Dulles Corridor Metrorail Project
Phase 2, Package A

Capital Rail Constructors:
Quarterly Update to MWAA Board of Directors

Keith Couch
Capital Rail Constructors

October 2017
1. Safety
2. Schedule
3. Progress
4. Labor Statistics
5. DBE Subcontracts
Scope
Safety

Since Notice to Proceed:

- **Manpower Hours:** 5,053,054
  (As of 08/26/2017)
- **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: 67.12%
  - Construction Status: 61.12%
  - Design Status: 99.97%
Project Progress

Cost Percent Completion Curves by Discipline

Entire Project (Base Contract)
- Aerial Guideway Decks Poured: 177 of 177 - 100% Complete
- Dulles Station Decks Poured: 16 of 16 - 100% Complete
Dulles Airport Station

- Structural Precast Erection: Completing Oct 2017
- Track Pedestals/Cable Trough: Sept 2017 - Nov 2017
- Canopy Steel: Sept 2017 - Oct 2017
- Tower Crane Removal: Oct 2017
- Platform Granite: Nov 2017 - Dec 2017
- TPSS 16 Install: Oct 2017 - Dec 2017
Innovation Center Station

- Mechanical/Electrical/Plumbing Rough-In: Underway
- Roofing, Skylights: Underway
- Granite: Underway
- Ceiling Framing: Underway
- Curtainwall: Start Oct 2017
Innovation Center Station

- Mechanical/Electrical/Plumbing Rough-In: Underway
- Roofing, Skylights: Underway
- Granite: Underway
- Ceiling Framing: Underway
- Curtainwall: Start Oct 2017
Innovation Station Pavilions

NORTH:
- Retaining wall: 90% complete
- Site Ductbank: Underway

SOUTH:
- Structural Precast erection: 90% complete
Innovation Station Pedestrian Bridges

NORTH: 4 Spans

SOUTH: 4 Spans

# = Span Number

# = Span Installed
Innovation Station Pedestrian Bridges

NORTH:
• All spans on-site; assembly: Underway
• Erect first span: Oct 2017

SOUTH:
• All spans and nodes: Erected
Facilities: Herndon Station

- Steel Erection: Complete
- Metal Decking: Underway
- Mechanical/Electrical/Plumbing Rough-in: Underway
- Roofing/Skylights: Aug 2017 - Fall 2017
Herndon Station Pavilions

SOUTH:
- Concrete structure: Completed
- Utility work surrounding Pavilion: Underway
- Precast erection: Coming soon

NORTH:
- Preliminary Utility Relocation: Underway
Herndon Station Pedestrian Bridges

**SOUTH:**
- 4 Spans

**NORTH:**
- 3 Spans

# = Span Number
# = Span Installed
Herndon Station Pedestrian Bridges

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

- NORTH:
  - Spans 2 and 3: Erected
Facilities: Reston Town Center Station

- Precast: Complete
- Steel Erection: Complete
- Mechanical/Electrical/Plumbing Rough-In: Jan 2017 - Fall 2018
- Metal Decking: Aug 2017 - Oct 2017
Reston Town Center Station Pavilions

NORTH:
- Concrete work: Complete
- Precast erection: Underway

SOUTH:
- Elevator casings: Drilled
- Pavilion Ductbank: Installed
- Concrete work: Underway
Reston Station Pedestrian Bridges

**SOUTH**: 2 Spans

**NORTH**: 4 Spans

- # = Span Number
- # = Span Installed
Reston Station Pedestrian Bridges

SOUTH:
- Bridge delivery scheduled: Dec 2017

NORTH:
- Span 4: Erected
- All spans on site; assembly: Underway
- Support Pier R3 construction: Underway
Loudoun Gateway Station

- Precast Erection: Apr 2017 – Oct 2017
- Steel Erection: Jul 2017 – Oct 2017
- Concrete Masonry Walls: Aug 2017 – Nov 2017
Loudoun Gateway Pavilion

NORTH:
- Precast Concrete: Oct 2017 Start
- Cast-in-place Concrete: Oct 2017 Complete
Loudoun Gateway Pedestrian Bridge

NORTH: 4 Spans

# = Span Number
Loudoun Gateway Pedestrian Bridge

NORTH:
- Span 1: Sept 2017 Delivered
- Erection Dates: Span 1 – Dec 17, Span 2 – Dec 17, Span 3 – Dec 17, Span 4 – Dec 17
Facilities: Ashburn Station

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

# = Span Number

SOUTH: 2 Spans

NORTH: 3 Spans
Ashburn Station Pedestrian Bridges

SOUTH:
- Span 4 and 5: Being assembled
- Set Span 4: Nov 10
- Set Span 5: Nov 14

NORTH:
- Span 1 delivery: Oct 18
- Span 3 delivery: Nov 1
Ashburn Station Pavilions

SOUTH:
- Elevated Deck for Pedestrian bridge poured: Sept 22
- Strip elevated deck, complete utility tie-ins, pour slab-on-grade: Upcoming

NORTH:
- Preparatory work for concrete pour at Mezzanine Deck: Underway
- Strip elevated deck, complete utility tie-ins, backfill, pour slab-on-grade: Upcoming
<table>
<thead>
<tr>
<th>Tie Breaker Stations (TBS)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TBS 8 Wayside:</td>
<td>Active</td>
</tr>
<tr>
<td>TBS 8 Median:</td>
<td>Active</td>
</tr>
<tr>
<td>TBS 9 Wayside:</td>
<td>Complete</td>
</tr>
<tr>
<td>TBS 10 Wayside:</td>
<td>Complete</td>
</tr>
<tr>
<td>TBS 11 Median:</td>
<td>Active</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Traction Power Substations (TPSS)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TPSS 18 Wayside &amp; Median:</td>
<td>Active</td>
</tr>
<tr>
<td>TPSS 19 Median:</td>
<td>Active</td>
</tr>
<tr>
<td>TPSS 20 Wayside:</td>
<td>Active</td>
</tr>
<tr>
<td>TPSS 20 Median Remobilize:</td>
<td>Oct</td>
</tr>
</tbody>
</table>
Civil:
34.5 kV Ductbank

61,306 feet of 61,705 foot ductbank installed (99% complete)

- N07: Complete
- N08: Complete
- N09: Complete
- N10: Complete
- N11: Active
- N12: Complete
- N97: Active
Storm/Wet Utilities

- **N10**: Adjacent to Dulles Station Sanitary: Complete
- **N11**: 606 Station to Broad Run Bridge: Complete
- **N96**: Autopilot storm complete: Complete
- **N97**: TPSS #18 to 606 bridge storm: Complete
- **N07**: Reston Station interior storm: Complete
- **Herndon South Pavilion storm**: Complete
- **Herndon Station interior storm**: Complete
- **N08**: DIAAH/DTR median storm: Q4
- **Sunrise Valley storm**: Q4
- **N09**: DIAAH/DTR median storm: Q4
- **TBS 8 Median**: Q4
- **Water**: Q4
- **AP-2 Storm**: Q4
- **Innovation North Water**: Q4
- **N12**: 772 North/South: Q4
Track Wall

- Total Footer installed: 65,000 of 75,000 LF - 87% complete
- Total Wall installed: 61,000 of 75,000 LF - 82% complete
- East Segment: Finish remaining work
- West Segment: All segments from Abutment B to Loudoun County Parkway active
East Segment:
- Turnover sub-ballast to Track: Oct 2017
- Eastbound DTR Road widening at Herndon-Monroe Park & Ride: Underway
- Herndon & Reston South work: Underway
- North Innovation wall: Complete

West Segment:
- Active Trackwall Abutment B to Loudoun County Parkway: Q4
Track: Cable Trough

- Precast Cable Trough Installed: 42,756 of 85,730 linear feet - 49% complete
- Cast-in-Place Cable Trough Poured: 23,489 of 38,520 linear feet - 61% complete
Track: Direct Fixated (DF) Plinths

- Direct Fixated Track Plinth Poured: 23,345 of 37,595 track feet - 62% complete
Track: Contact Rail

Guideway Contact Rail installed: 9,200 of 42,401 LF – 22% complete
Track: Ballasted

- Ties Set and Rail Clipped: 23,000 of 87,000 track feet – 26% complete
• TPSS 13/15/19 and TBS 7/10 in place
• TPSS 13/14/15/16/17/18/19 DVP switch yard installations complete
• 34.5 kV Cabling: D.E. cabling complete from TPSS 15 to TPSS 13 and TPSS 15 to TPSS 18
• Permanent 34.5kV Power available to TPSS 14/15/17, TBS 7 and 10, and Innovation Station
# Manpower Hours

## June 2017 – August 2017

<table>
<thead>
<tr>
<th>Manpower Hours</th>
<th>Jun 2017</th>
<th>Jul 2017</th>
<th>Aug 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Staff</td>
<td>55,036</td>
<td>47,744</td>
<td>46,312</td>
</tr>
<tr>
<td>Craft Labor – CRC &amp; Subcontractors</td>
<td>177,256</td>
<td>140,746</td>
<td>158,914</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>6292</td>
<td>928</td>
<td>72</td>
</tr>
<tr>
<td><strong>#</strong></td>
<td>928</td>
<td>72</td>
<td>2163</td>
</tr>
<tr>
<td><strong>%</strong></td>
<td>14.75</td>
<td>1.14</td>
<td>34.38</td>
</tr>
</tbody>
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## Labor by State

### September 2013 – September 20, 2017

<table>
<thead>
<tr>
<th>State</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virginia</td>
<td>58.25%</td>
</tr>
<tr>
<td>Maryland</td>
<td>25.16%</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>3.43%</td>
</tr>
<tr>
<td>Other</td>
<td>13.16%</td>
</tr>
</tbody>
</table>
DBE Status: September 2017

- **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
Local Employment Outreach Program

Jun – Sept 2017:
06/09/17: Building Futures Program, DC
07/05/17: Greater Washington Urban League, DC
09/08/17: Building Futures Program, DC