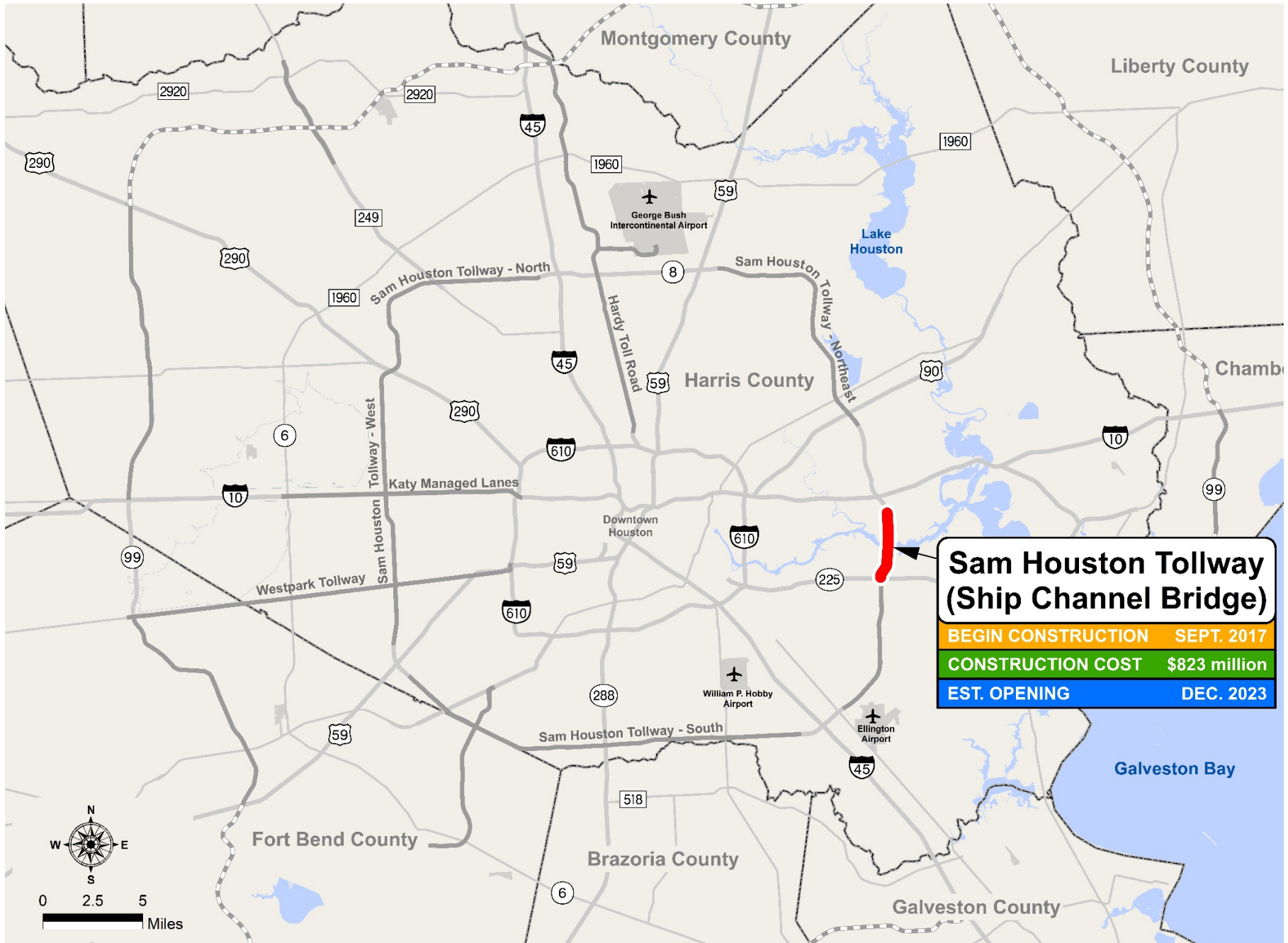


**Sam Houston Tollway  
Widening (East)**

BEGIN CONSTRUCTION	SEPT. 2017
CONSTRUCTION COST	\$225 million
EST. OPENING	SEPT. 2020



**Sam Houston Tollway  
(Ship Channel Bridge)**

BEGIN CONSTRUCTION	SEPT. 2017
CONSTRUCTION COST	\$823 million
EST. OPENING	DEC. 2023



# Ship Channel Bridge - Day





# Ship Channel Bridge - Night





# Ship Channel Bridge Stats



**Tower Height** **514'**

**Vert. Clearance** **175'**

**Main Span Length** **1320'**

**Lanes** **8**

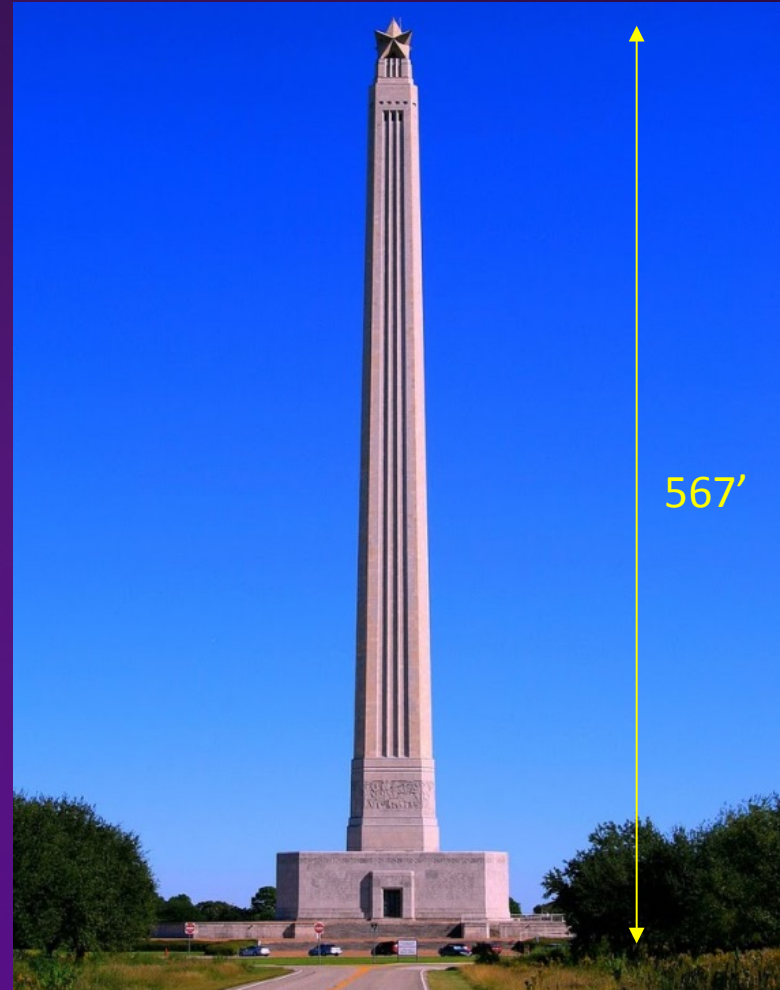
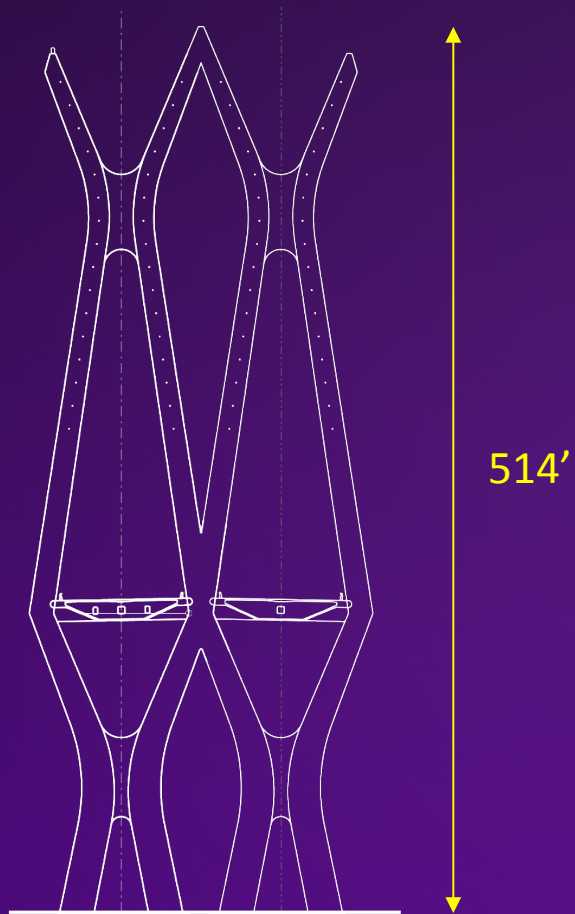
**Shoulders** **4**

**Concrete** **259,425 cu yd.**

**Cable Stayed** **19.5 Miles**

**Cost** **\$962 Million**

# Ship Channel Bridge - Comparison





# Ship Channel Bridge - Concrete

How much concrete is 259,425 cu yd.?



= 32,428 Concrete Truck Loads



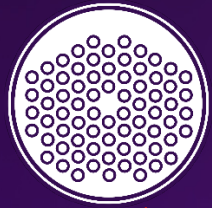
= 153 miles of concrete trucks lined up end-to-end



= 165 miles of one lane road

# Ship Channel Bridge

How much strand length is in 19.5 miles of Stay?



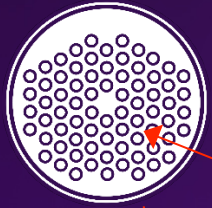
Stay Cable





# Ship Channel Bridge

How much strand length is in 19.5 miles of Stay?



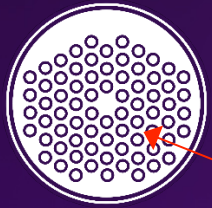
Stay Cable

There are 45–73 strands in each Stay which equals about 1,245 miles of strand



# Ship Channel Bridge

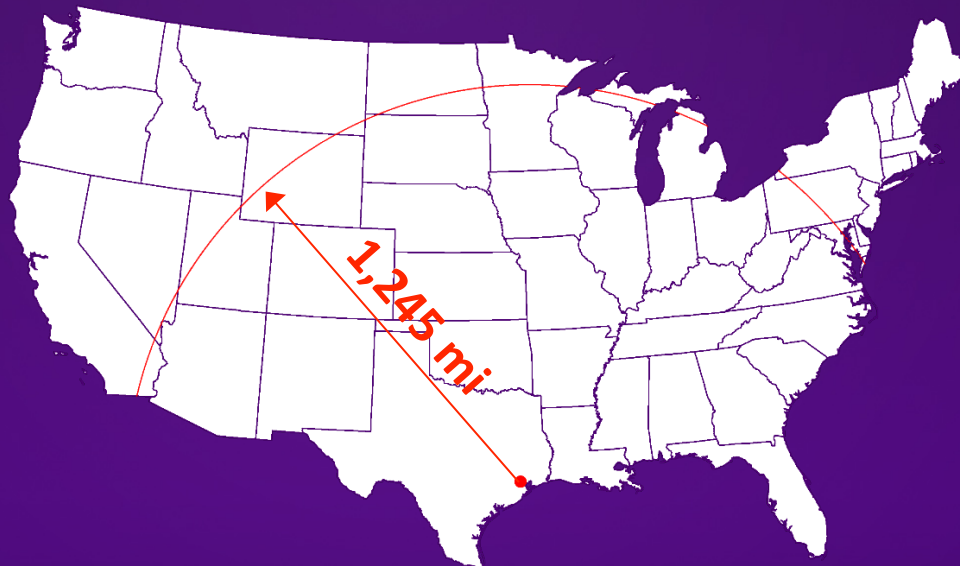
How much strand length is in 19.5 miles of Stay?



Stay Cable

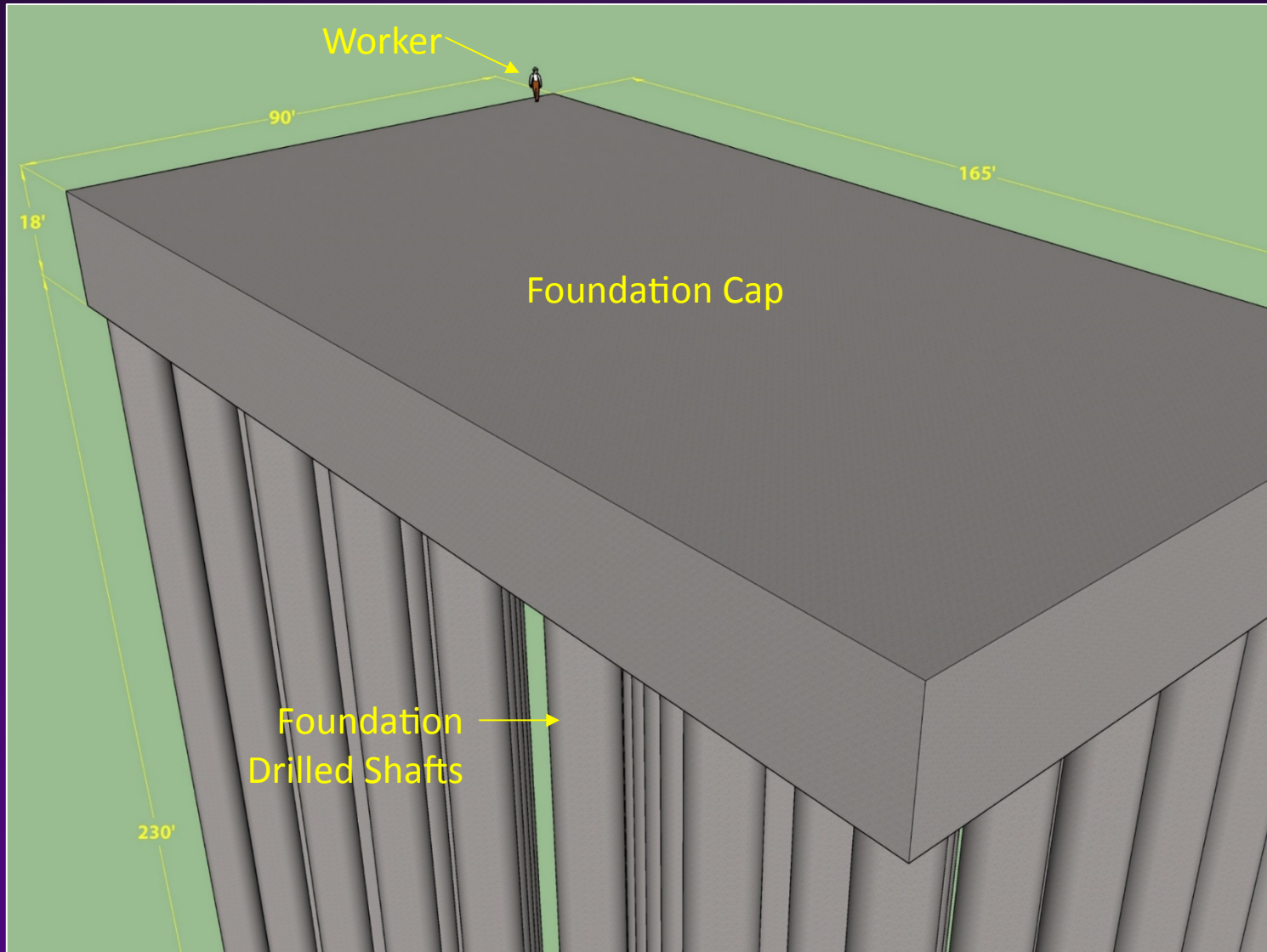
There are 45–73 strands in each Stay which equals about 1,245 miles of strand

Here's how far  
1,245 miles  
will get you

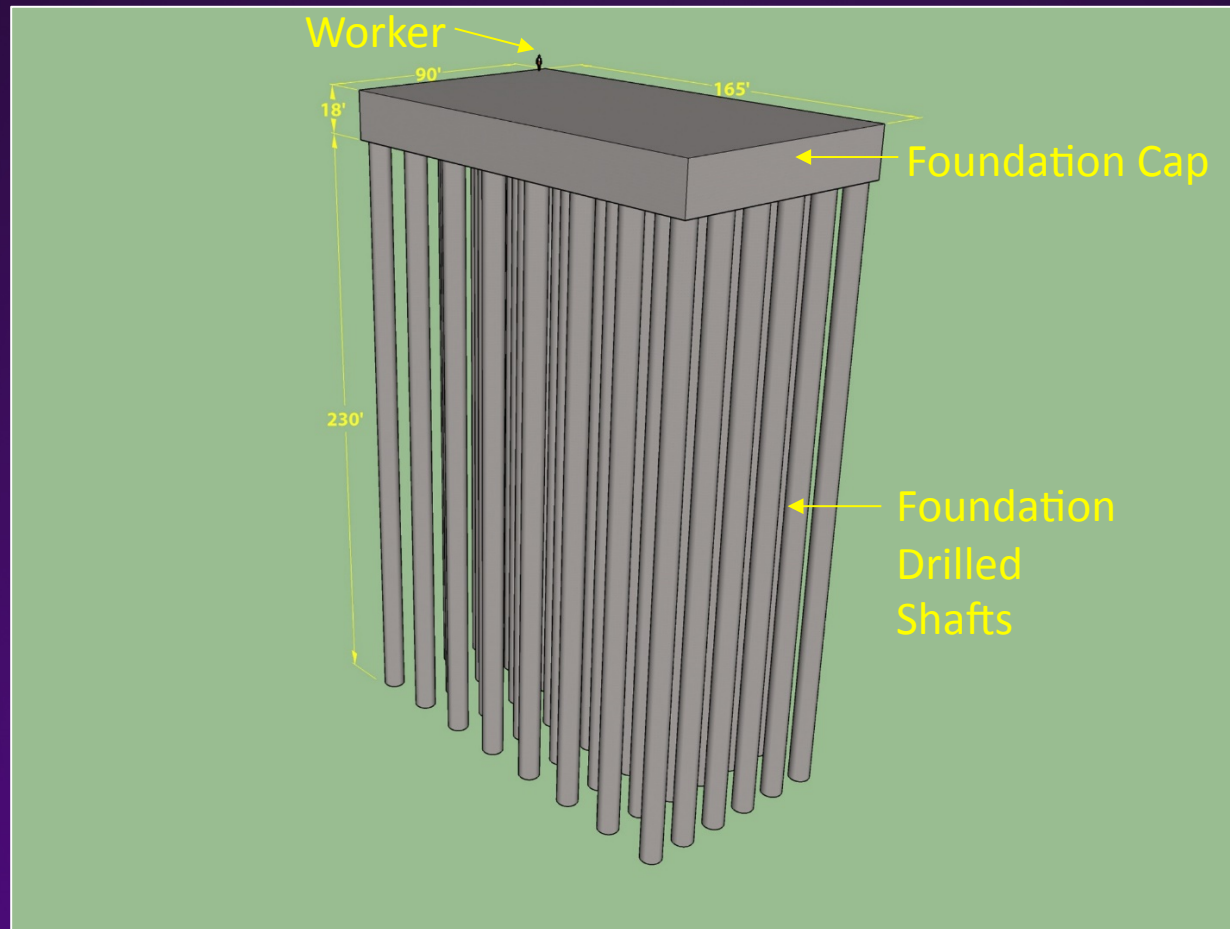




# Ship Channel Bridge Foundation



# Ship Channel Bridge Foundation



**Proposed Main Pylon Foundation Consists of:**

- 48 - 8' diameter drilled shafts (~420 CY/Shaft)
- 90' long x 165' wide x 18' deep concrete cap (~ 9900 CY)



# Ship Channel Bridge

## Pile Load Test Program Instrumentation

- Validate/refine design soil parameters





# Ship Channel Bridge

## North Pylon Construction Enclosure

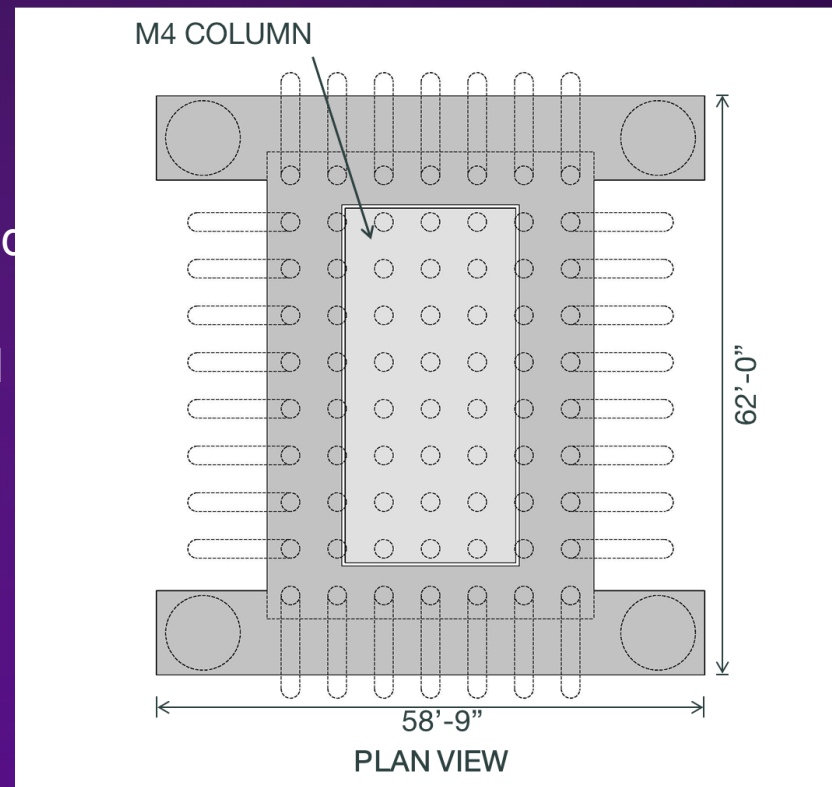




# Ship Channel Bridge

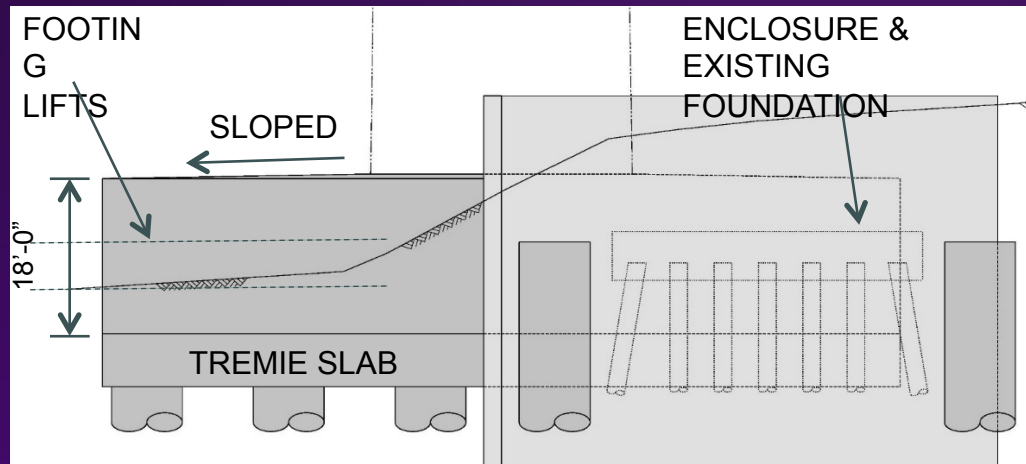
## Pier M4 Supplemental Support

- Support frame for existing M4 foundation
- Constructed prior to work on the proposed pylon foundation
- Ongoing surveys of existing pier required during construction
- Supporting drilled shafts become part of permanent footing in final condition

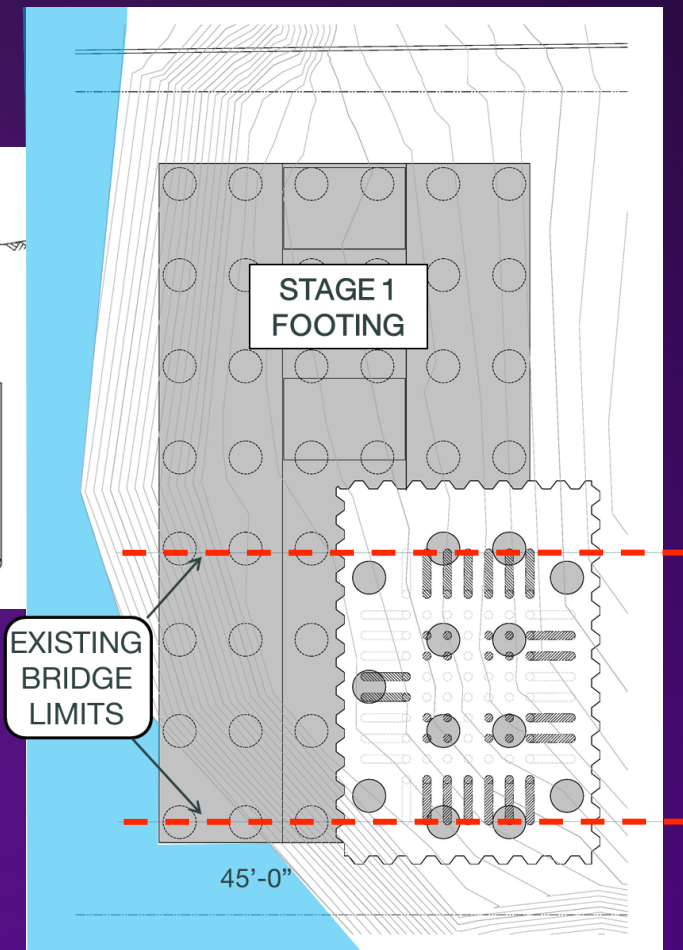


# Ship Channel Bridge

## North Pylon Footing



5,500 psi concrete  
Mass concrete provisions apply  
Stage 1 footing constructed in 3 horz. lifts  
145' vert. clearance under existing bridge



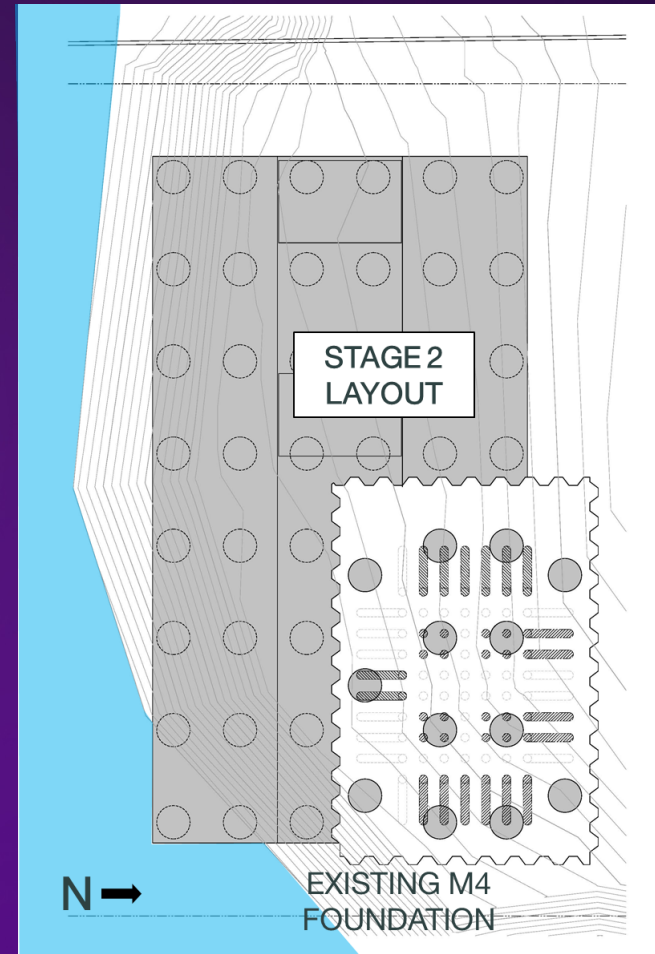
# Ship Channel Bridge

## North Pylon Enclosure

Stage 2 enclosure constructed after existing M4 foundation removed

M4 footing removed along with selected steel pipe piles to allow placement of permanent drilled shafts

Remaining pipe piles cut down to provide 2 feet vertical clearance to bottom of tremie slab





# Ship Channel Bridge

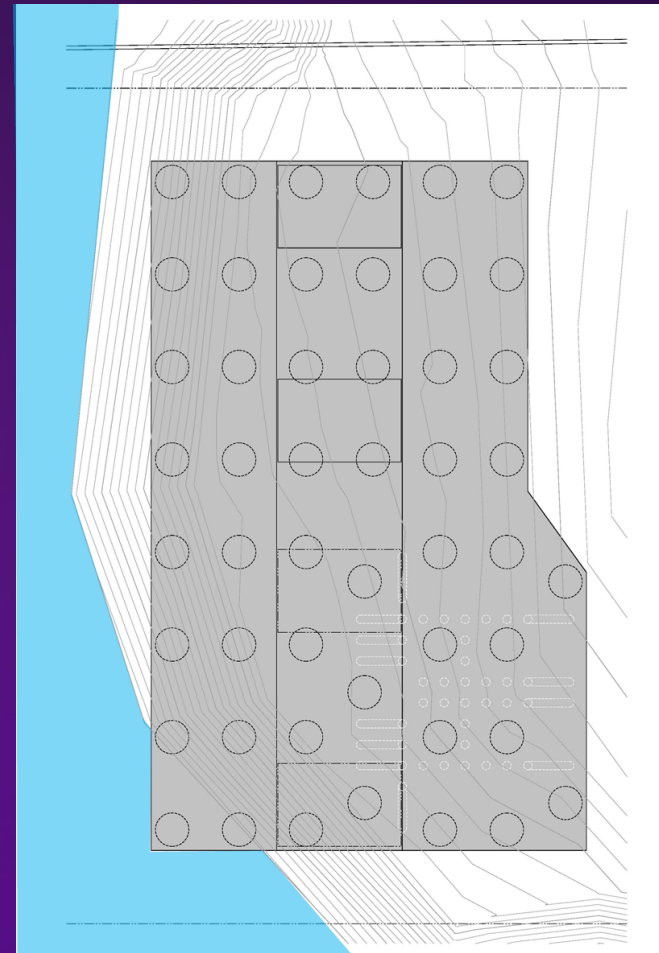
## North Pylon Footing

Final configuration

5,500 psi concrete

Mass concrete provisions apply

Stage 2 footing constructed in 3 horz. lifts

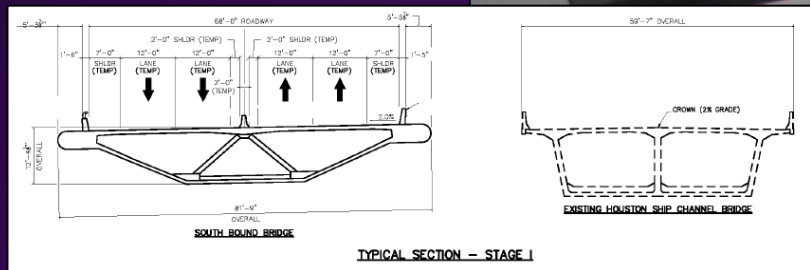


# Ship Channel Bridge

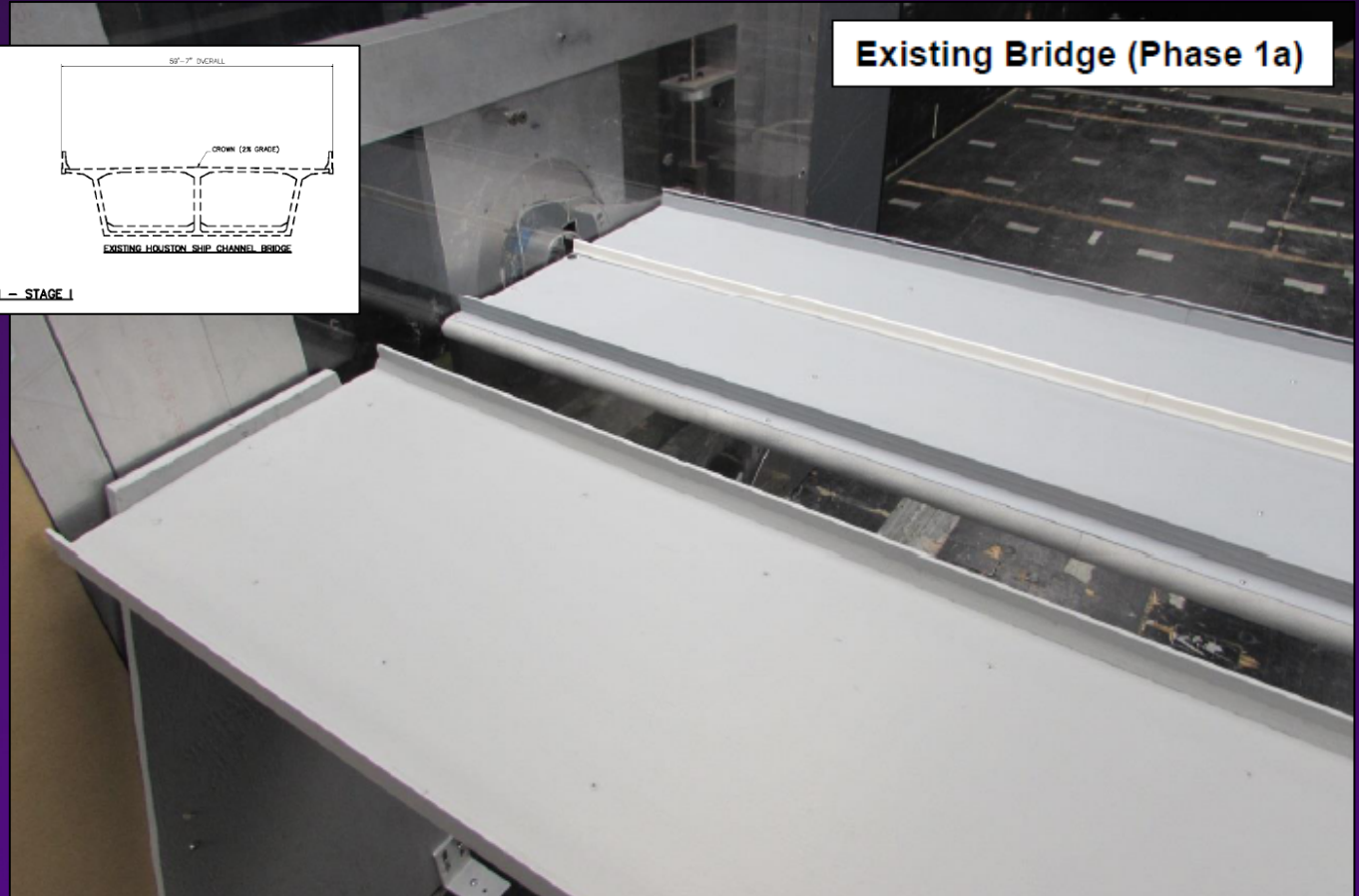
## Scaled Model in Wind Tunnel



# Ship Channel Bridge

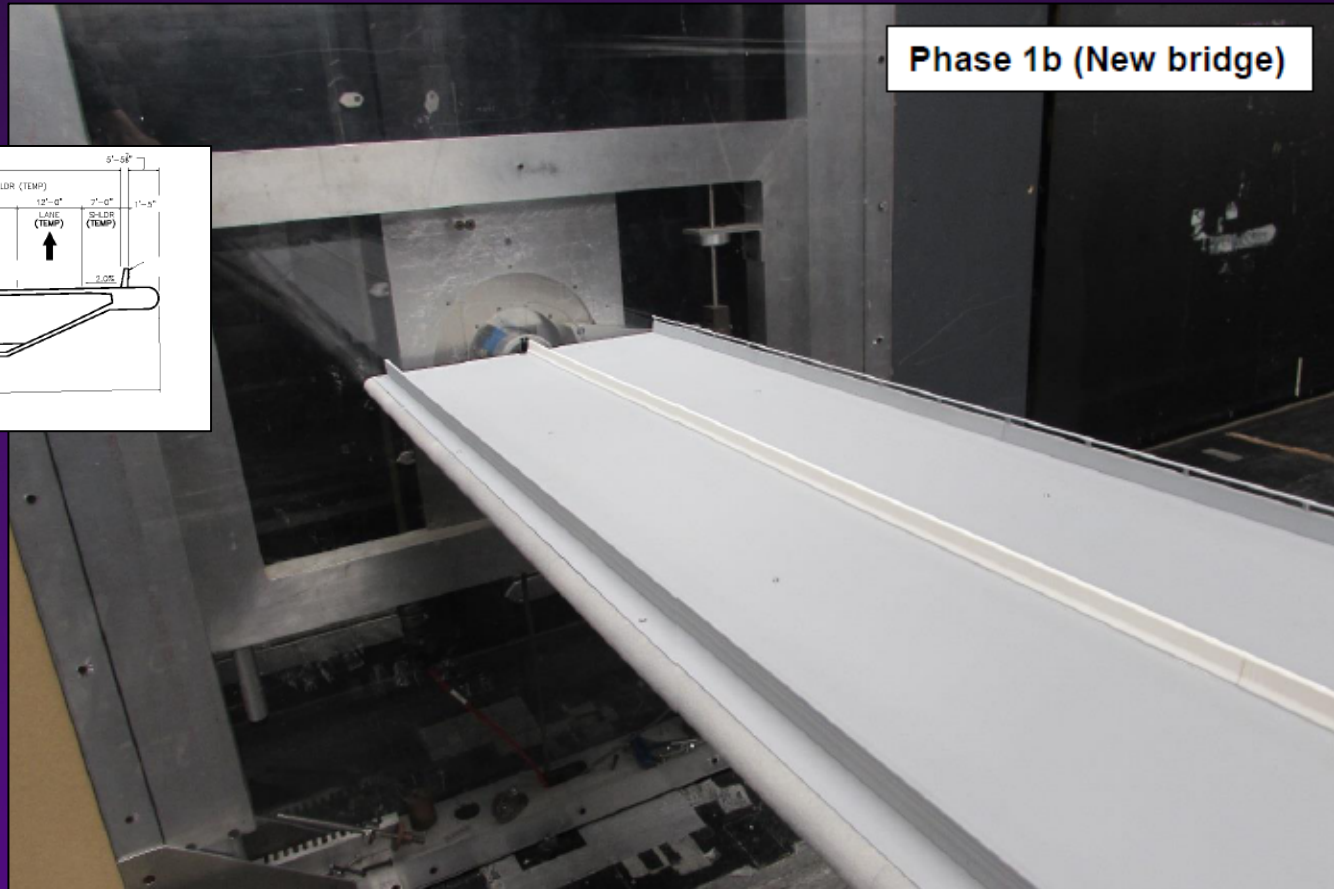
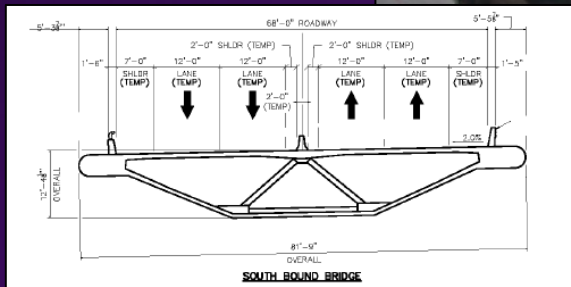


Existing Bridge (Phase 1a)



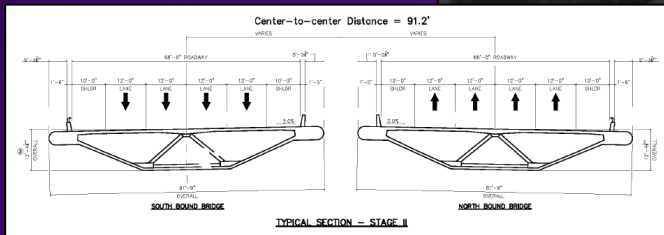


# Ship Channel Bridge



# Ship Channel Bridge

New Bridge (Phase 2)







# Ship Channel Bridge





# Ship Channel Bridge







# SHIP CHANNEL BRIDGE



## LOOKING AHEAD »

[illegible]

## A wide-angle view of a modern cable-stayed bridge with multiple tall, white, A-frame pylons and numerous stay cables. The bridge spans a body of water under a blue sky with scattered clouds. Several cars are driving on the multi-lane highway bridge.

[illegible]



# SHIP CHANNEL BRIDGE



Today



Design

Bids



Ship Channel Constructors, a Joint Venture, of  
Traylor Bros., Inc. & Zachry Construction  
Corporation



# SHIP CHANNEL BRIDGE



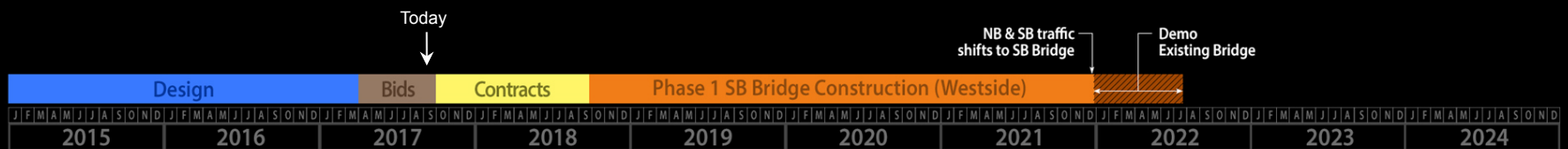
# Today







# SHIP CHANNEL BRIDGE



# SHIP CHANNEL BRIDGE





# Questions?

