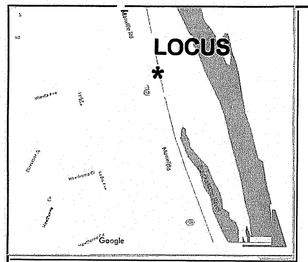
SHEET TITLE

YARD PIPING PLAN

SHEET NUMBER

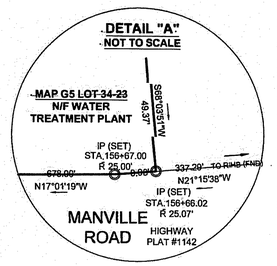
20 C-104

SHEET 7 OF 8



LOCUS MAP
NOT TO SCALE

NO.	DATE	DESCRIPTION	BY



TANK
TANK
TANK
TANK

RIHB (FND)
STA. 751+77.10
R-44.74'
(CALLED STA. 751+77.21)

MAP G5 LOT 34-21
N/F WATER TREATMENT PLANT

67.24'

MAP G5 LOT 34-67
N/F CITY OF WOONSOCKET
D.B. 1482 PG. 162

90.90'

S13°25'06"E
TOTAL = 583.32'

10' WIDE PERPETUAL EASEMENTS
DEED BOOK 314 PAGE 334
AS SHOWN ON HIGHWAY PLATS 2489 & 2696

10'
10'

40' WIDE PERPETUAL EASEMENT
DEED BOOK 314 PAGE 334
AS SHOWN ON HIGHWAY PLATS 2489 & 2696

40'

RIHB (FND)
STA. 746+48.93
R-35.27'

53.27'

MAP G5 LOT 34-5
N/F PROVIDENCE & WORCESTER CO

MAP G5 LOT 34-12
N/F THE NARRAGANSETT ELECTRIC CO
D.B. 1129 PG. 508

101.69'
N43°19'10"E

MAP G5 LOT 34-23
N/F WATER TREATMENT PLANT

LOT AREA
47,334 SQ. FT
1.0866 ACRES

LOT CORNER
STA.163+45.00
R-25.00'

PERMANENT
EASEMENT BOUNDARY
AS SHOWN ON HIGHWAY PLATS 2489 & 2696

IP (SET)
STA. 746+84.68
L-18.00'

IP (SET)
STA. 746+14.68
L-22.50'

N6°34'54"E
59.50'

104.25'
S13°25'06"E
TOTAL = 140.00'

IP (SET)
P.T. 745+44.68
L-18.00'

49.37'
N4°50'39"E
0.98'

IP (SET) *SEE DETAIL A*

337.29' TO RIHB (FND)
P.T. 153+30.33 R-50.00'

N17°01'20"W
534.00'

TOTAL = 678.00'

BITIMINOUS PAVEMENT

144.00'

0.98'
N21°15'38"W

MANVILLE ROAD
PUBLIC (VARIABLE WIDTH)

50.00'

ROUTE 126
STATE HIGHWAY
PLAT NO. 1142

DH (SET)
STA.158+36.01
L 25'

25.00'

IP (SET)
STA.158+11.01
L 25'

Environmental Management
JUL - 9 2018
Office of Water Resources

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OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS STIPULATED IN THE LETTER OF APPROVAL
DATED SEP 14 2018 FILE # 18-0069
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

REFERENCES:

1. RHODE ISLAND HIGHWAY PLAT NO. 1142 (DATED JUNE 15, 1960)
2. BLACKSTONE RIVER BIKEWAY RI DEPARTMENT OF TRANSPORTATION PLAT NO. 2489 (DATED MARCH, 2004)
3. BLACKSTONE RIVER BIKEWAY RI DEPARTMENT OF TRANSPORTATION PLAT NO. 2696 (DATED MAY 15, 2007)

NORBERT A. THERIEN
No. 1739
PROFESSIONAL
LAND SURVEYOR
RI
1/10/18

NATIONAL
Surveyors-Developers
Inc.
42 Hamlet Ave., Woonsocket, R.I.
(401) 7697779

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON NOVEMBER 25, 2015, AS FOLLOWS:

TYPE OF SURVEY: COMPREHENSIVE BOUNDARY SURVEY (CLASS I)

PURPOSE OF SURVEY: PROPERTY LINE SURVEY

BY NORBERT A THERIEN P.L.S.

ZONING CRITERIA

ZONING DISTRICT	R-2
MINIMUM LOT AREA	10,000 SQ. FT.
MINIMUM LOT FRONTAGE	90'
MINIMUM FRONT YARD SETBACK	20'
MINIMUM SIDE YARD SETBACK	10'
MINIMUM REAR YARD SETBACK	25'
MAXIMUM BUILDING HEIGHT	30'

LEGEND
NOT TO SCALE

- BOUNDARY
- ABUTTER
- IRON PIN
- BOUND
- DRILL HOLE

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

CITY OF WOONSOCKET
WATER TREATMENT PLANT
MAP G5 LOT 34-23
MANVILLE ROAD
WOONSOCKET, RHODE ISLAND

PLOT PLAN

DRAWN BY: J.E.S.	CHECKED BY: N.A.T.	FIELD BY: J.N.
DECEMBER 2017	JOB No. 2017-217	SHEET 1 OF 1

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