

SR1/I95 Interchange Update



Project Status

- Background Information
- Our progress and work Completed to Date
- Current Phasing of Construction
- Challenges to Construction
- Impacts to the Project
- Other Adjacent Work Ongoing and Planned

PROGRESS

Definition of *PROGRESS*

1

a (1): a royal journey marked by pomp and pageant (2): a state procession

b: a tour or circuit made by an official (as a judge)

c: an expedition, journey, or march through a region

2

: a forward or onward movement (as to an objective or to a goal) : advance

3

: gradual betterment; *especially*: the progressive development of humankind

Webster Dictionary -

PROGRESS, pra – gress, noun

One entry found.

] 1: movement forward or toward a place or goal

▪

2: the process of improving or developing something over a period of time

▪

Cherry Hill Construction



- Subsidiary of Tudor-Perini Corporation (Ranked #9 in USA)
- Publically Traded Company
- Workforce mainly Union Operators and Labor
 - I-95 General Purpose and Express Toll Lanes from I-895 Split to Chisago Avenue Baltimore, MD
 - MD Route 5 Relocation Hughesville, MD
 - 9th Street over AMTRAK and CSX Washington, DC



Construction Staffing

- DelDOT - Project Resident and 3 Inspectors
- AECOM – 17 Inspectors 
- Century Engineering – 2 Inspectors and 2 Surveyors 
- WR&A – 1 Inspector 
- URS – 1 Inspector 
- AB Consultant – 1 Office staff 
- RK&K – 1 Onsite Design Engineer 

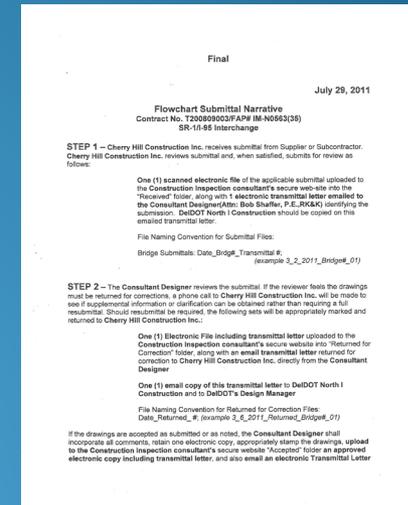
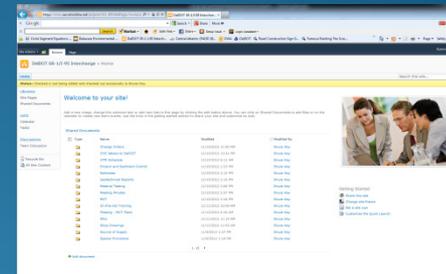
Support Staffing

- DelDOT Traffic/Safety Section
- E & S Section
- M & R Section
- Public Relations



Start of Construction

- Starting date – September 19, 2011
- Awarded Number of days - 747
- Shared point site setup
- CPM
- Shop Drawings/Contacts submittal flow chart
- RFI submittal process



Phases of Construction

- SR-1 - 7 Phases
- I-95 - 7 Phases

Completed Work

SR-1 Phase 1



Completed Work

- Completed construction of the new Mall Road Bridge over SR-1



- Widened existing SR-1 Bridge over Eagle Run



Completed Work

Christiana Mall Stormwater Management ponds





SW Loop Ramp and Temp NB SR7



Completed Work

SR-1 Phase 2



Completed Work

SR-1 Phase 3



Ramp C-1 and Ramp G-1



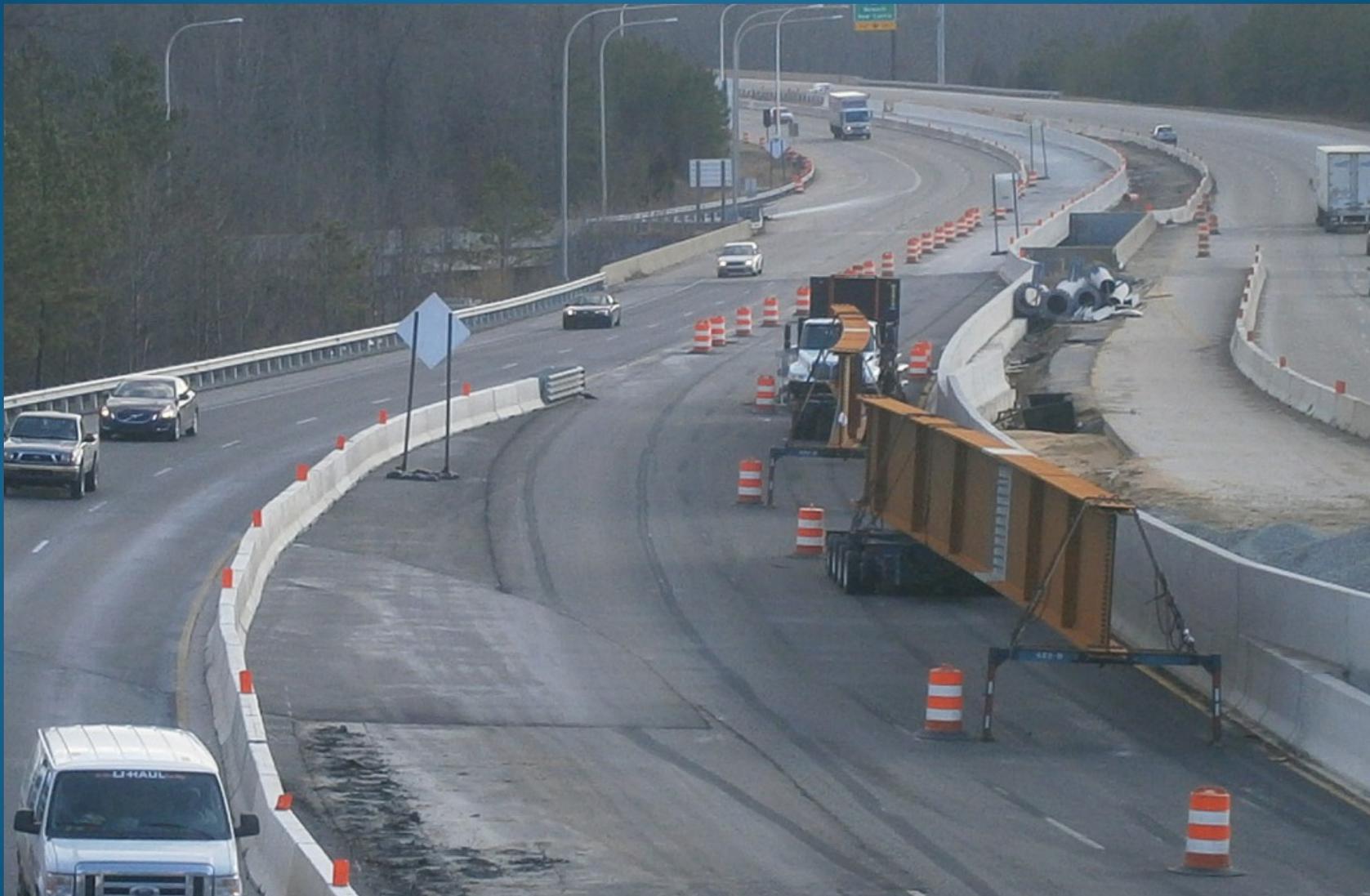
Ramp G-1 RW Wall



Ramp C-1



Ramp B and Bridge S8 Eagle Run widening



Ramp C



S4 Structural steel



S4 Structural steel





S5 Piers completed

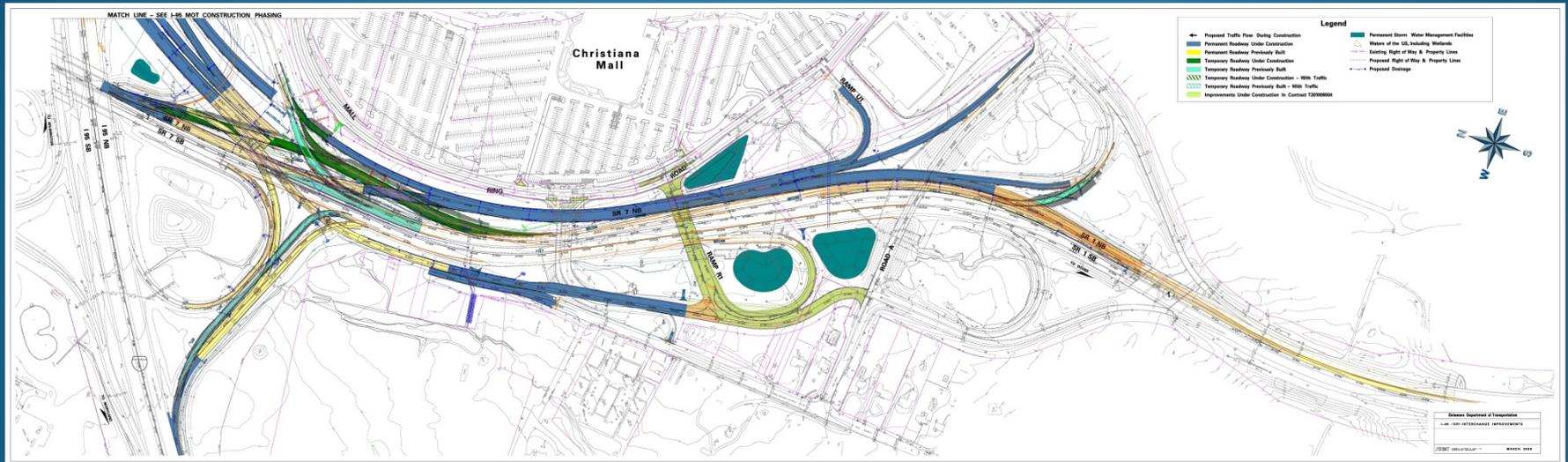


NB SR-7 and Ramp S



Completed Work

SR-1 Phase 5



Completed Work

Ramp U and Ramp U-1



NB SR 7 and Ramp S



Completed Work

Picture of Ramp E



Completed Work

Closed SE Loop Ramp



Completed Work

Ramp A, B, B-1 and E



Completed Work

Ramp C and NB SR7 North End



Current Phase

Ramp A and Ramp B



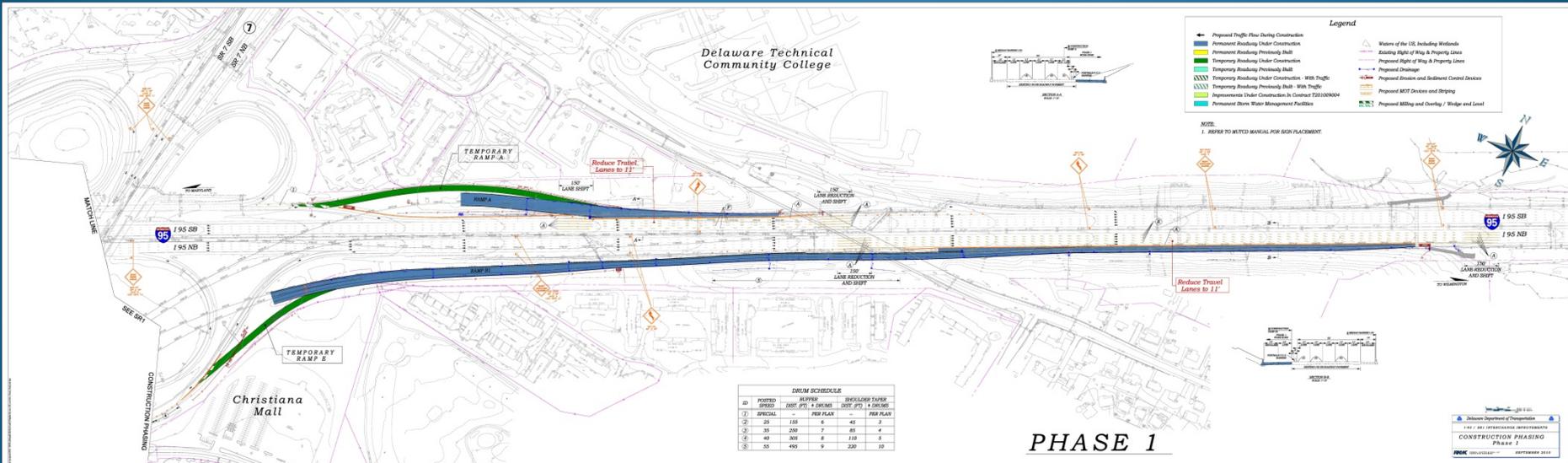
Current Phase

Ramp A and Ramp B



Completed Work

I-95 Phase 1



Completed Work

Temporary Ramp A and Ramp A
SB I-95 Ramp to SR -1 SB



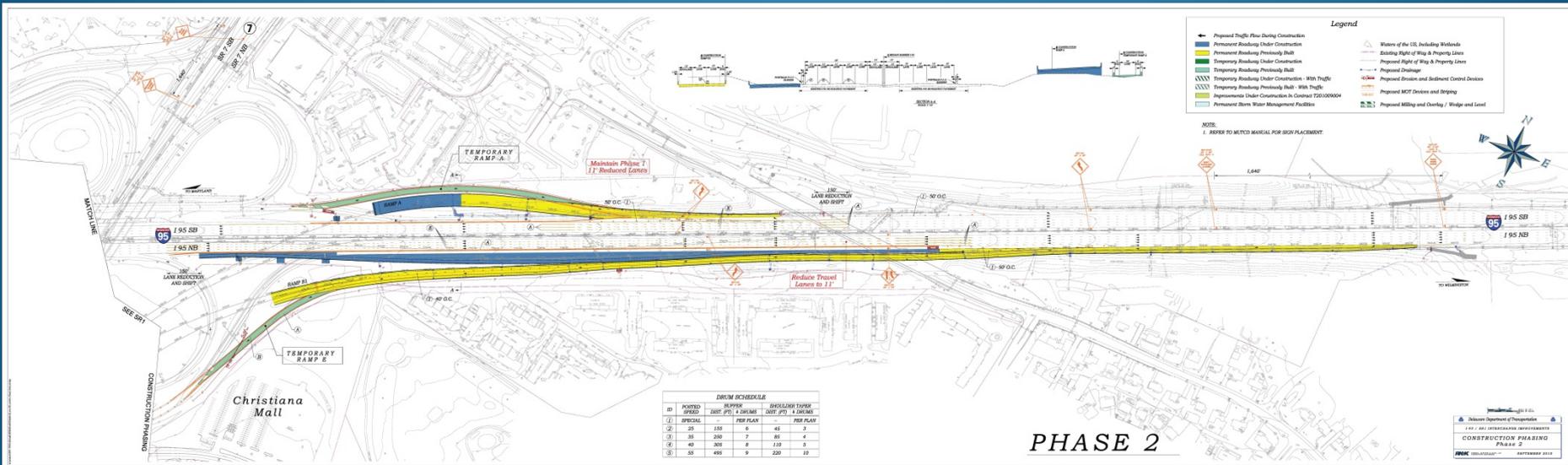
Completed Work

Ramp B-1



Completed Work

I-95 Phase 2



Completed Work

MSE for I-95 SB to SR-1 SB (Ramp A behind Toys”R”Us)



I-95 NB Widening



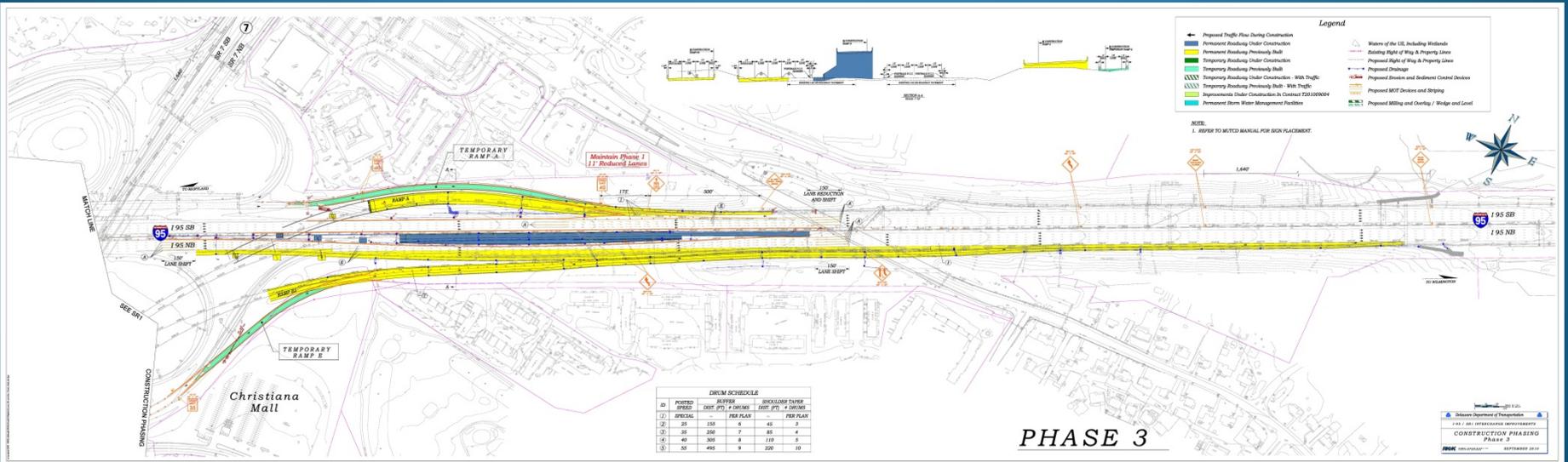
Completed Work

NB I-95 Shifted Traffic



Current Work

I-95 Phase 3





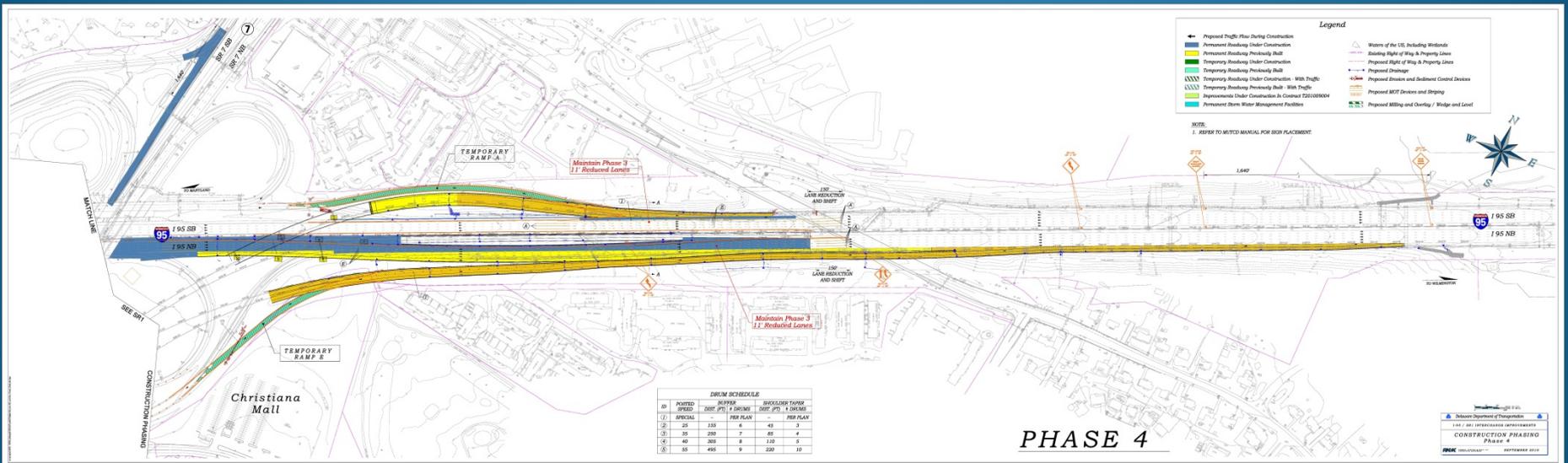
Structure S₁ (SB I-95 to SB SR-1)



Structure S₁ (SB I-95 to SB SR-1)

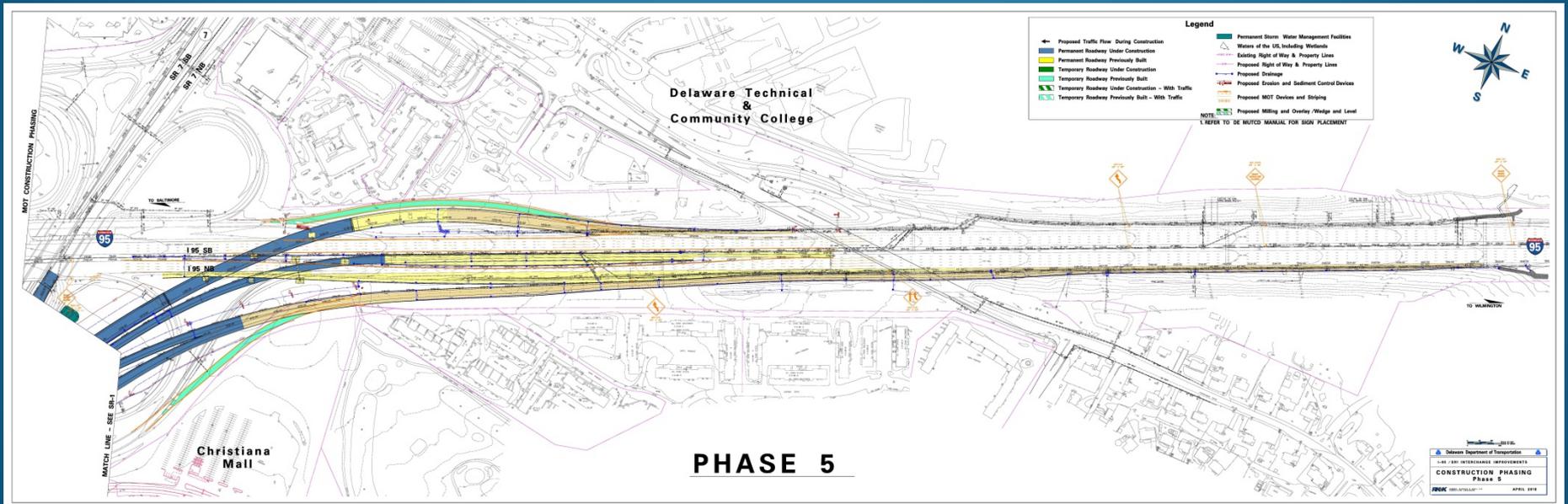
Future Work

I-95 Phase 4



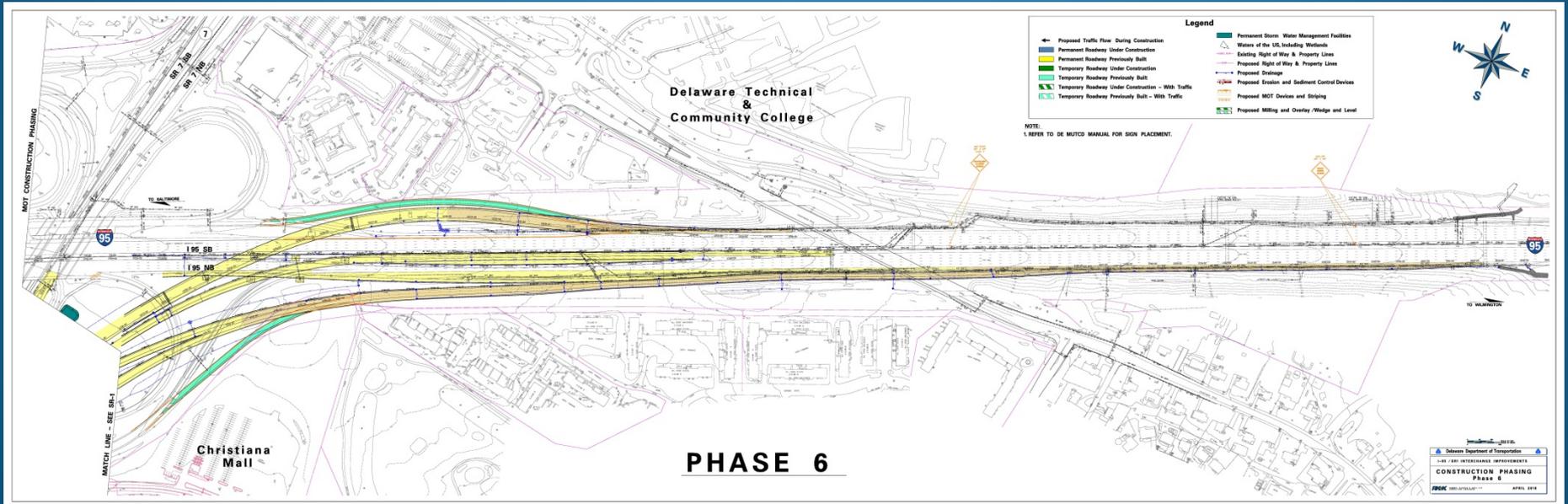
Future Work

I-95 Phase 5



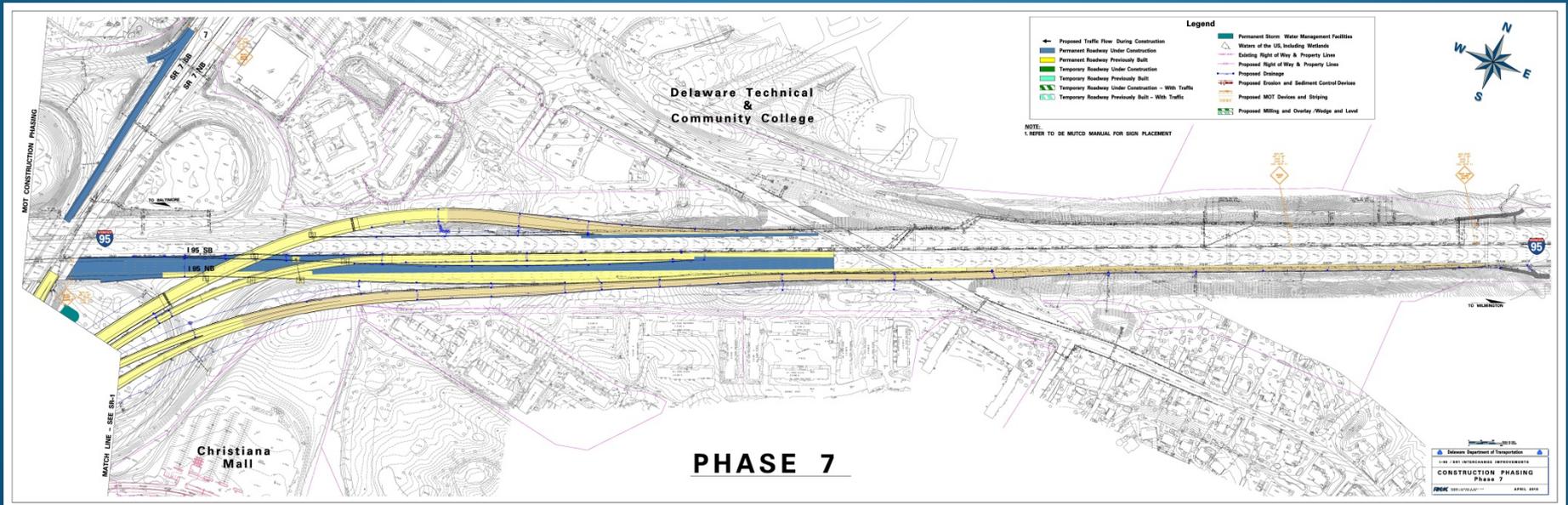
Completed Work

I-95 Phase 6



Future Work

I-95 Phase 7



Major Challenges

- Poor Soils/Management of dirt movements
- Adjacent Businesses and Property Owners
- MOT
- Erosion and Sediment Control
- Ramp B-1 Slope
- Utility conflicts
- Amount of RFI's, Shop Drawings, Price negotiations, Field revisions, documentation
- **Quality control**

Challenges

- Poor Soils



Bulk Undercut operations



Challenges

Adjacent Impacted Business, Hospital, Communities

- Christiana Mall



Challenges were to provide access at all times specifically at Holidays

- Christiana Hospital



Insuring emergency vehicles were properly notified of detours and restrictions

Challenges

Adjacent Impacted Business, Hospital, Communities

- Delaware Park



- Additional signage added due to ramp closures and detours

- New Castle Airport



- Conflict with height of Construction Equipment and FAA Flight paths

- Cavalier's Community



- Noise and Vibrations during construction
- Appearance of Right of Way, Post Construction

Challenges

- AADT Volumes - Current 92,700 SR-1 (2008)
 - Current over 200,000 I-95 (2008)



Slope Failures along Ramp B-1



Slope Failures along Ramp B-1



Utilities



Temp Ramp E – Slip Ramp from Mall Ring Road to I-95 NB Ramp



Removal of Pier Cap S₃ Structure due to failing Concrete Strength

Post-Tensioned Pier Cap requiring 8000 psi strength

Concrete achieved only between 4710 to 6290 psi



Major Challenges

Darren O'Neill's Changes

- (Design Changes)



Mitigating Impacts

- Closure of Southeast Loop Ramp
- Reducing MSE Wall quarantine periods from 60 to 90 days
- Extending weekend closures of I-95 and Sr-1 for Steel Erection
- Designer at Field Office working with Construction to resolve RFI and issues as they come up
- Revising roadway box vs. undercutting
- Use of Geo-Grids and Geo-textile materials to minimize cuts
- Close working relationship with Traffic Safety Section
- Good working relationship with Christiana Mall and other stakeholders

Duct Tape Fixes Everything



Use of Para web strapping for M.S.E. walls





Discron Bearings Structure S4

Preferred Plan to Start a Project

Construction loves to start with a Clean Slate

- Design has worked out all the Issues
- Utilities have all been relocated
- Permitting and Mitigation measures are finished

Outside Issues after the Start of Construction

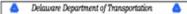
1. Cavaliers Communities
2. General Growth Properties Expansions
3. Acierno Expansion
4. Moving the Mall Park & Ride/transit Center
5. Cabela's and the Cinema Complex
6. Road A and Center Boulevard
7. SR1 Widening and new SR 273 interchange



Delaware Department of Transportation	
I-95 / SR1 INTERCHANGE IMPROVEMENTS	
PROPOSED CONDITIONS	
FHWA JULY 2012	



 0 100 200 FT.

 Delaware Department of Transportation

I-95 / SR1 INTERCHANGE IMPROVEMENTS

PROPOSED CONDITIONS

 FHWA  JULY 2012





Delaware Department of Transportation
I-95 / SR1 INTERCHANGE IMPROVEMENTS
PROPOSED CONDITIONS
JULY 2012



I-95 / SR1 INTERCHANGE IMPROVEMENTS	
PROPOSED CONDITIONS	
<small>FRANK CONSULTANTS, INC. JULY 2012</small>	



1

4

5

2

6

3

7

Delaware Department of Transportation
I-95 / SR1 INTERCHANGE IMPROVEMENTS
PROPOSED CONDITIONS
FHWA
JULY 2012



Cavaliers

Communities

(1 day after we started work 😊)



1



Delaware Department of Transportation
I-95 / SR 7 INTERCHANGE IMPROVEMENTS
PROPOSED CONDITIONS
JULY 2012

Original Conditions



First Weeks of Construction



First Weeks of Construction



Community Concerns

Construction traffic

- NOISE

Community Concerns

- Construction Traffic
- NOISE
- Dust
- N O I S E

Community Concerns

• Construction traffic

- NOISE
- Dust
- N O I S E
- Working at Night
- *NOISE*

Community Concerns

- Noise
- Construction traffic
- NOISE
- Dust
- NOISE
- Working at Night
- ALL THE NOISE...



Community Concerns

- Noise
- Construction traffic
- NOISE
- Dust
- NOISE
- Working at Night
- ALL THE NOISE... NOISE



Community Concerns

- Construction
- NOISE
- Dust
- N O I S E
- Working at Night
- ALL THE NOISE.. NOISE..NOISE



Visual Screen During Construction





We are a Whole Lot closer



Visual/Noise Mitigation Vegetative Wall



Visual/Noise Mitigation Vertical Wall with landscaping

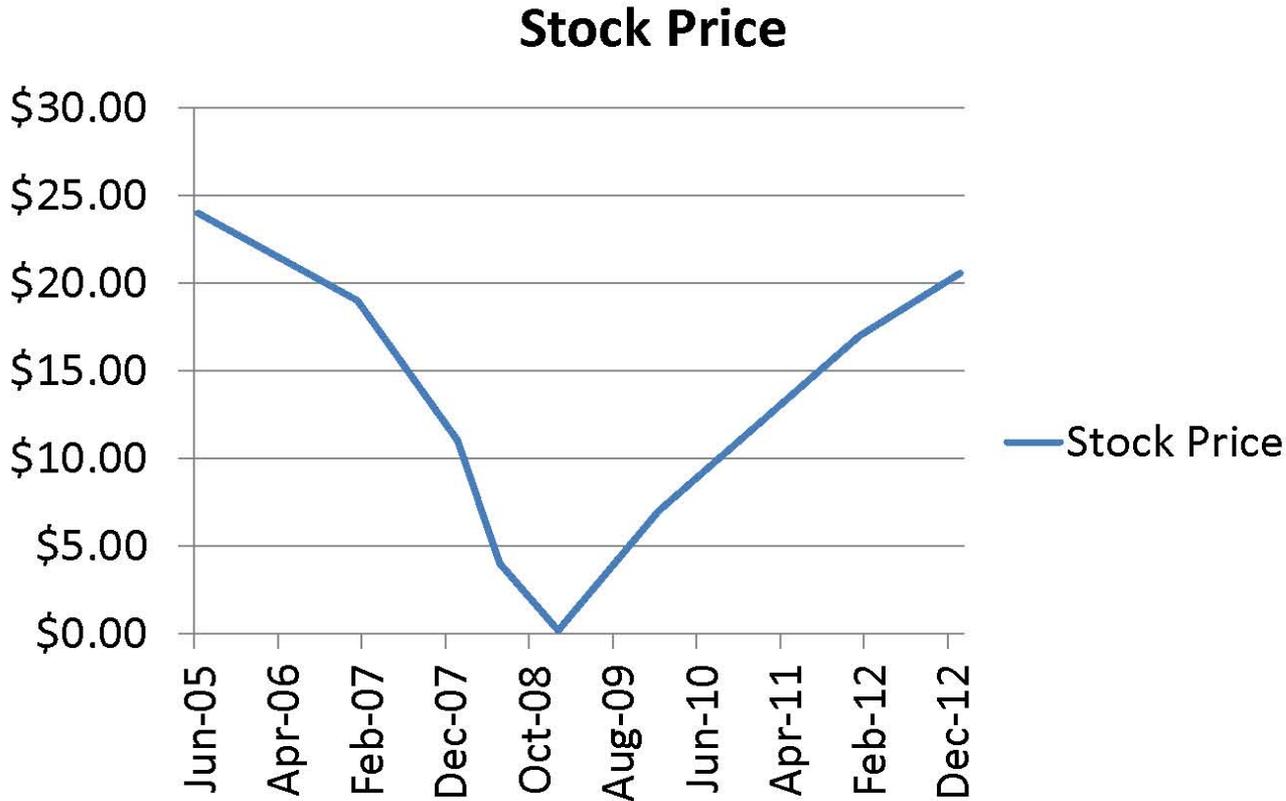




General Growth Properties (GGP) Expansion

(At the same time of our construction work)

Expansion and Development has Improved just like their Stock Price





JC Penney's Ramp



Ramp from Road A and Dicks Sporting Goods



“Know Before You Go” Campaign



Successful Partnership with Growth and Economic Development



Lots of Business

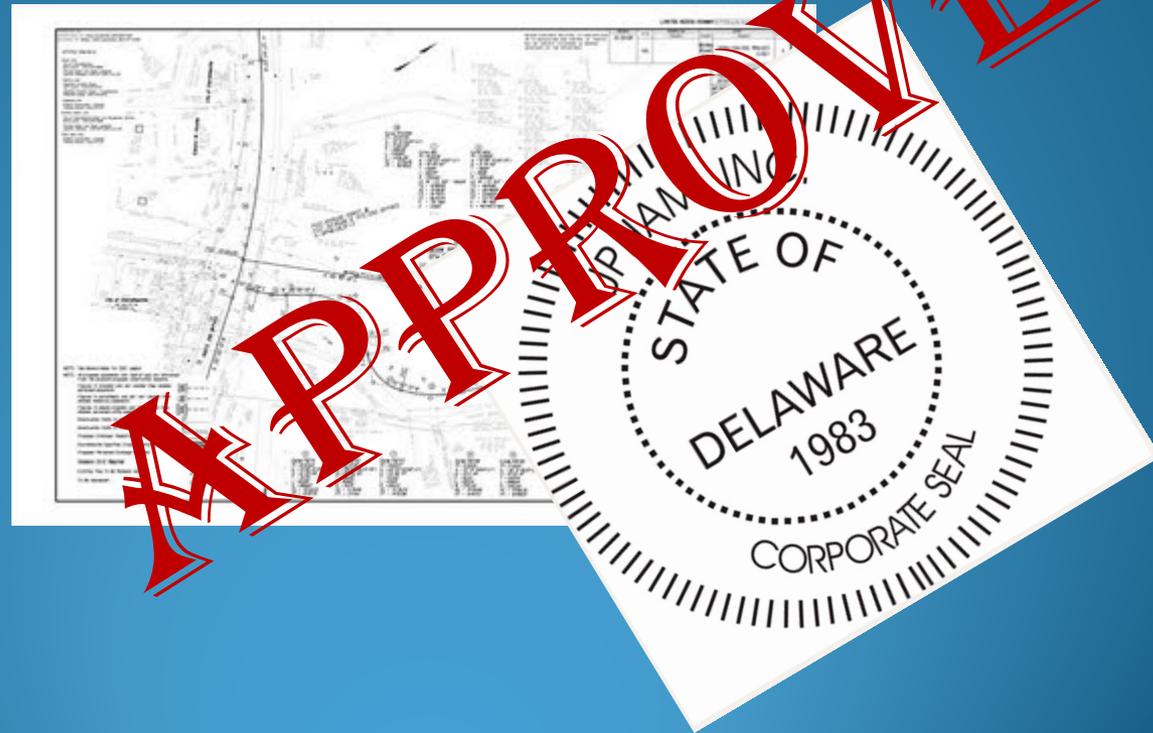




Acierno Expansion



Approved Expansion plan January 2010



Colonnade
AT CHRISTIANA

**750,000 Sq.Ft. of Retail,
Restaurants and Entertainment**
for Leasing Information 302-479-8314

www.Alliedretailprop.com

The Stats!

- 750,000 SF Commercial/Retail
- 175K CY Fill Removal Agreement
(DelDOT Excess & Proximity -> Beneficial Reuse, Cost Savings to DelDOT)
- 3337 Parking Spaces
- Dave & Busters, Trader Joes, Hobby Lobby (had a Movie Complex)

Large Piles of Fill Material



Going



Going..... GONE !





Relocation of the Dart First State Christiana Mall Park & Ride



Delaware Department of Transportation	
I-95 / SR1 INTERCHANGE IMPROVEMENTS	
PROPOSED CONDITIONS	
FHWA DELAWARE DIVISION JULY 2012	

Major New Castle County Transit Hub



Ridership Numbers

308 Bus Trips/Weekday

120 Bus Trips/Saturday

Average Weekday Boarding's 600

Average Cars Parked 160 (2012)

Accelerated Temporary Ramp Opening



Working with Dart First State and WRA to investigate and analyze new Bus Transit Center Locations





Cabela's and The Cinema Complex



	
Delaware Department of Transportation	
I-95 / SR 158 INTERCHANGE IMPROVEMENTS	
PROPOSED CONDITIONS	
	
JULY 2012	

Development Timeline

Spring of 2013

- Pad established and vendors coming on site
(Dart First State off of the Site)
Parking lot rough grading
and landscaping outside project site

• Late 2013/Early 2014

- Open for Operations

Christiana Mall Park & Ride Agreement

THE MALL

- The Land to build on

DTC

- Provided for 200 park & Ride Spaces
- Coordinate in good faith for service in and around the Mall
- Work with DTC on any changes or relocation required with adequate timing necessary

Christiana Mall Park Cavalier Golf Course Agreement

THE MALL

The Land to build on

CAVALIER GOLF COURSE

Leasing fees to continue to run the golf course

Adequate notice that such time the Mall is
ready to develop

Christiana Mall owns this Hole!



THIS...



Becomes .. THIS



And This...



Becomes This!





Road A and Center Boulevard

Construction of Tie in Ramp Cut Short





Schedule

- Need to be built by late Fall 2013
- Bob McGurk – Design Engineer
- Survey Plans – January 2013
- Semi Final Plans - March 2013
- Hope to start construction this summer



SR 1 Widening and the new SR 273 Interchange



I-95 / SR 158 INTERCHANGE IMPROVEMENTS PROPOSED CONDITIONS	
<small>FRANK CONSULTANTS, INC. JULY 2012</small>	

SR 1 Widening

- 10 miles long
- 4 interchange designs
- Limits from SR 273 to the Roth Bridge at the C&D
- RK&K Design Engineer
- \$ 185 Million, broken into smaller projects
- Expected start Summer 2016
- Likely 4 + Years of Construction

Design & Construction Coordination

Working to ensure construction features today don't restrict plans and construction for the 2016 start of the SR 1 Widening and Interchange redesigns.

SR 1/I95 Interchange Construction Completion

Staged Completion

- Some ramps will be re-opened and operational later this Spring
- Most ramps will be open late this Fall
- Final Paving and Striping and Punchlist Items will occur Spring 2013



Hopefully our 2014 Winter Workshop Update
says we are MOSTLY done!

Thank You!