Coordinating with Freight Railroads

AMERICAN COUNCIL OF ENGINEERING COMPANIES OF SOUTH CAROLINA /SCDOT FALL CONFERENCE DECEMBER 7, 2016

George Zimmerman, P. E. STV Incorporated

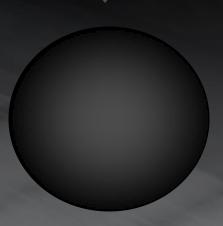






Railroad Organization

RAILROAD

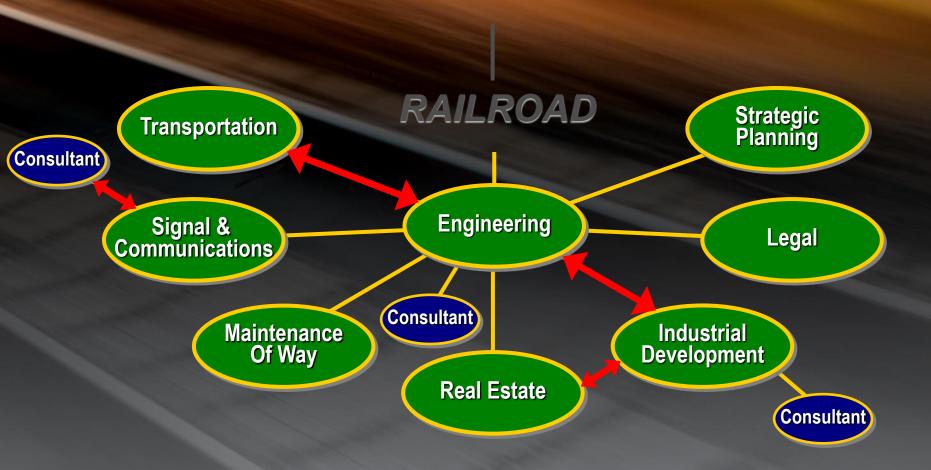








Railroad Organization

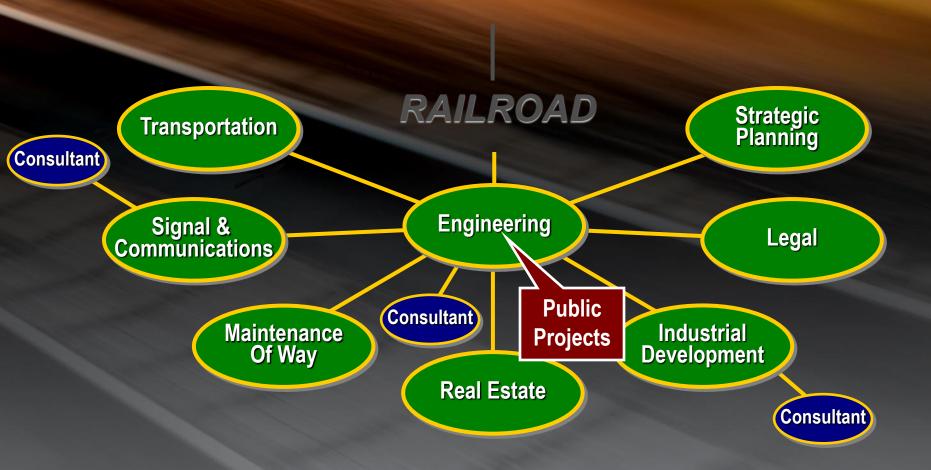








Railroad Organization









Public Projects

- » Utility Encroachments separate process
- » Norfolk Southern
 - Usually thru Public Improvement Unit within Structures (or Design & Construction for larger projects)
 - 5 engineers, each w/ 3-6 states & 200-400 projects
 - Utilize on-call consultants for reviews
 - SC Akyiaa M. Morrison (plus GA, AL, FL, MS, LA)

» CSX Transportation

- Thru Public Projects Unit within Design & Construction
- 5 PM's, each w/ 3-6 states & hundreds of projects
- Utilize General Engineering Consultants (GECs) for entire process – require upfront PE Reimbursement Agreement
- SC Doug Spitznagel (plus GA, TN, & AL)
- » Shortlines General Manager







Design & Construction Considerations

- Terminology
- » Guielines, Manuals & Sources of Data
- » Overhead Bridges
- » Grade Crossings
- » Parallel Encroachments
- » Suggestions







Guidelines and Manuals



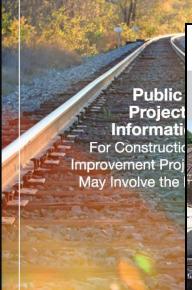
Manual for Railway Enginee



GUIDELINES FO AND CONSTRUC PRIVATELY INDUSTRY T

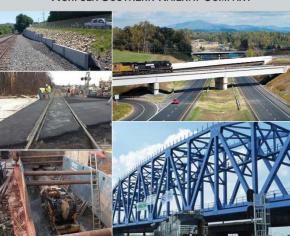
MARCH,

NORFOLK SOUTHERN CO ENGINEERING DEPAI OFFICE OF THE CHIEF DESIGN & CONSTRU ATLANTA, GEORG



Public Projects Manual

FOR PROJECTS WHICH MAY IMPACT NORFOLK SOUTHERN RAILWAY COMPANY



Effective Date: August 1, 2015

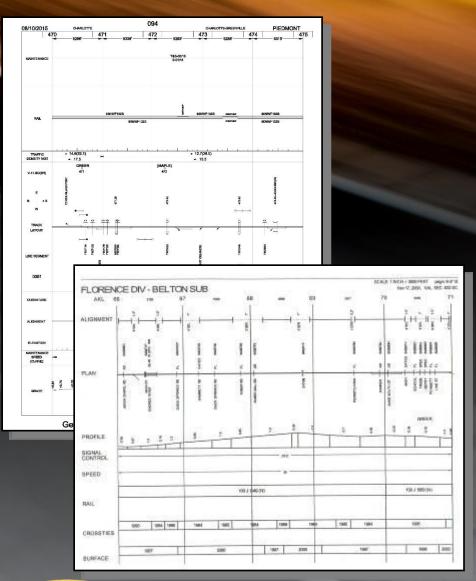








Sources of Data (Track Chart)



- » Subdivision
- » Milepost (5 mi./pg.)
- »Rail (wt.)
- » Rail traffic (mgt)
- »Layout (no. tracks)
- » Crossing info
- » Alignment (curves)
- » Profile (grades)
- »Speed (mph)
- » Maintenance







Sources of Data (Valuation Map)



- » 1916 (random updates)
- » Original alignment
- » Some property info
- » R/W width
- » Drainage structures
- » RR Utilities
- » Crossings
- » Historical resource







Other Sources of Data

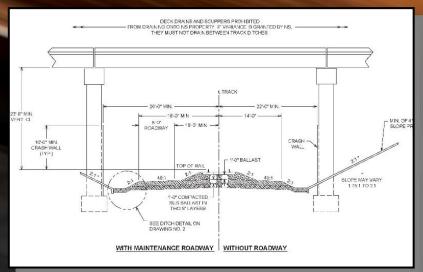
- » Timetable
- » Previous Plans
- » Railroad Files (helps to know history of the line)
- » FRA Grade Crossing Inventory
- » FRA Track Safety Standards
- » Suppliers

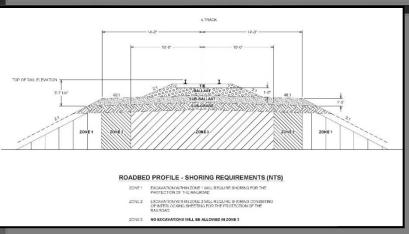






Overhead Bridges





- » Horiz. Clearances (13'-25')
- » Future Track(s)?
- » Crashwalls
- » Vert. Clearances (23' min.)
- » Drainage (from Bridge & Roadway)
- Sight Lines to RR Signals
- » Demolition Plan
- Shoring Requirements







Overhead Bridges





- » Equipment Clearances
- » Protection of signals
- » Drainage during construction
- Track structure fouling
- » Good demolition planning
- » Clean ballast section







Grade Crossings



- » DOT collaboration w/ Railroad
- » Active or passive
- » Approach profile
- » Sight distance
- » Drainage
- » Utilities
- »1-800 sign
- » Crossing material
- » Constr. staging







Parallel Encroachments



- » Multiple Railroads
- » Right of Way
- » Railroad insurance
- Right of entry
- »RR S&C and Fiber Optics
- » Blasting
- Drainage onto the RR
- » RR culvert connections
- Don't paint the rail!







Suggestions

- » Avoid assuming railroads will act in "public interest"
- Designate a senior person to build a relationship
- Make initial contact to discuss overview
- » Understand the process and allow sufficient time
- » Follow the guidelines
- » Include the milepost and file number on everything
- » Limit submittals
- » Drainage, drainage, drainage
- » How are you going to build that?
- Track and bridge is a small part consider operations and signals & communications







Suggestions

- » Eliminate grade crossings
- Understand railroad right of way ownership
- » Multiple railroads complicate things exponentially
- » Initial response is always "no"
- » Avoid "explaining" the "benefits" of your project
- Short line general manager may be driving the train
- » A Memorandum of Understanding has loopholes
- » Coordinate locally during construction
- » They never forget
- » Safety! Safety! Safety!







Safety (Railway Roadway Worker Protection Training)

CLASS 420 ITEM 223420 (RULES PROGRAM)

BACT MONFOLK

2016

Contractors Handbook for CSX Roadway Worker Protection

NORFOLK SOUTHERN OPERATING GUIDELINES FOR CONTRACTORS

EFFECTIVE NOV



JOB BRIEFING GUIDE

- 1) Will the work require fouling the track?
- 2) What type of on-track safety will be used?
- 3) Does everyone agree with the on-track safety being provided?
- 4) Who is the Roadway Worker in charge of on-track safety?
- 5) Is equipment involved in the work? Has It been inspected?
- 6) Is protection necessary on the adjacent track?
- 7) Does everyone have the appropriate personal protective equipment to perform the work?
- 8) Have all hazards of the job been discussed?
- 9) Have all tools been inspected?
- 10) What is the emergency action plan in case of accident or injury?

ning, LLC









Safety

Before anyone in this room sets foot on Railroad right of way, make sure you have been Safety trained and have checked in with the Railroad Flagman

"....expect a train at any time, on any track, from any direction, without any warning..."







QUESTIONS?





