Gordie Howe International Bridge Project

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Michigan Department of Transportation

HOW TO BUILD A BRIDGE

I. PROJECT BASICS

II. LAYING THE GROUNDWORK

III. MAJOR RISKS

IV. BIG JOBS

V. HOW DID WE GET THIS FAR?

VI. PRO TIPS & STUMBLING BLOCKS

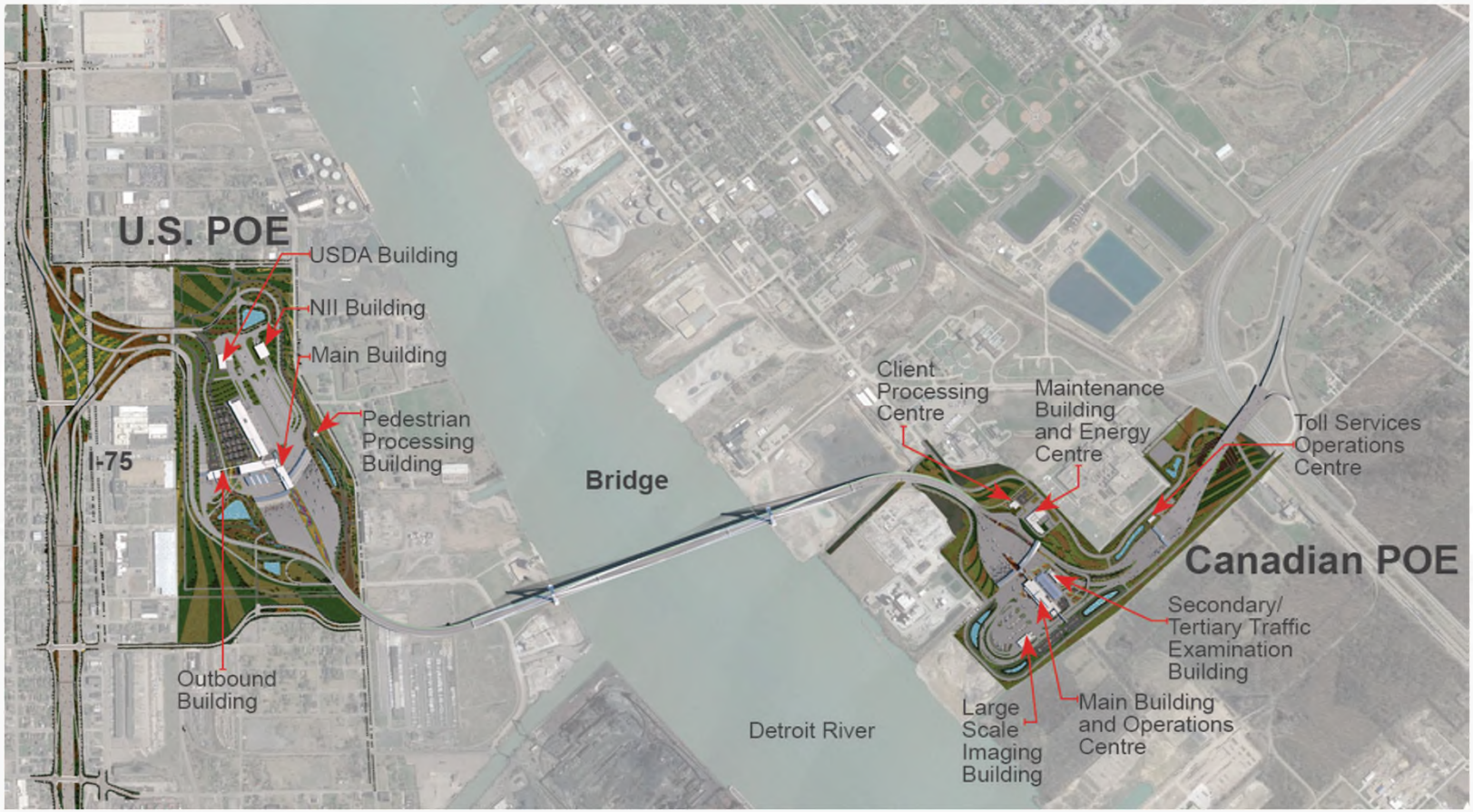
VII. CURRENT PROJECT STATUS

GORDIE HOWE INTERNATIONAL BRIDGE PROJECT

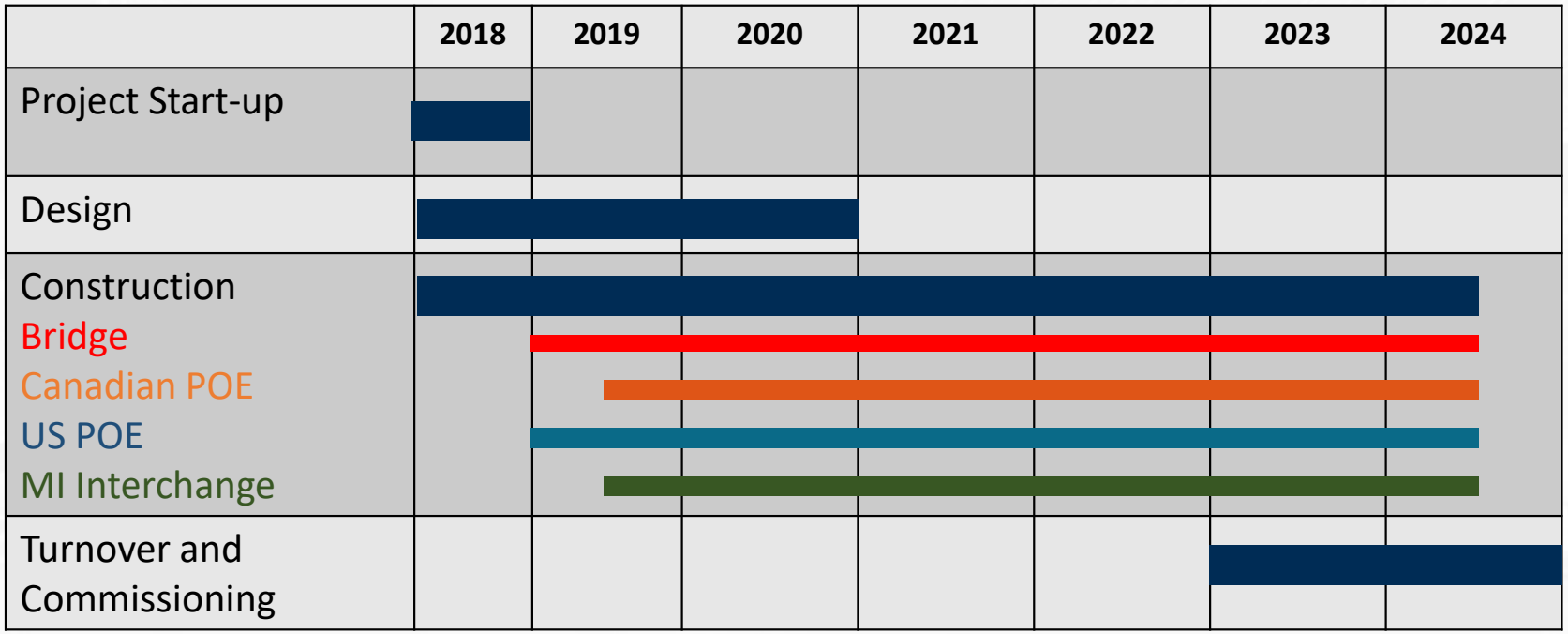
A LITTLE BACKGROUND

- Location - between Windsor, Ontario and Detroit, Michigan with bridge span over the Detroit River.
- ‘The Project’- one of the longest bridges in NA (top five), two ports of entry and an interchange (I-75).
- How is it being completed? Crown Corp (Windsor Detroit Bridge Authority) using a Canadian P3 approach.

PROJECT COMPONENTS

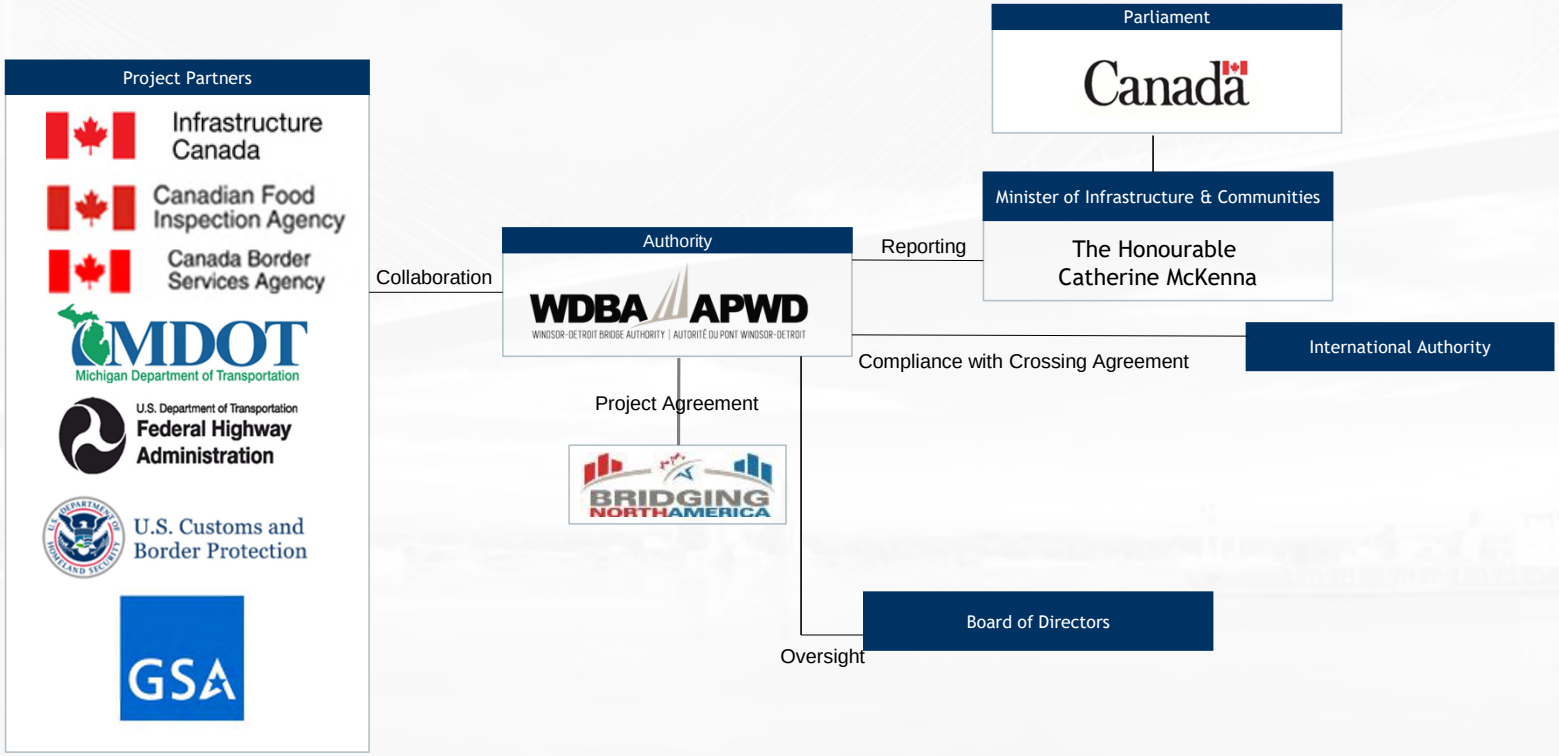


SCHEDULE



- Estimated construction duration 74 months
- 70% of construction hours will occur between 2021 – 2023
- It is anticipated that the Gordie Howe International Bridge will open to traffic by the end of 2024

CURRENT ORGANIZATIONAL STRUCTURE



ROLES & RESPONSIBILITIES

INTERNATIONAL AUTHORITY

Six members with equal representation from Canada and Michigan

- Oversaw and approved key steps in the P3 procurement process
- Monitors WDBA compliance with the Crossing Agreement signed by Michigan and Canada

WDBA APWD
WINDSOR-DETROIT BRIDGE AUTHORITY | AUTORITÉ DU PONT WINDSOR-DETROIT

- Contractual relationship with the private sector partner (BNA)
- Project Authority for the delivery of the entire Project; responsible for:
  - Directing all project activities
  - Hiring advisors
  - Flowing of funds
  - Working closely and collaboratively with other government departments and agencies in both the U.S. and Canada

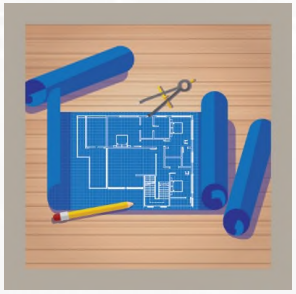
MDOT
Michigan Department of Transportation

- Michigan is responsible for:
  - All U.S. land acquisition
  - Environmental testing and mitigation for contamination
  - Utility relocations
  - Demolition work
  - Working closely and collaboratively with other government departments and agencies, including the City of Detroit and WDBA

ROLES & RESPONSIBILITIES

BNA responsible for:

- Design, build, finance, operate and maintain the Canadian and US Ports of Entry and the bridge.
- Design, build and finance the Michigan Interchange.
- Michigan will be responsible for the operations and maintenance of the Michigan Interchange.

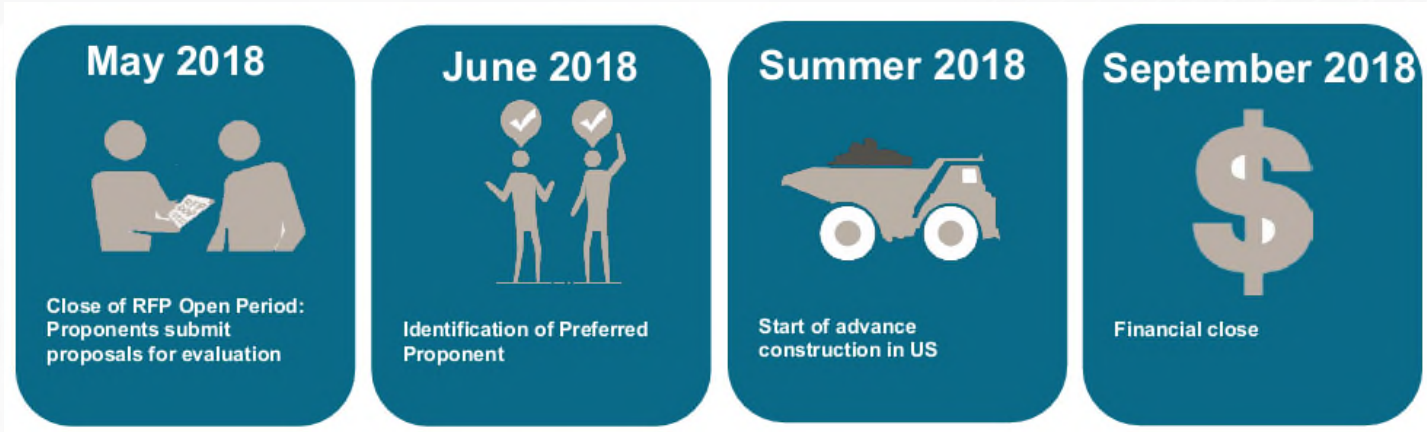




How is the Gordie Howe International Bridge Project being delivered?

Quick Check #1

P3 PROCUREMENT PROCESS



FAIRNESS MONITOR ROLE

Objective, third party observer; monitored the process to ensure conducted in a fair, open and transparent manner:

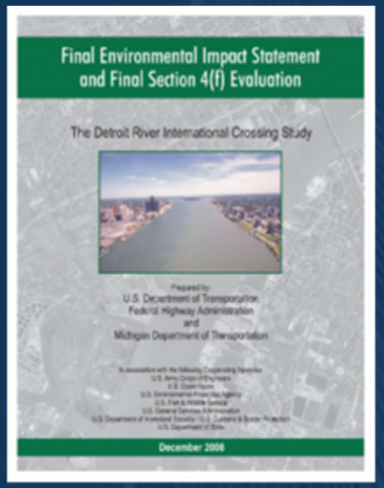
- Compliance with WDBA's procurement process, policies and guidelines
- Compliance with confidentiality and COI requirements
- Evaluation Criteria and procedures defined and applied fairly, objectively and free of bias
- All Respondents/Proponents treated fairly and equitably, e.g. given access to the same information at the same time.

LAYING THE GROUNDWORK

I. PLANNING, NEEDS & FEASABILITY STUDY

II. ENVIRONMENTAL STUDIES

- BI-NATIONAL PROCESS
- PARTNERSHIP FRAMEWORK AGREEMENT
- U.S. STREAMLINING AGREEMENT



MAJOR RISKS

I. POLITICAL

II. LEGAL

- Necessity Challenge
- Condemnation Process

III. COMPLIANCE W/ CROSSING AGREEMENT

IV. COMPLIANCE WITH PROJECT AGREEMENT

V. REQUIRED APPROVALS

BIG JOBS SO FAR

I. CROSSING AGREEMENT IMPLEMENTATION

II. RIGHT-OF-WAY ACQUISITION

- DEMOLITION
- GETTING LAND PROJECT-READY

III. FINANCIAL PROCUREMENT / PROJECT AGREEMENT

IV. DESIGN / CONSTRUCTION (UNDERWAY)

V. COMMUNICATION

WORKING THROUGH COMPLEXITIES – HOW WE SUCCEEDED

Some ideas about the ‘Nuts & Bolts’:

- Working Groups and Committees
- Dispersed Decision-Making Power & Accountability
- Progress Requires Decisions to be Made
- Build Solid Working Relationships

A Complex Environment with Complex Issues Demands… Lots Of Talking…AND…Listening…AND…More Talking… Repeat…

- PROPONENTS - three proponent teams, each consisting of hundreds of international experts in engineering, law and finance
- ADVISORS - experts in engineering, law and finance
- GOVERNMENT DEPARTMENTS - experts in engineering, law and finance
- CENTRAL AGENCIES - experts in getting the experts to explain about engineering, law and finance
- TWO BOARDS and TWO Government of Canada Committees - WDBA Board of Directors and the International Authority; Deputy Minister Committee and Assistant Deputy Minister Committee
- Thousands of pages of materials and almost 100 commercially confidential meetings (CCMs)

GETS MORE COMPLEX…SO KEEP TALKING…

PROJECT PARTNERS AND STAKEHOLDERS

- The Crossing Agreement says so!

<u>State of Michigan</u>

- Michigan Department of Transportation
- U.S. Federal Highway Administration
- U.S. Customs and Border Protection
- U.S. General Services Administration
- Michigan Attorney General's Office
- Office of the Governor, State of Michigan
- City of Detroit
- Community Groups (special stakeholders)
- Large utility companies (AT&T, DTE)
- Environmental agencies

KEEP TALKING… (CONTINUED)

CANADA

- Infrastructure Canada
- Canada Border Services Agency
- City of Windsor
- County of Essex
- Community Groups (Sandwich Town)
- Large Utility (electric, gas)
- Environmental Agencies
- Aboriginal Groups

Government of Canada paying for the project
BUT …

HOW DOES IT ALL WORK?

- Clear Expectations
- Clear Mandate
- Forget About Perfection
- Failure Not Desirable

PRO TIPS & STUMBLING BLOCKS

I. PRO-ACTIVE COMMUNICATIONS AT EVERY STEP

II. HAVE A DECISION-MAKING PROCESS IN PLACE

III. P3 – ACCOUNT FOR PUBLIC VS. PRIVATE SECTOR INCENTIVES

IV. STRONG AGENCY PARTNERSHIPS GO A LONG WAY

V. POLITICAL / LEADERSHIP PROJECT SPONSORS – SAME!

VI. YOUR LAWYERS ARE YOUR FRIENDS

VII. SOMETIMES YOU HAVE TO ROLL WITH THE PUNCHES (LIKE A PANDEMIC)

Current Status

- Construction of the Gordie Howe International Bridge project has been ongoing for more than 900 days.
- Significant progress achieved on each of the four components.
- The aggressive construction schedule for the project will continue through spring 2021 as work advances into peak years of construction, expected to occur between 2021-2023.

Construction Update

- Main Bridge
- U.S. Port of Entry
- Canadian Port of Entry
- Michigan Interchange

How many major components does the Gordie Howe International Bridge Project have?

Quick Check #2

THE BRIDGE

6 lanes – 3 in each direction
2.5 kilometers / 1.5 miles
Clear span of 853 meters / 0.53 miles
Multi-use path for pedestrians and cyclists 3.6 meters / 11.8 feet wide

- Construction of the main bridge tower footings complete on U.S. and Canadian sites, with work underway on the lower pylon of the bridge towers.
- Main bridge towers will be approximately 220 meters/720 feet in height once complete and include the lower pylon and upper pylon.
- Total height of the tower is composed of 51 different segments that will be constructed using a tower crane climbing system that will progress or “jump” vertically up the tower every few months.

Construction Update

- Main Bridge
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- Canadian Port of Entry
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- The tower crane systems are now installed on both sides of the border with the outer forms showcasing artwork of local artists from Walpole Island First Nation, Caldwell First Nation and Southwest Detroit.
- As the tower cranes extend to their ultimate height of 250 meters/822 feet, so will the artwork, making them visible from land on both sides of the border and from the Detroit River.
- Construction of footings for the bridge side span and anchor piers also underway on both sites. There are six foundations and anchor piers on each side of the border that will support the main bridge structure over the river.

Construction Update

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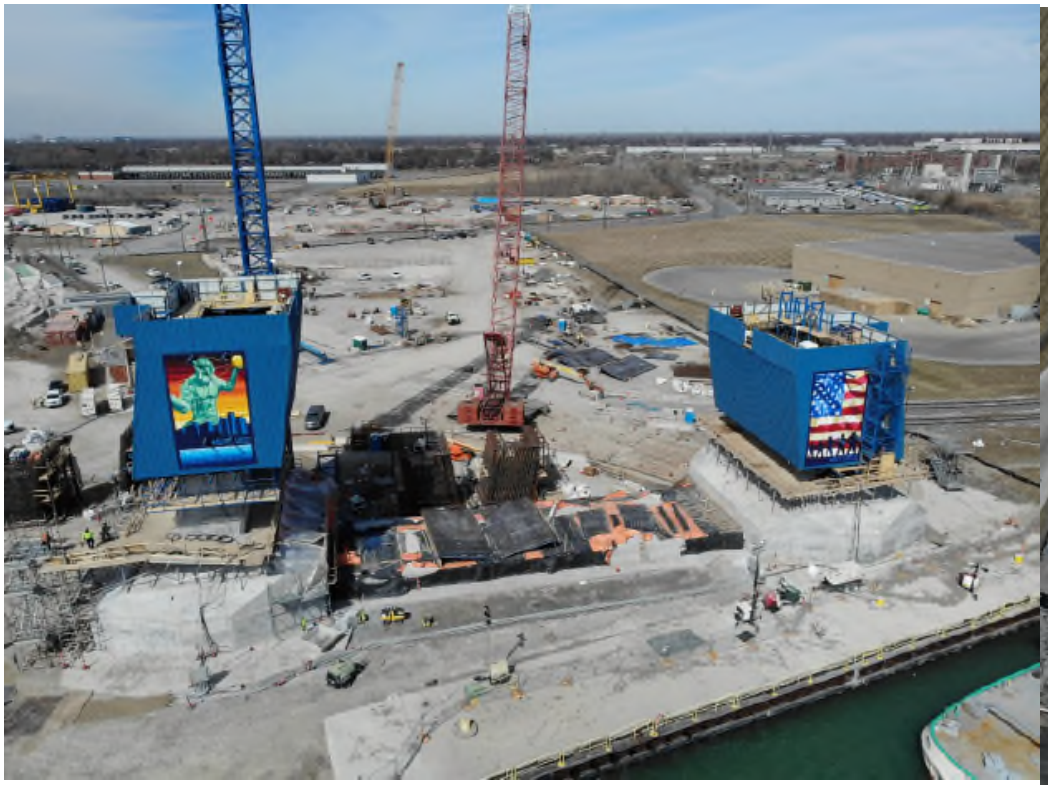
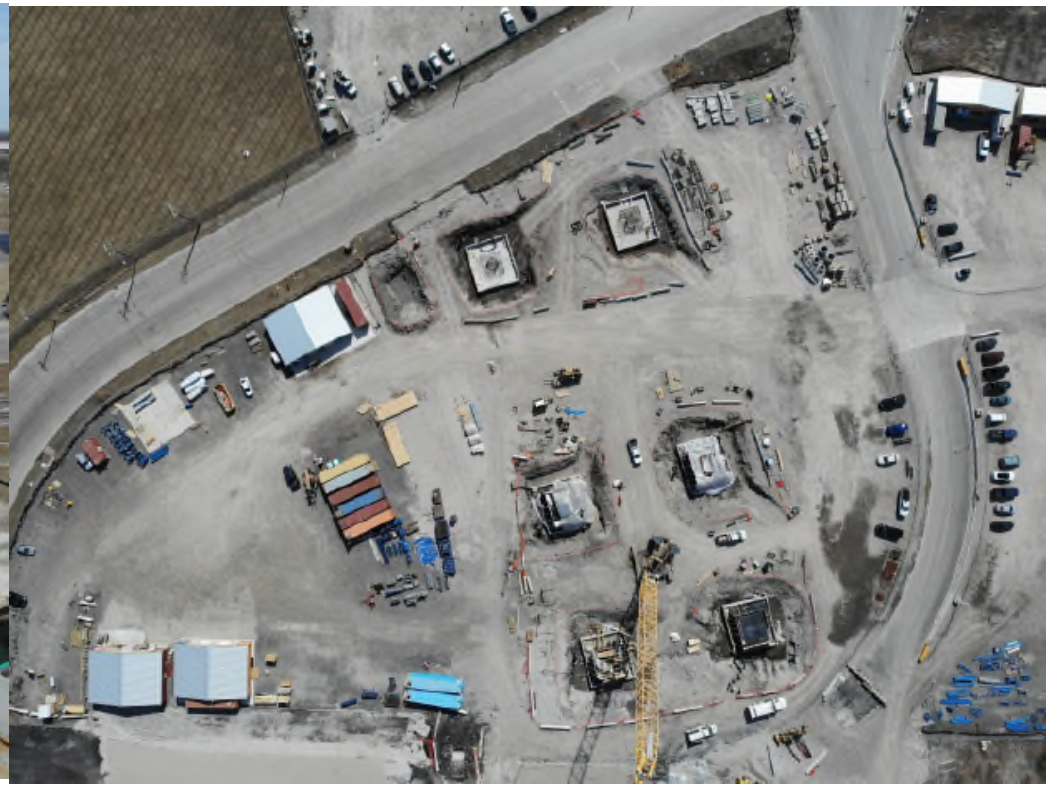
Canadian Bridge Site Tower Work

Canadian Bridge Site

BRIDGE TOWER ARTWORK: CANADA

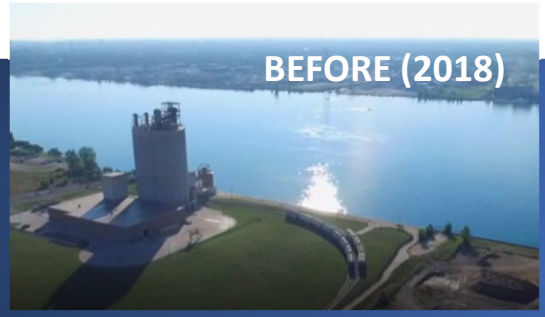


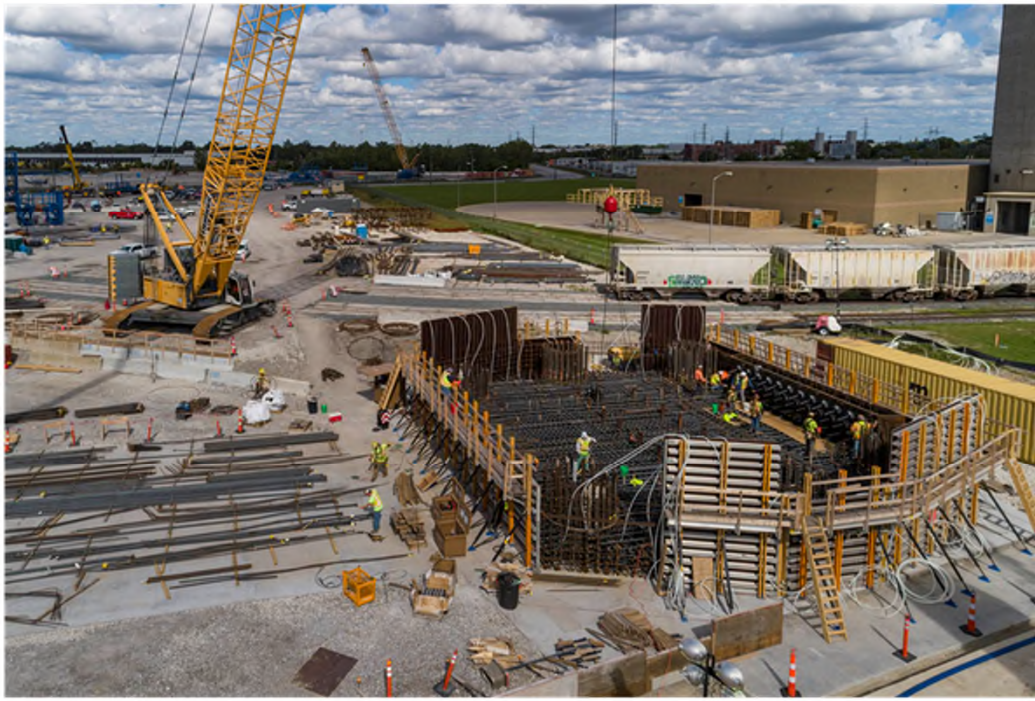
U.S. Bridge Site Tower Work



U.S. Bridge Site Side/Back Span Work

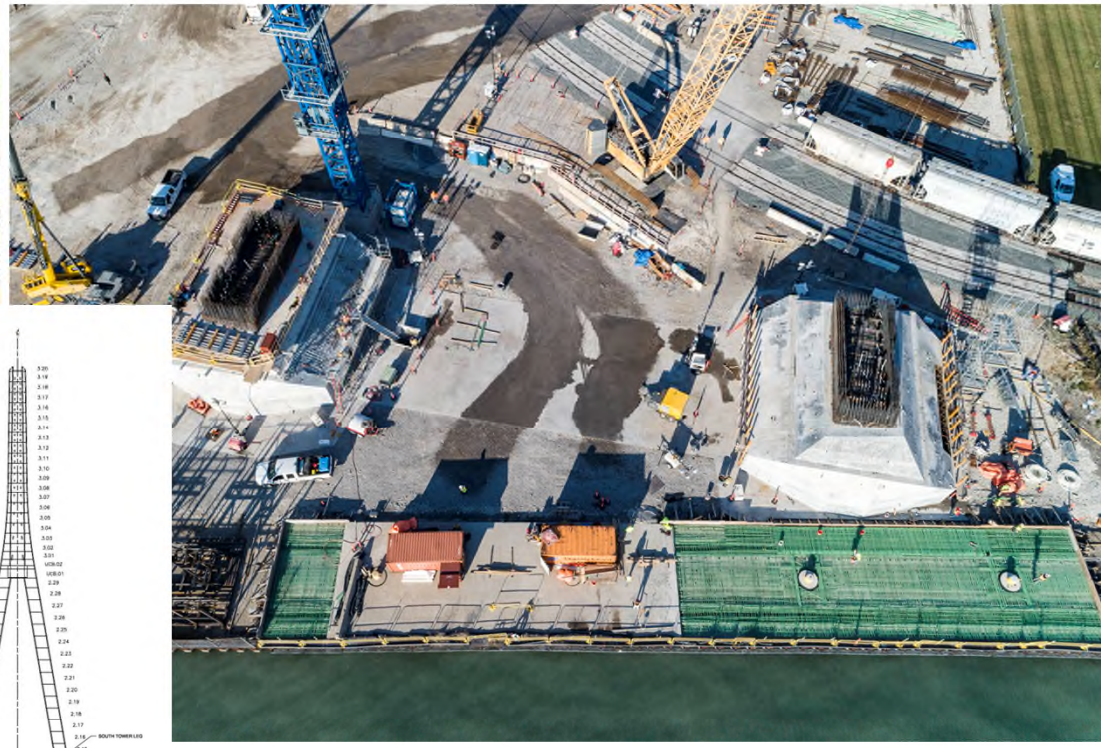
U.S. Bridge Site





Source: MDOT Photography Unit

U.S. Bridge Site



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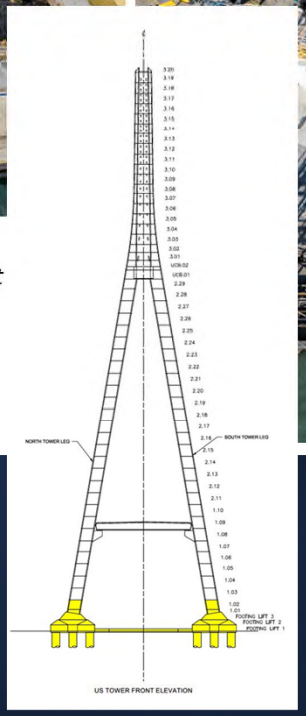
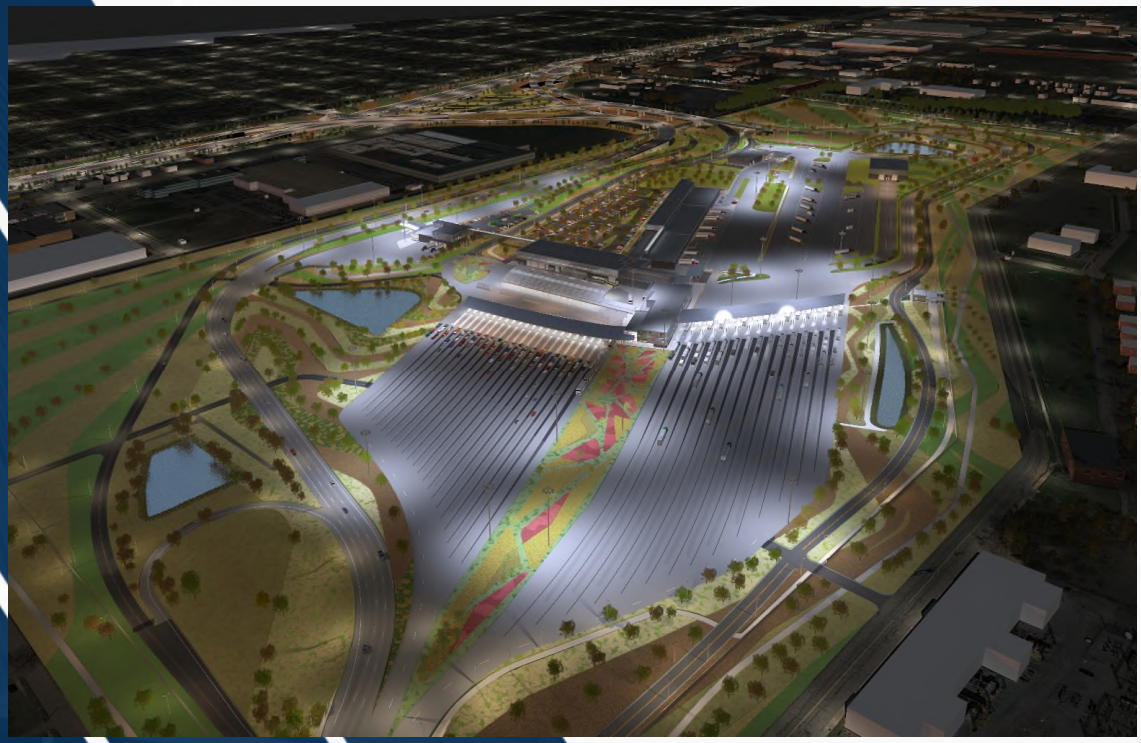


U.S. Bridge Site

- ***Much has been done…***
- ***Long way to go…***

BRIDGE TOWER ARTWORK: US



U.S. PORT OF ENTRY

Size: approx. 68 hectare / 167 acres
US inbound border inspection
US outbound inspection facilities
Commercial exit control booths
Parking
36 primary inspection booths
Extensive landscaping

- Clearing and grubbing complete in Phase 1, along with installation of over 87,000 wick drains and placement of engineered fill and surcharge material. Settlement period nearing completion, preparing the ground for building construction to begin later this year. Sewer remediation and relining has begun, along with additional utility works to install temporary electrical power lines.

- Work in Phase 2 and 3 areas continues to focus on wick drain installation, earthworks and ground preparation. To date, over 550,000 metric tons/1.2 billion pounds of engineered fill and surcharge material has been placed throughout the site.

Construction Update

- Main Bridge
- U.S. Port of Entry
- Canadian Port of Entry
- Michigan Interchange

U.S. Port of Entry Site

U.S. POE Wick Drain Installation

U.S. Port of Entry

CANADIAN PORT OF ENTRY

Size: approx. 53 hectare / 130 acres
Inbound border inspection
Outbound inspection facilities
16 toll collection facilities
Maintenance facility and parking
24 primary inspection booths
Extensive landscaping

- Following a settlement period to help accelerate soil consolidation, removal of surcharge fill placement in Phase 1 occurring to make way for start of building construction.

- Removed fill reused throughout site to support the next area requiring preload and settlement. Building pads for the Main POE Building, Secondary Inspection, Energy Center and Maintenance Building have been graded; building foundation work underway. Installation of steel building frames will begin later this year, followed by building cladding, roof and interior construction.

- Temporary stormwater management ponds installed throughout site; underground utility installations will begin in coming months as surcharge materials are relocated. Field offices onsite are being established along with temporary security systems.

Construction Update

- Main Bridge
- U.S. Port of Entry
- Canadian Port of Entry
- Michigan Interchange

Canadian Port of Entry Site

Canadian Port of Entry Building Foundations

Canadian Port of Entry

THE MICHIGAN INTERCHANGE

3 kilometers / 1.8 miles of I-75 and interchange ramps
4 new crossing road bridges
5 new pedestrian bridges
4 long connecting ramp bridges
Local road improvements

- Work over the next several months on the Michigan Interchange will continue to focus on reconstruction of the Springwells Street, Livernois Avenue and Clark Street road bridges. These structures are anticipated to be complete in 2021.

- The following activities can be expected throughout the I-75 project area:
  - construction of median piers for Springwells, Livernois and Clark Street bridges
  - construction of bridge superstructures, including girder placement and deck construction
  - reconstruction of I-75 ramps to and from Springwells Street
  - reconstruction of I-75 Service Drives (northbound and southbound) from Springwells Street to Green Street
  - construction of Solvay Street Pedestrian Bridge
  - driving concrete piles for the ramp bridges
  - siphon and watermain work to assist with drainage in the area and accommodate infrastructure improvements, grade changes and bridge and ramp structures.

Construction Update

- Main Bridge
- U.S. Port of Entry
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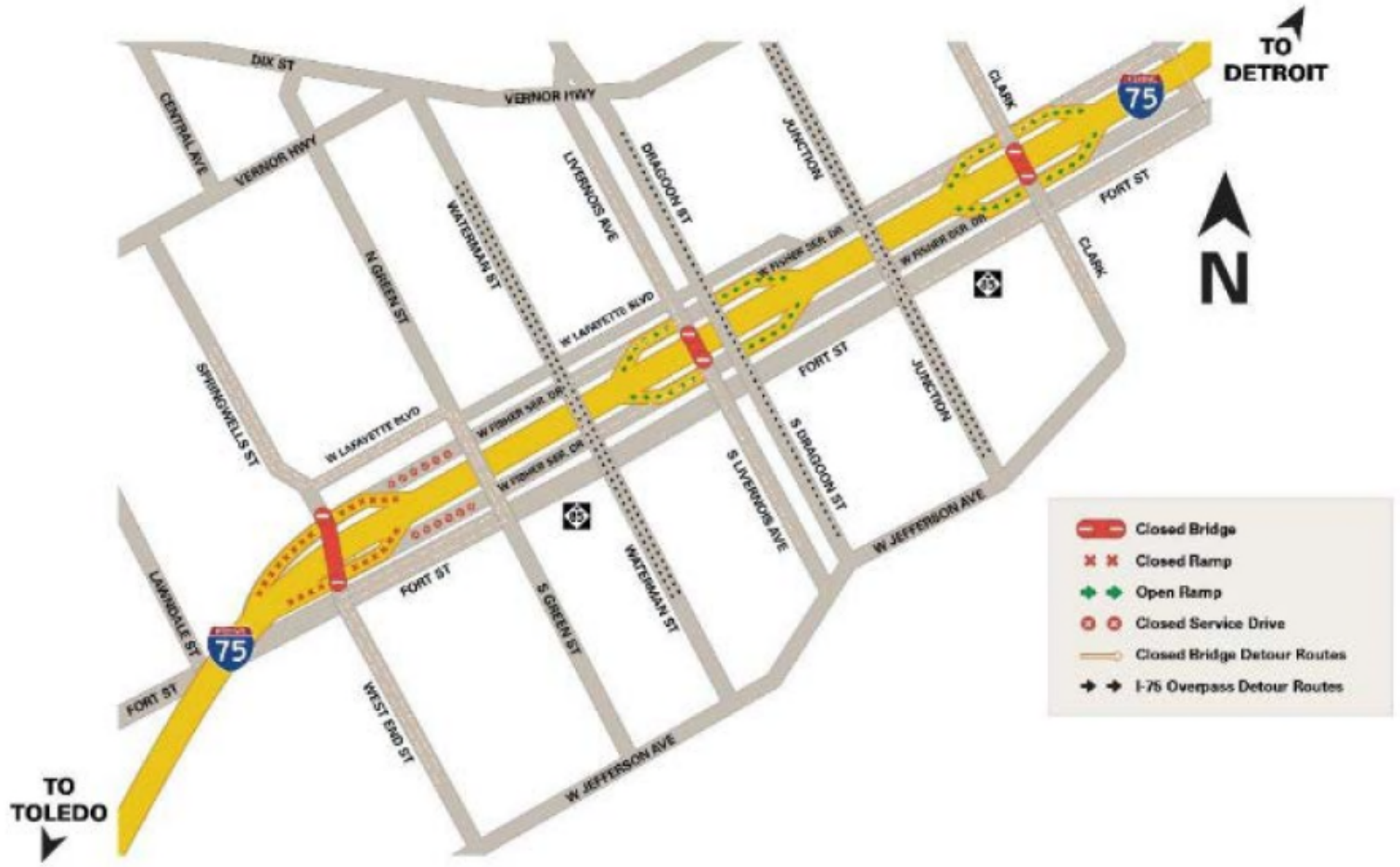
Michigan Interchange Cavalry Siphon Work

Michigan Interchange Clark Bridge Abutment Work

I-75 Michigan Interchange



Phase 1 Michigan Interchange Work

CONSTRUCTION MITIGATION

Vibration Monitoring

- In some instances, construction activities may cause noise and vibration beyond the project limits.
- In accordance with the Final Environmental Impact Statement (FEIS) and the Record of Decision (ROD), pre-construction, construction and post-construction foundation surveys are being made available to owners of properties located within 150 feet of identified vibration zones.
- Monitoring is being undertaken in a staged approach.
  - Zone One began in late 2019
  - Zone Two began in early 2021.
- Owners of residential and business properties that fall within the identified areas have been issued letters to opt-in to the program.

CONSTRUCTION MITIGATION

Measures are being taken to minimize the impact of construction in accordance with the commitments in the approved Environmental Assessment Report and Federal Screening Report in Canada and the Environmental Impact Statement in the US. These include:

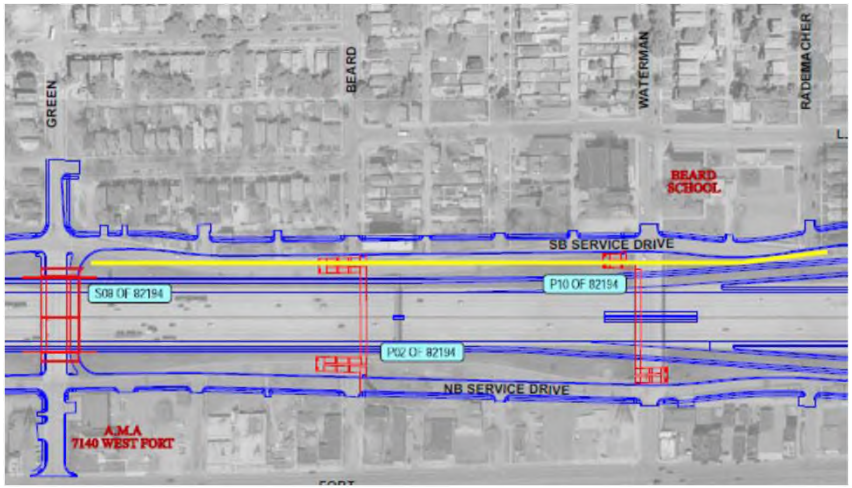
Dust control

- periodic watering/stabilization of disturbed & exposed soils
- limit speed of vehicular traffic
- use water sprays during loading/unloading of materials
- sweep or water flush entrances to construction zones
- installation of monitoring stations at the perimeter of construction areas.

Noise

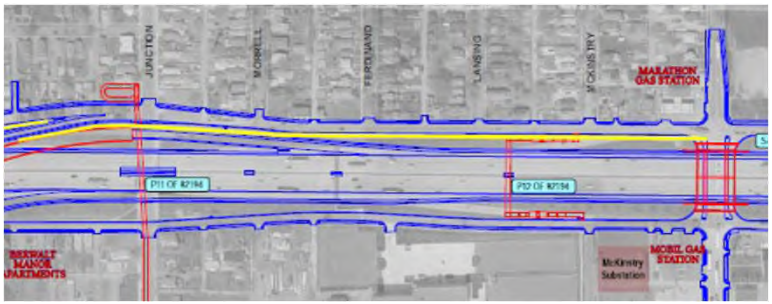
- ensure all construction equipment in good repair, fitted with functioning mufflers and complies with noise emission standards
- maximize distance between construction staging areas and nearby receptors
- provide regular updates to nearby residents & businesses on possible activities that will affect them
- conduct ongoing noise monitoring in the vicinity of construction.

U.S. NOISE BARRIER LOCATIONS



Noise barrier located between Green Street and Rademacher Street

Noise barrier located between Livernois St and Junction St



Noise barrier located between Junction St and Clark St

Other Project Considerations

COMMUNITY BENEFITS PLAN

The Workforce Development and Participation Strategy is geared toward engaging businesses and focuses on supporting workforce, training and pre-apprenticeship/apprenticeship opportunities

The Neighborhood Infrastructure Strategy focuses on collaborating with stakeholders and community members through consultation to develop a community investment strategy based on identified priorities.

Other Project Considerations

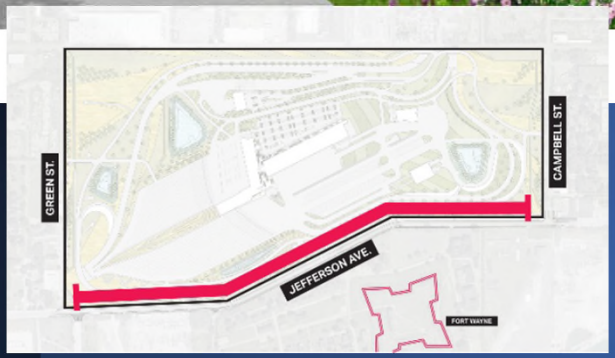
COMMUNITY BENEFITS WORKFORCE IMPLEMENTATION PROGRESS

The Workforce Development and Participation Strategy

- As of September 2020, over 3530 individuals have been oriented to the project with 47% of the orientation participants being local.
- Over 90 apprentices or pre-apprentices and have been engaged to work on the project.
- Over 120 local businesses have been engaged to provide services or goods to the project.
- Co-op students have been hired by WDBA and BNA.
- Project team members have participated in job fairs and outreach events.
- Updates to BNA opportunities section of the website occurred to provide more information about the project's participating labor unions and Tier One subcontractors.

JEFFERSON BARRIER WALL DESIGN

View looking east toward Gordie Howe International Bridge multi-use path entrance point.



Other Project Considerations

JEFFERSON BARRIER WALL DESIGN

- Located along the southern perimeter of the POE; will feature aesthetic treatment that pays tribute to Historic Fort Wayne's unique star fort structure. This design applies a star-like pattern through decorative concrete with raised corners and edges to create a faceted surface that will play with natural light to create shadows and enhance the complex geometry of the wall.

- Warm reddish brick tones further inspired by the Fort will add subtle color effects, while also complimenting the adjacent landscaping.

- The barrier will be an opaque, 8-foot high, non-climbable security wall that will have the aesthetic treatment displayed on the public side facing Jefferson Avenue. The wall will be located within the 85-100-foot-wide landscaped perimeter of the US POE. This green space will be publicly accessible, including native pollinator-positive plantings, and a multi-use path that will connect Campbell and Green Streets.

- It is anticipated that this feature will be constructed in 2023 or 2024.

Other Project Considerations

DELRAY HOME IMPROVEMENT PROGRAM

- The Community Benefits Home Repair Program launched in January 2021, and will continue through to 2024, funding permitted.
- Initial target area includes properties located south of I-75 in Delray.
- Repairs that will be offered to eligible homes include:
  - Window replacement
  - HVAC system replacement
  - Insulation
  - Roof Repair
- Repairs will be undertaken in a staged approach.

Other Project Considerations

Would you agree that the Gordie Howe International Bridge Project has employed a multi-component Community Benefits program?

Quick Check #3

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