



Construction Update

July 14, 2011

Transbay Transit Center

TJPA





Transbay Transit Center

Agenda

- Construction Update
- Schedule for Buttress, Shoring, and Excavation Work



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Demolition Update

- Demolition Work is substantially complete. Some of the highlights of the last month include:
 - Over 52,000 craft hours have been completed by the demolition contractor without accident or injury.
 - Substantially complete aside from added buildings at west end of project.
 - Additional buildings have been turned over to EBI for abatement and demolition. Anticipated completion is the end of August.
 - Abatement work complete at 85 Natoma Street, building demolition started July 5th, anticipated completion is July 22.
 - All parcels have been made available to the CM/GC with the exception of Parcels F and G in use during the additional building demolition.
 - Rough shaping for the Hawkinson sculpture piece has been completed by EBI.



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Construction Update – Utility Relocation Work

- Utility Relocation Packages
 - **TG04.3 – Water Relocation on Howard and Beale Streets.** Water installation is complete. Demolition and capping of abandoned utilities to be complete by July 22nd. The pavement restoration to be complete by **July 25th**.
 - **TG04.6 – Sewer and Sludge Relocation on Beale Street.** Sewer work on Beale Street is to be complete by July 14th. Sludge line to be completed July 22nd. Demolition and capping of abandoned utilities to be completed by July 22nd. Final pavement restoration to be completed by **July 25th**.
 - **TG04.5.1 – Water and Sewer Relocation and Joint Trench on Minna Street.** Demolition and capping of abandoned utilities is complete. Final pavement restoration was completed on June 18th. Demolition and capping of abandoned utilities on North end of Fremont Street to be completed by **July 27th**.
 - **TG04.1 – Water and Sewer Relocation Natoma and Fremont Streets.** Water installation has been completed. Sewer will continue on Fremont Street starting the week of July 4th and will finish **July 28th**.
 - **TG04.4 – Water and Sewer Relocation on Natoma and First Streets.** Excavation has begun at Natoma and Second Streets for Jack and Bore process per ASI 11. Sewer on Natoma Street to be complete August 12st. Demolition and capping of abandoned utilities including final pavement restoration to be complete by **August 15th**.
 - **TG04.2 – AWSS on Mission Street.** Package TG04.2 was approved by the Board on June 9th. Contract has been issued from Webcor to M2 so the submittal process can commence.



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Construction Update

- 301 Mission Street Temporary Wall
 - Substantially Complete on July 1st.
 - Clean-up and punchlist complete by end of July.
 - 301 Mission driveway has been fully re-opened and is in use.
- Transit Center
 - Buttress, Shoring and Excavation (BSE)
 - BSE Construction
 - BBII continues pre-trenching in anticipation of the CDSM shoring wall installation. Zone 4 pre-trenching has been completed, work is underway in Zone 3 (the central section) and Zones 1 and 2 (the west end).
 - In conjunction with pre-trenching, de-watering wells have been installed along Natoma and Minna Streets.
 - BBII continues to use the central section of the former terminal building for the fabrication of shoring steel for use in the upcoming shoring wall work.
 - The equipment pad required for the buttress drilling operation was completed in Zone 4.
 - The CDSM Shoring wall test section was completed in Zone 4 on June 18th. The test section required in Zone 1 started on July 7th. Following approval of the test sections production CDSM will begin in Zone 4 (anticipated by July 25th).



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East Section Progress (Zone 4)



End of May 2011



End of June 2011



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Central and West Sections Progress



End of May 2011



End of June 2011



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Ramp Parcels Available for Construction Staging



End of May 2011



End of June 2011



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Remaining Demolition





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Demolition of 85 Natoma Street Began July 5th





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Rough Shaping for Hawkinson Piece





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Utility Relocation – Manhole 701 at Beale and Howard





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Utility Relocation – Start of “Jack and Bore” work on Natoma Street at 2nd Street





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Utility Relocation – Street Repairs Completed on Minna Street





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301 Mission Screen Wall Progress



North Face of Screen Wall

South Face of Screen Wall





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Bay Area Labor - Demolition

- To date, Evans Brothers, Inc. and their subcontractors have worked a total of:

52,473 Craft Hours

- To date, Bay Area Labor has contributed 46,017 hours, or 88% of the total Craft Hours completed on all Phases of the demolition.



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Bay Area Labor – Trade Packages

- To date, Webcor / Obayashi's Trade Subcontractors have worked a total of:

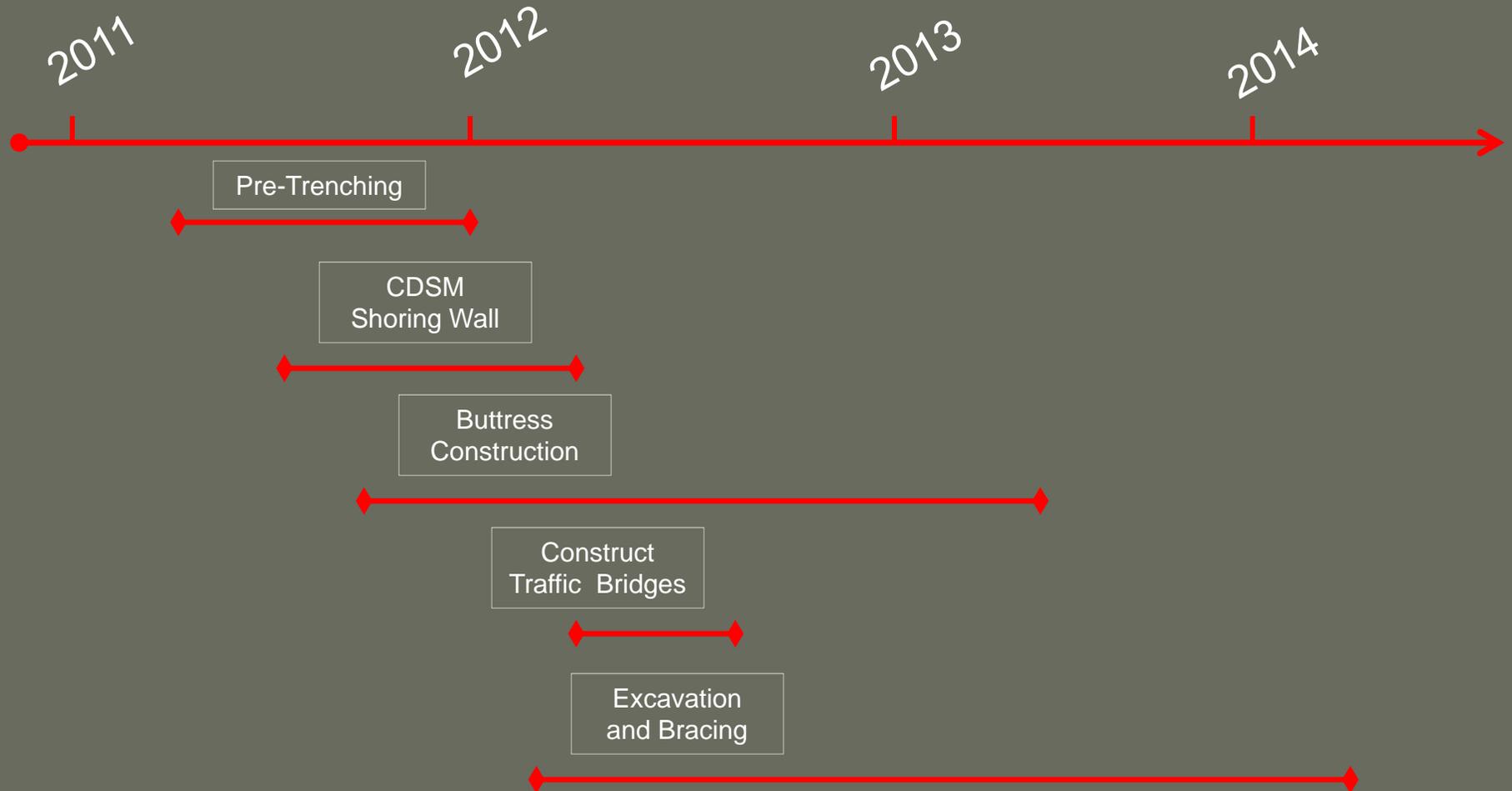
31,418 Craft Hours

- To date, Bay Area Labor has contributed 26,248 hours, or 84% of the total Craft Hours.



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BSE Timeline Summary





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Pre-Trenching



- Excavate the top 12-15 feet to remove piles, debris, rubble, and other obstructions in advance of shoring wall installation
- Ensures continuous productivity in shoring wall construction



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Pre-Trenching

2011

2012

2013

2014

Pre-Trenching





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Pre-Trenching Work Hours



- Began in June
- Monday through Friday with some weekend work depending upon obstructions encountered
- Primarily 7 AM – 5 PM



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CDSM Shoring Wall



- Cement Deep Soil Mixed (CDSM) shoring wall forms perimeter of the excavation
- Extends 100+ feet into old bay clay to minimize water infiltration into the excavation
- 3,300 lineal feet
- Reinforced with steel I-beams
- Allows for dewatering and excavation



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CDSM Shoring Wall

2011

2012

2013

2014

CDSM
Shoring Wall





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CDSM Shoring Wall



- Monday through Friday with some weekend work
- Extended day shifts 7 AM – 7 PM



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Buttress Construction

2011

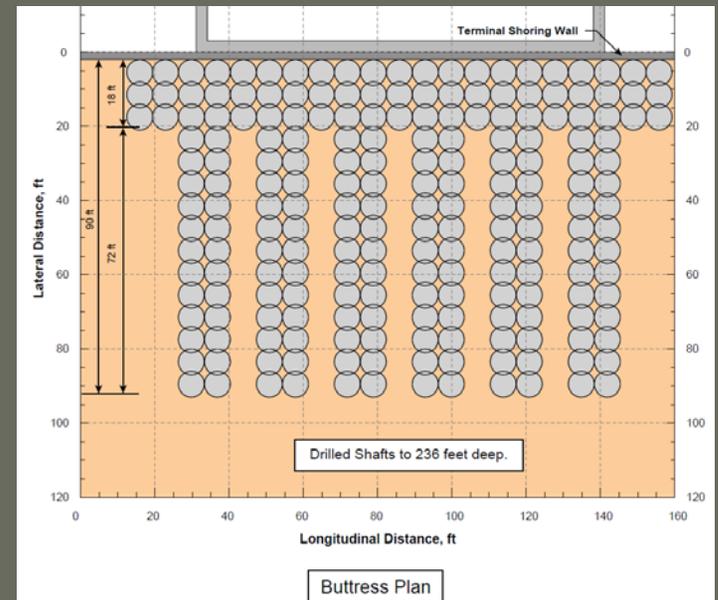
2012

2013

2014

Buttress
Construction

- Designed to protect the Millennium Tower during excavation
- Up to 207 interlocking piles
- 7 feet in diameter
- 240+/- feet deep into bed rock





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Buttress Construction

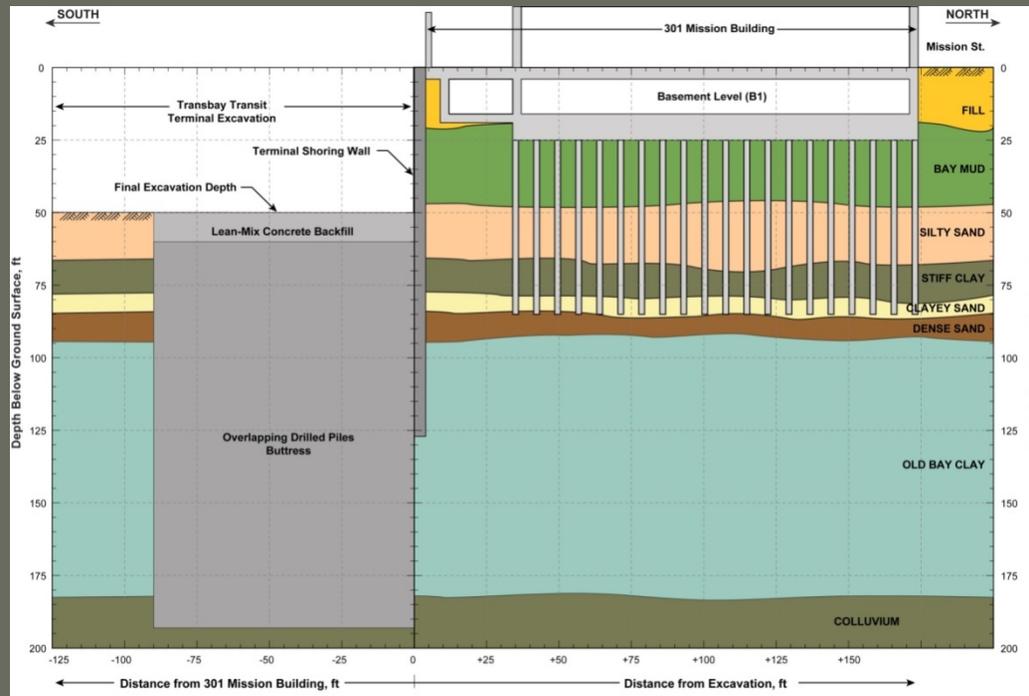
2011

2012

2013

2014

Buttress Construction





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Buttress Construction

2011

2012

2013

2014





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Buttress Construction

2011

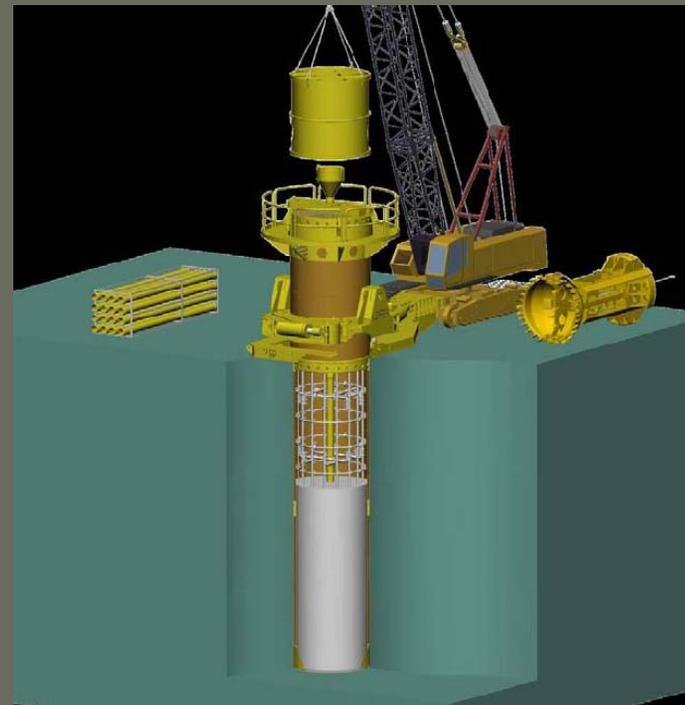
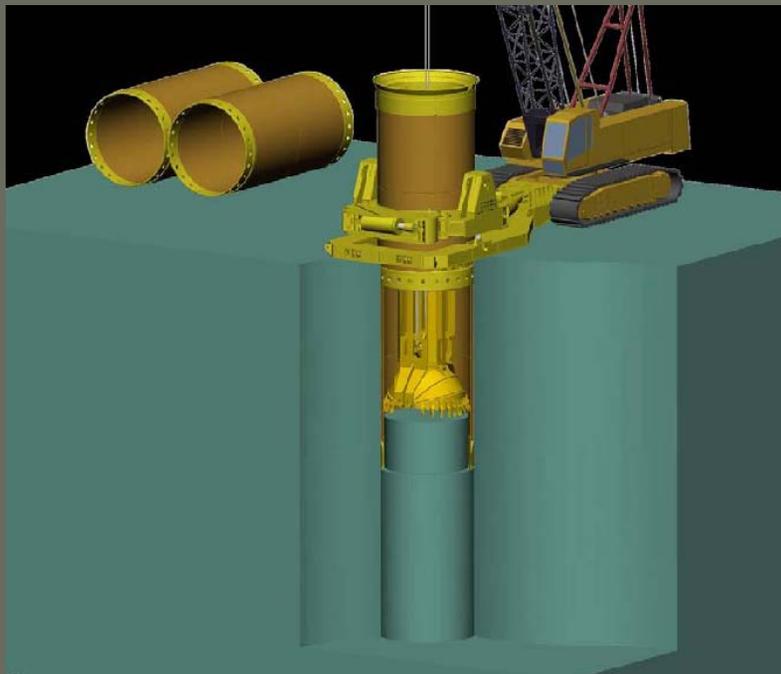
2012

2013

2014



Buttress
Construction





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Planned Buttress Work Hours



- Weekday Schedule

- 10 hour day shift (6:00 am to 4:00 pm):
Two crews working simultaneously on drilling, excavating and concrete placement
- Swing shift (4:00 pm to 12:00 midnight):
One crew drilling, excavating and/or placing concrete and doing preventative maintenance
- Graveyard (12:00 midnight to 6:00 am)
Skeleton crew rotating casings to prevent binding



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Planned Buttress Work Hours



- Weekend Schedule
 - Rotate casings as required
 - Preventive & Site Maintenance (Day Shift)



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Traffic Bridges



- Bridges will carry traffic on First, Fremont and Beale Streets during the excavation and construction of the train box
- 30 foot wide trestle running the length of the site will serve as primary working during excavation and train box construction



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Excavation and Bracing

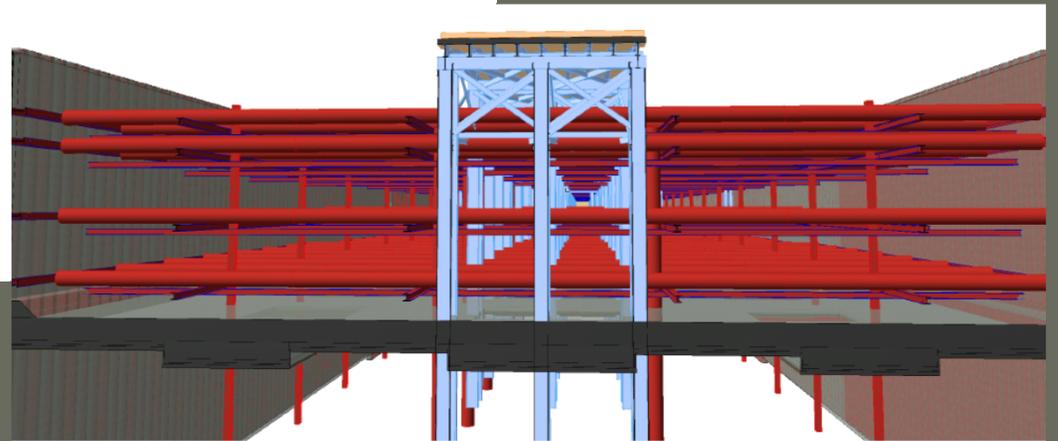
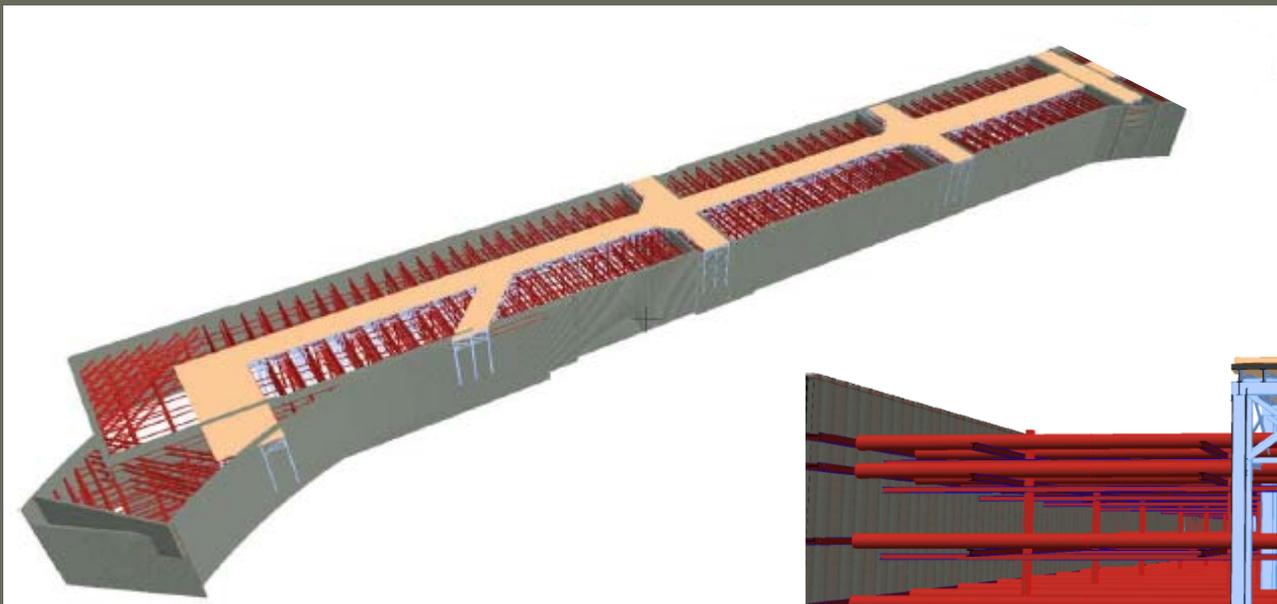
2011

2012

2013

2014

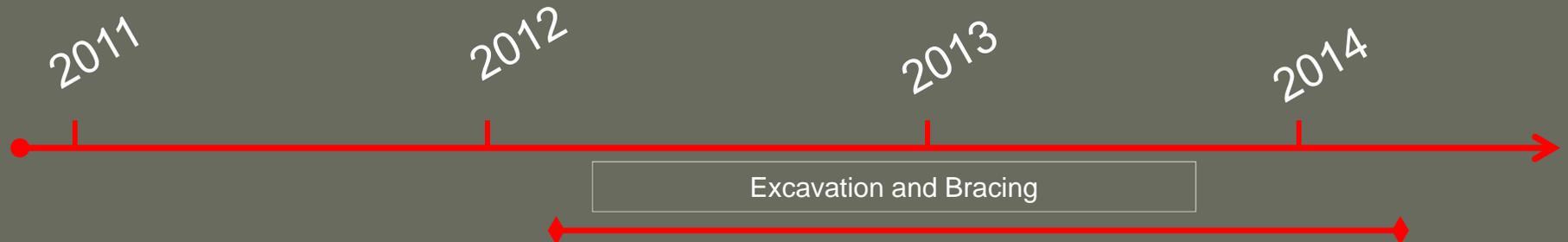
Excavation and Bracing





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Excavation and Bracing



- Contractor will begin excavation at the west end of the site and progressing towards the east end
- Five levels - or lifts - of material will be removed
- More than half a million cubic yards of material will be removed
- Four levels of bracing will be installed as excavation progresses to provide support to the shoring walls



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Excavation and Bracing



- Excavation will be conducted on two shifts
- Bracing will be installed primarily on day shift with welding on two shifts



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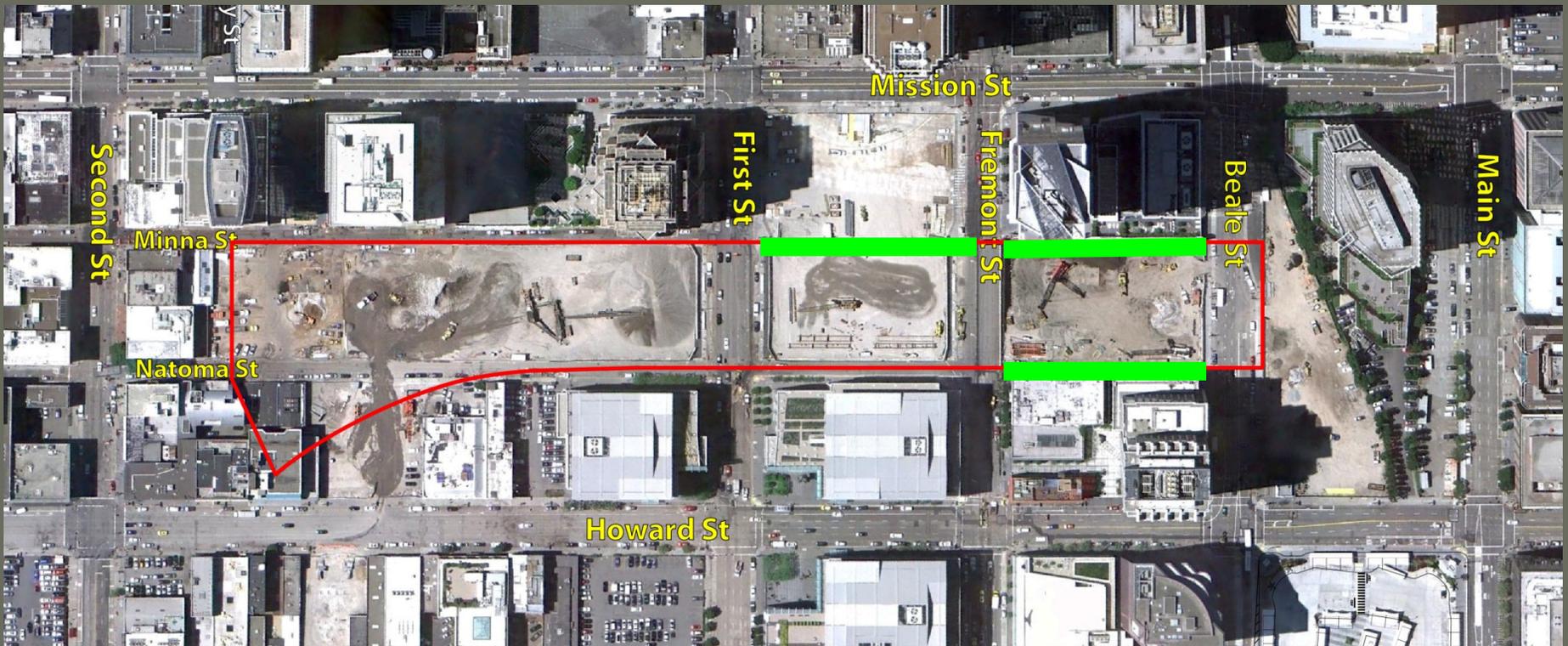
July 2011

2011

2012

2013

2014





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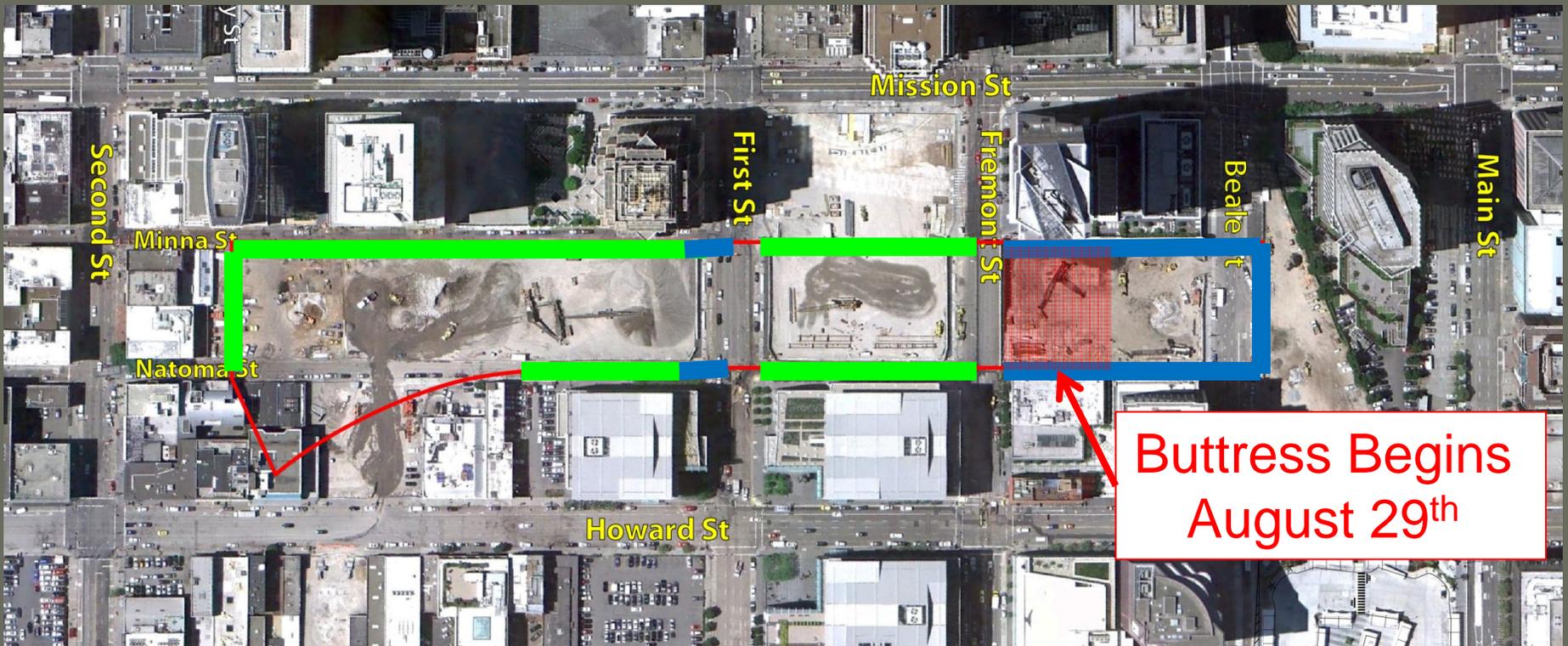
October 2011

2011

2012

2013

2014



Buttress Begins
August 29th



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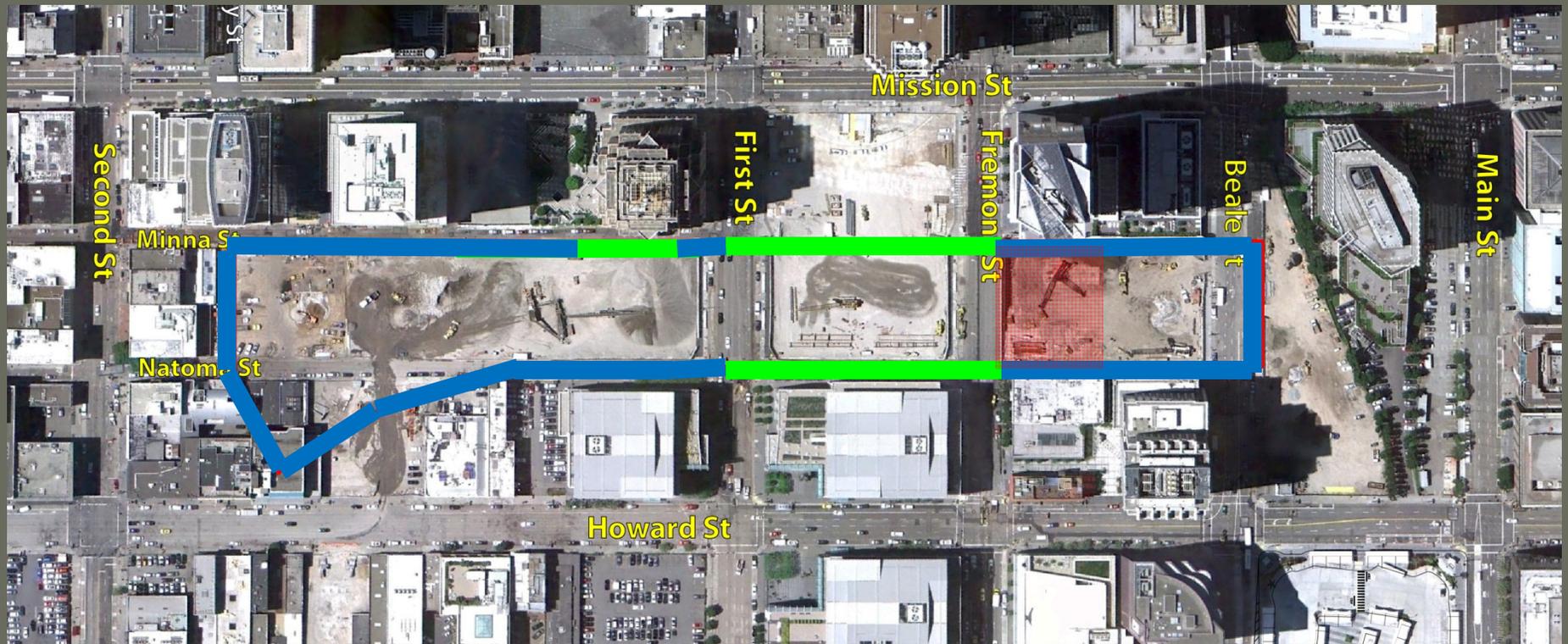
January 2012

2011

2012

2013

2014





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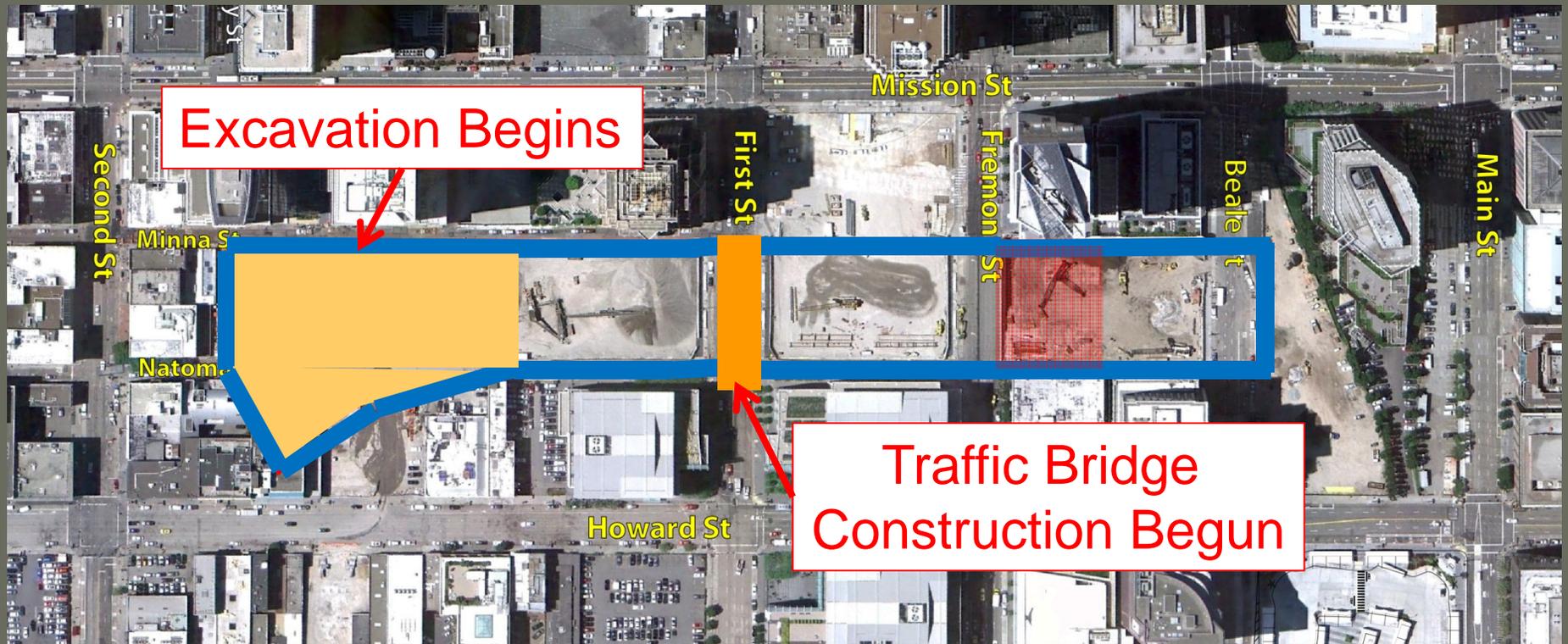
April 2012

2011

2012

2013

2014





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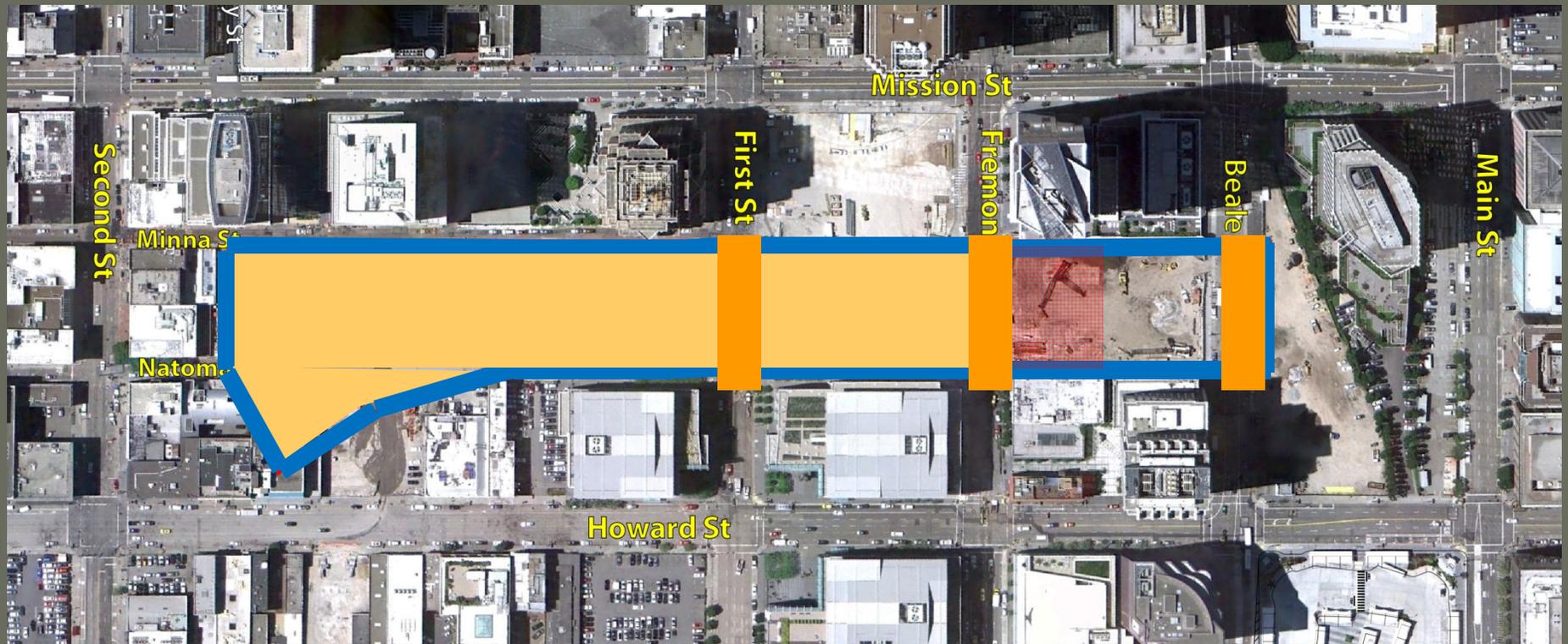
July 2012

2011

2012

2013

2014





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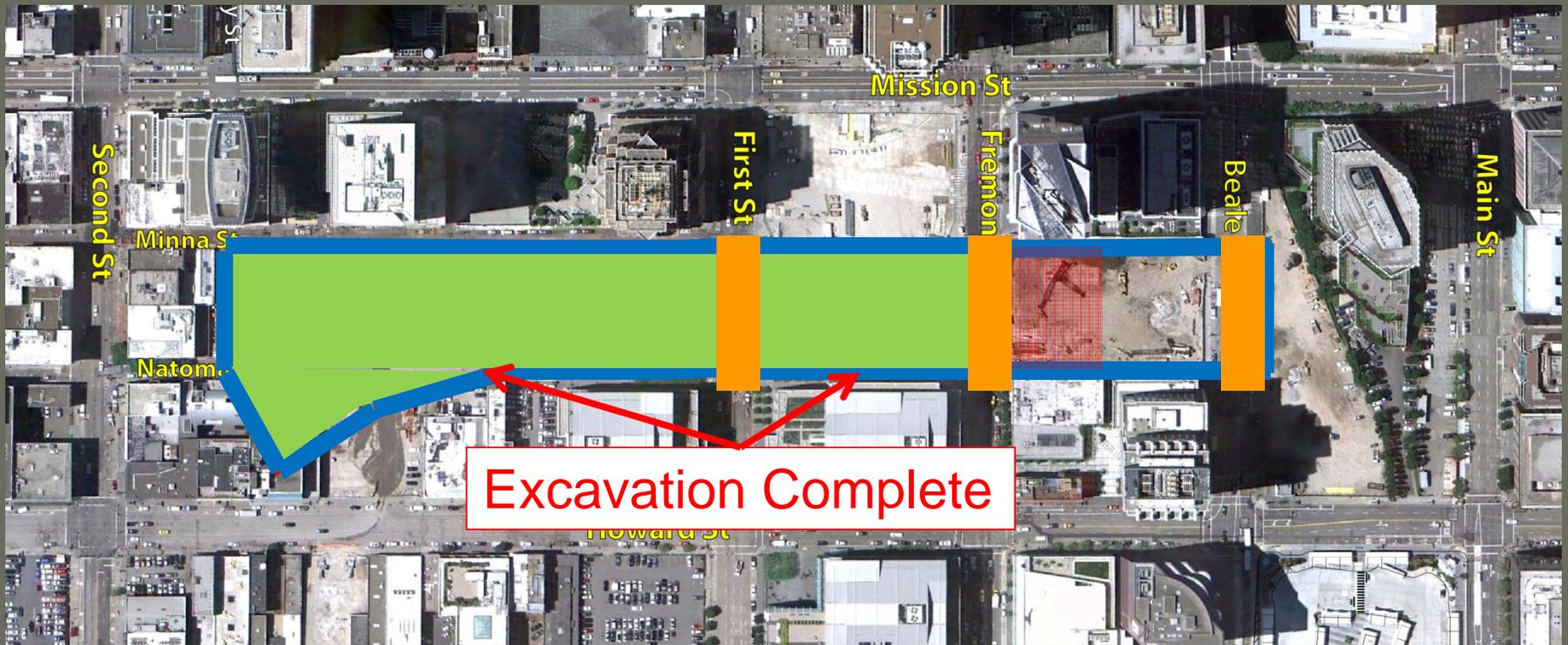
January 2013

2011

2012

2013

2014



Excavation Complete



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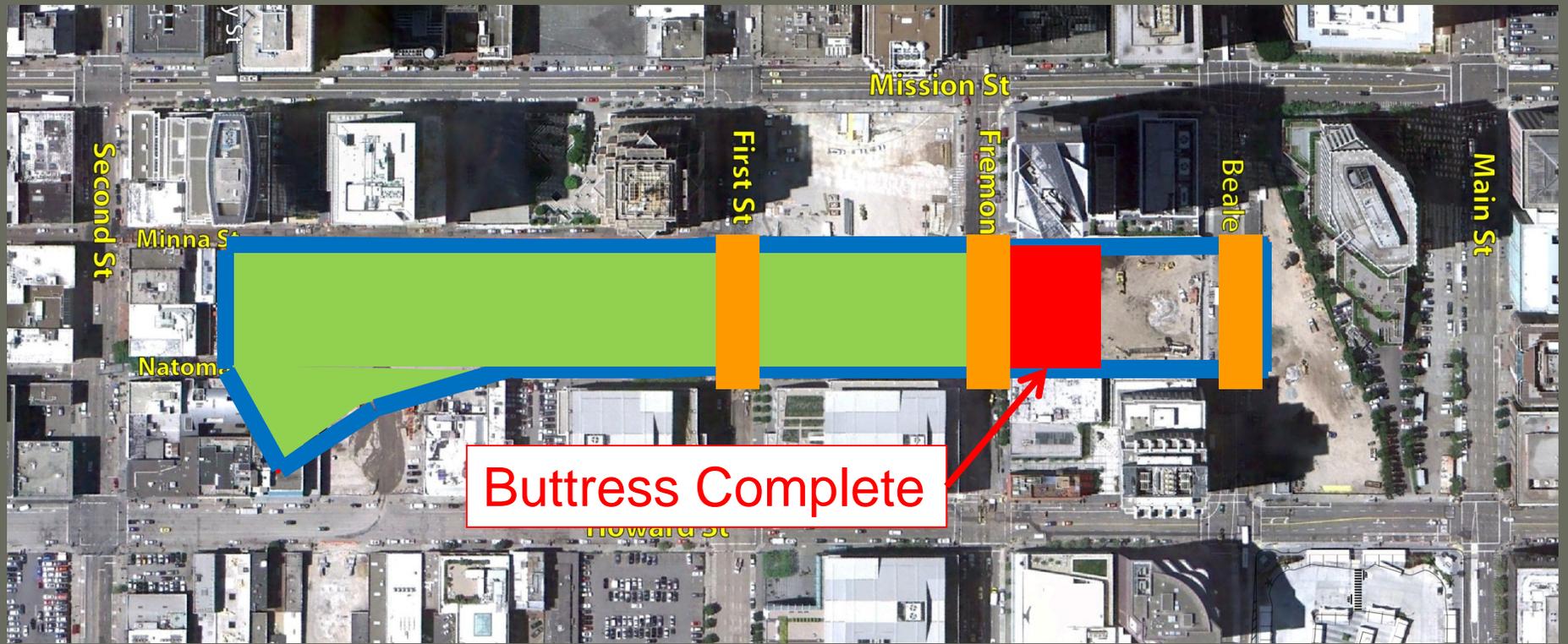
April 2013

2011

2012

2013

2014



Buttress Complete



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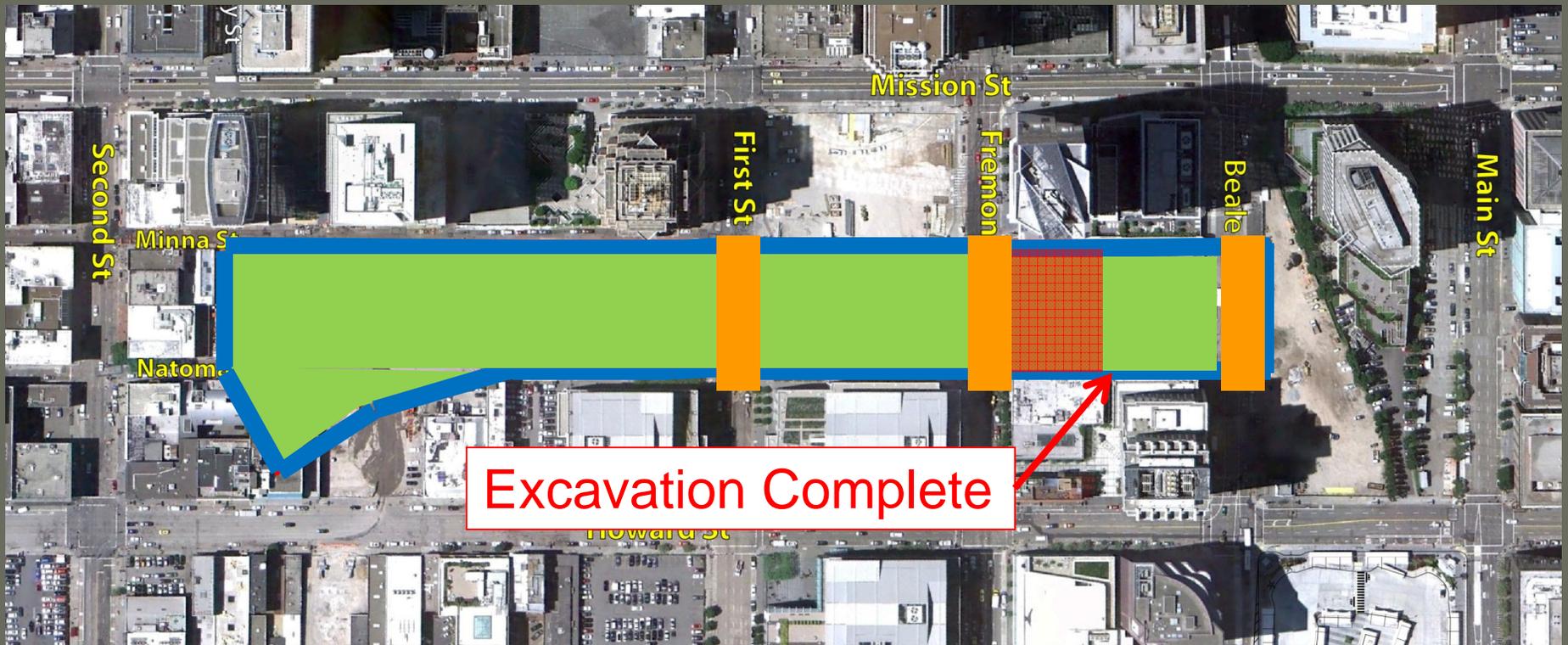
February 2014

2011

2012

2013

2014



Excavation Complete



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Questions?