Dulles Corridor Metrorail Project
Phase 2, Package A

Capital Rail Constructors:
Quarterly Update to MWAA Board of Directors

Keith Couch
Capital Rail Constructors

January 2018
Agenda
1. Safety
2. Schedule
3. Progress
4. Labor Statistics
5. DBE Subcontracts
Scope
Safety

Since Notice to Proceed:

- Manpower Hours: 5,693,721 (As of 12/11/2017)
- Recordable Rate: 0.91 (vs. National Average: 3.30)
- Lost Time Rate: 0.07 (vs. National Average: 1.70)

Current Program Focus:

- Working adjacent to traffic and within Maintenance of Traffic (MOT) areas
- Track Allocation
- Energization of Systems
Overall Project Status

- Design and Construction: 76%
  - Construction Status: 74%
  - Design Status: 99.98%
NOTES:

- Based on Revised Baseline Schedule, with an Aug 1 data date, agreed with MWAA on Sep 5, 2017.
Facilities: Dulles Airport Station

- Structural Precast erection: Completed
- Canopy Steel: Completed
- Fiber line relocation: Completed
- Track Pedestals and Cable Trough: Sep 2017 - Dec 2017
- Train Control rough-in: Dec 2017 - Feb 2018
Facilities: Dulles Airport Station

- Platform Granite: Feb 2018 - Mar 2018
- Elevator Install: Jan 2018 - May 2018
- Storefront Glass: Jan 2018 - Mar 2018
- TPSS 16 Install: Jan 2018 - Mar 2018
- Mezz. Mechanical/Electrical/Plumbing Rough-In: Ongoing
Innovation Center Station

Elevators: Completed Dec 2017
Mezzanine topping slab pour: Completed Dec 2017
Terminate 34.5 kV in AC switch gear: Completed Dec 2017
South Pedestrian Bridge pour: Completed Dec 2017
Curtain Wall: Completed Dec 2017
Innovation Center Station

<table>
<thead>
<tr>
<th>Material</th>
<th>Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavers</td>
<td>50% complete</td>
</tr>
<tr>
<td>Granite</td>
<td>95% complete</td>
</tr>
<tr>
<td>Metal Roofing</td>
<td>75% complete</td>
</tr>
<tr>
<td>Skylights</td>
<td>90% complete</td>
</tr>
<tr>
<td>Escalators</td>
<td>50% complete</td>
</tr>
</tbody>
</table>
Innovation Station Pavilions

SOUTH:
- Structural Precast erection: 90% complete
- Elevator construction underway

NORTH:
- Retaining wall: 90% complete
- Site Ductbank: Underway
Innovation Station Pedestrian Bridges

SOUTH PAVILION

NORTH PAVILION

# = Span Number

# = Span Installed

SOUTH: 4 Spans

NORTH: 4 Spans
Innovation Station Pedestrian Bridges

SOUTH:
• All spans and nodes: 100% Erected
• Deck Pours: 100% Complete

NORTH:
• All spans and nodes: 100% Erected
Facilities: Herndon Station

- Metal decking: Complete
- Mechanical/Electrical/Plumbing Rough-in: Underway
- Roofing/Skylights: Underway
- Track through station: Underway
- Elevators: Underway
- Escalator build-out: Early 2018
Herndon Station Pavilions

SOUTH:
- Concrete structure: Complete
- Utility work surrounding Pavilion: Complete
- Precast erection: Underway

NORTH:
- Preliminary utility relocation: Underway
- Clearing & grubbing: Underway
Herndon Station Pedestrian Bridges

SOUTH:
- Spans 4, 5, 6, and 7: Erected
- Node erection: Complete

NORTH:
- Spans 2 & 3: Erected
- Deck Pours: Begin Mar 2018
Facilities: Reston Town Center Station

- **Precast:** Complete Feb 2018
- **Steel Erection:** Complete
- **Mechanical/Electrical/Plumbing rough-In:** Jan 2017 - Fall 2018
- **Metal Decking:** Complete
- **Roofing:** Sep 2017 - Jun 2018
Reston Town Center Station Pavilions

NORTH:
- Concrete work: Complete
- Precast erection: 90% Complete
- Escalator setting: Upcoming

SOUTH:
- Concrete work: Underway
- Pavilion backfill: Upcoming
- Below grade MEP: Upcoming
Reston Station Pedestrian Bridges

SOUTH: 2 Spans

NORTH: Spans 4

# = Span Number
# = Span Installed

SOUTH PAVILION

NORTH PAVILION
Reston Station Pedestrian Bridges

SOUTH:
2 Spans on site
Assembly underway

NORTH:
- 4 Spans:
- Deck Pours:
  - 100% Erected
  - Span 1 & 2 poured, 3 & 4 scheduled for Jan 2018
Loudoun Gateway Station

- Cast-in-Place Concrete: Complete Feb 2017
- Precast Erection: Start Feb 2018
Loudoun Gateway Pavilion

NORTH:
- Cast-in-place Concrete: Oct 2017 – Feb 2018
- Precast Concrete: Start Feb 2018
Loudoun Gateway Pedestrian Bridge

- NORTH: 4 Spans

- # = Span Number
- # = Span Installed

NORTH PAVILION
Loudoun Gateway Pedestrian Bridge

NORTH:
Facilities: Ashburn Station

- Cast-in-Place Concrete: Jan 2017 – Feb 2018
- Precast Erection: May 2017 – Feb 2018
- Steel Erection: Dec 2017 – May 2018
Ashburn Station Pedestrian Bridges

- # = Span Number
- # = Span Installed

SOUTH: 2 Spans
NORTH: 3 Spans
Ashburn Station Pedestrian Bridges

SOUTH:
- Span 4 and 5: 100% Erected
- Deck Pours: Jan 2018

NORTH:
- Span 1-3 to be erected Jan 2018
Ashburn Station Pavilions

**SOUTH:**
- Cast-in-place: Completed Dec 2017
- Frame and pour elevator hydraulic shaft, strip elevated deck, complete utility tie-ins, pour slab-on-grade: Upcoming

**NORTH:**
- Cast-in-Place: Complete Jan 2018
- Precast: Start Feb 2018
- Strip elevated deck, remove shoring towers, elevator hydraulic trench: Upcoming
Civil: Wayside Ductbank

**Tie Breaker Stations (TBS)**
- TBS 8 & 11 Median: Complete after Track Wall is installed Q1 2018

**Traction Power Substations (TPSS)**
- TPSS 18 Wayside: Active
- TPSS 20 Median: Active
Civil:
34.5 kV Ductbank

61,705 feet of 61,705 foot ductbank installed (100% complete)
Civil: Storm Drainage

Storm/Wet Utilities

- 66,150 of 86,400 LF Storm Pipe Installed (77%)
- 5,323 of 13,259 LF of Water Line Installed (40%)
- 3,709 of 9,140 LF of Sewer Line Installed (41%)

- N08: DIAAH/DTR median storm: Q2 2018
- Sunrise Valley storm: Q3 2018
- N09: DIAAH/DTR median storm: Q3 2018
- TBS 8 Median: Dec 2017
- AP-2 Storm: Q1 2018
- Innovation North Water: Q2 2018
- N12: 772 North/South: Q2 2018
<table>
<thead>
<tr>
<th>Track Wall</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Footer installed:</strong></td>
<td>67,000 of 75,000 LF</td>
<td>89% complete</td>
</tr>
<tr>
<td><strong>Total Wall installed:</strong></td>
<td>66,000 of 75,000 LF</td>
<td>88% complete</td>
</tr>
<tr>
<td><strong>East Segment:</strong></td>
<td>Close leave-outs</td>
<td></td>
</tr>
<tr>
<td><strong>West Segment:</strong></td>
<td>Abutment B to Broad Run Bridge is active</td>
<td></td>
</tr>
</tbody>
</table>
Civil: Grading/Excavation/Paving

East:
- Turnover sub-ballast to Track at Reston & Herndon: Jan 2018
- EB & WB DTR Road widening near Herndon Station: Underway
- Herndon North Pavilion enabling work: Underway
- Reston South JBG parking lot: Underway

West:
- Active shoulder and sub-ballast from Abutment B-Broad Run Bridge: Q1 2018
Track: Cable Trough

- Precast Cable Trough Installed: 58,439 of 81,176 linear feet (72%)
- Cast-in-Place Cable Trough Poured: 38,520 of 38,520 linear feet (100%)
Track: Direct Fixated (DF) Plinths

- Direct Fixated Track Plinth: 36,726 of 37,595 TF poured (98%)
- DF plinths were poured out in December
Track: Contact Rail

- Contact Rail (aerial guideway segment): 24,842 of 40,750 LF installed (61%)
Track: Ballasted

- Ties set and rail clipped: 23,000 of 87,000 track feet (38%)
Systems: Wayside Facilities/Power

- TPSS 13/14/15/17,19; TBS 6/7/9/10, and TCR N96/N97 are installed. 14 Comm. Room is installed.
- Dominion Energy Vista Switch Yard installations complete at TPSS’s 13/14/15/16/17/18/19.
- 80% of all 34.5kV cable has been installed, spliced, and terminated Project-wide.
- Permanent 34.5kV Power available to TPSS’s 13/14/15/16/17, TBS’s 6/7/10, Innovation Station, and Herndon Station.
**Start-up/Commissioning/Turnover**

- **Stations:** Switchgear Testing begins January; Communications Installation Begun at Dulles
- **Guideway:** Turnover completed for N96, N97, N99E and part of N98A (~30%)
- **Waysides:** 64% of Buildings Set (TBS 6, 7, 9, 10; TPSS 13, 14, 15, 17, 19); Fit-out Ongoing
- **Overall:** Finalizing management plans and procedures for Project Acceptance by Stakeholder.
# Manpower Hours

## September 2017 – November 2017

<table>
<thead>
<tr>
<th>Manpower Hours</th>
<th>Sep 2017</th>
<th>Oct 2017</th>
<th>Nov 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Staff</td>
<td>46,530</td>
<td>41,809</td>
<td>39,040</td>
</tr>
<tr>
<td>Craft Labor – CRC &amp; Subcontractors</td>
<td>150,116</td>
<td>151,361</td>
<td>91,883</td>
</tr>
<tr>
<td></td>
<td>African American</td>
<td>Asian</td>
<td>Caucasian</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------</td>
<td>-------</td>
<td>-----------</td>
</tr>
<tr>
<td><strong>Total Hires</strong></td>
<td>#</td>
<td>%</td>
<td>#</td>
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<tr>
<td></td>
<td>6758</td>
<td>991</td>
<td>72</td>
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<tr>
<td></td>
<td>15</td>
<td>1</td>
<td>37</td>
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<tr>
<td></td>
<td>15</td>
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<td>37</td>
</tr>
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# Labor by State

## September 2013 – December 12, 2017

<table>
<thead>
<tr>
<th></th>
<th>Virginia</th>
<th>Maryland</th>
<th>District of Columbia</th>
<th>Other</th>
</tr>
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<tbody>
<tr>
<td>September 2013 – December 12, 2017</td>
<td>58%</td>
<td>26%</td>
<td>3%</td>
<td>13%</td>
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</table>
DBE Status: November 2017
Base Contract Only

<table>
<thead>
<tr>
<th>Dollars Procured to DBE</th>
<th>14%</th>
<th>14.20%</th>
<th>14.35%</th>
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<tbody>
<tr>
<td>$0</td>
<td></td>
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<tr>
<td>$180,000,000</td>
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</table>

DBE Project Goal: $164,888,780.00
DBE Committed Value Against Awarded Contracts: $167,212,580.00
Remaining to Buy: $0
Projected Finish: $169,046,913.62

DBE Status: 14%
Local Employment Outreach Program

Sep – Dec 2017:

09/08/17: Building Futures Program, DC
09/27/17: Greater Washington Urban League
Environmental

Erosion and Sediment Control

• In Compliance - No reportable infractions for this project.

• November Virginia Department of Environmental Quality Semi-Annual Inspection went very well. Minor findings have been addressed.

Spills/Releases

• In Compliance - No releases to surface water for this quarter or since the inception of this project.
Environmental

Waste Management

• In Compliance: No infractions regarding our waste handling/disposal procedures.

Project Close Out

• Waste: Currently prepping waste handling/disposal protocols for project demobilization.
• Documentation: In 100% compliance at this time. Continue to ensure all open deliverables are provided.