SITE PLAN SET FOR

DRAINAGE IMPROVEMENTS TO BANGOR STREET BANGOR STREET, LANCASTER AVENUE,

GREENWICH AVENUE (ROUTE 5) AND CARLSON AVENUE

WARWICK, RHODE ISLAND

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

ENGINEERS:

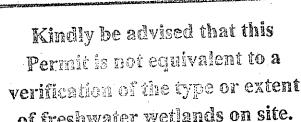


- Civil Transportation Environmental • Site Planning
- Land Surveying

CROSSMAN ENGINEERING | a division of Crossman Corporation |

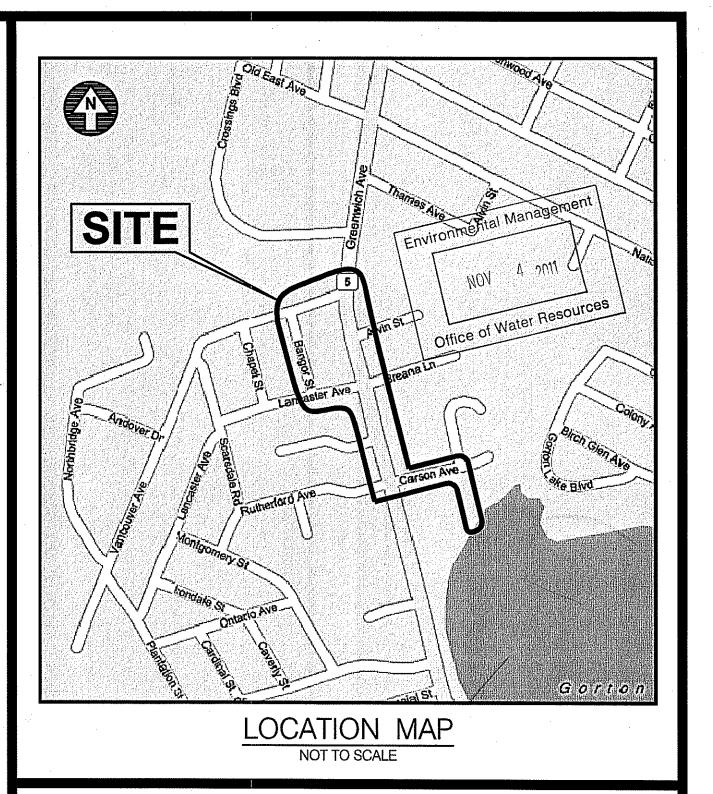
151 Centerville Road | Warwick, Rhode Island 02886 Phone: (401) 738-5660 | Fax: (401) 738-8157 Email: cei@crossmaneng.com

> OCTOBER 2011 SHEET 1 of 11



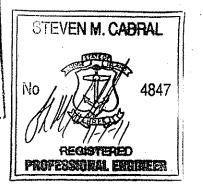
PREPARED FOR:

DAVID PICOZZI PUBLIC WORKS DIRECTOR CITY OF WARWICK 925 SANDY LANE WARWICK, RHODE ISLAND 02889



INDEX OF DRAWINGS

DRAWING N	o. <u>PLAN</u>
C0	COVER SHEET
C1	GENERAL NOTES and LEGEND
C2	EXISTING CONDITIONS PLAN
C3	DRAINAGE and UTILITY PLAN
C4	PROFILE PLAN No. 1
C5	PROFILE PLAN No. 2
C6	SOIL EROSION and SEDIMENT CONTROL PLAN
C7	MISCELLANEOUS DETAILS No. 1
C8	MISCELLANEOUS DETAILS No. 2
C9 .	MISCELLANEOUS DETAILS No. 3
C10	MISCELLANEOUS DETAILS No. 4
·	



	REVISIONS:				
	NO.:	DATE:	DESCRIPTION:		
•					

GENERAL NOTES:

- 1. ALL EXISTING UTILITIES HAVE BEEN PLOTTED BASED UPON BEST AVAILABLE INFORMATION AND REPRESENT APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING DRAINAGE AND UTILITIES, BOTH UNDERGROUND AND OVERHEAD, BEFORE EXCAVATION BEGINS IN ACCORDANCE WITH "DIG SAFE PROGRAM LAW" ENACTED BY THE R.I. LEGISLATURE AND BY CONTACTING THE INDIVIDUAL UTILITY COMPANIES. EXCAVATION SHALL BE IN ACCORDANCE WITH ALL STATUTES, ORDINANCES, RULES AND REGULATIONS OF ANY CITY, STATE OR FEDERAL AGENCY THAT MAY APPLY. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- 2. TECHNICAL SPECIFICATIONS TO GOVERN THIS PROJECT ARE R.I.D.O.T. STANDARD SPECIFICATIONS AND DETAILS. FOR ALL EXCAVATION, PLACEMENT OF FILL, PIPE INSTALLATION, BITUMINOUS PAVEMENT, CUTTING INTO CATCHBASIN/MANHOLES, CONCRETE AND SAWCUTTING, THE CONTRACTOR SHALL PERFORM THE WORK IN FULL COMPLIANCE WITH THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION, WITH LATEST REVISIONS UNLESS OTHERWISE SHOWN ON PLANS OR IN CONTRACT DOCUMENTS. THE "METHOD OF MEASUREMENT" AND "BASIS OF PAYMENT" ARE NOT APPLICABLE. THESE SPECIFICATIONS CAN BE PURCHASED FROM THE OFFICE OF:

CONTRACTS AND SPECIFICATIONS
RIDOT, TWO CAPITOL HILL, ROOM 331
PROVIDENCE, RI 02903 TEL. (401)277-2495, EXT. 4400

- 3. RHODE ISLAND STANDARDS REFERENCED ARE ACCORDING TO THE STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS "RHODE ISLAND STANDARD DETAILS" DATED JULY 31, 2009, PREPARED BY THE DEPARTMENT OF TRANSPORTATION.
- 4. THE CONTRACTOR MUST VERIFY PRIOR TO CONSTRUCTION THAT ALL REQUIRED AUTHORIZATION TO PERFORM WORK HAS BEEN OBTAINED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION OPERATIONS INCLUDING ALL ACTIONS OR OMISSIONS OF ANY SUBCONTRACTORS, AGENTS OR EMPLOYEES. THE CONTRACTOR MUST ENSURE THAT THE CONDITIONS OF ALL PERMITS, SPECIFICATIONS AND FEDERAL, STATE AND LOCAL REGULATIONS ARE STRICTLY ENFORCED. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ASPECTS OF ON SITE SAFETY INCLUDING ANY DAMAGE TO EXISTING STRUCTURES.
- 5. WORK SHOWN ON THE PLANS FOR WHICH THERE ARE NO PARTICULAR DETAILS OR SPECIFICATIONS DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING THE WORK. THE CONTRACTOR SHALL THOROUGHLY EXAMINE THE CONTRACT DOCUMENTS AND PLANS AND INSPECT THE SITE, AND THE BID PRICE SHALL INCLUDE ALL SERVICES AND MATERIALS NECESSARY TO COMPLETE THE PROJECT. ANY CHANGES TO THE PROJECT OR THE INSTALLATION OF AN ITEM FOR WHICH NO PARTICULAR DETAIL OR SPECIFICATION WAS PROVIDED MUST BE REVIEWED BY AND MUST BE ACCEPTABLE TO THE ENGINEER.
- 6. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ANY WORK.
- 7. ALL DISTURBED AREAS SHALL BE REPLACED IN KIND UNLESS OTHERWISE SHOWN.
- 8. EXTREME CAUTION IS NECESSARY TO AVOID DAMAGE TO THE EXISTING GAS LINES WITHIN THE LMIT OF WORK. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR DAMAGE AND COSTS ASSOCIATED WITH SERVICE DISRUPTION.

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC INCLUDING POLICE PROTECTION. ALL TEMPORARY CONSTRUCTION SIGNS, BARRICADES AND LANE CLOSURES SHALL BE IN CONFORMANCE WITH THE LATEST REVISIONS OF MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.)
- 2. TEMPORARY CONSTRUCTION SIGNS AND ALL APPLICABLE TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC.
- 3. THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS WILL NOT BE PARKED IN THE ROAD RIGHT-OF-WAY.
- 4. ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS, CHANNELING DEVICES, ETC., SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. 2009 EDITION.
- 5. SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH THE R.I.D.O.T. SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.

CONSTRUCTION NOTES

- THE CONTRACTOR IS REQUIRED TO OBTAIN AND REVIEW ALL ENGINEERING DOCUMENTS COMPLETED FOR FINAL DESIGN.
- 2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO ANY EXCAVATION AND INSTALLATION OF UTILITIES. THE COORDINATION IS NECESSARY FOR THE ENGINEER TO SCHEDULE SITE INSPECTIONS AS REQUIRED.
- 3. THE CONTRACTOR IS REQUIRED TO MAINTAIN DETAILED AS—BUILT INFORMATION FOR ALL UTILITY INSTALLATION. AS—BUILT INFORMATION INCLUDES MATERIAL LIST, PIPE DEPTH NOTATIONS AND SWING TIE LOCATIONS (2 MINIMUM) NEW PIPE TO BUILDING CORNERS OR PERMANENT OBJECTS. ALL PIPE BEND/ELBOW LOCATIONS SHALL BE DIMENSIONED.

UTILITY CONTACTS:

WATER:

GAS:

KENT COUNTY WATER AUTHORITY 1072 MAIN STREET P.O. BOX 192 WEST WARWICK, RHODE ISLAND PHONE: 401-821-9300 NATIONAL GRID GAS DIVISION MAPS AND RECORDS RI 40 SYLVAN ROAD WALTHAM, MASSACHUSETTS PHONE: 781-907-2969

SEWER:

ELECTRIC:

WARWICK SEWER AUTHORITY
125 ARTHUR W. DEVINE BOULEVARD
WARWICK, RHODE ISLAND
PHONE: 401-468-4700

NATIONAL GRID ELECTRIC DIVISION DISTRIBUTION FIELD ENGINEERING 280 MELROSE STREET PROVIDENCE, RHODE ISLAND PHONE: 401-784-7528

DRAINAGE NOTES:

- 1. CONTRACTOR TO VERIFY THAT ALL STRUCTURES ARE COMPATIBLE WITH FRAME AND GRATE OR FRAME AND COVER.
- SHOP DRAWING AND SPECIFICATIONS FOR ALL DRAINAGE RELATED ITEMS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER, PRIOR TO ORDERING.
 ALL PIPE SHOWN SHALL BE RCP. THE SPECIFIC CLASS IS SHOWN ON THE PLANS.

UTILITY NOTES:

- 1. PRIOR TO ANY UTILITY CONSTRUCTION, THE CONTRACTOR MUST PERFORM ADDITIONAL TESTS TO:
- A. CONFIRM THE EXISTING DEPTHS OF UTILITIES AT ALL PROPOSED CONNECTION POINTS AND POTENTIAL CROSSOVER (CONFLICT) POINTS.
- B. CONFIRM THE EXTENT OF LEDGE WHICH MAY EXIST IN ALL ANTICIPATED UTILITY TRENCH AREAS. PRIOR TO CONSTRUCTION, THE FINDINGS ARE TO BE REVIEWED BY THE CITY AND THE ENGINEER. IF NECESSARY, ALTERNATIVES TO MINIMIZE LEDGE REMOVAL AND UTILITY CONFLICTS WILL BE DEVELOPED. NO CONSTRUCTION WILL BE ALLOWED WITHOUT CITY AUTHORIZATION.
- 2. ANY MODIFICATIONS TO THE PROPOSED UTILITIES TO AVOID CONFLICTS MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. NO EXTRA PAYMENT TO THE CONTRACTOR DUE TO RELOCATIONS WILL BE AUTHORIZED.

FLOOD ZONE NOTES:

- 1. THE PROJECT ROADWAYS ARE LOCATED WITHIN FLOOD ZONE 'X', AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR THE KENT COUNTY, RHODE ISLAND, PANEL 129 OF 251, MAP NO. 44003C0129G, EFFECTIVE DATE: DECEMBER 3, 2010.
- 2. GORTON POND IS LOCATED WITHIN A FLOOD ZONE 'A', SPECIAL FLOOD HAZARD AREA SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD, NO BASE FLOOD ELEVATIONS DETERMINED; SHOWN ON THE FLOOD INSURANCE RATE MAP FOR KENT COUNTY, RHODE ISLAND, PANEL 129 OF 251, MAP NO. 44003C0129G, EFFECTIVE DATE: DECEMBER 3, 2010.

LAYOUT NOTE:

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL LAND SURVEYOR (PLS) REGISTERED IN THE STATE OF RHODE ISLAND TO SET AND VERIFY ALL LINES AND GRADES. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS ARE TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY ITEM FOUND WHICH DOES NOT MATCH THE PLANS MUST BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO CONSTRUCTION FOR REVIEW. NO WORK SHALL PROCEED UNTIL AUTHORIZED BY THE ENGINEER.

SEEDING NOTES:

- 1. LOAM SHALL BE SPREAD TO A MINIMUM DEPTH OF 4" OVER ALL AREAS DESIGNATED ON PLANS.
- 2. SHAPE AND SMOOTH THE SURFACE TO THE LINES AND GRADES AS SHOWN ON
- 3. FERTILIZE WITH 10-10-10 OR EQUIVALENT ANALYSIS. AT LEAST 40% OF THE FERTILIZER NITROGEN SHALL BE IN A SLOW RELEASE FORM. INCORPORATE THE FERTILIZER INTO THE TOP 3 TO 4 INCHES OF THE PLANTING SOIL. APPLY AT THE RATE OF 8 POUNDS PER 1,000 SQUARE FEET AT SEEDING.
- 4. LIME: SPREAD EVENLY AND WORK INTO THE SOIL DURING PREPARATION OF SEED BED AT THE RATE OF ONE (1) TON PER ACRE. INCORPORATE INTO THE SOIL BY DICING OR OTHER APPROVED METHOD. DISTRIBUTE LIME UNIFORMLY AND WORK INTO TOP 4 INCHES OF TOP SOIL (MINIMUM) AND UNIFORMLY BLEND BY DICING OR ROTOTILLING.
- 5. APPLICATION OF SEED:
- A. RATE OF APPLICATION OF SEED SHALL BE 8 POUNDS PER 1,000 SQUARE FEET OR AS INDICATED ON PLANS.
- B. SEEDING SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS, AND ONLY DURING THE FOLLOWING DATES:

 SPRING SEEDING: APRIL 1 TO MAY 30 FALL SEEDING: AUGUST 15 TO OCTOBER 15
- C. THE CONTRACTOR SHALL KEEP ALL SEEDED AREAS WATERED AND IN GOOD CONDITION, RESEEDING IF AND WHEN NECESSARY FOR AN 8 WEEK PERIOD OR UNTIL A GOOD, HEALTHY, UNIFORM GROWTH IS ESTABLISHED OVER THE ENTIRE AREA.
- D. OVERSEED WHEN NECESSARY TO PROMOTE GRASS GROWTH.
- E. REPLANT AREAS VOID OF TURF ONE SQUARE FOOT OR LARGER.
- F. ALL OFF ROAD AREAS DISTURBED BY CONSTRUCTION WILL BE SEEDED.
- G. CONTRACTOR IS RESPONSIBLE TO USE APPROPRIATE SLOPE PROTECTION DURING SEEDING TO PROMOTE GRASS GROWTH.

STORMWATER CONVEYANCE SYSTEM - MAINTENANCE & OPERATION

THE CITY OF WARWICK DEPARTMENT OF PUBLIC WORKS, OR THEIR DESIGNEE, WILL BE RESPONSIBLE FOR PERFORMING MAINTENANCE OF THE PROPOSED DRAINAGE SYSTEM IMPROVEMENTS AND THE EXISTING DRAINAGE SYSTEM COMPONENTS.

CONTACT INFORMATION: CITY OF WARWICK

DEPARTMENT OF PUBLIC WORKS
925 SANDY LANE
WARWICK, RI
TELEPHONE NUMBER: 401-738-2000

- CATCH BASINS, MANHOLES AND DRAIN LINES:

 AN INSPECTION MUST OCCUR TWICE PER YEAR (SPRING/FALL) BY QUALIFIED PERSONNEL TO ENSURE PROPER OPERATION. THE INSPECTION SHOULD, AS A MINIMUM, CONCENTRATE ON THE FOLLOWING:
 - DAMAGE TO GRATES/COVERS
 - EVIDENCE OF STANDING WATER
 - DEBRIS REMOVAL
 - STRUCTURAL ALIGNMENT/INTEGRITY

CATCH BASINS SHALL BE CLEANED WHENEVER THE DEPTH OF SEDIMENT IS GREATER THAN OR EQUAL TO HALF THE SUMP DEPTH. ANY DEFICIENCY NOTED DURING THE INSPECTION WILL BE IMMEDIATELY REPAIRED OR REPLACED.

SEDIMENT REMOVAL:
FOLLOWING CONSTRUCTION, THE CATCH BASINS, PIPES, MANHOLES AND GRASS SWALE
ARE TO BE CLEANED OF ACCUMULATED SEDIMENT AS REQUIRED. ALL REMOVED
SEDIMENT IS TO BE TESTED TO DETERMINE POLLUTANT CONTENT. THE SEDIMENT IS TO BE
PROPERLY DISPOSED IN UPLAND AREAS BASED UPON THE TEST RESULTS AND LOCAL,
STATE AND FEDERAL REGULATIONS.

LEGEND **EXISTING PROPOSED** APPROXIMATE PROPERTY LINE -O- NO. UTILITY POLE ———(SIZE) S——— SANITARY SEWER -----(SIZE) GGAS LINE —— (SIZE) W—— WATER LINE ———(SIZE) D——— DRAIN LINE -----24"D------OVERHEAD WIRES UNDERGROUND CABLE CONDUITS $\bigcirc DMH$ DRAINAGE MANHOLE DMH 田 CB CATCH BASIN CB HAND HOLE ੈਂଫੇ*Hyd.* HYDRANT \circ WG WATER GATE GAS METER ୍ଟ୍ର GAS GATE X ELEV. SPOT GRADES ____XXX_____ CONTOURS <u>n n n n n</u> **GUARDRAIL** SAW CUT & MATCH TREELINE BUILDING/STRUCTURE PLAT/LOT NO.

. •

LOCATIONS OF BORINGS BY GAROFALO & ASSOCIATES, INC. FOR THE WARWICK SEWER AUTHORITY

CONSTRUCTION SEQUENCE AND SCHEDULE:

- 1. INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO ANY SOIL DISTURBANCE.
- 2. CLEAR AND GRUB WORK AREA AS SHOWN ON THE SITE PLANS, WITHIN APPROVED LIMITS OF DISTURBANCE.
- 3. TOP SOIL TO BE STRIPPED AND STOCKPILED OFF-SITE.
- 4. INSTALL DRAINAGE STRUCTURES, DRAINAGE PIPING AND RIP-RAP.
- 5. ESTABLISH PERMANENT GROUNDCOVER.
- 6. CLEANING OF ALL EROSION AND SEDIMENT CONTROLS. CLEANING OF DRAINAGE PIPING AND HEADWALL.
- 7. ESTIMATED DURATION OF SOIL EXPOSURE= THREE (3) MONTHS.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
AND WITH CONDITIONS
AS SPECIAL THE LETTER OF APPROVAL
DATED NOV 1 7 2011. FILE # 11-02.09
NO CHANGES ALL JUNED WITHOUT PRIOR APPROVAL
AF PROVED PLANSMUST 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.

CROSSMAN ENGINEERING
| a division of Crossman Corporation |

151 Centerville Road | Warwick, Rhode Island 02886
Phone: (401) 738-5660 | Fax: (401) 738-8157

Email: cel@crossmaneng.com

PROJECT TITLE:

DRAINAGE IMPROVEMENTS TO BANGOR STREET

WARWICK, RHODE ISLAND

PREPARED FOR:

DAVID PICOZZI
PUBLIC WORKS DIRECTOR
CITY OF WARWICK
925 SANDY LANE
WARWICK, RHODE ISLAND
02889

DRAWING TITLE:

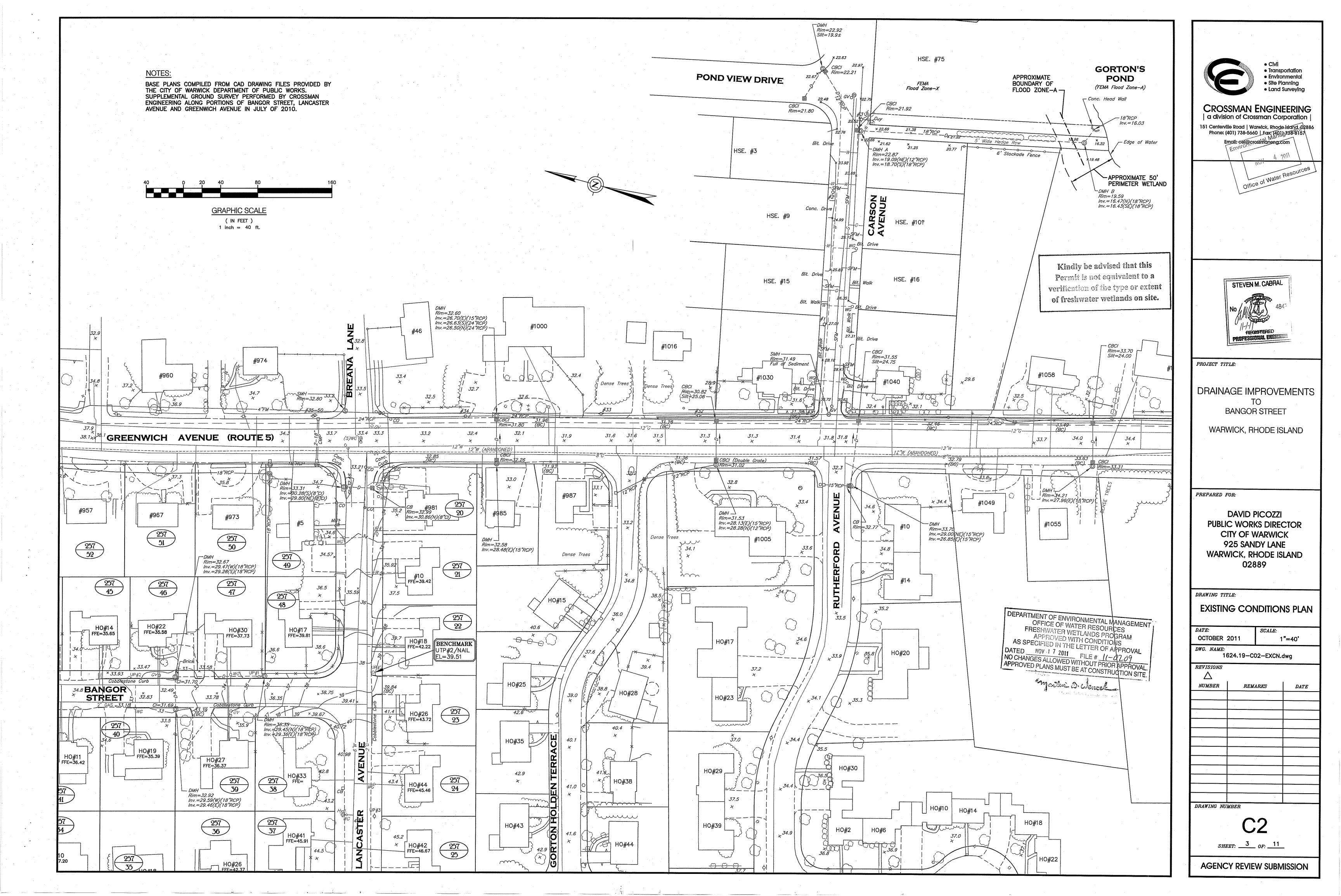
GENERAL NOTES and LEGEND

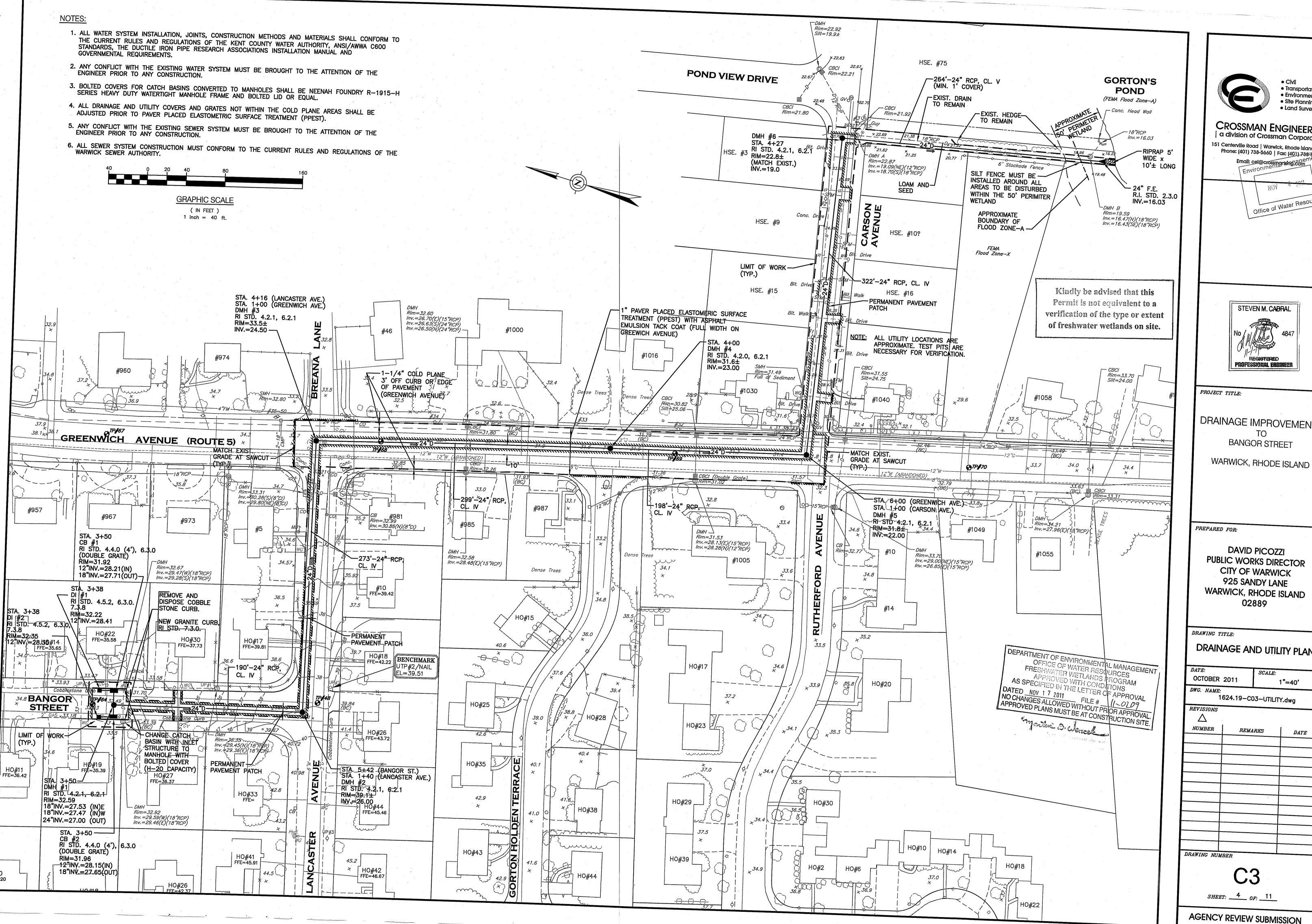
DATE: OCTOBER	2011	SCALE: NO SC	ALE
<i>DWG. NAME:</i> 1624	.19–C01	-NOTES.d	wg
REVISIONS			
NUMBER	REMA	RKS	L

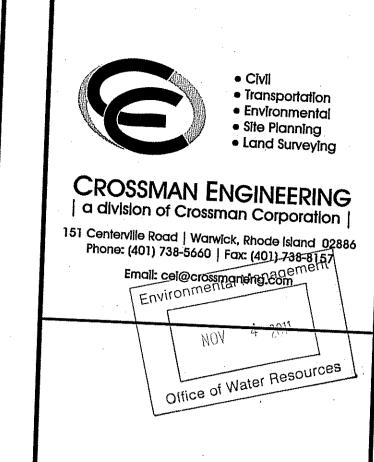
NUMBER REMARKS DATE

DRAWING NUMBER

SHEET: 2 OF: 11







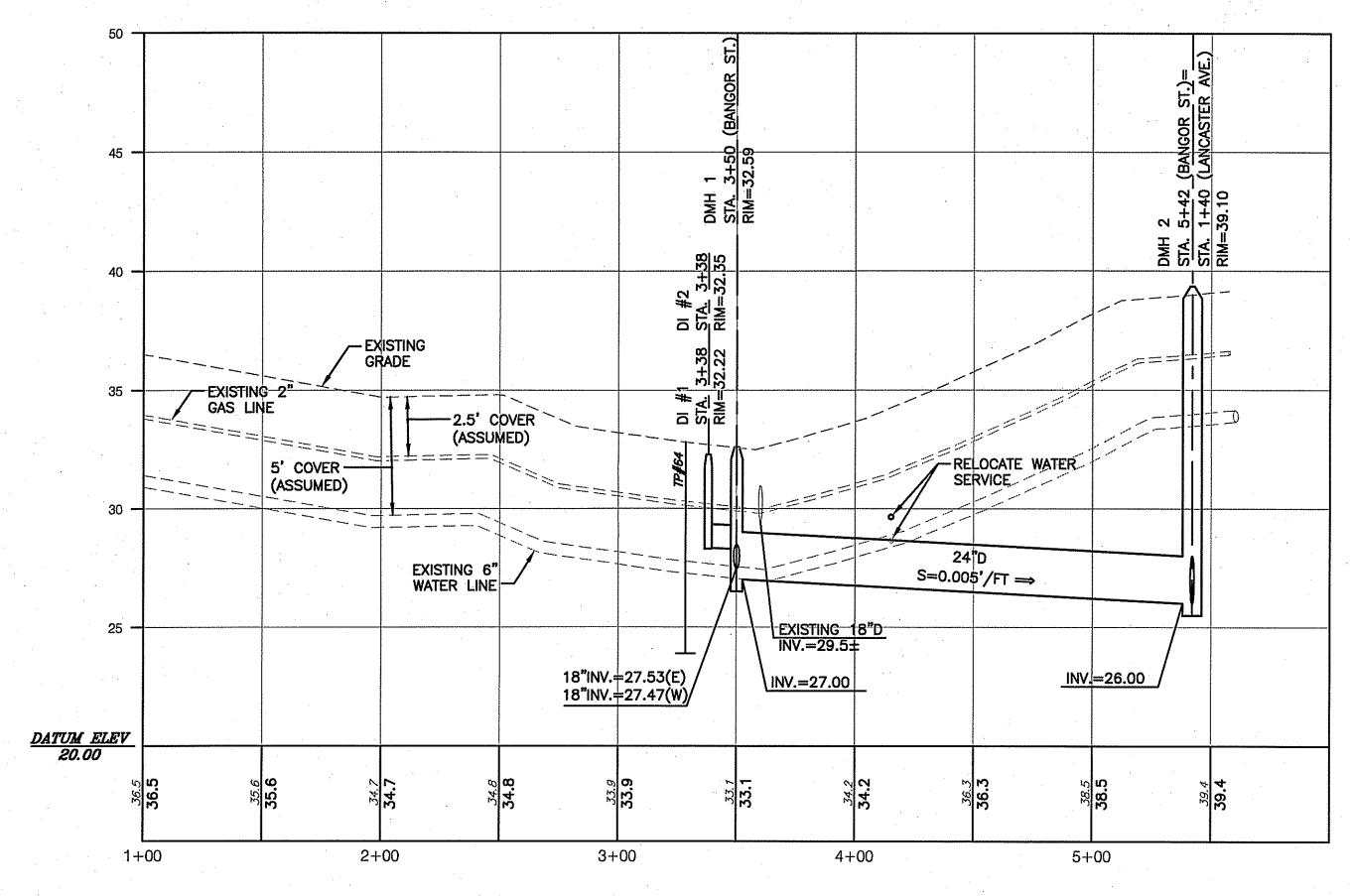


DRAINAGE IMPROVEMENTS BANGOR STREET

DAVID PICOZZI PUBLIC WORKS DIRECTOR CITY OF WARWICK 925 SANDY LANE WARWICK, RHODE ISLAND

DRAINAGE AND UTILITY PLAN

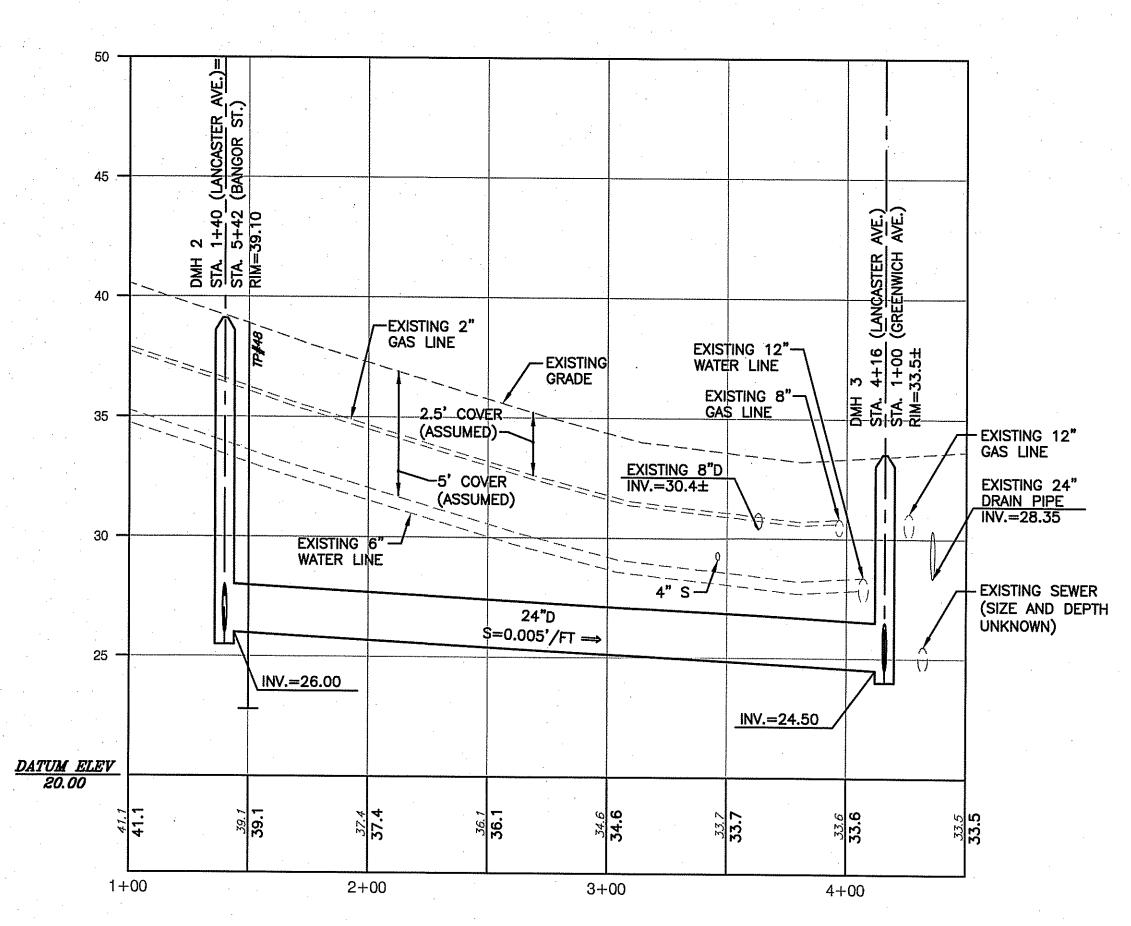
DATE:		SCALE:		
OCTOBER			1"=40'	
DWG. NAME:	60446 00			
	624.19-CC	3-UTILIT	Y.dwg	
REVISIONS				
\triangle				
NUMBER	REMA	RKS	DATE	
DD (Wester)	·			
DRAWING NUM	BER			
		•	1.	
	C:	5	ı	



BANGOR STREET PROFILE

SCALE: HORZ. 1"=40'

VERT. 1"=4'



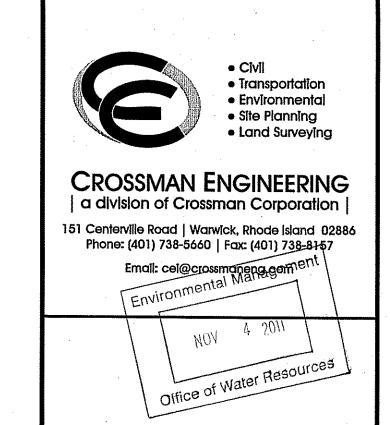
LANCASTER AVENUE PROFILE

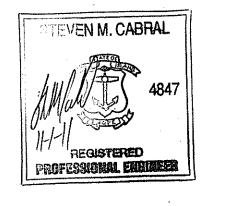
SCALE: HORZ. 1"=40'

VERT. 1"=4'

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 NOV 1 7 2011
FILE # 11-0209
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.





PROJECT TITLE:

DRAINAGE IMPROVEMENTS TO

BANGOR STREET

WARWICK, RHODE ISLAND

PREPARED FOR:

DAVID PICOZZI
PUBLIC WORKS DIRECTOR
CITY OF WARWICK
925 SANDY LANE
WARWICK, RHODE ISLAND
02889

DRAWING TITLE:

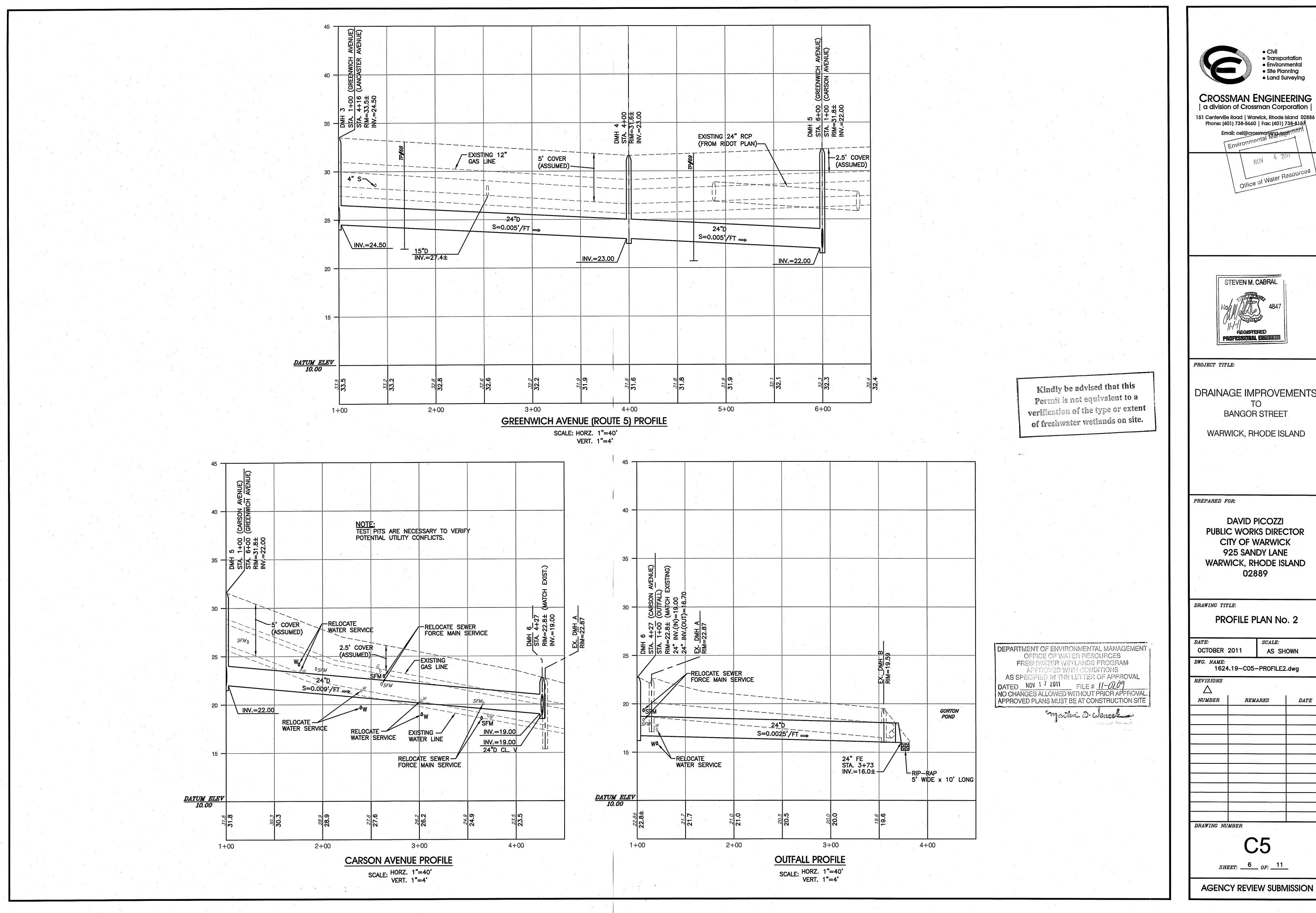
PROFILE PLAN No.1

DATE:	-	SCALE:	
OCTOBER 2011		AS SH	IOWN
DWG. NAME: 1624	1.19-C04-	-PROFILE1	.dwg
REVISIONS			
NUMBER	REMA	ARKS	DATE

C

SHEET: 5 OF: 11

DRAWING NUMBER



CROSSMAN ENGINEERING

DRAINAGE IMPROVEMENTS

PUBLIC WORKS DIRECTOR WARWICK, RHODE ISLAND

DATE

GENERAL EROSION CONTROL NOTES

- 1. EROSION CONTROLS SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, MAINTAINED ON A REGULAR BASIS, AND SHALL BE PLACED TO PREVENT SEDIMENTATION ONTO ADJACENT PROPERTY, FROM ENTERING THE EXISTING ROADWAY SYSTEM, OR REGULATED CRMC BUFFER ZONE.
- 2. THE CONTRACTOR MUST REPLACE AND/OR RESEED ANY VEGETATION THAT DOES NOT DEVELOP/SURVIVE WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE TO THE OWNER.
- 3. THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1 -
- OCTOBER 15. 4. ALL TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE
- STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED AND POTENTIAL SEDIMENTATION SOURCES ARE REMOVED.
- 5. TREES AND OTHER EXISTING VEGETATION SHALL BE RETAINED WHENEVER FEASIBLE: THE AREA BEYOND THE DROPLINE SHALL BE FENCED OR ROPED OFF TO PROTECT TREES FROM CONSTRUCTION EQUIPMENT.
- 6. AREAS DAMAGED DURING CONSTRUCTION SHALL BE RESODDED, RESEEDED, OR OTHERWISE RESTORED AT THE CONTRACTOR'S EXPENSE.
- 7. STOCKPILES SHALL HAVE NO SLOPE STEEPER THAN 3:1 AND SHALL BE SURROUNDED BY STAKED HAY BALES, SILT FENCING, SAND BAGS OR
- 8. STOCKPILES EXPOSED FOR EXCESSIVE PERIODS (ONE MONTH) SHALL RECEIVE TEMPORARY TREATMENT CONSISTING OF HAY, STRAW, FIBER MATTING OR COVERED
- ALL CATCH BASINS RECEIVING RUNOFF FROM DISTURBED AREAS SHALL BE PROTECTED BY STAKED HAYBALES, SAND BAGS OR WRAP THE GRATES WITH FILTER FABRIC.
- 10. DURING CONSTRUCTION STOCKPILE LOCATIONS MAY VARY.
- 11. ALL LANDSCAPED AND SEEDED AREAS SHALL BE APPROPRIATELY WATERED AFTER INSTALLATION. THE CONTRACTOR IS REQUIRED TO INSTALL APPROPRIATE MULCHING METHODS TO AVOID POSSIBLE EROSION DURING THESE WATERING
- 12. THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM WITH R.I. STANDARD SPECIFICATION M.20.
- 13. THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS, BEFORE MIXING AND PLANTING WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
- 14. THE DESIGN MIX SHALL BE COMPRISED OF THE FOLLOWING:

PERMANENT SEEDING MIXTURES:

A. — UPLAND AREA: MIXTURE

KENTUCKY BLUEGRASS

COLONIAL BENTGRASS

PERENNIAL RYEGRASS

RED FESCUE

% BY WT.

SEEDING DATES

APRIL 1 - MAY 30

AUG. 15 - OCT. 15

- 15. STABILIZATION OF DISTURBED AREAS SHALL BE ACHIEVED WITHIN 15 DAYS OF FINAL GRADING.
- STOCKPILES OF TOPSOILS SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 30% AND STOCKPILES SHALL ALSO BE SEEDED AND OR
- 17. ALL TYPES OF WASTE GENERATED FROM THE SITE SHALL BE DISPOSED OF IN A MANNER CONSISTANT WITH STATE LAW AND/OR REGULATIONS.

FREE FROM WEEDS AND COARSE

185-275 LBS CUT OR SHREDDED IN 4-6 INCH

MATTER. MUST BE ANCHORED. SPREAD WITH MULCH BLOWER OR BY HAND.

FIBERS 4 MM OR LONGER. SHOULD BE

DERIVED FROM PURE, WHOLE, NATURAL WOOD. DO NOT USE ALONE IN WINTER

OR DURING HOT, DRY WEATHER. APPLY

LENGTHS. AIR-DRIED. DO NOT USE IN

FINE TURF AREAS. APPLY WITH MULCH

FREE OF COARSE MATTER. AIR-DRIED.

TREAT WITH 12 LBS NITROGEN PER

AREAS. APPLY WITH MULCH BLOWER.

FREE OF COARSE MATTER, AIR-DRIED. DO NOT USE IN FINE TURF AREAS.

APPLY WITH MULCH BLOWER, CHIP

FOR USE WITHIN PAVED AREAS. THE RECYCLED ASPHALT CAN REMAIN AND

BE INCORPORATED INTO THE GRAVEL

BORROW SUBBASE OF THE FINAL

BITUMINOUS PAVEMENT PATCH IF IT MEETS THE GRADATION REQUIREMENTS

OF R.I. DEPT. OF TRANSPORTATION

FOR RECLAIMED AND PROCESSED

STANDARD SPECIFICATION M.01.02.2

TON. DO NOT USE IN FINE TURF

CHIP HANDLER OR BY HAND.

HANDLER OR BY HAND.

18. THE CONTRACTOR IS REQUIRED TO NOTIFY LOCAL AUTHORITIES INCLUDING THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF WASTE MANAGEMENT AND THE WARWICK FIRE DEPARTMENT OF ANY HAZARDOUS MATERIAL SPILL. CLEAN—UP METHODS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH ALL STATE

TEMPORARY MULCH MATERIALS AND APPLICATION RATES

TEMPORARY SEEDING GUIDE AND APPLICATION RATES ALL HAYBALES, SILT FENCES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND IS ESTABLISHED. IF NEEDED,

iporary seeding c st be included as			ECIES ARE RECOMMI
SPECIES	LBS./AC.	LBS./1,000 SQ.FT.	SEEDING DATE
ANNUAL RYEGRASS	40-60	1.0-1.5	3/1-6/1
PERENNIAL RYEGRASS	40-60	1.0-1.5	3/1-6/1
SUDAN GRASS	30-40	0.7-1.0	5/15-8/15
MILLET	30-40	0.7-1.0	5/15-8/15
WINTER RYE	120	3.0	4/15-6/15
OATS	86-120	0.5-5.0	3/1-6/15

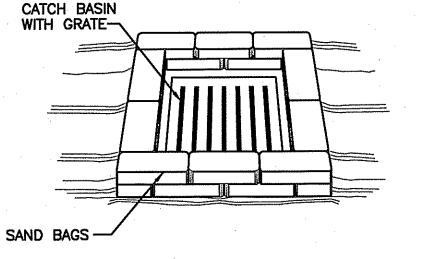
0.5-5.0

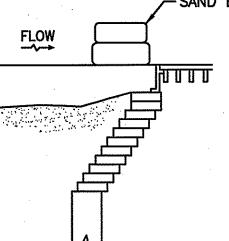
5/1-7/1

-SAND BAG FLOW

WEEPING

COVERGRASS





(REF. R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK)

2" LAYER

WOOD FIBER

CORN STALKS

WOOD CHIPS

RECYCLED

1500-2000 LBS 37-50 LBS

185-275 LBS

- 1. THIS INLET PROTECTION CAN ALSO BE USED WHEN CONSTRUCTION SEQUENCING REQUIRES A CATCH BASIN TO BE EXPOSED TO SEDIMENT FROM THE SUBGRADE. THIS WILL BE ACHIEVED BY INSTALLING THE SAND BAGS AS SHOWN ON THIS DETAIL INTO THE SUBGRADE.
- 2. THE PERIMETER CONFIGURATION OF THE SAND BAG WILL VARY DEPENDING ON THE PARTICULAR TYPE OF CATCH BASIN INLET BEING CONSTRUCTED.
- 3. FOR GRASSED AREAS, THE FILTER FABRIC DROP INLET PROTECTION DETAIL CAN BE UTILIZED.
- 4. THIS INLET PROTECTION SHALL NOT BE USED IN GREENWICH AVENUE (ROUTE 5).

SAND BAG CATCH BASIN **INLET PROTECTION** NOT TO SCALE

SITE DATA:

- 1. TOTAL AREA OF DISTURBANCE= 1.74± ACRES.
- 2. THE PROJECT WILL NOT INCREASE THE AREA OF IMPERVIOUS SURFACES ON THE SITE, AND WILL NOT INCREASE THE STORMWATER RUNOFF
- 3. ALL NEW BITUMINOUS PAVEMENT WILL BE WITHIN EXISTING BITUMINOUS PAVEMENT LIMITS. THERE IS NO ADDITIONAL PAVEMENT OR IMPERVIOUS AREAS PROPOSED.
- 4. NO NEW STORMWATER SOURCES ARE ANTICIPATED TO ENTER THE PROPOSED DRAINAGE SYSTEM.
- 5. THERE ARE NO KNOWN SEPTIC SYSTEMS LOCATED WITHIN 25 FEET
- OF THE PROPOSED DRAINAGE SYSTEM. 6. ALL EXCESS MATERIAL FROM THE PROJECT SHALL BE DISPOSED OUT OF R.I.D.E.M. JURISDICTION.

INSPECTION/MAINTENANCE NOTES

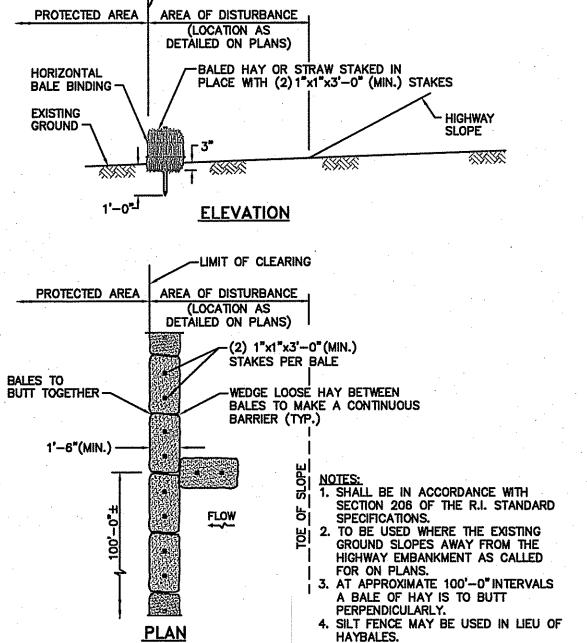
- PRIOR TO COMMENCING CLEARING AND GRUBBING OPERATIONS, SILT FENCING SHALL BE PLACED SO AS TO PREVENT SEDIMENT FROM ENTERING EXISTING ROADWAY DRAINAGE SYSTEM, ABUTTING PROPERTIES,
- 2. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING THE ROADWAY DRAINAGE SYSTEM, ADJACENT
- 3. ALL DISTURBED AREAS WHICH BECOME SUBJECT TO EROSIVE TENDENCIES WHETHER THEY BE NEWLY FILLED OR EXCAVATED SHALL RECEIVE SLOPE
- PROTECTION SUCH AS RIP-RAP.
- 4. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING PERIODS OF RAINFALL. 5. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MAINTENANCE AND SHALL INSPECT / REPLACE DAILY DURING CONSTRUCTION, FOLLOWING RAINFALL AND WEEKLY
- DURING NON CONSTRUCTION PERIODS. 6. ADDITIONAL EROSION CONTROLS SUCH AS SILT FENCING, HAY BALES OR SAND BAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY R.I.D.E.M., THE CITY, OR ENGINEER.
- 7. THE "R.I. EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, 1989, MUST BE UTILIZED BY THE CONTRACTOR AS A GUIDE.
- 8. THE CONTRACTOR IS RESPONSIBLE FOR ALL DUST CONTROL AND FOR THE ENTIRE PROJECT DURATION, INCLUDING TEMPORARY SHUT-DOWN PERIODS, MUST MONITOR AND REPAIR, AS NEEDED, ALL SLOPES TO ENSURE A
- 9. THE CONTRACTOR SHALL REMOVE SEDIMENT DEPOSITS ON ALL HAYBALES AND SILT FENCE WHEN DEPOSITS ARE AT ONE—HALF THE HEIGHT OF THE BARRIER
- 10. DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
- 11. ALL DISTURBED SLOPES EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15, SHALL BE SEEDED OR PROTECTED BY THAT DATE FOR ANY WORK COMPLETED DURING EACH
- 12. HAYBALES AND SILT FENCES MUST BE MAINTAINED AND REMAIN IN PLACE UNTIL SUCH A TIME THAT DESIRABLE STAND OF GRASS OR GROUND COVER HAS BEEN ESTABLISHED AND THE PROJECT RECEIVES A FAVORABLE APPROVAL FOR FINAL ACCEPTANCE FROM THE
- 13. DURING CONSTRUCTION, THE OPERATOR AND CONTRACTOR ARE REQUIRED TO INSPECT ALL EROSION CONTROLS ON THE SITE AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY FOUR (24) HOURS AFTER AN EVENT WHICH GENERATES 0.25 INCHES OF RAIN IN A TWENTY
- FOUR (24) HOUR PERIOD AND/OR AFTER A SIGNIFICANT AMOUNT OF RUNOFF. BASED ON THE RESULTS OF THE INSPECTIONS, IF THE SITE DESCRIPTION AND POLLUTION PREVENTION MEASURES IDENTIFIED IN THIS PLAN SET MUST BE REVISED, SUCH MODIFICATIONS MUST BE ACCOMPLISHED AND IMPLEMENTED
- WITHIN SEVEN (7) CALENDAR DAYS OF THE INSPECTION. A REPORT SUMMARIZING THE SCOPE OF INSPECTION, NAME(S), AND TITLES OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP), AND ACTIONS TAKEN AS A RESULT OF THE INSPECTION MUST BE RETAINED AS PART OF THE SWPPP FOR AT LEAST FIVE (5) YEARS FROM THE DATE THAT THE SITE HAS UNDERSONE FINAL STABILIZATION. SUCH REPORTS MUST IDENTIFY ANY INCIDENTS OF NONCOMPLIANCE. WHERE A REPORT DOES NOT IDENTIFY ANY INCIDENTS OF NONCOMPLIANCE, THE REPORT MUST CONTAIN A CERTIFICATION THAT THE SITE IS IN COMPLIANCE WITH THE SWPPP AND THE PERMIT. THE REPORT MUST BE SIGNED USING THE FOLLOWING STATEMENT:
- "I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER THE DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS".

DUST CONTROL NOTES:

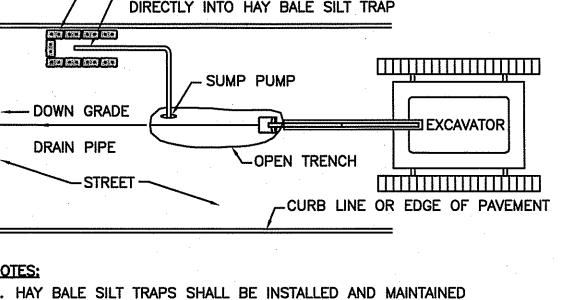
/-LIMIT OF CLEARING

- ON AN AS-NEEDED BASIS OR AS DIRECTED BY THE CITY, THE CONTRACTOR SHALL UTILIZE ONE OF THE FOLLOWING METHODS (AS RECOMMENDED BY THE "R.I. EROSION AND SEDIMENT CONTROL HANDBOOK")
- A. WATER THE EXPOSED SOIL SURFACE SHOULD BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.
- B. CALCIUM CHLORIDE SHOULD BE EITHER LOOSE DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH A SPREADER AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE.

THE METHODS SHOULD BE REPEATED AS NEEDED, AND SPECIAL ATTENTION MUST BE GIVEN TO THE ACCESS DRIVES.







1. HAY BALE SILT TRAPS SHALL BE INSTALLED AND MAINTAINED AT THE DISCHARGE OF ALL SUMP PUMPS USED FOR DEWATERING OF TRENCHES.

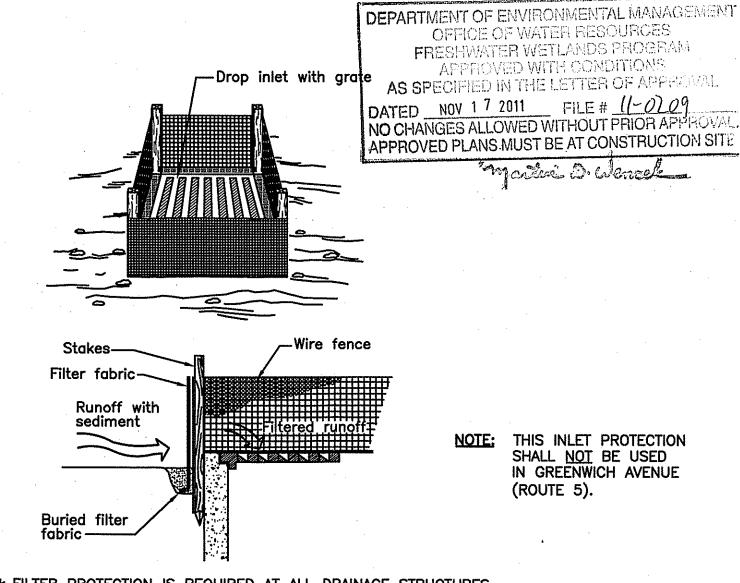
HAY BALE SILT TRAP

SUMP PUMP SHALL DISCHARGE

(9 BALES MIN.)

- 2. SILT TRAPS SHALL BE MAINTAINED AND CLEANED AS OFTEN AS NECESSARY TO EFFECTIVELY CONTAIN SILT.
- 3. SILT REMOVED FROM SILT TRAP MAY BE MIXED WITH MATERIAL EXCAVATED FROM TRENCH AND USED AS BACKFILL.
- 4. ALTERNATIVE SILT TRAPS, SUCH AS SILT BAGS, CAN BE USED UPON APPROVAL OF THE CITY AND THE ENGINEER.

DETAIL OF HAY BALE SILT TRAP NOT TO SCALE



Kindly be advised that this

* FILTER PROTECTION IS REQUIRED AT ALL DRAINAGE STRUCTURES.

FIGURE 5-10 * FILTER FABRIC DROP INLET PROTECTION R.I. SOIL EROSION and SEDIMENT CONTROL HANDBOOK

NOT TO SCALE

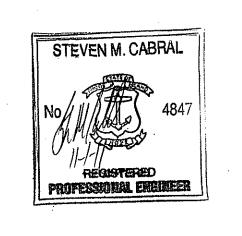
Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site. 36" MIN. FENCE POST-—Wrap belly band around pos -OPTIONAL STRAW BALE "PROPEX" SILT STOP" BARRIER WHERE INDICATED SEDIMENT CONTROL FABRIC -WITH BELLY BAND COMPACTED BACKFILL --UNDISTURBED GROUND (SLOPE) POSTS: STEEL, EITHER "T" OR "U" TYPE OR 2" HARDWOOD EMBED FILTER FABRIC MIN. 4" INTO GROUND FENCE: WOVEN WIRE, 14 GAUGE 6" MAX. MESH OPENING FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL PREFABRICATED UNIT: GEOFAB. ENVIROFENCE, OR APPROVED EQUAL

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

- 1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- 2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
- 3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
- 4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE OR DEPTH OF ACCUMULATED SEDIMENT REACHES 6".
- 5. BALED HAY EROSION CHECK MAY BE USED IN LIEU OF SILT FENCE.

SILT FENCE DETAIL NOT TO SCALE

 Transportation Environmental Site Planning Land Surveying **CROSSMAN ENGINEERING** a division of Crossman Corporation 151 Centerville Road | Warwick, Rhode Island 02886 Phone: (401) 738-5660 | Fax: (401) 738-8157 Email: cei@crossmaneng.com Environmental Managemen. Office of Water Resources



PROJECT TITLE:

DRAINAGE IMPROVEMENTS BANGOR STREET

WARWICK, RHODE ISLAND

PREPARED FOR:

DAVID PICOZZI PUBLIC WORKS DIRECTOR CITY OF WARWICK 925 SANDY LANE WARWICK, RHODE ISLAND 02889

DRAWING TITLE:

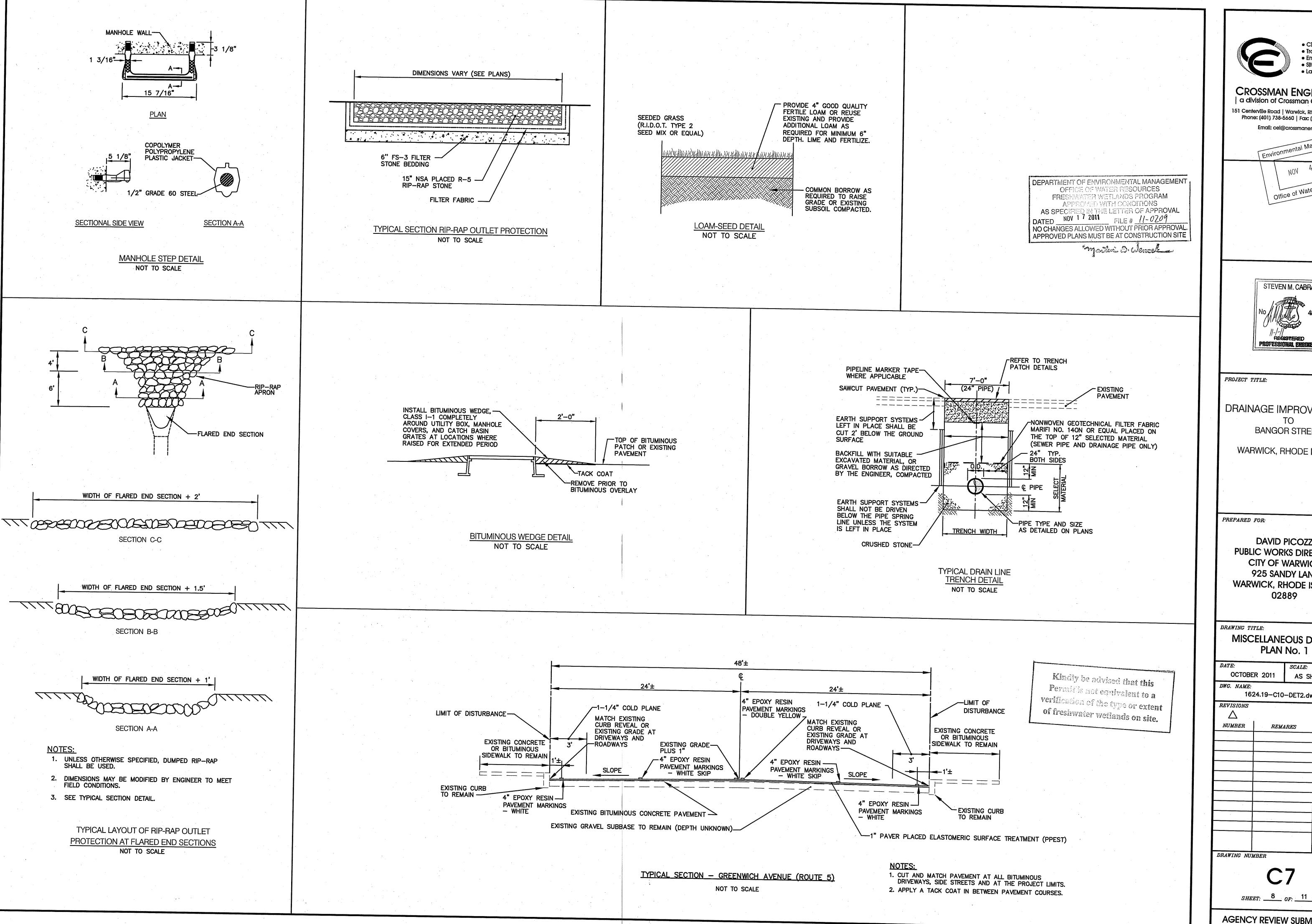
SOIL EROSION and SEDIMENT CONTROL PLAN

DATE:		SCALE:	
OCTOBE	R 2011	AS SH	IOWN
DWG. NAME: 162	24.19-09-	-EROSION	.dwg
REVISIONS			
NUMBER	REM	ARKS	DATE
	·		
·			<u> </u>
·			
		· · · ·	
	ı		1

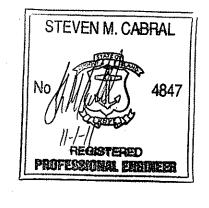
SHEET: 7 OF: 11

AGENCY REVIEW SUBMISSION

DRAWING NUMBER



 Transportation Environmental Site Planning Land Surveying CROSSMAN ENGINEERING a division of Crossman Corporation 151 Centerville Road | Warwick, Rhode Island 02886 Phone: (401) 738-5660 | Fax: (401) 738-8157 Email: cei@crossmaneng.com Environmental Management, NON Office of Water Resources



DRAINAGE IMPROVEMENTS **BANGOR STREET**

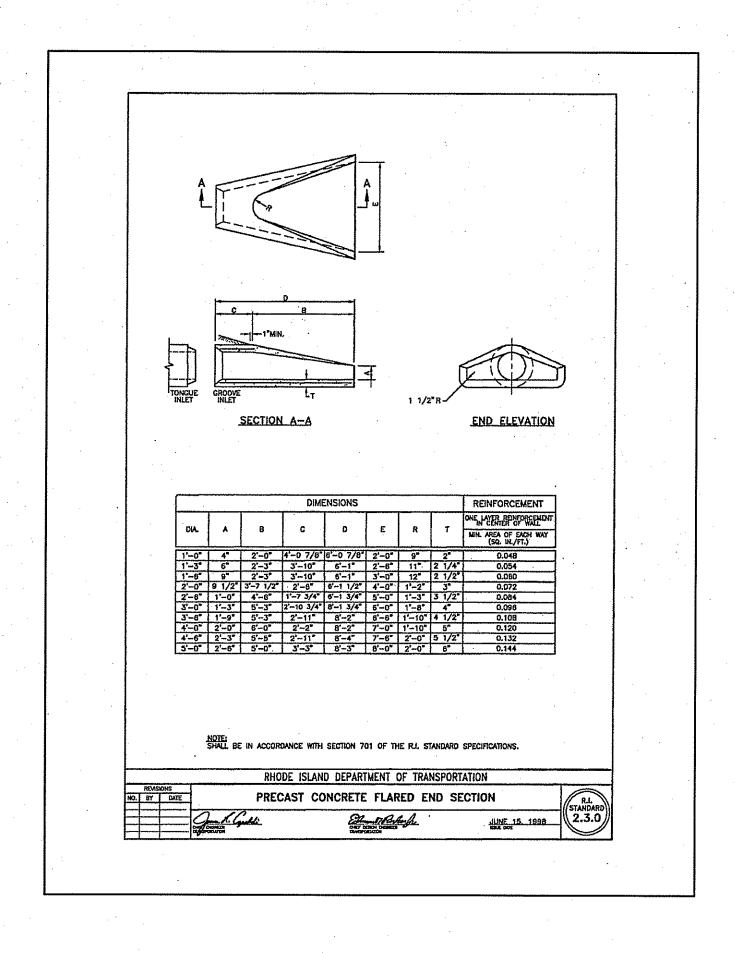
WARWICK, RHODE ISLAND

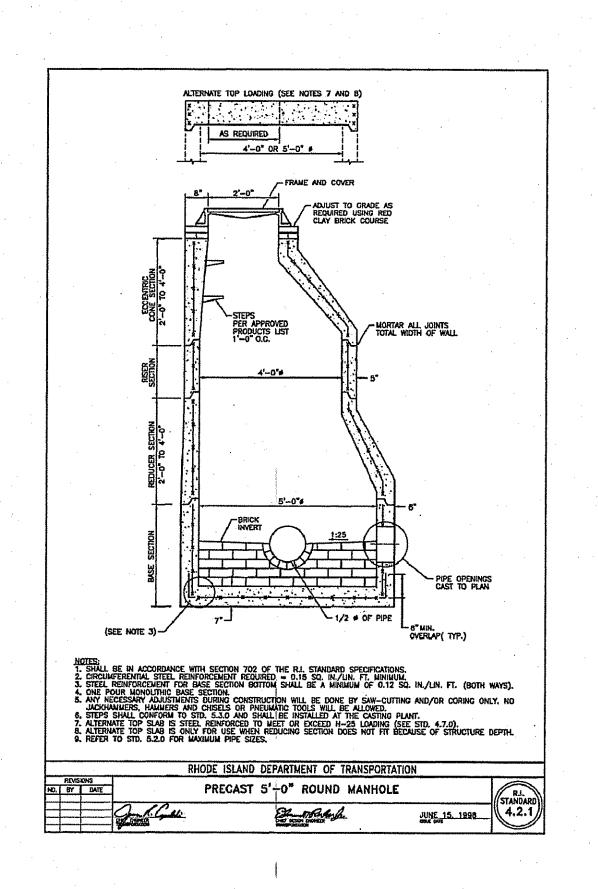
DAVID PICOZZI PUBLIC WORKS DIRECTOR CITY OF WARWICK 925 SANDY LANE WARWICK, RHODE ISLAND 02889

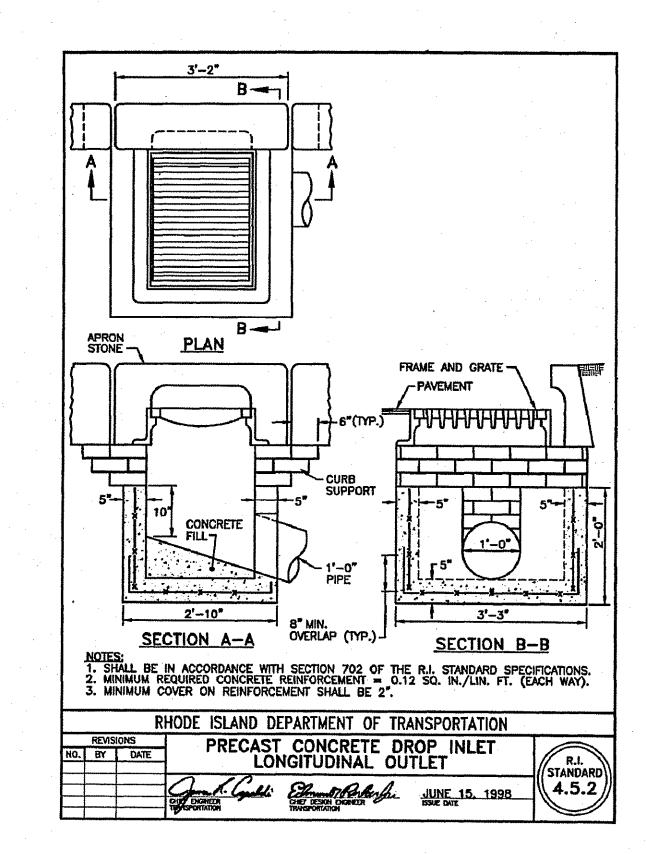
MISCELLANEOUS DETAILS PLAN No. 1

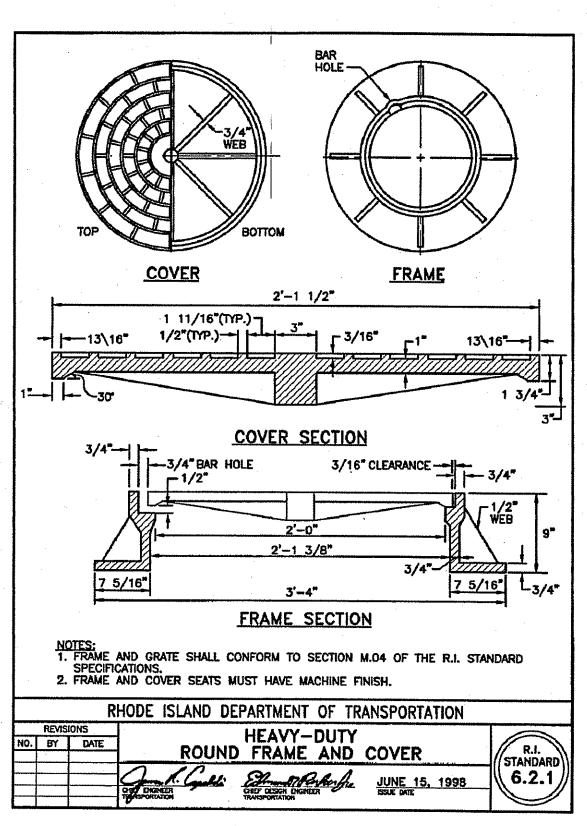
·	11 4	. (0.)	•
DATE:		SCALE:	
OCTOBER 2011		AS SH	IOWN
DWG. NAME:			
	24.19-C10	-DET2.dw	g
REVISIONS		-	
\triangle			
NUMBER	REMA	IRKS	DATE

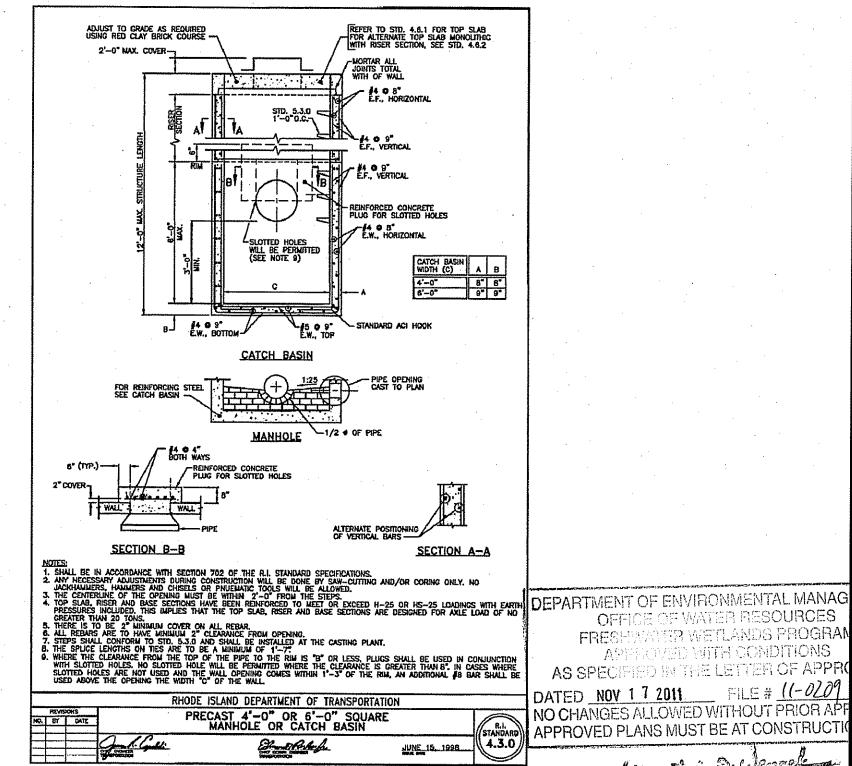
•			
·			
DRAWING NU	MBER		
		7	



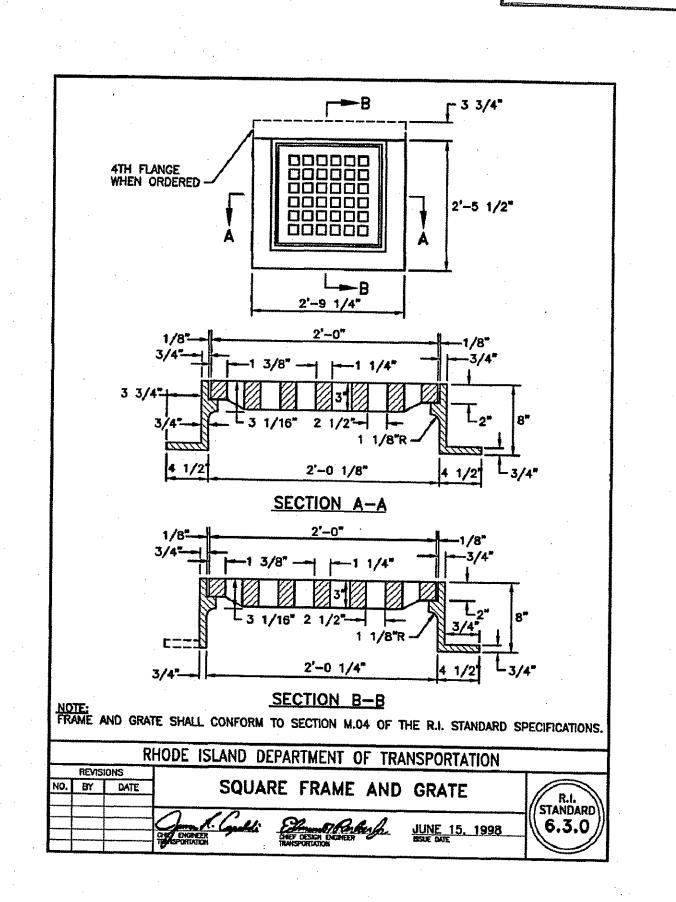


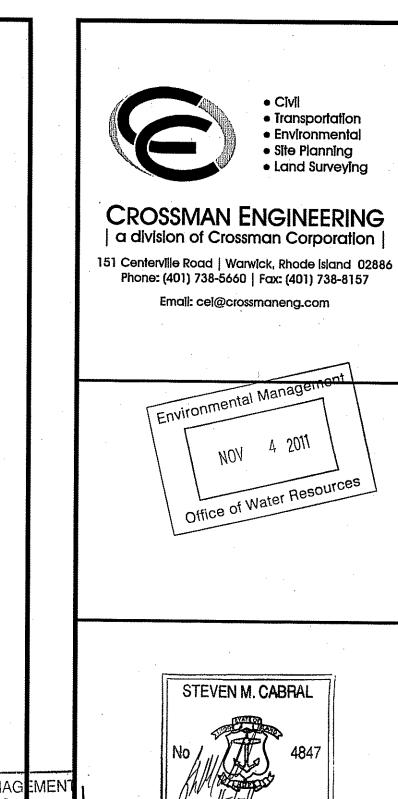






Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.





PROJECT TITLE:

DRAINAGE IMPROVEMENTS **BANGOR STREET**

WARWICK, RHODE ISLAND

PREPARED FOR:

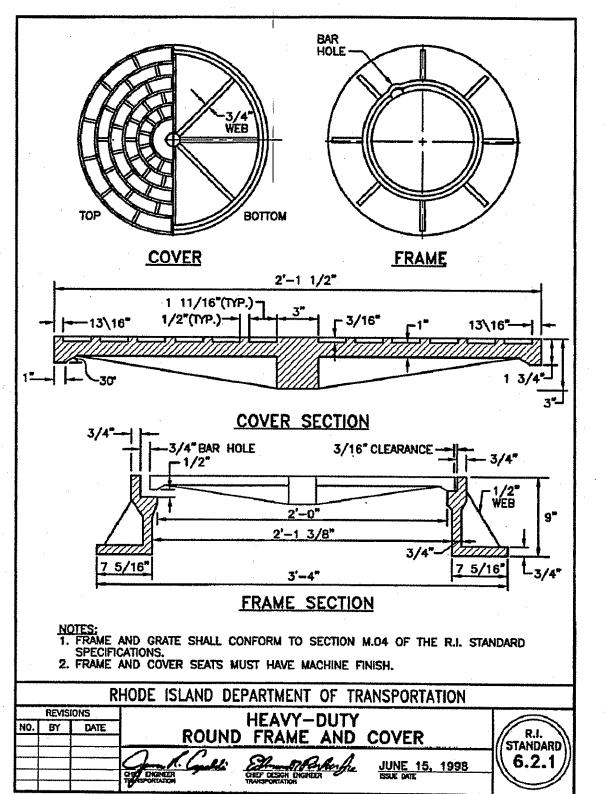
DAVID PICOZZI PUBLIC WORKS DIRECTOR CITY OF WARWICK 925 SANDY LANE WARWICK, RHODE ISLAND

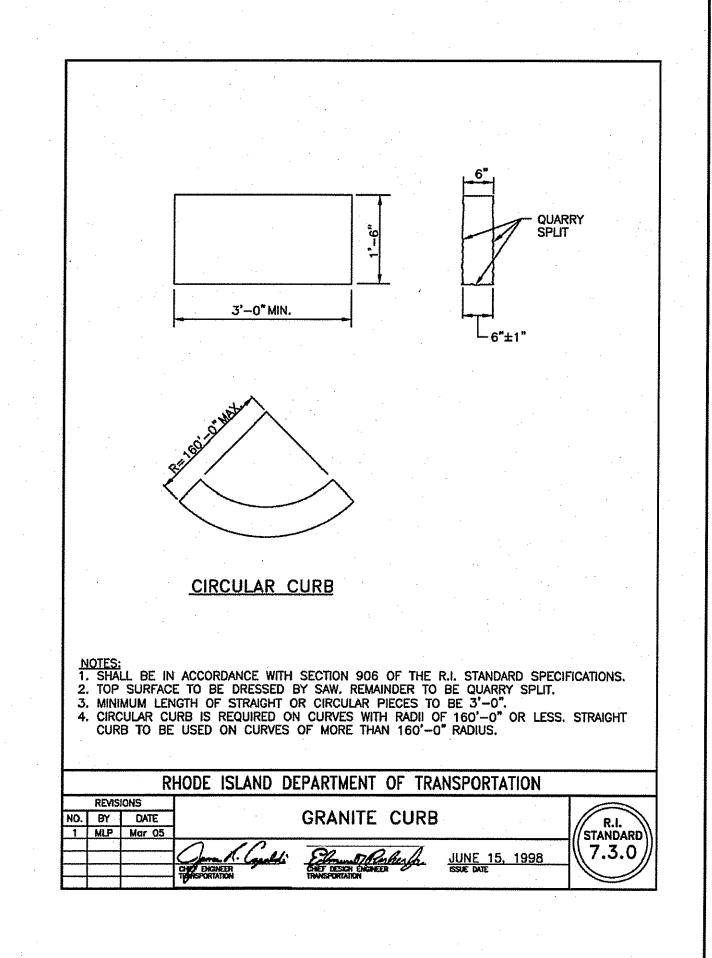
DRAWING TITLE:

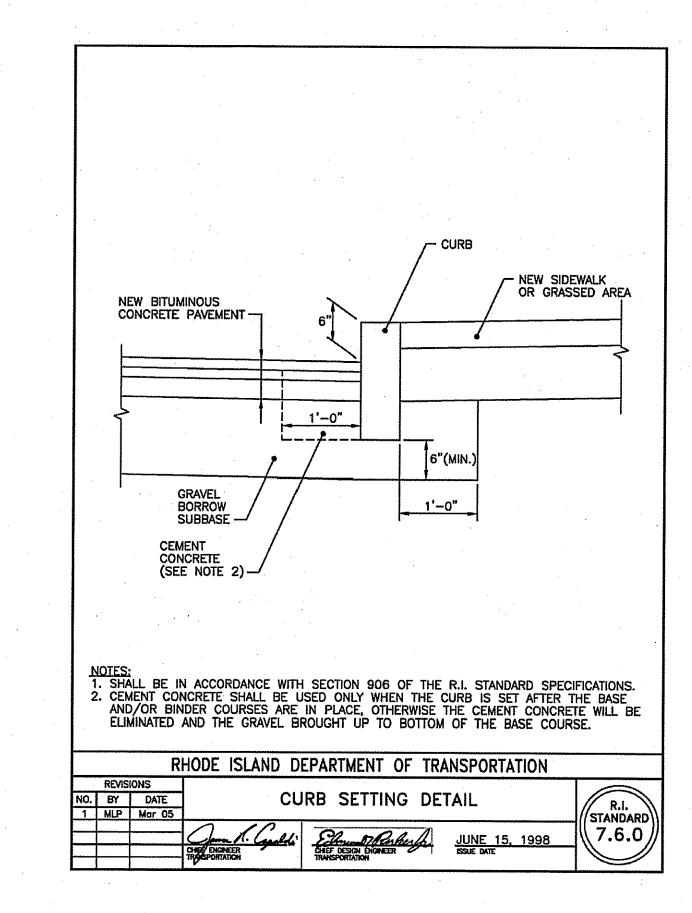
MISCELLANEOUS DETAILS PLAN No. 2

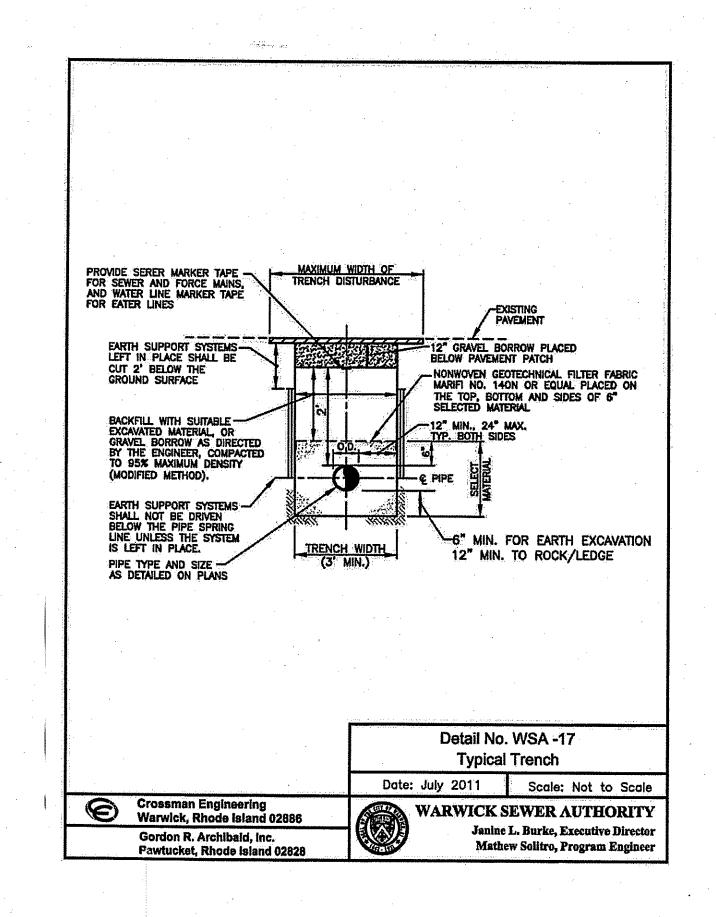
DATE:		SCALE:	
OCTOB	ER 2011	AS SH	OWN
DWG. NAME:			
162	24.19-C08	DET2.dw	g
REVISIONS			
\triangle			
NUMBER	REMA	ARKS	DATE
·		-	
	`		
	·····		
	•		
·			
DRAWING NUI	MBER		

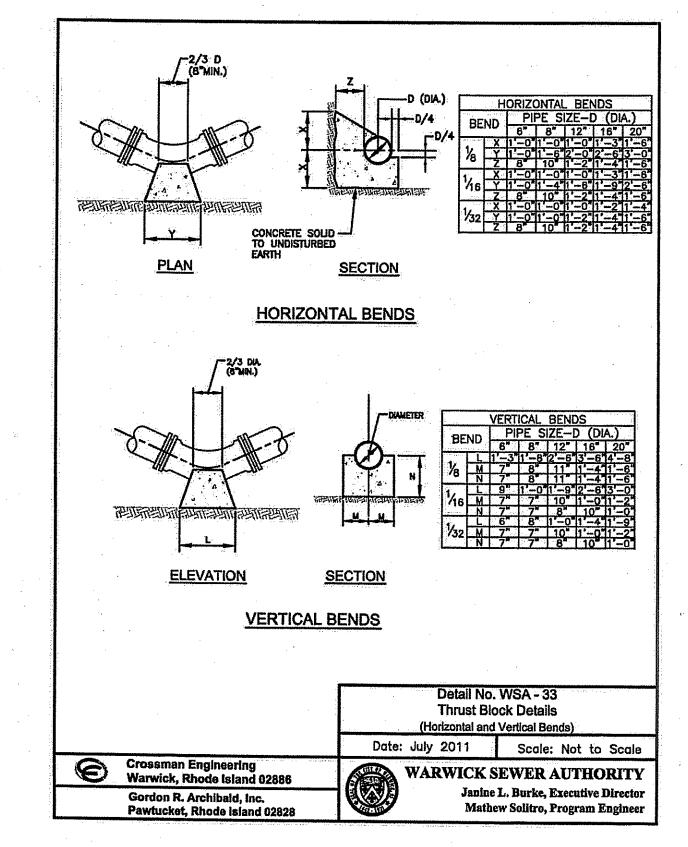
SHEET: 9 OF: 11

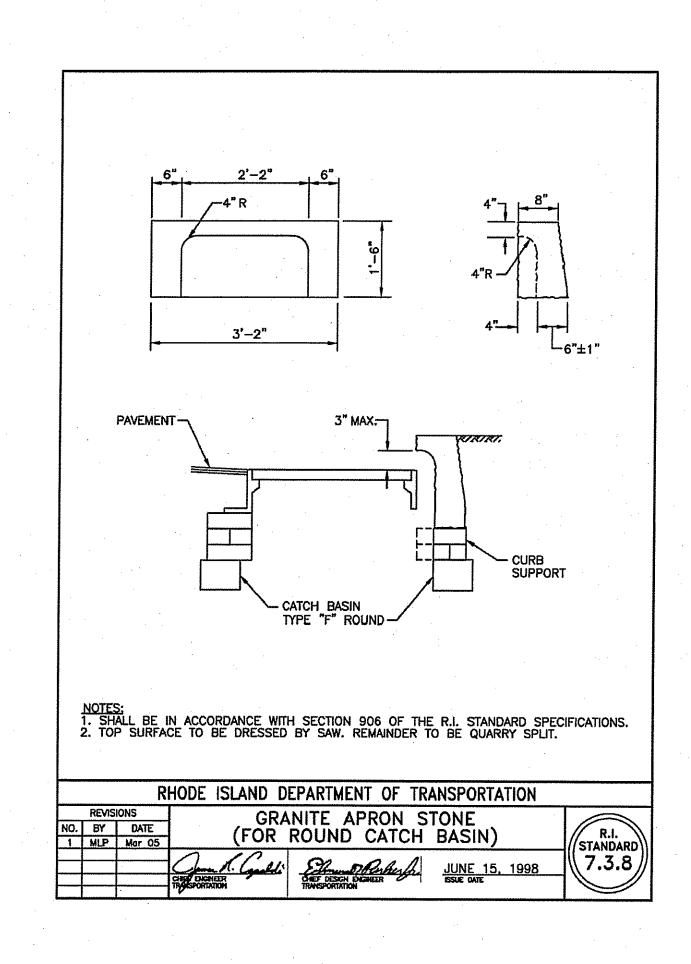


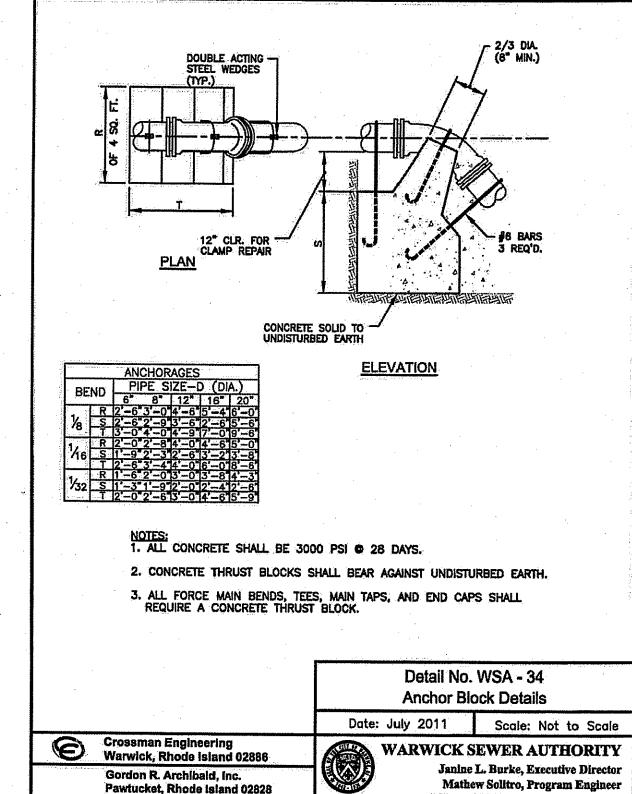












DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WAYER RESOURCES
FRESHWALER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED NOV 1 7 2011
FILE # [11-0209]
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

'main' D. Clemel...

Kindly be advised that this
Permit is not equivalent to a
verification of the type or extent

of freshwater wetlands on site.

TYPICAL LOW PRESSURE
SANITARY SEWER FORCE MAIN DETAILS
NOT TO SCALE



TransportationEnvironmentalSite PlanningLand Surveying

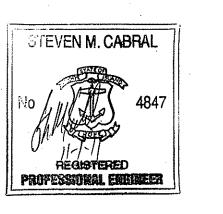
CROSSMAN ENGINEERING
a division of Crossman Corporation

151 Centerville Road | Warwick, Rhode Island 02886 Phone: (401) 738-5660 | Fax: (401) 738-8157 Email: cel@crossmaneng.com

Environmental Management

NOV 4 2011

Office of Water Resources



PROJECT TITLE:

DRAINAGE IMPROVEMENTS TO BANGOR STREET

WARWICK, RHODE ISLAND

PREPARED FOR:

DAVID PICOZZI
PUBLIC WORKS DIRECTOR
CITY OF WARWICK
925 SANDY LANE
WARWICK, RHODE ISLAND
02889

DRAWING TITLE:

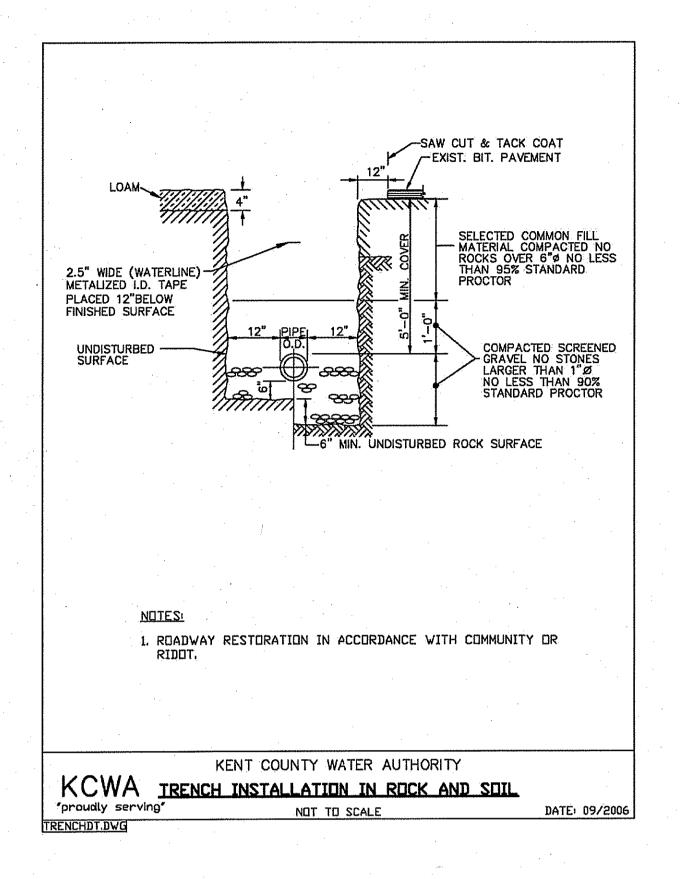
MISCELLANEOUS DETAILS
PLAN No. 3

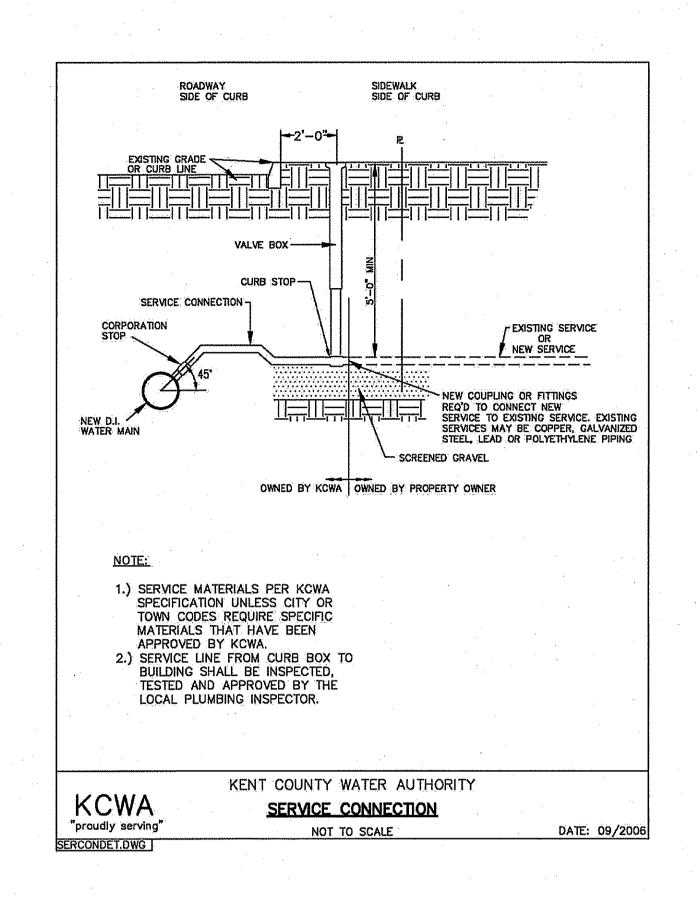
DATE:		SCALE:	
OCTO	BER 2011	AS NO	TED
DWG. NAME:			
16:	24.19-C11	-DET3.dw	g
REVISIONS			
NUMBER	REMA	ARKS	DATE
	,		

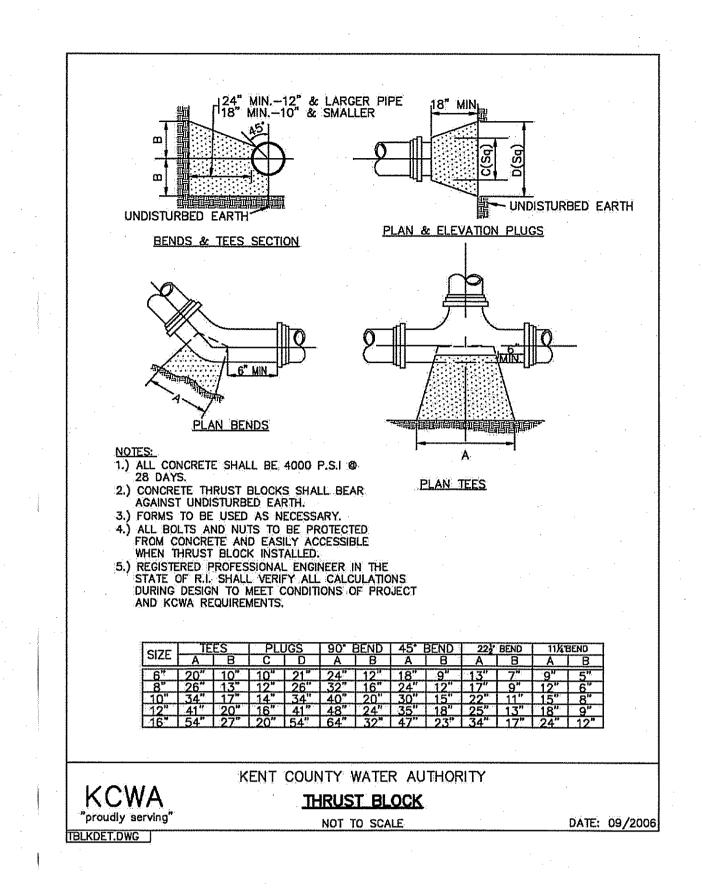
DRAWING NUMBER

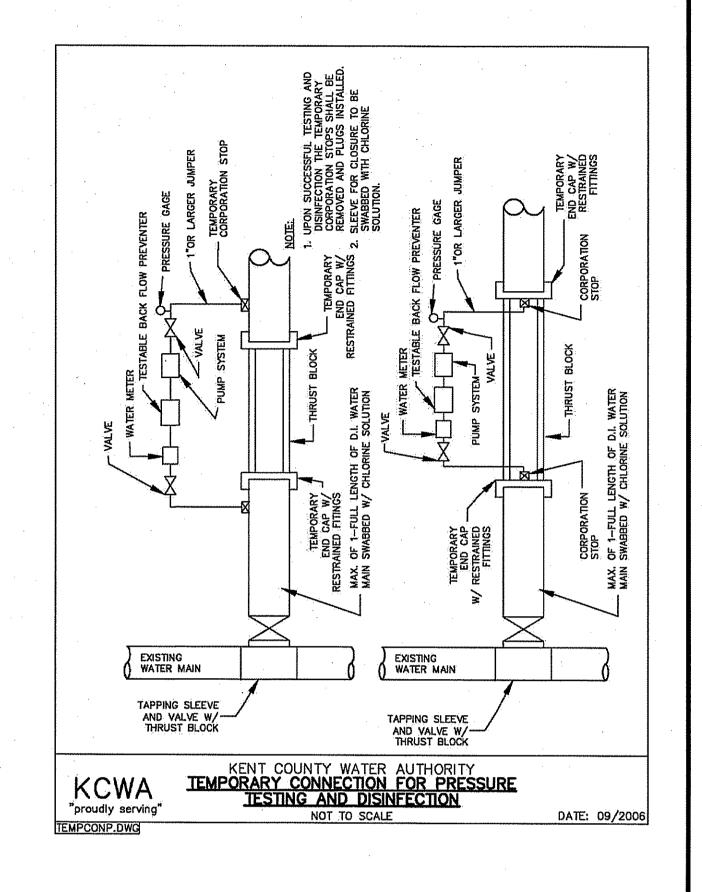
C9

SHEET: 10 OF: 11





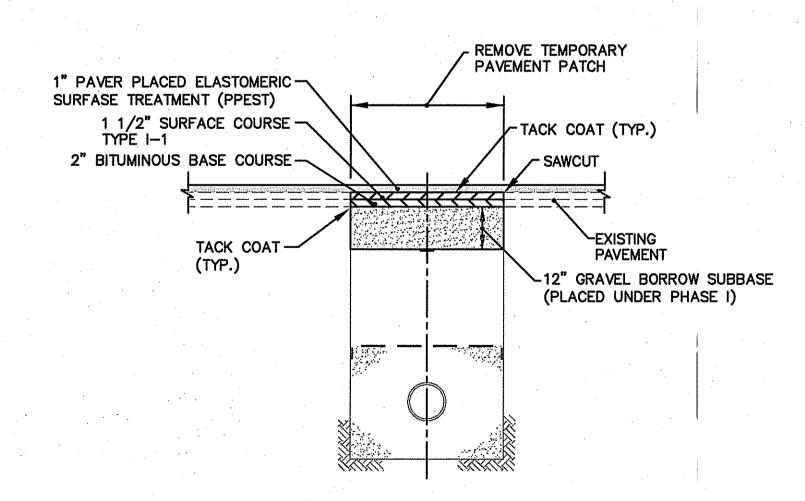




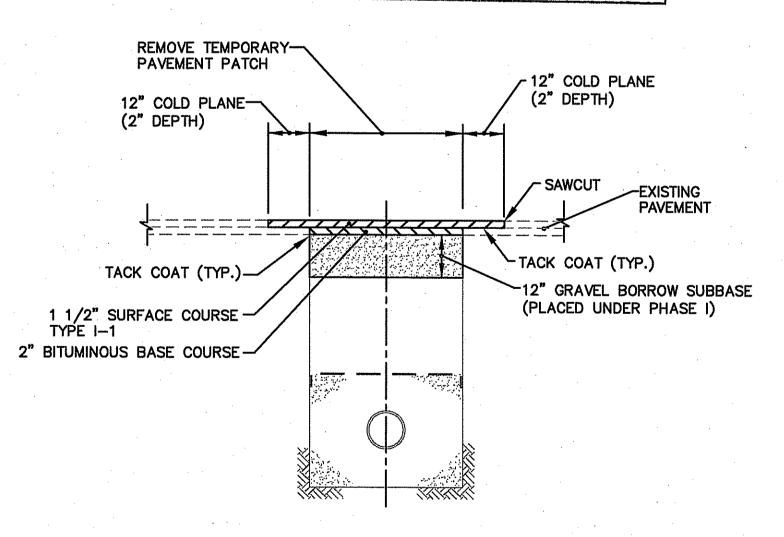
TYPICAL WATER SYSTEM DETAILS SCALE AS NOTED

-15" GRAVEL BORROW SUBBASE PLACED BELOW TEMPORARY PAVEMENT PATCH TACK PAVEMENT (24" PIPE) EDGES (TYP.) _ EXISTING SAWCUT PAVEMENT (TYP.)-PAVEMENT _____ EARTH SUPPORT SYSTEMS -LEFT IN PLACE SHALL BE CUT 2' BELOW THE GROUND SURFACE TRENCH DETAILS TRENCH WIDTH

> PHASE I TEMPORARY PAVEMENT PATCH NOT TO SCALE



PHASE II PERMANENT PAVEMENT PATCH **GREENWICH AVENUE** NOT TO SCALE



Kindly be advised that this

Permit is not equivalent to a

verification of the type or extent

of freshwater wetlands on site.

PHASE II PERMANENT PAVEMENT PATCH BANGOR STREET, LANCASTER AVENUE and CARLSON AVENUE NOT TO SCALE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

FRESHWATER WETLANDS PROGRAM APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL DATED NOV 1 7 2011 FILE # (1- 0709 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL APPROVED PLANS MUST BE AT CONSTRUCTION SITE

OFFICE OF WATER RESOURCES

martini O densel

- 1. THE HORIZONTAL LIMIT FOR ROCK EXCAVATION IN TRENCHES SHALL BE 27" BEYOND THE O.D. OF THE PIPE. THE VERTICAL LIMIT SHALL BE 6" BELOW THE O.D. OF THE PIPE. CONTRACTOR TO TAKE ALL ROCK QUANTITIES INDEPENDENT OF THE ENGINEER AND CONFIRM THESE QUANTITIES ON A WEEKLY BASIS WITH THE ENGINEER FOR APPROVAL. ALL APPROVED CALCULATIONS AND QUANTITIES SHALL BE SUBMITTED TO THE WARWICK DEPARTMENT OF PUBLIC WORKS WITH MONTHLY PROGRESS PAYMENT FOR REVIEW.
- 2. CONTRACTOR SHALL ADJUST THE WIDTH OF SAW CUT OF EXISTING PAVEMENT BASED ON ACTUAL EQUIPMENT AND EARTH SUPPORT SYSTEM USED. MAXIMUM WIDTH OF DISTURBANCE SHALL BE WIDTH OF EARTH SUPPORT SYSTEM PLUS 1'-0".
- 3. THE MINIMUM BURY DEPTH FOR WATER PIPE SHALL BE 5'-0" TO THE PIPE INVERT.
- 4. BEDDING MATERIAL FOR DRAIN PIPE SHALL BE CRUSHED STONE (SELECT MATERIAL UPON APPROVAL BY CITY).
- 5. BEDDING MATERIAL FOR WATER PIPE SHALL BE
- 6. CONTRACTOR SHALL PROTECT ALL UTILITIES FROM DAMAGE AND IS RESPONSIBLE FOR REPAIR OF ALL UTILITIES DAMAGED OUTSIDE THE LIMIT OF DISTURBANCE.

CROSSMAN ENGINEERING a division of Crossman Corporation 151 Centerville Road | Warwick, Rhode Island 02886 Phone: (401) 738-5660 | Fax: (401) 738-8157 Email: cei@crossmaneng.com Environmental Man TEVEN M. CABRAL

 Transportation Environmental Site Planning Land Surveying

PROJECT TITLE:

DRAINAGE IMPROVEMENTS **BANGOR STREET**

WARWICK, RHODE ISLAND

PREPARED FOR:

DAVID PICOZZI PUBLIC WORKS DIRECTOR CITY OF WARWICK 925 SANDY LANE WARWICK, RHODE ISLAND 02889

DRAWING TITLE:

MISCELLANEOUS DETAILS PLAN No. 4

DATE:		SCALE:	
OCTOBER 2011		AS SHO	OWN
DWG. NAME: 162	24.19-C12	–DET4.dwς	
REVISIONS			
NUMBER	REMA	ARKS	DATE
	···········		

	·		
		····	
DRAWING NU	MBER	——————————————————————————————————————	

AGENCY REVIEW SUBMISSION

SHEET: 11 OF: 11

TRENCH PATCH DETAILS SCALE AS NOTED