

Pipe Advisory Group Meeting Minutes – June 24, 2004

Orlando, FL – Rosen Centre Hotel

Attendees

Rod Powers, FDOT	Ed Rodriguez, Hancor
Grace Hsuan, Drexel University	Greg Bohn, ADS
Tim McGrath, SGH, Inc.	Jeff Hite, Rinker
Jim Schluter, Contech	Josh Beakley, ACPA
Bill Burnette, Contech	Michael Pluimer, Prinsco
Jim Park, ADS	Shuya Chang, Exxon-Mobil
Rick Traylor, Rinker	Doug Holdener, Rinker
Tim Toliver, Hancor	Robert Greer, FDOT
Richard Carr, Hardie Pipe	Freddie Simmons, FDOT
Jeff Chastain, Hardie Pipe	Kevin Thibault, FDOT
Paul Harkins, Hardie Pipe	John Johnston, J. Johnston Company
Gene Palermo, Palermo Plastic Pipe	Stephen Boros, PPI
Tom Fussner, ADS	Ron Craig, Hanson
Jim Goddard, ADS	Jeff Hiott, PPI
Justin James, Contech	Ricardo Sadovnik, Contech
Carl Tyner, Quality Culvert	Jim Clemans, ADS
Brian Flint, Contech	Rick Renna, FDOT
Mark McCormick, Contech	

Preliminaries

Kevin Thibault, FDOT Assistant Secretary, welcomed the P.A.G. participants, expressing appreciation for the benefits of open dialog between the Pipe Industries and the Department.

HDPE Pipe Service Life Protocol – Management Issues



PAG Meeting 6-24-04.pdf

Rick Renna discussed questions previously received from PAG members on the Department's decision to pursue the interim and full testing protocol.

Why is Florida doing PPI's research and development?

FDOT is not qualifying pipes for any manufacturer; rather we are working with manufacturers to show them how to satisfy our standards for demonstrating service life of HDPE pipe. Mr. Morefield, former FDOT Asst. Secretary, wanted to bring closure to years of debate with a clear statement of what we expected as owners. Thus, FDOT pursued sufficient research to provide a mechanism by which manufacturers might test and, if successful, qualify their pipes.

What spec is the protocol going into?

Rod Powers stated that the HDPE specification would be included in Section 948.

Why create an interim protocol; this is favoritism, unfair, and unprecedented.

Josh Beakley commented that 3 years of research is unprecedented for 100 yr life.

Mr. Renna responded that FDOT is building on past work, especially NCHRP 429. Gene Palermo added that Dr. Hsuan is using ISO 9080 and other standards that have been available for 30 to 40 years. Mr. Beakley asked if FDOT is taking methods developed for dissimilar types of polyethylene pipe. Mr. Palermo responded in the affirmative, and Freddie Simmons, FDOT, added that this is not unlike work done on Super Pave, raised pavement markers, and other products.

Select backfill is needed and mandatory mandrel testing should be required.

Mr. Renna said that control is by the construction inspector; testing will be required if there is a concern. If FDOT were to impose the above two requirements, HDPE pipe would not be competitive, which would defeat the purpose of their being qualified. With adequate inspection, select backfill and mandatory mandrel testing are deemed unnecessary by FDOT. Controlling deflection is critical. If contractors have trouble achieving the required minimum deflection, they may elect to use a more forgiving material than HDPE.

Jim Schluter stated that, if the Department inspects installation of all materials the same way but one is decisively different from the rest, that DOT may be doing themselves a disservice. Mr. Renna replied that, on a case-by-case basis when the allowable deflection is exceeded in the field, the construction decision-making process may reflect the pipe material's ability to survive a greater strain. FDOT is going to hold to maximum allowable 5% diameter deflection as a standard.

FDOT is reaching too far technically; why not share the risk with a warranty on HDPE pipe?

Since the initial version of the protocol late last year, input from the resin suppliers has advanced the technical strength of the protocol to its present form. A formal round robin testing is underway to establish testing variability on the junction test. A warranty does not help against antioxidant failure since the longest warranty we typically obtain in construction contracts is about 5 years. Usage limitations are currently under discussion within the FDOT. **[Follow up: the District Design Engineers have decided that HDPE pipe accepted under the Interim Protocol will be disallowed under the pavement of limited access facilities. Districts might also restrict HDPE pipe from certain other critical roadways. No restrictions are foreseen when HDPE pipe qualifies under the full protocol.]**

Status of the HDPE Pipe Protocol

- ◆ The materials testing protocol is essentially complete,
- ◆ The formal specification comment process will commence in parallel to the PAG comment period,
- ◆ The HDPE pipe manufacturers and the PPI are working on industry-wide QC/QA standards with Rod Powers (Mike Pluimer is coordinating the manufacturers' efforts),
- ◆ Round robin testing is ongoing using the testing facilities of manufacturers, resin suppliers, and Dr. Hsuan.

Time Frame of HDPE Pipe Protocol

The Specification should be reviewed and completed by Jan 2005 so that HDPE pipe may be included in plans let in July 2005. Testing for manufactures to qualify their pipes under the interim protocol must be completed before HDPE will be included in FDOT construction plans.

Diverse QC/QA Discussions

Mr. Schluter - What QA/QC will be in place to assure ongoing product will meet specification?

Mr. Powers - The Department Materials Manual addresses this and will be enforced.

Richard Carr - What happens if you have two types of pipe in the market place? How will you keep contractors from supplying the "cheaper version" – i.e. to distinguish M294 pipe vs. Florida pipe?

Mr. Powers - All 3 Florida HDPE suppliers mark pipe so it can be identified by date, shift, etc. This can be tied to plant records on source material, production, etc.

Jim Goddard - We are not going to manufacture two types of pipe in Florida. It would be, long-term, more expensive.

Mr. Schluter – Why not stamp pipe as FDOT specification?

Mr. Renna – We will address this with our Construction Office. **[Follow up: Construction will require a unique identifying stamp on HDPE pipe meeting the Florida specification. Details of the marking will be decided later.]**

Jeff Hite – If the testing in the round robin is used to qualify pipes, are you going to make sure pipe being tested are locally produced pipe?

Mr. Renna – Are you asking, “What if they use special resin?”

Mr. Hite – No, but plant certifications may vary. We want to know that pipe produced in local plants is being qualified.

Mr. Powers – FDOT requires reference samples. We are not going to go watch test pipe being made.

Diverse Policy Discussions

Rick Traylor – If you perform the final protocol testing and pipe does not meet FDOT specs, what will FDOT do with pipe installed under interim protocol?

Mr. Renna – We will watch for problems and assess any consequences.

Contech - Who are you going to go back to if there is a problem? You have contract with installer not pipe supplier?

Kevin Thibault – That is an FDOT business decision. We have faced similar circumstances in the past where we have had to live with problems that were not our fault.

Mr. Traylor – This is unprecedented in the pipe industry. We have always had to have products meet FDOT specs before being used on project.

Mr. Renna – HDPE pipe manufacturers are being required to meet interim protocol to be used in 100-year service life applications.

Mr. Simmons – Acceptance of products on interim basis has been taking place in last few years.

Contech – Are you going to ask suppliers to have 50 or 100 year pipe?

Mr. Renna – How many 50 year designs do we do; not many. FDOT will soon use 100 year design on everything except driveways. We are not seeing price difference for 50 or 100 year jobs.

Carl Tyner – Are you going to wind up with 50 and 100 yr spec?

Mr. Renna – We still will have a market for M 294 pipes for driveway pipe. I therefore foresee an M 294 pipe option remaining.

Concrete Pipe - It used to be that Florida performance needed to be evaluated before approval. Now Hardie pipe has relied on Australian experience. Is Florida-specific performance no longer required?

Mr. Renna – Since experience with HDPE is on resins that are shipped all over the country, we will use "appropriate" out of state experience, as long as we can trace the quality to Florida-produced pipe.

Mr. Simmons – We are trying to get to point where we relying on national specs whenever appropriate. We are trying to get the most for our dollars. We owe it to taxpayers to look at new materials and are looking for competition among good products.

Dwayne Kile, District 7 – Construction Initiatives in D7

Dwayne Kile, D7 Roadway Design Engineer, emphasizes the need for watertight joints to allow proper functioning of stormwater treatment facilities. He stated that he is concerned more with controlling installation than joint design. He cited adopting the use of the spiral rib hugger band with 5 annular rings to control clamping force as an example of a welcome improvement. He is requiring that installation guides be provided to the Engineer of Record, Construction CEI and contractors. Contractors will be required to install, and then inspect and obtain approval on, an initial 500 ft of pipe before installing any more pipe. D7 is encouraging pipe manufacturers' tech reps to be present during that initial installation. 15% of pipe will be tested with low pressure air test. ASTM C924 for RCP and C1417 for plastic pipe.

Questions and Answers

Q: What about spiral rib? The lock seam will not hold an air test pressure.

Mr. Kile: We will consider other test methods such as a hydrostatic head test.

Q: Will all pipes be tested or storm sewers only?

Mr. Kile: Most issues are upstream of ponds. I am not as concerned with side drains and other parts of system that do not drain to ponds. 80 to 95% of our pipes go to ponds, with problems more in urban areas.

Q: Will you test all sizes?

Mr. Kile: All sizes will be tested up to 36" because of lack of existing testing methods for larger diameters. We do not want to institute testing w/o previously established test methods.

Q: Contech - Construction inspectors will interpret handout to imply testing all pipe.

Mr. Kile: We will clean up wording if necessary, but with only requiring testing of 15% they will test sections that are easiest to access and test.

Q: Mr. Chastain – Will this apply to elliptical rcp as well?

Mr. Kile: We do not use much elliptical rcp – to hard to get joints tight. We would not apply to elliptical or arch metal pipe unless it was a critical application.

Q: Mr. Duffy – What pressure will be used for the air test?

Mr. Kile: Depends on external head, most to 4 psi.

Q: Mr. Duffy – Are you aware of the large pressure force on a plug for 36" pipe?

Mr. Kile: Contractors must be aware of safety issues.

Q: Mr. Hite – The FCPI submitted comments to this spec change through the Construction Office. Have those been received by the home office and district office. We have not received responses.

Mr. Renna – David Sadler, construction, is normally here. We will get a response from Sadler and put it in the minutes. **[Follow up: D7 Construction will respond to comments received on their spec]**

Q: Mr. Hite – If the pipe has water in it, it has to be drained and dewatered, correct?

Mr. Kile: Yes, but smart contractor will not do verification during wet season if he can avoid it.

Q: Mr. Hite – If spiral rib pipe is allowed to use a water test, I hope the same will be allowed for concrete pipe.

Mr. Kile: If there is a national test in place, we will allow it as an alternate.

Q: FCPI – What do you see regarding trends in CEI (construction enforcement)?

Mr. Kile: We are getting more and more complex projects. We only will have a certain level of funding available. This suggests CEI allocation will be dropping. Responsibility must remain on the party responsible for doing work correctly. CEI is typically 5% to 15%. Higher on smaller projects.

Q: Contech – How is this D7 spec change being implemented?

Mr. Kile: The District is incorporating it into specs, pipe sheets.

Q: Will you be modifying this to allow PVC pipe to be used under interstate highways?

Mr. Kile: I will.

HDPE Pipe Service Life Protocol – Technical Issues

Dr. Grace Hsuan presented changes from the first draft version of the protocol to this draft final version of the Protocol.



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Concluding...

The meeting was adjourned at 1 pm.

All presentations and these minutes may be downloaded from

http://www.dot.state.fl.us/rddesign/dr/Advisory_Groups.htm