



***APPLICATION FOR DAM REMOVAL AND FISHWAY CONSTRUCTION UNDER THE  
MAINE WATERWAY DEVELOPMENT AND CONSERVATION ACT  
AND  
WATER QUALITY CERTIFICATION***

SUBMITTED BY:

***S.D. WARREN COMPANY DBA SAPPI NORTH AMERICA  
89 CUMBERLAND STREET  
WESTBROOK, ME 04092***

WITH ASSISTANCE BY:

***Acheron Engineering Services***  
Engineering, Environmental & Geologic Consultants  
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**SUBMITTAL DATE:**

DECEMBER 2, 2015

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## **I. APPLICATION FORM**

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The following items are included in this section:

- Completed Application
- Certificate of Good Standing
- Pre-Application Meeting Minutes

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
Bureau of Land and Water Quality  
17 State House Station  
Augusta, Maine 04333  
Telephone: (207) 287-3901

FOR DEP USE

#L- \_\_\_\_\_  
Fees Paid \_\_\_\_\_  
Date Fees Received \_\_\_\_\_

**APPLICATION FOR PROJECT APPROVAL UNDER THE  
MAINE WATERWAY DEVELOPMENT AND CONSERVATION ACT  
AND  
WATER QUALITY CERTIFICATION  
(U.S. P.L. 92-500, SECTION 401)**

**HYDROPOWER PROJECT CONSTRUCTION/RECONSTRUCTION**

This form shall be used to request a state permit and Water Quality Certification for the proposed FERC licensing/relicensing and/or construction, reconstruction or structural alteration of a hydropower generating or storage project.

All required fees must be paid before application processing will begin. Please contact the Department for current fee schedule information. Fees are payable to Treasurer, State of Maine.

(Please Type or Print)

**APPLICANT INFORMATION**

Name of Applicant: S.D. Warren Company d/b/a Sappi North America

Mailing Address: 89 Cumberland Street

Westbrook, ME 04092

Name of Contact or Agent: Barry Stemm, Engineering Department

Telephone: (207) 856-4584

**PROJECT INFORMATION**

Name of Project: Saccarappa FERC License Surrender Project FERC No. 2897

Address (use "911" address, if available): \_\_\_\_\_

Name of Waterbody Affected: Presumpscot River

Municipality or Township: Westbrook County: Cumberland

GPS Coordinates, if known: 43°40'40.56"N 70°22'10.12"

**REQUIRED INFORMATION**

1. Provide all the information requested by this application form.
2. If applicant is a registered corporation, provide either a *Certificate of Good Standing* (available from the Secretary of State) or a statement signed by a corporate officer affirming that the corporation is in good standing.
3. A signed Certification of Publication and a completed Notice of Intent to File an application for Water Quality Certification.

**NOTE:** All supporting documents summarized above must be attached to this form and sent to the DEP Office listed below:

Department of Environmental Protection  
Bureau of Land and Water Quality  
17 State House Station  
Augusta, ME 04333  
Tel: (207) 287-3901

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

DATE: NOVEMBER 30, 2015

(IF SIGNATURE IS OTHER THAN APPLICANT,  
ATTACH LETTER OF AGENT AUTHORIZATION  
SIGNED BY APPLICANT)

  
SIGNATURE OF APPLICANT

MICHAEL G. STADEL  
PRINTED NAME & TITLE

MANAGING DIRECTOR WESTBROOK MILL

## HYDROPOWER PROJECT CONSTRUCTION/RECONSTRUCTION

### GENERAL INFORMATION

1. By submitting this application, an applicant requests approval under the Maine Waterway Development and Conservation Act (MWDCA) and the Federal Clean Water Act to undertake the construction, reconstruction, or structural alteration of a hydropower project.

The following types of activities, by way of example, are subject to the requirement for a permit:

- The construction of a new hydropower project, including a new water storage dam, or a new hydroelectric generating facility of any kind, whether utilizing a dam, a natural water feature, natural current velocities, or tidal action;
- The reconstruction of a hydropower project;
- The structural alteration of a hydropower project in ways which change water levels or flows above or below the dam, including, but not limited to:
  - The addition or alteration of flashboards; and
  - The installation of additional or enlarged turbines.

2. The purpose of this application form is to obtain from the applicant a thorough description of project facilities and operation and the impacts of the proposed construction, reconstruction or structural alteration on the environment.

The Department's Regulations provide that the applicant bears the burden of proof in the application process. This is the burden of presenting sufficient evidence for the Department to make the affirmative findings required by law regarding matters about which no questions are raised and the burden of presenting a preponderance of the evidence regarding matters about which questions are raised.

3. In order to grant an MWDCA permit, an applicant must demonstrate that seven specific criteria have been met (See Section 636 of the statute). These criteria address the following issues: financial capability and technical ability; public safety; public benefits; traffic movement; LURC zoning; environmental mitigation; and environmental and energy considerations.

In order to grant Water Quality Certification, the Department must conclude that there is a reasonable assurance that the continued operation of a hydropower generating or storage project will not violate applicable Water Quality Standards. These standards have been established in the State's Water Classification Program (Title 38 MRSA Sections 464-469). These standards designate the uses and related characteristics of those uses for each class of water and establish water quality criteria necessary to protect those uses and related characteristics.

4. Most proposals for the construction, reconstruction or structural alteration of a hydropower project will be subject to federal as well as state review and approval.

Any applicant for a FERC license must complete a three-stage consultation process with appropriate state and federal agencies. The purpose of this process is to identify and analyze the potential environmental and socioeconomic impacts of a project.

The consultation process requires an applicant to have either requested or obtained water quality certification at the time of filing with FERC. The process also requires that an applicant serve a copy of its FERC application, including any revisions, supplements or amendments thereto, on each of the agencies consulted.

Any applicant for a license, amendment of license, or exemption from the Federal Energy Regulatory Commission must complete a three-stage consultation process with appropriate state and federal agencies. The purpose of this process is to identify and analyze the potential environmental and socioeconomic impacts of a project.

### **FILING INSTRUCTIONS AND PROCEDURES**

1. When filing, send an original plus one (1) copy of a completed Application for Project Approval to the Department, along with two (2) copies of any Application for Initial License or New License Amendment of License, or Exemption as has been or will be filed with FERC. The State filing can be made prior to or concurrent with the FERC filing.
2. The Department is required by law to assess fees for processing applications and for monitoring permit compliance. Application processing will not begin until all required fees have been paid. When filing, submit full fee payment (checks payable to: Treasurer of State) or request that a fee bill be sent.
3. A number of consulting agencies will be involved in the State review process of hydropower projects. Distribution of copies of the FERC application to these agencies may be coordinated by DEP or may be handled directly by the applicant. When filing, please notify the DEP staff to discuss distribution procedures.
4. Most information requested by this application form can be provided by making reference to the appropriate exhibit of the FERC license application. Space is provided on the form for such references.
5. Within 15 working days of receiving an application and all required fees, the DEP shall determine whether the application as filed is acceptable for processing.
6. Additional information may be required during the review process on any aspect of the project relating to compliance with applicable statutory criteria.

SECTION I  
PROJECT INFORMATION

State law requires that a permit be issued for the construction, reconstruction, or structural alteration of any hydropower project. This section is designed to obtain a thorough description of the proposed physical project, including all existing and proposed physical structures, construction activities, and project operation.

1. **NATURE OF ACTIVITY.** Check appropriate item:

Construction of new hydropower project.

Reconstruction or structural alteration of existing hydropower project.

IF THE PROPOSED PROJECT IS SUBJECT TO FERC JURISDICTION, A COPY OF A COMPLETED FERC APPLICATION FOR LICENSE OR EXEMPTION (THIRD STAGE CONSULTATION) MUST ACCOMPANY THIS FORM.

NOTE: A copy of any document revising, supplementing, amending, or correcting deficiencies in the application as originally filed with FERC must also be filed with D.E.P.

2. **EXISTING ENVIRONMENT.** Provide a description of the physical environment of the project site and its immediate vicinity. The project site includes all land and water areas affected by the proposed activity.

REFERENCE: FERC EXHIBIT(S) Section 2.0, Figure 2-1, Section 5.0

3. **PROJECT DESCRIPTION.** Provide a detailed description of the existing project. A hydropower project includes all powerhouses, dams, water conduits, transmission lines, water impoundments, roads, and other appurtenant works and structures that are part of the development. This description must include:

- A. The physical composition, dimensions, and general configuration of all project structures, whether existing or proposed;
- B. The normal maximum surface area and elevation, gross storage capacity, and usable storage capacity of any project impoundments, whether existing or proposed;
- C. The number, type, and rated capacity of any project turbines or generators, whether existing or proposed; and
- D. The number, length, and voltage of any primary project transmission lines, whether existing or proposed.

REFERENCE: FERC EXHIBIT(S) Section 2.0, Section 4.2, Section 5.2, Appendix G

4. **CONSTRUCTION ACTIVITIES.** Provide a detailed construction schedule and a description of all proposed construction activities, to include:
- A. Location and physical dimensions of any areas proposed to be temporarily or permanently dredged, excavated or filled (including cofferdam areas, spoils disposal areas, and access roads);
  - B. Composition and quantity of any material proposed to be dredged, excavated, or placed as fill on a temporary or permanent basis (including cofferdam, dredged or excavated spoils, and access road materials); and
  - C. Proposed commencement and completion dates of any construction, reconstruction or structural alteration of project structures, including any associated dredging, excavation, or filling activities.

REFERENCE: FERC EXHIBIT(S) Section 4.2.2, Appendix I

5. **PROJECT OPERATION.** Provide a description of project operation, to include:
- A. The mode of project operation during low, mean, and high water years, including extent and duration of flow release and impoundment fluctuations;
  - B. An estimate of the dependable capacity and average annual energy production, in kilowatt hours, of the project;
  - C. An estimate of minimum, mean, and maximum flows, in cubic feet per second, at the project site, including a flow duration curve;
  - D. An estimate of the maximum and minimum hydraulic capacities, in cubic feet per second, of any power plant; and
  - E. A statement of the manner in which the power generated at the project is utilized.

REFERENCE: FERC EXHIBIT(S) N/A - Included in MWDCA Application

6. **PROJECT PLANS.** Provide general design drawings showing all major project structures, whether existing or proposed, in sufficient detail to provide a full understanding of the project, including:
- A. Plans (overhead view);
  - B. Elevations (front view);
  - C. Profiles (side view) and
  - D. Sections.

REFERENCE: FERC EXHIBIT(S) Appendix G

7. **PROJECT MAPS.** Provide maps of the project showing:
- A. The location of the project structures and features, with reference to local geographic features; and
  - B. A project boundary enclosing all principal project structures and features.

- REFERENCE: FERC EXHIBIT(S) Figures 2-1, 2-2 and 2-3, Appendix F, Appendix M
8. **TITLE, RIGHT OR INTEREST.** The Department's Regulations require that any applicant must possess sufficient title, right or interest in all project lands and waters in order to have standing to seek a permit, license or certification. Please complete the appropriate item(s) below establishing title, right or interest and attach a copy of the indicated document(s):

Deed.

Option to buy.

Lease.

Valid FERC Preliminary Permit.

Valid FERC License (including all amendments/modifications).

Exercise of flowage rights through operation of the Mill Act (12 M.R.S.A. Section 651).

Exercise of eminent domain under FERC license.

## Section II Review Criteria

The statute requires that seven criteria be satisfied before a permit will be issued. This section is designed to obtain information on these criteria, which require consideration of the following issues; financial capability and technical ability; public safety; public benefits; traffic movement; LURC zoning; environmental mitigation; and specified environmental and energy considerations.

### 9. FINANCIAL CAPABILITY.

- A. Provide a statement of the estimated total cost of the project, as proposed in this application, and itemize major categories of expenditures, including estimated costs of activities to be devoted to minimizing or preventing adverse effects on the environment during construction and/or operation of this project.
- B. Provide a statement that details plans for the financing of the project. If project costs involve more than normal legal and surveying fees, submit one of the following documents in support of the financing plan or indicate why such documents are unavailable at the present time:
- i. A letter from a financial institution, governmental agency, or other funding agency which states a funding commitment or an "intent to fund" specifying the amount of funds and the uses for which the funds may be utilized; or
  - ii. The most recent corporate annual financial report and any supporting material indicating the availability of sufficient funds to finance the project; or
  - iii. Copies of financial statements or other evidence indicating availability of funds when the developer will personally finance the project.

NOTE: The state hydro law provides that in the event that an applicant is unable to demonstrate financial capability at the time of filing an application, a conditional permit may be granted requiring a demonstration of financial capability prior to the start of project construction. 38 M.R.S.A. Section 636(1).

REFERENCE: FERC EXHIBIT(S) N/A - Included in MWDCA Application

**10. TECHNICAL ABILITY.**

- A. Provide a description of the applicant's prior experience and/or appropriate training related to the nature of the proposed activity.
- B. Provide a description of the qualifications of personnel to be employed to install and/or operate and/or maintain the project.

REFERENCE: FERC EXHIBIT(S) N/A - Included in MWDCA Application

**11. PUBLIC SAFETY.**

- A. Provide a description of the activities or physical environment anticipated during project construction and/or operation that may constitute a hazard to the safety of the general public.
- B. Provide a detailed description of any provisions proposed to protect the safety of the general public during project construction and/or operation.

REFERENCE: FERC EXHIBIT(S) N/A - Included in MWDCA Application

**12. PUBLIC BENEFITS**

Provide a description of the economic benefits and economic costs to the public anticipated as a result of the proposed project.

REFERENCE: FERC EXHIBIT(S) N/A - Included in MWDCA Application

NOTE 1: See the DEP's Administrative Regulations for Hydropower Projects, Chapter 450, Section 5 for an interpretation of the public benefits criteria of the state hydro law and a definition of economic benefits and costs.

NOTE 2: In the event that it is determined that a proposed project involving a new dam would result in substantial economic costs, then the applicant must also provide evidence comparing the benefits of the proposed project against the economic conditions that would otherwise result from any alternative source(s) of energy generation or conservation that might reasonably be pursued in the event that the project is not built. See Chapter 450 Regulations.

**13. TRAFFIC MOVEMENT.**

- A. Provide a description of the present condition of the existing condition of the existing public and private access routes to the proposed project area, including the type, condition, and width of road surfaces and number of travel lanes.
- B. Provide a description of the anticipated and other possible impacts, if any, of the proposed project on any existing access routes (e.g., location and lengths of any access routes to be flooded by the project).
- C. Provide a description of the traffic movement anticipated to be generated by the proposed project, including types and average daily number of vehicles, travel routes, and duration of traffic movement.

REFERENCE: FERC EXHIBIT(S) N/A - Included in MWDCA Application

**14. LURC ZONING.**

For any portion of the proposed project which is located within an unorganized territory or organized municipality subject to the jurisdiction of the Land Use Regulation Commission (LURC), provide a description of the applicable zoning designations and standards as adopted by LURC.

REFERENCE: FERC EXHIBIT(S) N/A - Not applicable to Project

NOTE: In those instances where the project, or portions of the project, are prohibited uses under the zoning designation and standards in effect at the time of consideration, the applicant must file and obtain favorable action from LURC on a rezoning petition or must amend the project to avoid conflicts with LURC's zoning. See Chapter 450 Regulations.

**15. ENVIRONMENTAL MITIGATION.**

Provide a description of any provisions proposed to realize the environmental benefits of the project or to mitigate the adverse environmental impacts of the project.

REFERENCE: FERC EXHIBIT(S) N/A - Included in MWDCA Application

NOTE: In-kind or on-site mitigation measures will be preferred. Off-site or out-of-kind mitigation measures may be acceptable where in-kind or on-site measures are demonstrated not to be feasible or desirable. See Chapter 450 Regulations.

**16. WATER QUALITY.**

- A. Provide a description of the applicable water quality standards and classification for the upstream and downstream waters which are affected or will be affected by the project.
- B. Provide a description of the existing water quality of the waters which are or will be affected by the project, including a description of existing in-stream water uses.
- C. Provide a description of the anticipated and other possible impacts the proposed project on existing water quality.

REFERENCE: FERC EXHIBIT(S) Section 5.2.2.1, Section 5.2.2.2

NOTE: See Maine Water Classification Program, 38 M.R.S.A Sections 464-470.

**17. SOIL STABILITY.**

- A. Provide a description of the soils in the project area, including soil types and locations.
- B. Provide a description of the anticipated and other possible impacts of the proposed project on soil stability.

REFERENCE: FERC EXHIBIT(S) Section 5.1, Appendix F

**18. COASTAL/INLAND WETLANDS.**

- A. Provide a description of any coastal or inland wetlands located within the project area.
- B. Provide a description of the anticipated and other possible impacts of the proposed project on coastal or inland wetlands.

REFERENCE: FERC EXHIBIT(S) Section 5.5 and Appendix M

**19. NATURAL ENVIRONMENT.**

- A. Provide a description of the natural environment within the project area, including a description of existing land uses, geological and topographic features, botanical resources, and aesthetic character.
- B. Provide a description of the anticipated and other possible impacts of the proposed project on the existing natural environment, including but not limited to impacts on existing land uses, geological and topographic features, botanical resources, and aesthetic character.

REFERENCE: FERC EXHIBIT(S) Section 5.1, 5.5 and 5.9

**20. FISH AND WILDLIFE RESOURCES.**

- A. Provide a description of the existing fish and wildlife resources within the project area.
- B. Provide a description of the anticipated and other possible impacts of the proposed project on existing fish and wildlife resources.

REFERENCE: FERC EXHIBIT(S) Section 5.3, 5.4 and 5.6

**21. HISTORIC/ARCHAEOLOGICAL RESOURCES.**

- A. Provide a description of the existing historic and archaeological resources within the project area.
- B. Provide a description of the anticipated and other possible impacts of the proposed project on existing historic and archaeological resources.

REFERENCE: FERC EXHIBIT(S) Section 5.7

**22. PUBLIC ACCESS AND USES.**

- A. Provide a description of the existing public access to and use of the surface waters in the project area for navigation, fishing, fowling, recreation and other lawful public uses, including a description of any existing recreational resources and facilities.
- B. Provide a description of the anticipated and other possible impacts of the proposed project on public rights of access to and use of the surface waters in the project area, including the impacts on recreational resources and facilities.

REFERENCE: FERC EXHIBIT(S) Section 5.8

23. **FLOOD CONTROL.**

- A. Provide a description of existing floodways and flood conditions within the project area.
- B. Provide a description of any existing flood control projects within the affected drainage basin.
- C. Provide a description of the anticipated and other possible flood control benefits or flood hazards of the proposed project.

REFERENCE: FERC EXHIBIT(S) Section 5.2.1

24. **ENERGY.** State the following:

	<u>Existing</u>	<u>Proposed</u>
A. Number of generating units:	<u>3</u>	<u>0</u>
B. Installed capacity, in kilowatts	<u>1.35 MW</u>	<u>0</u>
C. Average annual energy output, in kilowatt hours	<u>7,600 MWh</u>	<u>0</u>
D. Annual plant factor, in percent	<u>76</u>	<u>0</u>
E. Identity of proposed purchaser or user of project power: <u>N/A</u>		
F. Amount of nonrenewable fuels anticipated to be replaced by the project power: <u>N/A</u>		

SECTION III  
PUBLIC NOTICE

25. **PUBLIC NOTICE.** The Department requires that an applicant provide public notice describing the location and nature of the activity proposed for approval. The public notice requirements that apply to this application are described in the Certification of Publication below, which must be signed and dated by the applicant or authorized agent.

The following information must be submitted with this form:

- A copy of a completed Notice of Intent to File.
- A list of abutters to whom notice was provided. [For the purposes of public notice of this application, an “abutter” is any person who owns property that is both (1) adjoining and (2) within 1 mile of the delineated project boundary, including owners of property directly across a public or private right of way.]

For the purposes of this application, abutters also include:

- A. The owners of all property adjacent to the location of any activity associated with the construction, reconstruction, or structural alteration of a hydropower project as described in this application (including properties adjacent to any proposed dredging, excavating, filling, transmission lines, or access roads); and
- B. Where a new impoundment would be created or the full-pond elevation of an existing impoundment would be raised or lowered, abutters shall also include the owners of all property adjacent to the new or existing impoundment; and
- C. Where a new or increased diversion of by-pass of flows from their existing channel would be created, abutters shall also include the owners of all property adjacent to the new or existing diversion or by-pass channel.

**CERTIFICATION OF PUBLICATION**

By signing below, the applicant (or authorized agent) certifies that he or she has:

- 1. Published a Notice of Intent to File once in a newspaper circulated in the area where the project site is located, within 30 days prior to filing the application;
- 2. Sent a completed copy of the Notice of Intent to File by certified mail or Certificate of Mailing to abutters, as determined by local tax records or other means, within 30 days prior to filing the application; and
- 3. Sent a copy of the Notice of Intent to File by certified mail or Certificate of Mailing and filed a duplicate of this application with the town clerk of the municipality(ies) where the project is located, within 30 days prior to filing the application.

  
 \_\_\_\_\_  
 Signature of Applicant

NOVEMBER 30, 2015  
 \_\_\_\_\_  
 Date

MICHAEL G. STANDEL MANAGING DIRECTOR WESTBROOK MILL  
 \_\_\_\_\_  
 Name and title of applicant

If signature is other than that of the applicant, attach letter of agent authorization signed by the applicant.

# State of Maine



## Department of the Secretary of State

*I, the Secretary of State of Maine, certify that according to the provisions of the Constitution and Laws of the State of Maine, the Department of the Secretary of State is the legal custodian of the Great Seal of the State of Maine which is hereunto affixed and of the reports of qualification of foreign business corporations in this State and annual reports filed by the same.*

*I further certify that S. D. WARREN COMPANY, a PENNSYLVANIA corporation, is a duly qualified foreign business corporation under the laws of the State of Maine and that the application for authority to transact business in this State was filed on June 27, 1986.*

*I further certify that said foreign business corporation has filed annual reports due to this Department, and that no action is now pending by or on behalf of the State of Maine to forfeit the authority to transact business in this State and that according to the records in the Department of the Secretary of State, said foreign business corporation is a legally existing business corporation in good standing under the laws of the State of Maine at the present time.*

*In testimony whereof*, I have caused the Great Seal of the State of Maine to be hereunto affixed. Given under my hand at Augusta, Maine, this sixth day of October 2015.

A handwritten signature in black ink, appearing to read 'Matthew Dunlap', written over a horizontal line.

Matthew Dunlap  
Secretary of State

# *Acheron*

*Engineering, Environmental & Geologic Consultants*

www.AcheronEngineering.com

## **Sappi/Warren Release Papers, Westbrook, Maine Saccarappa – Maine DEP Pre-Application Meeting**

**Date of Meeting:** October 26, 2015  
**Location:** Sappi Westbrook Mill  
89 Cumberland Street  
Westbrook, ME  
**Time:** 10:30 AM – 12:00 PM

### **Attendees and Participants:**

Barry Stemm, S.D. Warren  
Brad Goulet, S.D. Warren  
Sarah King, Acheron  
Kathy Howatt, MDEP  
Mike O'Connor, MDEP

### Introduction:

Barry Stemm, meeting host, welcomed everybody to the meeting. Barry indicated that his intention was to provide DEP representatives with an overview of the new site plan, as well as discuss any feedback on the 2013 MWDCA application so that Warren may address such feedback in the 2015 application.

Barry also indicated that a draft copy of the FERC Surrender Application was distributed on Thursday, October 22, 2015. Kathy indicated that she had received this document and would review it.

### Overview of Proposed Plan

Barry displayed the proposed site plan and gave an overview of the design. He said that this design involves removal of both spillways, installation of a double Denil ladder in the existing tailrace, and replacement of material excavated from the western channel back when the hydro was originally constructed. Barry explained that the fish passage modifications proposed were a result of stakeholder collaboration.

Kathy: Where will the new fill (western channel) come from? Will it be new fill, or will it be the fill that was removed prior to hydro construction?

Barry: New material will be used to fill this area. We have not done a complete design yet. It needs to be material that will stay in place and will not act as a sieve. Most likely it will be a heavy, rip rap like stone.

Barry moved on to discuss the benefits of the double Denil ladder, namely that it will meet the requirements of Phase II passage. Barry stated that the fish will use the Denil to ascend the lower falls and travel up the western channel. The design will result in approximately a 50/50 flow split between channels. Resting pools are proposed in the western channel. The eastern channel is proposed to be returned to its natural state.

Kathy: Will recreational features be installed independent of Warren's work?

Barry: Warren plans to include the proposed recreational features in the permitting, but the City will be responsible for installing recreational features.

Kathy: Are you partnering with the City? How will this work?

Barry: There is no formal agreement in place at this time. We have discussed with the City including the proposed recreational features in our plans and applications to DEP and ACoE, to help the City and stakeholders so they do not have to spend the time and expense to create separate permitting applications. This does not cost Warren significantly more.

Kathy: Normally the applicant is responsible for the build out. We need to look at whether this can be done, whether we will need a formal arrangement, or they will need a separate application.

Barry: We are just trying to help the City out.

Kathy: We need to explore this more. Regarding liability, we need to address whether the permittee is responsible for liability when the City is in charge of the buildout.

Barry pulled up the conceptual recreational design drawings included in the draft Surrender Application and gave an overview of proposed elements in the Obermeyer just downstream of the existing Bridge Street Bridge. Barry indicated that this structure will be used to create a standing wave. Barry also indicated that the existing Bridge Street Bridge is being replaced. The existing bridge will become a pedestrian bridge.

Kathy: What will happen to pedestrian traffic along the bridge? Will there be a viewing area? Also, what will happen to the existing transmission line?

Barry: The transmission line along the river is now abandoned. The City would like to acquire this land to expand the river walk. Warren still owns this land but is working with the City on this issue. This project is unrelated to the hydro project.

Brad: The river walk will actually become a loop trail.

Barry: There is an observation platform and the existing bridge will be used as a pedestrian bridge. This is not part of the MWDCA and Surrender.

Barry said that other recreational features have not yet been designed, but will involve standing waves in the eastern channel. Warren is trying to help the City by facilitating the permitting and construction process, by including these designs in Warren's permits and utilizing similar contractors.

Barry indicated that the proposed design is not the design that the NGOs wanted. They did not want a Denil ladder, but rather a rock ramp passage structure. The rock ramp is an unproven design and agencies did not want it. Warren feels that the new fish passage design has changed for the better as a result of the collaboration during the Extension Agreement process.

Kathy: Are all of the structures coming out? Powerhouse, dam?

Barry: The two spillways will be removed. The tailrace will be filled in.

Kathy: How stable is the wing wall without the other structures?

Barry: They are independent of each other. The powerhouse will likely be demolished, the forebay filled in and stabilized.

Kathy: What is the overall plan to operate the Denil ladder? Will Warren operate it? City?

Barry: Right now the responsibility will lie with Sappi because we are the owners.

Kathy: Are there plans in place to transfer this ownership?

Barry: We don't have plans. It is possible that the City may want to take it over. There will be an observation area at the Denil ladder, which could be a public education area. The City would like to access the island for recreation. I cannot say what the City's intention is. In our experience, Denils are easy to operate.

Kathy: But they do need to be maintained properly.

Barry: Somebody will need to walk it every day of operation to clear debris and ensure proper operation.

Kathy: Maintenance needs to be part of the design. The NGOs may like the nature like passage, as they may believe it requires less maintenance.

Barry: The Denil ladders will have a trash screen. We have operated the ladder at Cumberland Mills for three years and there has been virtually no maintenance necessary.

Kathy: Is the Denil the only constructed passage? Will the rest be more nature like? Kathy reviews the design components and confirms that the two Denils have one direction. Kathy inquires as to whether the attraction flow provided by the lower falls may be an issue.

Barry: Warren's consultants have indicated that the most important part of the Denil ladder is locating the entrance near attraction flow. The entrance is not located too close to the falls,

such as to camouflage ladder attraction flow. Additionally, Warren proposed to add riprap to the southern tip of the island in order to discourage fish from entering the eastern channel. Fish would need to swim 100' downstream in order to enter the eastern channel.

Kathy: Most fish will swim against the current.

Barry: There are still areas where fish may ascend the eastern channel.

Kathy: What are the green lines on the plan?

Barry: Green lines represent bedrock elevations. Black lines represent bottom of the channel.

Mike: Let's talk about eastern channel passage.

Barry: The MDMR favors the upper channel NGO design. USFWS proposes some eastern channel sculpting, but understands the need for recreation. This site is a natural set of waterfalls. Ensuring 100% passability is taking it too far. In order to accomplish this, ledge would need to be removed, which would artificially lower the water levels. Warren's stakeholders are concerned about this design. Additionally, Warren has done a lot of work on the design, and lowering the impoundment level further to accommodate upper eastern channel passage would require this work to be redone.

Kathy: Have you developed an effectiveness study plan?

Barry: No. This depends on the FERC Surrender order requirements.

Brad: One tough thing with the design is that the fishway prescriptions are based on different flows than what are existing. The Eel Weir license was recently updated and flow releases were modified. Also, the ME-DMR did not address what would happen to passage farther upstream if we lower the upstream impoundment further than what we have proposed, and lower than historic levels. This could complicate things for passage upstream.

Barry: If we reduce the elevation at Saccarappa, we will need to make it up upstream.

Brad: Also, in addition to meeting Phase II requirements, the double Denil will also provide attraction flow at the entrance.

Barry: The double Denil may cost a little bit more, but it eliminates the need for auxiliary flow.

Kathy: I see the benefit in doing this all at once.

Barry: This also addresses one of the NGO concerns – what happens in the future.

Kathy: Who are the stakeholders that you involved?

Barry: The stakeholders that signed the extension agreement are Warren, agencies, FOPR, CLF, the City, and Warren. Warren involved other interested parties by notifying abutters and holding public meetings. Anybody that signed the attendance list and provided an email has been kept in communication. Other interested parties could include FOSL and FOCB.

Kathy: Were these meetings or hearings?

Barry: Meetings. All meeting notes are included in the Surrender Application draft.

Kathy: What is the timeline that you have for the final Surrender Submittal? When will the MWDCa application be submitted?

Barry: Our target, based on the agreement, is December 2, 2015.

Kathy: Do you need FERC approval before DEP approval?

Barry: Our plan is to submit concurrently.

Kathy: If something happens during the Surrender process, you can always call us and put your permit on hold until things are ironed out.

Barry: The challenge is time. We need to install passage by May 2017.

Kathy: Are the NGOs completely opposed still, or on board with any of it?

Barry: I don't know the answer to that, other than what they have told us. When the letter of decision went out, FERC received public comment filings. Brad has read these and can elaborate.

Brad: The comments push for natural passage. They recognize that the agencies prefer the Denil passage. The second piece that the comments push for is eastern channel fish passage. We are concerned about repercussions of that design. The third item that the comments look for is for Warren to not only construct passage, but establish a trust for MDMR to take ownership of the facilities.

Kathy: Our application process must include public consultation. If Warren has not done this, the DEP will initiate it.

Barry: Should we include the Surrender Application in the MWDCa Application.

Kathy: You may reference the Surrender Application in the MWDCa.

Barry: We are planning one more public meeting as per MDEP requirements. This will be included in the MWDCa Application.

Kathy: Include the work leading up to any choices. This may be included by reference. The DEP sends incoming applications to agencies for review and comment. This process typically takes 6 – 8 weeks. If agencies have already commented on the design, this can be shortened to 3-4 weeks. If you make these consultations available to us, it will quicken the process. When do you begin construction?

Barry: September of 2016 is our goal. This does not give us a lot of time.

Brad: What State agencies do you seek consultation from?

Kathy: IFW, MDMR, MHPC

Brad: We are working in parallel processes. Currently we are in the process of doing historic studies for SHPO. We have three different contractors doing study work preparing for SHPO consultation.

Kathy: We have a standard operating procedure. I will look at this and let you know who we contact.

Brad: It would be beneficial to know who DEP wants to consult with so that Warren can lay the ground work.

Kathy: Will recreation access to the impoundment be affected by the proposed project?

Barry: We need to look at that.

Brad: We also have logs that evaluate usage of sites. This will help us evaluate impacts of the lowering of the impoundment. Will the Maine Department of Agriculture, Conservation and Forestry be consulted regarding recreational impacts?

Kathy: I will let Barry know who is on this list of consulting Departments.

Barry: Will you outline the process and whether there have been any modifications to the process?

Kathy: We receive the document, stamp it with the date received, and log it into the system. We have 10 days to review it and accept it as complete. The processing time for construction is one year, I believe. We can shorten this. We will target July 2016, which is 7 months.

We will require 2 hard copies of the MWDCA Application and one electronic copy. We will need 1 copy of the FERC Surrender Application.

We have typically found that financial information is not addressed sufficiently in most applications. Make sure that you include the projected cost and method of funding. At the very least we will need copies of pertinent portions of your annual report containing

operating budgets and indicating where the funds will come from for the construction. The DEP needs to have actual numbers for this.

Brad: Are you assessing the ability to pay? That we have enough revenue to pay?

Kathy: Yes. We almost always need more information. DEP needs project budget, span of payment and financial statements from the past few years, as well as where the money will come from.

Barry: Will you let us know if there are any other changes to the MWDCA that you foresee?

Kathy: We will take a closer look at the 2013 application to identify any glaring issues for use in the 2015 application. We will get back to Barry with regard to this. Do you have any more questions?

Barry: I am all set. You wanted to visit the site. Let's do that.

Meeting ends at 12:00 pm. Barry, Kathy, and Mike visit the Saccharappa site.

## **II. EXECUTIVE SUMMARY**

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S.D. Warren Company dba Sappi North America (Warren), owner and operator of the Saccarappa Dam and Hydroelectric Facility in Westbrook, Maine, proposes to surrender its Federal Energy Regulatory Commission (FERC) license (FERC Project No. 2897) and discontinue power generation at the Saccarappa Project; remove the eastern spillway, western spillway, and ancillary structures in the forebay channel; restore the river bed to the pre-hydro elevation by replacing excavated material at the upstream end of the western channel; fill the existing tailrace; and install a double Denil fishway within the filled tailrace area (collectively, the “Surrender Project”). The proposed design involves some modification of bedrock in the western channel between the exit of the fishway and the rock fill in the upper western channel to facilitate fish passage over the upper falls. A copy of the FERC Surrender Application has been included with and is referenced throughout this Maine Waterway Development and Conservation Act (MWDCA) Application package. This section of the MWDCA Application summarizes the existing site, permitting history, and project scope and identifies how each approval criterion outlined in the MWDCA has been satisfied.

The Saccarappa Project is a hydroelectric facility located on the Presumpscot River in Westbrook, Cumberland County, Maine at approximately river mile 11. The Saccarappa impoundment stretches from the Saccarappa Dam approximately 5 miles upstream to the tailwater of the Mallison Falls Dam, and has a surface area of approximately 87 acres. The project boundary is depicted in Section 2.0 of the FERC Surrender Application (Surrender Application, Section 2.0, Existing Facilities and Figure 2-1: Project Location).

The original Saccarappa Dam and Hydroelectric Facility was built in 1887 by the Presumpscot Water Power Company. The existing dam was constructed at the same site in 1907 and currently consists of two 10 to 12 foot high concrete dams that are located in the eastern and western channels. A small island separates the two channels. In the western channel there is a control gate structure, a concrete lined forebay, a power house, and a 345 foot long tailrace channel. The Project also includes two bypass reaches measuring 475 and 390 feet long extending from the respective diversion dams to the downstream end of the tailrace channel. The power house contains three turbine-generator units with a total rated generating capacity of 1.35 MW; typical generation ranges from 0.75 to 0.85 MW. These units were historically connected to a one mile long 2.3 kV transmission line that terminated at the Warren mill on Cumberland Street in Westbrook. In 2015, Warren disconnected the existing transmission line between the Saccarappa Project and the Warren mill, installed a transformer at the Saccarappa Project, and tied the station output directly to the local utility 12.4 kV distribution circuit on Dana Street in Westbrook. All power generated at the Saccarappa Project is now sold on the open market. This connection will be terminated when the Saccarappa Project is decommissioned.

Regulation of the Saccarappa Project falls under the jurisdiction of FERC, which issued the original 20-year operational license for the Saccarappa Project in 1979. After an extension of the original license, FERC issued a new 40-year operational license in 2003. This license required that fish passage must be constructed at the Saccarappa Project within two years after installation of fish

passage facilities at the downstream Cumberland Mills dam. The Cumberland Mills dam is not used for power generation, hence it is not regulated by FERC. Fish passage became available at the Cumberland Mills site in May 2013, triggering the requirement for operational fish passage at the Saccarappa Project by May 2015. After extensive review, Warren determined that the high cost of constructing fish passage for an operating facility in accordance with the existing FERC license is not economical. Hence, in December 2013 Warren proposed to surrender the Saccarappa Project license, remove the eastern spillway, and install a Denil fish ladder in the tailrace of the Saccarappa Project (the “2013 Surrender Application”).

After Warren filed the 2013 Surrender Application, it met with State and Federal resource agencies, the City of Westbrook, Friends of the Presumpscot River (FOPR), and the Conservation Law Foundation (CLF) to determine whether the processing of the 2013 Surrender Application should be delayed to evaluate alternative fish passage options. On March 14, 2014, Warren entered into an agreement (Agreement) with the Department of the Interior, U.S. Fish and Wildlife Service (USFWS), Maine Department of Marine Resources (MDMR), Maine Department of Inland Fisheries & Wildlife (MDIFW), City of Westbrook, FOPR, and CLF (Parties) to request from FERC an extension of the fish passage deadline for the Saccarappa Project and a stay of the 2013 Surrender Application. The purpose of the Agreement was to allow the Parties time to engage in a collaborative, open, and joint process to evaluate two fish passage design alternatives at the Saccarappa Project. The Agreement also sought to extend the deadline for operative fish passage at the Saccarappa Project to May 1, 2017 and set a schedule for the design, review, and evaluation of alternative passage. The Agreement was approved by FERC on July 30, 2014 and became final on September 2, 2014.

The fish passage design, as described in this application, was chosen after careful consideration of all of the data, technical information, agency feedback, public comments, and stakeholder desires. This collaborative process resulted in several changes to the fish passage design submitted by Warren with the 2013 Surrender Application and the 2013 MWDCA Application. The fish passage facilities that are proposed in this Application involve the removal of the eastern spillway, western spillway, and ancillary structures in the forebay channel, filling the existing tailrace, installation of a double Denil fishway within the filled tailrace structure, and physical modifications in the upper western channel to facilitate nature like fish passage.

This surrender and dam removal proposal provides multiple benefits. Removal of both spillways above the natural falls will reduce the site head by approximately 4.5 feet under average flow conditions and restore the river to the natural conditions that existed before the construction of this hydropower project. The lower head will help facilitate fish passage at the site. In addition, removal of both spillways will remove all in-river legacy structures, thereby eliminating any concern about long term spillway maintenance. The site reconfiguration that will result from removal of the spillways will eliminate multiple competing attraction flows, which will result in less complex and more successful fish passage. Removal of the spillways will protect and enhance resident fish

populations and aquatic communities in the Presumpscot River by establishing riverine connectivity of upstream and downstream aquatic life and their habitats. Dissolved oxygen will likely improve with the transition to a free flowing reach of river. Recreational opportunities along the river and at Saccarappa Falls will be expanded. The proposed fish passage will be less obtrusive than the passage that would be required by the existing FERC Project license and more effective than the passage set forth in the license prescription.

In addition to surrender of the FERC license, this Surrender Project requires approval from the Maine Department of Environmental Protection (MDEP) under the Maine Waterway Development Conservation Act (MWDCA)<sup>1</sup> and Water Quality Certification for a Section 404 dredge and fill permit from the U.S. Army Corps of Engineers.<sup>2</sup> This MWDCA permit application addresses each of the approval criteria set forth in 38 M.R.S.A. Section 636. A brief description of how the proposed Surrender Project addresses each MWDCA criterion is included in this section, as well as references to specific portions of this application.

#### 1) Financial and Technical Capability

Warren does business as Sappi North America. Warren has the technical ability and financial capacity to successfully undertake the proposed Surrender Project.

The total estimated construction cost of the Surrender Project is \$4,400,000. Warren has a net worth in excess of \$50,000,000 and tangible assets in Maine and plans to finance the project using funds generated from its operations. Section IV.9.0 Financial Capability further addresses Warren's financial capability to undertake the Surrender Project.

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<sup>1</sup> Warren reserves the right to argue that MWDCA approval is not required. The MWDCA prohibits the construction or reconstruction of a "hydropower project," or the structural alteration of a "hydropower project," in ways that change water levels or flows, without first obtaining a permit from the MDEP. 38 M.R.S.A. § 633(1). The statute defines a "hydropower project" as "any development that utilizes the flow or other movement of water... as a source of electrical or mechanical power or that regulates the flow of water for the purpose of generating electrical or mechanical power." 38 M.R.S.A. § 632(3). As explained in Warren's FERC Surrender Application, Warren plans to disconnect the generating units prior to removing any portion of the dam. At the time that the dam removal will occur, the Saccarappa Dam will not be in use to generate electrical or mechanical power and therefore the dam will not qualify as a "hydropower project" under the MWDCA, and a permit therefore is not required. Further, Warren reserves its right to argue that the Federal Power Act preempts MDEP's authority to issue a permit for this activity, because the Saccarappa Project and Project land are subject only to FERC jurisdiction until all dam removal work has been completed and FERC has performed a final site inspection and issued a letter to that effect. *See California v. FERC*, 495 U.S. 490 (1990); *First Iowa Hydro-Electric Cooperative v. FPC*, 328 U.S. 152, 168, 175-76, 182 (1946).

<sup>2</sup> Warren is applying for water quality certification only for the Corps permit, and not for the FERC approval of the Saccarappa Project license surrender, because certification under Clean Water Act section 401 is not required for a hydropower project license surrender. Based on our conversations with MDEP, Warren understands that MDEP agrees with this approach, and that, consistent with prior MDEP practice, MDEP will waive certification with respect to the FERC Surrender Application. Further, Warren is submitting this application for water quality certification with a reservation of the right to argue that certification is not required for the Corps permit, because the federal action being taken by the Corps does not authorize any "discharge" into the navigable waters, as required by Section 401. A "discharge" includes a discharge of a pollutant or pollutants, but the term "discharge of a pollutant" limits such discharges to those emanating from a point source. 33 U.S.C. § 1362. This Surrender Project will not involve the discharge of any material from a point source.

With respect to technical capability, Warren has extensive experience in the construction, operation, and maintenance of fishways. This is evidenced by Warren's successful installation and operation of a Denil fish ladder at the Cumberland Mills site. Section IV.10.0 Technical Ability addresses in greater detail Warren's ability to successfully implement the Surrender Project.

2) Safety

Warren has made adequate provisions to protect public safety during and following the construction phase of the Surrender Project. These measures include issuance of a dam removal activity notice, erection of appropriate barriers at the construction site, temporarily closing all affected boat launches, maintaining riverine barriers, controlling drawdown, and erection of appropriate permanent barriers at the Saccarappa facility. Section IV.11.0 Public Safety describes each of these measures in greater detail.

3) Public Benefits

The Surrender Project will result in significant economic benefits to the public. Short-term economic benefits will include construction-related employment, materials demand, and increased consumer spending. Long-term benefits will include improved recreational opportunities, potential expansion of the Whitewater Park at the Saccarappa site, potential enhancement of State fisheries, diverse fishing opportunities, and increased consumer spending. The potential benefits associated with anadromous fish runs in the section of the Presumpscot River between Saccarappa and Mallison Falls, including the tributaries, are substantial.

In addition to providing upstream and downstream passage for the species of concern, the dam removal will provide an additional five miles of habitat to anadromous and catadromous species on the river and additional habitat in associated tributary streams. Returning this stretch of the river to a free-flowing river is expected to provide water quality benefits, particularly with regard to increased dissolved oxygen levels. The increase in habitat and improvement in water quality will result in enhanced fisheries resources within the river drainage, augmenting both recreational and commercial fishing opportunities. The Surrender Project thus will result in significant economic benefits to the public because improved fisheries resources will enhance recreational and commercial fishing opportunities, and construction associated with the Surrender Project will offer employment opportunities for workers of the State.

In addition to the economic benefits of this Surrender Project, Warren intends to install an observation window in the fish ladder with an adjacent observation area. This area will serve to educate the general public on the fish passage and anadromous fish restoration in the Presumpscot River.

Section IV.12.0 Public Benefits details the economic benefits of the Surrender Project. Additional details regarding the natural resource benefits of the Surrender Project are described in the Surrender Application.

4) Traffic Movement

Warren has assessed the size and condition of all public roads expected to be utilized for the transportation of materials, equipment, and workers to and from the project site and determined that the proposed Surrender Project will have a negligible impact on traffic in Westbrook and the surrounding communities. Residents and motorists along the anticipated travel route may experience an increase in truck traffic due to spoil disposal. Proposed access to the site is discussed in Section IV.13.0 Traffic Movement. Additional information regarding the condition of existing roadways and potential impacts is also addressed in that section. In short, Warren has made adequate provisions for traffic movement of all types out of and into the development area.

5) Maine Land Use Planning Commission

The Saccarappa Project is not subject to the jurisdiction of the Land Use Planning Commission; hence this requirement of the MWDCA is not applicable.

6) Environmental Mitigation

The proposed Surrender Project will have numerous environmental benefits and few, minor, adverse environmental impacts. The proposed Surrender Project will make the section of river up to Mallison Falls and all of the tributaries accessible to migratory anadromous fish.

The proposed double Denil fish ladder will facilitate fish passage over the lower Saccarappa Falls. Removal of the spillways will facilitate natural fish passage over the upper falls. Removal of the spillways will allow the section of river up to Mallison Falls to return to its natural state that existed prior to construction of the first hydropower dam at Saccarappa in the 1800s.

Potential wetland impacts associated with the Surrender Project fall into two broad categories. The first consists of impacts associated with the proposed modifications at the Saccarappa Falls site. The second category of impacts is related to the lowering of water levels in the river upstream of Saccarappa Falls to Mallison Falls. A more detailed description of potential wetland impacts is included in Section IV.18.0 Coastal/Inland Wetlands.

The environmental impacts that may result from the proposed Surrender Project are transitory and are mostly associated with the temporary activities during construction. All of these potential impacts are minor and temporary. These impacts are more than offset by the advantage to the environment associated with removal of the dam at Saccarappa. Potential

environmental impacts are discussed in further detail in Section IV.16.0 Water Quality, Section IV.17.0 Soil Stability, Section IV.18.0 Coastal/Inland Wetlands, Section IV.19.0 Natural Environment, and Section IV.20.0 Fish and Wildlife Resources. As demonstrated in those sections, Warren has made reasonable provisions to realize the environmental benefits of the Surrender Project and to mitigate its adverse environmental impacts.

7) Environmental and Energy Considerations

The advantages associated with the decommissioning of the Saccarappa Dam and Hydroelectric Facility, removal of the spillways, removal of ancillary structures in the forebay channel, restoration of the river bed to the pre-hydro elevation by replacing excavated material, and installation of fish passage over the lower falls are significant and are clearly greater than the direct and cumulative adverse impacts over the life of the project.

- a. The proposed Surrender Project is not expected to result in long-term impacts to existing soil stability, coastal and inland wetlands, or the natural environment of any surface waters and their shoreland. Potential environmental impacts are discussed in further detail in Section IV.16.0 Water Quality, Section IV.17.0 Soil Stability, Section IV.18.0 Coastal/Inland Wetlands, and Section IV.19.0 Natural Environment. As demonstrated in those sections, the Surrender Project will result in significant benefit, and little or no harm, to soil stability, coastal and inland wetlands, and the natural environment of any surface waters and their shorelands.
- b. The proposed Surrender Project will significantly benefit the diversity of the existing fish populations in the Presumpscot River by providing fish passage at the Saccarappa Dam site. Anadromous fish will have access to the section of river from Saccarappa to Mallison Falls and all of the tributaries in that section of the river. Existing wildlife in the project area are not expected to be adversely impacted by the proposed Surrender Project. The benefits of the Surrender Project to the existing fish and wildlife are discussed in Section IV.20.0 Fish and Wildlife Resources. As demonstrated in that section, the Surrender Project will result in significant benefits, and little or no harm, to fish and wildlife resources.
- c. The proposed Surrender Project will benefit existing cultural resources in the project area by reducing potential long term erosion to several existing archaeological and historic sites. These benefits are described in Section IV.21.0 Historic / Archaeological Resources. As demonstrated in that section, the Surrender Project will result in significant benefit, and little or no harm, to historic and archeological resources.
- d. In the long term, the proposed Surrender Project will maintain the existing public right to access the Presumpscot River for lawful public uses. In order to ensure public safety during drawdown and construction, it will be necessary to temporarily close boat accesses

and limit recreational use. This is discussed in Section IV.22.0 Public Access and Uses. Safety is discussed in Section IV.11.0 Public Safety. As demonstrated in those sections, the Surrender Project will result in significant benefit, and little or no harm, to the public rights of access to and use of the surface waters of the State for navigation, fishing, fowling, recreational, and other lawful public uses.

- e. The proposed Surrender Project will not structurally modify any existing methods of flood control to the river, nor will it increase flooding either upstream or downstream of the project site. Additionally, decreasing the surface elevation of the Saccarappa impoundment may beneficially impact any existing flood zones in the project area upstream of the existing spillway. Flood control is discussed in greater detail in Section IV.23.0 Flood Control. As demonstrated in that section, the Surrender Project will result in significant flood control benefits and little or no flood hazards.
- f. The requirement of fish passage at Saccarappa Falls necessitates the cessation of hydroelectric operations at the Saccarappa Dam. The construction of fish passage at the Saccarappa site is a requirement of the license issued by FERC to Warren for an operating the hydroelectric facility. After extensive review, Warren determined that the high cost of constructing fish passage in accordance with the existing FERC license at the Saccarappa Dam and Hydroelectric Facility was not economical. For this reason Warren has decided to surrender the license for the Saccarappa Dam and Hydroelectric Facility.

The loss of this small amount of hydroelectric energy will not be caused by the MWDCa project described herein (removal of the dam and construction of a fishway), but, rather, is caused by the uneconomical fish passage requirement contained in the FERC license. Thus, the Surrender Project will not have any hydroelectric benefits or harms. Energy is discussed in greater detail in Section IV.24.0 Energy.

#### 8) Water Quality

The removal of the spillways at the Saccarappa Dam is expected to improve the water quality in the section of the river between Saccarappa and Mallison Falls. There are not expected to be any negative impacts to water quality caused by the Surrender Project. It is expected that dissolved oxygen levels may increase and benefit the overall aquatic environment. Dissolved oxygen levels will not be adversely impacted by the Surrender Project. Benefits that the Surrender Project will have on the quality of water in the Presumpscot River in the project area are detailed in Section IV.16.0 Water Quality. As demonstrated in that section, there is reasonable assurance that the Surrender Project will not violate applicable water quality standards.

### **III. FERC APPLICATION FOR LICENSE SURRENDER FOR THE SACCARAPPA PROJECT**

A copy of the FERC Application for License Surrender for the Saccarappa Project has been included with the MWDC Application submittal package and is referenced within this application.

#### **IV. MWDCa PERMIT REQUIREMENTS**

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This MWDCa permit application addresses each approval criterion set forth in 38 M.R.S. Section 636 and in the Hydropower Project Construction / Reconstruction Application form.

##### **1.0 Nature of Activity**

The proposed Surrender Project involves the reconstruction or structural alteration of an existing hydropower project. The existing hydropower project is subject to FERC jurisdiction as P-2897.

## **2.0 Existing Environment**

A detailed description of the physical environment of the project site, including all land and water areas that are potentially impacted by the proposed Surrender Project, can be found in the FERC Application for License Surrender for the Saccarappa Project that is included in the MWDC Application package. Specific references within the Surrender Application are described below.

- A. Section 2.0, Existing Facilities
- B. Section 2.0, Existing Facilities, Figure 2-1: Project Location Figure
- C. The following sections of the Surrender Application describe the physical environment of the project area:
  - 1. Section 5.1.1, Geology, Existing Conditions
  - 2. Section 5.2.1.1, Water Resources, Water Quantity, Existing Conditions
  - 3. Section 5.2.2.1, Water Resources, Water Quality, Existing Conditions
  - 4. Section 5.5.2.1, Wetland Resources, Existing Conditions

### **3.0 Project Description**

A detailed description of the existing Saccarappa hydropower facility, including the powerhouse, dams, transmission lines, impoundment, roads, and any other appurtenant works and structures can be found in the FERC Application for License Surrender for the Saccarappa Project that is included with this MWDCA Application package. Specific sections of the Surrender Application describing the required physical descriptions are listed below.

- A. Section 2.0 Existing Facilities, Section 4.2 Western Channel Design and Appendix G Conceptual Design Drawings in the Surrender Application provide a description of the physical composition, dimensions, and general configuration of the existing and proposed project structures.
- B. A description of the normal maximum surface area, elevation, and usable storage capacity of the existing Saccarappa impoundment and proposed free-flowing river section can be found in Section 5.2.1 Water Quantity of the Surrender Application. The estimated gross storage capacity of the Saccarappa impoundment is 540 acre-feet.
- C. A description of the existing project turbines can be found in Section 2.0 Existing Facilities in the Surrender Application. The existing project turbines will be shut down and removed as part of the proposed Surrender Project.

#### **4.0 Construction Activities**

The construction plan and sequencing described in this MWDC Application is based on the assumption that construction will start in the fall of 2016 and continue through the winter to be ready for a May 1, 2017 start date. This plan also assumes that Warren will be able to control and regulate the flow release rate at the Eel Weir Project to no more than the prescribed minimum flow rate for extended periods of time (up to one month) with periods of higher flow releases between intervals of low flow. This plan also anticipates that work on the demolition of the eastern spillway, demolition of the western spillway, and work in the tailrace channel will be undertaken concurrently to meet the proposed schedule. Refer to Appendix I in the Surrender Application for the construction schedule.

1. The first task is to provide access to the island for workers and heavy equipment. Workers (but not heavy equipment) can access the island via the existing bridge across the tailrace, but the condition of the bridge and the support systems have deteriorated so that the bridge cannot be used for access to the island with heavy equipment. The contractor will need to make arrangements to get heavy equipment and trucks onto the island for demolition of the eastern spillway. The contractor has the option to use a barge in the river or to reinforce the existing bridge over the tailrace for access to the island. It is the contractor's decision regarding which of these two options is the most cost effective.
2. The next critical task is to close the head-gates on the powerhouse and remove the turbine scroll cases and other wet-side obstructions inside the powerhouse. Once the turbines have been removed, the head gates and the waste gate in the forebay area will be opened to allow the flow of the river to pass down the western channel, through the power house and the deep waste gate. During this period, the release of flow at the Eel Weir Project should be at or near the regulatory minimum. The powerhouse head gates can then be used to regulate the flow in the western channel to reduce the water level in the river upstream of the two dams at Saccarappa Falls. The water level in the river impoundment should be reduced to or slightly below elevation 64 to eliminate flow in the eastern channel.
3. Once the eastern channel is dewatered, demolition of the eastern spillway will be started, beginning on the easterly end and progressing west. All concrete and fill material will be removed moving east to west along the spillway.
4. Once the spillway is about halfway done, the head gates will be closed at the powerhouse to stop flow in the western channel and specified fill will be placed in the western channel to create a cofferdam to divert flow in the river from the western channel into the eastern channel. Once the river flow has been diverted to the eastern channel and the cofferdam in the western channel is completed, demolition and removal of the eastern channel spillway and all other project related work will be continued in the western channel.

5. The next task will be to fill the tailrace, construct the Denil fishway, construct fish passage in the western channel and complete decommissioning of the powerhouse and transmission lines.
6. Once the work in the lower part of the western channel is complete, the cofferdam will be reshaped in the western channel to refine construction of the fish passage in the western channel.
7. The cofferdam in the upper western channel will then be removed and startup/testing procedures will be conducted.
8. The finished fishway is placed into service. Deadline May 1, 2017.

## **5.0 Project Operation**

The specific issues (A through E) addressed in Section 5 of the application form are not applicable to this Surrender Project because Warren is applying to discontinue operation of the facilities at the site related to generation of hydroelectric power and to surrender the existing FERC license. The spillways will be removed and the impoundment created by the dam will no longer exist and the river upstream of the dam will revert back to conditions that existed prior to the first dam being built at the Saccarappa site. The powerhouse will be decommissioned.

Warren, as owner of the Saccarappa fishway and associated property, will be responsible for ongoing maintenance and operation of the Denil fish ladder, including cleaning, repairs, and maintenance of the physical facilities and operation of the fishway during the fish passage season. Warren will prepare an operational procedures manual for the ongoing operation and maintenance of the fishway.

## **6.0 Project Plans**

The Preliminary Design drawings for the Surrender Project are included in 8.5” x 11” format in this section. The following sheets are included in the drawing set:

- Sheet 1: Site Plan With Aerial
- Sheet 2: Pre-Development Project Site Plan
- Sheet 3: Post-Development Project Site Plan
- Sheet 4: Overall Western Channel Site Plan
- Sheet 5: Western Channel River Profile
- Sheet 6: Western Channel Section A, B, C and D
- Sheet 7: Double Denil Plan and Profile
- Sheet 8: Fishway Entrance Plan and Details
- Sheet 9: Fishway Exit Plan and Details
- Sheet 10: Proposed Tailrace Stormwater Plan and Profile
- Sheet 11: Proposed Tailrace Grading Plan and Profile
- Sheet 12: Cofferdam/Dewatering Construction Plan
- Sheet 13: Erosion Control General Notes



Saccarappa Falls Fish Passage Project  
Preliminary Design  
October 2015



**Acheron Engineering Services**  
Engineering, Environmental & Geologic Consultants  
[www.AcheronEngineering.com](http://www.AcheronEngineering.com)

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Newport, ME. 04953  
(207)-368-5700

24466 Powell Rd.  
Brooksville, FL. 34602  
(352)-796-6236

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**ALDEN**

Alden Research Laboratory, Inc.  
30 Shrewsbury St., Holden, MA. 01520-1843  
[www.Aldenlab.com](http://www.Aldenlab.com)

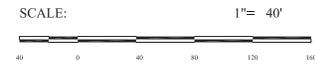


- SYMBOLS LEGEND**
- PROPOSED CHANNEL
  - ROCK FILL
  - BEDROCK TO REMAIN
  - PROPOSED LOCATION FOR 4" TO 6" DIA. BOLLARDS

*William B. Ball*

WILLIAM B. BALL  
3009  
LICENSE EXPIRES  
OCTOBER 29, 2015

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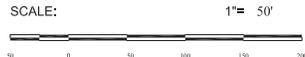
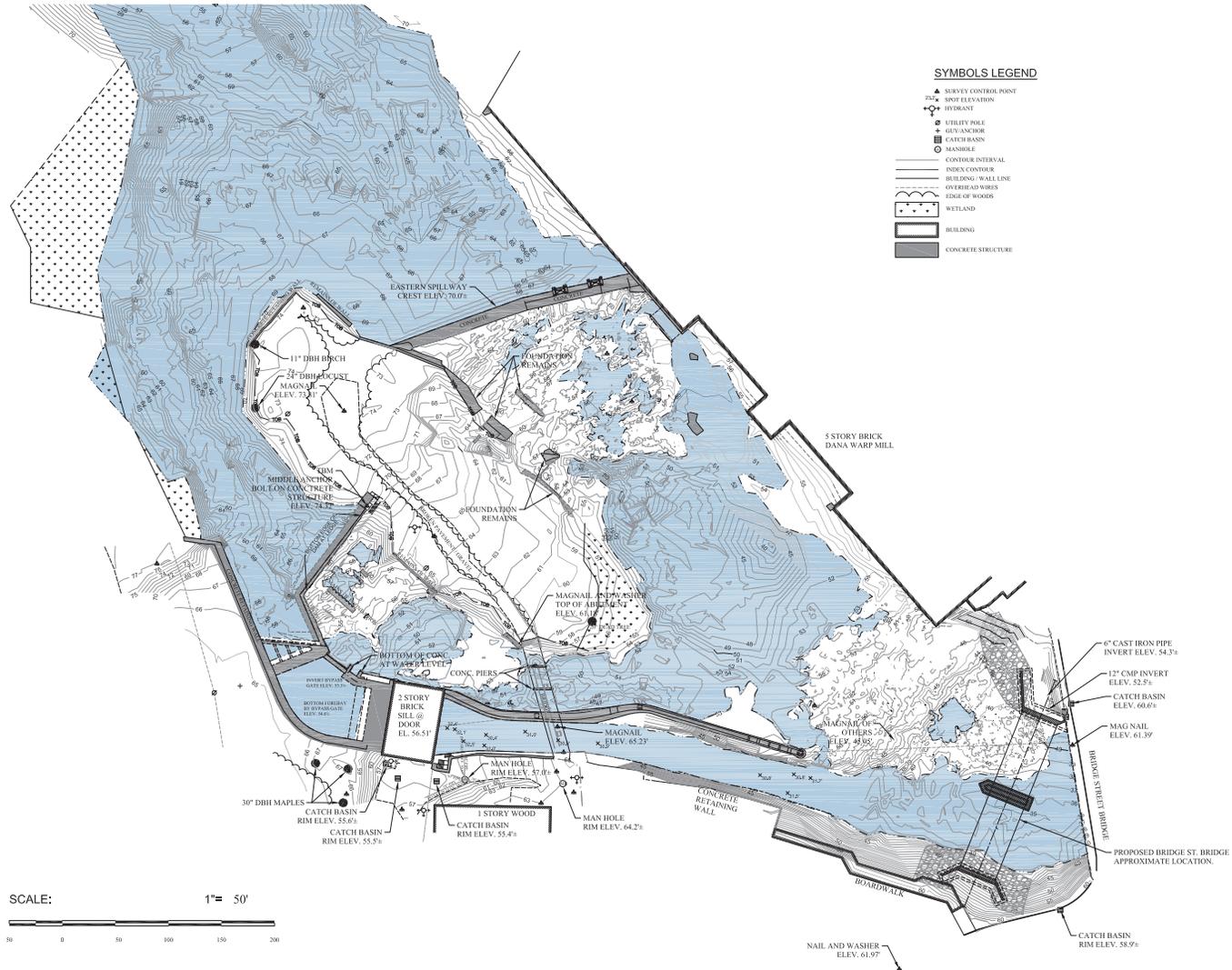
<p><b>Saccarappa Falls Fish Passage Project</b> Western Channel Design Aerial</p> <p>Suppl / Western Release Papers Saccarappa Falls Westbrook, Maine</p>	
<p>Job Number: 49293</p>	<p>Drawing No: C-2249</p>
<p>Sheet 1 of 13</p>	
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<p>Drawn By: BEC</p>	<p>Checked By: BEC / JCB / JWB</p>
<p>Design By: JCB</p>	<p>Approved By: JWB</p>
<p>Date: 10.19.15</p>	<p>No. Revision Description</p>



NOTE:  
This sheet depicts the Topography of the ground surface and the Bathymetry of the surface of the sediment, soil and/or bedrock below the water at the time and date of the survey.

- NOTES:
- (1) ELEVATIONS SHOWN ARE NAVD 83 BASED UPON NGS DMR R121 WITH PUBLISHED ELEVATION OF 54.54'.
  - (2) CONTOURS SHOWN ARE 1 FOOT INTERVALS.
  - (3) DATA BASED ON FIELD SURVEYS BY PUGSA & DAY LAND SURVEYORS 28 SEPTEMBER, 2011, 14 NOVEMBER, 2011, 13 DECEMBER, 2011, 10 MAY, 2013, 20 JUNE, 2013, AND 4 DECEMBER, 2013 USING A TRIMBLE 56 ROBOTIC TOTAL STATION AND A TES RANGER DATA COLLECTOR AND BY HARRY R. FELDMAN, INC. 13 DECEMBER, 2011 USING A DIGITAL SCANNER.
  - (4) COORDINATES ARE ORIENTED TO STATE PLANE, MAINE WEST, ZONE 1802, WITH GROUND DISTANCES.

**SYMBOLS LEGEND**



*William B. Ball*  
 WILLIAM B. BALL  
 3009  
 OCCUPATIONAL ENGINEER  
 October 20, 2015

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Drawn By: BEG	Checked By: BEG / KJB / WBD	Approved By: WBD	Date: 10.19.15
Drawn By: BEG / KJB / WBD	Checked By: KJB / WBD	Approved By: WBD	Date: 10.19.15
<b>ACHERON ENGINEERING SERVICES</b> Engineering, Environmental & Geologic Consultants www.acheronengineering.com 147 Main Street Newry, ME 04953 (352) 796-6256 (207) 568-5700			
<b>Saccarappa Falls Fish Passage Project</b> Western Channel Design Pre-Development Project Site Plan Suppl. / Western Release Papers Saccarappa Falls Westbrook, Maine			
Job Number:	49293		
Drawing No:	C-2250		
Sheet 2 of 13			





GRID NORTH  
MAINE WEST ZONE  
NAD 83

SCALE: 1" = 30'

30 0 30 60 90 120



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NOTE:  
This sheet depicts the Topography of the ground surface and the Bathymetry of the surface of the sediment, soil and/or bedrock below the water at the time and date of the survey.

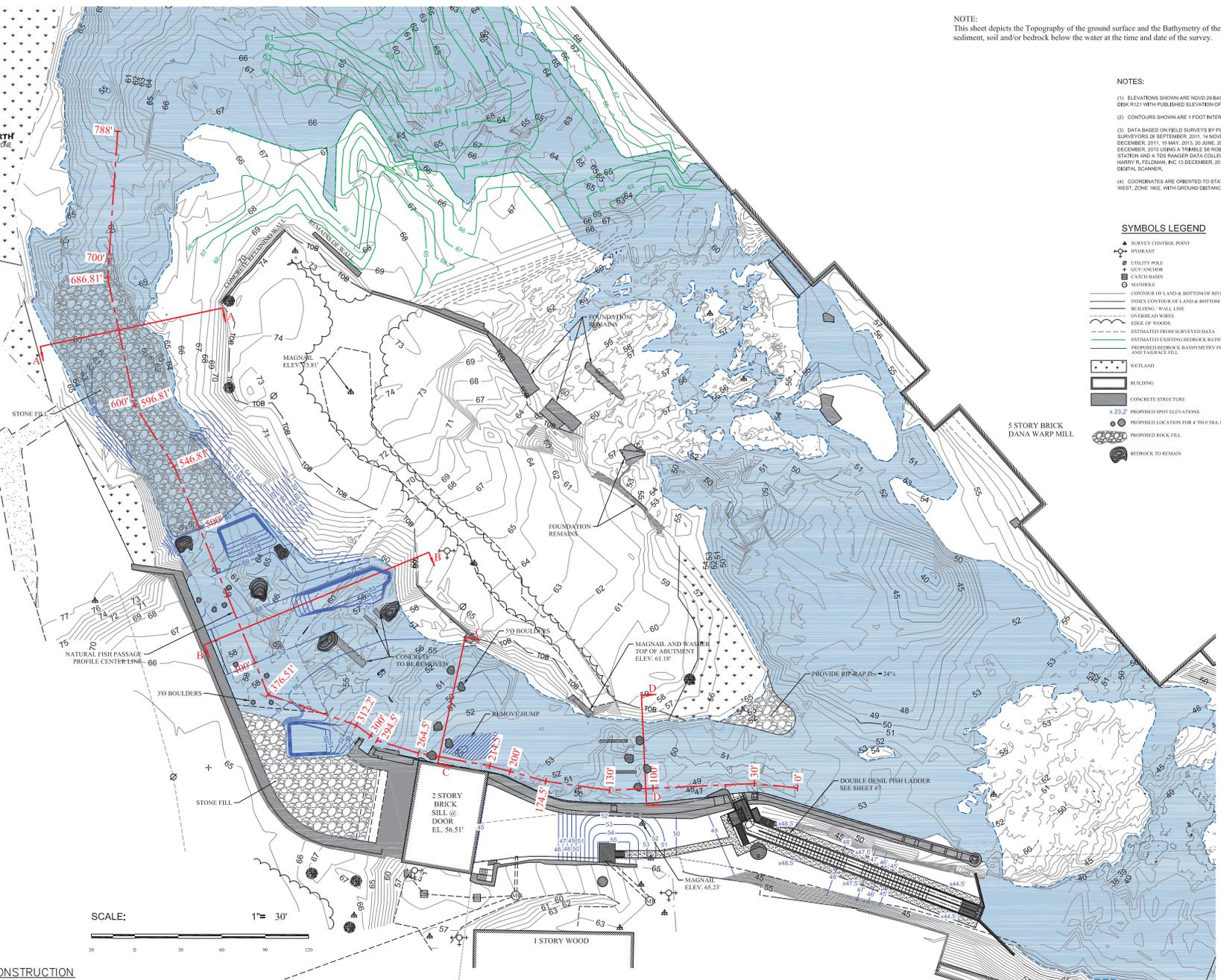
NOTES:

- (1) ELEVATIONS SHOWN ARE NGVD 29 BASED UPON NGS DBM-PC13 WITH PUBLISHED ELEVATION OF 54.4'.
- (2) CONTOURS SHOWN ARE 1 FOOT INTERVALS.
- (3) DATA BASED ON FIELD SURVEYS BY REBEKA & DAVY LAND SURVEYORS ON SEPTEMBER, 2011, 14 NOVEMBER, 2011, 13 DECEMBER, 2011, 19 MAY, 2013, 20 JUNE, 2013, AND 4 DECEMBER, 2013 USING A TRIMBLE 560 ROBOTIC TOTAL STATION AND A TDS RANGER DATA COLLECTOR; AND BY HARRY F. FELDMAN, INC. 13 DECEMBER, 2011 USING A DIGITAL SCANNER.
- (4) COORDINATES ARE ORIENTED TO STATE PLANE, MAINE WEST, ZONE 19E2, WITH GROUND DISTANCES.

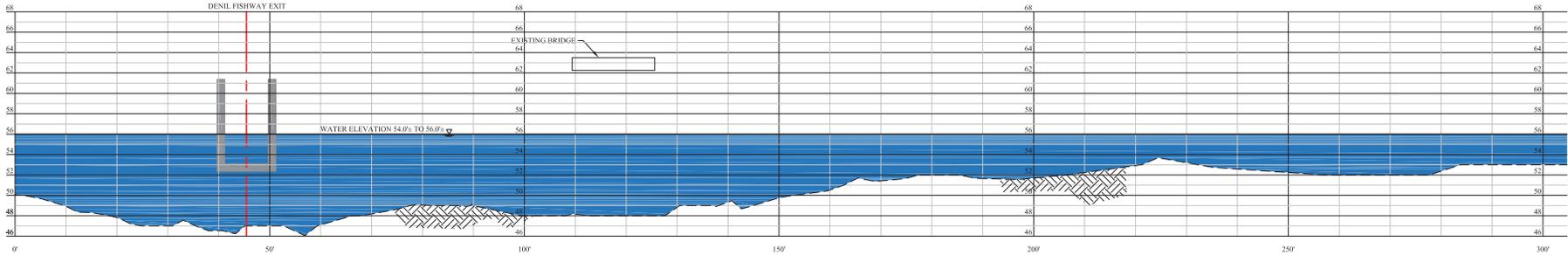
SYMBOLS LEGEND

- ▲ SURVEY CONTROL POINT
- HYDRANT
- UTILITY POLE
- GROUNDWATER
- CATCH BASIN
- MANHOLE
- CONTOUR OF LAND & BOTTOM OF RIVER BATHYMETRY
- INDEX CONTOUR OF LAND & BOTTOM OF RIVER BATHYMETRY
- BUILDING WALL LINE
- OVERHEAD WIRES
- EDGE OF WOODS
- ESTIMATED FROM SURVEYED DATA
- ESTIMATED EXISTING BEDROCK BATHYMETRY
- PROPOSED BEDROCK BATHYMETRY IN WESTERN CHANNEL AND TAILRACE FILL
- WETLAND
- BUILDING
- CONCRETE STRUCTURE
- ±23.2' PROPOSED SPOT ELEVATIONS
- PROPOSED LOCATION FOR 4" TO 6" DIA. BOULDERS
- PROPOSED ROCK FILL
- BEDROCK TO REMAIN

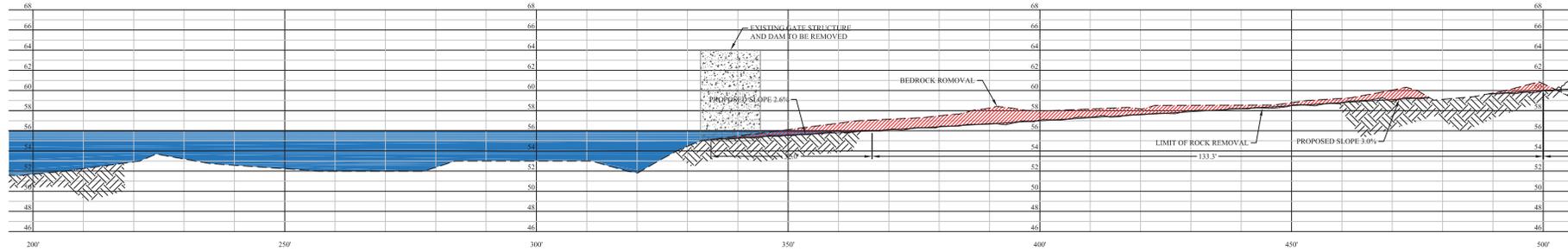
5 STORY BRICK  
DANA WARP MILL



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Design By: BEG / JCB / JWB	Checked By: JCB / JWB	Approved By: JWB	Date: 10.19.15
<p><b>ACHERON ENGINEERING SERVICES</b> Engineering, Environmental &amp; Geologic Consultants</p> <p>www.acheronengineering.com 2466 Power Rd. Newry, ME 04953 Phone: (207) 796-6262 Fax: (207) 796-5700</p>			
<p><b>Saccarappa Falls Fish Passage Project</b> Western Channel Design Overall Western Channel Site Plan</p> <p>Suppl / Western Release Papers Saccarappa Falls Westbrook, Maine</p>			
Job Number:	49293	Drawing No:	C-2252
Sheet 4 of 13			

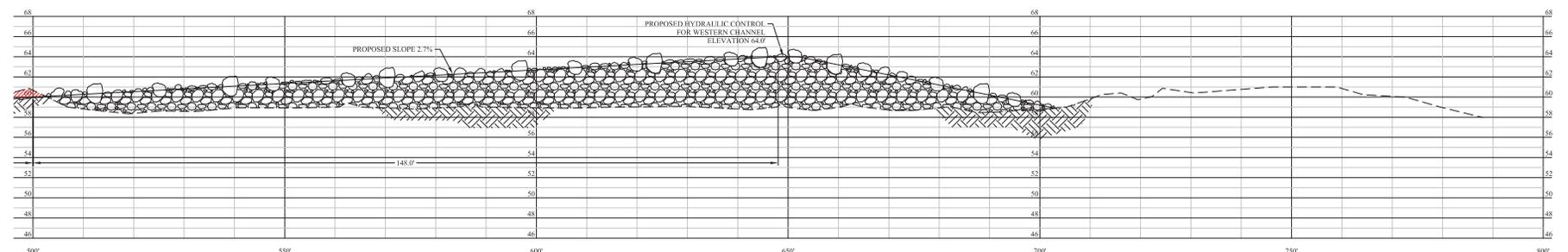


**WESTERN CHANNEL PROFILE**  
 Scale: Hor: 1" = 10'  
 Vert: 1" = 5'



**WESTERN CHANNEL PROFILE**  
 Scale: Hor: 1" = 10'  
 Vert: 1" = 5'

**LOWER SECTION**  
 STA. 3+44 TO 3+66 = 32'  
 ELEV. 56'-55.15" = 0.85' SLOPE: 0.85/32 = 2.6%  
 STA. 3+66 TO 3+00 = 133.3'  
 ELEV. 60.0'-56.0" = 4.0' SLOPE: 4.0/133.3 = 3.0%



**WESTERN CHANNEL PROFILE**  
 Scale: Hor: 1" = 10'  
 Vert: 1" = 5'

**UPPER SECTION**  
 SILL AT ELEV. 64.0'  
 STA. 5+00 TO 6+50 = 150'  
 ELEV. 64.0'-60.0" = 4.0' SLOPE: 4.0/150 = 2.7%

*William B. Bull*  
 STATE OF MAINE  
 WILLIAM B. BULL  
 5009  
 PROFESSIONAL ENGINEER  
 OCTOBER 20, 2015

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No.	Revision Description	Drawn	Checked	Date

Drawn By: J.B.C.  
 Done By: B.P.G./A.B.D./M.B.D.  
 Ckd By: J.B.C./M.B.D.  
 Apprd By: M.B.D.  
 Date: 10-19-15

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 Brunswick, ME 04002  
 (207) 766-6226  
 Fax: (207) 766-5700

**Saccarappa Falls Fish Passage Project**  
 Western Channel Design  
 Western Channel River Profile  
 Suppl / Warren Release Papers  
 Saccarappa Falls  
 Westbrook, Maine

Job Number:  
 49293

Drawing No:  
 C-2253

Sheet 5 of 13

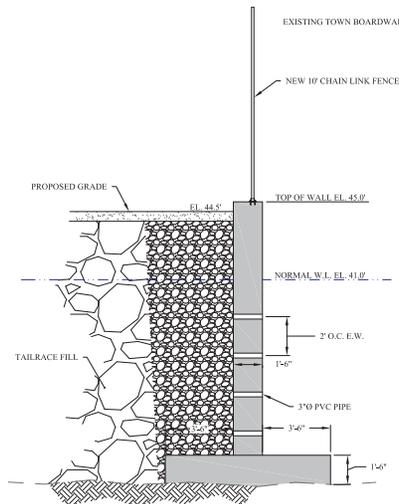
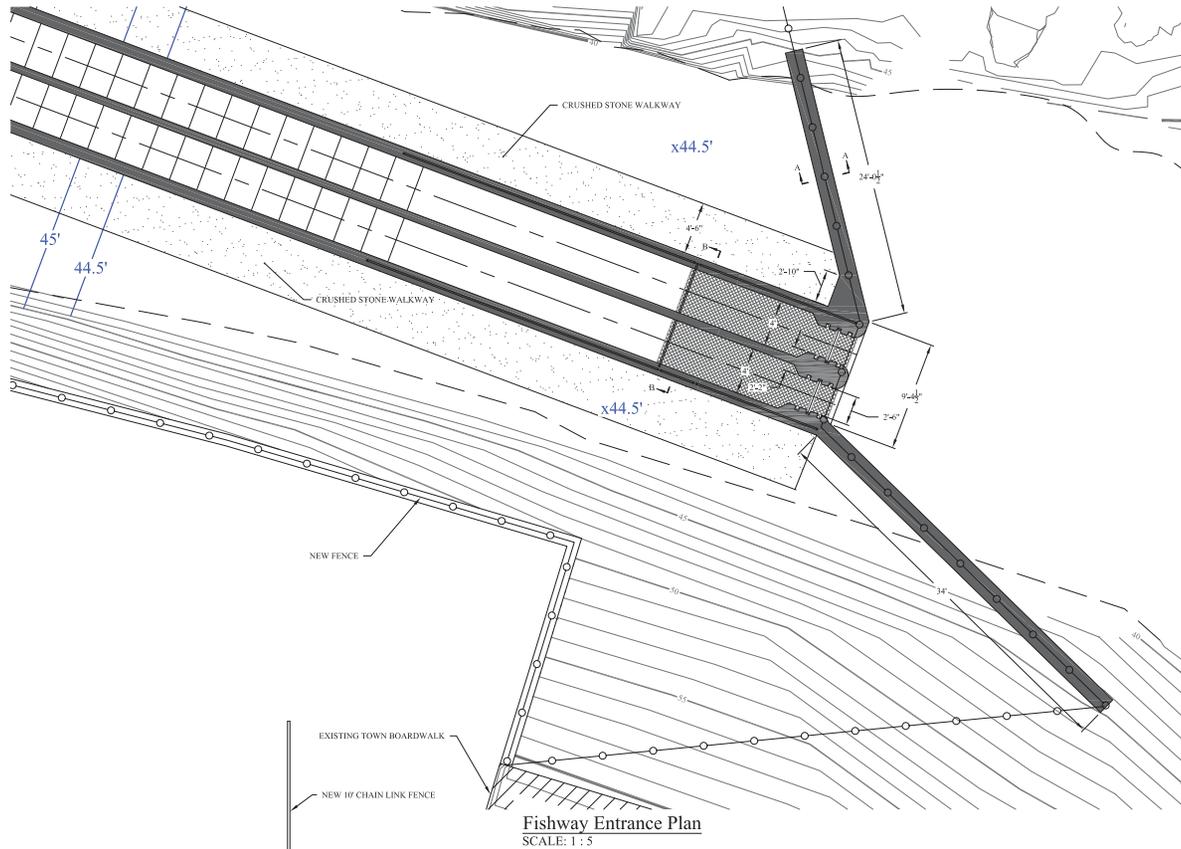




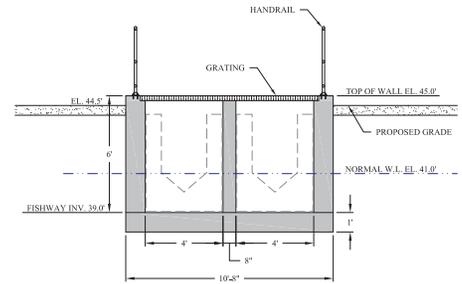


**GRID NORTH**  
MAINE WEST ZONE  
NAD 83

- SYMBOLS LEGEND**
- ▲ SURVEY CONTROL POINT
  - x 12.5' SPOT ELEVATION
  - UTILITY POLE
  - ◆ SET ANCHOR
  - CATCH BASIN
  - MANHOLE
  - CONTOUR INTERVAL
  - INDEX CONTOUR
  - BUILDING WALL LINE
  - OVERSHED WIRES
  - EDGE OF WOODS
  - INTERPOLATED LINE TOP OF TAILRACE WALL
  - ACTUARY INTERPOLATED LINE
  - PROPOSED CONTOURS



**Section A-A**  
SCALE: 1 : 3



**Section B-B**  
SCALE: 1 : 3

**NOTE:**  
CONTRACTOR TO MAKE REPAIRS TO THE UPSTREAM SIDE OF THE BARRIER WALL TO ELIMINATE OR SUBSTANTIALLY REDUCE THE FLOW OF WATER THROUGH AND UNDER THE BARRIER WALL. REPAIRS TO BE MADE PRIOR TO PLACING ANY FILL IN THE TAILRACE CHANNEL. REPAIRS ARE TO BE TESTED UNDER LOW WATER CONDITIONS INSIDE THE TAILRACE CHANNEL.

Data based on field surveys by Pligg & Day Land Surveyors 26 September, 2011, 14 November, 2011, and 13 December, 2011 using a Trimble S6 robotic total station and a TDS Ranger data collector; and by Harry R. Feldman, Inc 13 December, 2012 using a digital scanner.  
Water surface as surveyed on December 13, 2012 under low flow conditions.  
Elevations shown are based on NGVD 29 Datum.



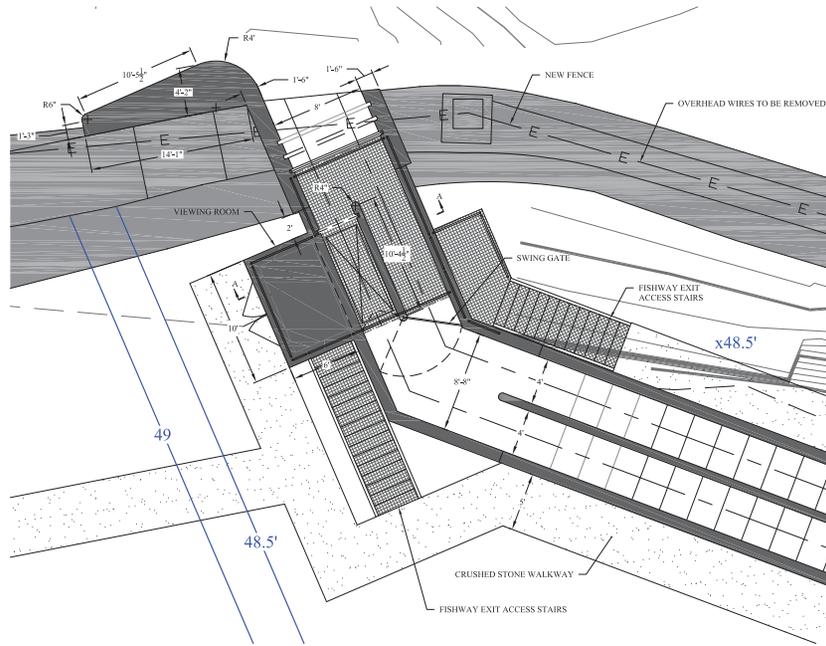
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<p>Drawn By: BEG          Desig By: BEG, LKB, JHEB          Check By: LKB          Apprd By: JHEB          Date: 10.19.15</p>	<p>Job Number: 49293</p> <p>Drawing No: C-2256</p> <p>Sheet 8 of 13</p>
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<p><b>Saccarappa Falls Fish Passage Project</b>          Western Channel Design          Fishway Entrance Plan and Details</p> <p>Sept / Warren Release Papers          Saccarappa Falls          Westbrook, Maine</p>	

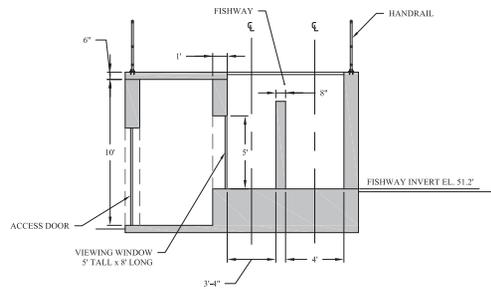


GRID NORTH  
MAINE WEST ZONE  
NAD 83

- SYMBOLS LEGEND**
- ▲ SURVEY CONTROL POINT
  - x 23.2 SPOT ELEVATION
  - UTILITY POLE
  - GUY ANCHOR
  - ▭ CATCH BASIN
  - MANHOLE
  - CONTOUR INTERVAL
  - INDEX CONTOUR
  - BUILDING WALL LINE
  - OVERHEAD WIRES
  - EDGE OF WOODS
  - INTERPOLATED LINE TOE OF TAILRACE WALL
  - ACHERON INTERPOLATED LINE
  - PROPOSED CONTOURS



Fishway Exit Plan View  
SCALE: 1 : 5



Fishway Exit Section A-A  
SCALE: 1 : 4

**NOTE:**  
CONTRACTOR TO MAKE REPAIRS TO THE UPSTREAM SIDE OF THE BARRIER WALL TO ELIMINATE OR SUBSTANTIALLY REDUCE THE FLOW OF WATER THROUGH AND UNDER THE BARRIER WALL. REPAIRS TO BE MADE PRIOR TO PLACING ANY FILL IN THE TAILRACE CHANNEL. REPAIRS ARE TO BE TESTED UNDER LOW WATER CONDITIONS INSIDE THE TAILRACE CHANNEL.

*William B. Ball*  
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WILLIAM B. BALL  
3009  
LICENSED PROFESSIONAL ENGINEER  
October 20, 2015

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No.	Revision Description	Drawn	Checked	Date

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Desig. By: BFG / CFB / JDB  
Chkd. By: KUB  
Apprd. By: JDB  
Date: 10.13.15

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Acheron Environmental Inc.

**Saccarappa Falls Fish Passage Project**  
Western Channel Design  
Fishway Exit Plan and Sections  
Sappi / Warren Release Papers  
Saccarappa Falls  
Westbrook, Maine

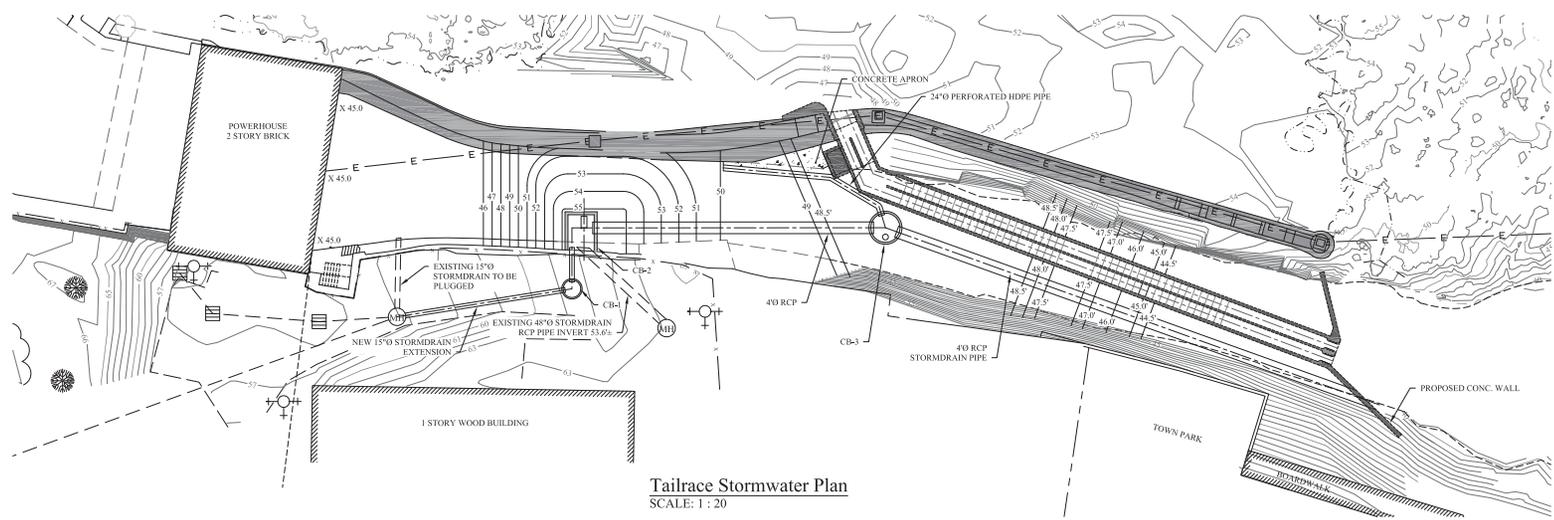
Job Number:  
49293

Drawing No:  
C-2257

Sheet 9 of 13

Data based on field surveys by Plisga & Day Land Surveyors 26 September, 2011, 14 November, 2011, and 13 December, 2011 using a Trimble S6 robotic total station and a TDS Ranger data collector; and by Harry R. Feldman, Inc 13 December, 2012 using a digital scanner. Water surface as surveyed on December 13, 2012 under low flow conditions. Elevations shown are based on NGVD 29 Datum.

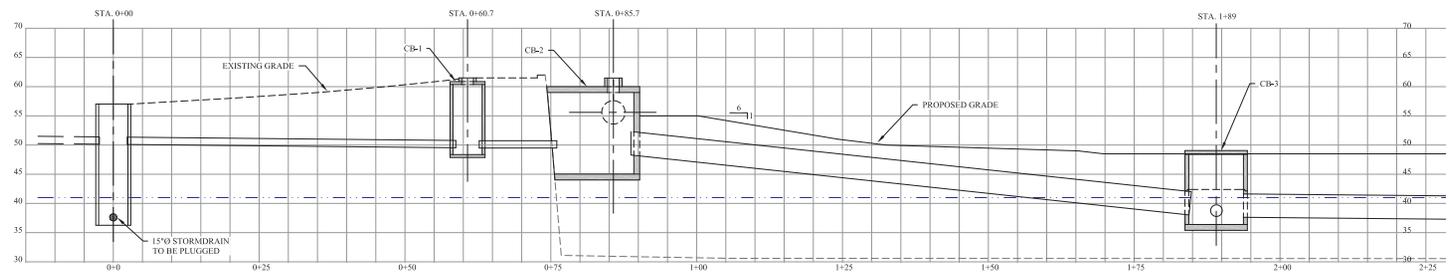
NOTE:  
 1. LOCATION OF EXISTING 4"Ø AND 15"Ø STORM DRAINS, BASED ON INFORMATION PROVIDED BY CITY OF WESTBROOK AND SAPP. CONFIRMATION OF LOCATION REQUIRED.  
 2. CONTRACTOR TO MAKE REPAIRS TO THE UPSTREAM SIDE OF THE BARRIER WALL TO ELIMINATE OR SUBSTANTIALLY REDUCE THE FLOW OF WATER THROUGH AND UNDER THE BARRIER WALL. REPAIRS TO BE MADE PRIOR TO PLACING ANY FILL IN THE TAILRACE CHANNEL. REPAIRS ARE TO BE TESTED UNDER LOW WATER CONDITIONS INSIDE THE TAILRACE CHANNEL.



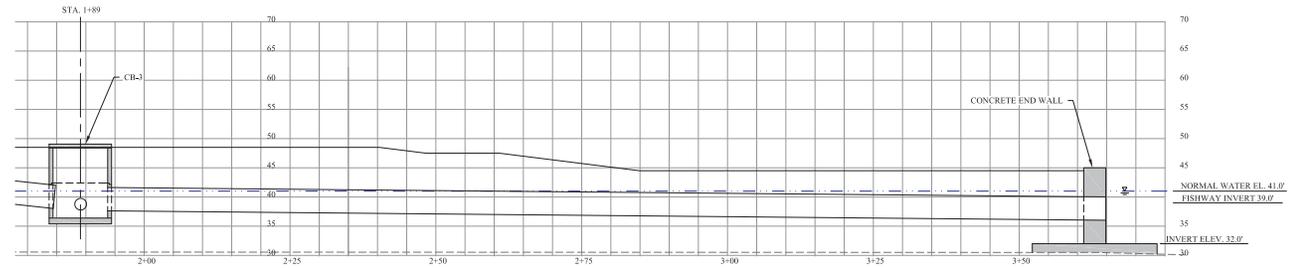
Tailrace Stormwater Plan  
 SCALE: 1 : 20



- SYMBOLS LEGEND**
- ▲ SURVEY CONTROL POINT
  - SPOT ELEVATION
  - ◆ TIDYANT
  - ⊕ UTILITY POLE
  - ⊙ GUY ANCHOR
  - ⊞ CATCH BASIN
  - ⊙ MANHOLE
  - CONTOUR INTERVAL
  - INDEX CONTOUR
  - BUILDING WALL LINE
  - OVERHEAD WIRES
  - EDGE OF WOODS
  - PROPOSED CONTOUR
  - PROPOSED CONCRETE
  - INTERPOLATED LINE
  - PROPOSED STORMWATER



Stormdrain Profile  
 SCALE: Horz = 1 : 10  
 Vert = 1 : 10



Stormdrain Profile  
 SCALE: Horz = 1 : 10  
 Vert = 1 : 10

William B. Bull  
 STATE OF MAINE  
 WILLIAM B. BULL  
 3009  
 PROFESSIONAL ENGINEER  
 OCTOBER 20, 2015

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Data based on field surveys by Plisga & Day Land Surveyors 26 September, 2011, 14 November, 2011, and 13 December, 2011 using a Trimble S6 robotic total station and a TDS Ranger data collector; and by Harry R. Feldman, Inc 13 December, 2012 using a digital scanner.  
 Water surface as surveyed on December 13, 2012 under low flow conditions.  
 Elevations shown are based on NGVD 29 Datum.

Drawn By: BEC	Checked By: BEG / JSB / JWB
Design By: BEG / JSB / JWB	Child By: LCB
Approved By: JWB	Date: 10.19.15
No. Revision Description	Date

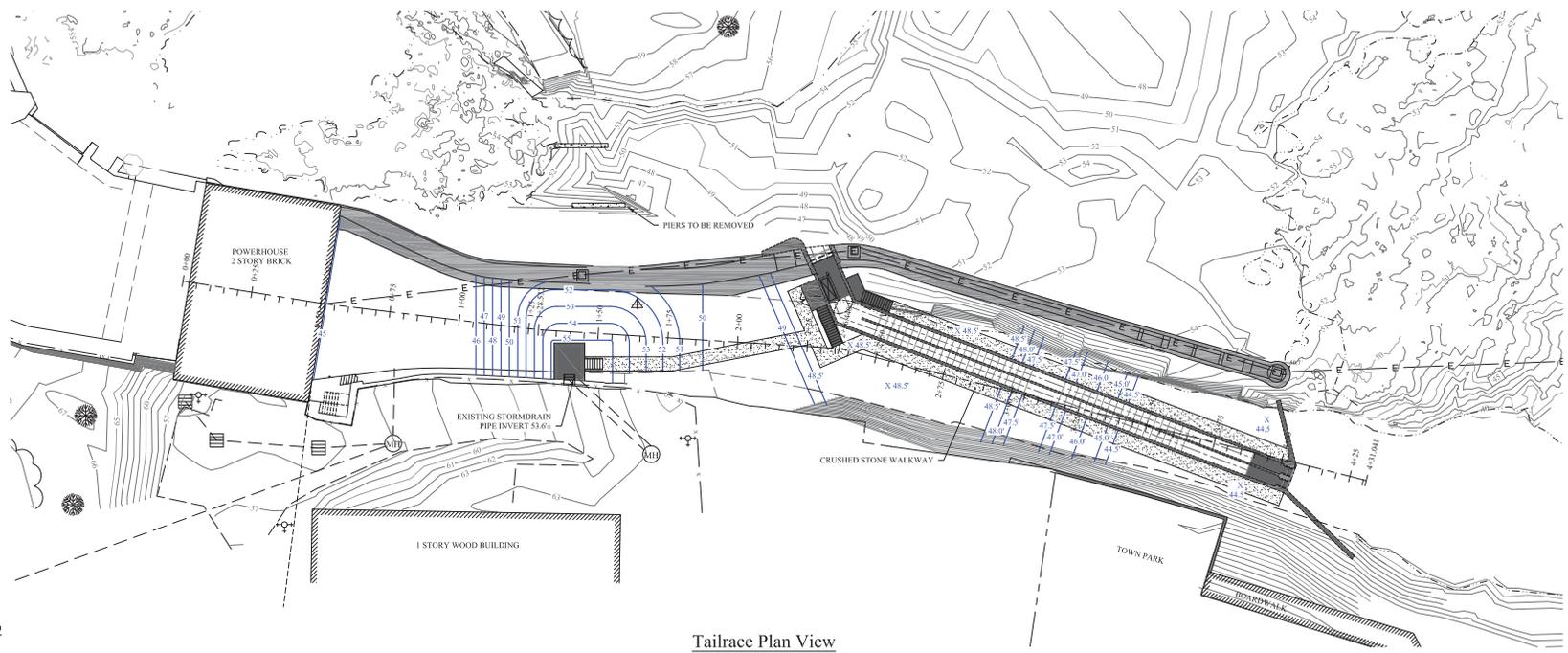
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**Saccarappa Falls Fish Passage Project**  
 Western Channel Design  
 Proposed Tailrace Stormdrain Plan and Profile  
 Sapp / Warren Release Papers  
 Saccarappa Falls  
 Westbrook, Maine

Job Number:  
 49293

Drawing No:  
 C-2258

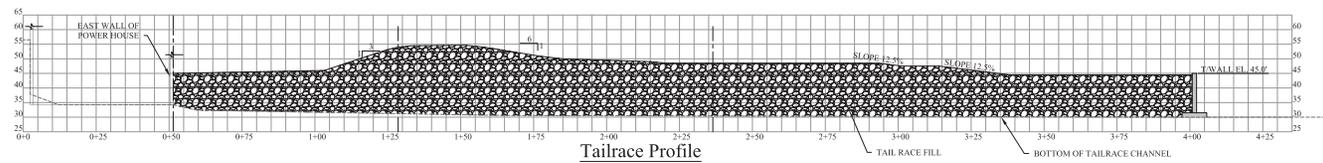
Sheet 10 of 13



Tailrace Plan View  
SCALE: 1 : 20

**SYMBOLS LEGEND**

- ▲ SURVEY CONTROL POINT
- X 23.2' SPOT ELEVATION
- HIGHWAY
- UTILITY POLE
- ◆ GUY ANCHOR
- CATCH BASIN
- MANHOLE
- CONTOUR INTERVAL
- - - INDEX CONTOUR
- ▭ BUILDING / WALL LINE
- OVERHEAD WIRES
- EDGE OF WORK
- FENCE
- - - CONTOURS DERIVED FROM OTHER SOURCES
- - - PROPOSED CONTOURS
- ▭ MAN MADE STRUCTURE REMAINS
- - - INTERPOLATED LINE



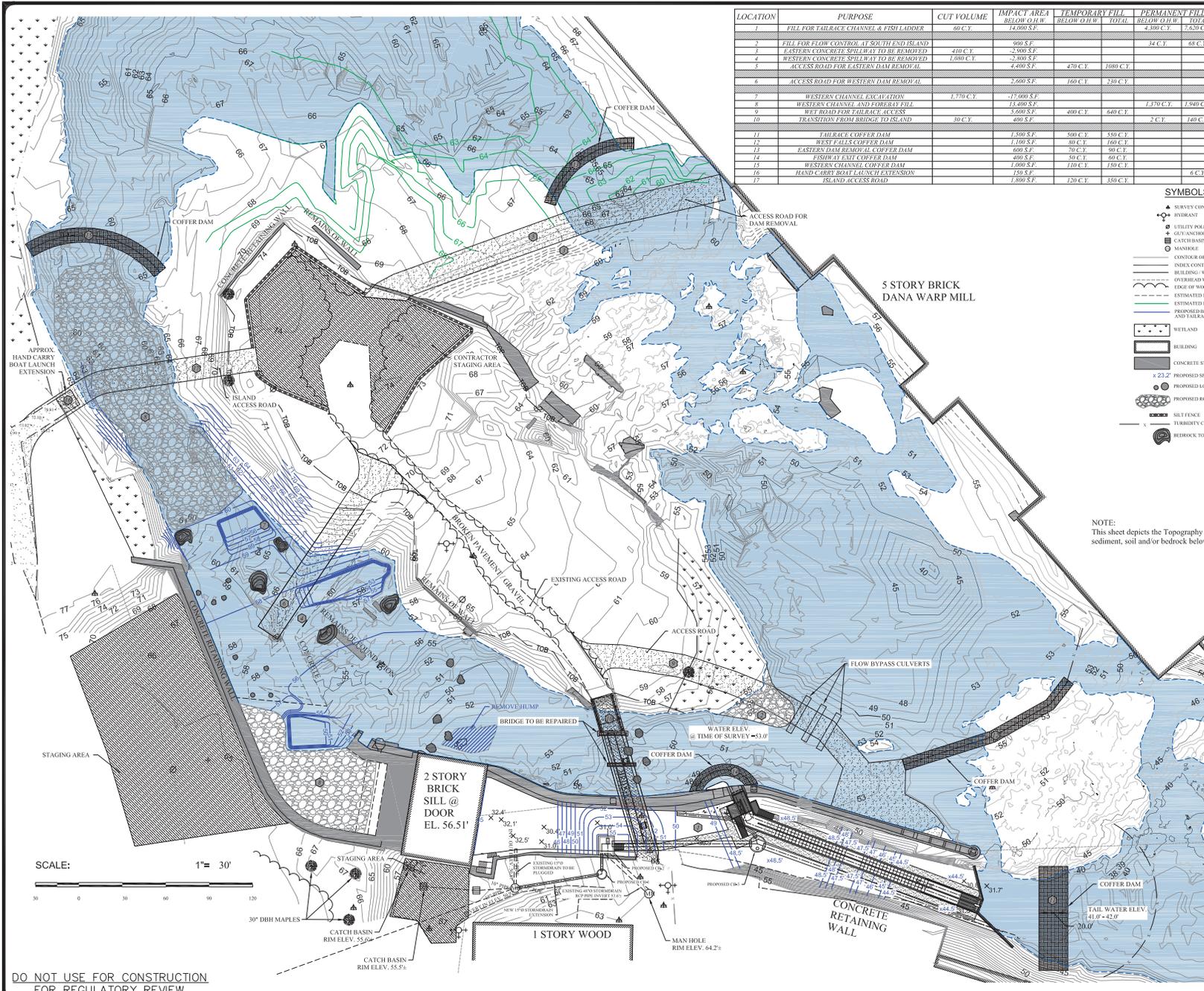
Tailrace Profile  
SCALE: Horiz = 1 : 20  
Vert = 1 : 20

*William B. Ball*  
  
 October 20, 2015

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Data based on field surveys by Plisga & Day Land Surveyors 26 September, 2011, 14 November, 2011, and 13 December, 2011 using a Trimble S6 robotic total station and a TDS Ranger data collector; and by Harry R. Feldman, Inc 13 December, 2012 using a digital scanner.  
Water surface as surveyed on December 13, 2012 under low flow conditions.  
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<p><b>Saccarappa Falls Fish Passage Project</b>          Fishway Preliminary Design          Proposed Tailrace Grading Plan and Profile</p>	<p>Supply / Warren Release Papers          Saccarappa Falls          Westbrook, Maine</p>
<p>Job Number: 49293</p>	<p>Drawing No: C-2259</p>
<p>Sheet 11 of 13</p>	
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<p>Drawn By: BEC          Desig. By: BEG / JCB / WBD          Chkd. By: LCB          Apprd. By: JDD          Date: 10.19.15</p>	
<p>No. Revision Description</p>	



LOCATION	PURPOSE	CUT VOLUME	IMPACT AREA BELOW O.H.W.	TEMPORARY FILL BELOW O.H.W.	PERMANENT FILL BELOW O.H.W.	MATERIAL SPECIFICATION AND DESCRIPTION
1	FILL FOR LAIRACE CHANNEL & FISH LADDER	60 C.Y.	14,000 S.F.		4,300 C.Y.	CLEAN STONE FILL FROM GRAVEL PIT SCREENINGS AND REINFORCED CONCRETE
2	FILL FOR FLOW CONTROL AT SOUTH END ISLAND		900 S.F.		34 C.Y.	CLEAN STONE FILL FROM GRAVEL PIT
3	EASTERN CONCRETE SPILLWAY TO BE REMOVED	400 C.Y.	2,900 S.F.			DEMOLITION CONCRETE
4	WESTERN CONCRETE SPILLWAY TO BE REMOVED	1,800 C.Y.	2,900 S.F.			DEMOLITION CONCRETE
5	ACCESS ROAD FOR EASTERN DAM REMOVAL		4,400 S.F.	470 C.Y.	1000 C.Y.	EXISTING GRAVEL WET ROAD. CLEAN WASHED STONE FILL FROM GRAVEL PIT SCREENINGS
6	ACCESS ROAD FOR WESTERN DAM REMOVAL		3,600 S.F.	160 C.Y.	330 C.Y.	EXISTING GRAVEL WET ROAD. CLEAN WASHED STONE FILL FROM GRAVEL PIT SCREENINGS
7	WESTERN CHANNEL EXCAVATION	1,730 C.Y.	17,000 S.F.			BEDROCK EXCAVATION WITH BLASTING
8	WESTERN CHANNEL AND FOREBAY FILL		13,400 S.F.		1,170 C.Y.	CLEAN WASHED STONE FILL EXCAVATED BEDROCK FILL
9	WET ROAD FOR LAIRACE ACCESS		3,600 S.F.	408 C.Y.	640 C.Y.	CLEAN STONE FILL FROM GRAVEL PIT SCREENINGS
10	TRANSITION FROM BRIDGE TO ISLAND	30 C.Y.	400 S.F.		2 C.Y.	CLEAN WASHED STONE FILL FROM GRAVEL PIT SCREENINGS OR SUITABLE DEMO DEBRIS W/ GRAVEL TOP
11	LAIRACE COFFER DAM		1,500 S.F.	500 C.Y.	550 C.Y.	CELLULAR STIFF COFFER DAM
12	WEST FALLS COFFER DAM		1,100 S.F.	80 C.Y.	160 C.Y.	SANDBAGS
13	EASTERN DAM REMOVAL COFFER DAM		600 S.F.	70 C.Y.	90 C.Y.	SANDBAGS
14	FISHPOND COFFER DAM		400 S.F.	50 C.Y.	60 C.Y.	SANDBAGS
15	WESTERN CHANNEL COFFER DAM		1,000 S.F.	110 C.Y.	150 C.Y.	SANDBAGS
16	HAND CARRY BOAT LAUNCH EXTENSION		150 S.F.	120 C.Y.	350 C.Y.	6 C.Y. CLEAN STONE FILL FROM GRAVEL PIT SCREENINGS
17	ISLAND ACCESS ROAD		1,800 S.F.	120 C.Y.	350 C.Y.	1 C.Y. CLEAN STONE FILL FROM GRAVEL PIT SCREENINGS

**SYMBOLS LEGEND**

- ▲ SURVEY CONTROL POINT
- ◆ HYDRANT
- UTILITY POLE
- ⊕ GUY ANCHOR
- ⊖ CATCH BASIN
- ⊘ MANHOLE
- ▭ CONTOUR OF LAND & BOTTOM OF RIVER BATHYMETRY
- ▭ INDEX CONTOUR OF LAND & BOTTOM OF RIVER BATHYMETRY
- ▭ BUILDING WALL LINE
- ▭ OVERHEAD WIRES
- ▭ EDGE OF WOODS
- ▭ ESTIMATED FROM SURVEYED DATA
- ▭ ESTIMATED EXISTING BEDROCK BATHYMETRY
- ▭ PROPOSED BEDROCK BATHYMETRY IN WESTERN CHANNEL AND LAIRACE FILL
- ▭ WETLAND
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- ▭ CONCRETE STRUCTURE
- 23.2' PROPOSED SPOT ELEVATIONS
- PROPOSED LOCATION FOR 4" TO 6" DIA. BOLLARDS
- PROPOSED ROCK FILL
- SILTFENCE
- TURBIDITY CURBAIN
- BEDROCK TO REMAIN

**NOTE:**  
This sheet depicts the Topography of the ground surface and the Bathymetry of the surface of the sediment, soil and/or bedrock below the water at the time and date of the survey.

**NOTES:**

- (1) ELEVATIONS SHOWN ARE NAVD 83 BASED UPON NGS DBM R121 WITH PUBLISHED ELEVATION OF 54.14.
- (2) CONTOURS SHOWN ARE 1 FOOT INTERVALS.
- (3) DATA BASED ON FIELD SURVEYS BY FLORIDA & DAY LAND SURVEYORS 20 SEPTEMBER, 2011, 14 NOVEMBER, 2011, 13 DECEMBER, 2011, 18 MARCH, 2012, 20 JUNE, 2012 AND 4 DECEMBER, 2013 USING A TRIMBLE 56 ROBOTIC TOTAL STATION AND A TOP RANGER DATA COLLECTOR AND BY HARRY R. FELDMAN INC 13 DECEMBER, 2011 USING A DIGITAL SCANNER.
- (4) COORDINATES ARE ORIENTED TO STATE PLANE, MAINE WEST ZONE 160, WITH GRIDING 9874625.

William B. Ball  
 WILLIAM B. BALL  
 300  
 OCT 20, 2015

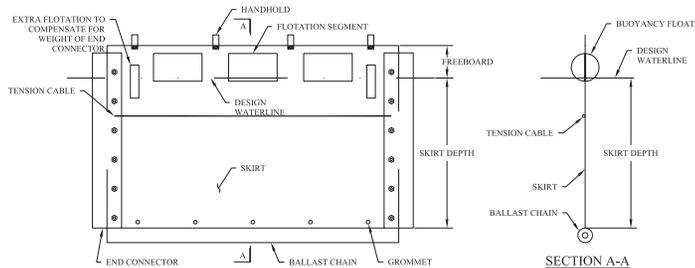


DO NOT USE FOR CONSTRUCTION FOR REGULATORY REVIEW

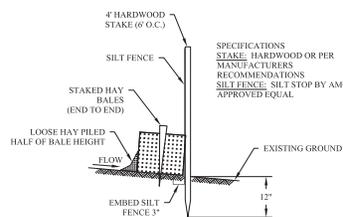
Drawn By: [ ]  
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 Design By: BEG  
 Design By: BEG / CJB / JWB2  
 Child By: KJD / WPS  
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 Date: 10.19.15  
 No. Revision Description  
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**Saccarappa Falls Fish Passage Project**  
 Western Channel Design  
 Coffler Dam / Dewatered Construction Plan  
 Sapp / Worrain Release Papers  
 Saccarappa Falls  
 Westbrook, Maine  
 www.acheronengineering.com  
 147 Main Street  
 Westbrook, ME 04093  
 (207) 796-6216  
 (207) 796-6216

Job Number:  
 49293  
 Drawing No:  
 C-2260  
 Sheet 12 of 13



**TYPE II SILT CURTAIN DETAIL**  
NOT TO SCALE



**STANDARD SILT FENCE DETAIL**  
NOT TO SCALE

**GENERAL NOTES:**

1. LOCATE AND MARK ALL PROJECT BOUNDARIES PRIOR TO CONSTRUCTION.
2. LIMIT THE AMOUNT OF SOIL DISTURBANCE AT ANY ONE TIME.
3. INSTALL SEDIMENT BARRIERS PRIOR TO DISTURBING SOILS.
4. MARK SOIL DISTURBANCE LIMITS.
5. MULCH EXPOSED SOIL AS SOON AS POSSIBLE, AND REVEGETATE AS SOON AS FINAL GRADE IS ATTAINED.
6. INSPECT AND REPAIR EROSION CONTROL, AND SEDIMENT TRAPPING MEASURES WEEKLY AND AFTER EVERY STORM EVENT.
7. REMOVE TEMPORARY EROSION CONTROLS WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED.
8. STABILIZE DITCHES WITHIN 24 HOURS OF FINAL GRADE.
9. INSTALL SEDIMENT BARRIER DOWN SLOPE OF SOIL STOCK PILES.
10. DO NOT SITE SOIL STOCK PILES IN AREA OF CONCENTRATED FLOW OR POTENTIAL FLOODING.
11. MULCHING:
  - A. APPLY TEMPORARY MULCH ON DISTURBED AREAS WITHIN 14 DAYS OF INITIAL DISTURBANCE OR PRIOR TO ANY STORM.
  - B. DO NOT APPLY EROSION CONTROL MIX, OR HAY MULCH, IN AREAS OF CONCENTRATED WATER FLOWS.
  - C. DO NOT USE EROSION CONTROL MIX, OR HAY MULCH FOR SLOPES STEEPER THAN 2:1.
  - D. APPLY EROSION CONTROL MIX IN A LAYER AT LEAST 3\"/>
12. SEEDING:
  - A. COMPLETE SEEDING WITHIN 7 DAYS OF FINAL GRADING.
  - B. BROADCAST SEED OVER ENTIRE DITCH AND SURFACE AND RAKE INTO SOIL.
  - C. APPLY HAY MULCH TO ALL SEEDED AREAS.
  - D. SUMMER SEEDED DATES ARE FROM APRIL 1 TO SEPTEMBER 15.
  - E. PERMANENT SEEDING SHOULD BE DONE 45 DAYS BEFORE FIRST KILLING FROST.
13. STABILIZATION BEFORE WINTER:
  - SEPTEMBER 15:
    - ALL DISTURBED AREA MUST BE SEEDED AND MULCHED.
    - ALL SLOPES MUST BE SEEDED AND MULCHED.
    - ALL GRASS LINED DITCHES AND CHANNELS MUST BE STABILIZED WITH MULCH OR AN EROSION CONTROL BLANKET.
  - OCTOBER 1:
    - SLOPE STABILIZED WITH EROSION CONTROL BLANKET AND SEEDED.
  - NOVEMBER 15:
    - ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED.
14. PRIOR TO COMMENCEMENT OF CONSTRUCTION OPERATIONS, SILT CURTAIN SHALL BE INSTALLED IN AREAS INDICATED ON DRAWINGS.
15. SILT CURTAIN, TYPE II MEDIUM DUTY WITH FILTER FABRIC SKIRT.
16. FOLLOW GUIDELINES SET FORTH IN EROD TN-DOER-21 PUBLISHED BY THE U.S. ARMY CORPS OF ENGINEERS FOR SELECTION OF SILT CURTAIN.
17. MODIFY DEWATERING OPERATIONS AND EROSION CONTROL MEASURE AS NECESSARY SO THAT THE DISCHARGE TO THE RIVER DOES NOT EXCEED THE FOLLOWING LIMITS:
  1. TOTAL SUSPENDED SOLIDS - 30 MG/L
  2. TOTAL SETTLEABLE SOLIDS - 5 MG/L
  3. TURBIDITY - 50 NTU ABOVE RECEIVING WATER.
18. ACHERON HAS USED A REASONABLE STANDARD OF CARE TO TRY TO LOCATE UNDERGROUND FACILITIES IN THE VICINITY OF THIS PROJECT. THE LOCATIONS OF UNDERGROUND FACILITIES DEPICTED ON THIS DRAWING ARE APPROXIMATE. EXCAVATORS MUST COMPLY WITH ALL REQUIREMENTS OF TITLE 23 SECTION 3360, PROTECTION OF UNDERGROUND FACILITIES BEFORE COMMENCING OPERATIONS.
19. DISCHARGES OF DREDGED OR FILL MATERIAL INTO WATERS OF THE U.S., INCLUDING WETLANDS, SHALL BE AVOIDED AND MINIMIZED TO THE MAXIMUM EXTENT PRACTICABLE THROUGH CONSIDERATION OF ALTERNATIVES.
20. TEMPORARY FILL PLACED INTO WATERS OF THE U.S. (INCLUDING WETLANDS) TOTALING GREATER THAN OR EQUAL TO 4,300 SF (15,000 SF IF A DEEP TIER ONE PERMIT IS ISSUED) IN TOTAL AREA (I.E., THE SUM OF PERMANENT AND TEMPORARY FILL AREAS) EXCEEDS THE CATEGORY I THRESHOLD AND MAY NOT BE DISCHARGED WITHOUT WRITTEN AUTHORIZATION FROM THE U.S. ARMY CORPS, WHEN TEMPORARY FILL IS USED (E.G., ACCESS ROADS, SWAMP MATS, COFFERDAMS), IT SHALL BE STABILIZED AND MAINTAINED DURING CONSTRUCTION IN SUCH A WAY AS TO PREVENT SOIL ERODING INTO PORTIONS OF WATERS OF THE U.S. WHERE IT IS NOT AUTHORIZED. SWAMP OR TIMBER MATS ARE CONSIDERED TEMPORARY FILL WHEN THEY ARE REMOVED IMMEDIATELY UPON WORK COMPLETION. THE AREA MUST BE RESTORED.
  - UNCONFINED TEMPORARY FILL AUTHORIZED FOR DISCHARGE INTO FLOWING WATER (RIVERS AND STREAMS) SHALL CONSIST ONLY OF CLEAN WASHED STONE.
  - TEMPORARY FILL AUTHORIZED FOR DISCHARGE INTO WETLANDS SHALL BE PLACED ON GEOTEXTILE FABRIC LAID ON THE PRE-CONSTRUCTION WETLAND GRADE. (SWAMP AND TIMBER MATS ARE EXCLUDED FROM THIS REQUIREMENT.)
  - TEMPORARY FILL SHALL BE REMOVED AS SOON AS IT IS NO LONGER NEEDED, AND IT SHALL BE DISPOSED OF AT AN UPLAND SITE AND SUITABLY CONTAINED TO PREVENT SUBSEQUENT EROSION INTO WATERS OF THE U.S.
  - WATERS OF THE U.S. WHERE TEMPORARY FILL WAS DISCHARGED SHALL BE RESTORED.
  - NO TEMPORARY WORK SHALL DRAIN A WATER OF THE U.S. BY PROVIDING A CONDUIT FOR WATER ON OR BELOW THE SURFACE.
21. RESTORATION:
  - UPON COMPLETION OF CONSTRUCTION, ALL DISTURBED WETLAND AREAS (THE DISTURBANCE OF THESE AREAS MUST BE AUTHORIZED) SHALL BE STABILIZED WITH A WETLAND SEED MIX CONTAINING ONLY PLANT SPECIES NATIVE TO NEW ENGLAND. THE INTRODUCTION OR SPREAD OF INVASIVE PLANT SPECIES IN DISTURBED AREAS SHALL BE CONTROLLED.
  - IN AREAS OF AUTHORIZED TEMPORARY DISTURBANCE, IF TREES ARE CUT THEY SHALL BE CUT AT GROUND LEVEL AND NOT UPROOTED IN ORDER TO PREVENT DISRUPTION TO THE WETLAND SOIL STRUCTURE AND TO ALLOW STUMP SPROUTS TO REVEGETATE THE WORK AREA, UNLESS OTHERWISE AUTHORIZED.
  - WETLAND AREAS WHERE PERMANENT DISTURBANCE IS NOT AUTHORIZED SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND ELEVATION, WHICH UNDER NO CIRCUMSTANCES SHALL BE HIGHER THAN THE PRE-CONSTRUCTION ELEVATION.
  - ORIGINAL CONDITION MEANS CAREFUL PROTECTION AND/OR REMOVAL OF EXISTING SOIL AND VEGETATION, AND REPLACEMENT BACK TO THE ORIGINAL LOCATION SUCH THAT THE ORIGINAL SOIL LAYERING AND VEGETATION SCHEMES ARE APPROXIMATELY THE SAME, UNLESS OTHERWISE AUTHORIZED.
22. SEE SPECIFICATIONS FOR RIVER FLOW AND WATER LEVEL MANAGEMENT PLAN.
23. COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS, ORDINANCES, RULES AND REGULATIONS. ALL WORK DONE SHALL COMPLY WITH THE REQUIREMENTS SET FORTH BY BEST MANAGEMENT PRACTICES OF MAINE AS PREPARED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE U.S. ARMY CORPS OF ENGINEERS.

DO NOT USE FOR CONSTRUCTION  
FOR REGULATORY REVIEW

William E. Ball  
STATE OF MAINE  
WILLIAM E. BALL  
REGISTERED PROFESSIONAL ENGINEER  
October 29, 2015

Drawn By: BEC	Checked By: BEG / CJB / JWB
Drawn: CHAF	Checked: JWB
Design By: BEG / CJB / JWB	Checked: JWB
Child By: CJB / JWB	Checked: JWB
Approved By: JWB	Revision Description
Date: 10.19.15	No.
www.acheronengineering.com	
2466 Route 101 Saccarappa Falls, ME 04933 (207) 796-6316 (207) 796-5700	
ACHERON ENGINEERING SERVICES Engineering, Environmental & Geologic Consultants	
Saccarappa Falls Fish Passage Project Western Channel Design Erosion Control General Notes	
Supply / Warren Release Papers Saccarappa Falls Westbrook, Maine	
Job Number:	49293
Drawing No:	C-2261
Sheet 13 of 13	



PROJECT LOCATION MAP

PROJECT OWNER: CITY OF WESTBROOK  
 2 YORK ST.  
 WESTBROOK, ME 04092

ENGINEER: GARY M. LACY, P.E.  
 RECREATION ENGINEERING AND PLANNING  
 485 ARAPAHOE AVE.  
 BOULDER, CO 80302  
 303-545-5883  
 INFO@BOATERPARKS.COM



TABLE OF CONTENTS

1. PROJECT LOCATION MAP AND TABLE OF CONTENTS
2. PROJECT OVERVIEW PLAN
3. STRUCTURE SECTIONS
4. STRUCTURE LONGITUDINAL PROFILES

PROJECT LOCATION  
 LATITUDE 43°40'41.16"N LONGITUDE 70°22'11.57"W



RECREATION ENGINEERING  
 AND PLANNING  
 485 ARAPAHOE AVE.  
 BOULDER | CO | 80302  
 WWW.BOATERPARKS.COM

# WHITEWATER AND HABITAT IMPROVEMENTS

PRESUMPSCOT RIVER, WESTBROOK, MAINE

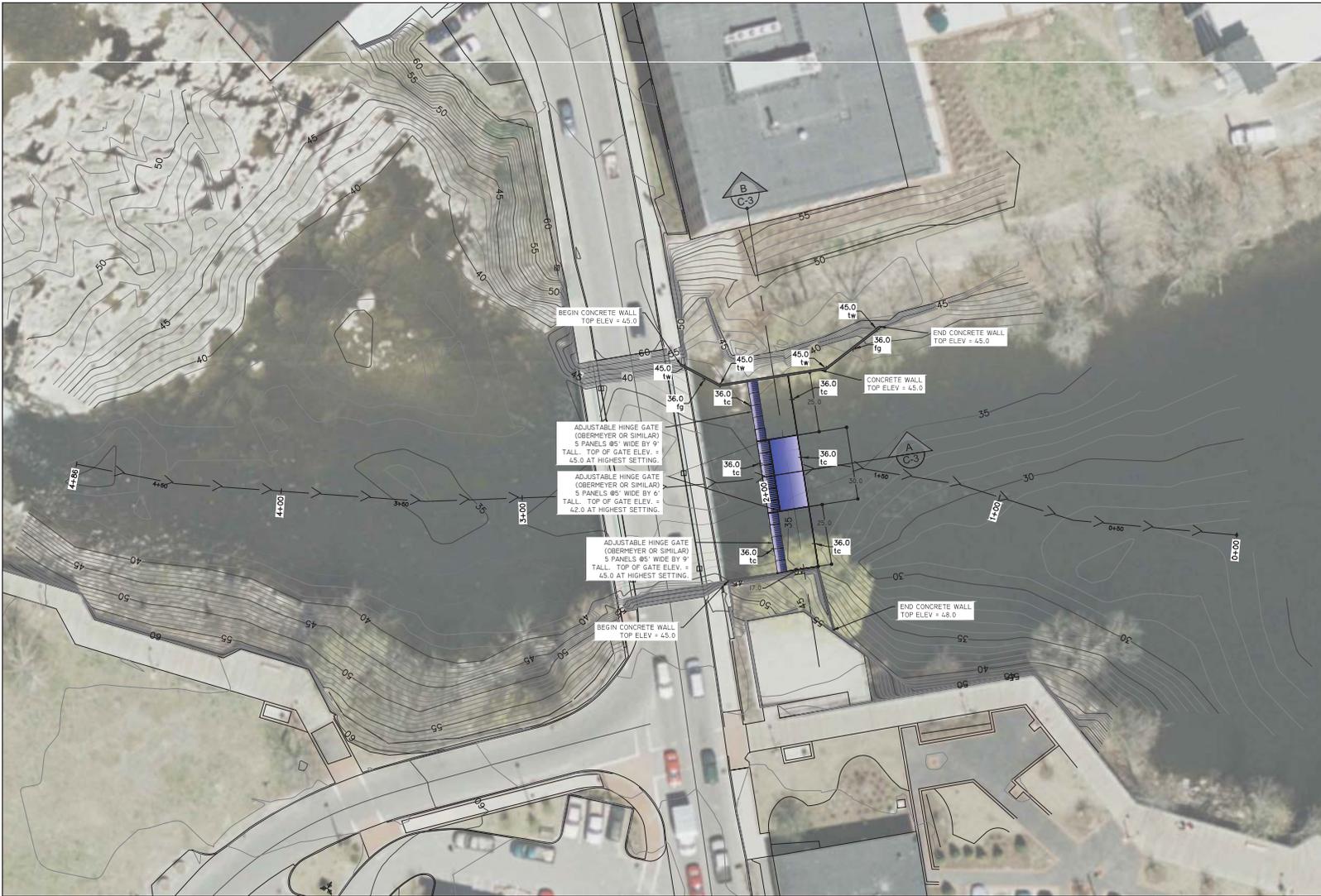
PROJECT LOCATION MAP AND TABLE OF CONTENTS  
 PRELIMINARY - NOT FOR CONSTRUCTION

CLIENT INFORMATION:  
 CITY OF WESTBROOK  
 2 YORK ST.  
 WESTBROOK, ME 04092

DESIGNED: GL
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PLLOT DATE: AUG 5, 2015
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PAGE NUMBER:

1  
 SHEET 1 OF 4



SCALE: 1" = 20'

- GENERAL NOTES:
1. ALL ELEVATIONS GIVEN IN FEET ABOVE SEA LEVEL.
  2. ROCK FILL/HATCH AND VEGETATIVE IMAGES SHOWN FOR ILLUSTRATIVE PURPOSES. NOT TO SCALE.
  3. AN REP REPRESENTATIVE SHALL BE PRESENT DURING CONSTRUCTION OF ALL STRUCTURES AND TERRACING.
  4. ALL STRUCTURE CREST AND EXIT ELEVATIONS ARE APPROXIMATE AND WILL BE CONFIRMED BY AN REP REPRESENTATIVE PRIOR TO CONSTRUCTION.

LEGEND

- INSTREAM STRUCTURE
- ADJUSTABLE HINGE GATES/PLATES
- THALWEG AND DIRECTION OF FLOW
- WATER SURFACE DAY OF SURVEY
- EXISTING CONTOUR LINES
- BANK STABILIZATION/RETAINING WALL



RECREATION ENGINEERING  
 AND PLANNING  
 485 ARAPAHOE AVE.  
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# WHITWATER AND HABITAT IMPROVEMENTS

PRESUMSCOT RIVER, WESTBROOK, MAINE

PROJECT OVERVIEW PLAN  
 PRELIMINARY - NOT FOR CONSTRUCTION

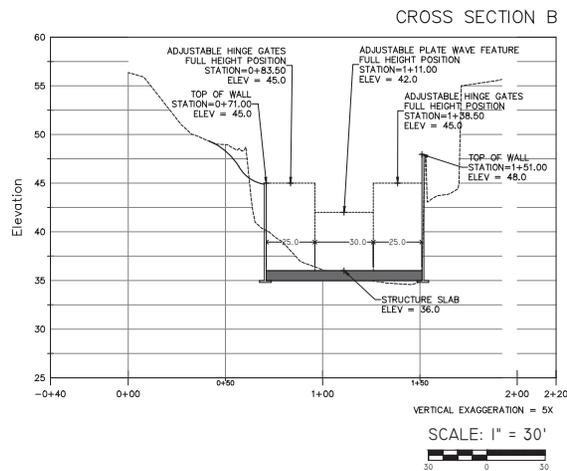
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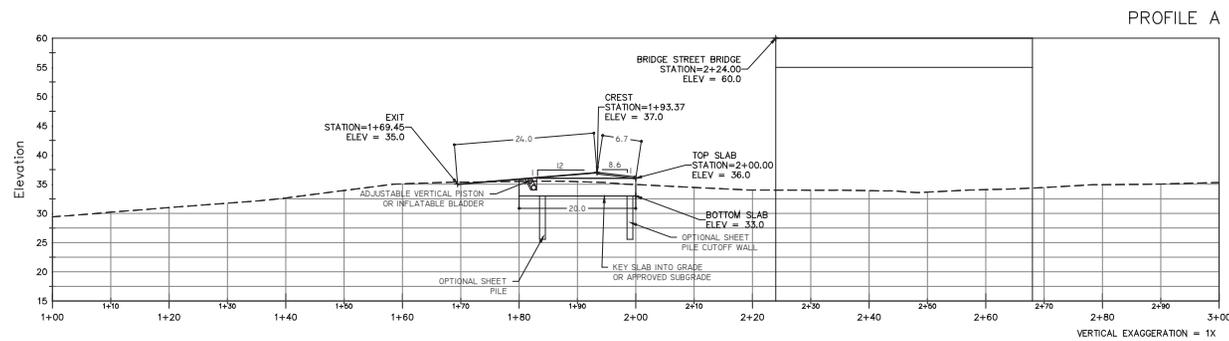
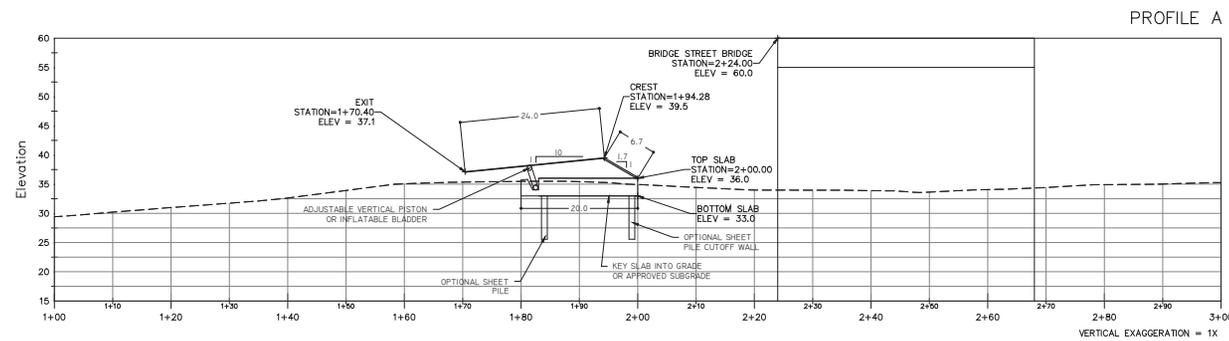
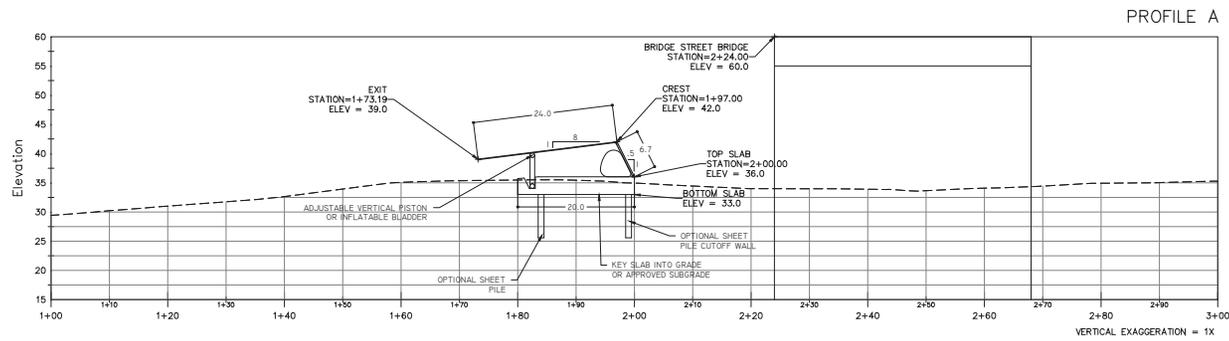
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**WHITewater AND HABITAT IMPROVEMENTS**  
 PRESUMSCOT RIVER, WESTBROOK, MAINE  
 STRUCTURE SECTIONS  
 PRELIMINARY - NOT FOR CONSTRUCTION

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SCALE: 1" = 10'



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# WHITewater AND HABITAT IMPROVEMENTS

PRESUMSCOT RIVER, WESTBROOK, MAINE

STRUCTURE LONGITUDINAL PROFILES  
 PRELIMINARY - NOT FOR CONSTRUCTION

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 SHEET 4 OF 4

## **7.0 Project Maps**

Refer to the FERC Application for License Surrender for the Saccarappa Project that is included with this MWDCa permit application for the following project maps:

- Figure 2-1: Project Location Figure
- Figure 2-2: Presumpscot River Projects Location Map
- Figure 2-3: Saccarappa Project Facilities
- Appendix F: Project Area River Transects
- Appendix M: Wetland Survey Maps

**8.0 Title, Right or Interest**

Refer to FERC Surrender Application, Appendix B, for a copy of the FERC Order Issuing Subsequent License for the Saccarappa Project (Project No. 2897). This license demonstrates the applicant's right, title, and interest to the Project lands.

## 9.0 Financial Capability

This section of the application provides a statement of the estimated total cost of the project and demonstrates Warren’s ability to finance the Surrender Project. Attached in Appendix A is the most recent Sappi corporate financial report, which includes on page 4 financial information for S.D. Warren Company (aka Sappi North America), indicating the availability of sufficient funds to finance the Surrender Project.” As of the date of this application, Warren has not selected a contractor for the work required at the site and therefore does not currently have a fixed price cost for construction.

### Estimated Total Cost of Project

Warren has prepared an opinion of potential construction cost of the Western Channel Design. The potential construction cost of the proposed design (the Western Channel Design) is \$4,400,000. Refer to Tables 1 and 2 for Western Channel Design construction and post construction costs.

The cost opinion below is based on the scope of work and quantities of material required for construction as delineated on the preliminary design drawings. Unit costs for the design are based on R.S. Means and/or contractor bids for the recent Cumberland Mills fishway installation.

*Table 1: Western Channel Design Construction Cost*

<b>S.D. Warren Co.</b>		
Westbrook, Maine		
<b>Saccarappa Fish Passage, Western Channel Design</b>		
<b>Opinion of Potential Construction Cost, Based on Preliminary Design</b>		
<b>August 2015</b>		
<b>Item</b>	<b>Description</b>	<b>Potential Cost</b>
1	Island Access Bridge	\$ 247,000
2	Eastern Dam Temp Access and Denil Access	\$ 81,000
3	East Dam Access Road	\$ 97,000
4	Removal of East Dam	\$ 158,000
5	Western Dam Access Road	\$ 29,000
6	Western Dam Removal	\$ 425,000
7	Western Channel Rock Removal	\$ 310,000
8	Western Channel Natural Fish Passage	\$ 126,000
9	Denil Fishway	\$ 747,000
10	Tailrace Fill	\$ 387,000
11	Stormwater Drainage System	\$ 121,000
12	Cofferdams and Temporary Facilities	\$ 142,000
13	Power House Decommission	\$ 143,000
14	Testing and Startup	\$ 30,000
	Sub-Total	\$ 3,043,000
	Contractor Mobilization/Demobilization (15% Sub-Total)	\$ 469,000
	Sub-Total	\$ 3,512,000
	Contingency (25%)	\$ 878,000
	Sub-Total	\$ 4,390,000
	<b>Opinion of Potential Construction Cost</b>	<b>\$4,400,000</b>
<b>Acheron</b>		
Engineering, Environmental & Geologic Consultants		
<a href="http://www.AcheronEngineering.com">www.AcheronEngineering.com</a>		

Table 2: Western Channel Design Post-Construction Cost

<b>S.D. Warren Co.</b>			
<i>Westbrook, Maine</i>			
<b>Saccarappa Fish Passage, Western Channel Design</b>			
<b>Opinion of Potential Post Construction Cost</b>			
<b>August 2015</b>			
<b>Item</b>	<b>Description</b>	<b>Potential Capital Cost</b>	<b>Potential Annual Cost</b>
1	Operation and Maintenance of Fish Passage	\$ -	\$ 6,000
2	Fish Counting	\$ 6,000.00	\$ 21,000
3	Adaptive Management	\$ 50,000.00	\$ -
4	Project Works Maintenance		\$ 40,000
	<i>Sub-Total</i>	\$ 56,000.00	\$ 67,000
	Contingency (25%)	\$ 14,000.00	\$ 16,750
	<i>Sub-Total</i>	\$ 70,000.00	\$ 83,750
	<b>Opinion of Potential Post Construction Cost</b>	\$ 70,000.00	<b>\$85,000</b>
<b>Acheron</b>			
<b>Engineering, Environmental &amp; Geologic Consultants</b>			
<a href="http://www.AcheronEngineering.com">www.AcheronEngineering.com</a>			

Project Financing

Warren has a book net worth in excess of \$50,000,000 and tangible assets in Maine. Warren plans to finance the project using funds generated from its operations.

## **10.0 Technical Ability**

Warren has the technical capability necessary to surrender project operations, remove the spillways, and install the proposed double Denil fish ladder at the Saccarappa site. This is demonstrated by the successful completion of the Cumberland Mills fish passage project. The Cumberland Mills project included the removal of an existing dam, construction of a new dam with automated gates, construction of a new gate structure and construction of a Denil fishway. The project included the implementation of requirements imposed by the Maine Department of Inland Fisheries and Wildlife. The Cumberland Mills project was substantially more complex than this Surrender Project, and Warren completed the Cumberland Mills project on schedule. In addition, Warren has completed other projects at the mill in Westbrook that are much larger and more complex than this proposed Surrender Project.

Consultants will be hired to assist existing staff on an as needed basis. Warren has contracted with Acheron Engineering and Alden Labs to provide engineering services, assistance with permit applications, and construction management support for the Surrender Project. Acheron Engineering and Alden Labs were the design consultants for the Cumberland Mills fishway project. The success of that project demonstrates that the team of Acheron and Alden have the technical ability necessary to provide engineering services, permitting assistance, and construction management support for the Surrender Project. Warren has and may in the future retain the services of other firms for special services including but not limited to wetlands and archeological studies.

## **11.0 Public Safety**

Warren is committed to taking the following steps to ensure that the proposed removal of the spillway and installation of the fish ladder will not result in unsafe conditions for the general public at and in the vicinity of the project site:

- A notice of dam removal activities will be published in a local newspaper. Up- and downstream communities will be notified prior to dam breach and water drawdown.
- Appropriate barriers, fencing, and signs will be erected at the immediate project site to warn the public of construction activity and restrict entry to the site.
- All boat launches located in the immediate vicinity of the project area will be temporarily closed while the water level in the impoundment is being drawn down. The City of Westbrook owns and operates three boat launch facilities downstream of Saccarappa within the Cumberland Mills impoundment. Warren will request that the City suspend public access to these boat launch facilities while the impoundment is being drawn down.
- A boat barrier currently exists upstream of the Saccarappa facility. The barrier will remain in place and be maintained during the entire construction process.
- The dam will be removed slowly with a controlled drawdown. Water recreation sites commonly used by the public up- and downstream of the project will be posted to warn recreational users of potential changes in water levels during dam removal and drawdown.
- Permanent barriers already exist around the project area. The project area is completely fenced to reduce the risk of unauthorized public access to the project works. Those fences and barriers will be maintained during and following construction activities.

## **12.0 Public Benefits**

The project will result in significant economic benefits to the public. The following discussion summarizes these economic benefits.

The surrender of project operations, removal of the spillways, and installation of a double Denil fish ladder at the Saccarappa facility will result significant short-term and long-term economic benefits to the public. Short-term economic benefits include construction related employment, construction related materials demand, and an increase in consumer spending. Long-term benefits will include improved recreational opportunities such as boating and fishing. The restoration of anadromous fish to the area will also allow for the establishment of fisheries upstream of the dam and increase the viability of recreational fishing. All of these long-term benefits will lead to increased consumer spending.

Charles S. Colgan of the Maine Center for Business and Economic Research has published a study entitled “Job Development in Downtown Westbrook,” which addresses some potential economic benefits associated with the removal of the Saccarappa facility. The benefits described in that report include short-term construction based benefits, recreational enhancement, the potential addition of a Whitewater Park at the Saccarappa site, guided rafting trips, and festival events. The report also states that the addition of a Whitewater Park and improved recreational facilities will attract visitors who may not normally visit Westbrook, as well as provide an immediate recreational value that will help local businesses employ and retain more workers. A copy of the referenced report “Job Development in Downtown Westbrook” is included in this Section of the MWDCa Permit Application.

In addition to the economic benefits of this Surrender Project, Warren intends to install an observation window in the fish ladder with an observation area in the filled tailrace. This area will be accessible to the general public through scheduled viewings and appointments and will contain educational information regarding the fish ladder and potential observable fish species. This area will serve as an educational opportunity for the general public on the fish passage and anadromous fish restoration in the Presumpscot River.

Given that the average drop in the water level in the river upstream of the dam is so small, it is very unlikely that the Surrender Project will have any negative impact on property owners or property values along the river from Saccarappa to Mallison Falls. There are two or three locations where property owners on the river have constructed temporary docks to facilitate easy access to the river. Those docks may have to be reconfigured to better accommodate the slight drop in water levels, but the costs associated with modifying the existing docks will not be significant. Refer to Surrender Application, Section 5.8.3 Manmade Features Upstream of Saccarappa Falls, for an account of the impact of the proposed project on manmade features within the project area. The slight drop in water levels in the river should not have any adverse effect on boating opportunities. It is more likely that the introduction of anadromous fish to this stretch of the river will cause additional boating related to the growth of the fishery.

In addition to providing upstream and downstream passage for the species of concern, the partial removal will provide an additional five miles of habitat for anadromous and catadromous species on the river and additional habitat in associated tributary streams. Returning this stretch of the river to a free-flowing river is expected to provide water quality benefits, particularly with regard to increased dissolved oxygen levels. Additional details regarding the natural resource benefits of the partial removal are described in other sections of this MWDC Application, as well as in the included Surrender Application.

The increase in habitat and improvement in water quality will result in enhanced fisheries resources within the river drainage, augmenting both recreational and commercial fishing opportunities. The Surrender Project thus will result in significant economic benefits to the public because improved fisheries resources will enhance recreational fishing opportunities, and construction of the Surrender Project will offer employment opportunities for workers of the State.

### **13.0 Traffic Movement**

Motorized vehicles will deliver workers, materials, and equipment to the Saccarappa Falls site during the construction period. The additional traffic caused by the delivery of workers will not cause any notable change in traffic in the City of Westbrook. The maximum staffing level during construction will be in the range of 20 to 25 workers. That level of staffing will generate an estimated 12 to 15 round trips with conventional passenger vehicles per day. That increase in traffic in the Main Street and Bridge Street area of Westbrook caused by workers on the job site will not have any impact on traffic movement.

Equipment deliveries will be minimal since this project will not require much in the way of pre-manufactured equipment. Construction equipment will arrive at the site by heavy trucks but the quantity of equipment required is quite small and the traffic caused by the delivery of that equipment will be minimal. It is anticipated that one medium size crane will be needed at the site during construction. That crane will be delivered by truck once and removed once. Special provisions and temporary traffic control may be needed for that truck to maneuver from Main Street to the job site.

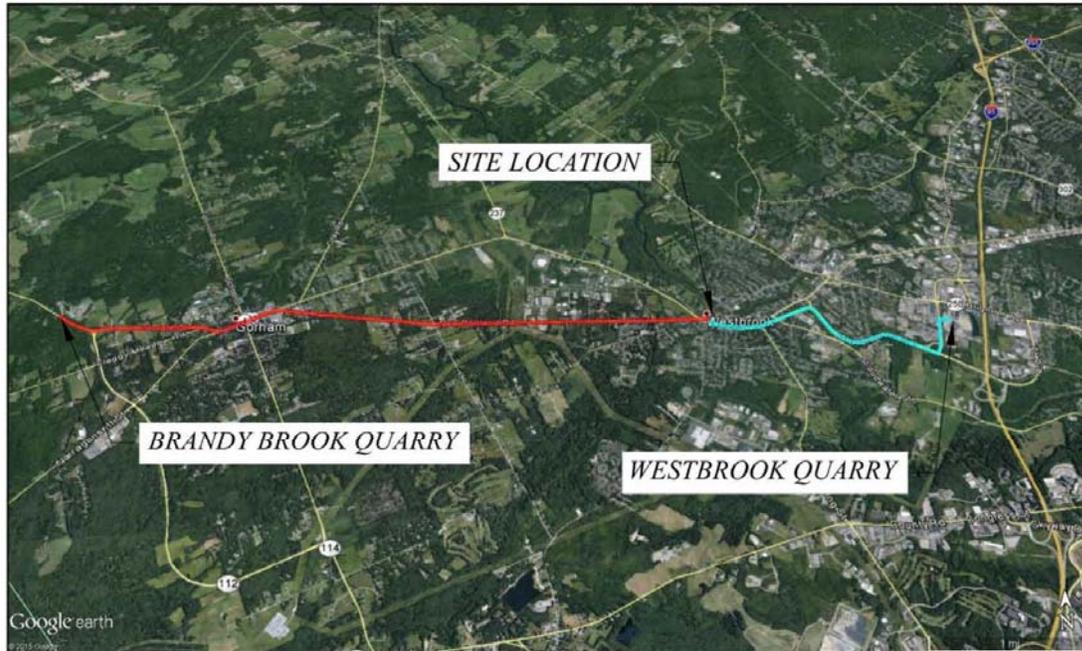
Material deliveries will consist primarily of steel, concrete, and fill material that will likely be delivered to the site in large trucks. Concrete deliveries will likely come from one of the two concrete batch plants in Westbrook. Concrete trucks will easily access the site from Main Street and are not expected to cause any unusual disruption of traffic on Main Street.

The largest volume of truck traffic will be related to the delivery of fill material for the tailrace channel and removal of spoil from demolition of the spillways. The most likely source of the fill material is an existing gravel pit in Gorham. Trucks delivering material from the pit to the site will follow State Route 237 and State Route 25B, which lead directly to Main Street and the project site. The duration of the fill process will be approximately one month. During that period, residents and motorists along the travel route may notice an increase in truck traffic on Main Street. The most likely disposal site for spoil material is a former quarry site at the intersection of Main Street and Larrabee Road in Westbrook, Maine (about 2.5 miles from the site). The duration of this process will be approximately one month. Approximately 40 round trips per work day with a 12 yard truck are anticipated during this period. Residents and motorists along this route may notice an increase in truck traffic due to spoil disposal. Warren will require the contractor to coordinate with the City of Westbrook Public Safety Department regarding the use of flaggers or law enforcement personnel at Mill Lane and Dana Street where trucks will enter and exit at Main Street.

Warren and the selected contractor will coordinate the delivery of fill material for the tailrace channel and disposal of spoil material from the spillways with the City of Westbrook Public Safety Department. Delivery and disposal will be suspended during any special events that are planned in the City of Westbrook. Flaggers may be needed to coordinate truck traffic turning into or out of the site onto Main Street. Warren and the contractor will coordinate those activities with the City of Westbrook Public Safety Department.

There are not expected to be any unusual or significant traffic issues related to operation of the fishway following construction. During routine operations, one vehicle per day is expected for inspection of the fishway and related structures.

A traffic movement map is included in this section to show the likely route of truck traffic from the gravel pit in Gorham to the project site, as well as the likely location for spoil disposal and the project site.



 TRAVEL ROUTE FOR TAILRACE FILL

 TRAVEL ROUTE FOR DEBRIS REMOVAL

<i>MWDCA TRAFFIC MOVEMENT MAP</i>	
<b><i>ACHERON ENGINEERING SERVICES</i></b> <i>Engineering, Environmental &amp; Geologic Consultants</i>	
<small>www.AcheronEngineering.com</small>	
<small>147 Main St. Newport, ME, 04953 (207)-368-5700</small>	<small>230 Bomarc Rd Bangor, ME, 04401</small>
<small>Acheron International, Inc.</small>	
<small>JOB NO:</small> 49294	<small>DWG NO:</small> A-1800
<small>SCALE:</small> NTS	<small>DATE:</small> 11/2/2015

#### **14.0 LUPC Zoning**

The Surrender Project is not subject to the jurisdiction of the Land Use Planning Commission; hence this section of the MWDCA permit application is not applicable.

## **15.0 Environmental Mitigation**

The installation of fish passage and removal of spillways at Saccarappa Falls will make the section of river up to Mallison Falls and all of the tributaries accessible to migratory anadromous fish by facilitating passage over Saccarappa Falls. The environmental impacts associated with the proposed design primarily include temporary wetland impacts to wetlands along the edges of the river. There are two categories of wetland impacts associated with the Saccarappa fishway installation: those due to proposed modifications at the Saccarappa Falls site, and those related to lowering of the water level in the river between Saccarappa Falls and Mallison Falls.

### Impacts Associated With Fishway Installation at Saccarappa Falls

The first category of potential impacts at the Saccarappa Falls site includes both temporary and permanent impacts. The removal of the eastern spillway, western spillway, and ancillary structures in the forebay channel is a positive, permanent impact. Removal of these structures will expose a large area of benthic habitat across the entire river that does not exist today. The only potentially negative permanent impact is related to the filling of the tailrace channel. Technically this man-made channel with concrete walls and smooth bedrock bottom is not riverine habitat but it is hydraulically connected the river. The proposed fishway is to be constructed on the fill to be placed in the tailrace channel.

Temporary environmental impacts at Saccarappa Falls are all related to the short term use of cofferdams and wet roads that are necessary to facilitate construction of the various elements of the Surrender Project. Temporary wet roads that will double as cofferdams will be needed to gain access to the dam structures for demolition with excavators and trucks. Fortunately, there is an existing wet road upstream of the dam that was left in place the last time the dam/spillway was repaired. The existing wet road will be utilized for this project and will be removed as the dam is removed. Removal of that existing wet road will also be a permanent positive impact.

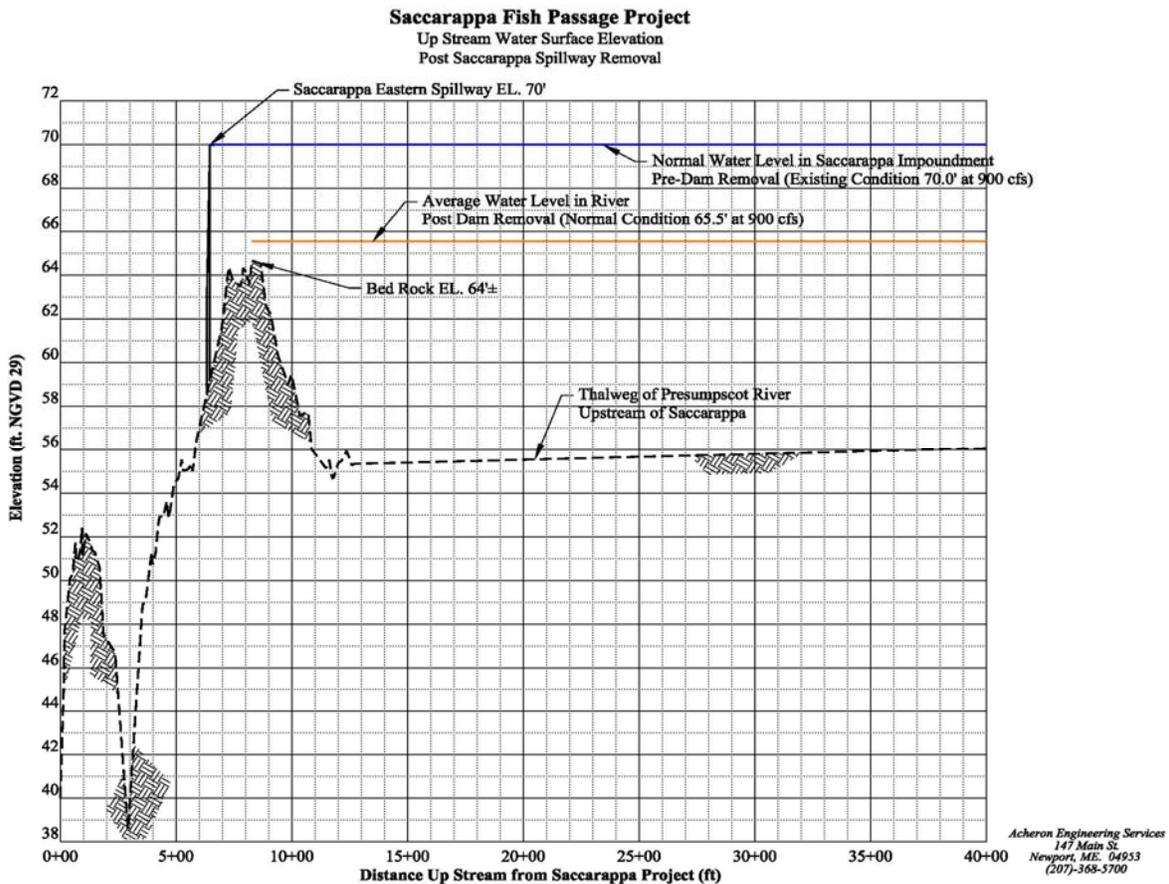
### Impacts Associated With Lowering Impoundment Water Level

The second category of potential impacts is related to the lowering of the water level in the section of river between Saccarappa Falls and Mallison Falls.

#### *Physical Characteristics of Proposed Impoundment Water Level*

A bathymetric survey of the river area just upstream of the existing spillways was conducted in 2013 and indicates the lowest point of the bedrock upstream of the eastern spillway is at elevation 64.0' +/- . The current elevation of the top of the dam is 70.0' +/- . The future elevation of the water in the river, after the Saccarappa Falls dams are removed, will be dependent upon the distance upstream of the dams and the flow in the river. Under average flow conditions of 900 cfs, the water level in the section of river upstream of the Saccarappa Falls site will be lowered by approximately 4.5 feet below the spillway crest elevation of 70 feet. Figure 3 depicts the surface elevation of the impoundment post spillway removal.

Figure 3: Upstream Water Surface Elevation, Post Spillway Removal



Warren completed transects of the existing Saccarappa Impoundment in order to assess the effect of the proposed drawdown on the impounded sections of the Presumpscot and Little rivers. Transects were based on a series of four field surveys by Plisga and Day in 2011 and 2014. The results of this study, including a plan view of the rivers, a profile of the river pre and post dam removal, and cross-sectional views of each transect, are included in Surrender Application, Appendix F and are discussed in this section.

The current length of the Saccarappa Impoundment from the eastern spillway to the upstream limit of the impoundment is 26,046 feet. After the drawdown, the length of the Presumpscot River in the former impounded area from the location of the eastern spillway to the upstream limit of what will appear to be impoundment is 24,429 feet. The stretch of river above Saccarappa Falls will not be a manmade impoundment created by a dam. However, during low and moderate flow periods, this area will appear to be a flat, low velocity section of river and resemble an impoundment. Approximately 2,680 feet of existing impoundment below Mallison Falls will become free flowing river. This 2,680 foot section of the river will be a series of riffle and pool segments that will be quite shallow and have a visually discernible current. Some erosion of sediments that may have accumulated in this segment may be scoured into suspension during high flow periods in the river, but a detailed

inspection of this section of the river revealed little in the way of accumulated fine grained sediment.

The current length of the impoundment in the Little River from the confluence with the Presumpscot River to the upstream limit of the impoundment is approximately 7,600 feet. The length of the Little River impounded area from the confluence with the Presumpscot to the upstream limit of the impoundment after the removal of the spillways at Saccarappa Falls will be approximately 83 feet. In essence, all of the flat water section of the Little River from the confluence with the Presumpscot River to the Rt. 202 Bridge will be free flowing river with a series of riffle and pool segments. There will be no discernible flat water segment in the Little River caused by the backwater from the Presumpscot River.

In summary, the portion of the Presumpscot River that is the Saccarappa Impoundment and the portion of the Little River impounded by the Saccarappa Project (approximately 6.3 miles in both rivers) will revert back to the conditions that existed prior to construction of the first hydroelectric development at the Saccarappa site. Approximately 4.6 miles of the Presumpscot River above Saccarappa Falls will still have the appearance of an impoundment, even though the water level will be approximately 4 feet lower under average flow conditions after dam removal. The reason is that that bottom of the Presumpscot River from Saccarappa to Mallison is below elevation 64 feet, the elevation of the bedrock control at the Saccarappa site. Approximately 0.3 miles of the Presumpscot River below Mallison Falls and 1.4 mile of the Little River will change from impoundment to free flowing riffle and pool habitat. Removal of the eastern and western spillways at Saccarappa Falls will create approximately 19 acres of exposed embankment that is currently under water. Vegetation on the existing embankment will migrate down the slope with the reduced water level.

#### *Wetland Impacts*

The study conducted by Mark Hampton Associates, Inc. in August 2015 identified the impact of the proposed drawdown on these wetlands. Refer to Surrender Application, Appendix M for the “Assessment of Wetland Resources due to Lowering of Impoundment”. In summary, the report concluded that the proposed fishway installation and associated lowering of the impoundment water level by approximately 4.5 feet under average flow conditions after spillways removal would result in no net loss of wetlands within the impoundment area. In fact, the report indicates that the proposed work may result in a slight increase in wetland area at locations within the area where surface water tributaries empty into the impoundment.

The report states that after drawdown, wetlands located adjacent to the impoundment will migrate with the lowering of water levels. Wetlands associated with streams, brooks, swales, and other tributaries emptying into the impoundment will not be affected by the drawdown, as they derive their primary source of water from the stream, brook, or swale and not from the impoundment. After the drawdown the wetlands at these locations will expand to meet the new shoreline.

In summary, most of the wetland impacts will only exist for a short period of time during construction. Potential wetland impacts related to the lowering of the water level in the river upstream of the Saccarappa Falls are negligible because of the relatively small change in water level in the river pre- and post-dam removal.

## 16.0 Water Quality

A detailed description of the applicable water quality standards and classification, water uses, and existing water quality, and anticipated post construction water quality, can be found in the FERC Application for License Surrender for the Saccarappa Project that is included with this submittal package. Specific references within the Surrender Application are described below.

- A. Section 5.2.2.1 Water Quality, Existing Conditions, describes the applicable water quality standards and classification for the upstream waters that are and will be affected by the Saccarappa Project. Applicable downstream water quality standards and classification is described at the end of this section.
- B. A description of the existing water quality of the waters that will be affected by this project can be found in Section 5.2.2.1 Water Quality, Existing Conditions.
- C. Section 5.2.2.2 Water Quality, Proposed Conditions, details the impacts of the removal of the Saccarappa spillway on the quality of water in the Presumpscot River.

As discussed in the attached Surrender Application, there is a reasonable assurance that the project will not violate applicable water state quality standards. In the worst case scenario, the project will not negatively impact the water quality of the river upstream of Saccarappa. In the best case scenario, dissolved oxygen levels may actually improve slightly over what exists today. The Surrender Application summarizes water quality studies that have been done on the Presumpscot River. This Surrender Project will not negatively impact any of the water quality parameters and some may actually improve.

For instance, lowering of the water level in the segment of the river upstream of Saccarappa Falls will slightly decrease the depth and increase the velocity under all flow conditions. Removal of the spillways will increase the area of benthic habitat for aquatic macroinvertebrates in the area upstream of the spillways. Suspending operation of the powerhouse will increase flows down the eastern channel thereby increasing the area of wetted benthic habitat suitable for fish and benthic macroinvertebrates over a large area of Saccarappa Falls.

### Downstream Water Quality Standards

The Presumpscot River is classified as Class C waters from Saccarappa Falls to tidewater. Class C is the fourth highest classification. Class C water quality standards, as per 38 M.R.S.A. Section 465(4), are detailed below.

- A. *Class C waters must be of such quality that they are suitable for the designated uses of drinking water supply after treatment; fishing; agriculture; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, except as prohibited under Title 12, section 403; navigation; and as a habitat for fish and other aquatic life.*

B. *The dissolved oxygen content of Class C water may be not less than 5 parts per million or 60% of saturation, whichever is higher, except that in identified salmonid spawning areas where water quality is sufficient to ensure spawning, egg incubation and survival of early life stages, that water quality sufficient for these purposes must be maintained. In order to provide additional protection for the growth of indigenous fish, the following standards apply.*

1. *The 30-day average dissolved oxygen criterion of a Class C water is 6.5 parts per million using a temperature of 22 degrees centigrade or the ambient temperature of the water body, whichever is less, if:*
  - a. *A license or water quality certificate other than a general permit was issued prior to March 16, 2004 for the Class C water and was not based on a 6.5 parts per million 30-day average dissolved oxygen criterion; or*
  - b. *A discharge or a hydropower project was in existence on March 16, 2005 and required but did not have a license or water quality certificate other than a general permit for the Class C water.*

*This criterion for the water body applies to licenses and water quality certificates issued on or after March 16, 2004.*

2. *In Class C waters not governed by subparagraph (1), dissolved oxygen may not be less than 6.5 parts per million as a 30-day average based upon a temperature of 24 degrees centigrade or the ambient temperature of the water body, whichever is less. This criterion for the water body applies to licenses and water quality certificates issued on or after March 16, 2004.*

*The department may negotiate and enter into agreements with licensees and water quality certificate holders in order to provide further protection for the growth of indigenous fish. Agreements entered into under this paragraph are enforceable as department orders according to the provisions of sections 347-A to 349.*

*Between May 15th and September 30th, the number of Escherichia coli bacteria of human and domestic animal origin in Class C waters may not exceed a geometric mean of 126 per 100 milliliters or an instantaneous level of 236 per 100 milliliters. In determining human and domestic animal origin, the department shall assess licensed and unlicensed sources using available diagnostic procedures. The board shall adopt rules governing the procedure for designation of spawning areas. Those rules must include provision for periodic review of designated spawning areas and consultation with affected persons prior to designation of a stretch of water as a spawning area.*

C. *Discharges to Class C waters may cause some changes to aquatic life, except that the receiving waters must be of sufficient quality to support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community. This paragraph does not apply to aquatic pesticide or chemical discharges approved by the department and conducted by the department, the Department of Inland Fisheries and Wildlife or an agent of either agency for the purpose of restoring biological communities affected by an invasive species.*

As discussed in the attached Surrender Application, there is a reasonable assurance that the Surrender Project will not violate applicable water state quality standards. In the worst case scenario, the project will not negatively impact the water quality of the river downstream of Saccarappa. In the best case scenario, dissolved oxygen levels downstream of Saccarappa will likely improve over what exists today. The improvement in dissolved oxygen level downstream will be derived from the cascade effect from water passing over the upper and lower falls rather than passing through the powerhouse. The Surrender Application summarizes water quality studies that have been done on the Presumpscot River. This project will not negatively impact any of the water quality parameters and some may actually improve.

## **17.0 Soil Stability**

A detailed description of the stability of soil in the project area can be found in the Application for License Surrender for the Saccarappa Project that is included with this MWDCa permit application. The following outlines locations of items specific to the MWDCa Permit Application requirements.

- A. Section 5.1 Geology outlines the general geology and soil conditions of the project area, including soil types and locations, as well as describes the impact of the proposed Surrender Project on the soils in the project area.
- B. Appendix F: Evaluation of Potential Soil Erosion and Sedimentation contains an engineering report that addresses the existing conditions within the impoundment and an engineering judgment of the impact of the proposed Surrender Project on existing conditions.

The aforementioned information details how the proposed Surrender Project will not result in significant benefit or harm to soil stability.

## 18.0 Coastal/Inland Wetlands

Wetlands are generally defined as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support vegetation typically adapted for life in saturated soil conditions. Most formal wetland definitions emphasize three primary components that define wetlands: the presence of water, unique soils, and hydrophytic vegetation. USFWS (Cowardin et al. 1979) defines wetlands as follows:

*Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. Wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.*

Riparian habitats are areas that support vegetation found along waterways such as lakes, reservoirs, rivers, and streams. The boundary of the riparian area and the adjoining uplands is gradual and not always well defined. However, riparian areas differ from the uplands because of their high levels of soil moisture, frequency of flooding, and unique assemblage of plant and animal communities (Virginia State University 2000). These habitats can range from mature forests to areas covered by emergent vegetation and shrubs. Riparian habitats are unique because of their linear form and because they process large fluxes of flow energy and materials from upstream systems (Mitsch and Gosselink 1993). Riparian areas and the associated vegetation provide important habitat for wildlife and may contain a higher number of species, both plant and animal, than surrounding upland areas due to the proximity to water. These areas may be important avian habitats for resident and migratory birds. Riparian habitats typically function as travel corridors for migratory wildlife species.

During the growing season in 1997, Warren completed a vegetative cover type mapping study in the Surrender Project area as part of relicensing of Warren's Presumpscot River hydropower projects. The landward boundary of the cover type extended from the edge of the Presumpscot River to a variable distance of between 300 to 500 feet horizontally from the river, terminating at logical landmarks, such as roads and railroad tracks (Kleinschmidt 1999). Interpretation of aerial photography was used to delineate between different cover types, and ground-truthing of the mapped cover types was completed in June 1997. As part of the study, all wetland cover types were ground-truthed, as were at least 20% of the upland cover types (Kleinschmidt 1999).

In August 2015, Mark Hampton Associates, Inc. conducted an assessment of wetland resources due to the proposed lowering of the Saccarappa impoundment. This assessment included identification of all existing wetlands located within the Saccarappa impoundment and the portion of the Little River impounded by the Saccarappa Project. The report details existing wetland conditions within the Project area. Refer to Surrender Application, Appendix M for the "Assessment of Wetland Resources due to Lowering of Impoundment".

### Wetland Impacts

There are two categories of wetland impacts associated with the Surrender Project: those due to proposed modifications at the Saccarappa Falls site, and those related to lowering of the water level in the river between Saccarappa Falls and Mallison Falls.

The first category of potential impacts at the Saccarappa Falls site includes both temporary and permanent impacts. The removal of the eastern spillway, western spillway and ancillary structures in the forebay channel is a positive, permanent impact. Removal of these structures will expose a large area of benthic habitat across the entire river that does not exist today. The only potentially negative permanent impact is related to the filling of the tailrace channel. This man-made channel with concrete walls and smooth bedrock bottom is not riverine habitat but it is hydraulically connected the river. The proposed fishway is to be constructed on the fill to be placed in the tailrace channel.

Temporary impacts at Saccarappa Falls are all related to the short term use of cofferdams and wet roads that are necessary to facilitate construction of the various elements of the Surrender Project. Temporary wet roads that will double as cofferdams will be needed to gain access to the dam structures for demolition with excavators and trucks. Fortunately, there is an existing wet road upstream of the dam that was left in place the last time the dam/spillway was repaired. The existing wet road will be utilized for this project and will be removed as the dam is removed. Removal of that existing wet road will also be a permanent positive impact.

The second category of potential wetland impacts is related to the lowering of the water level in the section of river between Saccarappa Falls and Mallison Falls. A bathymetric survey of the river area just upstream of the existing spillways was conducted in 2013 and indicates the lowest point of the bedrock upstream of the eastern spillway is at elevation 64.0' +/- . The current elevation of the top of the dam is 70.0' +/- . The future elevation of the water in the river after the dam is removed is dependent upon the distance upstream of the dam and the flow in the river. The maximum potential drop in water level in the river upstream of the dam under average flow conditions is about 4.5 feet.

The physical size and characteristics of the river upstream of the existing Saccarappa Project are not much different today than they were when the river was free flowing prior to construction of the first dam at the Saccarappa Falls site. The existing dams raised the water level only about 4.5 feet. The physical size and footprint of the river that exists today is similar to that which existed prior to the construction of dams at this site.

The study conducted by Mark Hampton Associates, Inc. in August 2015 identifies the impact of the proposed drawdown on these wetlands. Refer to Appendix M for the "Assessment of Wetland Resources due to Lowering of Impoundment". In summary, the report concluded that the proposed fishway installation and associated lowering of the impoundment water level by approximately 4.5 feet under average flow conditions after spillways removal would result in no net loss of wetlands

within the impoundment area. In fact, the report indicates that the proposed work may result in a slight increase in wetland area at locations within the area where surface water tributaries empty into the impoundment.

The report states that at drawdown, wetlands located adjacent to the impoundment will migrate with the lowering of water levels. Wetlands associated with streams, brooks, swales and other tributaries emptying into the impoundment will not be affected by the drawdown, as they derive their primary source of water from the stream, brook, or swale and not from the impoundment. After the drawdown the wetlands at these locations will expand to meet the new shoreline.

In summary, most of the wetland impacts will only exist for a short period of time during construction. Potential wetland impacts related to the lowering of the water level in the river upstream of the Saccarappa Falls are negligible because of the relatively small change in water level in the river pre- and post-dam removal.

Additional description of the existing wetlands can be found in the Application for License Surrender for the Saccarappa Project that is included with this MWDCA permit application as follows:

- A. Section 5.5.2 Wetland Resources provides a detailed description of the wetland types that are currently located within the Saccarappa Project area and describes impacts that the removal of the spillways may have on the existing wetlands located within the project site.
- B. Appendix M: Wetland Study provides a detailed wetland evaluation of the Saccarappa Impoundment.

## **19.0 Natural Environment**

The natural environment is described in detail in the Application for License Surrender for the Saccarappa Project that is included with this MWDCA permit application. Below are references to specific MWDCA requirements.

- A. Section 5.9 Land Management and Aesthetic Resources addresses the varying existing land uses within the Saccarappa Project area, as well as the existing aesthetic character of the project area.

Section 5.1 Geology describes the existing geological and topographic features of the project site.

Section 5.5 Botanical Resources details the varying existing botanical resources in the vicinity of the project.

- B. The proposed project will not have an adverse impact on existing land uses. This is addressed in:

- Section 5.9.1 Land Management.
- Section 5.1.2 Geology
- Section 5.5.1 Botanical Resources
- Section 5.9.2 Aesthetic Resources

As discussed in those materials, the project will result in significant benefit, and little or no harm, to the natural environment of any surface waters and their shorelands.

## **20.0 Fish and Wildlife Resources**

Refer to the Application for License Surrender for the Saccarappa Project that is included with this MWDCa permit application for a description of fish and wildlife resources. Below are references in the Surrender Application to specific MWDCa requirements.

- A. A description of the existing and proposed impact to fish and wildlife that is located within the Saccarappa Project area is included in Section 5.3 Aquatic Resources and in Section 5.4 Wildlife Resources.
- B. A description of any existing protected species is provided in Section 5.6 Rare, Threatened and Endangered Species, as well as potential impact to said species.

As discussed in those materials, the project will result in significant benefits to fish and wildlife resources. In addition to opening the Saccarappa impoundment to anadromous species, the area immediately upstream of the eastern spillway is currently submerged under 6 to 7 feet of water. Once the spillway is removed, approximately 1,000 square yards of shallow, riffle/pool type habitat will be created. The conversion from submerged impoundment habitat to riffle/pool type habitat will provide enhanced opportunity for macroinvertebrates and fish to colonize this area.

The physical substrate of this area will be broken rock, bedrock, and cobble similar to the physical substrate of the falls downstream of the eastern spillway. Given the roughness of the substrate, shallow depth of water flow (under low to moderate flow conditions) and excellent water quality (mostly derived from the outflow from Sebago Lake), these two areas will create excellent habitat for aquatic macro-invertebrates, resident fish species, and anadromous fish during both upstream and downstream migration seasons.

Opening the section of the Presumpscot River from Saccarappa to Mallison, the Little River, and other smaller tributaries to anadromous fish runs will result in a significant benefits to fish and wildlife resources of the region. Resident fish species will benefit from the changes at Saccarappa. Fish and wildlife resources within the river segment will benefit from the introduction of anadromous fish to the river above Saccarappa.

In December 2001, a report entitled “Draft Fisheries Management Plan for the Presumpscot River Drainage” was released by Maine Department of Marine Resources, the Maine Department of Inland Fisheries and Wildlife, and the Maine Atlantic Salmon Commission. The report provides detailed management goals, objectives and strategies for fishery management of the Presumpscot River. The following is a direct quote from that report for Reach 3, Saccarappa Dam to Mallison Falls Dam, including Inkhorn Brook, Little River and Colley-Wright Brook.

*“Reach 3. Saccarappa Dam to Mallison Falls Dam, including Inkhorn Brook, Little River, and Colley-Wright Brook*

- 1) *Manage Reach 3 as a migratory pathway for American eel, American shad, Atlantic salmon (smolts and adults), blueback herring, and possibly striped bass, sea-run brook trout and sea-run brown trout.*
  - a. *For American eel, upstream passage facilities at Saccarappa Dam will be completed within two years of licensing and downstream passage measures<sup>16</sup> will be operational within 30 days of licensing.*
  - b. *For anadromous species, upstream and downstream passage facilities at Saccarappa Dam will be completed two years after passage is available at Cumberland Mills Dam<sup>17</sup>. The upstream passage should be equipped with a trapping and sorting facility. Assuming full restoration to the North Gorham Dam the upstream facility ultimately should be capable of passing a maximum of approximately 58,000 American shad and 353,400 blueback herring.*
  - c. *Agencies will continue to consult with MDOT on fish passage through culverts.*
- 2) *Manage Reach 3 for sustained production of resident and diadromous species consistent with habitat capabilities. Annual production of diadromous species in Reach 3 is estimated to be 13,700 American shad; 83,500 blueback herring; 8,283 Atlantic salmon smolts; and 202 adult Atlantic salmon.*
  - a. *Identify and map habitat (e.g. spawning, nursery) for selected species as funding is available.*
  - b. *Monitor juvenile or adult abundances of selected species as funding is available.*
  - c. *Maintain year-round leakage flow (13 cfs) at Saccarappa Dam.*
- 3) *Manage species in accordance with the Atlantic States Marine Fisheries Commission's (ASMFC) Interstate Fisheries Management Plan for Striped Bass, ASMFC's Interstate Fisheries Management Plan for American shad and river herring, and ASMFC's Interstate Fisheries Management Plan for American eel.*
  - a. *Implement all regulations, assessment, and reporting requirements found in ASMFC management plans.*
- 4) *Promote existing and potential commercial fisheries for American eel.*

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<sup>16</sup> On the basis of statewide eel harvest data, the fisheries agencies recommend an eight-week shutdown for eight hours each night. If the results of a three-year study conducted within the Presumpscot River indicate that the duration of the downstream migration is less than eight weeks on average, then the shutdown period can be reduced.

<sup>17</sup> Upstream and downstream passage for anadromous species will be completed concurrently. However, in the event that the fisheries agencies notify the project owner that a sustained annual stocking program of anadromous fish above a project has begun or will begin to occur within two years, the downstream passage at this project will be constructed within two years of the notification.

- 5) *Promote existing and potential recreational angling opportunities for American shad, adult Atlantic salmon, smallmouth bass, largemouth bass, chain pickerel, yellow perch, white perch, brown bullheads, black crappie, and possibly striped bass, sea-run brook trout, and sea-run brown trout.*
- 6) *Establish a year-round fishery for stocked trout in the Mallison Falls tailrace and bypass, or in the event of dam removal, any suitable free flowing reaches.*
  - a. *Management is contingent upon availability of adequate public access.*
  - b. *Stock legal-size trout, which may include brook trout and brown trout.*
  - c. *Promulgate supporting regulations.*
  - d. *Establish suitable year-round minimum flows at Mallison Falls Dam*
  - e. *Maintain / enhance MDIFW access for stocking.*
- 7) *Manage the Little River for diadromous species and wild trout. Enhance recreational trout angling opportunities.*
  - a. *Augment natural recruitment of a small population of wild brook trout by stocking legal-size trout to meet angler use and provide season-long (spring-fall) trout angling opportunities.*
- 8) *Manage Colley-Wright Brook for diadromous species and wild brook trout and brown trout. Provide a recreational fishery for brook trout and brown trout commensurate with the small size of this tributary and based on results of the MDIFW stocking study.*
  - a. *Augment natural recruitment of wild brook trout by stocking legal-size trout to meet angler use and provide season-long (spring-fall) trout angling opportunities.*
- 9) *No recreational management for resident species is planned for Inkhorn Brook.”*

The Surrender Project is compatible with and supportive of the management goals, objectives, and strategies for fishery management set forth in this management plan.

## **21.0 Historic/Archaeological Resources**

Existing historic and archaeological resources, as well as potential impacts to these resources, are described in detail in the Surrender Application included with this MWDC Application package. Refer to Surrender Application, Section 5.7.

There are three culturally significant sites within the project area. Section 5.7 of the Surrender Application details that the drawdown associated with the proposed removal of the Saccarappa spillways will benefit these sites. The proposed drawdown will lower the water levels in the impoundment by approximately 4.5 feet, which will lessen the impact of erosion due to water flows, flooding, and ice and benefit the sites.

The Saccarappa Project consists of historic structures: a powerhouse, equipment contained within the powerhouse, two concrete dam sections, a headgate structure, intake canal, forebay, and tailrace. While the existing Saccarappa Falls site documents an important part of man-made history, the falls limited the ability of anadromous fish to migrate within the Presumpscot River. Returning the river to a natural state, and adding fish passage, is more important than maintaining the presence of historic structures.

The existing powerhouse will remain intact for now, but will likely be demolished in the future unless it can be repurposed. Warren understands the historic significance of the structures that are proposed to be removed and will ensure that a written and photographic history of these structures is preserved. Warren has and will continue to consult with the SHPO to develop appropriate measures to resolve any adverse effects of spillway removal on the NRHP-eligible Project facilities. These measures may include Historic American Engineering Record/Historic American Building Survey recordation of NRHP-eligible properties affected by this undertaking.

## 22.0 Public Access and Uses

Refer to the Application for License Surrender for the Saccarappa Project that is included with this MWDC Application for a description of public accesses and recreational uses of the land and water located within the Saccarappa Project area. Below are references in the Surrender Application to specific MWDC requirements.

- A. Section 5.8 Recreation Resources describes the existing public accesses and uses of the impoundment and project area for lawful public uses, as well as existing recreational areas, and describes the impacts of the Surrender Project on existing recreation resources within the project boundary. Additionally, please refer to Section 12.0 Public Benefits in this MWDC Application for details regarding the possible addition of a Whitewater Park in the eastern channel.<sup>3</sup>

As discussed in those materials, the Surrender Project will result in significant benefit, and very little harm, to the public rights of access to the surface waters of the State for navigation, fishing, fowling, recreation, and other lawful public uses, because the project is not anticipated to change public rights of access to the surface waters from what exists today. One of the existing boat launches near the upstream end of the western channel will be eliminated. Eliminating the existing boat launch is unavoidable because in the future the velocity of the water flowing past the boat launch in that area of the channel will be too high to safely launch watercraft. The most logical choice of a site for relocating the existing boat launch is across the river on the eastern side above the falls. The Surrender Project does not include a new boat launch in that area because a boat launch and river access already exists in that area. The land and the existing launch is owned by the City of Westbrook.

The Surrender Project, which includes removal of both the western and eastern spillways, will enhance opportunities for recreational uses in and on the water. Those uses include whitewater boating, navigation, fishing, and sightseeing.

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<sup>3</sup> Sappi is not applying for approval of the City's proposed recreational amenities as part of the Surrender Project, and we understand the City will submit separate applications for such approval, with the intent to obtain the necessary approvals soon enough to allow the City to construct them at the same time Sappi performs the Surrender Project work.

### **23.0 Flood Control**

The existing Saccarappa Dam does not include provisions to regulate or control flood flow rates or water levels for flood protection. The Saccarappa Project is operated on a run-of-the-river basis, which means generally that inflow to the impoundment equals outflow. The proposed Surrender Project does not propose any provisions for flood controls. The Surrender Project will result in the lowering of water levels in the river upstream of Saccarappa by approximately 4.5 feet under average flow conditions. Removal of the Saccarappa Dam may therefore result in reduced water levels in the river between Saccarappa and Mallison Falls during certain flood flow conditions.

Refer to the Application for License Surrender for the Saccarappa Project that is included with this MWDC Application for further description of the existing and post construction waterway and water flow rates. Refer to Section 5.2.1 Water Quantity for a description of the effect of the project on the quantity of water in the project area.

Thus, the project will result in flood control benefits, and it will not create any flood hazards.

## 24.0 Energy

The requirement of fish passage at Saccarappa Falls necessitates the surrender of hydroelectric operations at the Saccarappa Dam. In 2003, FERC issued to Warren a 40-year operational license for its hydroelectric facility at Saccarappa Falls. This license required that the prescribed fish passage must be constructed at Saccarappa within two years of fish passage installation at the downstream non-FERC-jurisdictional Cumberland Mills Dam. Fish passage became available at the Cumberland Mills Dam in May 2013, triggering the requirement of operational fish passage at the Saccarappa Dam by May 2015. After extensive review, Warren determined that the high cost of constructing fish passage for the operating facility at Saccarappa in accordance with the existing FERC license was not economical. For this reason Warren decided to surrender its FERC license for the Saccarappa Project.

Decommissioning the Saccarappa Hydroelectric Facility will not necessitate any increase in generating capacity from other resources. Warren currently generates power from 6 hydroelectric facilities and a multi fuel power boiler located at the Westbrook mill. The total amount of power that Warren generates exceeds the amount of energy that is required to power the Warren mill, and the energy generated by the Saccarappa Project is no longer used at the Mill, but goes to the grid. The decommissioning of the Saccarappa Project will not necessitate any increase in generating capacity for the Warren mill from other non-renewable resources. Refer to the following chart for information regarding existing and proposed energy outputs at the Saccarappa facility.

*Figure 4: Energy Statement*

<b>Description</b>	<b>Existing</b>	<b>Proposed</b>
No. Generating Units	3	0
Installed Capacity (MW)	1.35	0
Average Annual Energy Output, (MWh)	7,600	0
Capacity Factor (%) (Avg. % of full capacity realized over a given time)	76%	0

The loss of this small amount of hydroelectric energy will not be caused by the Surrender Project described herein (removal of the dam and construction of a fishway), but, rather, is caused by the uneconomical fish passage requirement contained in the FERC license. Thus, the Surrender Project will not have any hydroelectric benefits or harms.

## **25.0 Notice of Intent to File**

The following items have been included in this Section:

- Notice of Intent to File
- Abutter list
- Confirmation of Delivery

**NOTICE OF PUBLIC MEETING AND INTENT TO FILE  
APPLICATION TO SURRENDER LICENSE FOR  
SACCARAPPA HYDROELECTRIC PROJECT (FERC PROJECT NO. 2897)  
AND  
MAINE WATERWAY DEVELOPMENT AND CONSERVATION ACT  
AND WATER QUALITY CERTIFICATION APPLICATION**

Please take notice that

**S.D. Warren Company, d/b/a Sappi North America (Sappi)  
89 Cumberland Street, Westbrook, Maine 04092  
(207) 856-4584**

is intending to file an application to surrender its Federal Energy Regulatory Commission (FERC or Commission) license for the Saccarappa Hydroelectric Project (Project No. 2897) pursuant to the Commission's regulations at 18 C.F.R. §6.1 and §6.2, on December 2, 2015. At or around the same time, Sappi is also intending to file an application with the Maine Department of Environmental Protection for a permit and Water Quality Certification pursuant to the provisions of the Maine Waterway Development and Conservation Act (Maine Revised Statutes Title 38 §§ 630 *et seq.*) and the Federal Clean Water Act, 33 U.S.C. § 1341. For federally licensed, permitted, or funded activities in the Coastal Zone, review of this application shall also constitute the State's consistency review in accordance with the Maine Coastal Program pursuant to Section 307 of the federal Coastal Zone Management Act.

The applications relate to the Saccarappa Hydroelectric Project (Project), a 1.35 megawatt (MW) hydroelectric facility located at approximately river mile 11 on the Presumpscot River in Cumberland County, Maine. In addition to surrendering its FERC license to operate a hydroelectric facility, Sappi intends to remove the dam and install a Denil fish ladder in the tailrace of the Saccarappa Project.

The applications will be available for public inspection at the Sappi offices in Westbrook during normal working hours. The applications also will be available for public inspection at Westbrook City Hall, 2 York Street, Westbrook, during normal working hours. Public comments on the application may be provided to Kathy Howatt of the Maine Department of Environmental Protection via email at [Kathy.Howatt@maine.gov](mailto:Kathy.Howatt@maine.gov) or by mail at Maine Department of Environmental Protection, 17 State House Station, Augusta, Maine, 04333-0017. Public comment on the application will be accepted throughout the processing of the application.

A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department of Environmental Protection, in writing, no later than 20 days after the application is accepted as complete for processing.

Sappi will hold a public meeting on Thursday, November 19, 2015 at 7:00 pm at Westbrook High School, 125 Stroudwater Street, Westbrook, Room 114. The purpose of the public meeting is for the applicant to inform the public of the project and its anticipated environmental impacts, and to educate the public about the opportunities for public comment to the Department during the application process. Members of the public will be provided an opportunity to ask questions about the application.

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**NOTICE OF PUBLIC MEETING AND INTENT TO FILE APPLICATION TO SURRENDER LICENSE FOR Saccarappa Hydroelectric Project (FERC Project No. 2897) AND MAINE WATERWAY DEVELOPMENT AND CONSERVATION ACT AND WATER QUALITY CERTIFICATION APPLICATION**

Please take notice that **S.D. Warren Company, d/b/a Sappi North America (Sappi), 89 Cumberland Street, Westbrook, Maine 04092 (207) 856-4584**

is intending to file an application to surrender its Federal Energy Regulatory Commission (FERC or Commission) license for the Saccarappa Hydroelectric Project (Project No. 2897) pursuant to the Commission's regulations at 18 C.F.R. §6.1 and §6.2, on December 2, 2015. At or around the same time, Sappi is also intending to file an application with the Maine Department of Environmental Protection for a permit and Water Quality Certification pursuant to the provisions of the Maine Waterway Development and Conservation Act (Maine Revised Statutes Title 38 §§ 630 et seq.) and the Federal Clean Water Act, 33 U.S.C. § 1341. For federally licensed, permitted, or funded activities in the Coastal Zone, review of this application shall also constitute the State's consistency review in accordance with the Maine Coastal Program pursuant to Section 307 of the federal Coastal Zone Management Act.

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2.	" " Plowman Properties LLC 22 Alberta Drive Westbrook, ME 04092	0.485	.47											
3.	Michael and Danielle Gorman 6 Brown Street Westbrook, ME 04092	0.485	.47											
4.	Arthur Hackett 16 Brown Street Westbrook, ME 04092	" "	" "											
5.	Brandon Krupski Breanna Bellefontaine-Krupski 26 Brown Street Westbrook, ME 04092	" "	" "											
6.	Clarke Painting Inc PO Box 8427 Portland, ME 04104	" "	" "											
7.	Wayne P. Joy Carmen M. Joy 11 Water Street Westbrook, ME 04092	" "	" "											
8.	Westbrook Housing Authority 30 Liza Harmon Drive	" "	" "											



Total Number of Pieces Listed by Sender

Total Number of Pieces Received at Post Office

Postmaster Per (Name of receiving employee)

Westbrook Housing Authority  
30 Liza Harmon Drive

1 of 22

Name and Address of Sender

Check type of mail or service:

- Adult Signature Required
- Certified Mail
- COD
- Delivery Confirmation
- Express Mail
- Insured
- Adult Signature Restricted Delivery
- Recorded Delivery (International)
- Registered
- Return Receipt for Merchandise
- Signature Confirmation

Affix Stamp Here  
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Postmark and Date of Receipt

Article Number	Addressee (Name, Street, City, State, & ZIP Code™)	Postage	Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	ASR Fee	ASRD Fee	DC Fee	SC Fee	SH Fee	RD Fee	RR Fee
1. <i>Dianne Visa</i>	James F. Lawler, Jr. 59 Whites Bridge Road Windham, ME 04062	0.485	.47											
2. " "	Laura Farnsworth 10 River Street Westbrook, ME 04092	0.485	.47											
3.	Scott A. Balfour 102 Cumberland Street Westbrook, ME 04092	" "	" "											
4.	Yevgeniy Sherstyukov Alla S. Sherstyukov 25 Spiers Street Westbrook, ME 04092	" "	" "											
5.		" "	" "											
6.	Maine Central Railroad c/o Guilford Transportation Iron Horse Park North Billerica, MA 01862-1681	" "	" "											
7.	Mark and Jeanne Nielsen 13 Dion Lane Lyman, ME 04002	" "	" "											
8. <i>Nancy Zurback</i>	Nancy Zurback 30 Brown Street Westbrook, ME 04092	" "	" "											
Total Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster, Per (Name of receiving employee)												



Adult Signature Required  
 Adult Signature Restricted Delivery  
 Delivery Confirmation  
 Signature Confirmation  
 Special Handling  
 Restricted Delivery  
 Return Receipt

*2 of 22*

Name and Address of Sender

Check type of mail or service:

- Adult Signature Required
- Certified Mail
- COD
- Delivery Confirmation
- Express Mail
- Insured
- Adult Signature Restricted Delivery
- Recorded Delivery (International)
- Registered
- Return Receipt for Merchandise
- Signature Confirmation

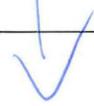
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Postmark and Date of Receipt

Article Number	Addressee (Name, Street, City, State, & ZIP Code™)	Postage	Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	ASR Fee	ASRD Fee	DC Fee	SC Fee	SH Fee	RD Fee	RR Fee
1.	Travis J. Lawrence Patricia J. Lawrence 20 Water Street Westbrook, ME 04092	0.485	.47											
2.	Patrick J. Peoples Ann E. Peoples 22 Garfield Street, Westbrook, ME 04092	0.485	.47											
3.	Sarah Hancock 12 King Street Westbrook, ME 04092	" "	" "											
4.	James Ernst 295 Brown Street Suite # 1 Westbrook, ME 04092	" "	" "											
5.	Federal National Mortgage Association 3900 Wisconsin Avenue NW Washington, DC 20016	0.485												
6.	28-34 Stevens Avenue LLC 223 Flying Point Road Freeport, ME 04032	0.485												
7.	Richard Knight 471 Brook Street Westbrook, ME 04092	0.48												
8.	Postmaster, Per (Name of receiving employee)													
Total Number of Pieces Listed by Sender		Total Number of Pieces Received at Post Office												



*Dianne Ursia*

*" "*



*3 of 22*

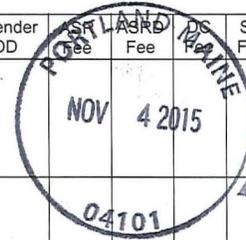
Name and Address of Sender

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- Delivery Confirmation
- Express Mail
- Insured
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- Recorded Delivery (International)
- Registered
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Article Number	Addressee (Name, Street, City, State, & ZIP Code™)	Postage	Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	SR Fee	ASRD Fee	DS Fee	SC Fee	SH Fee	RD Fee	RR Fee
1.	Dianne Ursia Dennis and Lee Ann McClaughlin 73 Revere Street Portland, ME 04103	0.485	.47											
2.	cc 71 Braden R. Buehler Benjamin B. Mini 22 Brown Street Westbrook, ME 04092	0.485	.47											
3.														
4.	Peter Burke Robin Tannenbaum 34 Brown Street Westbrook, ME 04092	0.485	.47											
5.	James and Rebecca Douglass 18 Water Street Westbrook, ME 04092	0.485	.47											
6.	Thomas R. Montgomery Melda A. Montgomery 49 High Street Westbrook, ME 04092	0.485	.47											
7.														
8.	Heather Chandler 7 King Street Westbrook, ME 04092	0.485	.47											
Total Number of Pieces Listed by Sender		Total Number of Pieces Received at Post Office		Postmaster, Per (Name of receiving employee)										
6		6												



4 of 22

Name and Address of Sender

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- Delivery Confirmation
- Express Mail
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- Registered
- Return Receipt for Merchandise
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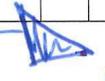
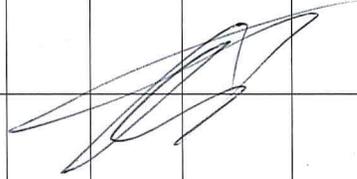
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1.	Robert J. Gale Heather P. Gale 2 Providence Avenue Falmouth, ME 04105	.485												
2.	Matthew Leighton Kristin MacCaffray 20 Giles Street Westbrook, ME 04092	.485												
3.	Leighton Property Management LLC 20 Giles Street Westbrook, ME 04092	.485												
4.	Joseph Chawes 48 Mill Lane Westbrook, ME 04092	.485												
5.	Debra S. True 33 Dunn Street Westbrook, ME 04092	"												
6.	Steven M. Fearon Roberta A. Fearon 26 Speirs Street Westbrook, ME 04092	"												
7.	Sublimation 73 Bradley Drive Westbrook, ME 04092	"												
8.	Postmaster, Per (Name of receiving employee)													
Total Number of Pieces Listed by Sender		Total Number of Pieces Received at Post Office												



Dianne Ursia

" "



5 of 22

Name and Address of Sender

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1.	Harry and Anne Foote c/o Susan B. Foote 82 Columbia Street Portland, ME 04103	.485	.47											
2.	Robert E. Corrigan, P.R., Eleanor Conant Saunders Devises 287 Beechnut Drive North Conway, NH 03860	" "	" "											
3.	Jeffrey Labbe 125 Conant Street Westbrook, ME 04092													
4.	Roman Catholic Bishop of Portland c/o St. Anthony's Parish 63 Dana Court Westbrook, ME 04092													
5.	Deborah Jean Bryenton 57 Dana Court Westbrook, ME 04092													
6.	Will R. Vercoe 49 Dana Court Westbrook, ME 04092													
7.	Pendleton Westbrook SPE LLC 235 Moore Street Suite 300 Hackensack, NJ 07601													
8.	DWM LLC c/o Allise Bayer/CBRE Boulos One Canal Plaza, Suite 500 Portland, ME 04101													
Total Number of Pieces Listed by Sender: 8 Total Number of Pieces Received at Post Office: 8 Postmaster, Per (Name of receiving employee)														



Adult Signature Required  
 Adult Signature Restricted Delivery  
 Delivery Confirmation  
 Signature Confirmation  
 Special Handling  
 Restricted Delivery  
 Return Receipt

b & 22

Name and Address of Sender

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1.	Schoodic Equity Investors I, LLC c/o CBRE Boulos Asset Management One Canal Plaza, Suite 500 Portland, ME 04101	.485	.47											
2.	Portland Water District PO Box 3553 Portland, ME 04101-3553	"	"											
3.	Ernest E. Dandeneau Germaine L. Dandeneau 10 Beatrice Lane Westbrook, ME 04092													
4.	Elizabeth Barber Rines 29 Walnut Crest Road Gorham, ME 04038													
5.	Peter J. Roberts Ann M. Roberts 189 Conant Street Westbrook, ME 04092													
6.	Fore, LLC 159 Lincoln Street, Unit 10 Westbrook, ME 04092													
7.	Stillwater LLC 290 Bridgton Road Westbrook, ME 04092													
8.	Anthony Jendrek Leslie H. Nicoll 161 Conant Street Westbrook, ME 04092 <small>Postmaster, Per (Name of Receiving employee)</small>													
Total Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office													



Adult Signature Required  
 Adult Signature Restricted Delivery  
 Signature Confirmation  
 Special Handling  
 Restricted Delivery  
 Return Receipt

Dianne Ursia

A large blue arrow pointing downwards from the top left towards the bottom left of the table.

Two blue arrows pointing downwards from the Postage and Fee columns towards the bottom of the table.

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*[Handwritten scribble]*

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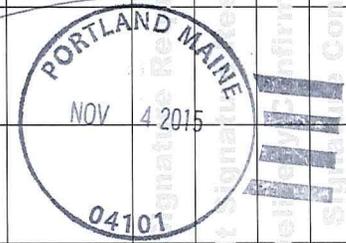
Name and Address of Sender

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1.	George Barstow III Julie E. Barstow 25 Conant Street Westbrook, ME 04092	.485	.47											
2.	Christy L. Arnett 50 Wagner Farm Road Gorham, ME 04038	"	"											
3.	Matthew D. Stevenson Karen Stevenson 514 Cumberland Street Westbrook, ME 04092	"	"											
4.	Pearl L. Sciaraffa 117 Grandview Drive Westbrook, ME 04092	"	"											
5.	Donnabeth P. Winslow 26 Stillwater Drive Unit 19 Westbrook, ME 04092	"	"											
6.	Kelly Mailhot 32 Sunset Trail Avon, CT 06001	"	"											
7.	Salvatore Colella 26 Stillwater Drive Unit 32 Westbrook, ME 04092	"	"											
8.	Christopher Colello Lee Ann Colello 26 Stillwater Drive Unit 31 Westbrook, ME 04092	"	"											
Total Number of Pieces Listed by Sender: 8 Total Number of Pieces Received at Post Office: 8 Postmaster Ref (Name of receiving employee): [Signature]														



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 Signature Confirmation  
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 Return Receipt

7022

Name and Address of Sender

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1.	Central Maine Power Company c/o Utility Shared Services 70 Farm View Drive New Gloucester, ME 04260	.485	.47											
2.	Alan M. Roy 89 Chenery Street Portland, ME 04103	"	"											
3.	Michael E. Johanning Jill S. Johanning Unit 10 30 Lincoln Street Westbrook, ME 04092	"	"											
4.	Johnson Paint Company 355 Newbury Street Boston, MA 02115	"	"											
5.	Kimberly A. Leavitt Unit 12 30 Lincoln Street Westbrook, ME 04092	"	"											
6.	Michael V. Clark Unit 119 30 Lincoln Street Westbrook, ME 04092	"	"											
7.	SD Warren PO Box 5000 Westbrook, ME 04098	"	"											
8.	Lamont C. Willoughby III Cheryl Willoughby 26 Stillwater Drive Unit 21 Westbrook, ME 04092	"	"											
Total Number of Pieces Listed by Sender: 8 Total Number of Pieces Received at Post Office: 4 Postmaster, Per (Name of receiving employee): [Signature]														



Adult Signature Required  
 Adult Signature Restricted Delivery  
 Registered  
 Signature Confirmation  
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 Restricted Delivery  
 Return Receipt

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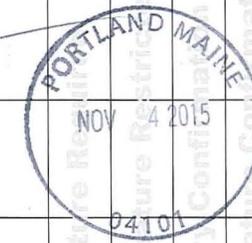
Name and Address of Sender

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1.	John W. Finch II Unit 201 30 Lincoln Street Westbrook, ME 04092	.485	.47											
2.	William Knowles Unit 14 30 Lincoln Street Westbrook, ME 04092	"	"											
3.	Kathleen A. Veroneau Unit 18 30 Lincoln Street Westbrook, ME 04092													
4.	Linda K. Hoang Unit 207 30 Lincoln Street Westbrook, ME 04092													
5.	Regina M. Rofo Unit 102 30 Lincoln Street Westbrook, ME 04092													
6.	Eric Devaudreuil Unit 16 30 Lincoln Street Westbrook, ME 04092													
7.	Jeffrey W. King Unit 104 30 Lincoln Street Westbrook, ME 04092													
8.	Laura L. Marcoux Ellen L Dyer Unit 107 30 Lincoln Street Westbrook, ME 04092													
Total Number of Pieces Listed by Sender: 8 Total Number of Pieces Received at Post Office: 8		Postmaster, Per (Name of receiving employee)												



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Name and Address of Sender

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1.	Lisa M. Trainor Unit 108 30 Lincoln Street Westbrook, ME 04092	.485	.47											
2.	Katie Donnelly Unit 109 30 Lincoln Street Westbrook, ME 04092	"	"											
3.	Ellen Mcenaney Unit 110 30 Lincoln Street Westbrook, ME 04092	"	"											
4.	Denise L. Morrell Unit 111 30 Lincoln Street Westbrook, ME 04092	"	"											
5.	Robert T. Barrett Unit 113 30 Lincoln Street Westbrook, ME 04092	"	"											
6.	Danielle Donnini William Donnini 30 Wagner Farm Road Gorham, ME 04038	"	"											
7.	Andrew J. Minervino Unit 115 30 Lincoln Street Westbrook, ME 04092	"	"											
8.	Gerard St. Pierre, Jr. Carol St. Pierre Unit 112 30 Lincoln Street Westbrook, ME 04092	"	"											
Total Number of Pieces Listed by Sender: 8 Total Number of Pieces Received at Post Office: 8 Postmaster, P.O. (Name of receiving employee)														



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 Signature Confirmation  
 Special Handling  
 Restricted Delivery  
 Return Receipt

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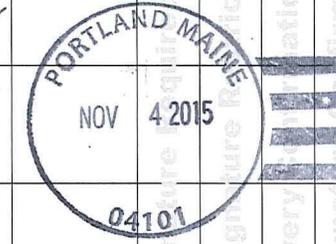
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1.	James M. Roux Jr. 3 Porters Landing Road Freeport, ME 04032	.485	.47											
2.	James L. Bickford Unit 117 30 Lincoln Street Westbrook, ME 04092	"	"											
3.	Ruby B. Harris Unit 120 30 Lincoln Street Westbrook, ME 04092	"	"											
4.	Ann P. Clifford Unit 200 30 Lincoln Street Westbrook, ME 04092	"	"											
5.	Holly Schiavoni Unit 202 30 Lincoln Street Westbrook, ME 04092	"	"											
6.	Kristi R. Mcpheters Unit 203 30 Lincoln Street Westbrook, ME 04092	"	"											
7.	Amee Rice Unit 205 30 Lincoln Street Westbrook, ME 04092	"	"											
8.	Harold Dorrington Sameatton C. Nhonh Unit 206 30 Lincoln Street Westbrook, ME 04092	"	"											
Total Number of Pieces Listed by Sender: <b>6</b> Total Number of Pieces Received at Post Office: <b>8</b>		Postmaster, P.E. (Name of receiving employee)												



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 Return Receipt

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Article Number	Addressee (Name, Street, City, State, & ZIP Code™)	Postage	Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	ASR Fee	ASRD Fee	DC Fee	SC Fee	SH Fee	RD Fee	RR Fee
1.	Rosemary Alison Westervelt Unit 219 30 Lincoln Street Westbrook, ME 04092	.485	.47											
2.	Pamela Clark Unit 220 30 Lincoln Street Westbrook, ME 04092	"	"											
3.	Philip St Pierre Lucille St. Pierre 77 Mill Lane Westbrook, ME 04092	"	"											
4.	Westbrook Quick Mart LLC 925 Main Street Westbrook, ME 04092	"	"											
5.	Bradley G. Cordes 917 Main Street Unit 3 Westbrook, ME 04092	"	"											
6.	Nancy A. Litrocapes 917 Main Street Unit 2 Westbrook, ME 04092	"	"											
7.	Scott Maclean 917 Main Street Unit 1 Westbrook, ME 04092	"	"											
8.	Susan C. Hopkins Albert R. Gravinho Unit 210 30 Lincoln Street Westbrook, ME 04092	"	"											
Total Number of Pieces Listed by Sender: 8 Total Number of Pieces Received at Post Office: 8 Postmaster, Per (Name of receiving employee)														



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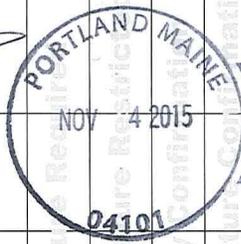
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1.	Pauline Rogers 42 Breton Street Westbrook, ME 04092	.485	.77											
2.	Nicholas Skinsacos, Jr. 764 Cumberland Street Westbrook, ME 04092	" "	" "											
3.	Thomas Foley Karen Foley 768 Cumberland Street Westbrook, ME 04092													
4.	Mark J. Perez 772 Cumberland Street Westbrook, ME 04092													
5.	Michelle Moreau 28 River Street Westbrook, ME 04092													
6.	Portland Water District PO Box 3553 Portland, ME 04104-3553													
7.	Jerrold B Chase Theresa A. Chase 26 Stillwater Drive Unit 11 Westbrook, ME 04092													
8.	David F. Creamer Jerri L. Creamer Unit 211 30 Lincoln Street Westbrook, ME 04092													



Total Number of Pieces Listed by Sender: 8  
Total Number of Pieces Received at Post Office: 6

Postmaster, or name of receiving employee

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1.	Marland E. Wing Schonen A. Wing 760 Cumberland Street Westbrook, ME 04092	.485	.47											
2.	Saco Valley Credit Union 26 Stillwater Drive Unit 39 Westbrook, ME 04092	"	"											
3.	Elaine Caron 9 Kennie Street Westbrook, ME 04092													
4.	David W. Sparks Paula J. Sparks 46 Rousseau Road Windham, ME 04062													
5.	Susan L. Carrier 10 Rangeley Road Windham, ME 04062													
6.	Joseph Lynch 2 Griffin Drive Windham, ME 04062													
7.	Eric Tomkus Trisha Tomkus 1 Griffin Drive Windham, ME 04062													
8.	Eric M. Goodale Christa C. Roddy Unit 213 30 Lincoln Street Westbrook, ME 04092													
Total Number of Pieces Listed by Sender: 8 Total Number of Pieces Received at Post Office: 7		Postmaster (Name of receiving employee)												



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Name and Address of Sender

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1.	Paul K. Difazio PO Box 8553 Portland, ME 04104	.485	.47											
2.	Steven R. Melanson Theresa M. Melanson 6 Rangeley Road Windham, ME 04062	"	"											
3.	Bruce I Elder c/o Bruce & Cynthia Elder 7/15 4 Atrium Drive Windham, ME 04062	"	"											
4.	Tanguay Family Irrevocable Trust c/o Robert Tanguay 8 Tanguay Lane Windham, ME 04062	"	"											
5.	Jason and Rebecca Palmer 40 River Road Windham, ME 04062	"	"											
6.	Beasley E. Edwards Helen Edwards 19 Yellowbird Lane Windham, ME 04062	"	"											
7.	Ann Elder Berry Bruce I Elder 57 River Road Windham, ME 04062	"	"											
8.	Onile Larrivee Dawna Larrivee 68 River Road Windham, ME 04062	"	"											



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1.	Gordon E. Viola Maria K. Viola 2 Rangeley Road Windham, ME 04062	485	47											
2.	Robert W. Weston Mary T. Weston 50 Rousseau Road Windham, ME 04062	" "	" "											
3.	Maine Department of Transportation 16 State House Station Augusta, ME 04333													
4.	Michael Tevanian 100 River Road Windham, ME 04062													
5.	Harry Carlin 114 River Road Windham, ME 04062													
6.	Vaughn W. Staples 9 Staples Road, Windham, ME 04062													
7.	Anthony M. Vance Tracy L. Vance 4 Raspberry Way Windham, ME 04062													
8.	Beverly Lord Hillman E. Lord, Trustees John Anderson Lord Trust 410 North Lake Sybelia Drive Mateland, FL 32751													
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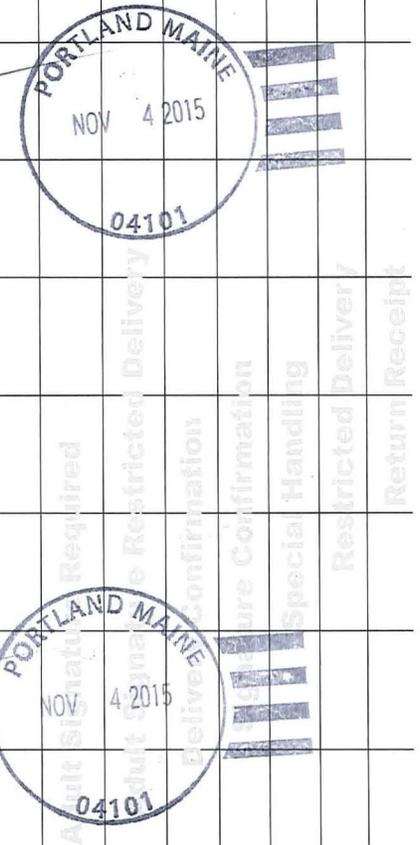
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1. <i>Dianne Ursia</i>	Richard R. Boulanger Norma L. Boulanger 13 Trestle Way Windham, ME 04062	.485	.47											
2. " "	State Reformatory 17 Mallison Falls Road Windham, ME 04062	"	"											
3.	Buker Enterprises LLC 430 Northeast Road Standish, ME 04084													
4.	James and Jacqueline Fitzgerald 130 River Road Windham, ME 04062													
5.	Keddy Mill Enterprises, LLC PO Box 4787 Portland, ME 04112													
6.	Town of Windham 8 Main Street Windham, ME 04062													
7.	Donald P. Dickinson Elaine A. Dickinson 93 River Road Windham, ME 04062													
8.	Lorraine L. Jonassen 859 Gray Road Gorham, ME 04038													
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1. <i>Dianne Ursic</i>	Matthew H. Plummer 37 Brookwood Drive Gorham, ME 04038	<i>.485</i>	<i>.47</i>										
2. <i>" "</i>	Victor A. Tedford Rosemary A. Tedford 9 Hawkes Way Gorham, ME 04038	<i>" "</i>	<i>" "</i>										
3.	John Williams 26 Mosher Road Gorham, ME 04038												
4.	Craig Stirling Debora E. Stirling 33 Canal Street Gorham, ME 04038												
5.	Dan Bowler Linda Bowler 160 Mosher Road Gorham, ME 04038												
6.	Claude F. Daigle Living Trust 101 Sebago Lake Road Gorham, ME 04038												
7.	Philip C. Mason Ann M Mason 59 Hayfield Road Gorham, ME 04038												
8.	Grondin Properties, LLC 11 Bartlett Road Gorham, ME 04038												
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1. <i>Dianne Ursia</i>	ecomaine 64 Blueberry Road Portland, ME 04102	<i>.485</i>	<i>.47</i>											
2. " "	Alexander F. Mccann 847 Gray Road Gorham, ME 04083	"	"											
3.	Dawn M. Dibiase Edward J. Dibiase 15 Robinson Court Westbrook, ME 04092													
4.	Simona Shores Gorham LLC PO Box 7332 Portland, ME 04112													
5.	John Williams 26 Mosher Road Gorham, ME 04083													
6.	Dan Bowler Linda Bowler 160 Mosher Road Gorham, ME 04038													
7.	Gladys Libby 224 Mosher Road Gorham, ME 04038													
8.	Roger P. Mason Philip C. Mason 284 Mosher Road Gorham, ME 04038													



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1.	Abbott W. Mosher Kay D. Mosher 294 Mosher Road Gorham, ME 04038	.485	.47		
2.	Albert E. Mosher Lorraine M. Mosher, Trustees 424 Mosher Road Gorham, ME 04038	.485	.47		
3.	Stephen P. Rines 29 Smith Road Gorham, ME 04038	.485	.47		
4.	City of Westbrook 2 York Street Westbrook, ME 04092	.485	.47		
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Dianne Vraga

" "



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### **III. MWDCa ADDENDUM TO HYDROPOWER PROJECT APPLICATIONS**

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#### **REVIEW STANDARDS FOR EARTHFILL COFFERDAMS**

This portion of the MWDCa Permit Application is not applicable to the Saccarappa Project, as Warren does not intend to use conventional earthfill cofferdams at the project site. Instead, Warren is proposing the use of sandbag cofferdams and cellular cofferdams, as well as the use of clean stone fill to construct temporary wet roads to access the construction site.

The addendum to the MWDCa application appears to contemplate the use of earthen cofferdams constructed using erodible soils that are exposed to or deposited into flowing water. That is not the case with this project. Details of the proposed cofferdams, wet roads, and other temporary facilities below the high water line of the river that are required for construction of the project are presented on Sheet 12: Coffe Dam/Dewatering Construction Plan in Section IV.6.0 Project Plans of this document.

## APPENDICES

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# sappi

Inspired by life



## living with sappi

**FOURTH QUARTER RESULTS**  
for the period ended September 2015



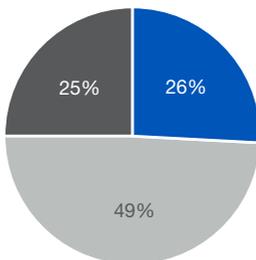
# 4th quarter results

Sappi works closely with customers, both direct and indirect, in over 160 countries to provide them with relevant and sustainable paper, paper pulp and dissolving wood pulp products and related services and innovations.

Our market-leading range of paper products includes: coated fine papers used by printers, publishers and corporate end-users in the production of books, brochures, magazines, catalogues, direct mail and many other print applications; casting release papers used by suppliers to the fashion, textiles, automobile and household industries; and in our Southern African region, newsprint, uncoated graphic and business papers, premium-quality packaging papers, paper-grade pulp and dissolving wood pulp.

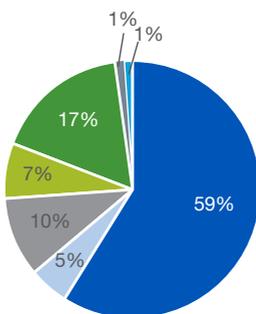
Our dissolving wood pulp products are used worldwide by converters to create viscose fibre, acetate tow, pharmaceutical products as well as a wide range of consumer products.

The pulp needed for our products is either produced within Sappi or bought from accredited suppliers. Across the group, Sappi is close to 'pulp neutral', meaning that we sell almost as much pulp as we buy.



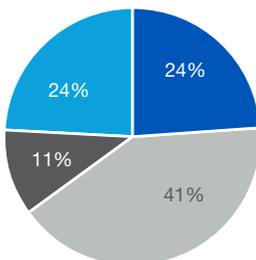
**\*Sales by source**

- North America
- Europe
- Southern Africa



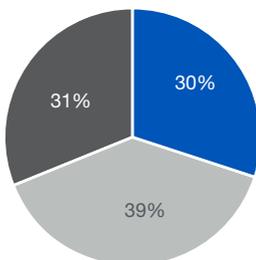
**\*Sales by product**

- Coated paper
- Uncoated paper
- Speciality paper
- Commodity paper
- Dissolving wood pulp
- Paper pulp
- Other



**\*Sales by destination**

- North America
- Europe
- Southern Africa
- Asia and other



**\*\*Net operating assets**

- North America
- Europe
- Southern Africa

\* for the period ended September 2015

\*\* as at September 2015

## Highlights for the quarter

- EPS excluding special items  
16 US cents (Q4 FY14 12 US cents)
- EBITDA excluding special items  
US\$201 million (Q4 FY14 US\$200 million)
- Profit for the period  
US\$83 million (Q4 FY14 US\$68 million)

## Highlights for the year

- EPS excluding special items  
34 US cents (FY14 22 US cents)
- EBITDA excluding special items  
US\$625 million (FY14 US\$658 million)
- Profit for the period  
US\$167 million (FY14 US\$135 million)
- Net debt US\$1,771 million, down  
US\$175 million year-on-year

	Quarter ended			Year ended	
	Sept 2015	Sept 2014	Jun 2015	Sept 2015	Sept 2014
<b>Key figures: (US\$ million)</b>					
Sales	<b>1,403</b>	1,505	1,272	<b>5,390</b>	6,061
Operating profit excluding special items <sup>(1)</sup>	<b>136</b>	124	43	<b>357</b>	346
Special items – losses (gains) <sup>(2)</sup>	<b>1</b>	48	8	<b>(54)</b>	32
EBITDA excluding special items <sup>(1)</sup>	<b>201</b>	200	109	<b>625</b>	658
Profit for the period	<b>83</b>	68	4	<b>167</b>	135
Basic earnings per share (US cents)	<b>16</b>	13	1	<b>32</b>	26
EPS excluding special items (US cents) <sup>(3)</sup>	<b>16</b>	12	2	<b>34</b>	22
Net debt <sup>(4)</sup>	<b>1,771</b>	1,946	1,917	<b>1,771</b>	1,946
<b>Key ratios: (%)</b>					
Operating profit excluding special items to sales	<b>9.7</b>	8.2	3.4	<b>6.6</b>	5.7
Operating profit excluding special items to capital employed (ROCE) <sup>(3)</sup>	<b>18.7</b>	15.4	5.7	<b>12.4</b>	10.8
EBITDA excluding special items to sales	<b>14.3</b>	13.3	8.6	<b>11.6</b>	10.9
Return on average equity (ROE) <sup>(3)</sup>	<b>31.1</b>	24.7	1.4	<b>16.2</b>	12.3
Net debt to total capitalisation <sup>(3)</sup>	<b>63.6</b>	65.1	63.1	<b>63.6</b>	65.1
Net asset value per share (US cents)	<b>193</b>	199	213	<b>193</b>	199

(1) Refer to page 19, note 10 to the group results for the reconciliation of EBITDA excluding special items and operating profit excluding special items to segment operating profit, and profit for the period.

(2) Refer to page 19, note 10 to the group results for details on special items.

(3) Refer to page 21, supplemental information for the definition of the term.

(4) Refer to page 22, supplemental information for the reconciliation of net debt to interest-bearing borrowings.

## Commentary on the quarter

All regions increased their profitability during the fourth quarter. In addition to stronger seasonal demand, the markets for graphic paper and dissolving wood pulp have improved since the third quarter. The group generated EBITDA, excluding special items, of US\$201 million and operating profit, excluding special items, of US\$136 million, both above the equivalent prior year quarter. This was despite the translation impact of a weaker Euro on EBITDA of US\$10 million. Profit for the period increased by 22% to US\$83 million due to the higher operating profits and lower interest costs.

US Dollar spot prices for dissolving wood pulp in China have risen steadily in recent months, driven by improved conditions for viscose staple fibre. This impact, combined with the weaker ZAR/USD exchange rate, contributed towards the Specialised Cellulose business generating improved returns during the quarter, with EBITDA excluding special items of US\$90 million.

The European business was adversely affected by increased pulp prices, but demand for coated paper was solid and helped offset the variable cost pressures when compared to the equivalent quarter last year. In addition, the profitability of the speciality packaging business continues to improve.

The coated paper market in North America remains challenging and the business continues to experience significant pressure as a result of the stronger US Dollar. However, a number of actions to regain sales volumes and to lower costs have resulted in a much improved result in this seasonally stronger quarter.

Strong containerboard demand combined with excellent variable cost control enabled the South African packaging business to continue its trend of improving performance.

Earnings per share excluding special items for the quarter was 16 US cents, an improvement over the 12 US cents generated in the equivalent quarter last year.

## Year ended September 2015 compared to year ended September 2014

The execution of our strategy delivered significantly higher earnings in 2015. The refinancing of the higher cost debt and the continued reduction in net debt resulted in significantly lower ongoing interest charges. The completion of a number of major capital projects in Europe and North America will lower our cost base further in the coming years.

The group's EBITDA excluding special items was US\$625 million, a decrease of US\$33 million compared to the prior year, with improved operating performances in each of the regions in their underlying currencies. The translation of the European results to US Dollars negatively impacted the group EBITDA by US\$36 million for the year. Operating profit excluding special items for the year was US\$357 million compared to US\$346 million in the prior year. Special items amounted to a gain of US\$54 million, and comprised mainly of gains from the transfer of the Sappi Dutch pension fund to a general fund and plantation fair value pricing, offset by once-off losses resulting from mechanical breakdowns and plantation fires.

Net finance costs for the year were US\$182 million, an increase from the US\$177 million in the prior year as a result of one-time charges of US\$61 million associated with the refinancing of the 2018 and 2019 bonds.

Net profit for the year increased by 24% to US\$167 million.

## Cash flow and debt

Net cash generated for the quarter was US\$159 million, compared with US\$288 million in the equivalent quarter last year. The comparative period last year included proceeds from the sale of the Usutu forests of approximately ZAR1 billion (US\$97 million). Capital expenditure in the quarter was US\$85 million compared to US\$105 million a year ago.

Net cash generated for the financial year was US\$145 million, following the US\$243 million generated last year, which included the proceeds from the sale of the Usutu forests.

Net debt at financial year-end decreased to US\$1,771 million as a result of the cash generated and gains on the translation of Euro-denominated debt.

At the end of September 2015, liquidity comprised cash on hand of US\$456 million and US\$537 million from the committed revolving credit facilities in South Africa and Europe.

## Operating review for the quarter

### Europe

	Quarter ended <b>Sept 2015</b> € million	Quarter ended Jun 2015 € million	Quarter ended Mar 2015 € million	Quarter ended Dec 2014 € million	Quarter ended Sept 2014 € million
Sales	<b>609</b>	567	590	547	561
Operating profit excluding special items	<b>23</b>	5	24	12	26
<i>Operating profit excluding special items to sales (%)</i>	<b>3.8</b>	0.9	4.1	2.2	4.6
EBITDA excluding special items	<b>51</b>	35	54	42	58
<i>EBITDA excluding special items to sales (%)</i>	<b>8.4</b>	6.2	9.2	7.7	10.3
<i>RONOA pa (%)</i>	<b>7.8</b>	1.7	8.0	4.0	8.6

During this seasonally stronger quarter, graphic paper sales volumes were 7% above those of the prior quarter and 5% above those of the equivalent quarter last year, with particular strength in the woodfree coated segment.

Average net sales prices in Euro were marginally up compared to the prior quarter and 4% higher than the equivalent quarter in the prior year, primarily due to the impact of the weaker Euro/Dollar exchange rate on export sales pricing and the graphic paper price increases implemented in the past quarter. Variable costs were 7% higher than the equivalent quarter last year, mainly due to increased paper pulp prices. Fixed costs were 2% lower than the equivalent quarter last year.

The speciality paper business continued to improve its sales volumes and prices compared to both the prior quarter and equivalent quarter last year.

## North America

	Quarter ended				
	Sept 2015	Jun 2015	Mar 2015	Dec 2014	Sept 2014
	US\$ million				
Sales	<b>369</b>	313	342	353	390
Operating profit (loss) excluding special items	<b>31</b>	(7)	7	(4)	25
<i>Operating profit (loss) excluding special items to sales (%)</i>	<b>8.4</b>	(2.2)	2.0	(1.1)	6.4
EBITDA excluding special items	<b>50</b>	11	26	15	43
<i>EBITDA excluding special items to sales (%)</i>	<b>13.6</b>	3.5	7.6	4.2	11.0
<i>RONOA pa (%)</i>	<b>12.2</b>	(2.7)	2.7	(1.6)	9.8

The North American business recovered in a seasonally stronger quarter that includes no scheduled maintenance shuts. This was despite the continued impact of the strong US Dollar on the graphic paper markets in the US. Coated paper demand was initially slower than expected, although orders picked up during August and September. Coated paper sales volumes were flat year-on-year, with net sales prices slightly lower.

Dissolving wood pulp sales volumes were higher than the prior quarter, with improved pricing being driven by a recovery in viscose staple fibre prices. We continue to produce own-make fibre for the paper machines at Cloquet in order to improve profitability in this period of high hardwood paper pulp prices.

The release paper business continued to experience weak demand from China, with the strong US Dollar/Euro exchange rate impacting European pricing.

Variable costs were lower than the equivalent quarter last year, mainly as a result of lower chemical costs. Wood costs, though still high, have declined in recent months and wood inventory levels are returning to historical norms. Fixed costs remain tightly controlled and were slightly lower than those of the equivalent quarter last year.

## Southern Africa

	Quarter ended				
	Sept 2015	Jun 2015	Mar 2015	Dec 2014	Sept 2014
	ZAR million				
Sales	<b>4 556</b>	4 002	3 817	3 812	3 972
Operating profit excluding special items	<b>1 047</b>	538	772	706	634
<i>Operating profit excluding special items to sales (%)</i>	<b>23.0</b>	13.4	20.2	18.5	16.0
EBITDA excluding special items	<b>1 228</b>	707	947	863	827
<i>EBITDA excluding special items to sales (%)</i>	<b>27.0</b>	17.7	24.8	22.6	20.8
<i>RONOA pa (%)</i>	<b>28.1</b>	14.3	20.4	19.1	16.7

The Southern African business achieved higher average prices and volumes compared to both the equivalent quarter last year and the prior quarter. Demand for virgin fibre paper packaging grades remains good, and the recycled containerboard market showed signs of improvement.

Dissolving wood pulp pricing was positively impacted by higher US Dollar prices in China as well as the weaker Rand/US Dollar exchange rate. Demand remained strong and sales volumes were higher than both the prior quarter and the equivalent quarter last year.

Variable costs remain well controlled and were flat year-on-year, with lower energy and chemical costs offsetting increased fibre costs. Fixed costs were also below those of last year.

Post quarter-end, we received approval from the Competition Commission authorities for the sale of the Enstra and Cape Kraft mills. Both transactions are expected to be realised by December 2015.

## Directorate

Post quarter-end we announced the retirement of Dr Danie Cronjé as independent Chairman of the board at the end of February 2016. Sir Nigel Rudd, currently the lead independent director, will succeed Dr Cronjé as independent Chairman of the company with effect from 01 March 2016. We further announced the appointment of Mr Rob Jan Renders as independent non-executive director to the board of directors of Sappi Limited with effect from 01 October 2015.

## Outlook

Dissolving wood pulp markets have improved this year as a result of higher pricing and improved operating rates for viscose staple fibre in China. Higher hardwood paper pulp prices are also impacting dissolving wood pulp supply as some swing producers continue to manufacture paper pulp rather than dissolving wood pulp.

Graphic paper markets in Europe are slightly better than anticipated, albeit they are still expected to decline. Production at our mills is full and export pricing is benefiting from a weaker Euro. However, the business faces pressure from higher pulp prices. In North America, the strong US Dollar continues to impact graphic paper trade flows negatively.

We expect the first quarter to show an improvement in EBITDA excluding special items and a substantial increase in earnings per share excluding special items, compared to the equivalent quarter last year, as a result of improved operating performance and lower interest charges. However, a severe drought is currently being experienced in many parts of South Africa and may adversely impact our mill production and consequent profitability, should normal summer rainfall not be forthcoming.

Based on current market conditions, and assuming current exchange rates, we expect that EBITDA excluding special items in the 2016 financial year will be higher than 2015. As a result of lower expected interest costs, offset somewhat by increased cash taxes, we expect strong growth in our earnings per share excluding special items.

Capex during 2016 is expected to be in line with 2015 and is focused largely on energy and debottlenecking projects in South Africa, together with the annual maintenance at the mills.

Depending on market conditions, we are considering utilising some of our cash reserves to repay and refinance a portion of our debt in order to lower our future interest costs. We expect to reduce our net debt further over the course of the year and reduce our financial leverage towards our target of two times net debt to EBITDA.

On behalf of the board

**S R Binnie**  
*Director*

**G T Pearce**  
*Director*

12 November 2015

## Forward-looking statements

Certain statements in this release that are neither reported financial results nor other historical information, are forward-looking statements, including, but not limited to, statements that are predictions of or indicate future earnings, savings, synergies, events, trends, plans or objectives. The words “believe”, “anticipate”, “expect”, “intend”, “estimate”, “plan”, “assume”, “positioned”, “will”, “may”, “should”, “risk” and other similar expressions, which are predictions of or indicate future events and future trends and which do not relate to historical matters, may be used to identify forward-looking statements. You should not rely on forward-looking statements because they involve known and unknown risks, uncertainties and other factors which are in some cases beyond our control and may cause our actual results, performance or achievements to differ materially from anticipated future results, performance or achievements expressed or implied by such forward-looking statements (and from past results, performance or achievements). Certain factors that may cause such differences include, but are not limited to:

- the highly cyclical nature of the pulp and paper industry (and the factors that contribute to such cyclicity, such as levels of demand, production capacity, production, input costs including raw material, energy and employee costs, and pricing);
- the impact on our business of a global economic downturn;
- unanticipated production disruptions (including as a result of planned or unexpected power outages);
- changes in environmental, tax and other laws and regulations;
- adverse changes in the markets for our products;
- the emergence of new technologies and changes in consumer trends, including increased preferences for digital media;
- consequences of our leverage, including as a result of adverse changes in credit markets that affect our ability to raise capital when needed;
- adverse changes in the political situation and economy in the countries in which we operate or the effect of governmental efforts to address present or future economic or social problems;
- the impact of restructurings, investments, acquisitions, dispositions and other strategic initiatives (including related financing), any delays, unexpected costs or other problems experienced in connection with dispositions or with integrating acquisitions or implementing restructuring and other strategic initiatives and achieving expected savings and synergies; and
- currency fluctuations.

We undertake no obligation to publicly update or revise any of these forward-looking statements, whether to reflect new information or future events or circumstances or otherwise.

## Condensed group income statement

	Quarter ended	Quarter ended	Reviewed Year ended	Reviewed Year ended
	<b>Sept 2015</b>	Sept 2014	<b>Sept 2015</b>	Sept 2014
Note	<b>US\$ million</b>	US\$ million	<b>US\$ million</b>	US\$ million
<b>Sales</b>	<b>1,403</b>	1,505	<b>5,390</b>	6,061
Cost of sales	<b>1,170</b>	1,326	<b>4,693</b>	5,370
Gross profit	<b>233</b>	179	<b>697</b>	691
Selling, general and administrative expenses	<b>86</b>	69	<b>333</b>	352
Other operating expenses (income)	<b>13</b>	36	<b>(35)</b>	33
Share of profit from equity investments	<b>(1)</b>	(2)	<b>(12)</b>	(8)
<b>Operating profit</b>	<b>135</b>	76	<b>411</b>	314
Net finance costs	<b>25</b>	39	<b>182</b>	177
Net interest expense	<b>27</b>	45	<b>180</b>	185
Net foreign exchange gain	<b>(2)</b>	(3)	<b>(11)</b>	(7)
Net fair value (gain) loss on financial instruments	<b>-</b>	(3)	<b>13</b>	(1)
<b>Profit before taxation</b>	<b>110</b>	37	<b>229</b>	137
Taxation	<b>27</b>	(31)	<b>62</b>	2
<b>Profit for the period</b>	<b>83</b>	68	<b>167</b>	135
<b>Basic earnings per share (US cents)</b>	<b>16</b>	13	<b>32</b>	26
Weighted average number of shares in issue (millions)	<b>526.4</b>	523.3	<b>525.7</b>	522.5
<b>Diluted earnings per share (US cents)</b>	<b>16</b>	13	<b>31</b>	26
Weighted average number of shares on fully diluted basis (millions)	<b>531.5</b>	529.1	<b>531.2</b>	526.6

## Condensed group statement of comprehensive income

	Quarter ended	Quarter ended	Reviewed Year ended	Reviewed Year ended
	Sept 2015	Sept 2014	Sept 2015	Sept 2014
	US\$ million	US\$ million	US\$ million	US\$ million
Profit for the period	83	68	167	135
<b>Other comprehensive income (loss), net of tax</b>				
<i>Items that will not be reclassified subsequently to profit or loss</i>				
Actuarial losses on post-employment benefit funds	(86)	(152)	(96)	(152)
Tax effect of above item	33	–	33	–
<i>Items that must be reclassified subsequently to profit or loss</i>				
Exchange differences on translation of foreign operations	(138)	(14)	(148)	(71)
Movements in hedging reserves	2	(26)	4	(23)
Movement on available for sale financial assets	(1)	–	(1)	(2)
Tax effect of above items	–	1	–	1
<b>Total comprehensive loss for the period</b>	<b>(107)</b>	<b>(123)</b>	<b>(41)</b>	<b>(112)</b>



## Condensed group balance sheet

	Reviewed Sept 2015 US\$ million	Reviewed Sept 2014 US\$ million
<b>ASSETS</b>		
<b>Non-current assets</b>	<b>3,174</b>	3,505
Property, plant and equipment	2,508	2,841
Plantations	383	430
Deferred tax assets	162	138
Other non-current assets	121	96
<b>Current assets</b>	<b>1,711</b>	1,960
Inventories	595	687
Trade and other receivables	650	731
Taxation receivable	10	14
Cash and cash equivalents	456	528
Assets held for sale	28	–
<b>Total assets</b>	<b>4,913</b>	5,465
<b>EQUITY AND LIABILITIES</b>		
<b>Shareholders' equity</b>		
Ordinary shareholders' interest	1,015	1,044
<b>Non-current liabilities</b>	<b>2,806</b>	3,198
Interest-bearing borrowings	2,031	2,311
Deferred tax liabilities	245	272
Other non-current liabilities	530	615
<b>Current liabilities</b>	<b>1,091</b>	1,223
Interest-bearing borrowings	196	163
Other current liabilities	865	1,035
Taxation payable	30	25
Liabilities associated with assets held for sale	1	–
<b>Total equity and liabilities</b>	<b>4,913</b>	5,465
Number of shares in issue at balance sheet date (millions)	526.4	524.2

## Condensed group statement of cash flows

	Quarter ended	Quarter ended	Reviewed year ended	Reviewed year ended
	Sept 2015	Sept 2014	Sept 2015	Sept 2014
	US\$ million	US\$ million	US\$ million	US\$ million
<b>Profit for the period</b>	<b>83</b>	68	<b>167</b>	135
<i>Adjustment for:</i>				
Depreciation, fellings and amortisation	78	90	325	371
Taxation	27	(31)	62	2
Net finance costs	25	39	182	177
Defined post-employment benefits paid	(10)	(13)	(56)	(70)
Plantation fair value adjustments	(37)	(16)	(106)	(86)
Net restructuring provisions and loss on disposal of assets and businesses	2	26	6	23
Non-cash employee benefit liability settlement	1	–	(68)	–
Other non-cash items	12	(3)	32	14
<b>Cash generated from operations</b>	<b>181</b>	160	<b>544</b>	566
Movement in working capital	86	153	(11)	34
Net finance costs paid	(24)	(26)	(135)	(162)
Taxation paid	–	–	(16)	(1)
<b>Cash generated from operating activities</b>	<b>243</b>	287	<b>382</b>	437
<b>Cash utilised in investing activities</b>	<b>(84)</b>	1	<b>(237)</b>	(194)
Capital expenditure	(85)	(105)	(248)	(295)
Cash flows on disposal of assets and businesses	1	97	1	87
Other movements	–	9	10	14
<b>Net cash generated</b>	<b>159</b>	288	<b>145</b>	243
<b>Cash effects of financing activities</b>	<b>(17)</b>	24	<b>(127)</b>	(36)
<b>Net movement in cash and cash equivalents</b>	<b>142</b>	312	<b>18</b>	207
Cash and cash equivalents at beginning of period	351	248	528	352
Translation effects	(37)	(32)	(90)	(31)
<b>Cash and cash equivalents at end of period</b>	<b>456</b>	528	<b>456</b>	528

## Condensed group statement of changes in equity

	Reviewed Year ended	Reviewed Year ended
	Sept 2015	Sept 2014
	US\$ million	US\$ million
Balance – beginning of period	1,044	1,144
Total comprehensive loss for the period	(41)	(112)
Transfers from the share purchase trust	10	12
Transfers of vested share options	(5)	(7)
Share-based payment reserve	7	7
<b>Balance – end of period</b>	<b>1,015</b>	1,044

## Notes to the condensed group results

### 1. Basis of preparation

The condensed consolidated preliminary financial statements for the year ended September 2015 have been prepared in accordance with the Listings Requirements of the JSE Limited, International Financial Reporting Standard, IAS 34 *Interim Financial Reporting*, the SAICA Financial Reporting Guides as issued by the Accounting Practices Committee and Financial Pronouncements as issued by Financial Reporting Standards Council and the requirements of the Companies Act of South Africa. The accounting policies applied in the preparation of these preliminary financial statements are in terms of International Financial Reporting Standards and are consistent with those applied in the previous annual financial statements.

The preparation of these preliminary condensed consolidated financial statements was supervised by the Chief Financial Officer, G T Pearce, CA(SA).

The preliminary financial statements for the year ended September 2015 as set out on pages 8 to 20 have been reviewed in accordance with the International Standard on Review Engagements 2410 by the group's auditors, Deloitte & Touche. Their unmodified review report is available for inspection at the company's registered office. The auditor's report does not necessarily report on all of the information contained in this announcement/financial results. Shareholders are therefore advised that in order to obtain a full understanding of the nature of the auditor's engagement they should obtain a copy of the auditor's report together with the accompanying financial information from the issuer's registered office. Any reference to future financial performance included in this announcement, has not been reviewed or reported on by the company's auditors.

	Quarter ended	Quarter ended	Reviewed Year ended	Reviewed Year ended
	Sept 2015	Sept 2014	Sept 2015	Sept 2014
	US\$ million	US\$ million	US\$ million	US\$ million
<b>2. Operating profit</b>				
Included in operating profit are the following items:				
Depreciation and amortisation	65	76	268	312
Fair value adjustment on plantations (included in cost of sales)				
Changes in volume				
Fellings	13	14	57	59
Growth	(15)	(16)	(65)	(68)
	(2)	(2)	(8)	(9)
Plantation price fair value adjustment	(22)	-	(41)	(18)
	(24)	(2)	(49)	(27)
Net restructuring provisions and loss on disposal of assets and businesses	2	26	6	23
Impairment of goodwill	-	1	-	1
Asset impairments	-	3	-	-
Employee benefit liability settlement	1	(21)	(68)	(21)
Black Economic Empowerment charge	1	-	2	2

	Quarter ended	Quarter ended	Reviewed Year ended	Reviewed Year ended
	Sept 2015	Sept 2014	Sept 2015	Sept 2014
	US\$ million	US\$ million	US\$ million	US\$ million
<b>3. Earnings per share</b>				
Basic earnings per share (US cents)	16	13	32	26
Headline earnings per share (US cents)	16	14	32	31
EPS excluding special items (US cents)	16	12	34	22
Weighted average number of shares in issue (millions)	526.4	523.3	525.7	522.5
Diluted earnings per share (US cents)	16	13	31	26
Diluted headline earnings per share (US cents)	16	14	31	31
Weighted average number of shares on fully diluted basis (millions)	531.5	529.1	531.2	526.6
<b>Calculation of headline earnings</b>				
Profit for the period	83	68	167	135
Asset impairments	–	3	–	–
Loss on disposal of assets and businesses	–	4	–	29
Impairment of goodwill	–	1	–	1
Tax effect of above items	–	(2)	–	(1)
<b>Headline earnings</b>	<b>83</b>	74	<b>167</b>	164
<b>Calculation of earnings excluding special items</b>				
Profit for the period	83	68	167	135
Special items after tax	4	47	(47)	31
Special items	1	48	(54)	32
Tax effect	3	(1)	7	(1)
Refinancing costs	(2)	–	61	–
Recognition of deferred tax asset	–	(53)	–	(53)
<b>Earnings excluding special items</b>	<b>85</b>	62	<b>181</b>	113

	Reviewed Sept 2015 US\$ million	Reviewed Sept 2014 US\$ million
<b>4. Capital commitments</b>		
Contracted	60	104
Approved but not contracted	73	126
	<b>133</b>	230
<b>5. Contingent liabilities</b>		
Guarantees and suretyships	13	23
Other contingent liabilities	11	26
	<b>24</b>	49

#### 6. Plantations

Plantations are stated at fair value less estimated cost to sell at the harvesting stage. In arriving at plantation fair values, the key assumptions are estimated prices less cost of delivery, discount rates (pre-tax weighted average cost of capital), and volume and growth estimations.

Expected future price trends and recent market transactions involving comparable plantations are also considered in estimating fair value. Mature timber that is expected to be felled within 12 months from the end of the reporting period are valued using unadjusted current market prices. Immature timber and mature timber that is to be felled in more than 12 months from the reporting date are valued using a 12 quarter rolling historical average price which, taking the length of the growth cycle of a plantation into account, is considered reasonable.

The fair value of plantations is a Level 3 measure in terms of the fair value measurement hierarchy as established by IFRS 13 *Fair Value Measurement*.

	Reviewed Year ended Sept 2015 US\$ million	Reviewed Year ended Sept 2014 US\$ million
Fair value of plantations at beginning of year	430	464
Gains arising from growth	65	65
Fire, flood, storms and related events	(7)	–
In-field inventory	(1)	(1)
Gain arising from fair value price changes	41	7
Harvesting – agriculture produce (fellings)	(57)	(57)
Translation difference	(88)	(48)
<b>Fair value of plantations at end of period</b>	<b>383</b>	430

## 7. Financial instruments

The group's financial instruments that are measured at fair value on a recurring basis consist of cash and cash equivalents, derivative financial instruments and available for sale financial assets. These have been categorised in terms of the fair value measurement hierarchy as established by IFRS 13 *Fair Value Measurement* per the table below.

	Fair value hierarchy	Fair value <sup>(1)</sup>	
		Reviewed	Reviewed
		Sept 2015 US\$ million	Sept 2014 US\$ million
Available for sale assets	Level 1	8	10
Derivative financial assets	Level 2	46	13
Derivative financial liabilities	Level 2	5	59

(1) The fair value of the financial instruments are equal to their carrying value.

There have been no transfers of financial assets or financial liabilities between the categories of the fair value hierarchy.

The fair value of all external over-the-counter derivatives is calculated based on the discount rate adjustment technique. The discount rate used is derived from observable rates of return for comparable assets or liabilities traded in the market. The credit risk of the external counterparty is incorporated into the calculation of fair values of financial assets and own credit risk is incorporated in the measurement of financial liabilities. The change in fair value is therefore impacted by the move of the interest rate curves, by the volatility of the applied credit spreads, and by any changes to the credit profile of the involved parties.

There are no financial assets and liabilities that have been remeasured to fair value on a non-recurring basis.

The carrying amounts of other financial instruments which include accounts receivable, certain investments, accounts payable and current interest-bearing borrowings approximate their fair values.

## 8. Material balance sheet movements

Since the 2014 financial year-end, the ZAR and Euro have weakened by approximately 24% and 12% respectively to the US Dollar, the group's presentation currency, resulting in a similar decrease of the group's assets and liabilities held in the aforementioned functional currencies on translation to the presentation currency.

### **Deferred tax assets**

The increase is largely attributable to the deferred tax raised on actuarial losses incurred by our North American pension liability as a result of increased longevity.

### **Trade and other receivables, cash and cash equivalents and other current liabilities**

The decrease in trade and other receivables, cash and cash equivalents, and other current liabilities is largely attributable to seasonal working capital movements.

**Assets held for sale**

During the quarter, the group announced the sale of its Enstra and Cape Kraft mills. In accordance with the accounting standard, IFRS 5 *Non-current assets Held for Sale and Discontinued Operations*, the assets and associated liabilities of these entities have been separately classified on the condensed group balance sheet.

**Shareholders' equity**

Profit for the year of US\$167 million was offset by unrealised actuarial losses on post-employment benefit funds of US\$63 million and unrealised translation losses of US\$148 million largely from the weakening of the ZAR to the US Dollar.

**Interest-bearing borrowings**

In March 2015, the group placed an aggregate principal amount of US\$504 million (€450 million) senior secured notes due 2022 at a coupon of 3.375% per annum. In addition, the group increased its US\$392 million (€350 million) revolving credit facility to US\$521 million (€465 million) and extended the maturity date to March 2020. The proceeds of the new notes together with cash on hand and drawings of US\$112 million (€100 million) under the US\$521 million (€465 million) revolving credit facility were used to early redeem Sappi's US\$280 million (€250 million) senior secured notes due 2018 and the US\$300 million senior secured notes due 2019. As a result of the early redemption, once-off charges of US\$61 million (of which US\$10 million was non-cash), which includes the pre-arranged call premiums on the early redemption of the notes and the unwinding of an interest rate currency swap, were recorded in net finance costs.

During the financial year, the group utilised cash on hand of US\$54 million (ZAR750 million) to repay its South African bond due April 2015.

**Other non-current liabilities**

During the year, the group transferred one of its European defined benefit pension funds to an industry-wide pension fund which resulted in a net liability derecognition of US\$66 million (€59 million). This transfer, together with the translation effects of the abovementioned weaker currencies and the associated currency gains on certain hedging instruments were partially offset by actuarial losses incurred on the group's defined benefit obligations.

**9. Post balance sheet event**

During October 2015, Sappi Southern Africa received competition commission approval for both, the sale of our Enstra mill to the Corruseal Group and the sale of our Cape Kraft mill to the Golden Era Group. The Enstra sale was concluded on 02 November 2015 and the Cape Kraft sale is expected to be concluded by the end of November 2015.

## 10. Segment information

	Quarter ended	Quarter ended	Year ended	Year ended
	Sept 2015	Sept 2014	Sept 2015	Sept 2014
	Metric tons	Metric tons	Metric tons	Metric tons
	(000's)	(000's)	(000's)	(000's)
<b>Sales volume</b>				
North America	357	375	1,305	1,454
Europe	847	811	3,242	3,303
Southern Africa –	Pulp and paper	453	1,768	1,706
	Forestry	212	991	1,061
<b>Total</b>	<b>1,933</b>	1,851	<b>7,306</b>	7,524
Which consists of:				
Specialised cellulose	312	313	1,161	1,199
Paper	1,374	1,326	5,154	5,264
Forestry	247	212	991	1,061

	Quarter ended	Quarter ended	Reviewed Year ended	Reviewed Year ended
	Sept 2015	Sept 2014	Sept 2015	Sept 2014
	US\$ million	US\$ million	US\$ million	US\$ million
<b>Sales</b>				
North America	369	390	1,377	1,517
Europe	679	745	2,660	3,107
Southern Africa –	Pulp and paper	354	1,293	1,368
	Forestry	16	60	69
<b>Total</b>	<b>1,403</b>	1,505	<b>5,390</b>	6,061
Which consists of:				
Specialised cellulose	244	258	908	1,013
Paper	1,145	1,231	4,422	4,979
Forestry	14	16	60	69

	Quarter ended	Quarter ended	Reviewed Year ended	Reviewed Year ended
	Sept 2015	Sept 2014	Sept 2015	Sept 2014
	US\$ million	US\$ million	US\$ million	US\$ million
<b>Operating profit (loss) excluding special items</b>				
North America	31	25	27	18
Europe	25	36	73	75
Southern Africa	83	59	256	248
Unallocated and eliminations <sup>(1)</sup>	(3)	4	1	5
<b>Total</b>	<b>136</b>	124	<b>357</b>	346
Which consists of:				
Specialised cellulose	79	62	231	243
Paper	60	58	125	98
Unallocated and eliminations <sup>(1)</sup>	(3)	4	1	5
<b>Special items – losses (gains)</b>				
North America	–	–	–	2
Europe	4	37	(47)	33
Southern Africa	(12)	2	(27)	(12)
Unallocated and eliminations <sup>(1)</sup>	9	9	20	9
<b>Total</b>	<b>1</b>	48	<b>(54)</b>	32
<b>Segment operating profit (loss)</b>				
North America	31	25	27	16
Europe	21	(1)	120	42
Southern Africa	95	57	283	260
Unallocated and eliminations <sup>(1)</sup>	(12)	(5)	(19)	(4)
<b>Total</b>	<b>135</b>	76	<b>411</b>	314
<b>EBITDA excluding special items</b>				
North America	50	43	102	92
Europe	57	77	209	249
Southern Africa	97	77	313	312
Unallocated and eliminations <sup>(1)</sup>	(3)	3	1	5
<b>Total</b>	<b>201</b>	200	<b>625</b>	658
Which consists of:				
Specialised cellulose	90	77	281	303
Paper	114	120	343	350
Unallocated and eliminations <sup>(1)</sup>	(3)	3	1	5

(1) Includes the group's treasury operations and our insurance captive.

### Reconciliation of EBITDA excluding special items and operating profit excluding special items to segment operating profit and profit for the period

Special items cover those items which management believe are material by nature or amount to the operating results and require separate disclosure.

	Quarter ended	Quarter ended	Reviewed Year ended	Reviewed Year ended
	Sept 2015	Sept 2014	Sept 2015	Sept 2014
	US\$ million	US\$ million	US\$ million	US\$ million
<b>EBITDA excluding special items</b>	<b>201</b>	200	<b>625</b>	658
Depreciation and amortisation	(65)	(76)	(268)	(312)
<b>Operating profit excluding special items</b>	<b>136</b>	124	<b>357</b>	346
Special items – (losses) gains	(1)	(48)	54	(32)
Plantation price fair value adjustment	22	–	41	18
Net restructuring provisions and loss on disposal of assets and businesses	(2)	(26)	(6)	(23)
Impairment of goodwill	–	(1)	–	(1)
Asset impairments	–	(3)	–	–
Employee benefit liability settlement	(1)	–	55	–
Black Economic Empowerment charge	(1)	–	(2)	(2)
Fire, flood, storm and other events	(19)	(18)	(34)	(24)
<b>Segment operating profit</b>	<b>135</b>	76	<b>411</b>	314
Net finance costs	(25)	(39)	(182)	(177)
<b>Profit before taxation</b>	<b>110</b>	37	<b>229</b>	137
Taxation	(27)	31	(62)	(2)
<b>Profit for the period</b>	<b>83</b>	68	<b>167</b>	135



	Reviewed <b>Sept 2015</b> US\$ million	Reviewed Sept 2014 US\$ million
<b>Segment assets</b>		
North America	<b>1,007</b>	1,013
Europe	<b>1,313</b>	1,472
Southern Africa	<b>1,066</b>	1,289
Unallocated and eliminations <sup>(1)</sup>	<b>13</b>	(35)
<b>Total</b>	<b>3,399</b>	3,739
<b>Reconciliation of segment assets to total assets</b>		
<b>Segment assets</b>	<b>3,399</b>	3,739
Deferred taxation	<b>162</b>	138
Cash and cash equivalents	<b>456</b>	528
Other current liabilities	<b>865</b>	1,035
Taxation payable	<b>30</b>	25
Liabilities associated with assets held for sale	<b>1</b>	–
<b>Total assets</b>	<b>4,913</b>	5,465

(1) Includes the group's treasury operations and our insurance captive.

## Supplemental information *(this information has not been audited or reviewed)*

### General definitions

**Average** – averages are calculated as the sum of the opening and closing balances for the relevant period divided by two

**Black Economic Empowerment charge** – represents the IFRS 2 non-cash charge associated with the Black Economic Empowerment (BEE) transaction implemented in fiscal 2010 in terms of BEE legislation in South Africa

**Capital employed** – shareholders' equity plus net debt

**EBITDA excluding special items** – earnings before interest (net finance costs), taxation, depreciation, amortisation and special items

**EPS excluding special items** – earnings per share excluding special items and certain once-off finance and tax items

**Fellings** – the amount charged against the income statement representing the standing value of the plantations harvested

**Headline earnings** – as defined in circular 2/2013, reissued by the South African Institute of Chartered Accountants in December 2013, which separates from earnings all separately identifiable remeasurements. It is not necessarily a measure of sustainable earnings. It is a Listings Requirement of the JSE Limited to disclose headline earnings per share

**NBSK** – Northern Bleached Softwood Kraft pulp. One of the main varieties of market pulp, produced from coniferous trees (ie spruce, pine) in Scandinavia, Canada and northern USA. The price of NBSK is a benchmark widely used in the pulp and paper industry for comparative purposes

**Net assets** – total assets less total liabilities

**Net asset value per share** – net assets divided by the number of shares in issue at balance sheet date

**Net debt** – current and non-current interest-bearing borrowings, and bank overdrafts (net of cash, cash equivalents and short-term deposits)

**Net debt to total capitalisation** – net debt divided by capital employed

**Net operating assets** – total assets (excluding deferred tax assets and cash) less current liabilities (excluding interest-bearing borrowings and overdraft). Net operating assets equate to **segment assets**

### Non-GAAP measures

The group believes that it is useful to report certain non-GAAP measures for the following reasons:

- these measures are used by the group for internal performance analysis;
- the presentation by the group's reported business segments of these measures facilitates comparability with other companies in our industry, although the group's measures may not be comparable with similarly titled profit measurements reported by other companies; and
- it is useful in connection with discussion with the investment analyst community and debt rating agencies

These non-GAAP measures should not be considered in isolation or construed as a substitute for GAAP measures in accordance with IFRS

**ROCE** – annualised return on average capital employed. Operating profit excluding special items divided by average capital employed

**ROE** – annualised return on average equity. Profit for the period divided by average shareholders' equity

**RONOA** – return on average net operating assets. Operating profit excluding special items divided by average segment assets

**SG&A** – selling, general and administrative expenses

**Special items** – special items cover those items which management believe are material by nature or amount to the operating results and require separate disclosure. Such items would generally include profit or loss on disposal of property, investments and businesses, asset impairments, restructuring charges, non-recurring integration costs related to acquisitions, financial impacts of natural disasters, non-cash gains or losses on the price fair value adjustment of plantations and alternative fuel tax credits receivable in cash

*The above financial measures are presented to assist our shareholders and the investment community in interpreting our financial results. These financial measures are regularly used and compared between companies in our industry.*



## Supplemental information *(this information has not been audited or reviewed)*

### Summary Rand convenience translation

	Quarter ended	Quarter ended	Year ended	Year ended
	Sept 2015	Sept 2014	Sept 2015	Sept 2014
<b>Key figures: (ZAR million)</b>				
Sales	18,150	16,172	64,486	64,037
Operating profit excluding special items <sup>(1)</sup>	1,759	1,332	4,271	3,656
Special items – losses (gains) <sup>(1)</sup>	13	516	(646)	338
EBITDA excluding special items <sup>(1)</sup>	2,600	2,149	7,478	6,952
Profit for the period	1,074	731	1,998	1,426
Basic earnings per share (SA cents)	204	140	380	273
Net debt <sup>(1)</sup>	24,641	21,851	24,641	21,851
<b>Key ratios: (%)</b>				
Operating profit excluding special items to sales	9.7	8.2	6.6	5.7
Operating profit excluding special items to capital employed (ROCE) <sup>(1)</sup>	18.6	15.2	11.8	10.8
EBITDA excluding special items to sales	14.3	13.3	11.6	10.9
Return on average equity (ROE) <sup>(1)</sup>	30.9	24.4	15.5	12.3
Net debt to total capitalisation <sup>(1)</sup>	63.6	65.1	63.6	65.1

*(1) Refer to page 21, supplemental information for the definition of the term.*

*The above financial results have been translated into Rands from US Dollars as follows:*

- assets and liabilities at rates of exchange ruling at period end; and*
- income, expenditure and cash flow items at average exchange rates.*

### Reconciliation of net debt to interest-bearing borrowings

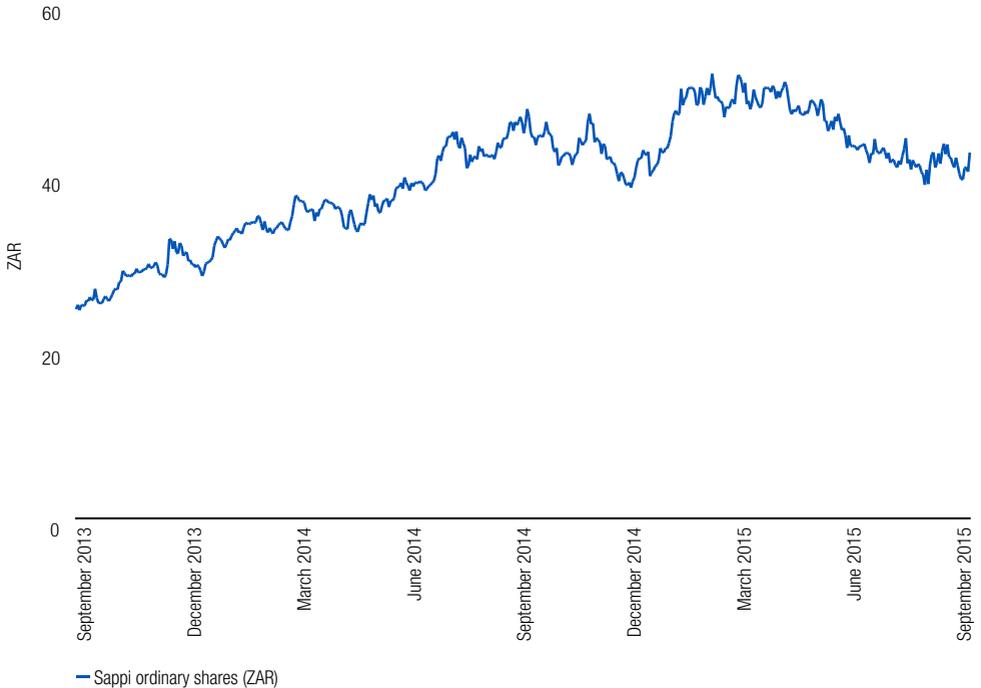
	Sept 2015	Sept 2014
	US\$ million	US\$ million
Interest-bearing borrowings	2,227	2,474
Non-current interest-bearing borrowings	2,031	2,311
Current interest-bearing borrowings	196	163
Cash and cash equivalents	(456)	(528)
<b>Net debt</b>	<b>1,771</b>	<b>1,946</b>

## Supplemental information *(this information has not been audited or reviewed)*

### Exchange rates

	Sept <b>2015</b>	Jun 2015	Mar 2015	Dec 2014	Sept 2014
Exchange rates:					
Period end rate: US\$1 = ZAR	<b>13.9135</b>	12.2025	12.0450	11.6001	11.2285
Average rate for the Quarter: US\$1 = ZAR	<b>12.9364</b>	12.0820	11.7236	11.2122	10.7456
Average rate for the YTD: US\$1 = ZAR	<b>11.9641</b>	11.6540	11.4552	11.2122	10.5655
Period end rate: €1 = US\$	<b>1.1195</b>	1.1166	1.0889	1.2177	1.2685
Average rate for the Quarter: €1 = US\$	<b>1.1125</b>	1.1060	1.1316	1.2504	1.3280
Average rate for the YTD: €1 = US\$	<b>1.1501</b>	1.1627	1.1910	1.2504	1.3577

### Sappi ordinary shares (JSE:SAP)





(Registration number 1936/008963/06)

Issuer Code: SAWVI

JSE Code: SAP

ISIN: ZAE000006284

Sappi has a primary listing on the JSE Limited and a Level 1 ADR programme that trades in the over-the-counter market in the United States

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