

# The Track Guy



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## NEWSLETTER

### Charlotte, North Carolina

Maintenance Facility  
Edifice Inc. 29,249,000.  
Crowder Const. 36,453,000.

### Phoenix, Arizona

Line Section 4  
Sundt 53,800,000.  
Kiewitt 60,600,000.  
Herzog 62,200,000.

### Railway Engineering

This will be our 3rd time speaking at the University of Wisconsin. March 7-9 will be the program entitled Engineering Fundamentals of Rail Transit Passenger Systems: Light Rail, Commuter Rail, Rapid Transit. We have been given the opportunity to speak about Transit design, construction and economics of track as well as giving an overview of contracting issues. We discuss the contracting process from idea to revenue. There are 14 basic categories in the process which include the estimate, cost controls, claims, delays and others. The most important being the budget, the schedule, execution and communication.

### Track Guy Consultants

Our Trackwork 101 course is filling up quickly. We have drawn an outstanding group of owners, designers, contractors, suppliers, manufacturers, entrepreneurs, executives and engineers. This will be a fun day of learning and socializing. It is not too late to register, just give us a call to reserve a seat.



Other opportunities are on the horizon for us, including more training with some Transit Agencies, potential work in Guatemala and Korea, and we are speaking again at the University of Wisconsin on March 7-9. We have a lot of irons in the fire and anxiously await for them to ignite. Our first year in business has been good. We wish to thank our many clients, especially Parsons Brinckerhoff and Reliant Energy for giving us the opportunities to do what we truly enjoy, anything that pertains to Track. We look forward to another exciting year as a Consultant. Thanks to all, for your kind words about our Newsletter. We enjoy doing it. My commute to work sure has changed!

### Brief Note

The Tren Urbano System in Puerto Rico had a ribbon cutting on December 17th, 2004 that opened the system on Sundays only from 10am to 4pm with free rides. They say that a full opening is expected for February, 2005. We will keep you posted.

### Spotlight, Larry Laurello Sr.

From 1978 to 1980, I had the pleasure of working for Delta Railroad Construction as a Switch Foreman in Virginia and Maryland. Over the years I have stayed in touch with Larry Sr. and have seen Larry Jr. develop into an outstanding leader, always keeping his fathers values as a priority. Larry Sr. has now officially retired and handed the company to the kids, even though he still comes to work everyday. We would like to give you a brief synopsis of Larry Laurello Sr. and Delta Railroad.

In 1957 Cosmo A. Laurello (Larry Sr. Father) founded Delta Railroad Construction after he stopped making wine when the demand diminished after WWII. C. Lawrence Laurello (Larry Sr.), born in 1938 officially joined his father in the business after graduating Notre Dame in 1962 with a bachelor of science degree in Civil Engineering. The business started with a few hand tools, a rebuilt power jack and a small dozer. In 1965 they landed their first big job (\$300,000.) with General Motors in Lordstown, Ohio. The job consisted of all new construction of about 10,000' of track and 20 turnouts. They continued to bid and "learn the ropes", such as mark-ups, bonding and borrowing. Larry's father had a good business background but minimal education. The Laurello's continued to grow and learn about the track construction business and being a contractor in general. With Larry's hard work and dedication, Delta has become a premier contractor with an impeccable reputation for honesty and fairness. After Larry Sr's father passed on, he turned over the business to Larry and his sister, JoAnn. She worked with the business for awhile and then started a software company and did very well. She sold her company in the early 80's and settled in the Boston area. Delta Railroad Construction continued to prosper and by 1999 they were doing about 12 million per year. They have since tripled that volume in 6 years. According to Larry Sr', he has retired and "turned the business over to the kids" even though he still comes to work everyday. The kids being Rick Ryel (JoAnn's son), Larry Jr., Michael (Mickey) and Paul. When I asked Larry Sr what is the most important aspect of being a good contractor, his response was simple; "Being honest and totally fair" if your not, then "sooner or later it will bite you in the ass". Larry Sr. is a big supporter of education. He says "never stop learning". We couldn't agree more. We had the pleasure of giving our Trackwork 101 course to 22 of Delta's employees. We had a great time talking track and we received outstanding reviews from the participants. Thank you Delta for the opportunity and we wish you the very best for a healthy and prosperous future. The opportunities are tremendous and we know that Delta will be a major player.





# Ask The Track Guy



This is where you, the reader get to ask questions about Railroad Track engineering, design, construction, maintenance or anything to do with Trackwork. Simply write or e-mail a question and we will answer in a timely manner. Some questions will be published here.

## Where is the next generation of Track Guys?

This question requires some opinions, which I am glad to offer. At the last AREMA conference we heard some staggering statistics about the number of Railway Engineers that are entering the field. Bottom line is, not enough. The Rail industry is growing. The Freight Railroads are booming. The Short Lines now have legislation that gives them tremendous tax credits for upgrading their track to handle the increasing loads. Passenger Rail systems are being built all over this country and will not stop until highway congestion at least becomes palatable. We are at the threshold of a rail renaissance that could be similar to the turn of the 19th century.



The "old guys" are very close to retirement and the young bucks are not in position to take over. 75% of the Railroaders are over 50. 58% being between 50 and 60. The Railroads are expected to hire 140, 000 people in the next 10 years. There is a tremendous opportunity in the rail industry, but the young engineers see the glory with computer science and yuppie type business structures. The rail industry needs to be promoted as the wonderful field that it is. We are seeing a few women entering the field and I have been impressed with each one that I have seen. I have had the pleasure of working with some young and upcoming stars. Mark Lindstrom, Brian Madden and Michelle Nuzum are 3 people in their 20's that possess the right attitude and the drive that will propel them to success in any endeavor.



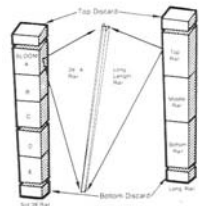
The next generation will come from within us old guys. We must spread the word about the glory of this industry and how well it has supported our careers and our families quality of life. We must teach and show the young bucks the *Indian Tricks* that the old timers taught us. If we do not pass it on then the industry will suffer in the form of neglect and ultimately will become a serious safety issue that no one ever wants to deal with.



## Why do we see new rail specs mention "A" rails?

"A" rails have not been rolled since 1989. They are a product of the open hearth method of steel making. The upper part of any ingot will have some impurities, hence "A" rails come from the top and are specified for yard use only or industrial sidings. They should never be used for main line track. This is a perfect example of the need for updating Standard Specifications. There are other issues that could be addressed also. This question addresses a general need within the industry to standardize specifications for Light Rail Transit. We have seen 3 outstanding books come out recently. 1) TCRP Report 57, Track

Design Handbook for Light Rail Transit 2) Practical Guide to Railway Engineering, AREMA Committee 24 3) Fundamentals of Railway Track Engineering, Dr. Kerr. Each one of these publications are fabulous works and offer great instruction to the Railway Engineer. It is now time to write some Standard Specifications that can be universally used for construction. Each property has their own versions and we should combine the good and throw out the bad. If contractors were bidding with the same specs in Boston as Los Angeles, then the pricing would be more competitive. If we had a standard QA/QC manual for LRT, then we would not have good jobs and bad jobs, especially as it pertains to direct fixation track. Why must a manufacturer perform qualification tests on the exact same fastener from owner to owner? It is a waste of money. Once a fastener has qualified, why do it again? That is why we have production testing to ensure that the product continues to be fabricated the same way. Why are we grinding field welds to parent metal? As long as there are no sharp edges or fins, the upset metal adds strength. The grinding itself may cause unwanted nicks in the rail. What is happening in most cases is that the grinding guidelines for flash butt welds are applied to field welds. There are others that we will save for another day.



## How long does rail last?

There are many factors that play into the equation. The basic ones are MGT's (Million Gross Tons annually), curvature and gradient. There have been maintenance factors (F) established over the years, such as a curve >8° will have F as .100 used in the equation or a gradient between 0% and 2% will use .744 as F. These values for F have been used when calculating rail life on the freight railroad. The industry needs some values for F that are applicable to Light Rail because when the freight factors are used for LRT, the rail life calculated seems to low. We are also taught that by using lubrication we will add 50% more life to rail and periodic grinding will add another 30% to the calculated number. The simplified equation is:

$$T = F \cdot W \cdot D^{0.565}$$

Where T is Rail Life in MGT's, W is rail weight in lb/yd, D is million gross tons per year for the track in question and F is the maintenance factor. Once T is determined, divide by the MGT's to get years of life. Remember, this is very simplified and a detailed analysis using all the parameters must be used when serious budget money is at stake

