APPENDIX B

W-185, W-15, W-9
ASHUELOT RIVER
KEENE, NH

B1. The design, location, and profile of the crossing is shown on the attached PSNH Distribution Business Plan and Profile Drawing entitled "W-9/W-15/W-185 TRIPLE CIRCUIT, BETWEEN STRUCTURE 585/4 & 585/5, ASHUELOT RIVER CROSSING, KEENE, NEW HAMPSHIRE", marked as Exhibit B-1.

B2. The proposed crossing will occur between two new wood single pole structures to be set and located approximately 217 feet apart. The proposed structure on the north side of the Ashuelot River, #585/4, will be an angle structure constructed with a class 1, 45 foot tall pole. Pole #585/4 will be western red cedar with a Hendrix tangent bracket and a double circuit angle bracket with insulators. The proposed structure on the south side of the Ashuelot River, number 585/5, will be a tangent structure constructed with a class 1, 50 foot tall pole. Pole 585/5 will be western red cedar with three Hendrix tangent brackets. All lines will be built with covered wire as depicted in Exhibits B-2 and B-3. Although there is not an existing PSNH construction standard (DTR) for this type of installation, aspects of the DTRs for Hendrix and spacer cable will be used for construction. The three conductor wires on the W-9 are 336 kcmil spacer cables (19 strands). The three conductor wires on the W-15 are 477 kcmil spacer cables (19 strands). The three conductor wires on the W-185 will be 795 kcmil spacer cables (19 strands). The neutral wire will be 052 AWA (5/2 stranding) on each line. The conductors and neutral wires will be sagged using a 60° F condition with a maximum tension of 2,000 lbs under that condition.

B3. The flood water elevation for the Ashuelot River is based on information from the Flood Insurance Rate Map (FIRM), City of Keene, New Hampshire, Cheshire County, Panel 266 of 610, Community Panel Numbers 330023 0266 E and 330026 0266 E, effective date May 23, 2006. The 100-year flood elevation for this location is approximately 471 feet. These elevations are based on the National Geodetic Vertical Datum of 1929 (NGVD 29). For the purpose of this petition, the more conservative 100 year flood elevation (instead of the 10 year flood elevation per code) was used as the basis for design of the conductor clearance.

B4. The area of the Ashuelot River as defined by NESC (note 19 to Table 232-1) is 10.0± acres. This was calculated by measuring the size of the limit of flood zone A as shown on the FIRM.

B5. Using the above design criteria, the maximum sags of the phase and neutral wires and minimum clearances for the crossing for the W-9 (the clearances on the W-9 are more restrictive than those on the other lines due to the lower attachment height, therefore only clearances for the W-9 are listed) have been determined and designed as follows:

A. NESC Heavy, Phase Wire – The maximum sag on the phase wires under this condition is 5.01'. The minimum clearance to land is 24.9'. The minimum clearance to the 100 year flood level is 22.8'.

B. Minus 20° F, Phase Wire – The maximum sag on the phase wires under this condition is 2.46'. The minimum clearance to land is 27.2'. The minimum clearance to the 100 year flood level is 24.5'.

C. 120° F, Phase Wire - The maximum sag on the phase wires under this condition is 3.90'. The minimum clearance to land is 26.0'. The minimum clearance to the 100 year flood level is 23.7'.

D. NESC Heavy, Neutral Wire – The maximum sag on the neutral wire under this condition is 5.01'. The minimum clearance to land is 26.9'. The minimum clearance to the 100 year flood level is 24.8'.

E. Minus 20° F, Neutral Wire – The maximum sag on the neutral wire under this condition is 2.46'. The minimum clearance to land is 29.2'. The minimum clearance to the 100 year flood level is 26.5'.

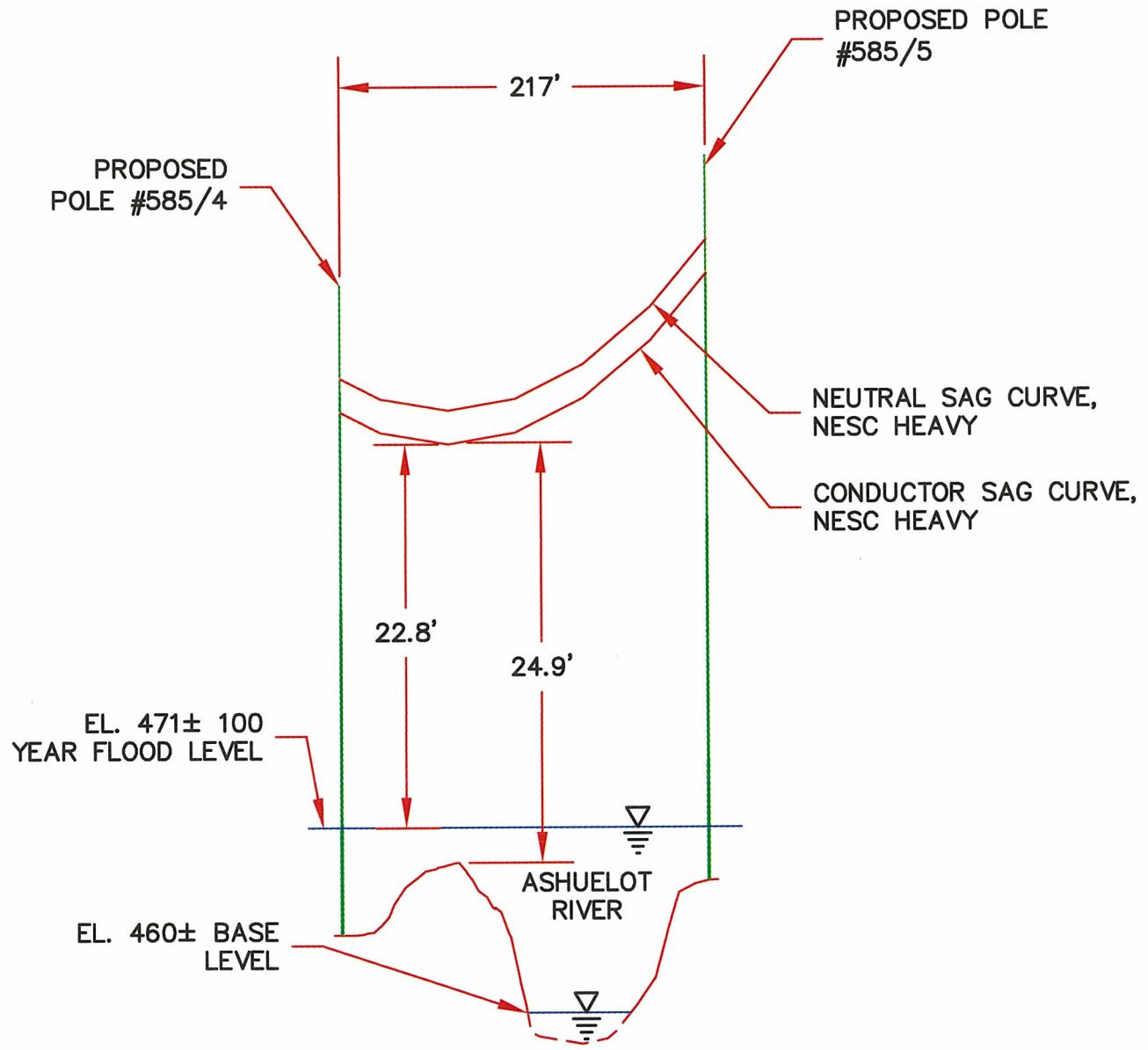
F. 120° F, Neutral Wire - The maximum sag on the neutral wire under this condition is 3.90'. The minimum clearance to land is 28.0'. The minimum clearance to the 100 year flood level is 25.7'.

G. Minimum Clearance, Phase Wire –NESC heavy conditions (item A above), results in the minimum clearance for phase conductors. The minimum clearances expected under those conditions are 24.9' to land and 22.8' to the 100 year flood level. The required minimum clearance from the phase wires to land based on NESC Table 232-1.2 is 18.5'. The required minimum clearance from phase wire to the water surface for a 100 year flood based on NESC Table 232-1.7.a, is 20.5'. The crossing design as proposed exceeds the NESC requirements.

H. Minimum Clearance, Neutral Wire – NESC heavy conditions (item D above), results in the minimum clearance for the neutral wire. The minimum clearances expected under that condition is 26.9' to land and 24.8' to the 100 year flood level. The required minimum clearance from the neutral to land based on NESC Table 232-1.2 is 15.5'. The required minimum clearance from neutral wire

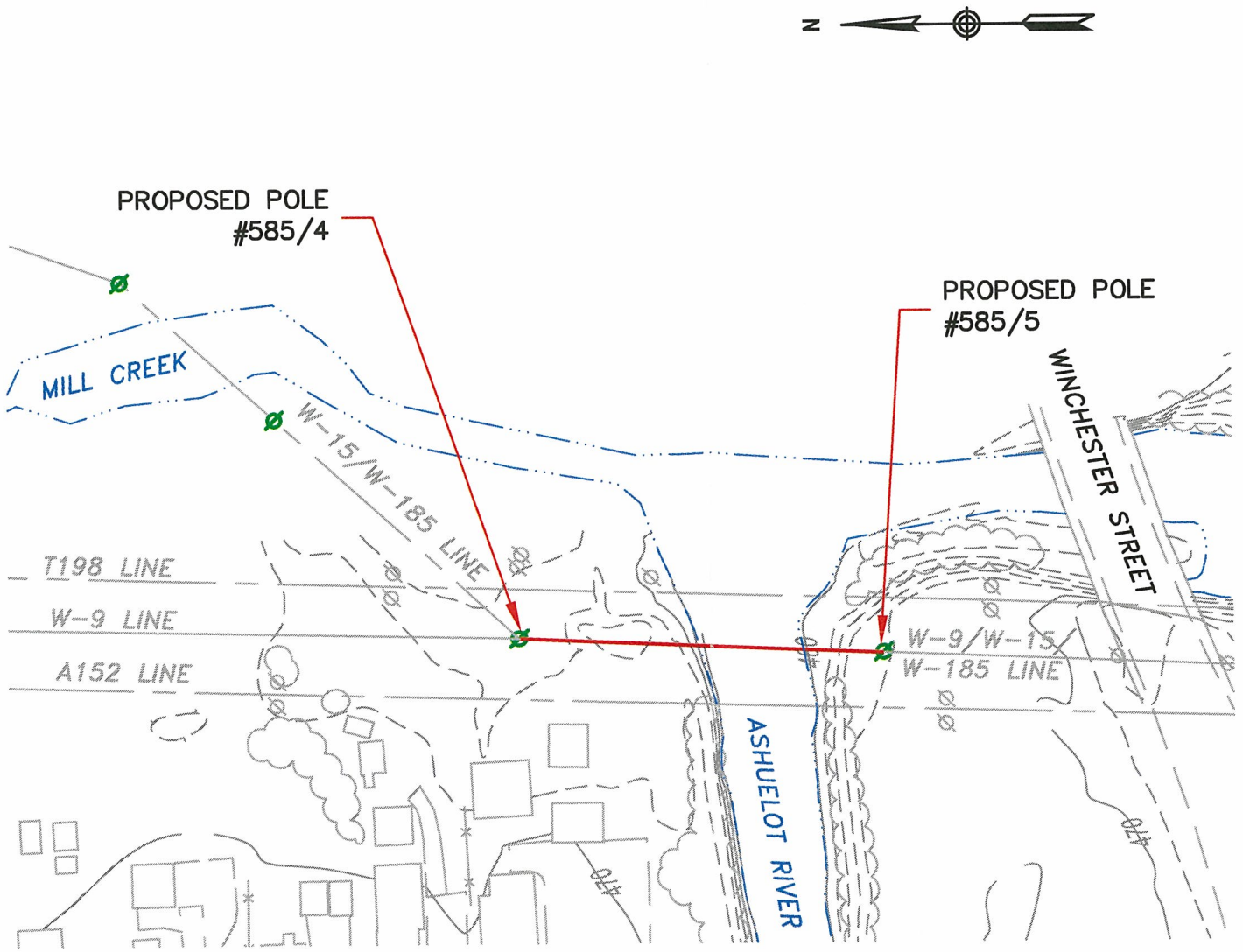
to the water surface for a 100 year flood based on NESC Table 232-1.7.a, is 17.5'. The crossing design as proposed exceeds the NESC requirements.

I. Minimum Phase to Neutral Clearance – Within each individual line there is no minimum clearance requirement for spacer cable construction on a single circuit per NESC section 235.A.2. The required minimum clearance in any direction for line conductors is based on Table 235-6.2.a, which is 13.8" (12" + 0.4"/kV ((12.47 kV * 1.05) - 8.7 kV). The minimum clearance as proposed is 18" as shown on Exhibit B-2, at pole 585/4, between the conductors on the W-15 line and the messenger on the W-185.



PROFILE

SCALE: 1"=100' HORIZ.
10' VERT.



PLAN VIEW

SCALE: 1"=100'

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

NO.	REVISION	DATE	DRWN	CHCK	APPR

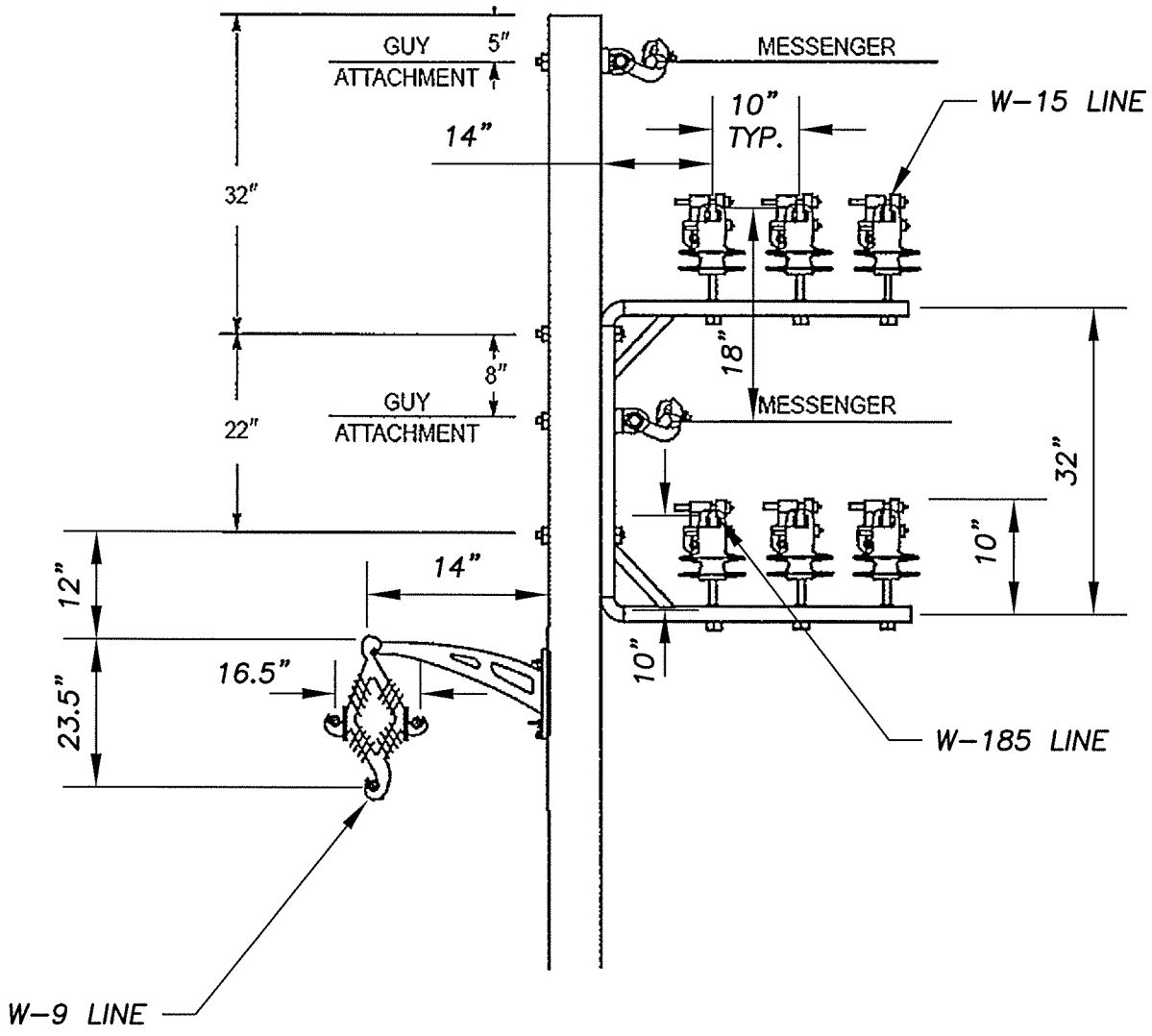
Public Service of New Hampshire

Distribution Business

DRAWN	DMS
DESIGNED	DMS
CHECKED	DMS
APPROVED	DMS

W-9/W-15/W-185 TRIPLE CIRCUIT
BETWEEN STRUCTURES 585/4 & 585/5
ASHUELOT RIVER WATER CROSSING
KEENE, NEW HAMPSHIRE

SCALE	DATE	SHEET	DRAWING NO.
1"=100'	8/25/09	1 OF 3	EXHIBIT B-1



POLE 585/4

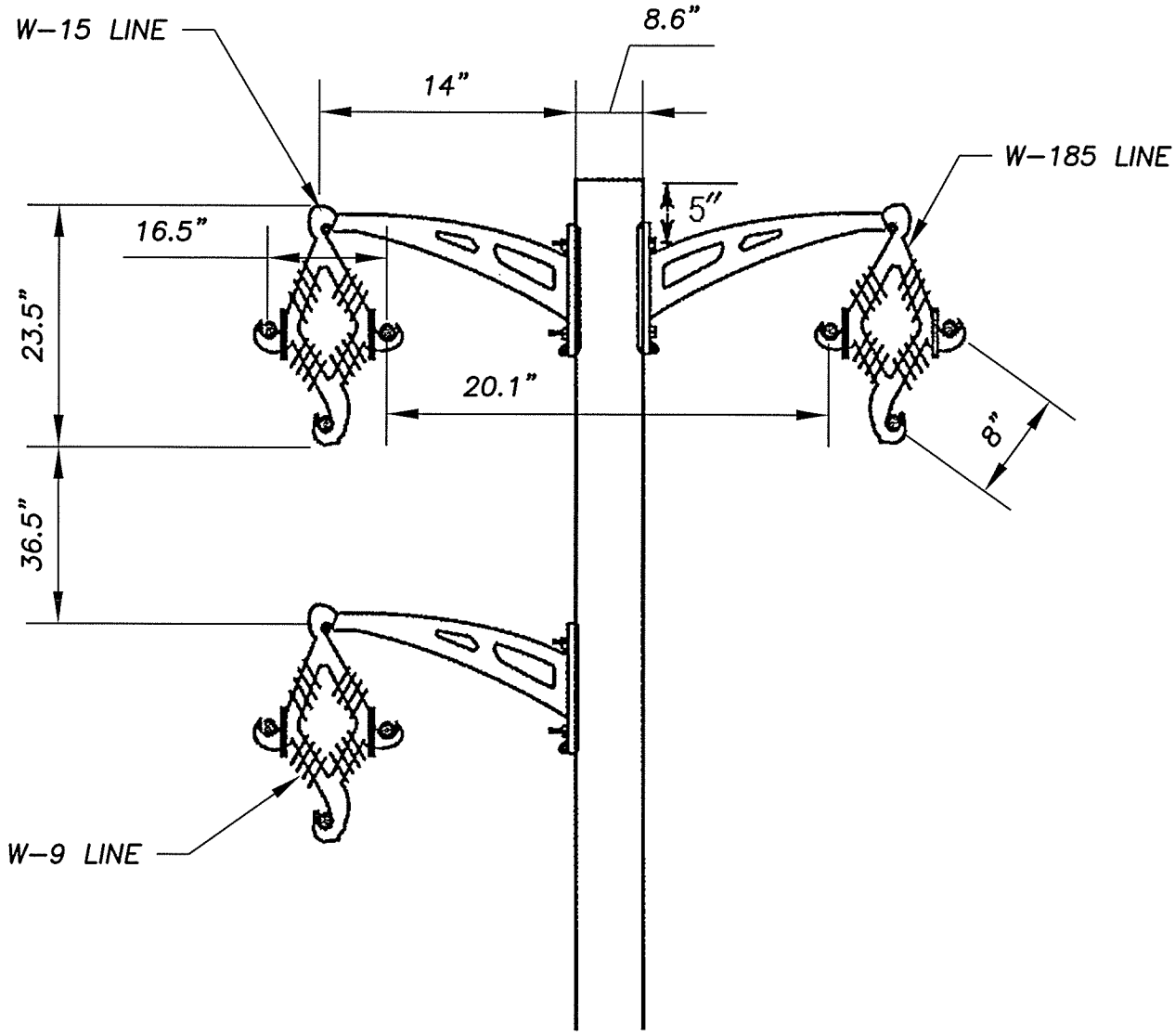
NO.	REVISION	DATE	DRWN	CHCK	APPR

DRAWN: DMS
DESIGNED:
CHECKED: –
APPROVED: –

Public Service of New Hampshire — Distribution Business

CONSTRUCTION STANDARD PLAN
W-9/W-15/W-185 TRIPLE CIRCUIT
ASHUELOT RIVER WATER CROSSING
KEENE, NEW HAMPSHIRE

SCALE	DATE	SHEET	DRAWING NO.
NOT TO SCALE	8/24/09	2 OF 3	EXHIBIT B-2



POLE 585/5

NO.	REVISION	DATE	DRWN	CHCK	APPR

DRAWN: DMS
DESIGNED:
CHECKED: –
APPROVED: –

Public Service of New Hampshire — Distribution Business

CONSTRUCTION STANDARD PLAN
W–9/W–15/W–185 TRIPLE CIRCUIT
ASHUELOT RIVER WATER CROSSING
KEENE, NEW HAMPSHIRE

SCALE	DATE	SHEET	DRAWING NO.
NOT TO SCALE	8/18/09	3 OF 3	EXHIBIT B–3