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December 22, 2015

Michael Roeling
BKP Berolina Polyester GMBH+Co KG
Heidering 28
D-16727 Velten / Germany

**SUBJECT: APPROVAL OF BEROLINA-LINER FIBERGLASS REINFORCED
ULTRAVIOLET LIGHT CURED-IN-PLACE PIPE USING ATLAC E-NOVA RE 3475
RESIN** **BR800026**

Dear Mr. Roeling:

The above listed product is approved for Citywide Use in the public right of way. You are required to report any change in the material composition of this product to the City immediately.

All installations must comply with the following materials and properties, which will be listed in the Approved Products database.

Resin:	Atlac E-Nova RE 3475
Fiberglass:	Advantex E-CR glass
Initial Hoop Tensile Strength:	26,500 psi
Initial Hoop Flexural Modulus:	1,450,000 psi
Long-term (50-year) Hoop Flexural Modulus: ..	870,000 psi

The initial hoop tensile strength is based on limited data from Ramtech Laboratories Report Number 3265, dated December 3, 2013. Please contact my staff if you wish to have this reevaluated.

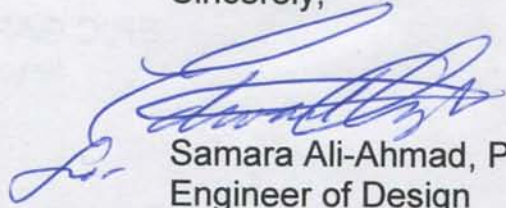
The long-term retention is based on testing in the Microbac-Hauser laboratory which commenced May 2014. As this test had anomalies, the long-term retention of hoop flexural modulus has been reduced to 60% of initial properties. This number may be reevaluated if a new test is successfully completed.

Berolina-Liner must be installed per the conditions stated in the Deutsches Institut für Bautechnik (DIBt) Approval Number Z-42.3-336. If there is any conflict between the DIBt approval and City of Los Angeles specifications, the more stringent shall govern.



This approval will expire on December 22, 2019. You may apply for a four-year extension of this approval 120 days before it expires. Please maintain a copy of this approval for your records. This letter will be required as part of a contractor's submittal package. If you have any questions, please contact Kent W. Welling at (213) 485-5405 or Edward Arrington at (213) 485-1694.

Sincerely,



Samara Ali-Ahmad, P. E.,
Engineer of Design
Wastewater Conveyance
Engineering Division

- c.c Ken Hendricks, Bureau of Contract Administration
Shailesh "Sunny" Patel, Structural Engineering Division
Farid Baher, Structural Engineering Division