MIDDLE STREET DAM REMOVAL

PEQUABUCK RIVER
CITY OF BRISTOL
COUNTY OF HARTFORD, CONNECTICUT

FUNDING PROVIDED BY THE FARMINGTON RIVER ENHANCEMENT GRANTS, ADMINISTERED BY THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION (CTDEEP)

GENERAL NOTES:

1. ALL ELEVATIONS AND QUANTITIES ARE BASED ON IN-SITU CONDITIONS AT THE TIME THE FIELDWORK WAS CONDUCTED FOR THIS PROJECT. ONCE DISTURBED, MATERIAL CONDITIONS CAN VARY SIGNIFICANTLY.

2. THE APPROVAL AND USE OF THESE PLANS ARE FOR THE PROJECT APPLICANT AS DEPICTED ON THIS SHEET. THIS PLAN IS NOT TO BE UTILIZED IN THE PREPARATION OF ANY OTHER PROJECTS.

3. AS FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO PROPOSED TOPOGRAPHIC ELEVATIONS AND FACILITY LOCATIONS, THESE PLANS ARE NOT TO BE UTILIZED AS AS-BUILTS.

4. THESE PLANS ARE NOT TO BE UTILIZED FOR CONSTRUCTION, UNTIL ALL REQUIRED LOCAL, STATE, AND FEDERAL PERMITS ARE OBTAINED.

5. ALL PROPOSED CONSTRUCTION MUST BE SUPERVISED BY A PROFESSIONAL ENGINEER, LICENSED IN THE STATE OF CONNECTICUT OR BY A QUALIFIED ENGINEERING TECHNICIAN OR GEOMORPHOLOGIST UNDER RESPONSIBLE CHARGE OF THE PROFESSIONAL ENGINEER.

CONSTRUCTION NOTES:

1. SOIL, ROCK, OR OTHER MATERIALS TO BE UTILIZED FOR FILLING OR BACKFILLING SHALL BE APPROVED BY A QUALIFIED ENGINEER.

2. ALL MATERIALS SHALL CONFORM TO THE LATEST AMERICAN STANDARDS FOR TESTING AND MATERIALS SPECIFICATIONS (ASTM).

3. PROXIMITY OF STOCKPILES TO THE EDGE OF EXCAVATIONS SHALL BE SUCH THAT THE INFLUENCE OF THE STOCKPILE SURCHARGE ON THE MODIFIED OR EXISTING SLOPE IS REDUCED. WHERE POSSIBLE, STOCKPILES WILL BE PLACED AT A DISTANCE FROM THE EDGE OF EXCAVATION EQUAL TO (OR GREATER THAN) THE HEIGHT OF THE EDGE.

4. UTILITIES SHALL BE LOCATED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

5. NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING SERVICES AND MAINS. ANY DAMAGE TO EXISTING SERVICES OR MAINS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S OWN EXPENSE.

6. EXCAVATIONS AND STOCKPILES IN NO WAY SHALL HAVE SLOPES STEEPER THAN 2:1.

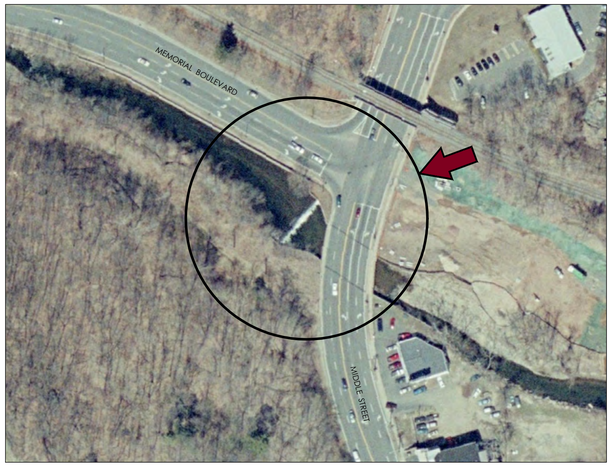
7. THE CONTRACTOR SHALL NOTE THAT IN THE CASE OF A DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSIONS SHALL APPLY.

8. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK THAT WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT, SHALL NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM THAT WORK.

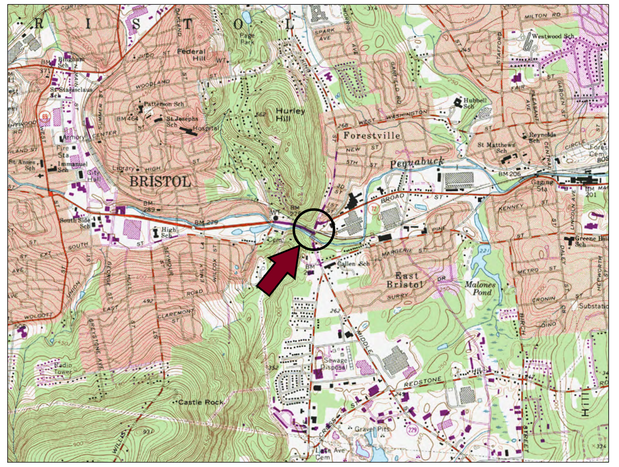
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND REPLACEMENT OF ROADS, CURBS, FENCES, SIGNS, STRUCTURES, VEGETATION, IRRIGATION, LANDSCAPING COMPONENTS, AND ANY OTHER PROPERTY ITEMS THAT ARE REMOVED OR DAMAGED FOR THE PURPOSES OF THE PROJECT LOGISTICS AND ACCIDENTS.

CONSTRUCTION SAFETY AND SECURITY:

1. ALL CONSTRUCTION SHALL ADHERE TO OSHA STANDARDS AND REGULATIONS.



1 PROJECT SITE LOCATION
2008 AERIAL PHOTOGRAPH
SCALE: 1" = 100'



2 PROJECT VICINITY
SCALE: 1" = 2,000'
7.5 MINUTE SERIES USGS QUADRANGLE
FOR TARIFFVILLE AND WINDSOR LOCKS, CT

SHEET INDEX:

PROJECT APPLICANT:

CENTRAL CONNECTICUT REGIONAL PLANNING AGENCY
225 NORTH MAIN STREET, SUITE 304
BRISTOL, CT 06010

PROPERTY OWNER:

THE CONNECTICUT DEPARTMENT OF TRANSPORTATION
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

CALL BEFORE YOU DIG!
CONNECTICUT LAW REQUIRES
2 FULL WORKING DAYS NOTICE
PRIOR TO CONSTRUCTION – STOP CALL
CALL BEFORE YOU DIG, INC.
REFERENCE CONNECTICUT SECTION I:
SECTION 16-345-1 THROUGH 16-345-7
1-800-922-4455

PROJECT NOTES

1. TOPOGRAPHIC AND BOUNDARY SURVEY PROVIDED IN DIGITAL FORMAT FROM GM2 ASSOCIATES, INC., 16 BIRD STREET, SUITE 2A, TORRINGTON, CT IN JANUARY 2010.
2. ELEVATION BASED ON VERTICAL DATUM NAVD88 AND HORIZONTAL DATUM NAD83.
3. WETLAND DELINEATION COMPLETED BY CONNECTICUT ECOSYSTEMS, LLC DURING THE WEEK OF OCTOBER 25, 2010. WATERS OF THE UNITED STATES LINE ON THE RIVER RIGHT SIDE WAS MODIFIED BY PRINCETON HYDRO IN CONSULTATION WITH SOIL SCIENTIST USING HYDROLOGIC AND HYDRAULIC MODELING RESULTS AND FIELD OBSERVATIONS.
4. IMPOUNDED SEDIMENT ELEVATIONS AND QUANTITIES BASED ON TEST PITS COMPLETED ON 29 APRIL 2010. SEDIMENT QUANTITIES AND DEPTHS MAY VARY DEPENDING ON THE DURATION OF TIME PASSED BEFORE CONSTRUCTION AND ADDITIONAL SEDIMENT TRANSPORT DURING THAT PERIOD.
5. SEDIMENT QUALITY BASED ON SAMPLING AND ANALYSIS COMPLETED BY MILONE AND MACBROOM IN 1999. ADDITIONAL SEDIMENT QUALITY TESTING WILL BE REQUIRED DURING EXCAVATION OF THE SEDIMENT.

DATE	DESCRIPTION
03/27/13	REVISED AS PER REGULATORY COMMENTS.
08/14/12	REVISED AS PER CTDOT COMMENTS.
09/24/10	REVISED PER CLIENT AND CTDEP COMMENTS

REVISIONS

STATE OF CONNECTICUT CERTIFICATE OF REGISTRATION NO.: 0001188

LAURA A.S. WILDMAN
Professional Engineer
CT Lic. No. 18596

DATE

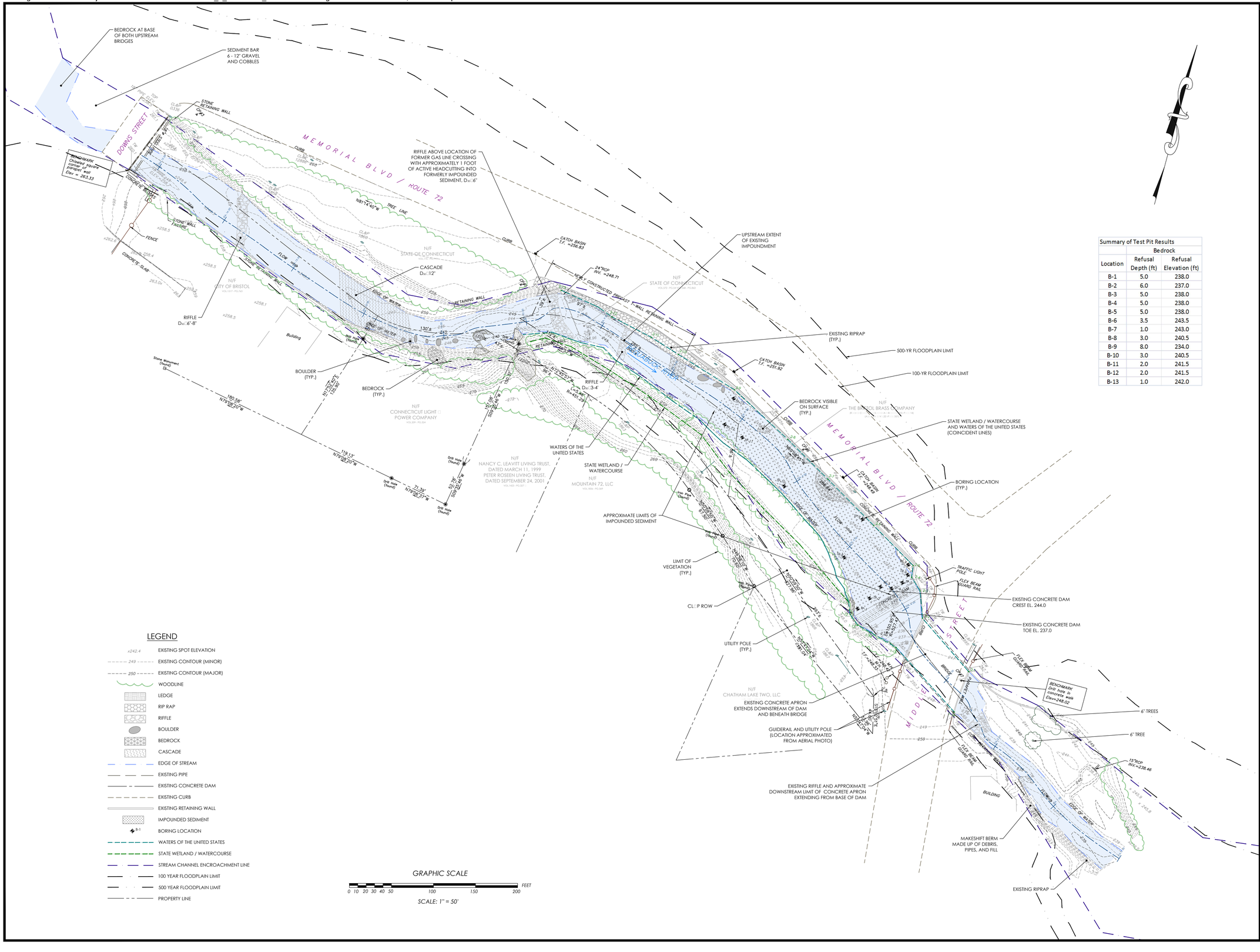
PRINCETON HYDRO ENGINEERING, PC
931 MAIN STREET, SUITE 2
SOUTH GLASTONBURY
CONNECTICUT 06037
PHONE. 860.652.8911
WWW.PRINCETONHYDRO.COM

PROJECT NAME/LOCATION:
MIDDLE STREET DAM REMOVAL
PEQUABUCK RIVER
CITY OF BRISTOL
HARTFORD COUNTY, CONNECTICUT

DRAWING NAME:
TITLE SHEET

DATE:	12/23/2010
PROJECT NO.:	1036.004
SCALE:	AS SHOWN
DRAWN BY:	LC
CHECKED BY:	JH/LW

SHEET NO. 1 OF 9



LEGEND

- EXISTING SPOT ELEVATION (x242.4)
- EXISTING CONTOUR (MINOR) (249)
- EXISTING CONTOUR (MAJOR) (250)
- WOODLINE
- LEDGE
- RIP RAP
- RIFFLE
- BOULDER
- BEDROCK
- CASCADE
- EDGE OF STREAM
- EXISTING PIPE
- EXISTING CONCRETE DAM
- EXISTING CURB
- EXISTING RETAINING WALL
- IMPOUNDED SEDIMENT
- BORING LOCATION (B-1)
- WATERS OF THE UNITED STATES
- STATE WETLAND / WATERCOURSE
- STREAM CHANNEL ENCROACHMENT LINE
- 100 YEAR FLOODPLAIN LIMIT
- 500 YEAR FLOODPLAIN LIMIT
- PROPERTY LINE

Summary of Test Pit Results

Location	Bedrock	
	Refusal Depth (ft)	Refusal Elevation (ft)
B-1	5.0	238.0
B-2	6.0	237.0
B-3	5.0	238.0
B-4	5.0	238.0
B-5	5.0	238.0
B-6	3.5	243.5
B-7	1.0	243.0
B-8	3.0	240.5
B-9	8.0	234.0
B-10	3.0	240.5
B-11	2.0	241.5
B-12	2.0	241.5
B-13	1.0	242.0

CALL BEFORE YOU DIG!
CONNECTICUT LAW REQUIRES
2 FULL WORKING DAYS NOTICE
PRIOR TO CONSTRUCTION – STOP CALL
CALL BEFORE YOU DIG, INC.
REFERENCE CONNECTICUT SECTION I: SECTION 16-345-1 THROUGH 16-345-7
1-800-922-4455

PROJECT NOTES

1. TOPOGRAPHIC AND BOUNDARY SURVEY PROVIDED IN DIGITAL FORMAT FROM GM2 ASSOCIATES, INC., 16 BIRD STREET, SUITE 2A, TORRINGTON, CT IN JANUARY 2010.
2. ELEVATION BASED ON VERTICAL DATUM NAVD88 AND HORIZONTAL DATUM NAD83.
3. WETLAND DELINEATION COMPLETED BY CONNECTICUT ECOSYSTEMS, LLC DURING THE WEEK OF OCTOBER 25, 2010. WATERS OF THE UNITED STATES LINE ON THE RIVER RIGHT SIDE WAS MODIFIED BY PRINCETON HYDRO IN CONSULTATION WITH SOIL SCIENTIST USING HYDROLOGIC AND HYDRAULIC MODELING RESULTS AND FIELD OBSERVATIONS.
4. IMPOUNDED SEDIMENT ELEVATIONS AND QUANTITIES BASED ON TEST PITS COMPLETED ON 29 APRIL 2010. SEDIMENT QUANTITIES AND DEPTHS MAY VARY DEPENDING ON THE DURATION OF TIME PASSED BEFORE CONSTRUCTION AND ADDITIONAL SEDIMENT TRANSPORT DURING THAT PERIOD.
5. SEDIMENT QUALITY BASED ON SAMPLING AND ANALYSIS COMPLETED BY MILONE AND MACBROOM IN 1999. ADDITIONAL SEDIMENT QUALITY TESTING WILL BE REQUIRED DURING EXCAVATION OF THE SEDIMENT.

DATE	DESCRIPTION
03/27/13	REVISED AS PER REGULATORY COMMENTS.
08/14/12	REVISED AS PER CTDOT COMMENTS.
09/24/10	REVISED PER CLIENT AND CTDEP COMMENTS

REVISIONS

STATE OF CONNECTICUT CERTIFICATE OF REGISTRATION NO.: 0001188

LAURA A.S. WILDMAN
Professional Engineer
CT Lic. No. 18596

DATE

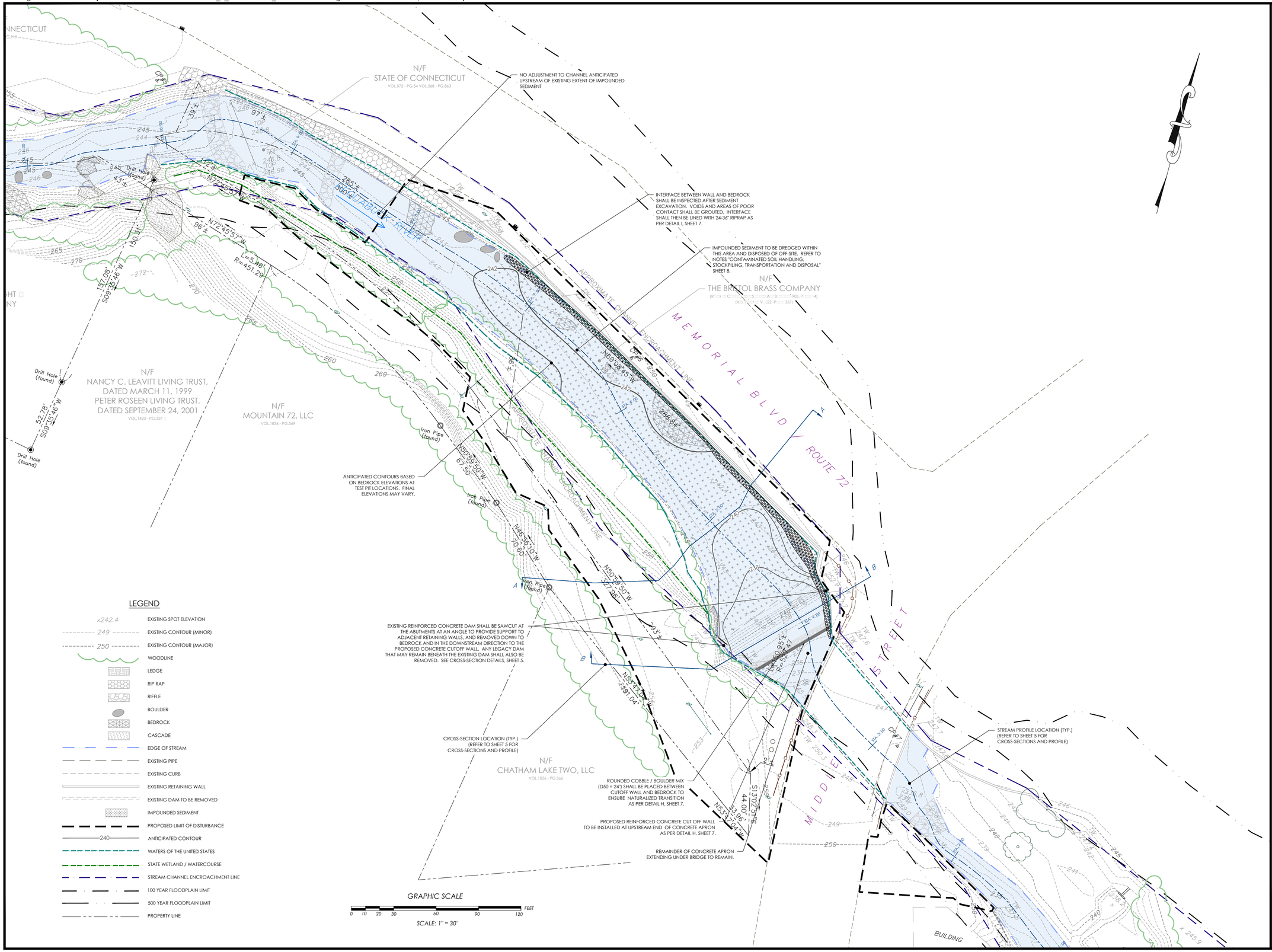
PRINCETON HYDRO
PRINCETON HYDRO ENGINEERING, PC
931 MAIN STREET, SUITE 2
SOUTH GLASTONBURY
CONNECTICUT 06037
PHONE: 860.652.8911
WWW.PRINCETONHYDRO.COM

PROJECT NAME/LOCATION:
MIDDLE STREET DAM REMOVAL
PEQUABUCK RIVER
CITY OF BRISTOL
HARTFORD COUNTY, CONNECTICUT

DRAWING NAME:
EXISTING CONDITIONS PLAN

DATE:	12/23/2010
PROJECT NO.:	1036.004
SCALE:	1" = 50'
DRAWN BY:	LC/PW
CHECKED BY:	JH/LW

SHEET NO. 2 OF 9



LEGEND

- EXISTING SPOT ELEVATION (x242.4)
- EXISTING CONTOUR (MINOR) (249)
- EXISTING CONTOUR (MAJOR) (250)
- WOODLINE
- LEDGE
- RIP RAP
- RIFFLE
- BOULDER
- BEDROCK
- CASCADE
- EDGE OF STREAM
- EXISTING PIPE
- EXISTING CURB
- EXISTING RETAINING WALL
- EXISTING DAM TO BE REMOVED
- IMPOUNDED SEDIMENT
- PROPOSED LIMIT OF DISTURBANCE
- ANTICIPATED CONTOUR (240)
- WATERS OF THE UNITED STATES
- STATE WETLAND / WATERCOURSE
- STREAM CHANNEL ENCROACHMENT LINE
- 100 YEAR FLOODPLAIN LIMIT
- 500 YEAR FLOODPLAIN LIMIT
- PROPERTY LINE

CALL BEFORE YOU DIG!
CONNECTICUT LAW REQUIRES
2 FULL WORKING DAYS NOTICE
PRIOR TO CONSTRUCTION – STOP CALL
CALL BEFORE YOU DIG, INC.
REFERENCE CONNECTICUT SECTION I:
SECTION 16-345-1 THROUGH 16-345-7
1-800-922-4455

PROJECT NOTES

1. TOPOGRAPHIC AND BOUNDARY SURVEY PROVIDED IN DIGITAL FORMAT FROM GM2 ASSOCIATES, INC., 16 BIRD STREET, SUITE 2A, TORRINGTON, CT IN JANUARY 2010.
2. ELEVATION BASED ON VERTICAL DATUM NAVD88 AND HORIZONTAL DATUM NAD83.
3. WETLAND DELINEATION COMPLETED BY CONNECTICUT ECOSYSTEMS, LLC DURING THE WEEK OF OCTOBER 25, 2010. WATERS OF THE UNITED STATES LINE ON THE RIVER RIGHT SIDE WAS MODIFIED BY PRINCETON HYDRO IN CONSULTATION WITH SOIL SCIENTIST USING HYDROLOGIC AND HYDRAULIC MODELING RESULTS AND FIELD OBSERVATIONS.
4. IMPOUNDED SEDIMENT ELEVATIONS AND QUANTITIES BASED ON TEST PITS COMPLETED ON 29 APRIL 2010. SEDIMENT QUANTITIES AND DEPTHS MAY VARY DEPENDING ON THE DURATION OF TIME PASSED BEFORE CONSTRUCTION AND ADDITIONAL SEDIMENT TRANSPORT DURING THAT PERIOD.
5. SEDIMENT QUALITY BASED ON SAMPLING AND ANALYSIS COMPLETED BY MILONE AND MACBROOM IN 1999. ADDITIONAL SEDIMENT QUALITY TESTING WILL BE REQUIRED DURING EXCAVATION OF THE SEDIMENT.

DATE	DESCRIPTION
03/27/13	REVISED AS PER REGULATORY COMMENTS.
08/14/12	REVISED AS PER CTDOT COMMENTS.
09/24/10	REVISED PER CLIENT AND CTDEP COMMENTS

REVISIONS

STATE OF CONNECTICUT CERTIFICATE OF REGISTRATION NO.: 0001188

LAURA A.S. WILDMAN
Professional Engineer
CT Lic. No. 18596

DATE

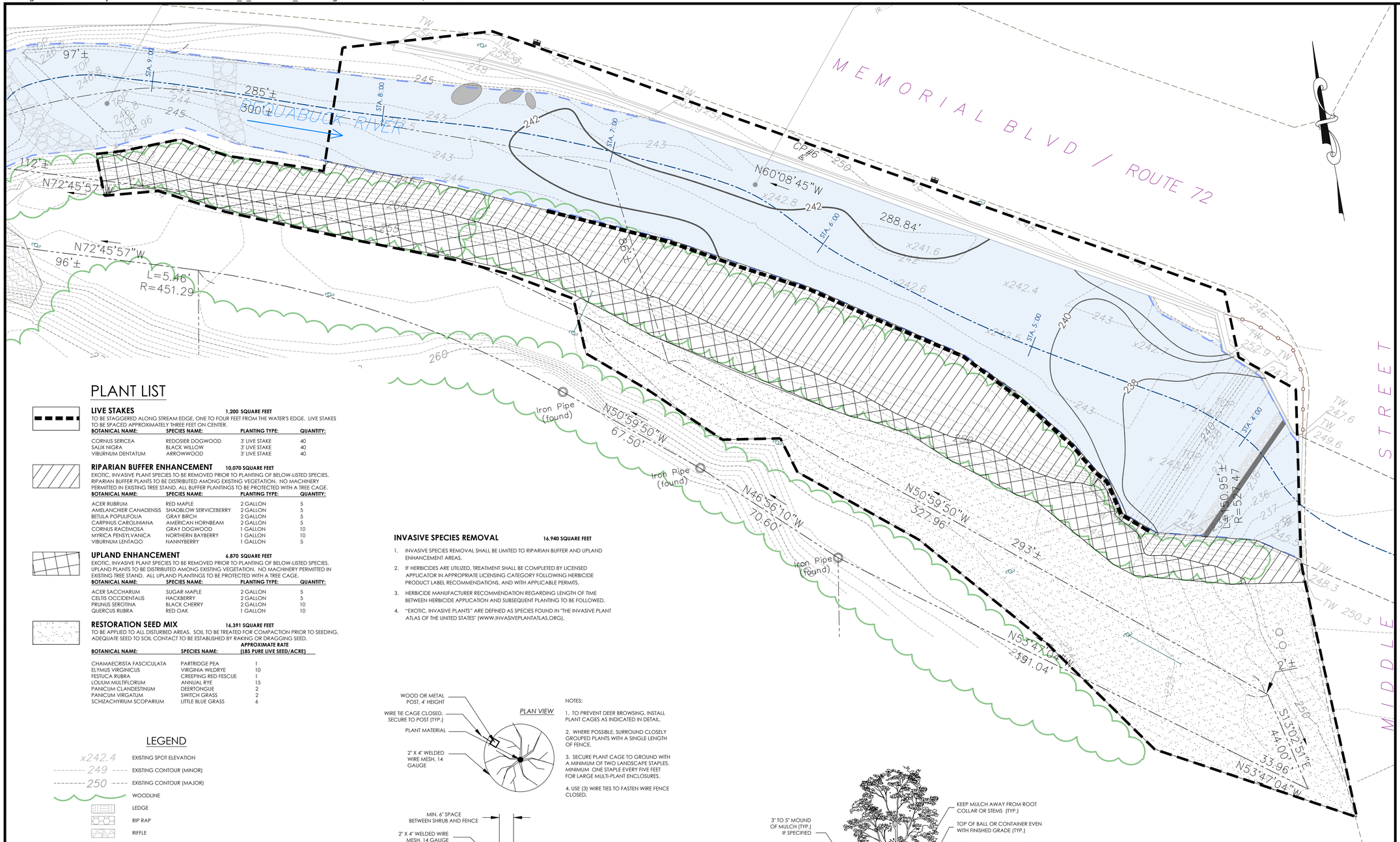
PRINCETON HYDRO
PRINCETON HYDRO ENGINEERING, PC
931 MAIN STREET, SUITE 2
SOUTH GLASTONBURY
CONNECTICUT 06037
PHONE. 860.652.8911
WWW.PRINCETONHYDRO.COM

PROJECT NAME/LOCATION:
MIDDLE STREET DAM REMOVAL
PEQUABUCK RIVER
CITY OF BRISTOL
HARTFORD COUNTY, CONNECTICUT

DRAWING NAME:
PROPOSED CONDITIONS PLAN

DATE:	12/23/2010
PROJECT NO.:	1036.004
SCALE:	1" = 30'
DRAWN BY:	LC/PW
CHECKED BY:	JH/LW

SHEET NO. 3 OF 9



PLANT LIST

LIVE STAKES 1,200 SQUARE FEET

TO BE STAGGERED ALONG STREAM EDGE, ONE TO FOUR FEET FROM THE WATER'S EDGE. LIVE STAKES TO BE SPACED APPROXIMATELY THREE FEET ON CENTER.

BOTANICAL NAME:	SPECIES NAME:	PLANTING TYPE:	QUANTITY:
CORNUS SERICEA	REDOSIER DOGWOOD	3' LIVE STAKE	40
SALIX NIGRA	BLACK WILLOW	3' LIVE STAKE	40
VIBURNUM DENTATUM	ARROWWOOD	3' LIVE STAKE	40

RIPARIAN BUFFER ENHANCEMENT 10,070 SQUARE FEET

EXOTIC, INVASIVE PLANT SPECIES TO BE REMOVED PRIOR TO PLANTING OF BELOW-LISTED SPECIES. RIPARIAN BUFFER PLANTS TO BE DISTRIBUTED AMONG EXISTING VEGETATION. NO MACHINERY PERMITTED IN EXISTING TREE STAND. ALL BUFFER PLANTINGS TO BE PROTECTED WITH A TREE CAGE.

BOTANICAL NAME:	SPECIES NAME:	PLANTING TYPE:	QUANTITY:
ACER RUBRUM	RED MAPLE	2 GALLON	5
AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	2 GALLON	5
BETULA POPULIFOLIA	GRAY BIRCH	2 GALLON	5
CARPINUS CAROLINIANA	AMERICAN HORNBEAM	2 GALLON	5
CORNUS RACEMOSA	GRAY DOGWOOD	1 GALLON	10
MYRICA PENSYLVANICA	NORTHERN BAYBERRY	1 GALLON	10
VIBURNUM LENTAGO	NANNYBERRY	1 GALLON	5

UPLAND ENHANCEMENT 6,870 SQUARE FEET

EXOTIC, INVASIVE PLANT SPECIES TO BE REMOVED PRIOR TO PLANTING OF BELOW-LISTED SPECIES. UPLAND PLANTS TO BE DISTRIBUTED AMONG EXISTING VEGETATION. NO MACHINERY PERMITTED IN EXISTING TREE STAND. ALL UPLAND PLANTINGS TO BE PROTECTED WITH A TREE CAGE.

BOTANICAL NAME:	SPECIES NAME:	PLANTING TYPE:	QUANTITY:
ACER SACCHARUM	SUGAR MAPLE	2 GALLON	5
CELTIS OCCIDENTALIS	HACKBERRY	2 GALLON	5
PRUNUS SEROTINA	BLACK CHERRY	2 GALLON	10
QUERCUS RUBRA	RED OAK	1 GALLON	10

RESTORATION SEED MIX 16,391 SQUARE FEET

TO BE APPLIED TO ALL DISTURBED AREAS. SOIL TO BE TREATED FOR COMPACTION PRIOR TO SEEDING. ADEQUATE SEED TO SOIL CONTACT TO BE ESTABLISHED BY RAKING OR DRAGGING SEED.

BOTANICAL NAME:	SPECIES NAME:	APPROXIMATE RATE (LBS PURE LIVE SEED/ACRE)
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA	1
ELYMUS VIRGINICUS	VIRGINIA WILDRYE	10
FESTUCA RUBRA	CREEPING RED FESCUE	1
LOLIUM MULTIFLORUM	ANNUAL RYE	15
PANICUM CLANDESTINUM	DEERTONGUE	2
PANICUM VIRGATUM	SWITCH GRASS	2
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUE GRASS	6

LEGEND

- x242.4 — EXISTING SPOT ELEVATION
- 249 — EXISTING CONTOUR (MINOR)
- 250 — EXISTING CONTOUR (MAJOR)
- WOODLINE
- LEDGE
- RIP RAP
- RIFFLE
- BOULDER
- BEDROCK
- CASCADE
- EDGE OF STREAM
- EXISTING PIPE
- EXISTING CURB
- EXISTING RETAINING WALL
- EXISTING DAM TO BE REMOVED
- IMPOUNDED SEDIMENT
- PROPOSED LIMIT OF DISTURBANCE
- 240 — ANTICIPATED CONTOUR
- PROPERTY LINE

GRAPHIC SCALE

0 5 10 15 20 40 60 80 FEET

SCALE: 1" = 20'

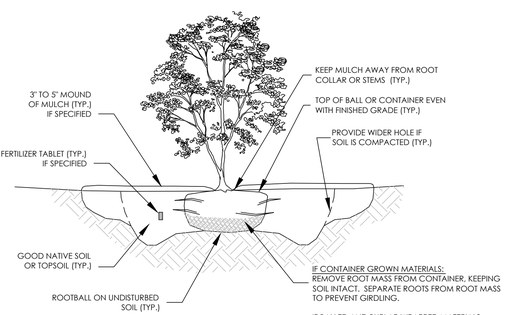
INVASIVE SPECIES REMOVAL 16,940 SQUARE FEET

1. INVASIVE SPECIES REMOVAL SHALL BE LIMITED TO RIPARIAN BUFFER AND UPLAND ENHANCEMENT AREAS.
2. IF HERBICIDES ARE UTILIZED, TREATMENT SHALL BE COMPLETED BY LICENSED APPLICATOR IN APPROPRIATE LICENSING CATEGORY FOLLOWING HERBICIDE PRODUCT LABEL RECOMMENDATIONS, AND WITH APPLICABLE PERMITS.
3. HERBICIDE MANUFACTURER RECOMMENDATION REGARDING LENGTH OF TIME BETWEEN HERBICIDE APPLICATION AND SUBSEQUENT PLANTING TO BE FOLLOWED.
4. "EXOTIC, INVASIVE PLANTS" ARE DEFINED AS SPECIES FOUND IN "THE INVASIVE PLANT ATLAS OF THE UNITED STATES" (WWW.INVASIVEPLANTATLAS.ORG).

NOTES:

1. TO PREVENT DEER BROWSING, INSTALL PLANT CAGES AS INDICATED IN DETAIL.
2. WHERE POSSIBLE, SURROUND CLOSELY GROUPED PLANTS WITH A SINGLE LENGTH OF FENCE.
3. SECURE PLANT CAGE TO GROUND WITH A MINIMUM OF TWO LANDSCAPE STAPLES, MINIMUM ONE STAPLE EVERY FIVE FEET FOR LARGE MULTI-PLANT ENCLOSURES.
4. USE (3) WIRE TIES TO FASTEN WIRE FENCE CLOSED.

A TREE CAGE DETAIL
NOT TO SCALE



IF CONTAINER GROWN MATERIALS: REMOVE ROOT MASS FROM CONTAINER, KEEPING SOIL INTACT. SEPARATE ROOTS FROM ROOT MASS TO PREVENT GIRDLING.

IF BALLED AND BURLAP WRAPPED MATERIALS: REMOVE ALL ROPING OR WIRE CAGING FROM ROOT BALL AND REMOVE BURLAP FROM TOP 2/3 OF ROOT BALL, KEEPING ROOT MASS INTACT. DISPOSE OF ALL REMOVED MATERIALS OFF SITE. SEPARATE ROOTS FROM ROOT MASS TO PREVENT GIRDLING.

B BALL/BURLAP AND CONTAINER MATERIAL PLANTING DETAIL
NOT TO SCALE

CALL BEFORE YOU DIG!
CONNECTICUT LAW REQUIRES
2 FULL WORKING DAYS NOTICE
PRIOR TO CONSTRUCTION – STOP CALL
CALL BEFORE YOU DIG, INC.
REFERENCE CONNECTICUT SECTION I:
SECTION 16-345-1 THROUGH 16-345-7
1-800-922-4455

PROJECT NOTES

1. TOPOGRAPHIC AND BOUNDARY SURVEY PROVIDED IN DIGITAL FORMAT FROM GM2 ASSOCIATES, INC., 16 BIRD STREET, SUITE 2A, TORRINGTON, CT IN JANUARY 2010.
2. ELEVATION BASED ON VERTICAL DATUM NAVD88 AND HORIZONTAL DATUM NAD83.
3. WETLAND DELINEATION COMPLETED BY CONNECTICUT ECOSYSTEMS, LLC DURING THE WEEK OF OCTOBER 25, 2010. WATERS OF THE UNITED STATES LINE ON THE RIVER RIGHT SIDE WAS MODIFIED BY PRINCETON HYDRO IN CONSULTATION WITH SOIL SCIENTIST USING HYDROLOGIC AND HYDRAULIC MODELING RESULTS AND FIELD OBSERVATIONS.
4. IMPOUNDED SEDIMENT ELEVATIONS AND QUANTITIES BASED ON TEST PITS COMPLETED ON 29 APRIL 2010. SEDIMENT QUANTITIES AND DEPTHS MAY VARY DEPENDING ON THE DURATION OF TIME PASSED BEFORE CONSTRUCTION AND ADDITIONAL SEDIMENT TRANSPORT DURING THAT PERIOD.
5. SEDIMENT QUALITY BASED ON SAMPLING AND ANALYSIS COMPLETED BY MILONE AND MACBROOM IN 1999. ADDITIONAL SEDIMENT QUALITY TESTING WILL BE REQUIRED DURING EXCAVATION OF THE SEDIMENT.

DATE	DESCRIPTION
03/27/13	REVISED AS PER REGULATORY COMMENTS.
08/14/12	REVISED AS PER CTDOT COMMENTS.
09/24/10	REVISED PER CLIENT AND CTDEP COMMENTS

REVISIONS

STATE OF CONNECTICUT CERTIFICATE OF REGISTRATION NO.: 0001188

LAURA A.S. WILDMAN
Professional Engineer
CT Lic. No. 18596

DATE

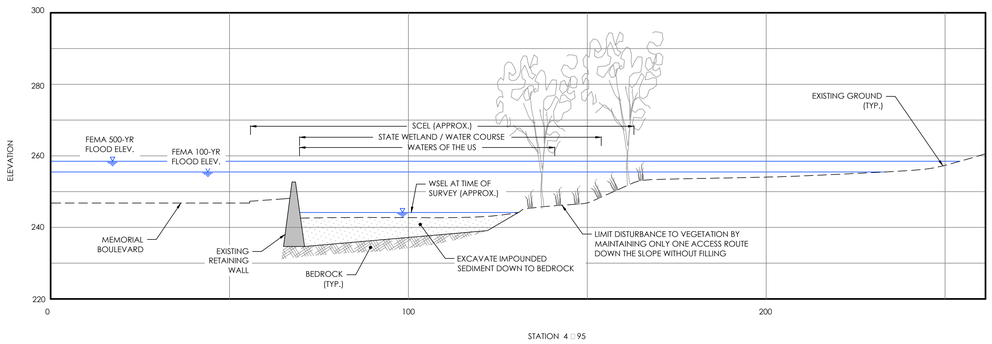
PRINCETON HYDRO
PRINCETON HYDRO ENGINEERING, PC
931 MAIN STREET, SUITE 2
SOUTH GLASTONBURY
CONNECTICUT 06037
PHONE. 860.652.8911
WWW.PRINCETONHYDRO.COM

PROJECT NAME/LOCATION:
MIDDLE STREET DAM REMOVAL
PEQUABUCK RIVER
CITY OF BRISTOL
HARTFORD COUNTY, CONNECTICUT

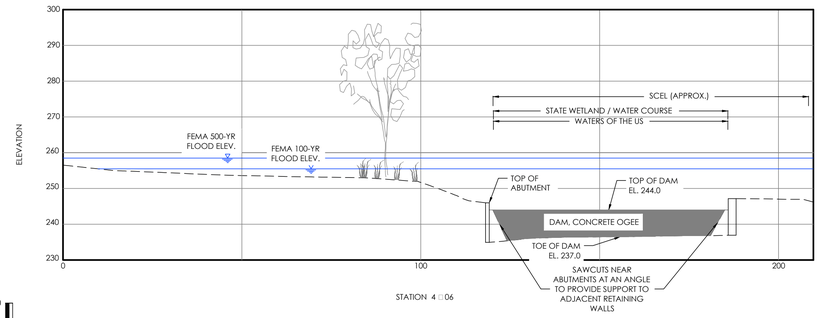
DRAWING NAME:
SUPPLEMENTAL
PLANTING PLAN

DATE:	12/23/2010
PROJECT NO.:	1036.004
SCALE:	1" = 30'
DRAWN BY:	LC/PW
CHECKED BY:	JH/LW

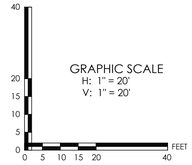
SHEET NO. 4 OF 9

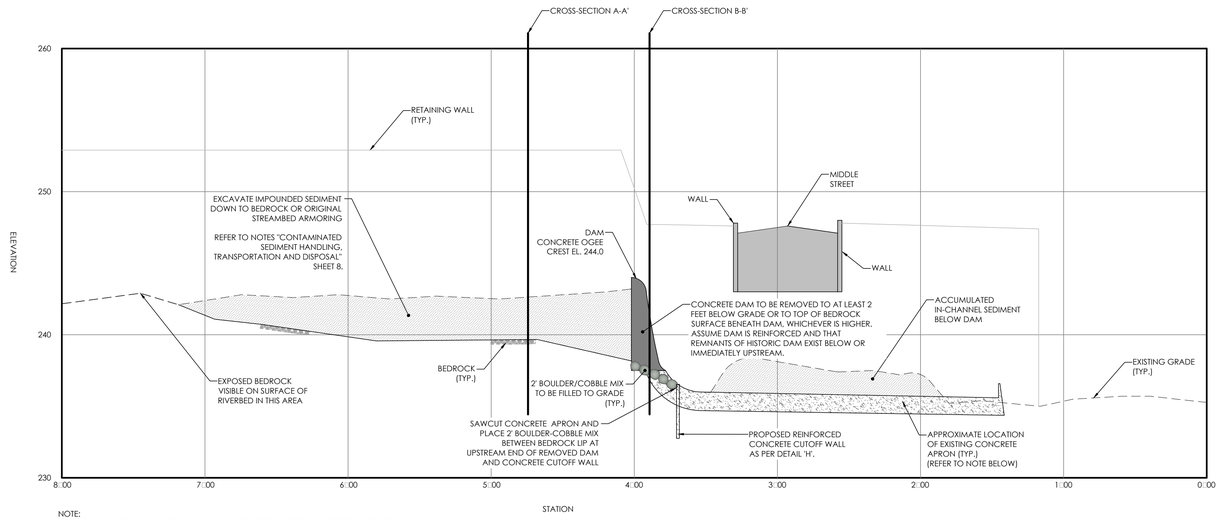


A CROSS-SECTION A-A' -- US OF DAM -- VIEW LOOKING DS
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 20'



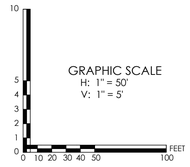
B CROSS-SECTION B-B' -- DS OF DAM -- VIEW LOOKING US
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 20'





NOTE:
LOCATION AND CONFIGURATION OF EXISTING CONCRETE APRON AS APPROXIMATED FROM FIELD OBSERVATION AND FROM PORTIONS OF ORIGINAL CONSTRUCTION PLANS DATED 1968. AS SUCH, ACTUAL LOCATION AND CONFIGURATION MAY VARY.

1 PROFILE
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



CALL BEFORE YOU DIG!
CONNECTICUT LAW REQUIRES
2 FULL WORKING DAYS NOTICE
PRIOR TO CONSTRUCTION – STOP CALL
CALL BEFORE YOU DIG, INC.
REFERENCE CONNECTICUT SECTION I:
SECTION 16-345-1 THROUGH 16-345-7
1-800-922-4455

PROJECT NOTES

1. TOPOGRAPHIC AND BOUNDARY SURVEY PROVIDED IN DIGITAL FORMAT FROM GM2 ASSOCIATES, INC., 16 BIRD STREET, SUITE 2A, TORRINGTON, CT IN JANUARY 2010.
2. ELEVATION BASED ON VERTICAL DATUM NAVD88 AND HORIZONTAL DATUM NAD83.
3. WETLAND DELINEATION COMPLETED BY CONNECTICUT ECOSYSTEMS, LLC DURING THE WEEK OF OCTOBER 25, 2010. WATERS OF THE UNITED STATES LINE ON THE RIVER RIGHT SIDE WAS MODIFIED BY PRINCETON HYDRO IN CONSULTATION WITH SOIL SCIENTIST USING HYDROLOGIC AND HYDRAULIC MODELING RESULTS AND FIELD OBSERVATIONS.
4. IMPOUNDED SEDIMENT ELEVATIONS AND QUANTITIES BASED ON TEST PITS COMPLETED ON 29 APRIL 2010. SEDIMENT QUANTITIES AND DEPTHS MAY VARY DEPENDING ON THE DURATION OF TIME PASSED BEFORE CONSTRUCTION AND ADDITIONAL SEDIMENT TRANSPORT DURING THAT PERIOD.
5. SEDIMENT QUALITY BASED ON SAMPLING AND ANALYSIS COMPLETED BY MILONE AND MACBROOM IN 1999. ADDITIONAL SEDIMENT QUALITY TESTING WILL BE REQUIRED DURING EXCAVATION OF THE SEDIMENT.

DATE	DESCRIPTION
03/27/13	REVISED AS PER REGULATORY COMMENTS.
08/14/12	REVISED AS PER CTDOT COMMENTS.
09/24/10	REVISED PER CLIENT AND CTDEP COMMENTS

REVISIONS

STATE OF CONNECTICUT CERTIFICATE OF REGISTRATION NO.: 0001188

LAURA A.S. WILDMAN
Professional Engineer
CT Lic. No. 18596

DATE

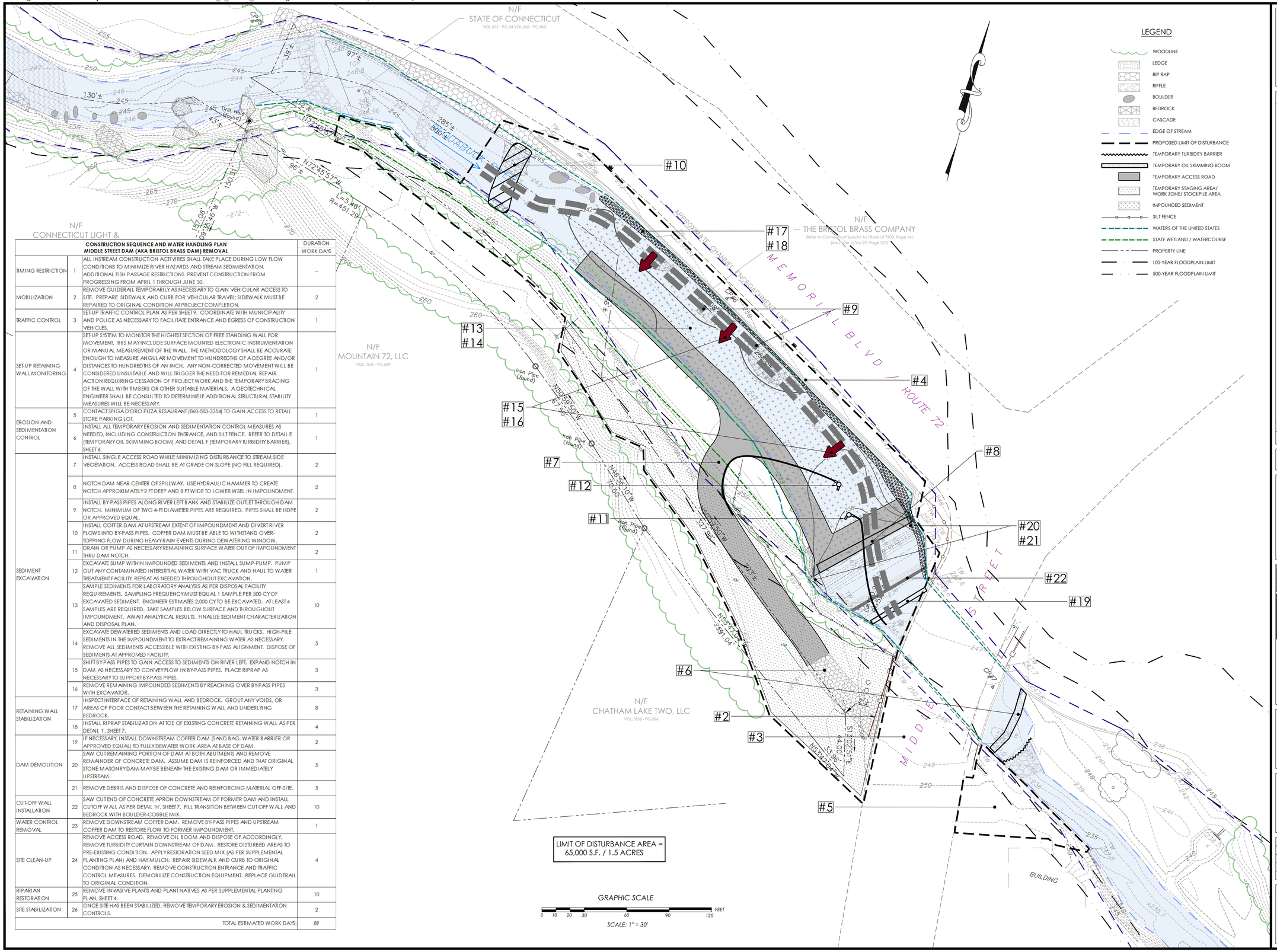
PRINCETON HYDRO pH
PRINCETON HYDRO ENGINEERING, PC
931 MAIN STREET, SUITE 2
SOUTH GLASTONBURY
CONNECTICUT 06037
PHONE. 860.652.8911
WWW.PRINCETONHYDRO.COM

PROJECT NAME/LOCATION:
MIDDLE STREET DAM REMOVAL
PEQUABUCK RIVER
CITY OF BRISTOL
HARTFORD COUNTY, CONNECTICUT

DRAWING NAME:
CROSS SECTIONS AND PROFILE

DATE:	12/23/2010
PROJECT NO.:	1036.004
SCALE:	AS SHOWN
DRAWN BY:	LC/PW
CHECKED BY:	JEH/LW

SHEET NO. 5 OF 9



CONSTRUCTION SEQUENCE AND WATER HANDLING PLAN
MIDDLE STREET DAM (AKA BRISTOL BRASS DAM) REMOVAL

			DURATION WORK DAYS
TIMING RESTRICTION	1	ALL INSTREAM CONSTRUCTION ACTIVITIES SHALL TAKE PLACE DURING LOW FLOW CONDITIONS TO MINIMIZE RIVER HAZARDS AND STREAM SEDIMENTATION. ADDITIONAL FISH PASSAGE RESTRICTIONS PREVENT CONSTRUCTION FROM PROGRESSING FROM APRIL 1 THROUGH JUNE 30.	--
MOBILIZATION	2	REMOVE GUIDERAIL TEMPORARILY AS NECESSARY TO GAIN VEHICULAR ACCESS TO SITE. PREPARE SIDEWALK AND CURB FOR VEHICULAR TRAVEL; SIDEWALK MUST BE REPAIRED TO ORIGINAL CONDITION AT PROJECT COMPLETION.	2
TRAFFIC CONTROL	3	SET-UP TRAFFIC CONTROL PLAN AS PER SHEET 9. COORDINATE WITH MUNICIPALITY AND POLICE AS NECESSARY TO FACILITATE ENTRANCE AND EGRESS OF CONSTRUCTION VEHICLES.	1
SET-UP RETAINING WALL MONITORING	4	SET-UP SYSTEM TO MONITOR THE HIGHEST SECTION OF FREE STANDING WALL FOR MOVEMENT. THIS MAY INCLUDE SURFACE MOUNTED ELECTRONIC INSTRUMENTATION OR MANUAL MEASUREMENT OF THE WALL. THE METHODOLOGY SHALL BE ACCURATE ENOUGH TO MEASURE ANGULAR MOVEMENT TO HUNDREDTHS OF A DEGREE AND/OR DISTANCES TO HUNDREDTHS OF AN INCH. ANY NON-CORRECTED MOVEMENT WILL BE CONSIDERED UNSUITABLE AND WILL TRIGGER THE NEED FOR REMEDIAL REPAIR ACTION REQUIRING CESSATION OF PROJECT WORK AND THE TEMPORARY BRACING OF THE WALL WITH TIMBERS OR OTHER SUITABLE MATERIALS. A GEOTECHNICAL ENGINEER SHALL BE CONSULTED TO DETERMINE IF ADDITIONAL STRUCTURAL STABILITY MEASURES WILL BE NECESSARY.	1
EROSION AND SEDIMENTATION CONTROL	5	CONTACT SPIGA D'ORO PIZZA RESAURANT (860-583-3354) TO GAIN ACCESS TO RETAIL STORE PARKING LOT.	1
	6	INSTALL ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS NEEDED, INCLUDING CONSTRUCTION ENTRANCE, AND SILT FENCE. REFER TO DETAIL E (TEMPORARY OIL SKIMMING BOOM) AND DETAIL F (TEMPORARY TURBIDITY BARRIER), SHEET 6.	1
SEDIMENT EXCAVATION	7	INSTALL SINGLE ACCESS ROAD WHILE MINIMIZING DISTURBANCE TO STREAM SIDE VEGETATION. ACCESS ROAD SHALL BE AT GRADE ON SLOPE (NO FILL REQUIRED).	2
	8	NOTCH DAM NEAR CENTER OF SPILLWAY. USE HYDRAULIC HAMMER TO CREATE NOTCH APPROXIMATELY 2 FT DEEP AND 8 FT WIDE TO LOWER WSEL IN IMPOUNDMENT.	2
	9	INSTALL BY-PASS PIPES ALONG RIVER LEFT BANK AND STABILIZE OUTLET THROUGH DAM NOTCH. MINIMUM OF TWO 4-FT DIAMETER PIPES ARE REQUIRED. PIPES SHALL BE HDPE OR APPROVED EQUAL.	2
	10	INSTALL COFFER DAM AT UPSTREAM EXTENT OF IMPOUNDMENT AND DIVERT RIVER FLOWS INTO BY-PASS PIPES. COFFER DAM MUST BE ABLE TO WITHSTAND OVER-TOPPING FLOW DURING HEAVY RAIN EVENTS DURING DEWATERING WINDOW.	2
	11	DRAIN OR PUMP AS NECESSARY REMAINING SURFACE WATER OUT OF IMPOUNDMENT THRU DAM NOTCH.	2
	12	EXCAVATE SUMP WITHIN IMPOUNDED SEDIMENTS AND INSTALL SUMP-PUMP. PUMP OUT ANY CONTAMINATED INTERSTITIAL WATER WITH VAC TRUCK AND HAUL TO WATER TREATMENT FACILITY. REPEAT AS NEEDED THROUGHOUT EXCAVATION.	1
	13	SAMPLE SEDIMENTS FOR LABORATORY ANALYSIS AS PER DISPOSAL FACILITY REQUIREMENTS. SAMPLING FREQUENCY MUST EQUAL 1 SAMPLE PER 500 CY OF EXCAVATED SEDIMENT. ENGINEER ESTIMATES 2,000 CY TO BE EXCAVATED. AT LEAST 4 SAMPLES ARE REQUIRED. TAKE SAMPLES BELOW SURFACE AND THROUGHOUT IMPOUNDMENT. AWAIT ANALYTICAL RESULTS. FINALIZE SEDIMENT CHARACTERIZATION AND DISPOSAL PLAN.	10
	14	EXCAVATE DEWATERED SEDIMENTS AND LOAD DIRECTLY TO HAUL TRUCKS. HIGH-PILE SEDIMENTS IN THE IMPOUNDMENT TO EXTRACT REMAINING WATER AS NECESSARY. REMOVE ALL SEDIMENTS ACCESSIBLE WITH EXISTING BY-PASS ALIGNMENT. DISPOSE OF SEDIMENTS AT APPROVED FACILITY.	5
	15	SHIFT BY-PASS PIPES TO GAIN ACCESS TO SEDIMENTS ON RIVER LEFT. EXPAND NOTCH IN DAM AS NECESSARY TO CONVEY FLOW IN BY-PASS PIPES. PLACE RIPRAP AS NECESSARY TO SUPPORT BY-PASS PIPES.	3
	16	REMOVE REMAINING IMPOUNDED SEDIMENTS BY REACHING OVER BY-PASS PIPES WITH EXCAVATOR.	3
RETAINING WALL STABILIZATION	17	INSPECT INTERFACE OF RETAINING WALL AND BEDROCK. GROUT ANY VOIDS, OR AREAS OF POOR CONTACT BETWEEN THE RETAINING WALL AND UNDERLYING BEDROCK.	8
	18	INSTALL RIPRAP STABILIZATION AT TOE OF EXISTING CONCRETE RETAINING WALL AS PER DETAIL 'I', SHEET 7.	4
DAM DEMOLITION	19	IF NECESSARY, INSTALL DOWNSTREAM COFFER DAM (SAND BAG, WATER BARRIER OR APPROVED EQUAL) TO FULLY DEWATER WORK AREA AT BASE OF DAM.	2
	20	SAW CUT REMAINING PORTION OF DAM AT BOTH ABUTMENTS AND REMOVE REMAINDER OF CONCRETE DAM. ASSUME DAM IS REINFORCED AND THAT ORIGINAL STONE MASONRY DAM MAY BE BENEATH THE EXISTING DAM OR IMMEDIATELY UPSTREAM.	5
	21	REMOVE DEBRIS AND DISPOSE OF CONCRETE AND REINFORCING MATERIAL OFF-SITE.	5
CUT-OFF WALL INSTALLATION	22	SAW CUT END OF CONCRETE APRON DOWNSTREAM OF FORMER DAM AND INSTALL CUTOFF WALL AS PER DETAIL 'H', SHEET 7. FILL TRANSITION BETWEEN CUT OFF WALL AND BEDROCK WITH BOULDER-COBBLE MIX.	10
WATER CONTROL REMOVAL	23	REMOVE DOWNSTREAM COFFER DAM. REMOVE BY-PASS PIPES AND UPSTREAM COFFER DAM TO RESTORE FLOW TO FORMER IMPOUNDMENT.	1
SITE CLEAN-UP	24	REMOVE ACCESS ROAD. REMOVE OIL BOOM AND DISPOSE OF ACCORDINGLY. REMOVE TURBIDITY CURTAIN DOWNSTREAM OF DAM. RESTORE DISTURBED AREAS TO PRE-EXISTING CONDITION. APPLY RESTORATION SEED MIX (AS PER SUPPLEMENTAL PLANTING PLAN) AND HAY MULCH. REPAIR SIDEWALK AND CURB TO ORIGINAL CONDITION AS NECESSARY. REMOVE CONSTRUCTION ENTRANCE AND TRAFFIC CONTROL MEASURES. DEMOBILIZE CONSTRUCTION EQUIPMENT. REPLACE GUIDERAIL TO ORIGINAL CONDITION.	4
RIPARIAN RESTORATION	25	REMOVE INVASIVE PLANTS AND PLANT NATIVES AS PER SUPPLEMENTAL PLANTING PLAN, SHEET 4.	10
SITE STABILIZATION	26	ONCE SITE HAS BEEN STABILIZED, REMOVE TEMPORARY EROSION & SEDIMENTATION CONTROLS.	2
		TOTAL ESTIMATED WORK DAYS:	89

LEGEND

- WOODLINE
- LEDGE
- RIP RAP
- RIFFLE
- BOULDER
- BEDROCK
- CASCADE
- EDGE OF STREAM
- PROPOSED LIMIT OF DISTURBANCE
- TEMPORARY TURBIDITY BARRIER
- TEMPORARY OIL SKIMMING BOOM
- TEMPORARY ACCESS ROAD
- TEMPORARY STAGING AREA/ WORK ZONE/ STOCKPILE AREA
- IMPOUNDED SEDIMENT
- SILT FENCE
- WATERS OF THE UNITED STATES
- STATE WETLAND / WATERCOURSE
- PROPERTY LINE
- 100-YEAR FLOODPLAIN LIMIT
- 500-YEAR FLOODPLAIN LIMIT

CALL BEFORE YOU DIG!
CONNECTICUT LAW REQUIRES
2 FULL WORKING DAYS NOTICE
PRIOR TO CONSTRUCTION – STOP CALL
CALL BEFORE YOU DIG, INC.
REFERENCE CONNECTICUT SECTION I:
SECTION 16-345-1 THROUGH 16-345-7
1-800-922-4455

PROJECT NOTES

1. TOPOGRAPHIC AND BOUNDARY SURVEY PROVIDED IN DIGITAL FORMAT FROM GM2 ASSOCIATES, INC., 16 BIRD STREET, SUITE 2A, TORRINGTON, CT IN JANUARY 2010.
2. ELEVATION BASED ON VERTICAL DATUM NAVD88 AND HORIZONTAL DATUM NAD83.
3. WETLAND DELINEATION COMPLETED BY CONNECTICUT ECOSYSTEMS, LLC DURING THE WEEK OF OCTOBER 25, 2010. WATERS OF THE UNITED STATES LINE ON THE RIVER RIGHT SIDE WAS MODIFIED BY PRINCETON HYDRO IN CONSULTATION WITH SOIL SCIENTIST USING HYDROLOGIC AND HYDRAULIC MODELING RESULTS AND FIELD OBSERVATIONS.
4. IMPOUNDED SEDIMENT ELEVATIONS AND QUANTITIES BASED ON TEST PITS COMPLETED ON 29 APRIL 2010. SEDIMENT QUANTITIES AND DEPTHS MAY VARY DEPENDING ON THE DURATION OF TIME PASSED BEFORE CONSTRUCTION AND ADDITIONAL SEDIMENT TRANSPORT DURING THAT PERIOD.
5. SEDIMENT QUALITY BASED ON SAMPLING AND ANALYSIS COMPLETED BY MILONE AND MACBROOM IN 1999. ADDITIONAL SEDIMENT QUALITY TESTING WILL BE REQUIRED DURING EXCAVATION OF THE SEDIMENT.

DATE	DESCRIPTION
03/27/13	REVISED AS PER REGULATORY COMMENTS.
08/14/12	REVISED AS PER CTDOT COMMENTS.
09/24/10	REVISED PER CLIENT AND CTDEP COMMENTS

REVISIONS

STATE OF CONNECTICUT CERTIFICATE OF REGISTRATION NO.: 0001188

LAURA A.S. WILDMAN
Professional Engineer
CT Lic. No. 18596

DATE

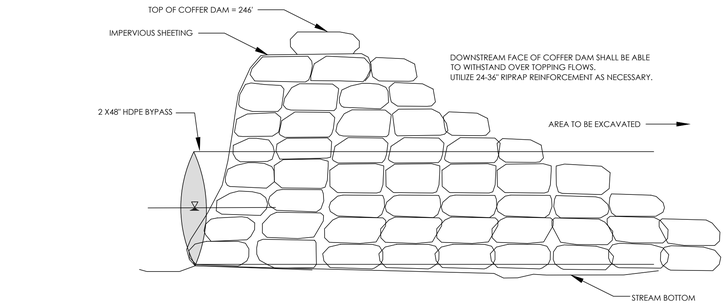
PRINCETON HYDRO
PRINCETON HYDRO ENGINEERING, PC
931 MAIN STREET, SUITE 2
SOUTH GLASTONBURY
CONNECTICUT 06037
PHONE. 860.652.8911
WWW.PRINCETONHYDRO.COM

PROJECT NAME/LOCATION:
MIDDLE STREET DAM REMOVAL
PEQUABUCK RIVER
CITY OF BRISTOL
HARTFORD COUNTY, CONNECTICUT

DRAWING NAME:
SOIL EROSION AND SEDIMENT CONTROL PLAN

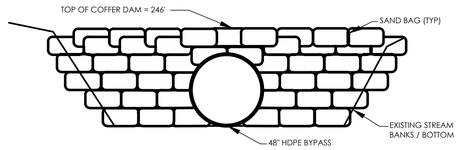
DATE:	12/23/2010
PROJECT NO.:	1036.004
SCALE:	1" = 30'
DRAWN BY:	LC/PW
CHECKED BY:	JH/LW

SHEET NO. 6 OF 9



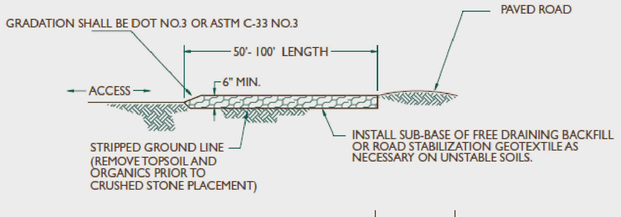
NOTES:

1. SANDBAGS: SANDBAGS SHALL CONSIST OF MATERIALS WHICH ARE RESISTANT TO ULTRA-VIOLET RADIATION, TEARING AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL (I.E. SAND, FINE GRAVEL, ETC.)
2. SHEETING: SHEETING SHALL CONSIST OF POLYETHYLENE OR OTHER MATERIAL WHICH IS IMPERVIOUS AND RESISTANT TO PUNCTURE AND TEARING.
3. SHEETING SHALL BE OVERLAPPED SUCH THAT THE UPSTREAM PORTION COVERS THE DOWNSTREAM PORTION WITH AT LEAST AN 18-INCH OVERLAP.



A SANDBAG BARRIER
NOT TO SCALE

Figure CE-2 Diagram of Typical Construction Entrance



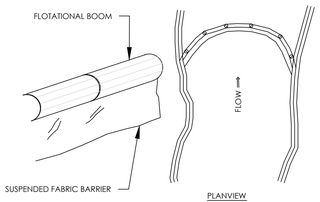
Source: USDA-NRCS

FOR CONSTRUCTION NOTES REFER TO SHEET 8 OF 8.

B CONSTRUCTION ENTRANCE
NOT TO SCALE

FOR CONSTRUCTION NOTES REFER TO SHEET 8 OF 8.

C TREE PROTECTION DETAIL
OR APPROVED EQUAL
NOT TO SCALE

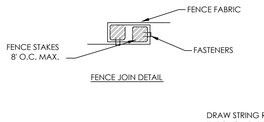


PLANVIEW

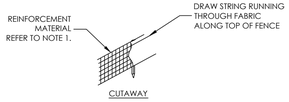
GENERAL NOTES:

1. OIL BOOM SHALL BE FIXED ON BOTH BANKS SUFFICIENTLY TO WITHSTAND NORMAL FLOW.
2. OIL BOOM SHALL BE MAINTAINED AND REPLACED AS NECESSARY TO ENSURE PROPER CONTAINMENT.
3. CONTAMINANTS SHALL BE EXTRACTED AND DISPOSED AT A PERMITTED FACILITY.

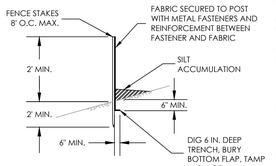
F OIL BOOM DETAIL
NOT TO SCALE



FENCE JOIN DETAIL



CUTAWAY



NOTES:

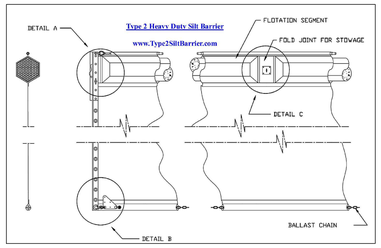
1. FENCE POSTS SHALL BE SPACED 8 FEET CENTER TO CENTER OR CLOSER. THE POSTS SHALL EXTEND AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE THE GROUND AND SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1.5 INCHES.

2. A METAL FENCE WITH 6 INCH OR SMALLER OPENINGS AND AT LEAST 2 FEET HIGH MAY BE UTILIZED, FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT TO THE GEOTEXTILE FABRIC WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED.

3. A GEOTEXTILE FABRIC, RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, SHALL BE BURIED AT LEAST 6 INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND AT LEAST 2 FEET ABOVE THE GROUND. FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS, ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.

4. SEDIMENTS SHALL BE REMOVED WHEN THE ACCUMULATION HEIGHT REACHES ONE QUARTER THE GROUND HEIGHT OF THE FENCE.

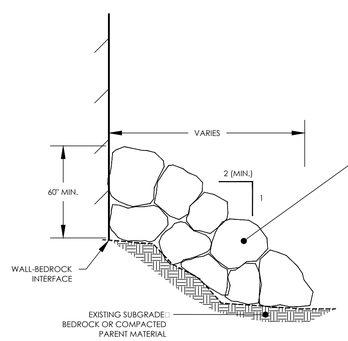
D SILT FENCE DETAIL
NOT TO SCALE



NOTES:

1. A TYPE 2 DOT TURBIDITY BARRIER IS REQUIRED.
2. HEAVY DUTY BARRIER IS SHOWN, MEDIUM DUTY IS ALSO ACCEPTABLE.

E TYPE 2 TURBIDITY BARRIER DETAIL
NOT TO SCALE



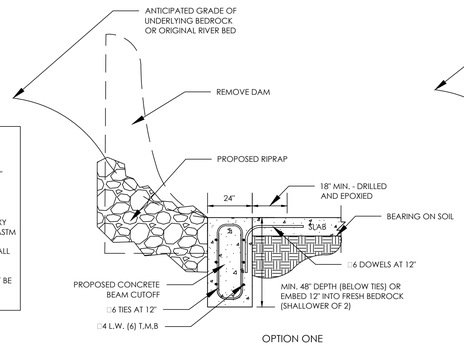
NOTES:

1. RIPRAP SHALL BE PLACED AND SHALL NOT BE DUMPED.
2. CAUTION SHALL BE EXERCISED WHEN PLACING STONES IN CONTACT WITH RETAINING WALL SO AS NOT TO DAMAGE WALL.
3. GIVEN EXISTING SUBGRADE IS BEDROCK/PARENT MATERIAL, NO GEOTEXTILE FILTER OR GRANULAR FILTER IS NECESSARY.

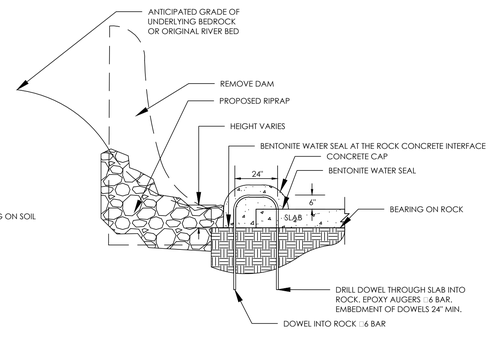
I RIPRAP STABILIZATION DETAIL
PROTECTION OF WALL-BEDROCK INTERFACE
NOT TO SCALE

NOTES:

1. TWO OPTIONS ARE PROVIDED DEPENDING ON BEDROCK CONFIGURATION.
2. SLAB THICKNESS GREATER THAN 24" MAY NOT REQUIRE ANY REMEDIAL ACTION.
3. REPAIR MAY BE A HYBRID OF THE OPTIONS SHOWN HEREIN.
4. ALL REINFORCED STEEL TO BE EPOXY COATED IN ACCORDANCE WITH ASTM A775.
5. MINIMUM OF 3" OF COVER OVER ALL REINFORCING STEEL.
6. FIELD VERIFICATION OF SLAB CONDITION AND GEOMETRY MUST BE COMPLETED PRIOR TO INITIATING REPAIR.



OPTION ONE



OPTION TWO

H CUTOFF WALL DETAIL OPTIONS
NOT TO SCALE

CALL BEFORE YOU DIG!
CONNECTICUT LAW REQUIRES
2 FULL WORKING DAYS NOTICE
PRIOR TO CONSTRUCTION – STOP CALL
CALL BEFORE YOU DIG, INC.
REFERENCE CONNECTICUT SECTION 1: SECTION 16-345-1 THROUGH 16-345-7
1-800-922-4455

PROJECT NOTES

1. TOPOGRAPHIC AND BOUNDARY SURVEY PROVIDED IN DIGITAL FORMAT FROM GM2 ASSOCIATES, INC., 16 BIRD STREET, SUITE 2A, TORRINGTON, CT IN JANUARY 2010.
2. ELEVATION BASED ON VERTICAL DATUM NAVD88 AND HORIZONTAL DATUM NAD83.
3. WETLAND DELINEATION COMPLETED BY CONNECTICUT ECOSYSTEMS, LLC DURING THE WEEK OF OCTOBER 25, 2010. WATERS OF THE UNITED STATES LINE ON THE RIVER RIGHT SIDE WAS MODIFIED BY PRINCETON HYDRO IN CONSULTATION WITH SOIL SCIENTIST USING HYDROLOGIC AND HYDRAULIC MODELING RESULTS AND FIELD OBSERVATIONS.
4. IMPOUNDED SEDIMENT ELEVATIONS AND QUANTITIES BASED ON TEST PITS COMPLETED ON 29 APRIL 2010. SEDIMENT QUANTITIES AND DEPTHS MAY VARY DEPENDING ON THE DURATION OF TIME PASSED BEFORE CONSTRUCTION AND ADDITIONAL SEDIMENT TRANSPORT DURING THAT PERIOD.
5. SEDIMENT QUALITY BASED ON SAMPLING AND ANALYSIS COMPLETED BY MILONE AND MACBROOM IN 1999. ADDITIONAL SEDIMENT QUALITY TESTING WILL BE REQUIRED DURING EXCAVATION OF THE SEDIMENT.

DATE	DESCRIPTION
03/27/13	REVISED AS PER REGULATORY COMMENTS.
08/14/12	REVISED AS PER CTDOT COMMENTS.
09/24/10	REVISED PER CLIENT AND CTDEP COMMENTS

REVISIONS

STATE OF CONNECTICUT CERTIFICATE OF REGISTRATION NO.: 0001188

LAURA A.S. WILDMAN
Professional Engineer
CT Lic. No. 18596

DATE

PRINCETON HYDRO ENGINEERING, PC
931 MAIN STREET, SUITE 2
SOUTH GLASTONBURY
CONNECTICUT 06037
PHONE. 860.652.8911
WWW.PRINCETONHYDRO.COM

PROJECT NAME/LOCATION:
MIDDLE STREET DAM REMOVAL
PEQUABUCK RIVER
CITY OF BRISTOL
HARTFORD COUNTY, CONNECTICUT

DRAWING NAME:
SOIL EROSION AND SEDIMENT CONTROL DETAILS

DATE:	12/23/2010
PROJECT NO.:	1036.004
SCALE:	AS SHOWN
DRAWN BY:	LC/PW
CHECKED BY:	JH/LW

SHEET NO. 7 OF 9

CONSTRUCTION ENTRANCE NOTES (REFER TO DETAIL B):
AS REFERENCED FROM "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" SECTION 5-12-2

1. LOCATION:
LOCATE THE ENTRANCE TO PROVIDE MAXIMUM UTILIZATION BY CONSTRUCTION VEHICLES. AVOID POORLY DRAINED SOILS, WHERE POSSIBLE.

2. CONSTRUCTION ENTRANCE DIMENSIONS (SEE FIGURE CE-2):
STONE THICKNESS: NOT LESS THAN 6 INCHES.
WIDTH: A 12-FOOT MINIMUM WITH POINTS OF INGRESS OR EGRESS FLARED SUFFICIENTLY TO ACCOMMODATE THE TURNING RADIUS OF THE CONSTRUCTION VEHICLES USED.
LENGTH: A 50-FOOT MINIMUM EXCEPT WHERE THE TRACKED SEDIMENTS CONTAIN LESS THAN 80□
SAND, A 100-FOOT MINIMUM IS REQUIRED. IF THE TRAVELED LENGTH IS LESS THAN THE MINIMUM, THEN THE CONSTRUCTION ENTRANCE SHALL BE THE TRAVELED LENGTH. ON A SITE SPECIFIC BASIS INCREASE LENGTHS AS NEEDED TO PREVENT THE TRACKING OF SEDIMENT ONTO PAVED SURFACES.

3. CONSTRUCTION:

CLEAR THE AREA OF THE ENTRANCE OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL. AT POORLY DRAINED LOCATIONS INSTALL SUBSURFACE DRAINAGE INSURING THE OUTLET TO THE DRAINS ARE FREE FLOWING.

IF USING A GEOTEXTILE IN PLACE OF FREE DRAINING MATERIAL, UNROLL THE GEOTEXTILE IN A DIRECTION PARALLEL TO THE ROADWAY CENTERLINE IN A LOOSE MANNER PERMITTING IT TO CONFORM TO THE SURFACE IRREGULARITIES WHEN THE STONE IS PLACED. UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER, THE MINIMUM OVERLAP OF GEOTEXTILE PANELS JOINED WITHOUT SEWING ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. THE GEOTEXTILE MAY BE TEMPORARILY SECURED WITH PINS RECOMMENDED OR PROVIDED BY THE MANUFACTURER BUT THEY SHALL BE REMOVED PRIOR TO PLACEMENT OF THE STONE.

PLACE THE STONE TO THE SPECIFIED DIMENSIONS. KEEP ADDITIONAL STONE AVAILABLE OR STOCKPILE FOR FUTURE USE. IF THE GRADE OF THE CONSTRUCTION ENTRANCE DRAINS TO THE PAVED SURFACE AND IT EXCEEDS 2□, CONSTRUCT A WATER BAR WITHIN THE CONSTRUCTION ENTRANCE AT LEAST 15 FEET FROM ITS ENTRANCE ON THE PAVED SURFACE DIVERTING RUNOFF WATER TO A SETTLING OR FILTERING AREA.

CONSTRUCT ANY DRAINAGE AND SETTLING FACILITIES NEEDED FOR WASHING OPERATIONS. IF WASH RACKS ARE USED, INSTALL ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

4. WASHING:
IF MOST OF THE SEDIMENT IS NOT REMOVED BY TRAVEL OVER THE STONE, WASH TIRES BEFORE VEHICLES ENTER A PUBLIC ROAD. DIVERT WASH WATER AWAY FROM THE ENTRANCE TO A SETTLING AREA TO REMOVE SEDIMENT. SIZE SETTLING AREA TO HOLD THE VOLUME OF WATER USED DURING ANY 2-HOUR PERIOD. USING A WASH RACK MAY MAKE WASHING MORE CONVENIENT AND EFFECTIVE.

MAINTENANCE:
MAINTAIN THE ENTRANCE IN A CONDITION WHICH WILL PREVENT TRACKING AND WASHING OF SEDIMENT ONTO PAVED SURFACES. PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND. REPAIR ANY MEASURES USED TO TRAP SEDIMENT AS NEEDED. IMMEDIATELY REMOVE ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PAVED SURFACES. ROADS ADJACENT TO A CONSTRUCTION SITE SHALL BE LEFT CLEAN AT THE END OF EACH DAY. IF THE CONSTRUCTION ENTRANCE IS BEING PROPERLY MAINTAINED AND THE ACTION OF A VEHICLE TRAVELING OVER THE STONE PAD IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF THE SEDIMENT, THEN EITHER
(1) INCREASE THE LENGTH OF THE CONSTRUCTION ENTRANCE,
(2) MODIFY THE CONSTRUCTION ACCESS ROAD SURFACE, OR
(3) INSTALL WASHING RACKS AND ASSOCIATED SETTLING AREA OR SIMILAR DEVICES BEFORE THE VEHICLE ENTERS A PAVED SURFACE.

SEDIMENT IMPOUNDMENTS, BARRIERS AND FILTERS - HAY BALE INSTALLATION (REFER TO DETAIL D)
AS REFERENCED FROM "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" SECTION 5-11-30

INSTALLATION (SEE FIGURE HB-2)
1. TRENCH EXCAVATION:
EXCAVATE A TRENCH AS WIDE AS THE BALES AND AT LEAST 4 INCHES DEEP. EACH END OF THE TRENCH SHOULD BE WINGED UPSLOPE SO THAT THE BOTTOM OF THE LAST BALE IS HIGHER THAN THE TOP OF THE LOWEST HAY BALE IN THE BARRIER.

2. HAY BALE PLACEMENT:
PLACE BALES IN A SINGLE ROW IN THE TRENCH, LENGTHWISE, WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER AND THE BINDINGS ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES (TO AVOID PREMATURE ROTTING OF THE BINDINGS).

3. STAKING HAY BALES:
ANCHOR EACH BALE WITH AT LEAST 2 STAKES, DRIVING THE FIRST STAKE IN EACH BALE TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. STAKES MUST BE DRIVEN A MINIMUM OF 18 INCHES INTO THE GROUND. FILL ANY GAPS BETWEEN THE BALES WITH HAY OR STRAW TO PREVENT WATER FROM ESCAPING BETWEEN THE BALES.

4. BACKFILL □ TAMPED:
BACKFILL THE BALES WITH THE EXCAVATED TRENCH MATERIAL TO A MINIMUM DEPTH OF 4 INCHES ON THE UPHILL SIDE OF THE BALES TAMP BY HAND OR MACHINE AND COMPACT THE SOIL. LOOSE HAY OR STRAW SCATTERED OVER THE DISTURBED AREA IMMEDIATELY UPHILL FROM THE HAY BALE BARRIER TENDS TO INCREASE BARRIER EFFICIENCY.

MAINTENANCE
INSPECT THE HAY BALE BARRIER AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCH OR GREATER TO DETERMINE MAINTENANCE NEEDS, FOR DEWATERING OPERATIONS, INSPECT FREQUENTLY BEFORE, DURING, AND AFTER PUMPING OPERATIONS. REMOVE THE SEDIMENT DEPOSITS OR INSTALL A SECONDARY BARRIER UPSLOPE FROM THE EXISTING BARRIER WHEN SEDIMENT DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER (SEE FIGURE HB-4).

REPLACE OR REPAIR THE BARRIER WITHIN 24 HOURS OF OBSERVED FAILURE. FAILURE OF THE BARRIER HAS OCCURRED WHEN SEDIMENT FAILS TO BE RETAINED BY THE BARRIER BECAUSE:
(A) THE BARRIER HAS BEEN OVERTOPPED, UNDERCUT OR BYPASSED BY RUNOFF WATER,
(B) THE BARRIER HAS BEEN MOVED OUT OF POSITION, OR
(C) THE HAY BALES HAVE DETERIORATED OR BEEN DAMAGED.

WHEN REPETITIVE FAILURES OCCUR AT THE SAME LOCATION, REVIEW CONDITIONS AND LIMITATIONS FOR USE AND DETERMINE IF ADDITIONAL CONTROLS (E.G. TEMPORARY STABILIZATION OF CONTRIBUTING AREA, DIVERSIONS, STONE BARRIERS) ARE NEEDED TO REDUCE FAILURE RATE OR REPLACE HAY BALE BARRIER. SEE FIGURE HB-5 FOR TROUBLE SHOOTING FAILURES.

MAINTAIN THE HAY BALE BARRIER UNTIL THE CONTRIBUTING AREA IS STABILIZED.

AFTER THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED, PULL THE STAKES OUT OF THE HAY BALES. UNLESS OTHERWISE REQUIRED, NO REMOVAL OR REGRADING OF ACCUMULATED SEDIMENT IS NECESSARY. THE HAY BALES MAY THEN BE LEFT IN PLACE OR BROKEN UP FOR GROUND COVER.

TREE PROTECTION NOTES (REFER TO DETAIL C):
AS REFERENCED FROM "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" SECTION 5-1-2

THE TREE PROTECTION ZONE (TPZ) IS DEFINED AS A CIRCULAR AREA SURROUNDING A TREE OR GROUP OF TREES WITH A DIAMETER TWENTY TIMES THE DBH (DIAMETER OF THE TRUNK OF THE TREE MEASURED AT 4.5 FEET ABOVE THE GROUND). WHERE GROUPS OF TREES OR FORESTED AREAS REQUIRE DELINEATION OF THE TPZ, TREES WITHIN 20 FEET OF THE EDGE OF THE GROUP OR FOREST THAT HAVE A LARGER DBH THAN THE OUTERMOST TREES SHOULD BE NOTED TO PROPERLY ESTABLISH THE TPZ. THE TPZ ENCOMPASSES AND CREATES A BUFFER TO THE CRITICAL ROOT ZONE.

THE CRITICAL ROOT ZONE (CRZ) IS DEFINED AS A CYLINDRICAL AREA, WITH A DIAMETER TEN TIMES THE DBH, INCLUDING THE SOIL WITHIN THIS AREA TO A DEPTH OF TWO TO THREE FEET.
(SEE FIGURE TP-1 FOR EXAMPLE CALCULATING CRZ). WHERE TREE ROOTS ARE SEVERELY CROWDED BY SIDEWALKS, PAVED SURFACES, OR BUILDINGS, AND RESTRICTED BY LINEAR STRIPS
BETWEEN SIDEWALKS AND ROADS, THE CRZ SHOULD BE EXTENDED TO ENCOMPASS THE TREE PROTECTION ZONE WHERE THERE ARE ROOTS PRESENT. ALL TPZS SHOULD BE DELINEATED ON THE GRADING DRAWINGS, WHEN A SIGNIFICANT PORTION OF THE TPZ OR ANY PORTION
OF THE CRZ MUST BE IMPACTED, OBTAIN GUIDANCE FROM AN ARBORIST LICENSED TO PRACTICE IN CONNECTICUT. DISTURBANCE WITHIN THE CRZ CAN SERIOUSLY THREATEN TREE
SURVIVAL. THE ARBORIST SHOULD PROVIDE SPECIFIC GUIDANCE ON WHETHER TO KEEP OR REMOVE THE TREE, INCLUDING MEASURES TO MAINTAIN TREE HEALTH AND SAFETY. THESE MEASURES MAY INCLUDE CLEAN CUTTING OF ROOTS EXPOSED BY EXCAVATION, MAINTAINING GRADES AND MULCH, ENSURING PROPER AERATION AND DRAINAGE.
CONSTRUCTION OF TREE WELLS AND TREE WALLS , PRUNING, MECHANICAL PROTECTION OF THE TREE TRUNK AND THE POSSIBILITY OF TUNNELING UNDER THE CRZ1.

WHEN GRADES MUST BE CHANGED OR TRENCHING IS TO OCCUR EITHER WITHIN THE TREE PROTECTION ZONE OR THE CRITICAL ROOT ZONE, THE UNDISTURBED PORTION OF THE CRITICAL ROOT ZONE MUST BE PROTECTED BY A FENCE.

SILT FENCE NOTES (REFER TO DETAIL E):
AS REFERENCED FROM "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" SECTION 5-11-35

TRENCH EXCAVATION:
EXCAVATE A TRENCH A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE ON THE UP SLOPE SIDE OF THE FENCE LOCATION. FOR SLOPE AND SWALE INSTALLATIONS, EXTEND THE ENDS OF THE TRENCH SUFFICIENTLY UP SLOPE SUCH THAT BOTTOM END OF THE FENCE WILL BE HIGHER THAN THE TOP OF THE LOWEST PORTION OF THE FENCE. WHEN THE FENCE IS NOT TO BE INSTALLED ON THE CONTOUR, EXCAVATE WING TRENCHES SPACED AT THE INTERVALS GIVEN IN FIGURE GSF-2.

WHEN TRENCH EXCAVATION IS OBSTRUCTED BY AN OCCASIONAL STONE OR TREE ROOT, PROVIDE A SMOOTH TRANSITION BETWEEN THE TRENCH BOTTOM AND THE OBSTRUCTION.

SUPPORT POSTS:
DRIVE SUPPORT POSTS ON THE DOWN SLOPE SIDE OF THE TRENCH TO A DEPTH OF AT LEAST 12 INCHES INTO ORIGINAL GROUND. NEVER INSTALL SUPPORT POSTS MORE THAN 10 FEET APART. INSTALL SUPPORT POSTS CLOSER THAN 10 FEET APART WHEN CONCENTRATED FLOWS ARE ANTICIPATED OR WHEN STEEP CONTRIBUTING SLOPES AND SOIL CONDITIONS ARE EXPECTED TO GENERATE LARGER VOLUMES OF SEDIMENT. FOR CATCH BASINS IN HOLLOWS, DRIVE POSTS AT EACH CORNER OF THE CATCH BASIN. WHENEVER THE GEOTEXTILE FILTER FABRIC THAT IS USED EXCEEDS THE MINIMUM MATERIAL SPECIFICATIONS CONTAINED IN THIS MEASURE, THE SPACING OF THE STAKES SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

GEOTEXTILE FILTER FABRIC:
STAPLE OR SECURE THE GEOTEXTILE TO THE SUPPORT POSTS PER MANUFACTURER'S INSTRUCTION SUCH THAT AT LEAST 6 INCHES OF GEOTEXTILE LIES WITHIN THE TRENCH. THE HEIGHT OF THE FENCE DOES NOT EXCEED 30 INCHES2 AND THE GEOTEXTILE IS TAUT BETWEEN
THE POSTS. WHEN THE TRENCH IS OBSTRUCTED BY STONES, TREE ROOTS, ETC., ALLOW THE GEOTEXTILE TO LAY OVER THE OBSTRUCTION SUCH THAT THE BOTTOM OF THE GEOTEXTILE POINTS UP SLOPE.

IN THE ABSENCE OF MANUFACTURER'S INSTRUCTIONS, SPACE WIRE STAPLES ON WOODEN STAKES AT A MAXIMUM OF 4 INCHES APART AND ALTERNATE THEIR POSITION FROM PARALLEL TO THE AXIS OF THE STAKE TO PERPENDICULAR. DO NOT STAPLE THE GEOTEXTILE TO LIVING TREES. PROVIDE REINFORCEMENT FOR THE FENCE WHEN IT CAN BE EXPOSED TO HIGH WINDS. WHEN JOINTS IN THE GEOTEXTILE FABRIC ARE NECESSARY, SPLICE TOGETHER ONLY AT A SUPPORT POSTS, AND SECURELY SEAL (SEE MANUFACTURER'S RECOMMENDATIONS).

BACKFILL □ COMPACTION:
BACKFILL THE TRENCH WITH TAMPED SOIL OR AGGREGATE OVER THE GEOTEXTILE (SEE FIGURE GSF-3). WHEN THE TRENCH IS OBSTRUCTED BY A STONE, TREE ROOT, ETC. MAKE SURE THE BOTTOM OF THE GEOTEXTILE LIES HORIZONTAL ON THE GROUND WITH THE RESULTING FLAP ON THE UP SLOPE SIDE OF THE GEOTEXTILE AND BURY THE FLAP 6 INCHES OF TAMPED SOIL, OR AGGREGATE.

CONSTRUCTION ACCESS ROAD NOTES (REFER TO DETAIL G):
AS REFERENCED FROM "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" SECTION 4-9

CONSTRUCTION ACCESS ROADS ARE UNPAVED ROADWAYS CONSISTING OF A TRAVEL SURFACE AND ASSOCIATED SIDE SLOPES. DURING WET WEATHER SUCH ROADWAYS CAN GENERATE SIGNIFICANT QUANTITIES OF SEDIMENT IF NOT CONSTRUCTED WITH ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES.

WHERE POSSIBLE, THESE CONSTRUCTION ACCESS ROADS SHOULD CONFORM TO THE CONTOURS OF THE LAND, AVOIDING GRADES STEEPER THAN 10□ AND CREATING SIDE SLOPES NO STEEPER THAN 2:1. IF THE SIDE SLOPES ARE STEEPER THAN 2:1, THEN USE ENGINEERED SLOPE STABILIZATION METHODS

INSPECTION OF THE CONSTRUCTION ACCESS ROAD AND THE ASSOCIATED EROSION AND SEDIMENT CONTROL SHOULD OCCUR AT THE END OF EACH DAY THE ROAD IS USED AND REPAIRS TO CONTROLS MADE IMMEDIATELY. IF THE ROAD IS NOT USED FOR MORE THAN A WEEK, THEN INSPECT THE EROSION AND SEDIMENT CONTROLS AT A FREQUENCY AS REQUIRED BY THE E□S MEASURE USED. REPAIRS MAY INCLUDE REGRADING OR TOP DRESSING THE TRAVELED SURFACE WITH ADDITIONAL AGGREGATE TO ELIMINATE RUTS, AS WELL AS THOSE REPAIRS REQUIRED BY EACH E□S MEASURE USED.

BEST MANAGEMENT PRACTICES FOR PROTECTION OF THE ENVIRONMENT

1. NO CONSTRUCTION SHALL PROCEED UNTIL PROPER SEDIMENTATION AND EROSION CONTROL METHODS HAVE BEEN INSTALLED AS THE SEQUENCE OF CONSTRUCTION NECESSITATES.

2. NO EQUIPMENT, MATERIALS, OR MACHINERY SHALL BE STORED, CLEANED, REFUELED, MAINTAINED, OR REPAIRED WITHIN TWENTY-FIVE (25) FEET OF ANY WETLAND OR WATERCOURSE.

3. NO CONSTRUCTION SHALL PROCEED UNTIL A METHOD TO PREVENT CONSTRUCTION DEBRIS OR OTHER MATERIALS FROM ENTERING THE WETLAND OR WATERCOURSE HAS BEEN IMPLEMENTED AS THE SEQUENCE OF CONSTRUCTION NECESSITATES. THESE MATERIALS SHALL BE COLLECTED AND DISPOSED OF IN AN ENVIRONMENTALLY SAFE MANNER AS DETERMINED BY FEDERAL, STATE, AND LOCAL LAWS AT NO ADDITIONAL COST TO THE OWNER. THE APPLICANT SHALL MONITOR WIND VELOCITIES AND STORM EVENTS DURING THE CONDUCT OF SUCH WORK, AND SHALL CAUSE SUCH ACTIVITY TO CEASE IF STORM OR WIND CONDITIONS THREATEN TO CAUSE DEPOSITS OF MATERIALS IN THE WATERWAY.

4. NO OBJECTIONABLE MATERIALS RESULTING FROM ANY CLEARING ACTIVITY SHALL BE DISPOSED OF IN ANY WETLAND OR WATERCOURSE. THIS INCLUDES BUT IS NOT LIMITED TO: STUMPS, TREE ROOTS, MATTED ROOTS, WOOD CHIPS, AND OTHER DEBRIS.

5. NO FILL OR MATERIAL SHALL BE DEPOSITED IN SURROUNDING WETLANDS OR WATERCOURSES, UNLESS SPECIFIED ON THE CONTRACT DRAWINGS.

6. A WATER HANDLING PLAN INCLUDING A CONTINGENCY PLAN FOR FLOOD EVENTS SHALL BE IMPLEMENTED AS SEQUENCE OF CONSTRUCTION NECESSITATES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION IN THE WATERWAY. AT ALL TIMES, WATER SHALL BE KEPT DEEP ENOUGH IN THE CHANNEL TO ALLOW THE PASSAGE OF FISH AND CONTINUOUS FLOW OF THE WATERCOURSE WHEREVER NECESSARY.

8. WORK WITHIN AND ADJACENT TO WATERCOURSES SHALL BE CONDUCTED DURING PERIODS OF LOW FLOW, WHENEVER POSSIBLE. THE APPLICANT SHALL REMAIN AWARE OF FLOW CONDITIONS DURING THE CONDUCT OF SUCH WORK, AND SHALL CAUSE SUCH ACTIVITY TO CEASE SHOULD FLOW CONDITIONS THREATEN TO CAUSE EXCESSIVE EROSION, SILTATION OR TURBIDITY, DURING STORMS EVERY EFFORT SHALL BE TAKEN TO SECURE THE WORK SITE.

9. ALL TEMPORARY FILL, SUCH AS THAT USED FOR PERMITTED ACCESS ROADS AND/OR COFFERDAMS, SHALL BE PROPERLY STABILIZED DURING USE TO PREVENT EROSION, AND, WHEN NO LONGER NEEDED, MUST BE DISPOSED OF AT AN UPLAND SITE, AND SUITABLY CONTAINED TO PREVENT TURBID RUNOFF FROM REENTERING A WETLAND OR WATERCOURSE. ALL AREAS AFFECTED BY TEMPORARY FILLS MUST BE RESTORED TO THEIR ORIGINAL CONTOURS, AND REVEGETATED WITH SUITABLE VEGETATION. THE AREA EXTENT OF TEMPORARY FILL OR EXCAVATION SHALL BE MINIMIZED TO THAT AREA NECESSARY TO PERFORM THE REQUIRED WORK.

10. DUMPING OF OIL OR OTHER DELETERIOUS MATERIALS ON THE GROUND IS FORBIDDEN. THE APPLICANT SHALL PROVIDE A MEANS OF CATCHING, RETAINING, AND PROPERLY DISPOSING OF DRAINED OIL, REMOVED OIL FILTERS, OR OTHER DELETERIOUS MATERIAL. ALL OIL SPILLS SHALL BE REPORTED IMMEDIATELY TO THE DEP/HAZARDOUS MATERIALS OFFICE AT (860) 424-3338 OR (860) 424-3023. FAILURE TO DO SO MAY RESULT IN THE IMPOSITION OF A FINE UNDER SECTION 22A-450 OF THE CONNECTICUT GENERAL STATUTES.

11. EVERY PRECAUTION SHALL BE USED WHILE WORKING IN THE VICINITY OF A WATERWAY TO PREVENT AND MINIMIZE DEGRADATIONS OF THE EXISTING WATER QUALITY. ALL ACTIVITIES SHALL CONFORM AND BE AT ALL TIMES CONSISTENT WITH APPLICABLE WATER QUALITY STANDARDS, AND MANAGEMENT PRACTICES OF THE FEDERAL CLEAN WATER ACT (1972), CONNECTICUT'S WATER QUALITY STANDARDS AND OTHER APPLICABLE STATE LAWS.

13. ALL EQUIPMENT BEING USED IN OR AROUND THE WATER SHALL BE FREE OF LEAKS INCLUDING BUT NOT LIMITED TO OIL, HYDRAULIC FLUIDS, RADIATOR FLUIDS, GREASE, AND FUEL. ALL EQUIPMENT TO BE USED IN THE WATER SHALL BE APPROVED BY THE ENGINEER. THE ENGINEER HAS THE AUTHORITY TO ORDER THE CONTRACTOR TO REMOVE ANY EQUIPMENT FROM THE WATER THAT THE ENGINEER FEELS IS DETRIMENTAL TO THE ENVIRONMENT

14. SHOULD ANY EQUIPMENT BREAKDOWN IN THE WATER, THE CONTRACTOR SHALL HAVE A PLAN TO IMMEDIATELY REMOVE THE EQUIPMENT.

EMERGENCY OPERATION PLAN DURING CONSTRUCTION

1. THIS EMERGENCY OPERATION PLAN IS DESIGNED TO PROVIDE THE CONTRACTOR GUIDELINES DURING A FLOOD OR A THREATENING FLOOD PERIOD IN ORDER TO PROTECT THE SURROUNDING COMMUNITY.

2. THE CONTRACTOR SHALL MONITOR THE WEATHER FORECASTS AND PLAN CONSTRUCTION ACCORDINGLY.

3. IF THE WEATHER FORECASTS SHOULD INDICATE THE POSSIBILITY OF A MAJOR STORM SYSTEM WITHIN 24 TO 48 HOURS, THE CONTRACTOR SHOULD PLAN FOR THE POSSIBILITY OF HIGH WATER LEVELS AT THE SITE. ALSO, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER.

4. IF A SIGNIFICANT RAINFALL OCCURS, IN EXCESS OF 3 INCHES OF RAINFALL, THE CONTRACTOR SHOULD CONTACT THE CLIENT, MAINTAIN SURVEILLANCE OF THE SITE, AND RECORD WATER LEVEL READINGS EVERY TWO (2) HOURS.

5. IF THE WATER LEVELS ON SITE RISE TO POTENTIALLY UNSAFE LEVELS, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT, CONSTRUCTION MATERIALS (I.E. FUELS, SOLVENTS, HYDRAULIC FLUIDS, EXPLOSIVES, ETC.) AND STOCKPILES FROM THE FLOODPLAIN AND ALERT THE APPROPRIATE PROJECT PERSONNEL AND LOCAL AUTHORITIES OF A POTENTIAL EMERGENCY.

6. THE CONTRACTOR SHALL MAINTAIN SUFFICIENT EQUIPMENT AND MANPOWER AT THE SITES IN ORDER TO REACT TO A FLOODING EMERGENCY.

7. COMPENSATION: IN CASE OF EMERGENCY, AS DETERMINED BY THE ENGINEER OR OWNER, THE CONTRACTOR SHALL BE COMPENSATED FOR THE EXTRA WORK BY MEANS OF A CHANGE ORDER PER CONTRACT CONDITIONS.

8. ALL STEPS MUST BE FOLLOWED TO QUALIFY THE CONTRACTOR FOR COMPENSATION AND THE FLOOD EVENT MUST BE IN EXCESS OF WHAT IS TYPICALLY ANTICIPATED DURING THE CONSTRUCTION PERIOD BASED ON A REVIEW OF HISTORIC FLOW GAGE DATA.

DEMOLITION

1. CONTRACTOR WILL HAVE PREVIOUSLY INSTALLED SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, REMOVED SEDIMENT AND ANY MATERIAL FROM BOTH SIDES OF THE DAM STRUCTURE, INSTALLED ACCESS ROAD, AND DE-WATERED CONSTRUCTION AREA AS NECESSARY..

2. CONTRACTOR SHALL EXCAVATE, REMOVE, AND DISPOSE OF EXISTING DAM STRUCTURES INCLUDING BUT NOT LIMITED TO CONCRETE STRUCTURES, REINFORCEMENT, GROUTED RIPRAP, RETAINING WALLS AND ANY REMAINS OF A HISTORIC DAM THAT MAY EXIST IMMEDIATELY UPSTREAM OR BENEATH THE EXISTING DAM.

3. THE TOTAL VERTICAL SECTION OF THE DAM SHALL BE REMOVED USING CONVENTIONAL DEMOLITION TOOLS. SAWCUTTING TOOLS SHALL BE USED AS NECESSARY.

4. REINFORCED CONCRETE AND ALL STRUCTURE ASSOCIATED WITH THE DAM AND THE DAM FRAGMENTS SHALL BE REMOVED AND DISPOSED OF OFF SITE.

5. MEASUREMENT AND PAYMENT FOR DEMOLITION WILL BE AT A CONTRACT LUMP SUM AND SHALL INCLUDE THE REMOVAL AND DISPOSAL OF ALL DEBRIS INCLUDING CONCRETE STRUCTURES, REINFORCING, AND STONE MASONRY.

6. DURING CONSTRUCTION, IT WILL BE NECESSARY TO MONITOR THE HIGHEST SECTION OF FREE STANDING WALL FOR MOVEMENT. THIS MAY INCLUDE SURFACE MOUNTED ELECTRONIC INSTRUMENTATION OR MANUAL MEASUREMENT OF THE WALL. THE METHODOLOGY SHALL BE ACCURATE ENOUGH TO MEASURE ANGULAR MOVEMENT TO HUNDREDTHS OF A DEGREE AND/OR DISTANCES TO HUNDREDTHS OF AN INCH. ANY NON-CORRECTED MOVEMENT WILL BE CONSIDERED UNSUITABLE AND WILL TRIGGER THE NEED FOR REMEDIAL REPAIR ACTION REQUIRING CESSATION OF PROJECT WORK AND THE TEMPORARY BRACING OF THE WALL WITH TIMBERS OR OTHER SUITABLE MATERIALS. A GEOTECHNICAL ENGINEER SHALL BE CONSULTED TO DETERMINE IF ADDITIONAL STRUCTURAL STABILITY MEASURES WILL BE NECESSARY.

7. IN THE EVENT OF DAMAGE TO THE EXISTING ADJACENT RETAINING WALLS TO REMAIN DURING DAM REMOVAL: THE DAMAGED SURFACES WILL BE PROPERLY SCARIFIED FOR CONCRETE PLACEMENT. PRIOR TO CONCRETE PLACEMENT A BONDING AGENT WILL BE USED TO ENSURE PROPER BONDING OF THE TWO SURFACES. CONCRETE REPAIRS TO EXISTING/REMAINING STRUCTURE (CRACKS) WILL BE PREPARED BY SCORING THE EXISTING CRACK WITH A V NOTCH GRINDER DISC (1/2" WIDTH); FILLED WITH EPOXY AND FINALLY PARGED (MORTAR).

ROUNDED COBBLE / BOULDER MIX FOR CUTOFF WALL STABILIZATION

1. COBBLE / BOULDER MIX SHALL CONSIST OF SOUND DURABLE ROCK, INSOLUBLE IN WATER.
2. THE MATERIAL SHALL BE FREE OF FOREIGN MATERIALS.
3. INDIVIDUAL PIECES SHALL BE ROUND TO OBLONG IN SHAPE WITH AVERAGE DIAMETER OF 24". NO PIECE SHALL HAVE A LENGTH EXCEEDING 3 TIMES ITS WIDTH OR DEPTH.
4. IT IS ANTICIPATED THAT ROUNDED TAILINGS WILL BE USED TO COMPLETE THIS WORK.

CONTAMINATED SEDIMENT HANDLING, TRANSPORTATION AND DISPOSAL

1. THE DISPOSAL SITE MUST BE AN APPROVED LOCATION TO DISPOSE OF THE CONTAMINATED SEDIMENT AND SHALL BE PRE-APPROVED BY THE RESIDENT ENGINEER.

2. PRIOR TO TRANSPORT OF THE CONTAMINATED SEDIMENT OFF-SITE, THE CONTRACTOR SHALL PROVIDE THE NAME, ADDRESS AND CONTACT INFORMATION OF THE LOCATION THAT WILL ACCEPT THE MATERIAL. THE CONTRACTOR WILL PROVIDE THE TESTING CRITERIA OF THE DISPOSAL SITE, INCLUDING SAMPLE COLLECTION FREQUENCY, CRITERIA TO BE TESTED AND A DESCRIPTION OF THE REQUIRED PHYSICAL CONDITION OF THE MATERIAL TO BE ACCEPTED (PERCENT MOISTURE, ORGANIC CONTENT, PARTICLE SIZE LIMITATIONS, ETC.). THE CONTRACTOR SHALL TEST THE SEDIMENT PRIOR TO TRANSPORTING THE MATERIAL OFFSITE TO THE DISPOSAL FACILITY. ALL TESTING SHALL BE COMPLETED UNDER THE DIRECT SUPERVISION OF THE RESIDENT ENGINEER AND ALL RESULTS MUST BE PROVIDED TO THE RESIDENT ENGINEER FOR REVIEW AS WELL AS THE CONFIRMATION THAT THE SEDIMENT TEST RESULTS MEETS THE CRITERIA OF THE DISPOSAL SITE.

3. ALL TRUCKS OR CONTAINERS SHALL BE DECONTAMINATED PRIOR TO LOADING OF THE SEDIMENT. THE TRUCK DUMPS OR CONTAINERS SHALL BE PROVIDED WITH GASKETED SEALS AND LOCKING TAILGATES AS WELL AS HAVE THE TOP OF THE CONTAINER OR DUMP COVERED WITH A TARP TO ELIMINATE LOSS OF MATERIAL DURING TRANSPORT.

4. ALL TRUCKS SHALL BE PROPERLY MARKED IN ACCORDANCE WITH CT DOT STANDARDS FOR THE TRANSPORTATION OF CONTAMINATED MATERIALS.

5. ONCE THE MATERIAL LEAVES THE SITE, THE CONTRACTOR WILL NOT BE ALLOWED TO RETURN THIS MATERIAL DUE TO REJECTION BY THE DISPOSAL SITE.

CALL BEFORE YOU DIG!
CONNECTICUT LAW REQUIRES
2 FULL WORKING DAYS NOTICE
PRIOR TO CONSTRUCTION – STOP CALL
CALL BEFORE YOU DIG, INC.
REFERENCE CONNECTICUT SECTION I:
SECTION 16-345-1 THROUGH 16-345-7
1-800-922-4455

PROJECT NOTES

1. TOPOGRAPHIC AND BOUNDARY SURVEY PROVIDED IN DIGITAL FORMAT FROM GM2 ASSOCIATES, INC., 16 BIRD STREET, SUITE 2A, TORRINGTON, CT IN JANUARY 2010.
2. ELEVATION BASED ON VERTICAL DATUM NAVD88 AND HORIZONTAL DATUM NAD83.
3. WETLAND DELINEATION COMPLETED BY CONNECTICUT ECOSYSTEMS, LLC DURING THE WEEK OF OCTOBER 25, 2010. WATERS OF THE UNITED STATES LINE ON THE RIVER RIGHT SIDE WAS MODIFIED BY PRINCETON HYDRO IN CONSULTATION WITH SOIL SCIENTIST USING HYDROLOGIC AND HYDRAULIC MODELING RESULTS AND FIELD OBSERVATIONS.
4. IMPOUNDED SEDIMENT ELEVATIONS AND QUANTITIES BASED ON TEST PITS COMPLETED ON 29 APRIL 2010. SEDIMENT QUANTITIES AND DEPTHS MAY VARY DEPENDING ON THE DURATION OF TIME PASSED BEFORE CONSTRUCTION AND ADDITIONAL SEDIMENT TRANSPORT DURING THAT PERIOD.
5. SEDIMENT QUALITY BASED ON SAMPLING AND ANALYSIS COMPLETED BY MILONE AND MACBROOM IN 1999. ADDITIONAL SEDIMENT QUALITY TESTING WILL BE REQUIRED DURING EXCAVATION OF THE SEDIMENT.

DATE	DESCRIPTION
03/27/13	REVISED AS PER REGULATORY COMMENTS.
08/14/12	REVISED AS PER CTDOT COMMENTS.
09/24/10	REVISED PER CLIENT AND CTDEP COMMENTS

REVISIONS

STATE OF CONNECTICUT CERTIFICATE OF REGISTRATION NO.: 0001188

LAURA A.S. WILDMAN
Professional Engineer
CT Lic. No. 18596

DATE

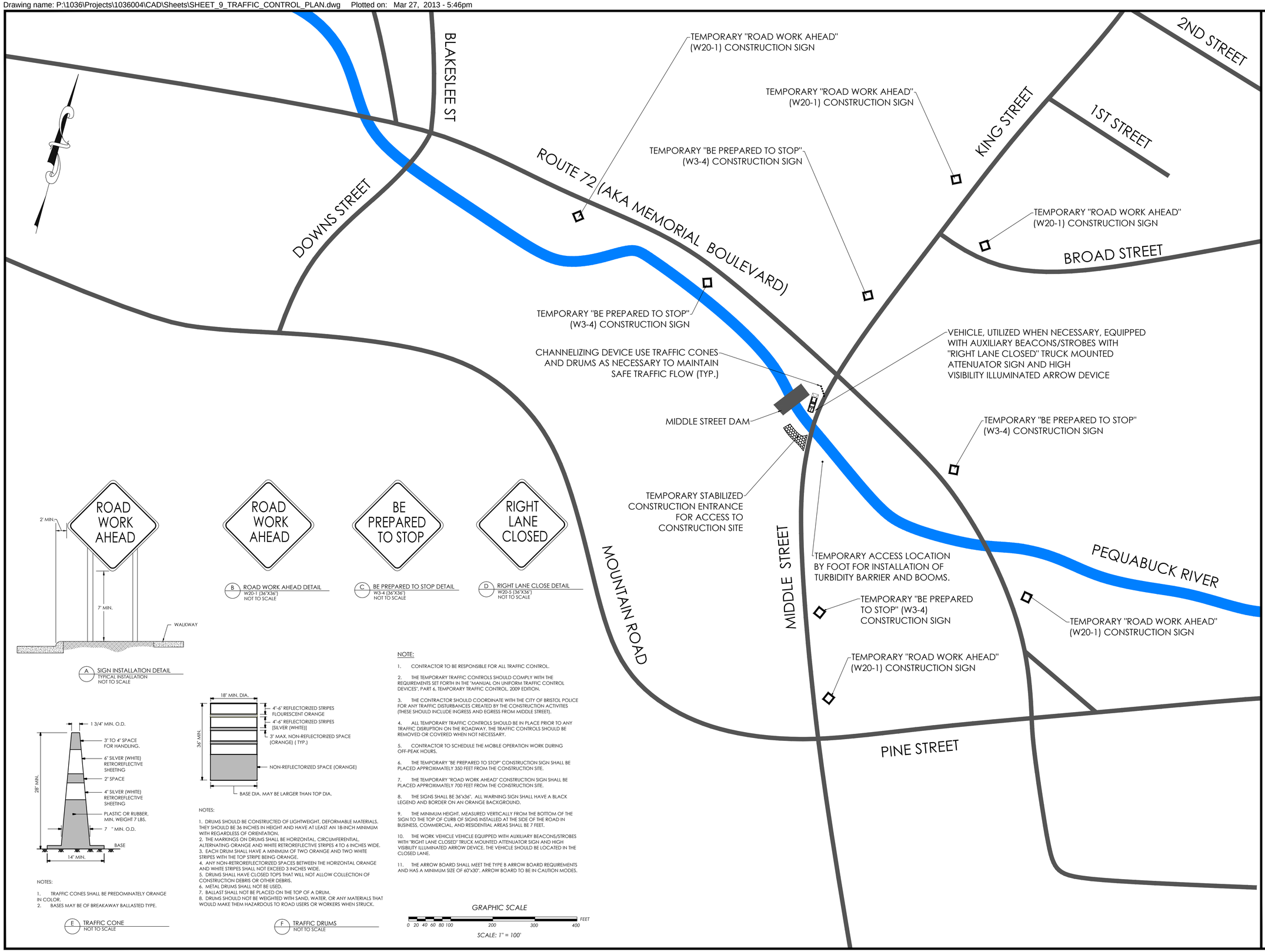
PRINCETON HYDRO pH
PRINCETON HYDRO ENGINEERING, PC
931 MAIN STREET, SUITE 2
SOUTH GLASTONBURY
CONNECTICUT 06037
PHONE. 860.652.8911
WWW.PRINCETONHYDRO.COM

PROJECT NAME/LOCATION:
MIDDLE STREET DAM REMOVAL
PEQUABUCK RIVER
CITY OF BRISTOL
HARTFORD COUNTY, CONNECTICUT

DRAWING NAME:
SOIL EROSION AND SEDIMENT CONTROL NOTES

DATE:	12/23/2010
PROJECT NO.:	1036.004
SCALE:	AS SHOWN
DRAWN BY:	LC/PW
CHECKED BY:	JH/LW

SHEET NO. 8 OF 9



A SIGN INSTALLATION DETAIL
TYPICAL INSTALLATION
NOT TO SCALE

B ROAD WORK AHEAD DETAIL
W20-1 (36"X36")
NOT TO SCALE

C BE PREPARED TO STOP DETAIL
W3-4 (36"X36")
NOT TO SCALE

D RIGHT LANE CLOSE DETAIL
W20-5 (36"X36")
NOT TO SCALE

NOTES:

1. TRAFFIC CONES SHALL BE PREDOMINATELY ORANGE IN COLOR.
2. BASES MAY BE OF BREAKAWAY BALLASTED TYPE.

E TRAFFIC CONE
NOT TO SCALE

NOTES:

1. DRUMS SHOULD BE CONSTRUCTED OF LIGHTWEIGHT, DEFORMABLE MATERIALS. THEY SHOULD BE 36 INCHES IN HEIGHT AND HAVE AT LEAST AN 18-INCH MINIMUM WITH REGARDLESS OF ORIENTATION.
2. THE MARKINGS ON DRUMS SHALL BE HORIZONTAL, CIRCUMFERENTIAL, ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES 4 TO 6 INCHES WIDE.
3. EACH DRUM SHALL HAVE A MINIMUM OF TWO ORANGE AND TWO WHITE STRIPES WITH THE TOP STRIPE BEING ORANGE.
4. ANY NON-RETROREFLECTORIZED SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES SHALL NOT EXCEED 3 INCHES WIDE.
5. DRUMS SHALL HAVE CLOSED TOPS THAT WILL NOT ALLOW COLLECTION OF CONSTRUCTION DEBRIS OR OTHER DEBRIS.
6. METAL DRUMS SHALL NOT BE USED.
7. BALLAST SHALL NOT BE PLACED ON THE TOP OF A DRUM.
8. DRUMS SHOULD NOT BE WEIGHTED WITH SAND, WATER, OR ANY MATERIALS THAT WOULD MAKE THEM HAZARDOUS TO ROAD USERS OR WORKERS WHEN STRUCK.

F TRAFFIC DRUMS
NOT TO SCALE

NOTE:

1. CONTRACTOR TO BE RESPONSIBLE FOR ALL TRAFFIC CONTROL.
2. THE TEMPORARY TRAFFIC CONTROLS SHOULD COMPLY WITH THE REQUIREMENTS SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", PART 6, TEMPORARY TRAFFIC CONTROL, 2009 EDITION.
3. THE CONTRACTOR SHOULD COORDINATE WITH THE CITY OF BRISTOL POLICE FOR ANY TRAFFIC DISTURBANCES CREATED BY THE CONSTRUCTION ACTIVITIES (THESE SHOULD INCLUDE INGRESS AND EGRESS FROM MIDDLE STREET).
4. ALL TEMPORARY TRAFFIC CONTROLS SHOULD BE IN PLACE PRIOR TO ANY TRAFFIC DISRUPTION ON THE ROADWAY. THE TRAFFIC CONTROLS SHOULD BE REMOVED OR COVERED WHEN NOT NECESSARY.
5. CONTRACTOR TO SCHEDULE THE MOBILE OPERATION WORK DURING OFF-PEAK HOURS.
6. THE TEMPORARY "BE PREPARED TO STOP" CONSTRUCTION SIGN SHALL BE PLACED APPROXIMATELY 350 FEET FROM THE CONSTRUCTION SITE.
7. THE TEMPORARY "ROAD WORK AHEAD" CONSTRUCTION SIGN SHALL BE PLACED APPROXIMATELY 700 FEET FROM THE CONSTRUCTION SITE.
8. THE SIGNS SHALL BE 36"x36". ALL WARNING SIGN SHALL HAVE A BLACK LEGEND AND BORDER ON AN ORANGE BACKGROUND.
9. THE MINIMUM HEIGHT, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF CURB OF SIGNS INSTALLED AT THE SIDE OF THE ROAD IN BUSINESS, COMMERCIAL, AND RESIDENTIAL AREAS SHALL BE 7 FEET.
10. THE WORK VEHICLE VEHICLE EQUIPPED WITH AUXILIARY BEACONS/STROBES WITH "RIGHT LANE CLOSED" TRUCK MOUNTED ATTENUATOR SIGN AND HIGH VISIBILITY ILLUMINATED ARROW DEVICE. THE VEHICLE SHOULD BE LOCATED IN THE CLOSED LANE.
11. THE ARROW BOARD SHALL MEET THE TYPE B ARROW BOARD REQUIREMENTS AND HAS A MINIMUM SIZE OF 60"x30". ARROW BOARD TO BE IN CAUTION MODES.

GRAPHIC SCALE

0 20 40 60 80 100 200 300 400 FEET

SCALE: 1" = 100'

CALL BEFORE YOU DIG!
CONNECTICUT LAW REQUIRES
2 FULL WORKING DAYS NOTICE
PRIOR TO CONSTRUCTION – STOP CALL
CALL BEFORE YOU DIG, INC.
REFERENCE CONNECTICUT SECTION I:
SECTION 16-345-1 THROUGH 16-345-7
1-800-922-4455

PROJECT NOTES

1. TOPOGRAPHIC AND BOUNDARY SURVEY PROVIDED IN DIGITAL FORMAT FROM GM2 ASSOCIATES, INC., 16 BIRD STREET, SUITE 2A, TORRINGTON, CT IN JANUARY 2010.
2. ELEVATION BASED ON VERTICAL DATUM NAVD88 AND HORIZONTAL DATUM NAD83.
3. WETLAND DELINEATION COMPLETED BY CONNECTICUT ECOSYSTEMS, LLC DURING THE WEEK OF OCTOBER 25, 2010. WATERS OF THE UNITED STATES LINE ON THE RIVER RIGHT SIDE WAS MODIFIED BY PRINCETON HYDRO IN CONSULTATION WITH SOIL SCIENTIST USING HYDROLOGIC AND HYDRAULIC MODELING RESULTS AND FIELD OBSERVATIONS.
4. IMPOUNDED SEDIMENT ELEVATIONS AND QUANTITIES BASED ON TEST PITS COMPLETED ON 29 APRIL 2010. SEDIMENT QUANTITIES AND DEPTHS MAY VARY DEPENDING ON THE DURATION OF TIME PASSED BEFORE CONSTRUCTION AND ADDITIONAL SEDIMENT TRANSPORT DURING THAT PERIOD.
5. SEDIMENT QUALITY BASED ON SAMPLING AND ANALYSIS COMPLETED BY MILONE AND MACBROOM IN 1999. ADDITIONAL SEDIMENT QUALITY TESTING WILL BE REQUIRED DURING EXCAVATION OF THE SEDIMENT.

REVISIONS

DATE	DESCRIPTION
03/27/13	REVISED AS PER REGULATORY COMMENTS.
08/14/12	REVISED AS PER CTDOT COMMENTS.
09/24/10	REVISED PER CLIENT AND CTDEP COMMENTS

STATE OF CONNECTICUT CERTIFICATE OF REGISTRATION NO.: 0001188

LAURA A.S. WILDMAN
Professional Engineer
CT Lic. No. 18596

DATE

PRINCETON HYDRO ENGINEERING, PC
931 MAIN STREET, SUITE 2
SOUTH GLASTONBURY
CONNECTICUT 06037
PHONE. 860.652.8911
WWW.PRINCETONHYDRO.COM

PROJECT NAME/LOCATION:
MIDDLE STREET DAM REMOVAL
PEQUABUCK RIVER
CITY OF BRISTOL
HARTFORD COUNTY, CONNECTICUT

DRAWING NAME:
TEMPORARY TRAFFIC CONTROL PLAN

DATE:	12/23/2010
PROJECT NO.:	1036.004
SCALE:	APPROX. 1" = 100'
DRAWN BY:	LC/PW
CHECKED BY:	JH/LW

SHEET NO. 9 OF 9