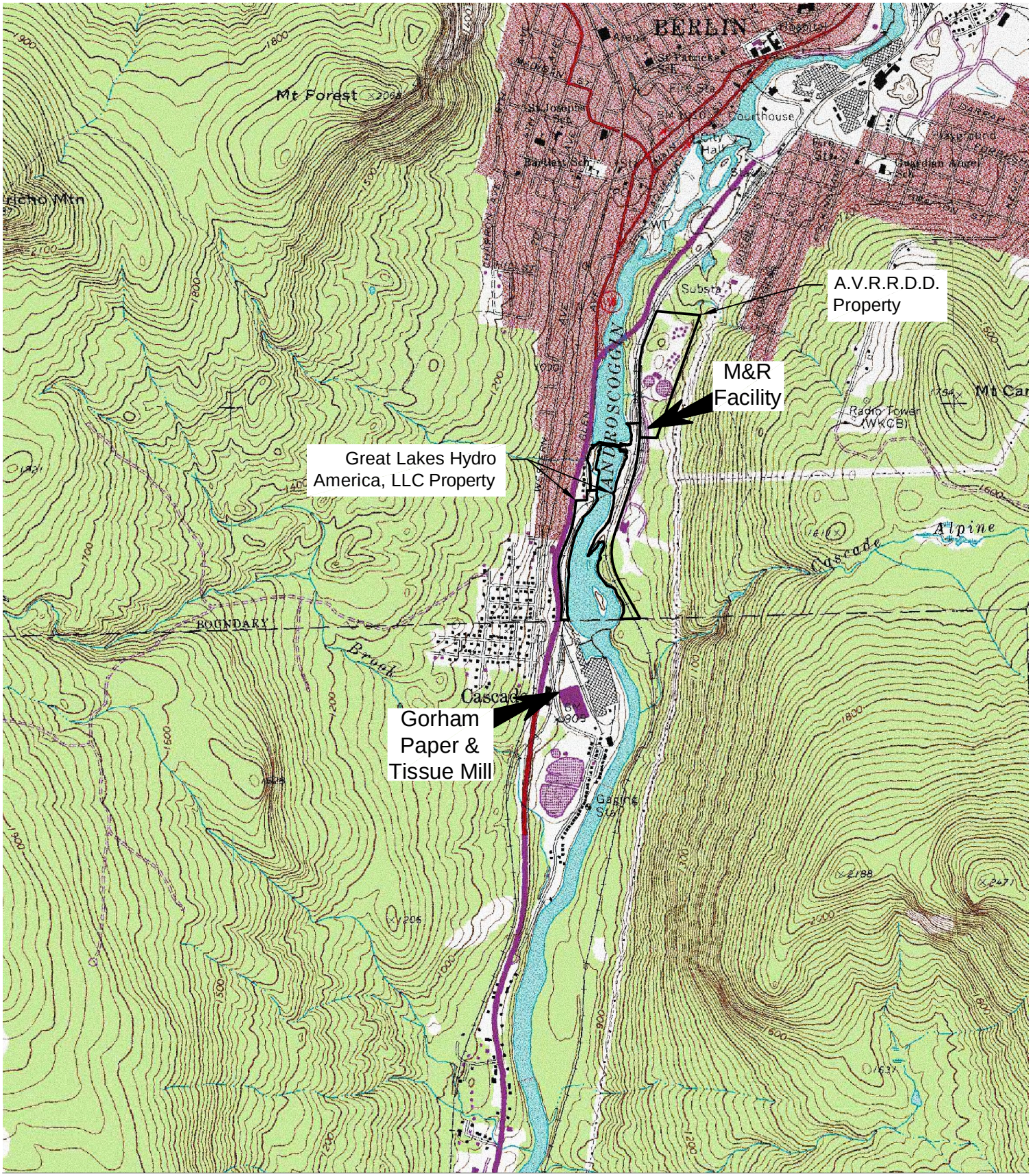


N
W E
S

Notes:
Base map taken from 7.5 minute USGS Quadrangle Map: Berlin, New Hampshire 1970 (photorevised 1989).

Drawn By: E. Wright
Designed By: K. Anderson
Reviewed By: E. Steinhauser
Project No: 3297.00
Date: July 2011

1000' 0 2000' Feet

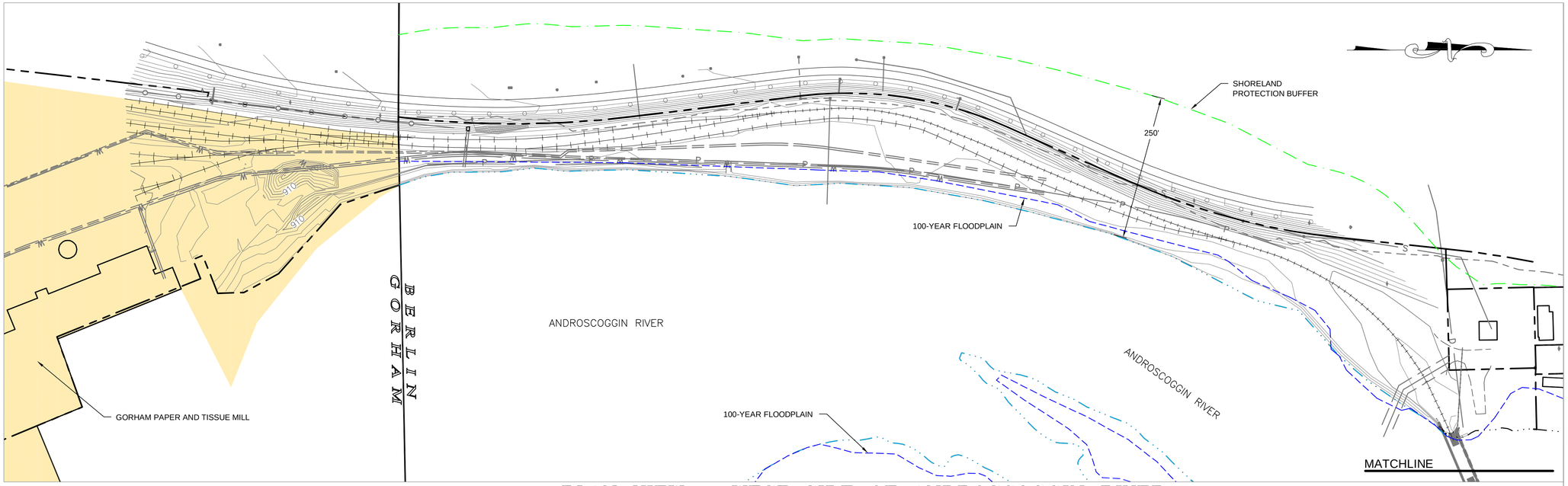
SANBORN HEAD

Figure 1

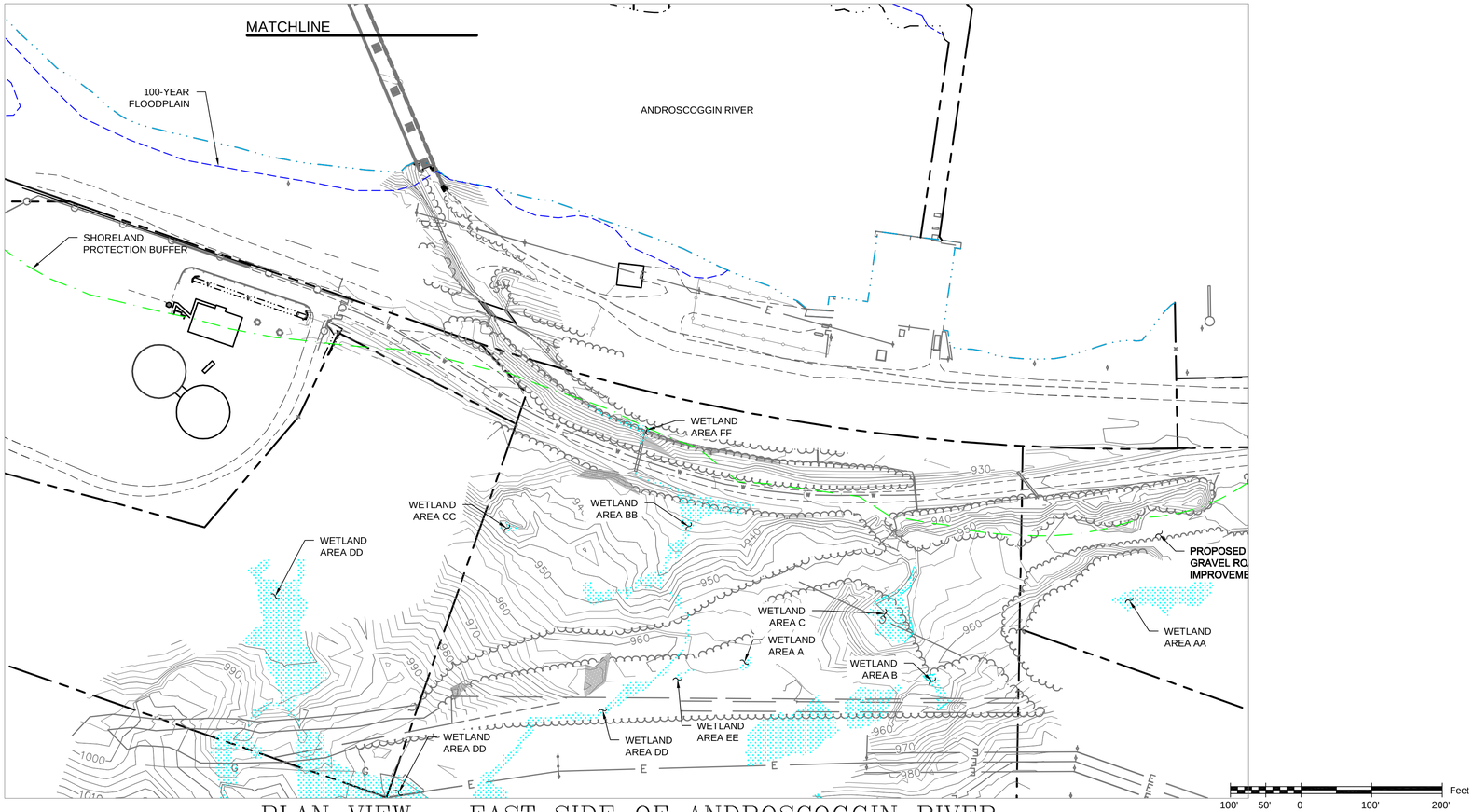
Locus Plan

Wetland Permit Application

Gorham Paper and Tissue Mill Gas Pipeline
Gorham, New Hampshire



PLAN VIEW – WEST SIDE OF ANDROSCOGGIN RIVER



PLAN VIEW – EAST SIDE OF ANDROSCOGGIN RIVER

WETLANDS WERE DELINEATED USING THE "INTERIM REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION" OCT 2009, ERDC/EL TR-09-19

Figure 2

Existing Conditions

Wetland Permit Application

Gorham Paper and Tissue Mill Gas Pipeline
Gorham, New Hampshire

Drawn By: L. Damiano
Designed By: K. Anderson
Reviewed By: E. Steinhauser
Project No: 3297.00
Date: July 2011

Reference Notes:

1. The existing topography and site features were provided to Sanborn Head in an electronic file titled "x9186-Existing.dwg" by the Maguire Group Inc. of Portsmouth, New Hampshire. Topographic survey was performed by York Land Services, LLC, of Berlin, New Hampshire in June 2011. Horizontal datum is New Hampshire State Plane coordinate system NAD83. Vertical Datum is NGVD88.

2. Property line information was provided to Sanborn Head in a plan titled "Site Plan, Proposed Methane Gas Pipeline Over Properties of Androscoggin Valley Regional Refuse Disposal District, Great Lakes Hydro America, and LLC Fraser, N.H. LLC., Berlin, New Hampshire," prepared by York Land Services, LLC, of Berlin, New Hampshire. Dated June 8, 2010. Property lines should be considered approximate.

3. Property owner information was provided to Sanborn Head by Drummond Woodsum on July 8, 2011. Refer to the Minimum Impact application for city tax maps of the the abutters and a complete abbutter list.

4. Limit of wetlands were provided to Sanborn Head in an electronic file titled "11037-RHWHITE-TAP-WETLANDS-6-24-2011.dwg" by Beaver Tracks, LLC of Swanzey, New Hampshire. Wetland delineation was performed in June 2011.

5. Shoreland urban exempt area was digitized from the map attached to the August 21, 2008 letter addressed to the Town of Gorham from the New Hampshire Department of Environmental Services, regarding the Urban Exemption Request.

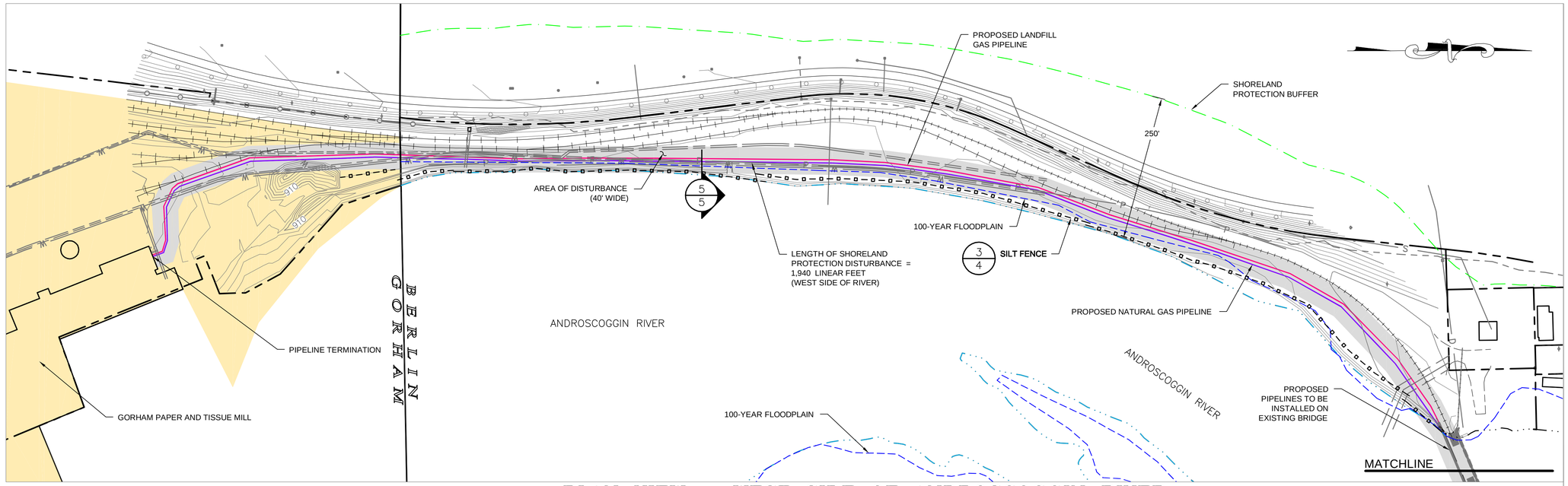
6. The 100-year floodplain was obtained based on information provided on the Federal Emergency Management Agency (FEMA) "Flood Insurance Rate Map, City of Berlin, New Hampshire" Panel 17 of 20, effective date June 15, 1982.

Legend

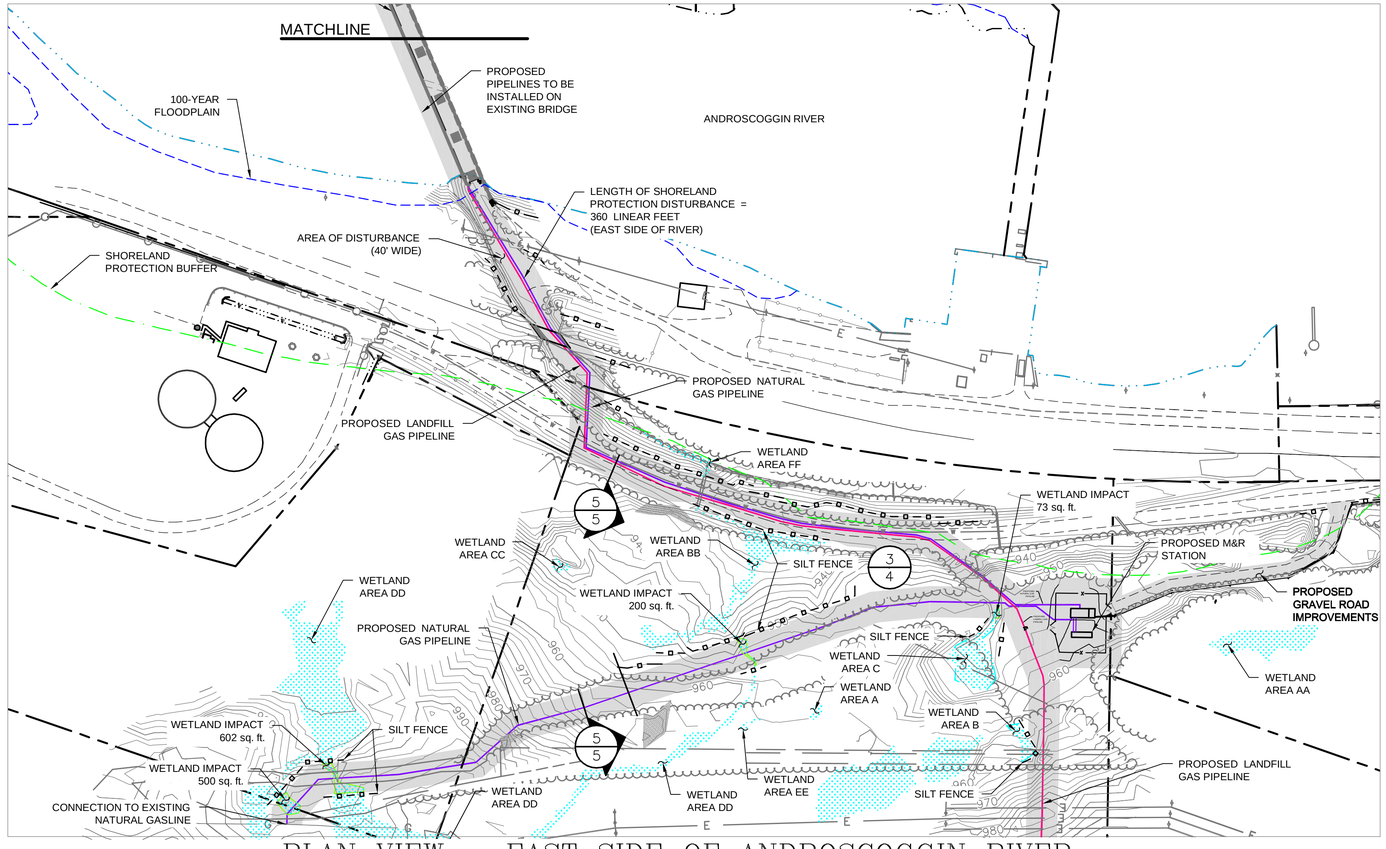
- Existing 10-foot Contour
- Existing 2-foot Contour
- Existing Gas Pipe
- Treeline
- Edge of Road
- Railroad Track
- Property Line
- Overhead Electrical Lines
- Water Line
- Guard Rail
- Fence
- Shoreland Protection Buffer
- 100-year Floodplain
- Shoreland Urban Exempt Area
- Wetland
- Structure
- 414-4 Tax Map/Parcel No. Designation

SANBORN HEAD

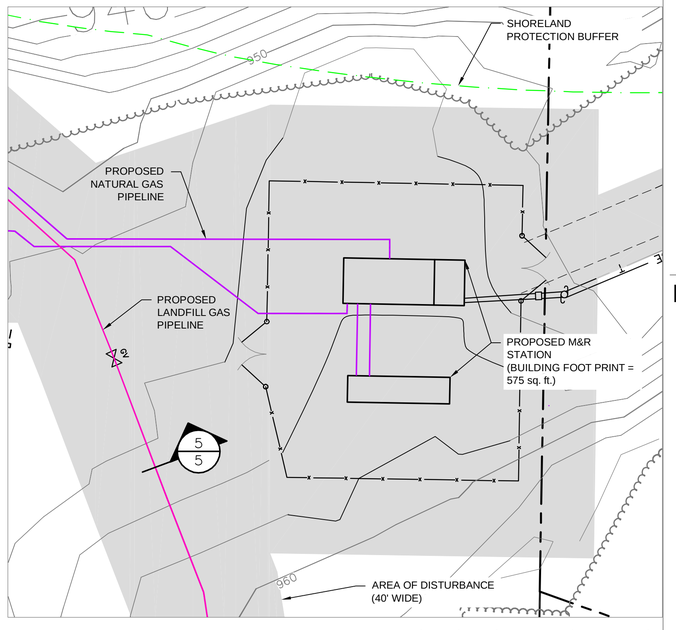
File: S:\CONDATA\3200s\3297.00\Graphics Files\CAD\WETLAND PERMIT\Fig 2-3.dwg Plot Date: 7-13-11



PLAN VIEW – WEST SIDE OF ANDROSCOGGIN RIVER



PLAN VIEW – EAST SIDE OF ANDROSCOGGIN RIVER



PLAN VIEW – PROPOSED M&R BUILDING

Figure 3

Proposed Site Plan

Wetland Permit Application

Gorham Paper and Tissue Mill Gas Pipeline
Gorham, New Hampshire

Drawn By: L. Damiano
Designed By: K. Anderson
Reviewed By: E. Steinhauser
Project No: 3297.00
Date: July 2011

Reference Notes:

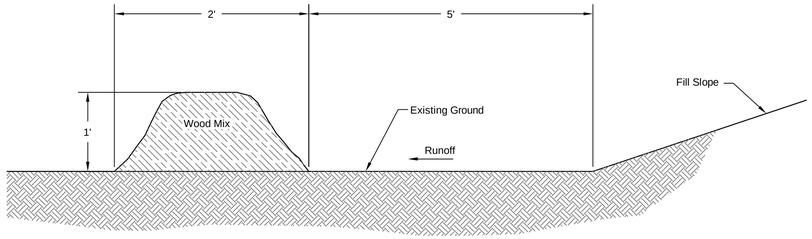
1. Refer to Figure 2 for additional notes and legend.
2. The proposed pipe alignment and M&R Station site improvements were provided to Sanborn Head in an electronic file titled "x9186-Proposed.dwg" by the Maguire Group Inc. of Portsmouth, New Hampshire. Horizontal datum is New Hampshire State Plane coordinate system NAD 1983. Vertical Datum is NGVD 1929.
3. The total area of proposed wetland disturbance is approximately 1,375 square feet (sq. ft.).
4. The total length of shoreland protection disturbance is 2,300 linear feet, of the total 1,940 linear feet are located on the west side of the river and 360 linear feet are located on the east side of the river.

Legend

- Existing 10-foot Contour
- Existing 2-foot Contour
- Proposed 2-foot Contour
- Existing Gas Pipe
- Treeline
- Edge of Road
- Railroad Track
- Property Line
- Overhead Electrical Lines
- Water Line
- Guard Rail
- Fence
- Shoreland Protection Buffer
- 100-year Floodplain
- Shoreland Urban Exempt Area
- Wetland
- Structure
- Proposed Landfill Gas Pipeline
- Proposed Natural Gas Pipeline
- Proposed Silt Fence
- Proposed Area of Disturbance
- Proposed Wetland Disturbance

100' 50' 0 100' 200' Feet

SANBORN HEAD



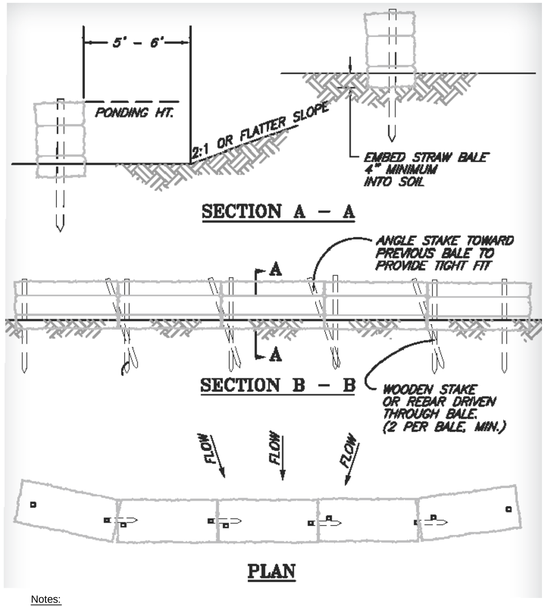
Notes:

1. Wood mix for the berm shall consist of shredded bark, stump grindings, and/or composted bark.
2. The wood mix shall conform to the following standards:
   A. Free of refuse, physical contaminants, and material toxic to plant growth.
   B. The organic matter content should be between 25 and 65% dry weight basis.
   C. Particle size (by weight) requirements: 100% passing a 3" screen, 90% to 100% passing a 1-inch screen, 70% to 100% passing a 0.75-inch screen, and a maximum of 30% to 75%, passing a 0.25-inch screen.
   D. The organic portion needs to be fibrous and elongated.
   E. The mix should not contain silts, clays or fine sands.
   F. Soluble salts content should be <4.0 mmhos/cm.
   G. The pH should be between 5.0 and 8.0.
3. The berm shall be placed, uncompacted, along a relatively level contour.
4. The filter berm may be used in lieu of silt fence, at the toe of shallow slopes, on frozen ground, ledge out crops, very rooted forested area or at the edge of gravel parking areas.
5. Berms shall remain in place until upstream area is completed or 70% catch of vegetation is attained. Berms shall be removed by spreading such that native earth can be seen below.

FILTER BERM DETAIL (SILT FENCE ALTERNATIVE)

1

NOT TO SCALE



Notes:

1. The bales shall be placed on slope contour.
2. Bales to be placed in a row with the ends tightly abutting.
3. Refer to description of "silt fence" for diagrams illustrating placement of barriers for effective sediment control.

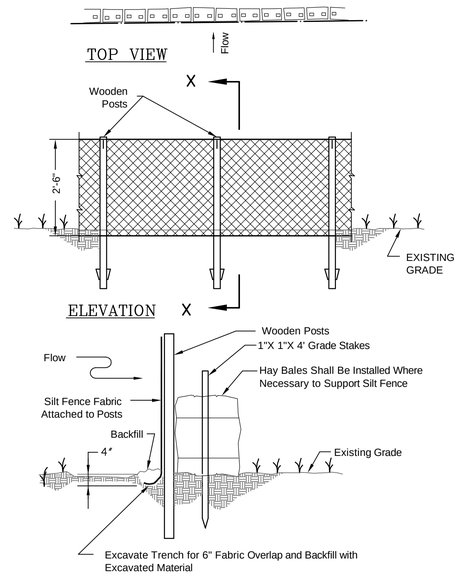
Source:

1. "New Hampshire Stormwater Manual, Volume 3 Erosion and Sediment Controls During Construction" revision 1.0, December 2008, page 104.

STRAW OR HAY BALE BARRIER

2

NOT TO SCALE



SECTION X-X

TYPICAL SILT FENCE DETAIL

3

NOT TO SCALE

Construction Sequence

1. Delineate and demarcate a limit of disturbance based on the proposed grading.
2. Stage equipment and supplies within the limit of disturbance or other designated areas.
3. Install perimeter silt fence with hay bale support or filter berms where required. Construct any other erosion and sediment control devices required for site development prior to beginning improvements.
4. Clear brush and grub as required for construction.
5. Construct the M&R station, including site grading, installation of precast concrete structure, driveway gravel, and perimeter fence.
6. Install the LFG pipe and natural gas pipe.
7. Seed and mulch disturbed areas to establish vegetation as final grades are obtained. Runoff shall not be directed to downstream stormwater management features until vegetation is established.
8. Upon successful establishment of vegetation, remove silt fence.

General Notes

1. Soil erosion and sediment control measures will be installed in accordance with the best management practices (BMPs) specified in the "New Hampshire Stormwater Manual, Volume 3 Erosion and Sediment Controls During Construction" revision 1.0, December 2008, and will be installed in proper sequence and maintained until permanent stabilization is established.
2. Excavation actives to occur with the shoreland protection buffer or wetlands shall be performed in the dry. Drainage of excavated areas shall be maintained to prevent ponding of surface water and control runoff.
3. Perimeter controls shall be installed prior to earth moving operations.
4. The smallest practical area shall be disturbed during construction, but in no case shall exceed 5 acres at any one time before disturbed areas are stabilized. The term "stable" is defined as meeting one of the following criteria:
   - Base course gravels have been installed in areas to be paved;
   - A minimum of 85 percent vegetated growth has been established;
   - A minimum thickness of 3 inches of non-erosive material such as stone has been installed; or
   - Erosion control blankets have been properly installed.
5. All drainage features shall be stabilized prior to directing runoff to them.
6. Apply seed, lime, fertilizer, and clean straw mulch to disturbed areas, newly-placed fill slopes, and grass-lined swales within seven days of achieving final grade.
7. Silt fence/hay bales or filter berm shall be installed at the discretion of the Contractor. Silt fence/hay bales or filter berms shall be installed along the contour and toed upslope. Silt fence/hay bales or filter berm are to be maintained and cleaned until vegetative cover is established.
8. All erosion controls, such as silt fence/hay bales or filter berms, shall be inspected weekly during the life of the project and after each storm event that produces 0.5 inches of rainfall. All damaged silt fence/hay bales or filter berms shall be repaired promptly.
9. Remove sediment build up from behind erosion and sediment control devices. Maintain temporary erosion and sediment control devices until full establishment of permanent ground cover.
10. All disturbed areas shall be stabilized within 30 days of of achieving finished grade.

Figure 4

Erosion and Sediment Control Details

Wetland Permit Application

Gorham Paper and Tissue Mill Gas Pipeline
Gorham, New Hampshire

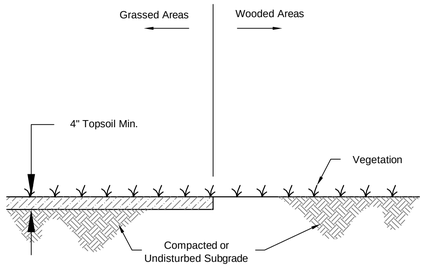
Drawn By: L. Damiano
Designed By: K. Anderson
Reviewed By: E. Steinhauser
Project No: 3297.00
Date: July 2011

Reference Note

1. Refer to Figures 2 and 3 for additional notes and legend.

Scale as Noted

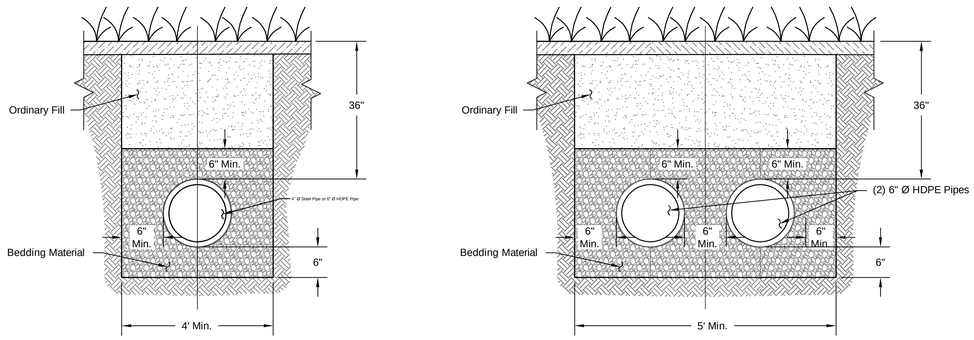
SANBORN HEAD



TYPICAL LOAM AND SEED

4

NOT TO SCALE



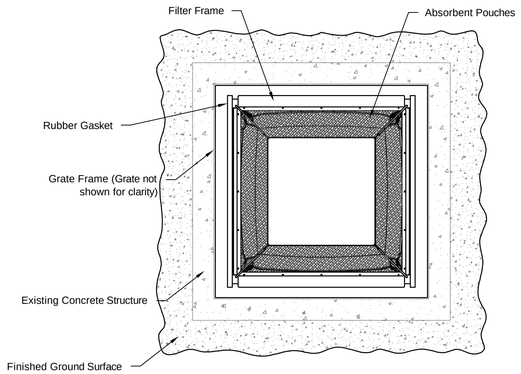
SINGLE PIPE TRENCH

MULTIPLE PIPE TRENCH

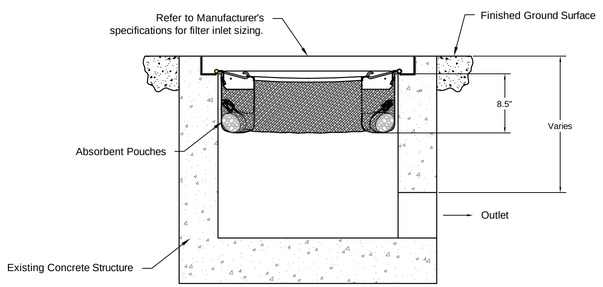
TYPICAL PIPE TRENCH SECTION

5

NOT TO SCALE



PLAN VIEW



SECTION VIEW

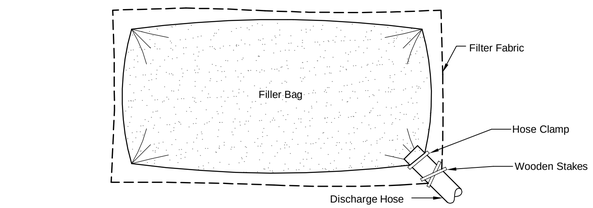
NOTE:

1. Filter inserts to be sized and installed per manufacturer's instructions and specifications.

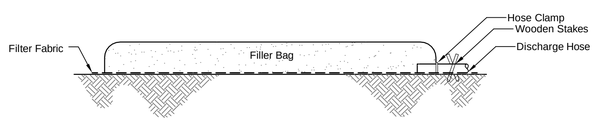
CATCH BASIN FILTER INSERT

6

NOT TO SCALE



PLAN VIEW



SECTION VIEW

FILTER BAG DETAIL

7

NOT TO SCALE

Figure 5

Erosion and Sediment Control Details

Wetland Permit Application

Gorham Paper and Tissue Mill Gas Pipeline
Gorham, New Hampshire

Drawn By: L. Damiano
Designed By: K. Anderson
Reviewed By: E. Steinhauser
Project No: 3297.00
Date: July 2011

Reference Note

1. Refer to Figures 2 and 3 for additional notes and legend.

Scale as Noted

SANBORN HEAD

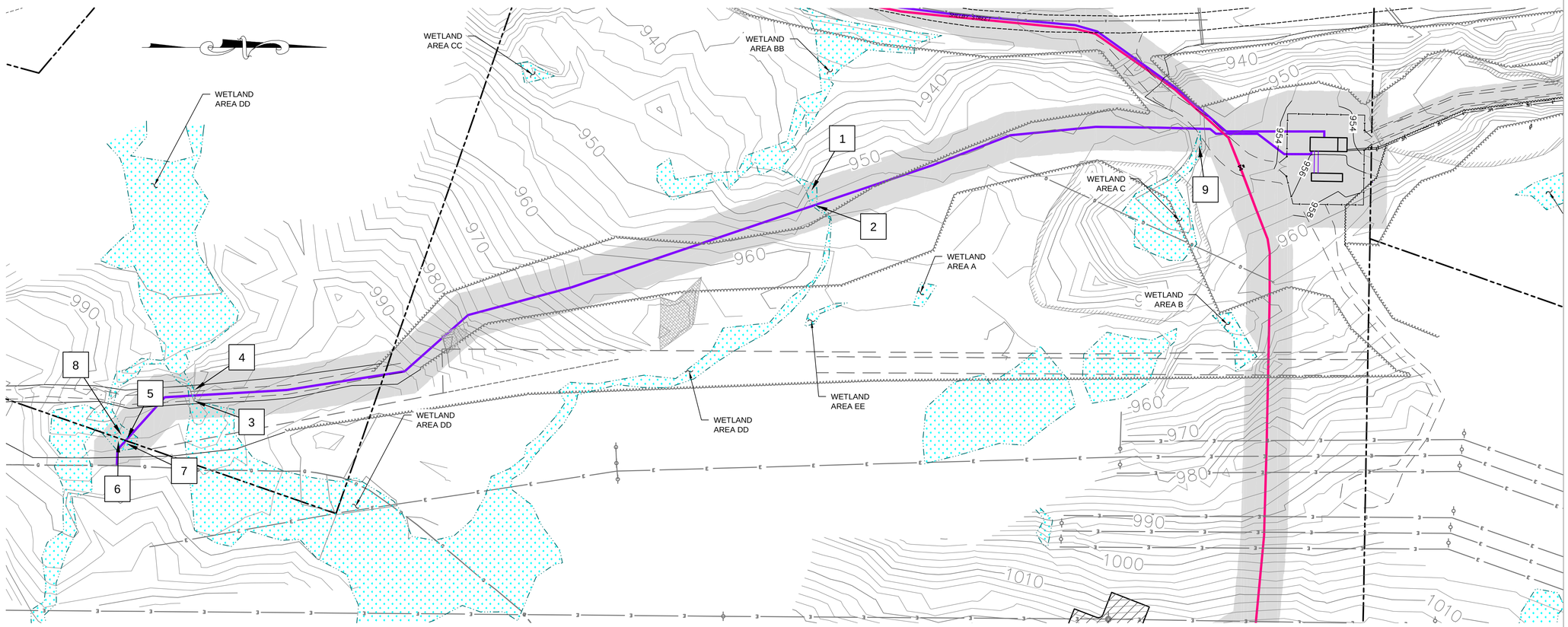
File:S:\CONDATA\3200s\3297.00\Graphics Files\CAD\WETLAND PERMIT\Fig 4-5.dwg Plot Date: 7-13-11

Photograph 1
Wetland DD, R4SB3

Photograph 2
Wetland DD, R4SB3

Photograph 3
Wetland DD, R4SB3

Photograph 4
Wetland DD, R4SB3



Photograph 5
Wetland DD, PFO1B

Photograph 6
Wetland DD, PFO1B

Photograph 7
Wetland DD, PFO1B

Photograph 8
Wetland DD, PFO1B

Photograph 9
Wetland C, PSS1B

Figure 6

Photographs

Wetland Permit Application

Gorham Paper and Tissue Mill Gas Pipeline
Gorham, New Hampshire

Drawn By: L. Damiano
Designed By: K. Anderson
Reviewed By: E. Steinhauser
Project No: 3297.00
Date: July 2011

Reference Notes:

1. Refer to Figure 2 for additional notes and legend.
2. Photographs of wetlands were provided to Sanborn Head by Beaver Tracks, LLC of Swanzey, New Hampshire. Photographs were taken in June 2011.

WETLANDS WERE DELINEATED USING THE "INTERIM REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION" OCT 2009, ERDC/EL TR-09-19

Legend

2 — Photograph Location and Designation

Wetland Classification Key

R4SB3	Riverine Intermittent Stream Bed, Cobble/Gravel Bottom
PFO1B	Palustrine Forested, Broad Leafed Forested, Saturated Soil
PSS1B	Palustrine Scrub Shrub, Broad Leafed Deciduous, Saturated Soil

100' 50' 0 100' 200' Feet

SANBORN HEAD

File:S:\CONDATA\3200s\3297.00\Graphics Files\CAD\WETLAND PERMIT\Fig 6.dwg Plot Date: 7-13-11