
PUBLIC NOTICE



**US Army Corps
of Engineers**
New England District
696 Virginia Road
Concord, MA 01742-2751

Comment Period Begins: January 27, 2015
Comment Period Ends: February 28, 2015
File Number: NAE-2012-2191
In Reply Refer To: Mr. Paul Sneeringer
Phone: (978) 318-8491
E-mail: paul.j.sneeringer@usace.army.mil

The District Engineer has received a permit application from **Holyoke Gas & Electric Department ("HG&E")**, 99 Suffolk Street, Holyoke, Massachusetts 01040 to conduct work and to discharge dredged and/or fill material into approximately **39,675** square feet of waters of the United States as part of the Hadley Falls Station Downstream Fish Passage Project. This work is proposed within the Connecticut River at the Holyoke Hydroelectric Dam, off Gatehouse Road in Holyoke, Massachusetts. The site coordinates are: Latitude: 42° 12' 43.3" N, Longitude 72° 36' 10.2" W.

The goal of this project is to improve downstream fish passage for diadromous fish species, such as the federally-listed endangered shortnose sturgeon. This project includes modifications to the existing bascule gate (**900 square feet**) and the installation of an upstream fish exclusion rack system (**6,600 square feet**) as well as the downstream training wall, flow deflector, and plunge pool system (**13,125 square feet**). These fish passage improvements also include upgrades to the existing fish passage conduits. Upstream construction access will be provided from a temporary construction access roadway and trestle system (**14,250 square feet**) and localized excavation of portions of the previous timber crib dam (**4,800 square feet**) and the construction area for the fish exclusion rack system may be necessary to provide construction access. Excavated materials will be transported off-site for treatment and disposal at appropriate upland facilities. Downstream construction access is available directly onto the dam apron. Section 404 discharges are limited to the proposed bascule gate modification, the installation of the downstream training wall, flow deflector, and plunge pool system, and temporary construction access fills. HG&E has not proposed any compensatory mitigation for this project since temporary construction impacts will be restored in-situ; permanent fills impacts have been minimized; and unavoidable permanent impacts will not result in a complete loss of aquatic functions and values. The work is shown on the attached plans entitled "HOLYOKE GAS & ELECTRIC, HOLYOKE, MA, HADLEY FALLS STATION DOWNSTREAM FISH PASSAGE PROJECT," on 14 sheets, and revised "7-23-14". Additional detailed plan drawings for this project are available upon request.

AUTHORITY

Permits are required pursuant to:

XX Section 10 of the Rivers and Harbors Act of 1899

XX Section 404 of the Clean Water Act

 Section 103 of the Marine Protection, Research and Sanctuaries Act.

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general

environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972, as amended.

The Federal Energy Regulatory Commission (“FERC”) is the lead Federal agency for the coordination of Magnuson-Stevens Fishery Conservation and Management Act, National Historic Preservation Act, and Endangered Species Act reviews. It is our intent to rely upon FERC’s findings to complete our review of these issues.

ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (“EFH”). We intend to rely upon the results of FERC’s EFH consultation to complete our review of this issue.

NATIONAL HISTORIC PRESERVATION ACT

Based on his initial review, the District Engineer has determined that the proposed work may impact properties listed in, or eligible for listing in, the National Register of Historic Places. FERC is currently circulating a Memorandum of Agreement (“MOA”) for signature by consulting parties. This MOA stipulates mitigative measure to address adverse effect and to fulfil requirements under Section 106 of the National Historic Preservation Act of 1966, as amended. We intend to incorporate FERC’s finalized MOA as a condition of our permit to complete our review of this issue.

ENDANGERED SPECIES CONSULTATION

On September 4, 2014, FERC reinitiated formal Endangered Species Act consultation with the National Marine Fisheries Service ("NMFS") on the South Hadley Falls Downstream Fish Passage Improvement Project. FERC provided NMFS a Biological Assessment at that time. We intend to rely upon the results of FERC's Endangered Species Act consultation to complete our review of this issue.

The following authorizations have been applied for, or have been, or will be obtained:

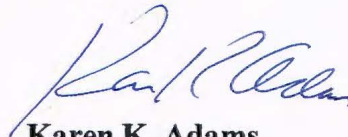
- (XX) Permit, License or Assent from State.
- (XX) Permit from Local Wetland Agency or Conservation Commission.
- (XX) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. Comments should be submitted in writing by the above date. If you have any questions, please contact **Paul Sneeringer** at (978) 318-8491, (800) 343-4789 or (800) 362-4367, if calling from within Massachusetts.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.



Karen K. Adams
Chief, Permits and Enforcement Branch
Regulatory Division

If you would prefer not to continue receiving Public Notices by email, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at bettina.m.chaisson@usace.army.mil. You may also check here () and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

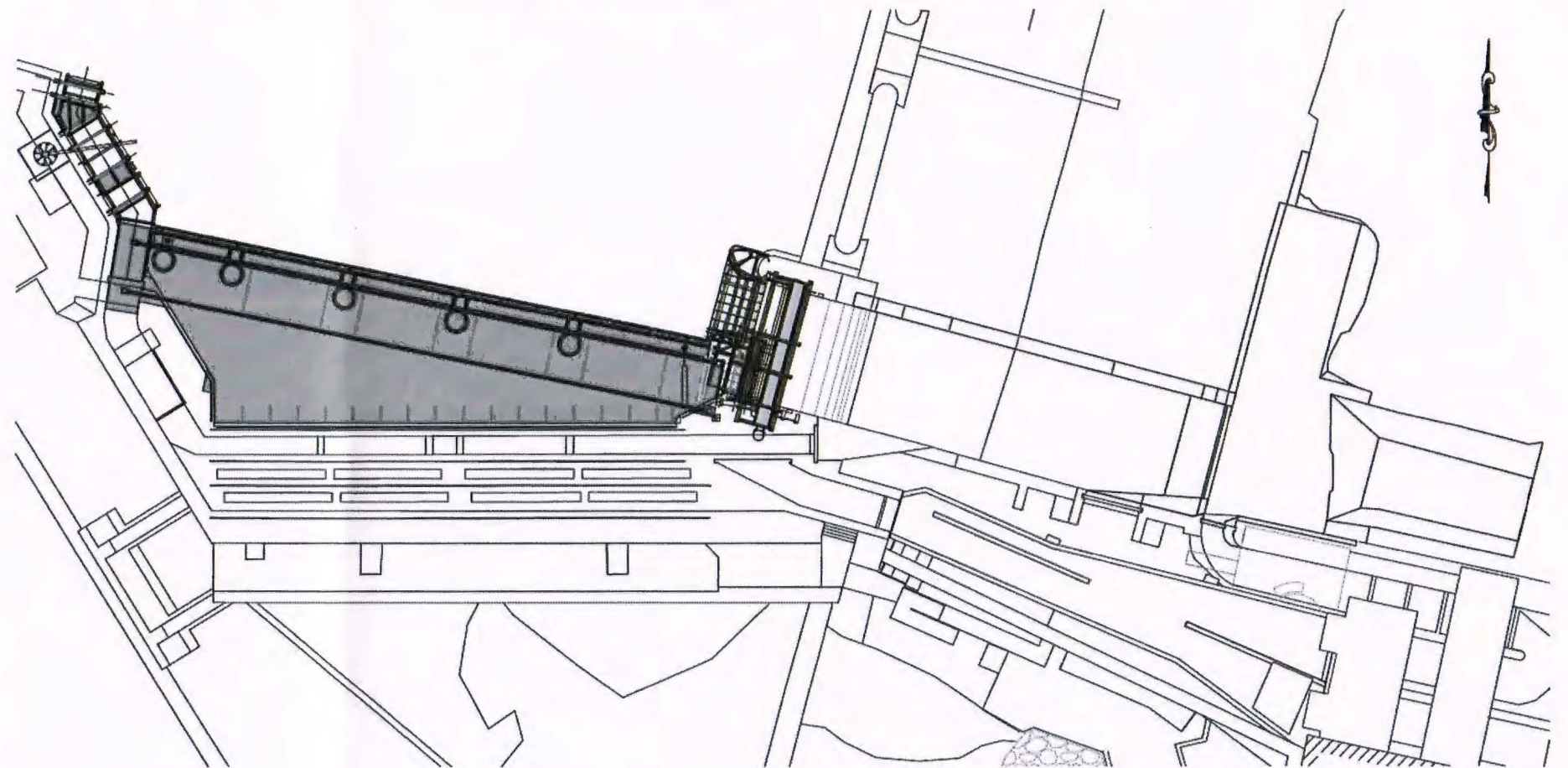
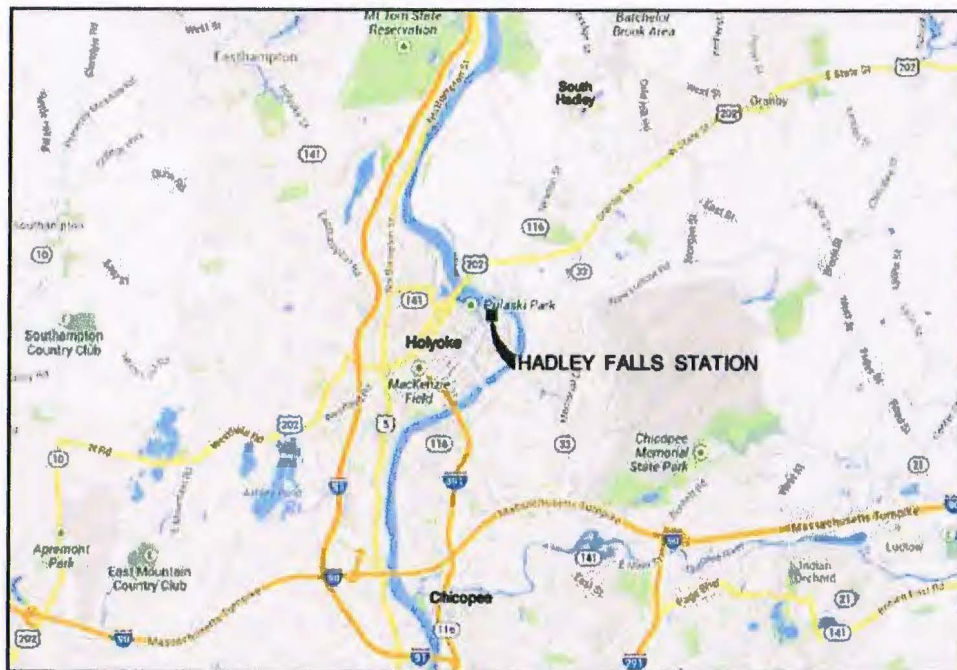
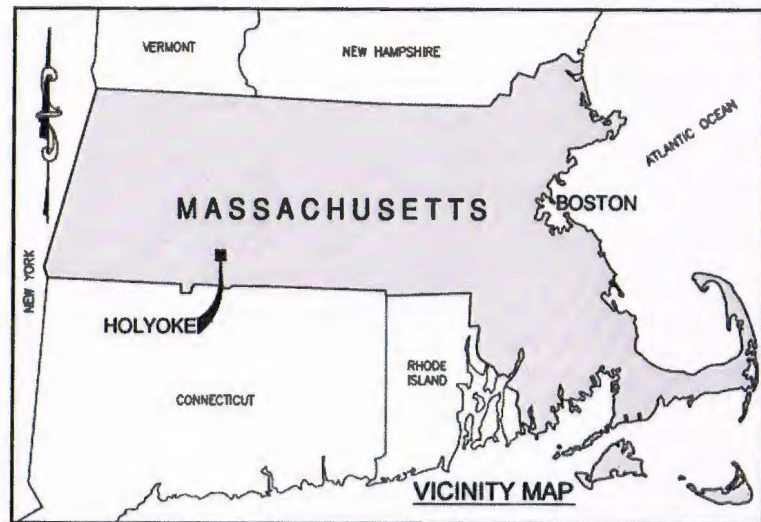
NAME: _____
ADDRESS: _____
PHONE: _____

HOLYOKE GAS & ELECTRIC

HOLYOKE, MA

FERC. No. P-2004

HADLEY FALLS STATION DOWNSTREAM FISH PASSAGE PROJECT

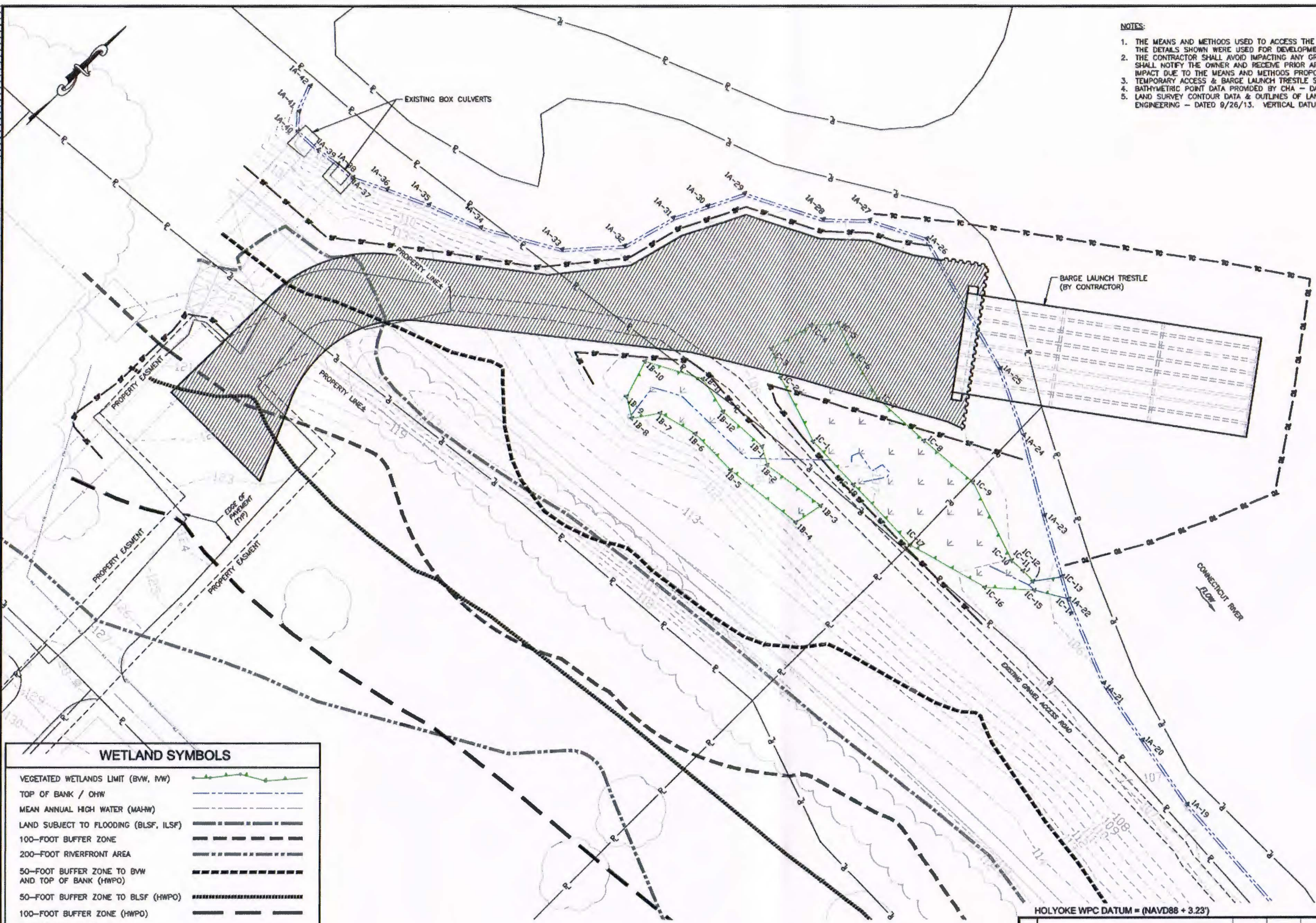


RELEASED FOR
CONSTRUCTION
7-23-14



22x34 = FULL SCALE
 Jan. 27, 2014 - 1:01 PM
 J:\HW\1485 Hadley Falls Fish Exclusion Rack Permitting\Plans & Docs\GIS\Final\2013-02-08\201115_211-04.dwg

- NOTES:**
1. THE MEANS AND METHODS USED TO ACCESS THE SITE FOR CONSTRUCTION ARE AT THE DISCRETION OF THE CONTRACTOR. THE DETAILS SHOWN WERE USED FOR DEVELOPMENT OF PERMIT APPLICATIONS.
 2. THE CONTRACTOR SHALL AVOID IMPACTING ANY GREATER AREA THAN IS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL NOTIFY THE OWNER AND RECEIVE PRIOR APPROVAL IF THE CONTRACTOR ANTICIPATES AN INCREASE TO THE AREA OF IMPACT DUE TO THE MEANS AND METHODS PROPOSED BY THE CONTRACTOR.
 3. TEMPORARY ACCESS & BARGE LAUNCH TRESTLE SHALL BE CONTRACTOR DESIGNED.
 4. BATHYMETRIC POINT DATA PROVIDED BY CHA - DATED JULY 29, 2013. VERTICAL DATUM BASED ON HOLYOKE WPC DATUM.
 5. LAND SURVEY CONTOUR DATA & OUTLINES OF LAND FEATURES PROVIDED BY SHERMAN & FRYDRYK, LAND SURVEYING AND ENGINEERING - DATED 9/26/13. VERTICAL DATUM BASED ON HOLYOKE WPC DATUM.



PERMIT SET

WETLAND SYMBOLS	
VEGETATED WETLANDS LIMIT (BVW, MW)	
TOP OF BANK / OHW	
MEAN ANNUAL HIGH WATER (MAHW)	
LAND SUBJECT TO FLOODING (BLSF, ILSF)	
100-FOOT BUFFER ZONE	
200-FOOT RIVERFRONT AREA	
50-FOOT BUFFER ZONE TO BVW AND TOP OF BANK (HWPO)	
50-FOOT BUFFER ZONE TO BLSF (HWPO)	
100-FOOT BUFFER ZONE (HWPO)	
TEMPORARY SILT FENCE	
APPROXIMATE CONTOURS	
TURBIDITY CURTAIN	
TEMPORARY WORK ACCESS & WORK AREA	
WETLAND FLAG LABEL	1A-27
EXISTING PROPERTY LINES	
EXISTING PROPERTY EASEMENTS	

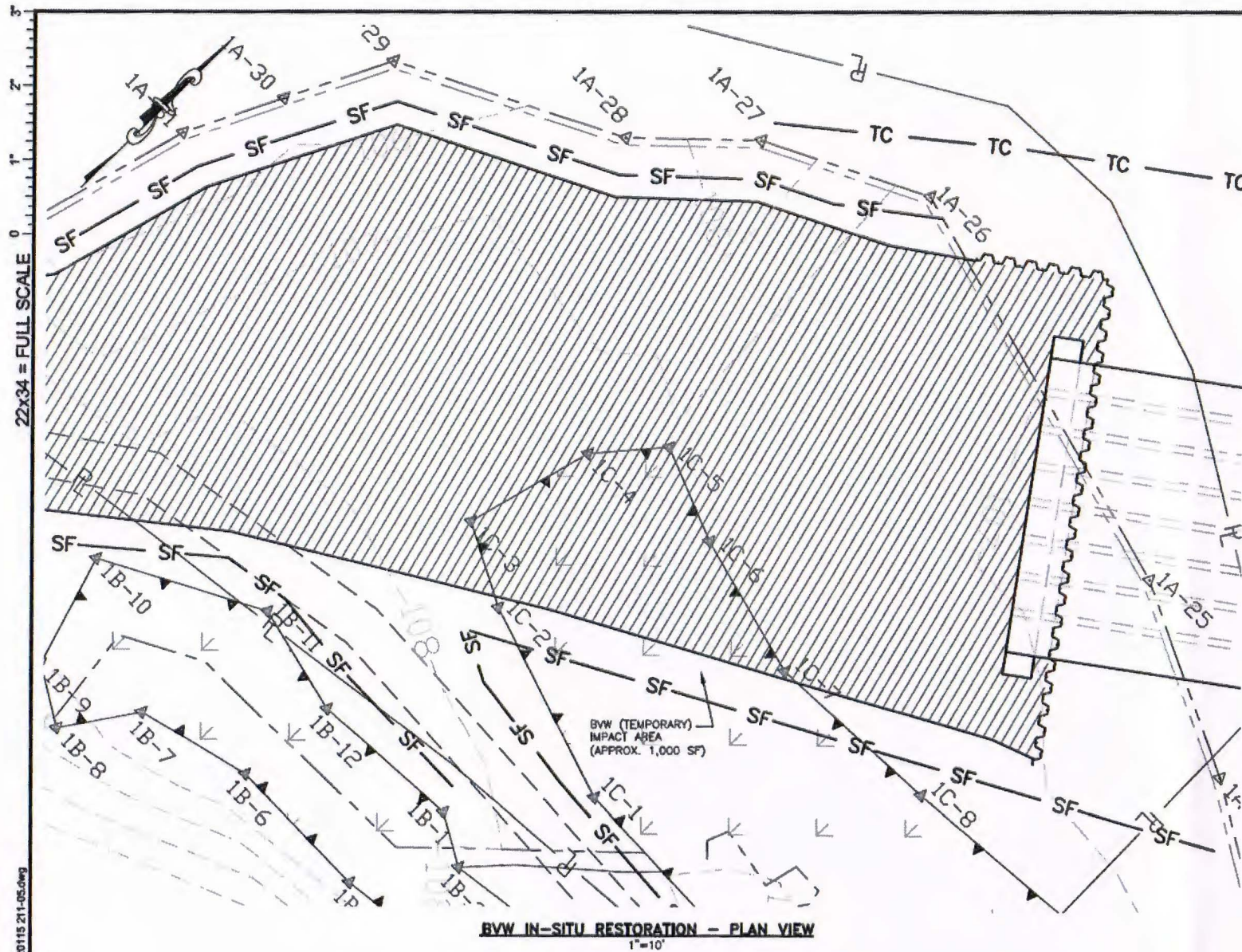
HOLYOKE WPC DATUM = (NAVD88 + 3.23')

Tighe & Bond
 Consulting Engineers
 www.tighebond.com



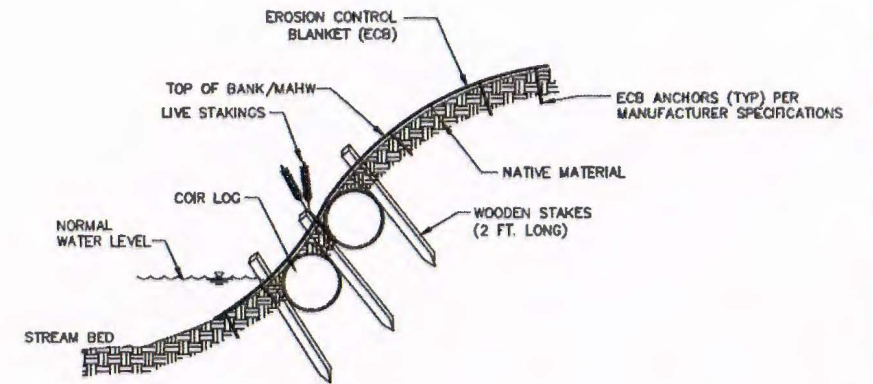
No.	Revision	Date	Drawn	Checked
	RELEASED FOR CONSTRUCTION	7-23-14		
			Designed	Drawn
			CFY	MPC

HOLYOKE GAS & ELECTRIC HOLYOKE, MA		
HADLEY FALLS STATION DOWNSTREAM FISH PASSAGE PROJECT		
BARGE LAUNCH ACCESS WETLAND DELINEATION - PROPOSED CONDITIONS		
<small>141 Main Street, P.O. Box 650 Prindle, Maine 04967 Telephone: (207) 487-3328 Fax: (207) 487-3124 www.kleinschmidtUSA.com</small>		
Project No.	Date Revised	Drawing No.
920115	1-27-14	211-04



NOTES:

- VEGETATED WETLAND RESTORATION ACTIVITIES WILL BE PERFORMED "IN-SITU" IN ACCORDANCE WITH THE "BVW IN-SITU RESTORATION PLAN" PREPARED FOR HG&E BY TIGHE & BOND.
- RESTORATION ACTIVITIES SHALL PRESERVE PRE-EXISTING WETLANDS VEGETATION AND HYDROLOGY, AS WELL AS THE SOIL PROFILE THROUGH THE CAREFUL REMOVAL OF FILL ASSOCIATED WITH THE TEMPORARY BARGE LAUNCH ACCESS ROAD.
- VEGETATED WETLAND RESTORATION ACTIVITIES SHALL PRESERVE PRE-EXISTING WETLANDS HYDROLOGY THROUGH CAREFUL PLACEMENT OF BACKFILL AND GRADING TO ENSURE CONSISTENCY WITH PRE-CONSTRUCTION MICROTOPOGRAPHY AND SUBSTRATE COMPOSITION. WETLANDS TEMPORARILY IMPACTED DURING CONSTRUCTION WILL BE RESTORED IN PLACE. IT IS ANTICIPATED THAT THE SEED BANK OF ON-SITE SOILS WILL YIELD A PLANT COMMUNITY CONSISTENT WITH EXISTING SOIL CHEMISTRY AND HYDROLOGIC REGIME. STRAW BALES WILL BE BROKEN APART AND LESS THAN 1.0 INCHES BROADCAST OVER EXPOSED SOILS AS MULCH.



NOTES:

- BANK AND SLOPE RESTORATION SHALL CONSIST OF THE INSTALLATION OF 12-INCH DIAMETER COIR LOGS, NATIVE LIVE OR DORMANT STAKINGS (SEE TABLE THIS SHEET), AND EROSION CONTROL BLANKETS.
- FACE OF COIR LOGS TO MATCH PRE-CONSTRUCTION GRADES.
- ACTUAL SPECIES INSTALLED FOR INLAND BANK RESTORATION WILL DEPEND UPON THE AVAILABILITY OF SUITABLE NATIVE NURSERY STOCK AT THE TIME OF RESTORATION ACTIVITIES BUT WILL BE CONSISTENT WITH THE GROWTH HABITS AND WILDLIFE HABITAT VALUES OF THE SPECIES LISTED IN TABLE OF SPECIES (THIS SHEET).
- UPLAND BORDERING LAND SUBJECT TO FLOODING (BLSF; I.e. LIMITS OF 100-YEAR FLOODING AND RIVERFRONT AREA) WILL BE LOAMED AND SEEDED WITH THE NATIVE SEED MIX SPECIFIED IN TABLE ON THIS SHEET 211-06. SEED MIX SHALL BE APPLIED AT THE MANUFACTURER'S RECOMMENDED RATE OF 35 LBS PER ACRE.

**[NOI] TABLE 3-2
Shrub Species for Inland Bank Restoration¹**

Common Name	Scientific Name	Indicator Status ⁴
Pussy Willow ^{2,3}	<i>Salix discolor</i>	FACW
Black Willow ^{2,3}	<i>Salix nigra</i>	OBL
Silky Dogwood ³	<i>Swida amomum</i>	FACW
Wild Raisin	<i>Viburnum cassinoides</i>	FACW
Northern Arrow wood	<i>Viburnum dentatum</i>	FAC

¹ Actual species used shall depend upon timing of work and availability of native nursery stock.

² Species also available as tubelings.

³ Dormant material is available [from New England Wetland Plants, Inc. of Amherst, Massachusetts] from mid-November to mid-March.

⁴ Indicator status based on Lichvar, N.W. 2013. *The National Wetland Plant List: 2013 Wetland Ratings.*

PERMIT SET

J:\114895 Hadley Falls Fish Exclusion Rec. Permitting\Plans & Details\SF\Rev\2013-12-05\201115 211-05.dwg
 Jan. 27, 2014 - 1:10 PM

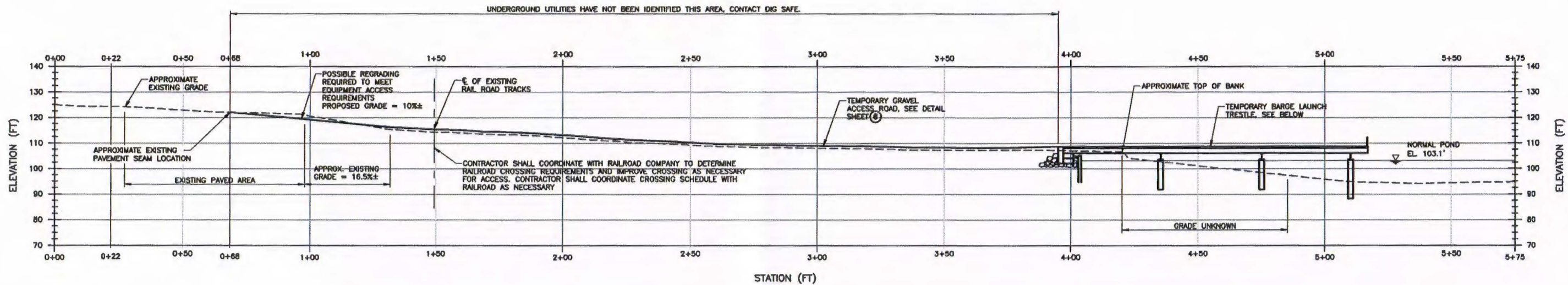
Tighe & Bond
Consulting Engineers
www.tighebond.com

HOLYOKE WPC DATUM = (NAVD88 + 3.23')				HOLYOKE GAS & ELECTRIC HOLYOKE, MA	
				HADLEY FALLS STATION DOWNSTREAM FISH PASSAGE PROJECT	
				RESTORATION PLAN - INLAND BANK, BVW	
RELEASED FOR CONSTRUCTION				7-23-14	
No.	Revision	Date	Drawn	Checked	
			CFY	MPC	
Project No.	Date Revised	Drawing No.		211-05	
920115	1-27-14				

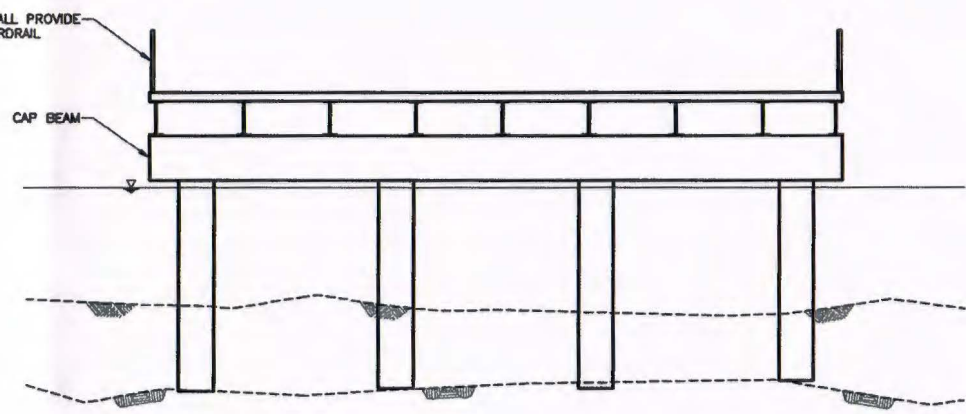
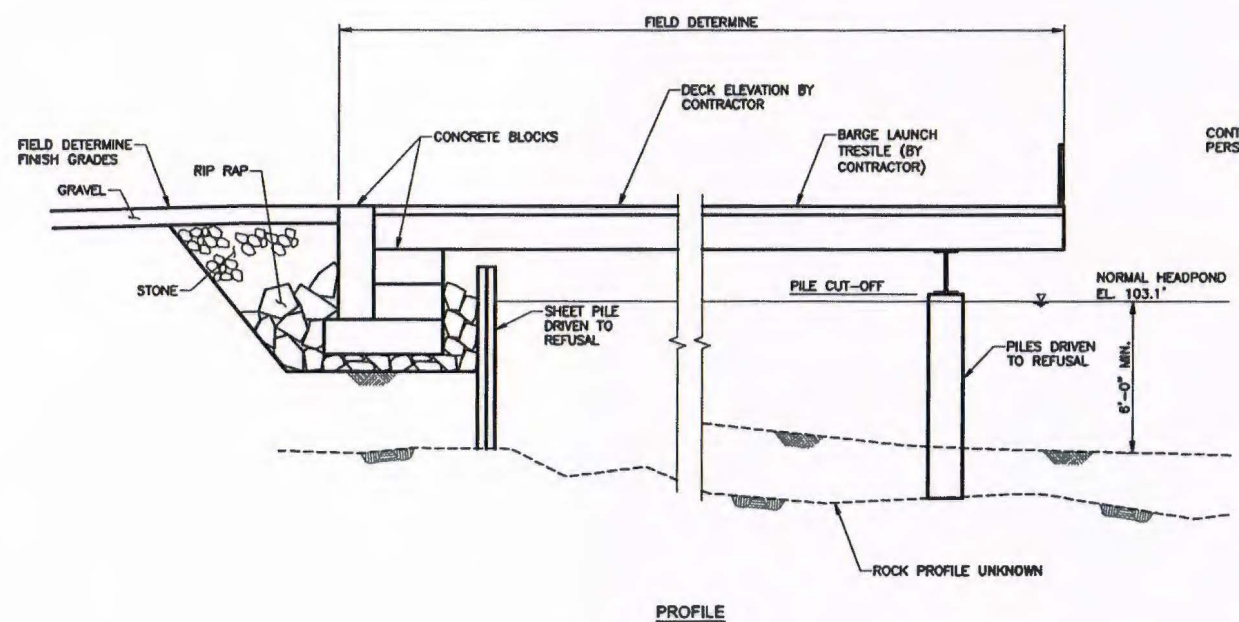
Kleinschmidt
141 Main Street, P.O. Box 850
Pittsfield, Maine 04967
Telephone: (207) 487-9328
Fax: (207) 487-9124
www.KleinschmidtUSA.com

22x34 = FULL SCALE

JUL 21 2014 11:32 AM J:\920115\Drawings\WORKING DRAWINGS\920115 210-05.dwg



SECTION (A)
1" = 20'



TEMPORARY BARGE LAUNCH TRESTLE DETAIL
3/16" = 1'-0"

NOTES:
1. BARGE LAUNCH TRESTLE SHALL BE CONTRACTOR DESIGNED.



HOLYOKE WPC DATUM = (NAVD88 + 3.23')

No.	Revision	Date	Drawn	Checked
	RELEASED FOR CONSTRUCTION	7-23-14	TLT	LLC

HOLYOKE GAS & ELECTRIC
HOLYOKE, MA

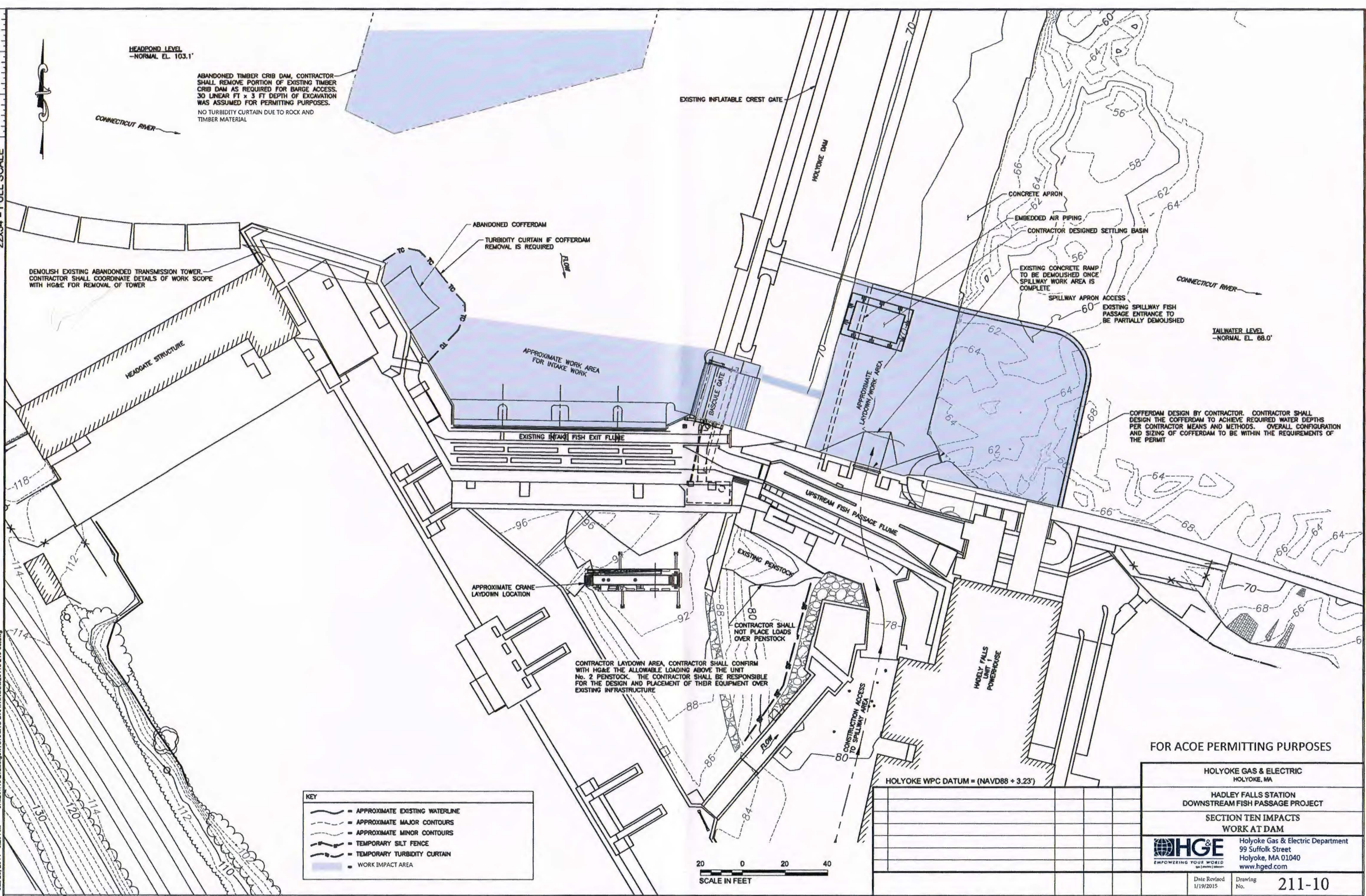
HADLEY FALLS STATION
DOWNSTREAM FISH PASSAGE PROJECT
TEMPORARY SITE CONDITIONS
BARGE LAUNCH TRESTLE

Kleinschmidt
141 Main Street P.O. Box 850
Pittsfield, Maine 04967
Telephone: (207) 487-3328
Fax: (207) 487-3124
www.KleinschmidtUSA.com

Project No.	Date Revised	Drawing No.
920115	9-20-13	210-05

22x34 = FULL SCALE

J:\020115\Drawings\WORKING DRAWINGS\20115 210-03.dwg
 PLOT: Jul 23, 2014 - 8:25 AM



HEADPOND LEVEL
 -NORMAL EL. 103.1'

ABANDONED TIMBER CRIB DAM, CONTRACTOR SHALL REMOVE PORTION OF EXISTING TIMBER CRIB DAM AS REQUIRED FOR BARGE ACCESS. 30 LINEAR FT x 3 FT DEPTH OF EXCAVATION WAS ASSUMED FOR PERMITTING PURPOSES. NO TURBIDITY CURTAIN DUE TO ROCK AND TIMBER MATERIAL

EXISTING INFLATABLE CREST GATE

HOLYOKE DAM

CONCRETE APRON

EMBEDDED AIR PIPING

CONTRACTOR DESIGNED SETTLING BASIN

EXISTING CONCRETE RAMP TO BE DEMOLISHED ONCE SPILLWAY WORK AREA IS COMPLETE

SPILLWAY APRON ACCESS

EXISTING SPILLWAY FISH PASSAGE ENTRANCE TO BE PARTIALLY DEMOLISHED

TAILWATER LEVEL
 -NORMAL EL. 68.0'

COFFERDAM DESIGN BY CONTRACTOR. CONTRACTOR SHALL DESIGN THE COFFERDAM TO ACHIEVE REQUIRED WATER DEPTHS PER CONTRACTOR MEANS AND METHODS. OVERALL CONFIGURATION AND SIZING OF COFFERDAM TO BE WITHIN THE REQUIREMENTS OF THE PERMIT

DEMOLISH EXISTING ABANDONED TRANSMISSION TOWER. CONTRACTOR SHALL COORDINATE DETAILS OF WORK SCOPE WITH HG&E FOR REMOVAL OF TOWER

HEADGATE STRUCTURE

APPROXIMATE WORK AREA FOR INTAKE WORK

EXISTING INTAKE FISH EXIT FLUME

UPSTREAM FISH PASSAGE FLUME

EXISTING PENSTOCK

APPROXIMATE CRANE LAYDOWN LOCATION

CONTRACTOR SHALL NOT PLACE LOADS OVER PENSTOCK

CONTRACTOR LAYDOWN AREA CONTRACTOR SHALL CONFIRM WITH HG&E THE ALLOWABLE LOADING ABOVE THE UNIT No. 2 PENSTOCK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND PLACEMENT OF THEIR EQUIPMENT OVER EXISTING INFRASTRUCTURE

TAYLOR FALLS UNIT 1 POWERHOUSE

CONSTRUCTION ACCESS TO SPILLWAY AREA

HOLYOKE WPC DATUM = (NAVD88 + 3.23')

KEY	
	APPROXIMATE EXISTING WATERLINE
	APPROXIMATE MAJOR CONTOURS
	APPROXIMATE MINOR CONTOURS
	TEMPORARY SILT FENCE
	TEMPORARY TURBIDITY CURTAIN
	WORK IMPACT AREA

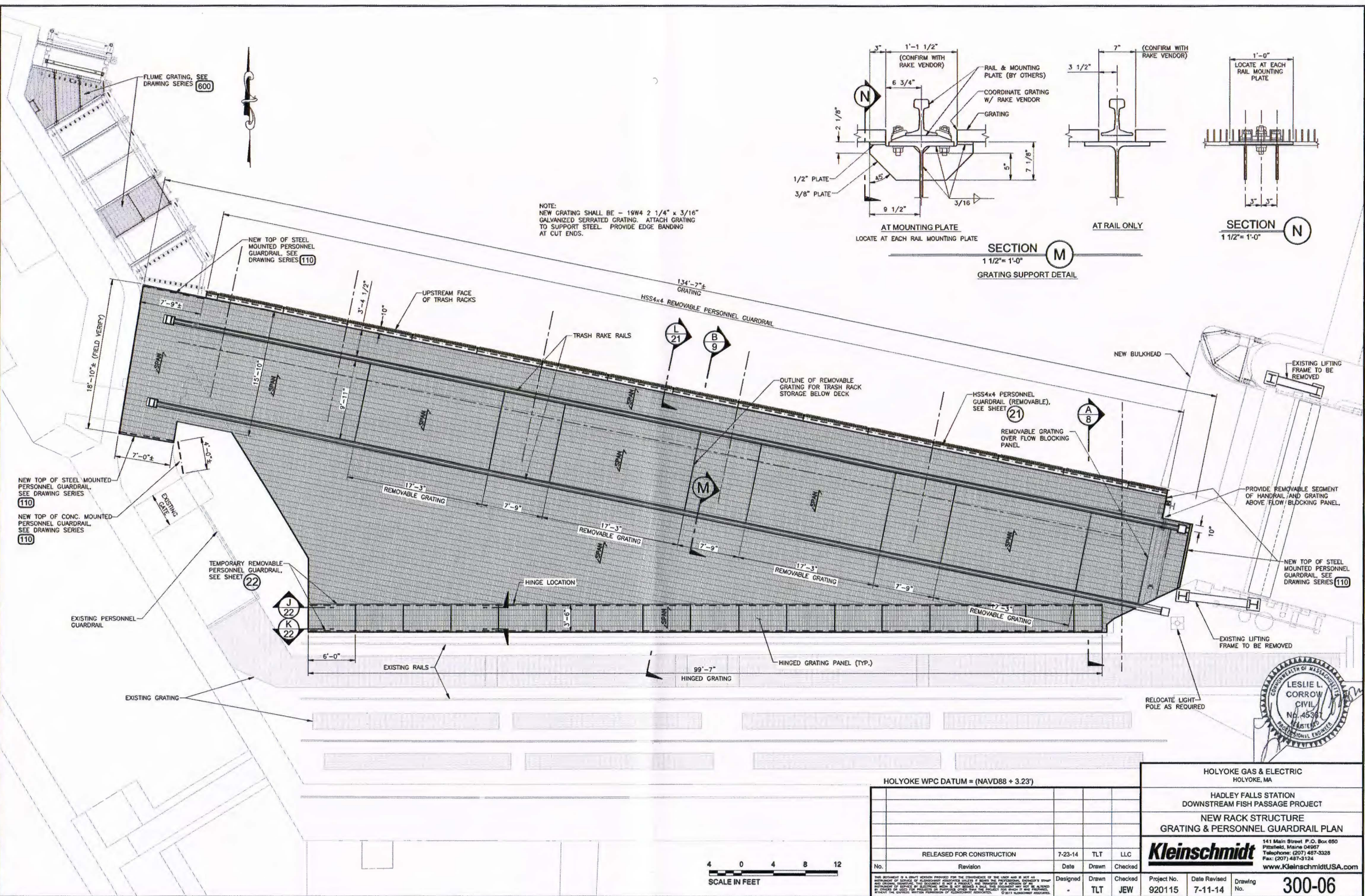


FOR ACOE PERMITTING PURPOSES

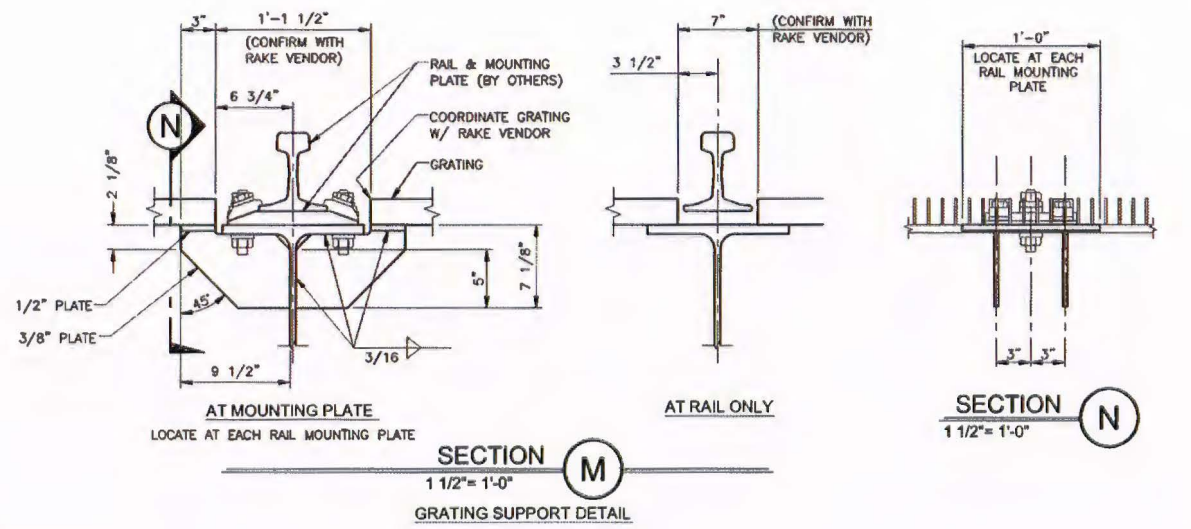
HOLYOKE GAS & ELECTRIC HOLYOKE, MA	
HADLEY FALLS STATION DOWNSTREAM FISH PASSAGE PROJECT	
SECTION TEN IMPACTS WORK AT DAM	
	Holyoke Gas & Electric Department 99 Suffolk Street Holyoke, MA 01040 www.hged.com
Date Revised 1/19/2015	Drawing No. 211-10

22x34 = FULL SCALE

J:\020115\Drawings\WORKING DRAWINGS\20115 300-06.dwg
 JUL 21, 2014 - 3:43 PM



NOTE:
 NEW GRATING SHALL BE - 19W4 2 1/4" x 3/16"
 GALVANIZED SERRATED GRATING. ATTACH GRATING
 TO SUPPORT STEEL. PROVIDE EDGE BANDING
 AT CUT ENDS.



HOLYOKE WPC DATUM = (NAVD88 + 3.23')

No.	Revision	Date	Drawn	Checked
	RELEASED FOR CONSTRUCTION	7-23-14	TLT	LLC
			Designed	Drawn
			TLT	JEW

HOLYOKE GAS & ELECTRIC
 HOLYOKE, MA

HADLEY FALLS STATION
 DOWNSTREAM FISH PASSAGE PROJECT

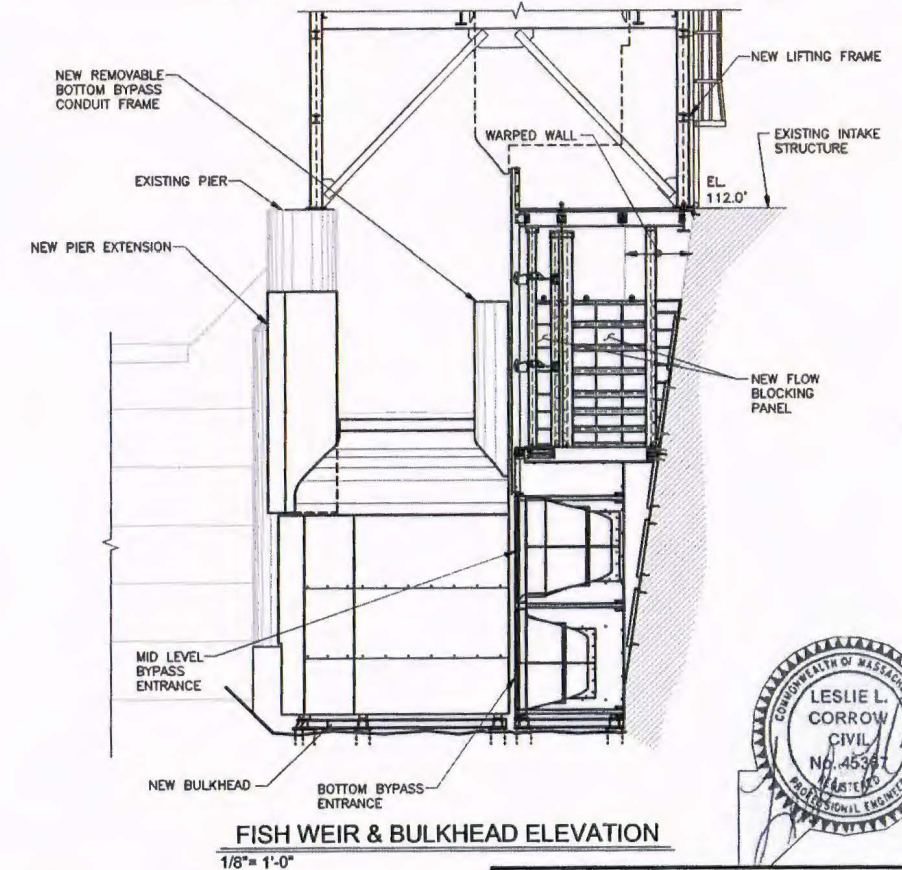
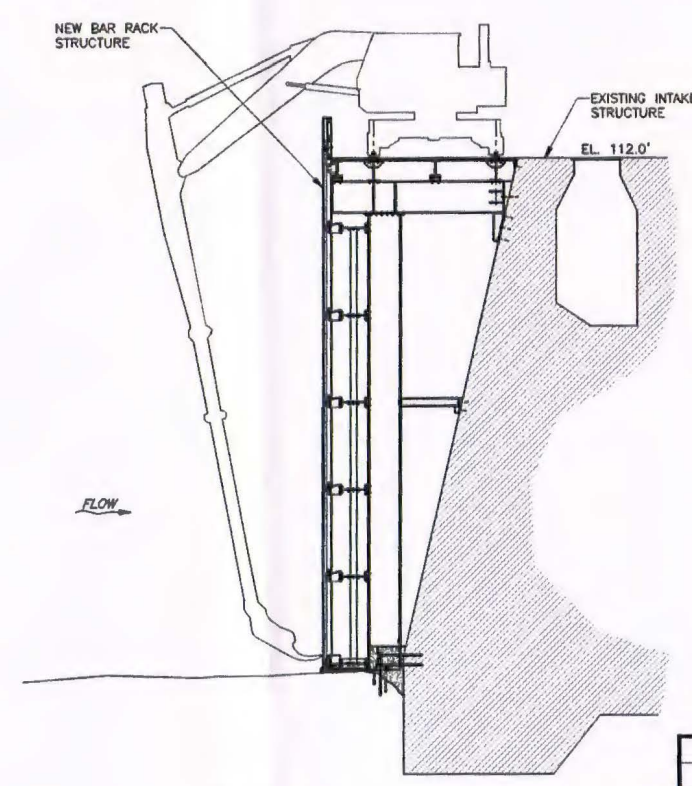
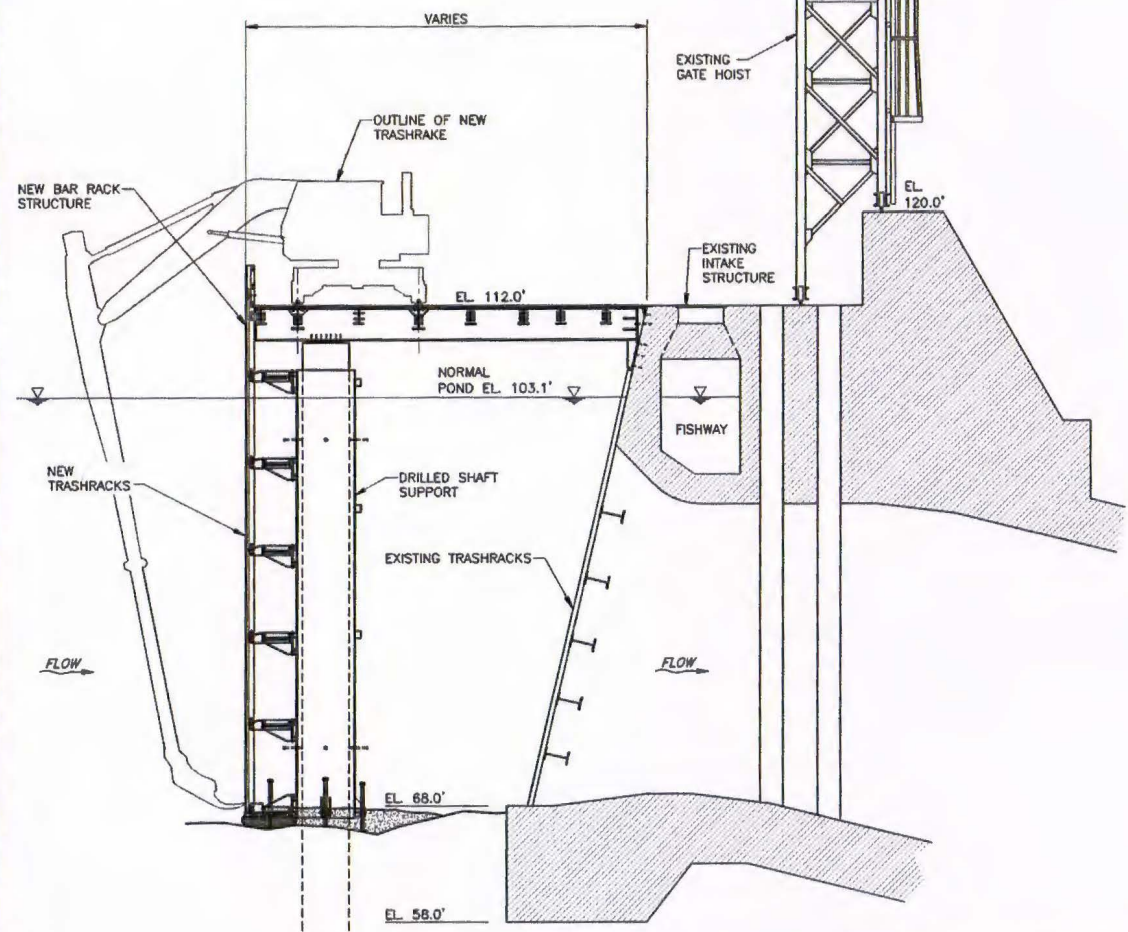
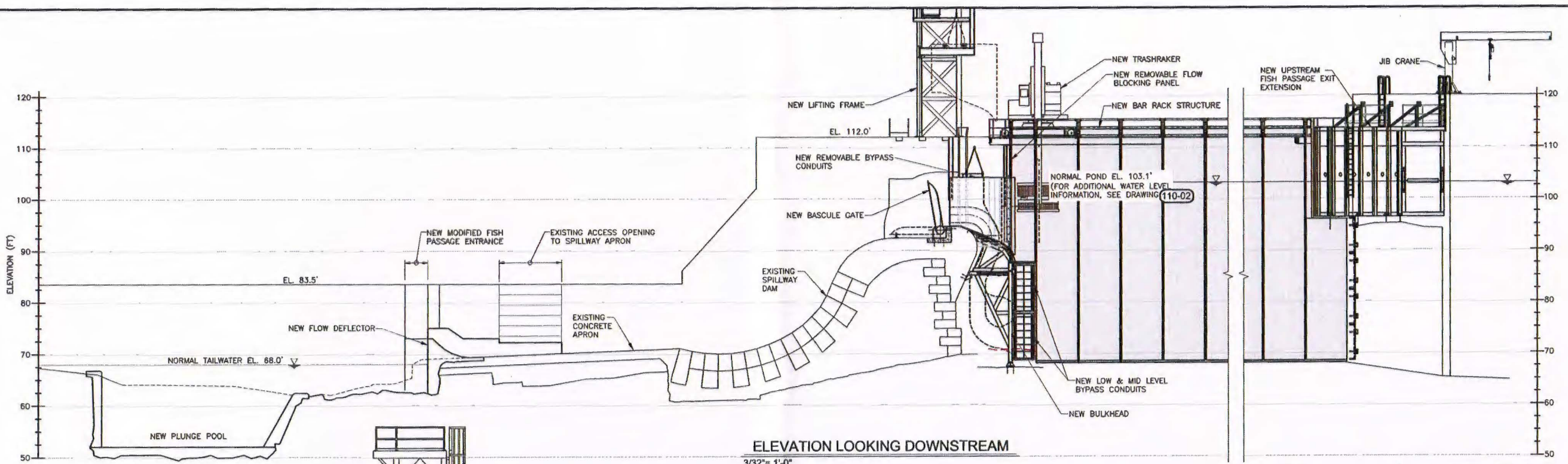
NEW RACK STRUCTURE
 GRATING & PERSONNEL GUARDRAIL PLAN

Kleinschmidt
 141 Main Street P.O. Box 650
 Pittsfield, Maine 04967
 Telephone: (207) 487-3328
 Fax: (207) 487-3124
 www.KleinschmidtUSA.com

Project No. 920115 Date Revised 7-11-14 Drawing No. 300-06



PRINTED: Jul. 21, 2014 - 4:22 PM J:\920115\Drawings\WORKING DRAWINGS\920115 220-03.dwg



HOLYOKE WPC DATUM = (NAVD88 + 3.23')

No.	Revision	Date	Drawn	Checked
	RELEASED FOR CONSTRUCTION	7-23-14	TLT	LLC
			Designed AC	Drawn TLT
			Checked	JEW

HOLYOKE GAS & ELECTRIC
HOLYOKE, MA

HADLEY FALLS STATION
DOWNSTREAM FISH PASSAGE PROJECT

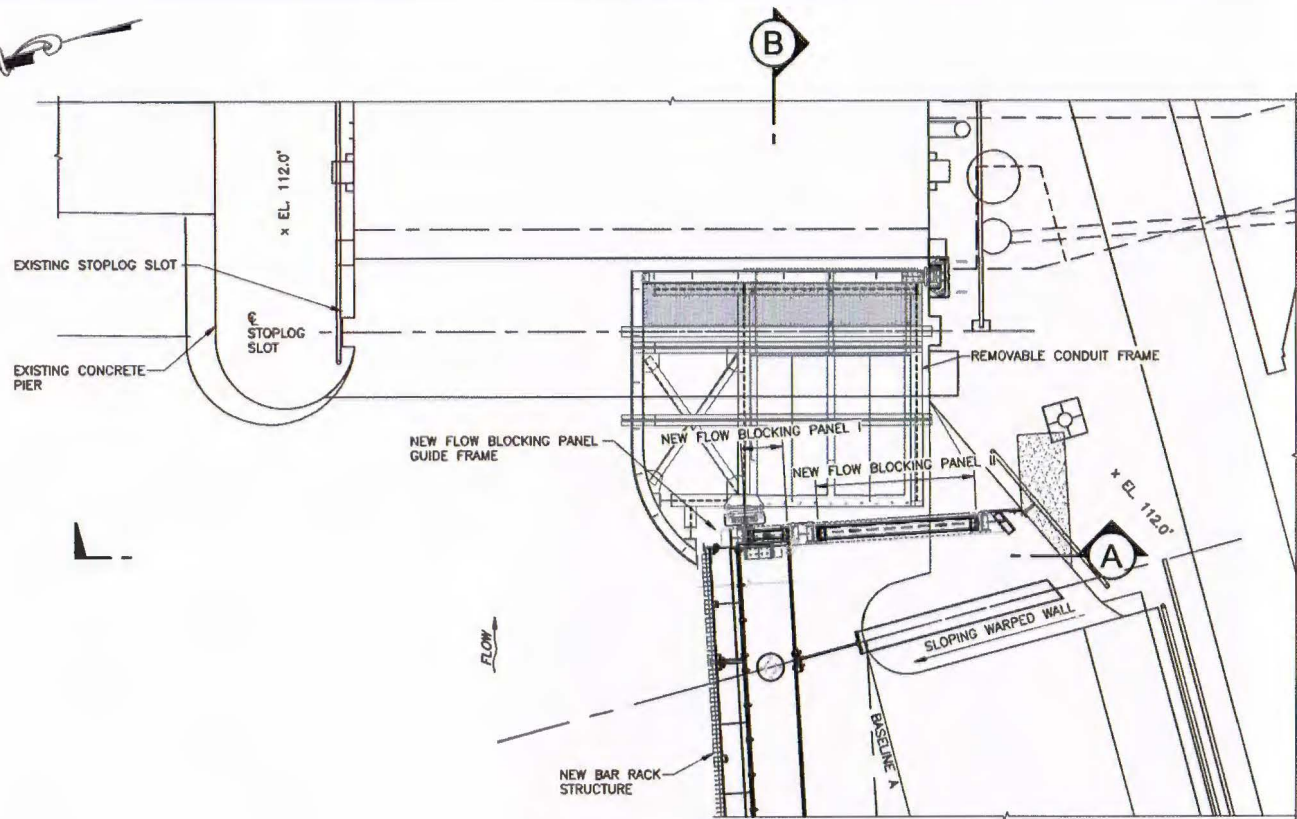
NEW SITE CONDITIONS
GENERAL ARRANGEMENT

Kleinschmidt
141 Main Street P.O. Box 850
Pittsfield, Maine 04967
Telephone: (207) 487-3328
Fax: (207) 487-3124
www.KleinschmidtUSA.com

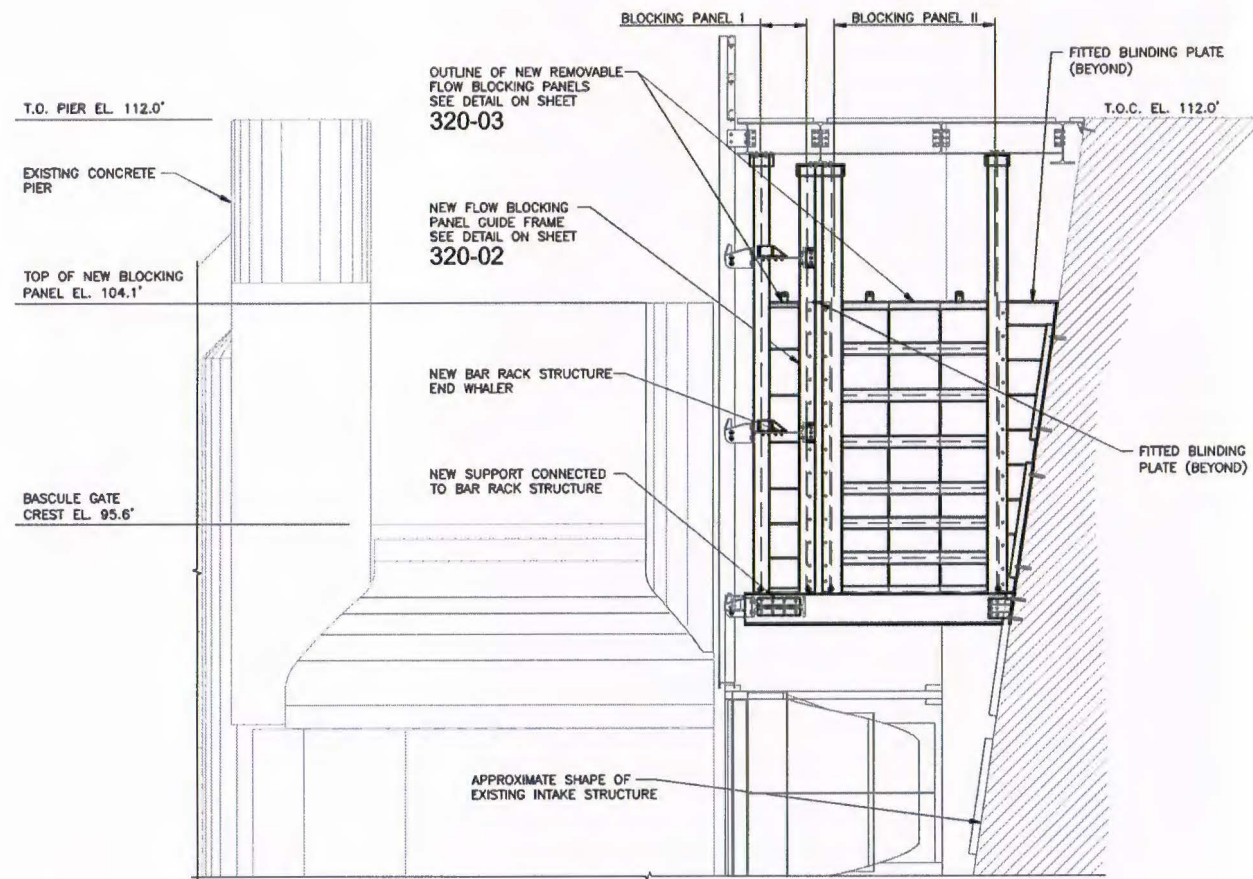
Project No. 920115 Date Revised 6-23-14 Drawing No. 220-03

22x34 = FULL SCALE

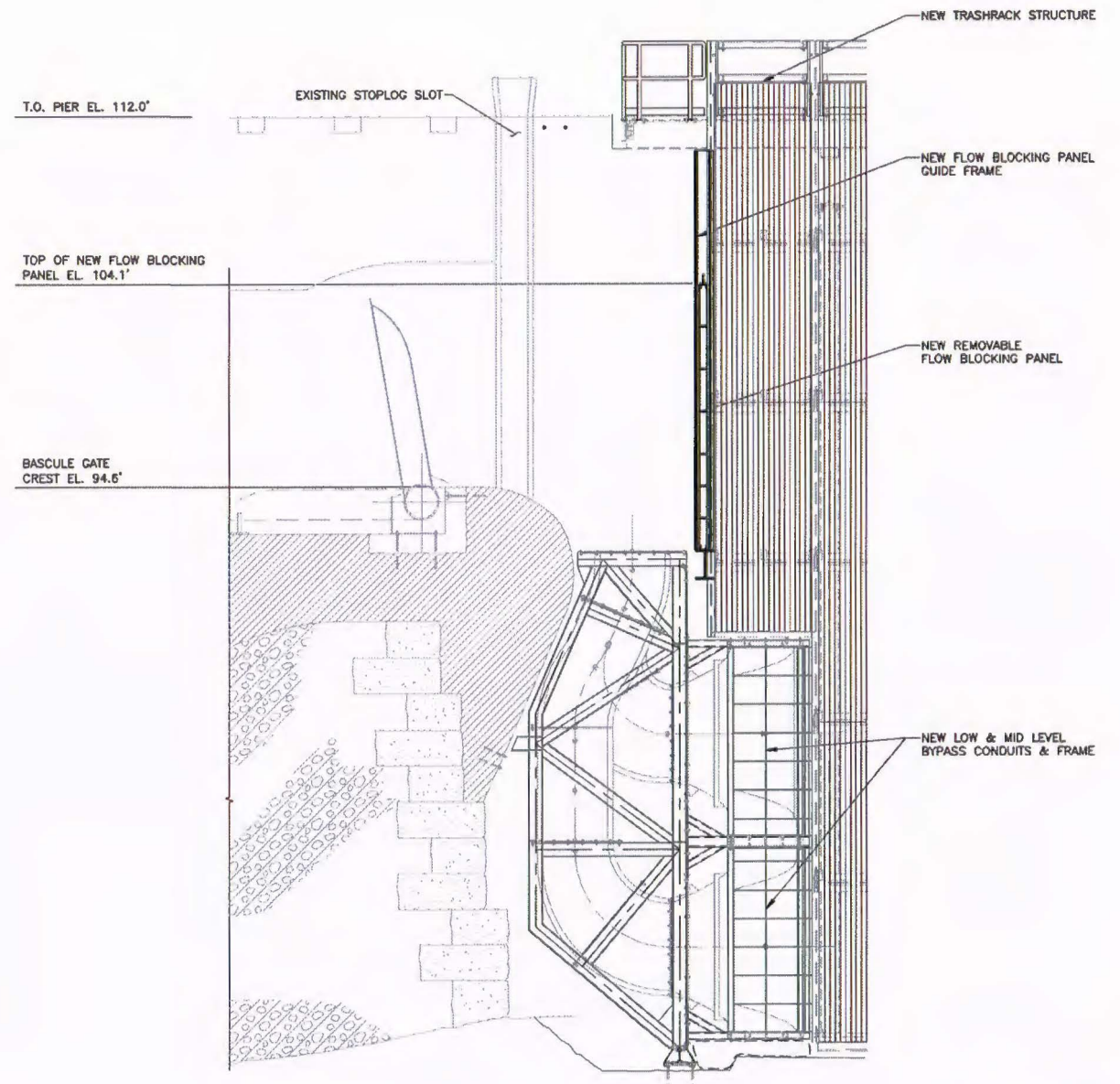
JUL 22, 2014 - 9:19 AM J:\2011\5\Drawings\WORKING DRAWINGS\20115-320-01.dwg



PLAN
1/4" = 1'-0" NOTE: PANELS SHALL BE INSTALLED/REMOVED UNDER NO FLOW CONDITIONS.



SECTION A
1/4" = 1'-0"



SECTION B
1/4" = 1'-0"



HOLYOKE WPC DATUM = (NAVD88 + 3.23')

No.	Revision	Date	Drawn	Checked
	RELEASED FOR CONSTRUCTION	7-23-14	TLT	LLC
			Designed AC	Drawn PJ
			Checked	JEW

HOLYOKE GAS & ELECTRIC
HOLYOKE, MA

HADLEY FALLS STATION
DOWNSTREAM FISH PASSAGE PROJECT

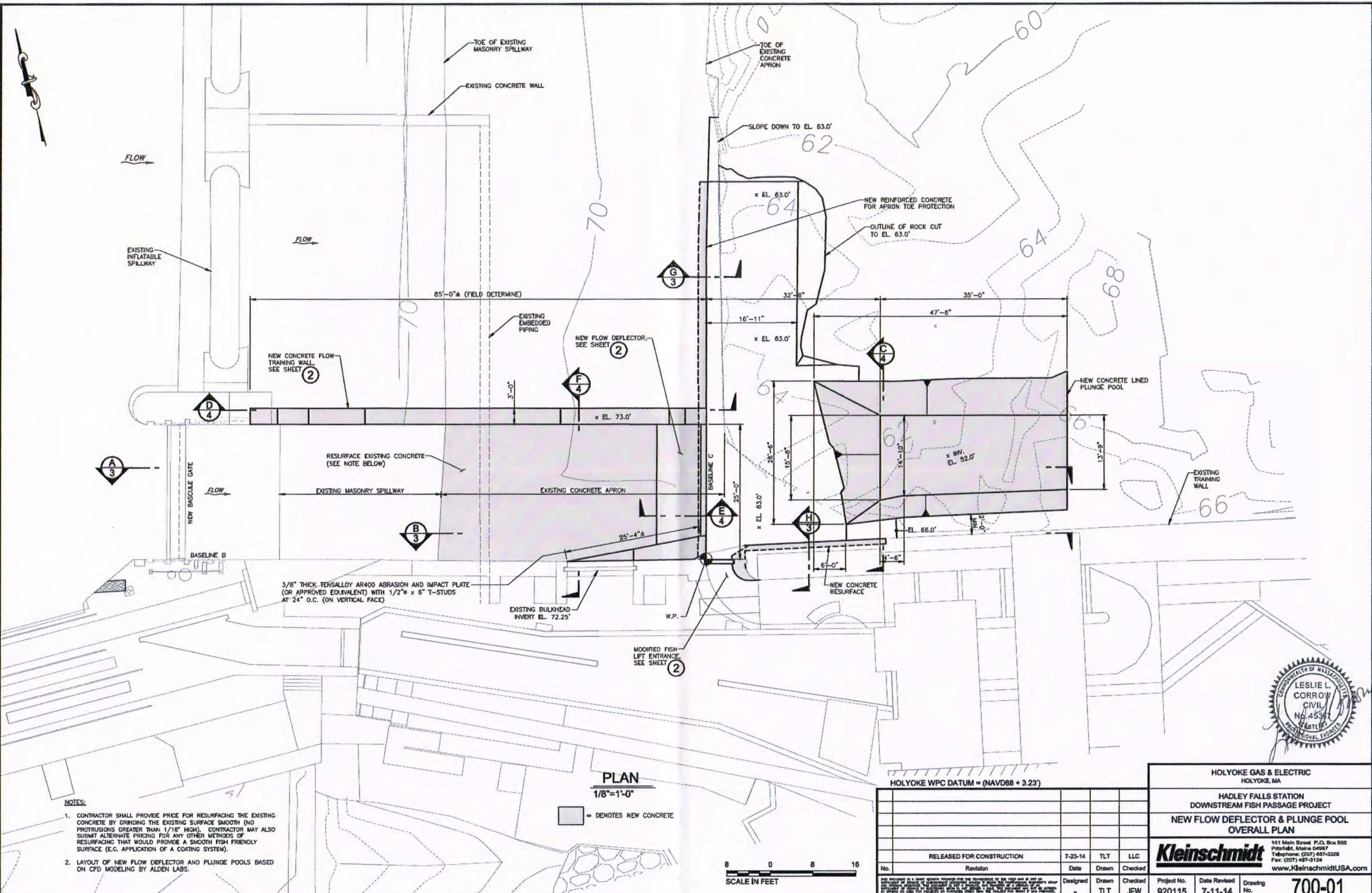
NEW RACK STRUCTURE
FLOW BLOCKING PANEL PLAN & SECTIONS

Kleinschmidt
141 Main Street P.O. Box 650
Pittsfield, Maine 04967
Telephone: (207) 487-3329
Fax: (207) 487-3124
www.KleinschmidtUSA.com

Project No.	Date Revised	Drawing No.
920115	7-08-14	320-01

22x34 = FULL SCALE

J:\020115\Drawings\WORKING DRAWINGS\020115_700-01.dwg
 Jul 23, 2014 - 9:00 AM



- NOTES:
- CONTRACTOR SHALL PROVIDE PRICE FOR RESURFACING THE EXISTING CONCRETE BY GRINDING THE EXISTING SURFACE SMOOTH (NO PROTRUSIONS GREATER THAN 1/16" HIGH). CONTRACTOR MAY ALSO SUBMIT ALTERNATE PRICING FOR ANY OTHER METHODS OF RESURFACING THAT WOULD PROVIDE A SMOOTH FISH FRIENDLY SURFACE (E.G. APPLICATION OF A COATING SYSTEM).
 - LAYOUT OF NEW FLOW DEFLECTOR AND PLUNGE POOLS BASED ON CFD MODELING BY ALDEN LABS.

PLAN

1/8"=1'-0"

■ = DENOTES NEW CONCRETE

HOLYOKE WPC DATUM = (NAVD88 + 3.23')

No.	Revision	Date	Drawn	Checked
	RELEASED FOR CONSTRUCTION	7-23-14	TLT	LLC
			Designed	Drawn
			TLT	JEW

HOLYOKE GAS & ELECTRIC
 HOLYOKE, MA

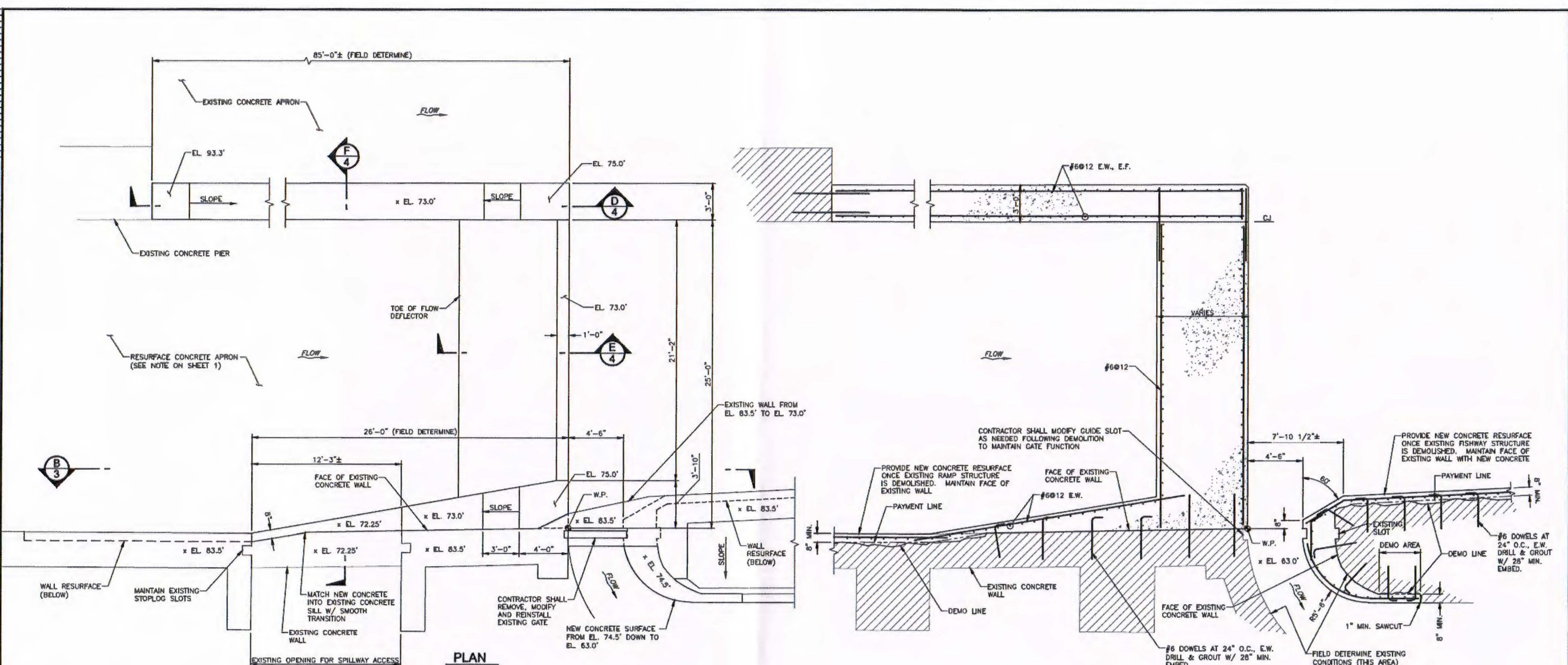
HADLEY FALLS STATION
 DOWNSTREAM FISH PASSAGE PROJECT
 NEW FLOW DEFLECTOR & PLUNGE POOL
 OVERALL PLAN

Kleinschmidt
 141 Main Street P.O. Box 650
 Westbrook, Maine 04097
 Telephone: (207) 487-3323
 Fax: (207) 487-3124
 www.KleinschmidtUSA.com

Project No. 920115 Date Revised 7-11-14 Drawing No. 700-01

22x34 = FULL SCALE

J:\2011\150\Drawings\WORKING DRAWINGS\920115 700-02.dwg
 J:\2011\150\Drawings\WORKING DRAWINGS\920115 700-02.dwg
 Jul 21, 2014 3:18 PM



PLAN
 1/4" = 1'-0"
 SCALE IN FEET

NOTE: CONTRACTOR SHALL PROVIDE PRECAST CONCRETE BLOCK/PANELS TO BE USED AS FUTURE VEHICULAR ACCESS TO SPILLWAY. PRECAST CONCRETE BLOCK/PANELS SHALL BE PROVIDED AS DIRECTED BY OWNER.

REINFORCEMENT PLAN
 1/4" = 1'-0"

NOTE: LAYOUT OF NEW FLOW DEFLECTOR AND PLUNGE POOLS BASED ON CFD MODELING BY ALDEN LABS.



HOLYOKE WPC DATUM = (NAVD88 + 3.23')				HOLYOKE GAS & ELECTRIC HOLYOKE, MA	
				HADLEY FALLS STATION DOWNSTREAM FISH PASSAGE PROJECT	
				NEW FLOW DEFLECTOR & PLUNGE POOL FLOW DEFLECTOR PLANS	
				Kleinschmidt 141 Main Street P.O. Box 650 Pittsfield, Maine 04957 Telephone: (207) 487-3225 Fax: (207) 487-3124 www.KleinschmidtUSA.com	
No.	Revision	Date	Drawn	Checked	
	RELEASED FOR CONSTRUCTION	7-23-14	TLT	LLC	
			Designed	Drawn	Checked
			TLT	JEW	
Project No.	Date Revised	Drawing No.			
920115	7-11-14	700-02			

22x34 = FULL SCALE
 J:\2011\15\Drawings\WORKING DRAWINGS\20115 110-02.dwg
 Jul 23, 2014 - 8:27 AM

GENERAL NOTES

- SEE PROJECT TECHNICAL SPECIFICATIONS FOR COMPLETE DETAILS.
- ALL ELEVATIONS IN HOLYOKE WPC DATUM = (NAVD88 + 3.23').
- THESE ARE STANDARD NOTES APPLYING TO ALL WORK. SPECIFIC NOTES SHOWN ON OTHER DRAWINGS OR STATED IN THE TECHNICAL SPECIFICATIONS WILL TAKE PRECEDENCE.
- CONTRACTOR SHALL SCHEDULE WORK IN COOPERATION WITH THE OWNER.
- DETERMINE LOCATIONS, EXISTING CONDITIONS AND DIMENSIONS BY VISITING THE SITE AND DME SURVEY AS REQUIRED. VERIFY ALL DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING MATERIAL. CONTRACTOR SHALL REPORT ALL DISCREPANCIES TO THE OWNER.
- INFORMATION SHOWN ON THESE DRAWINGS IS BASED ON THE ORIGINAL CONSTRUCTION DRAWINGS AND LIMITED FIELD MEASUREMENTS. VERIFY DIMENSIONS PRIOR TO START OF WORK.
- CONTRACTOR SHALL PROVIDE DME SURVEY OF ALL COMPLETED WORK AND PROVIDE DME REPORT TO OWNER FOR APPROVAL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND PLACEMENT OF THEIR EQUIPMENT OVER EXISTING INFRASTRUCTURE.

GENERAL STEEL NOTES

- CONTRACTOR SHALL CONFIRM ALL EXISTING DIMENSIONS IN THE FIELD.
- CONTRACTOR SHALL SUBMIT STRUCTURAL STEEL AND METAL DECK SHOP DRAWINGS FOR OWNER REVIEW PRIOR TO FABRICATION AND INSTALLATION.
- WHERE DIMENSIONS ARE NOT SHOWN, CONTACT ENGINEER FOR CLARIFICATION. VERIFY DIMENSIONS PRIOR TO START OF WORK.
- STRUCTURAL STEEL DESIGN STANDARD - AISC SPECIFICATION FOR DESIGN AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, 14th EDITION, LRFD DESIGN METHOD.
 - FABRICATOR SHALL DESIGN NEW STEEL TO NEW STEEL CONNECTIONS FOR BEAMS USING AISC STANDARD FRAMED BEAM CONNECTIONS. DESIGN FOR MAXIMUM UNIFORM END REACTION OR 6 KIPS, WHICHEVER IS GREATER.
 - CONNECTIONS SHALL BE SHOP WELDED AND FIELD BOLTED UNLESS NOTED OTHERWISE.
 - BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF 2 BOLTS. MINIMUM BOLT SIZE 3/4" DIA. UNLESS NOTED OTHERWISE.
- MATERIAL PROPERTIES:
 - STEEL BARS, PLATES, ANGLES AND CHANNELS AND OTHER SHAPES UNLESS NOTED OTHERWISE - ASTM A36.
 - STRUCTURAL STEEL W SHAPES - ASTM A992.
 - BOLTS - 3/4" ASTM A325 GALV. ALL CONNECTIONS OF STRUCTURAL MEMBERS.
 - ANCHOR ROD - F1554 GR. 36 HOT-DIPPED GALVANIZED.
 - PIPING - ASTM A53, GRADE B.
 - STRUCTURAL TUBING - HSS RECTANGULAR - ASTM A500 GR 46; HSS ROUND ASTM A500 GRADE 42.
 - WELD - PER AWS D1.1 MATCHING ELECTRODES TO STRENGTH OF BASE METALS. WELDING OPERATORS SHALL BE CERTIFIED TO AWS D1.1.
 - ADHESIVE ANCHOR BOLTS-HITLJ, INC. HAS E STANDARD ISO 898 CLASS 5.8 RODS, UNLESS NOTED OTHERWISE. RODS SHALL BE INSTALLED WITH HIT-RE 500 INJECTABLE MORTAR, UNLESS NOTED OTHERWISE. ANCHORS SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS. MINIMUM EMBEDMENT SHALL BE 5" FOR 1/2" & 5/8" DIA. ANCHORS, 7" FOR 3/4" DIA. ANCHORS, AND 12" FOR 1" DIA. ANCHORS, UNLESS NOTED OTHERWISE.
- STEEL COATINGS:
 - ALL STRUCTURAL STEEL SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123, UNLESS NOTED OTHERWISE.
 - ALL BOLTS AND HARDWARE ARE TO BE HOT DIPPED GALVANIZED PER ASTM A153.

GENERAL DEMOLITION NOTES

- REMOVE EXISTING CONCRETE TO EXTENT SHOWN ON THE DRAWINGS. DO NOT DAMAGE CONCRETE TO REMAIN.
- MAINTAIN EXISTING REINFORCEMENT AND EXTEND INTO THE NEW CONCRETE WHERE POSSIBLE.
- REMOVE ALL UNSOUND CONCRETE AND LOOSE ROCK IN THE AREAS NOTED ON THE DRAWINGS. THE OWNER SHALL EXAMINE THESE AREAS BEFORE NEW CONCRETE IS PLACED.
- SHORE AND SUPPORT EXISTING CONSTRUCTION, WHICH IS NOT REMOVED, AS REQUIRED.
- CONCRETE DEMOLITION IS SHALL BE PERFORMED BY USING A POINTED MECHANICAL TOOL SUCH AS A CHIPPING HAMMER OR LOW ENERGY HOE-RAM, BY HYDRO DEMOLITION OR OTHER APPROVED METHODS THAT DO NOT DAMAGE OR FRACTURE THE SUBSTRATE.
- DISPOSAL OF MATERIAL SHALL BE CONDUCTED IN A LAWFUL MANNER. LEAD PAINT MAY BE PRESENT.
- CONSULT OWNER FOR EXTENT OF SALVAGEABLE MATERIAL. ALL MATERIAL SAVED TO BE RELOCATED PER HG&E'S PREFERENCE.
- REMOVE AND REPLACE ALL INCIDENTAL MATERIALS (MISC. METALS, CONDUITS, ETC.) AS NECESSARY FOR NEW CONSTRUCTION. REMOVE ALL ELECTRICAL CONDUIT AND WIRING ASSOCIATED WITH ANY EQUIPMENT THAT SHALL BE REMOVED.

CONCRETE NOTES

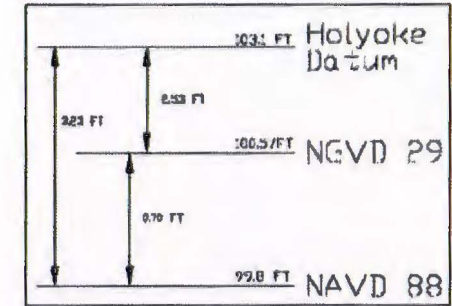
- WHERE DIMENSIONS ARE NOT SHOWN, CONTACT ENGINEER FOR CLARIFICATION. VERIFY DIMENSIONS PRIOR TO START OF WORK.
- SURFACE PREPARATION:
 - ALL LOOSE ROCK, CONCRETE, AND SOIL SHALL BE REMOVED PRIOR TO CONSTRUCTION. REMOVE ANY GREASE, OIL OR OTHER COATINGS ON ANY EXISTING SURFACE.
 - WHEN CONCRETE IS PLACED DIRECTLY AGAINST ROCK SURFACES, THE SURFACE SHALL BE CLEANED WITH HIGH-PRESSURE WATER TO REMOVE ALL DIRT OR LOOSE MATERIAL.
 - SURFACE PREPARATION OF EXISTING CONCRETE AND MASONRY SURFACES SHALL REMOVE ALL LOOSE OR DEGRADED MATERIAL AND VEGETATION. ACCEPTABLE METHODS INCLUDE SANDBLASTING, MECHANICAL CHIPPING, OR HIGH-PRESSURE WATER BLAST (8000 PSI MINIMUM PRESSURE).
- CONCRETE:
 - ALL WORK SHALL CONFORM TO ACI 318, ACI 301 AND ACI 347, LATEST EDITIONS.
 - SPECIFICATIONS:
 - MINIMUM 28 DAY STRENGTH = 4000 PSI.
 - MAXIMUM WATER/CEMENT RATIO = 0.45.
 - SLUMP 3" TO 4".
 - AIR CONTENT PROVIDED BY AIR ENTRAINMENT ADMIXTURE 5% TO 7% AS MEASURES BY ASTM C231.
 - WATER REDUCING ADMIXTURE SHALL BE USED AT THE OPTION OF THE CONTRACTOR.
 - FLYASH SHALL BE USED. ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED.
 - DO NOT PLACE CONCRETE AGAINST ACTIVE LEAKS OR SEAMS WITH FLOWING WATER. STOP FLOW OR INSTALL DRAINAGE TO DIVERT FLOW AWAY FROM FRESH CONCRETE.
 - CURE CONCRETE FOR 7 DAYS MINIMUM. DO NOT APPLY LOADS TO NEW CONCRETE FOR AT LEAST 7 DAYS UNLESS APPROVED BY THE ENGINEER.
- REINFORCEMENT:
 - ASTM A615 GRADE 60.
 - FIELD BEND REINFORCING BARS TO CLEAR BOXOUTS AND PIPES WHERE REQUIRED. NO CUTTING OF REINFORCEMENT BARS SHALL BE DONE WITHOUT PRIOR APPROVAL OF ENGINEER.
 - SPLICES: LENGTH SHALL BE PER REINFORCEMENT DEVELOPMENT SCHEDULE. SPLICES SHALL BE ACI CLASS B UNLESS NOTED OTHERWISE.
 - DOWELS: PER REINFORCEMENT DEVELOPMENT SCHEDULE PROVIDE DOWELS OF SIZE AND DIMENSION SHOWN. CLEAN DRILL HOLES WITH AIR PRESSURE TO REMOVE DUST AND STANDING WATER. HOLES MAY BE DAMP. GROUT SHALL BE NON-SHRINK PROPRIETARY CEMENT GROUT (5,000 PSI MINIMUM), OR EPOXY GROUT, AT CONTRACTOR'S OPTION. SELECTED GROUT MUST BE SUITABLE FOR USE IN WET HOLES. INSTALL PER MANUFACTURER'S INSTRUCTIONS. ENSURE THAT HOLES ARE COMPLETELY FILLED WITH GROUT. WHERE SURFACES ARE VERTICAL, INSTALL DOWELS WITH SLOPE DOWNHILL OR USING MANUFACTURER'S STANDARD HOLE STOPPER AND INJECTION SYSTEM.
 - HOOKS: HOOKS IN BARS SHALL BE DIMENSIONED AND BENT PER ACI STANDARD HOOKS.
 - REBAR COVER: EXTERIOR - 3".
 - CONCRETE ANCHORS: ADHESIVE ANCHOR BOLTS - HILTI, INC. HAS E STANDARD ISO 898 CLASS 5.8 RODS, UNLESS NOTED OTHERWISE. RODS SHALL BE INSTALLED WITH HIT-RE 500 INJECTABLE MORTAR, UNLESS NOTED OTHERWISE. ANCHORS SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS. MINIMUM EMBEDMENT SHALL BE 5" FOR 1/2" & 5/8" DIA. ANCHORS, 7" FOR 3/4" DIA. ANCHORS, AND 12" FOR 1" DIA. ANCHORS, UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL ENGAGE A HILTI ANCHOR REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THE ANCHORING PRODUCTS SPECIFIED. THE OWNER/ENGINEER SHALL RECEIVE DOCUMENTED CONFIRMATION THAT THE RELEVANT CONTRACTOR'S PERSONNEL ARE TRAINED PRIOR TO THE COMMENCEMENT OF ANCHOR INSTALLATION WORK. SUBMIT DOCUMENTED CONFIRMATION TO THE OWNER/ENGINEER.
 - CONTRACTOR MAY PROPOSE ADDITIONAL SPLICE LOCATIONS TO BE APPROVED BY OWNER.
- FORMWORK AND CONSTRUCTION JOINTS:
 - CONSTRUCT FORMS TRUE TO LINE AND GRADE, ADEQUATELY BRACED TO MAINTAIN POSITION DURING PLACEMENT OF CONCRETE. WELDING OF FORM TIES TO STRUCTURAL DOWELS IS NOT PERMITTED, THOUGH ADDITIONAL DOWELS MAY BE INSTALLED FOR THAT PURPOSE.
 - PROVIDE 1 1/2" CHAMFER ON ALL EXPOSED EDGES UNLESS NOTED OTHERWISE.
 - REPAIR ALL AIR HOLES AND VOIDS LARGER THAN 1/4" AND FILL ALL TIE HOLES. REMOVE FINIS AND PROJECTIONS.
 - CONSTRUCTION JOINTS SHOWN SHALL BE LOCATED AS SHOWN UNLESS OTHERWISE APPROVED BY THE ENGINEER. ADDITIONAL JOINTS MAY BE USED, WHERE THE STRENGTH AND DURABILITY OF THE STRUCTURE IS NOT AFFECTED AND ARE SUBJECT TO THE REVIEW OF THE ENGINEER. IF CONTRACTOR PROPOSES CONSTRUCTION JOINT LOCATIONS DIFFERENT FROM THOSE SHOWN ON DRAWINGS, CONTRACTOR SHALL SUBMIT LOCATION OF ANY PROPOSED CONSTRUCTION JOINT TO ENGINEER FOR REVIEW.
 - REINFORCEMENT SHALL BE CONTINUOUS THRU JOINT, UNLESS NOTED OTHERWISE AND BE FULLY DEVELOPED ON BOTH SIDE OF CONSTRUCTION JOINTS.
 - CLEAN ALL JOINTS TO REMOVE LANTANCE WITH MIN. 1500 PSI WATER BLAST OR SANDBLASTING PRIOR TO NEXT CONCRETE PLACEMENT. MECHANICAL ROUGHENING IS AN ACCEPTABLE ALTERNATE FOR LANTANCE REMOVAL. ACID CLEANING/REMOVAL OF LANTANCE IS NOT ACCEPTABLE.
 - SATURATE JOINT IMMEDIATELY PRECEDING AND 12 HOURS PRIOR TO NEXT CONCRETE PLACEMENT. REMOVE ALL STANDING WATER.
 - MAXIMUM HORIZONTAL C.J. SPACING IS 12 FEET (U.N.O.).
 - MAXIMUM VERTICAL C.J. SPACING IS 35 FEET (U.N.O.).
- VERTICAL CONCRETE SURFACES SHALL HAVE A SMOOTH FORMED FINISH. HORIZONTAL CONCRETE SURFACES SHALL HAVE A SMOOTH RUBBED FINISH (U.N.O.), EXCEPT WALKING SURFACE SHALL HAVE BROOM FINISH.

WATER LEVEL & FLOW NOTES:

- HEADPOND & TAILWATER LEVELS:
 - HEADPOND LEVELS
 - NORMAL EL. 103.1'
 - 50 YR FLOOD (158,000 cfs) EL. 108.48'
 - 100 YR FLOOD (180,000 cfs) EL. 109.49'
 - 500 YR FLOOD (242,000 cfs) EL. 112.60'
 - TAILWATER LEVELS
 - NORMAL EL. 88.0'
 - 50 YR FLOOD (158,000 cfs) EL. 71.01'
 - 100 YR FLOOD (180,000 cfs) EL. 72.15'
 - 500 YR FLOOD (242,000 cfs) EL. 77.04'
- CONTRACTOR SHALL REMOVE BARGES AND OTHER EQUIPMENT IN HEADPOND AREA WHEN RUBBER BLADDER #4 IS OPENED DUE TO HIGH RIVER FLOW.
- THE BYPASS REACH COFFERDAM SHALL BE DESIGNED BY THE CONTRACTOR. THE CONTRACTOR SHALL SELECT THE TYPE OF COFFERDAM TO BE USED. ALL COFFERDAM MATERIALS SHALL BE REMOVED FROM THE BYPASS REACH UPON COMPLETION OF THE WORK. THE CONTRACTOR SHALL SELECT THE HEIGHT OF THE COFFERDAM BASED ON THEIR LEVEL OF ACCEPTABLE RISK, HOWEVER THE TOP OF COFFERDAM ELEVATION SHALL BE A MINIMUM OF EL. 72.0'. COFFERDAM SHALL BE OF BULK BAGS, NOT EARTHEN.
- HADLEY FALLS STATION FLOW CAPACITY: UNIT 1 4,200 CFS AND UNIT 2 3,750 CFS.

DATUM CONVERSION CHART:



HOLYOKE WPC DATUM = (NAVD88 + 3.23')



HOLYOKE GAS & ELECTRIC
 HOLYOKE, MA
HADLEY FALLS STATION
 DOWNSTREAM FISH PASSAGE PROJECT
GENERAL NOTES

141 Main Street, P.O. Box 650
 Pittsfield, Maine 04987
 Telephone: (207) 487-3228
 Fax: (207) 487-3124
www.KleinschmidtUSA.com

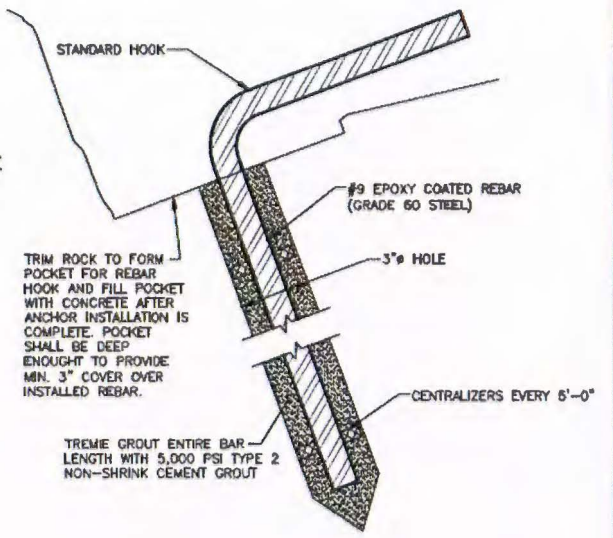
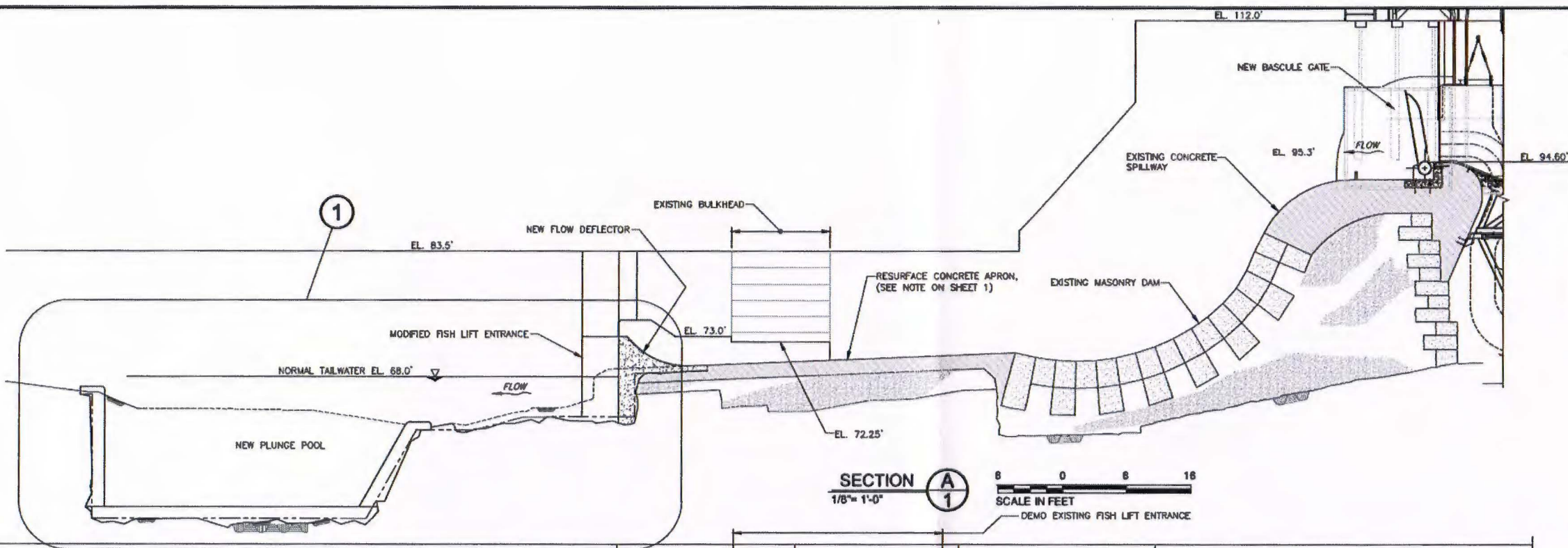
Project No.	Date Revised	Drawing No.
920115	7-11-14	110-02

RELEASED FOR CONSTRUCTION	7-23-14	TLT	LLC	
No.	Revision	Date	Drawn	Checked
-	-	-	TLT	JEW

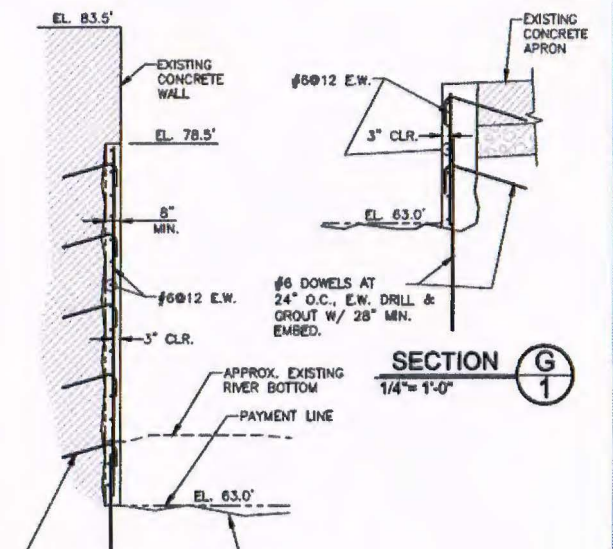
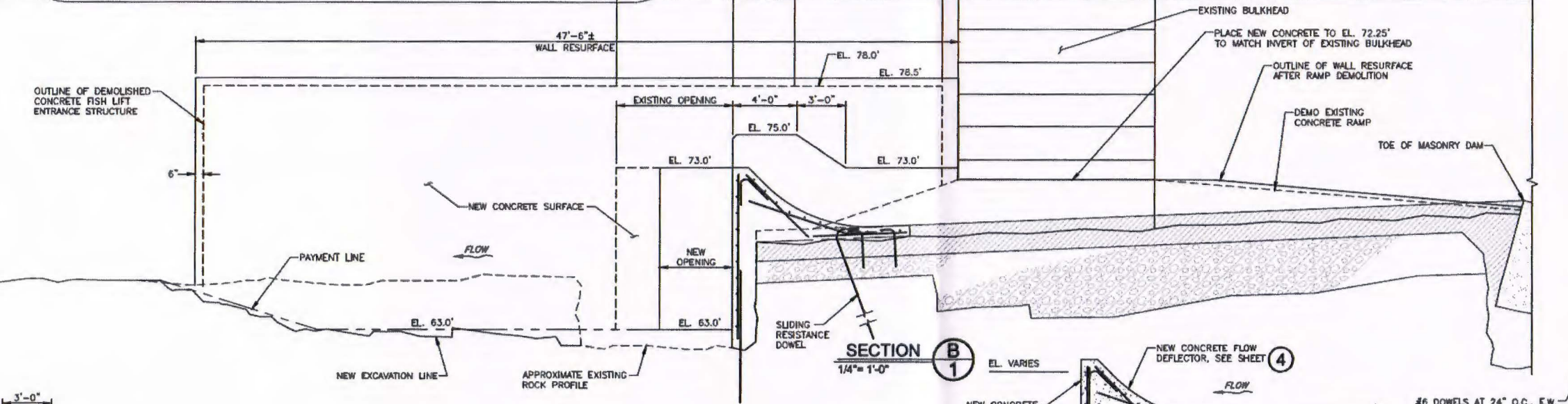
THE INFORMATION IS A SHOWN HEREIN PROVIDED FOR THE CONVENIENCE OF THE USER AND IS NOT TO BE USED FOR ANY OTHER PURPOSE. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION AND FOR OBTAINING NECESSARY PERMITS AND APPROVALS. THE INFORMATION IS PROVIDED AS IS AND WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NONINFRINGEMENT. THE USER SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS AND APPROVALS.

22x34 = FULL SCALE

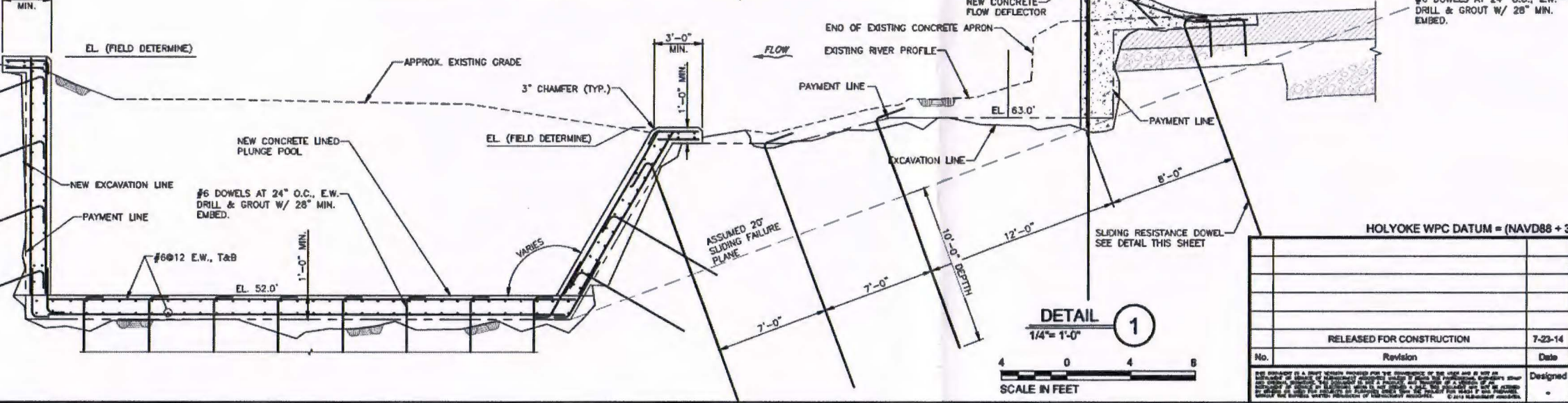
J:\2011\15\Drawings\WORKING DRAWINGS\2011\5_700-03.dwg
 Jul 21, 2014 - 3:20 PM



SLIDING RESISTANCE DOWEL DETAIL
 3" = 1'-0"



SECTION G
 1/4" = 1'-0"



DETAIL 1
 1/4" = 1'-0"
 SCALE IN FEET



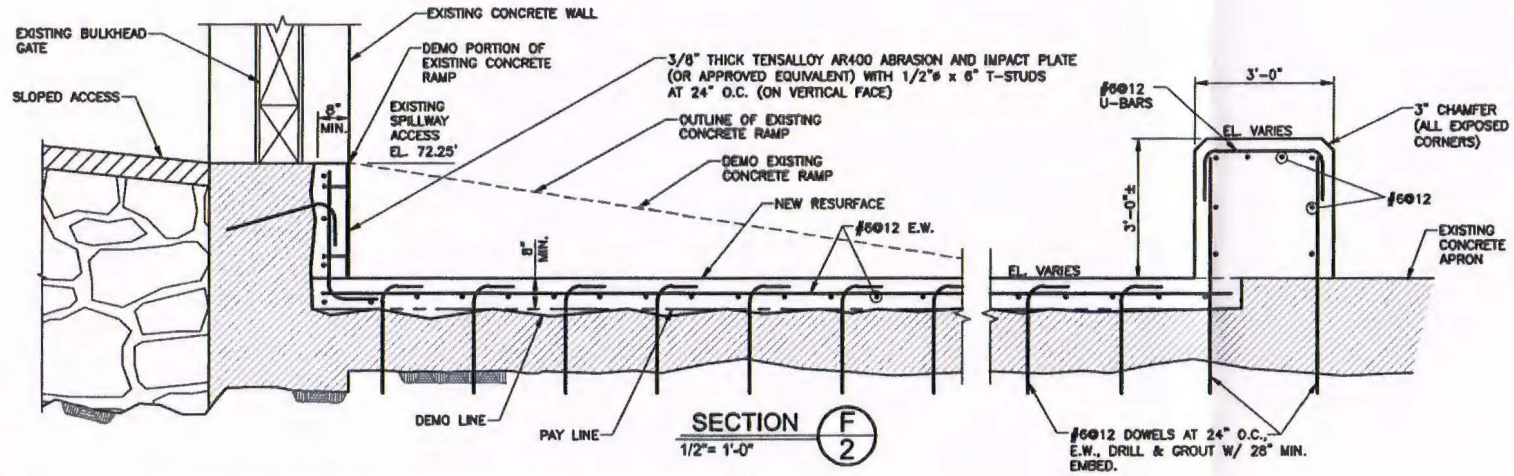
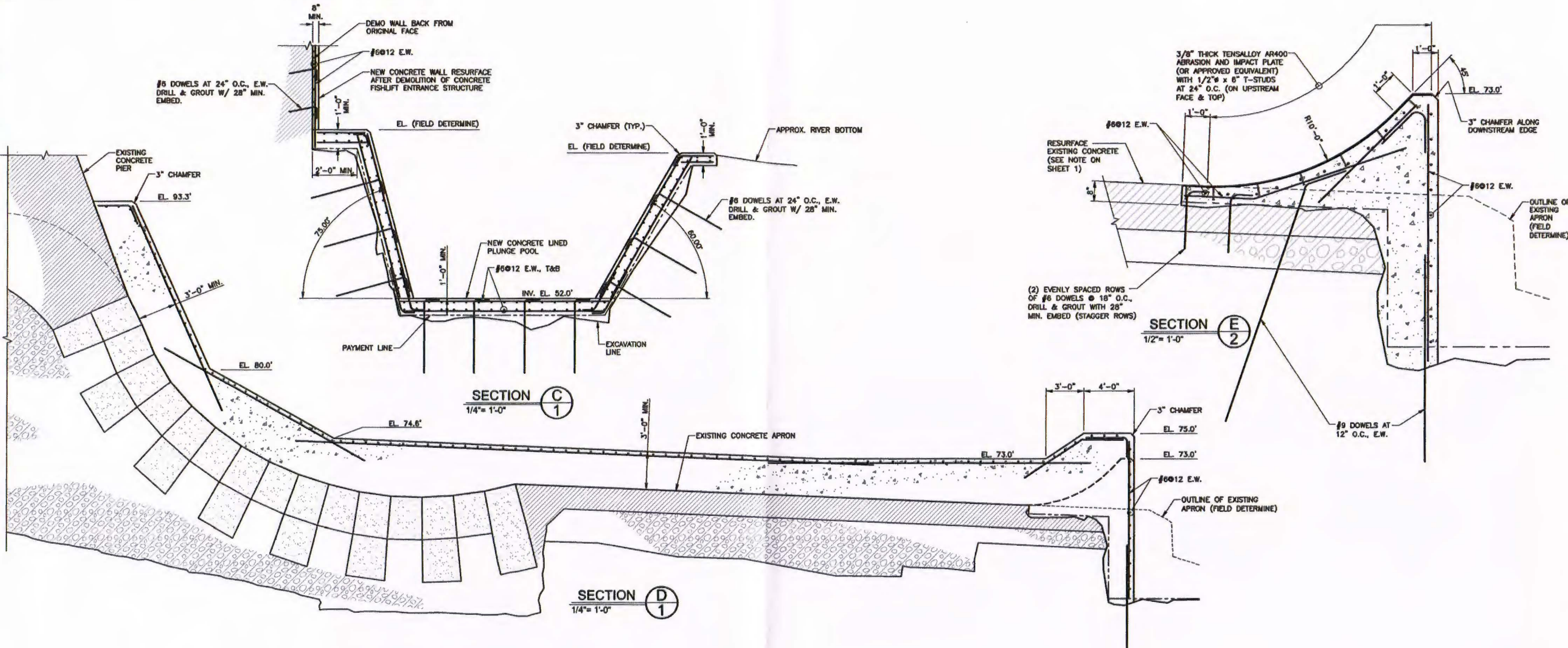
HOLYOKE WPC DATUM = (NAVD88 + 3.23')				HOLYOKE GAS & ELECTRIC HOLYOKE, MA	
RELEASED FOR CONSTRUCTION				7-23-14	TLT LLC
No.	Revision	Date	Drawn	Checked	
			PJ	JEW	
Project No. 920115		Date Revised 7-11-14	Drawing No. 700-03		

**HADLEY FALLS STATION
 DOWNSTREAM FISH PASSAGE PROJECT
 NEW FLOW DEFLECTOR & PLUNGE POOL
 SECTIONS**

Kleinschmidt
 141 Main Street, P.O. Box 660
 Portland, Maine 04967
 Telephone: (207) 487-0328
 Fax: (207) 487-3124
 www.kleinschmidtusa.com

22x34 = FULL SCALE

J:\2011\5\Drawings\WORKING DRAWINGS\20115 700-04.dwg
 JUL 21, 2014 - 3:19 PM



NOTE: LAYOUT OF NEW FLOW DEFLECTOR AND PLUNGE POOLS BASED ON CFD MODELING BY ALDEN LABS.

HOLYOKE WPC DATUM = (NAVD88 + 3.23')

No.	Revision	Date	Drawn	Checked
	RELEASED FOR CONSTRUCTION	7-23-14	TLT	LLC
			Designed	Drawn
			TLT	JEW

HOLYOKE GAS & ELECTRIC
 HOLYOKE, MA

HADLEY FALLS STATION
 DOWNSTREAM FISH PASSAGE PROJECT
 NEW FLOW DEFLECTOR & PLUNGE POOL
 SECTIONS

Kleinschmidt
 141 Main Street P.O. Box 850
 Pittsfield, Maine 04967
 Telephone: (207) 487-3328
 Fax: (207) 487-3124
 www.KleinschmidtUSA.com

Project No. 920115
 Date Revised 7-11-14
 Drawing No. 700-04

