2015 Municipal Streets Seminar

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Residential Street Reconstruction Projects In Small Cities
From Rural to Urban...

... a Common Sense Perspective
Typical Rural Cross-Section

- Two Lanes, 66’ ROW
- 22’ – 24’ wide
- Paved or Unpaved
- Shoulders…
- Crowned Surface
- Flat Profile Grade…
- Drains Laterally

- Ditches Collect & Convey Runoff
- Ditches w/Slope
- Fore & Backslopes
- Mown or Natural
- No Sidewalks
Typical Urban Cross-Section

- Two Lanes, 60' ROW
- 25’ – 31’ wide
- Paved
- Curb & Gutter
- Crowned Street
- Profile w/Slope

- Drains Longitudinally
- Storm Sewers Collect and Convey runoff
- Mown “Parking”
- Sidewalks
Typical Urban Cross-Section

- Two Lanes, 50’ ROW
- 20’ – 24’ wide
- Sealcoat, ACC, Stone
- Shoulders..
- Crowned Street
- Profile may be Flat
- Drains Laterally
- Marginal Ditches
- Minimal Setbacks
- Mown “Parking”
- Private Features
- No Sidewalks
Unique Design Challenges

Potential Issues:

- Narrow Right-of-Way
- Minimal Setbacks
- Encroachments
- Drainage
- Substandard Utilities
Private Improvements in Public Right-Of-Way

- **Property Owners**
  - May Believe They Own ROW

- **Wide Variety**
  - Planting Beds
  - Pavers
  - Fences
  - Retaining Walls
  - Mailboxes & Pillars
  - Buildings
Switching to Curb & Gutter

- Big Decision
- Typical Comparisons
  - Construction Cost
  - Original Town vs. Subdivisions
  - Maintenance
    - Ongoing Cost
    - Experience
    - Equipment
  - Appearance
- What do Neighbors Want?
Switching to Curb & Gutter

- **Existing Ditches**
  - Do They Drain?
    - Sufficient Fall Available?
    - Silted In?
    - Obstructions?
    - Outfall Required?

- **Re-Grading Ditches**
  - Evaluate Grading Limits
  - Useable Front Yard
Switching to Curb & Gutter

- Sidewalks
  - Strong Opinions
    - Can be Divisive Issue
    - Snow Removal vs. Safety
  - May Change Their Minds After Completion
Switching to Curb & Gutter

- Recreational Trails
  - Comprehensive Plan
    - Regional Trails
    - Connectivity
  - Property Owners
    - Not in My Front Yard
      - Snow Removal
      - Maintenance
    - City May Maintain
Public Informational Meetings

- **Timing**
  - Before Design is Complete
  - Before Easement Negotiations

- **Discuss**
  - Project Scope
  - Construction Schedule
  - Property Impacts
  - Grading Limits
  - Access During Construction
  - Mail Delivery, Garbage Pickup
Property Owners

- Anticipated Issues/Concerns
  - Significant Impacts
    - During Construction
  - Significant Long-Term Impacts
  - Definition of “Significant”
  - Property Owners with a Track Record
Property Owners

- Biggest Complaints
  - Not Necessarily from Those Most Inconvenienced

- Unique Perspective
  - May React Differently than Expected
Changes to Horizontal Alignment

- Adjust Centerline
  - Not Centered in ROW
  - Utility Accommodation
  - Sidewalk(s)

- Issues
  - Perceived Loss of Front Yard
Changes to Vertical Alignment

- Reasons to Change Street Grade
  - Lower Profile to Collect Drainage
  - Better Fit for Adjacent Topography
  - Develop Longitudinal Slope for Drainage
  - Improve Site Distance
    - Create Platform at Intersections
Multiple Driveways Per Lot

- Challenging to Eliminate
  - “Grandfathered In”
Parallel Driveways

- Property Owner Buy-In
  - Less Maintenance

![Image of parallel driveways]
Driveways

- Driveway Approach Replacement
  - Limits of Replacement
  - Increase with Changes to Profile
- Challenges
  - Create Smooth Transitions
  - Coordinate with Property Owner
    - Unique Conditions
    - Difficult to Visualize
Driveway Approach

- Difficult for Lay People to Visualize
Easements

- **Needs**
  - Grading Limits
  - Temp. Access Drives
  - Topsoil Stockpiles

- **Temporary Easements**
  - Improved Grading and/or Drainage
  - Attempt to Acquire at No Cost
  - Meet On-Site with Property Owners
    - Project With and Without Easement
    - Include Public Works Director
Construction Coordination

Administration
- Single Point of Contact, 24 / 7
  - Contractor, Public Works, Engineer

Questions & Concerns from Public
- Define Procedure
  - City Staff:
    - Business Cards at City Hall
    - Encourages Referral to Engineer
  - City Council:
    - Ability To Direct Citizens Appropriately
Construction Coordination

- Abutting Property Owners
  - In Their Front Yard
    - Lots of Eyes on Work
  - Should Not Talk to Contractor Directly
    - Explain WHY
    - Better Results if Use Proper Channels
Access During Construction

- Temporary Access Drives
  - Ongoing Maintenance
  - Surface Restoration
- Parking on Side Streets
  - Property Owner Needs and/or Restrictions
- Inconvenience to Property Owners
  - Communication is key
Progress Reports

- Regular Updates
  - Council
  - Property Owners
    - Noisy
    - Late/Early Work
- Notification
  - Mail
    - Owners & Tenants
  - Door Hangers
    - Attached Garages
Testing Labs

- May Use Local Labs
- Attend Pre-Con
  - Timely Reporting
  - Where to Send Reports
  - Proper Handling of Cylinders
  - Rejecting Concrete Loads
- City Hires Lab
Franchise Utilities

- Plan Review
  - Who’s on the Pole?

- Scheduling Relocations
  - To Avoid Delay
  - Single Point of Contact
  - Temp. Service Lines

- Staking
  - Horizontal & Vertical

- Service Interruptions
  - Contractor to Report
Water Mains

- **Typical Issues**
  - Undersized Mains
  - No Auxiliary Valves

- **Potential Issues**
  - Changes in Size
    - Unexpected Locations
  - No Thrust Blocks
  - Substandard materials
    - Pipes and Fittings
  - Change Orders
Sump Services

- **Existing Sump Services**
  - Storm Sewers Not Available
  - Connected to Sanitary Sewer
    - Recommend Disconnection
  - Discharge into Yards/Ditch
    - May Create Drainage Issues

- **Proposed Collector Lines**
  - With Project, If Possible
  - Require Connection?
Pavement Subgrade

- Soil Borings
  - Adjacent to Street
  - Similar to Adjacent Project
  - No Evidence of Differential Settlement
- 1960’s Sanitary Sewer
  - Minimal Testing & observation
  - Unsuitable Materials in Backfill
- Soft and Unstable Soils
Pavement Subgrade

- Evaluate Options
  - Geotechnical Engineer
  - Product Engineers
  - In-House Expertise

- Options
  - Core-Out & Replace
    - Costly
  - “Bridge” the Trench
    - 8” Rock
    - Geogrid
Pavement Subgrade

- **Short Segment**
  - On Uphill Grade
  - Uncooperative Weather

- **Weight of Concrete Trucks**
  - Low Traffic Volume
    - Not Long Term Concern
  - Vulnerable During Paving Operations

- **Keep Trucks Off Subgrade**
  - Narrow Right-of-Way
    - Limited Options
The Solution
Surface Restoration

- **Issues with Seed and/or Sod**
  - Rocks remain in finished grade
  - Gaps in sod
  - Insufficient top soil
  - Inadequate watering

- **Suggestions**
  - Watering by Owners
  - Credit on Water Bill
Record Keeping Opportunity

- Document
  - Pipe Materials
  - Depth
  - Locations
- Photographic Record
- GPS
  - Service Connections
  - Curb Stops
Stuff Still Happens…

- Construction Observation
  - Not On Site
    - 100% of Time
Project Schedule

- **Contract Working Days**
  - Change Orders
    - Include Additional Days, if any
  - Substantial Completion
    - When Street is Open to Traffic
    - Not Full Completion
    - Coordinate with Council and Attorney Upfront
- **Liquidated Damages**
  - Substantiated, Not Punitive
Smaller Cities

- Understand Their Perspective
  - Less Experience with Reconstruction Projects
  - Limited Staff Resources
  - Smaller Budgets
    - Significant Percentage of Budget

- Mayor & City Council
  - Must Rely on Their Consultants
    - Healthy Skepticism (i.e. Change Orders)
  - More Approachable to Citizens
    - Harder to Say “No”

- Communication is Key
Questions and/or Comments