1. The stratigraphy shown is based on limited information available at time of study and may change with actual ground investigation.

2. Ventilation and fire life safety requirements have not been considered as part of this study.

GEOLOGICAL KEY:
- ? - Assumed boundary
- ARTIFICIAL FILL
- YOUNGER BAY MUD
- UPPER LAYERED SEDIMENTS
- COLONY CLAY
- LOWER LAYERED SEDIMENTS
- SLOPE DEBRIS/RAVINE FILL
- FRANCISCAN COMPLEX BEDROCK
NOTES
1. THE STRATIGRAPHY SHOWN IS BASED ON LIMITED INFORMATION AVAILABLE AT TIME OF STUDY AND MAY CHANGE WITH ACTUAL GROUND INVESTIGATION.
2. VENTILATION AND FIRE LIFE SAFETY REQUIREMENTS HAVE NOT BEEN CONSIDERED AS PART OF THIS STUDY.
3. ASSUMES RELOCATION OF EXISTING RAIL YARD. REFER TO EXHIBITS 4.1 & 4.2 FOR STATION ARRANGEMENT WITH 4 AND 6 PLATFORMS. REFER TO PROJECT REPORT FOR RAILYARD RELOCATION PROPOSALS.

GEOLOGICAL KEY:
- ASSUMED BOUNDARY
- ARTIFICIAL FILL
- YOUNGER BAY MUD
- UPPER LAYERED SEDIMENTS
- OLD BAY CLAY
- LOWER LAYERED SEDIMENTS
- SLOPE DEBRIS/RAVINE FILL
- FRANCISCAN COMPLEX BEDROCK

DRAFT CONCEPTUAL DESIGN ONLY
NOTES
1. THE STRATIGRAPHY SHOWN IS BASED ON LIMITED INFORMATION AVAILABLE AT TIME OF STUDY AND MAY CHANGE WITH ACTUAL GROUND INVESTIGATION.
2. VENTILATION AND FIRE LIFE SAFETY REQUIREMENTS HAVE NOT BEEN CONSIDERED AS PART OF THIS STUDY.
3. 22ND STREET STATION LOCATION AND DEPTH ARE INDICATIVE ONLY. REQUIRES FURTHER INVESTIGATION.

DRAFT
CONCEPTUAL DESIGN ONLY

GEOLOGICAL KEY:
-/+/- ASSUMED BOUNDARY
-/-/- ARTIFICIAL FILL
-/-/- YOUNGER BAY MUD
-/-/- UPPER LAYERED SEDIMENTS
-/-/- OLD BAY CLAY
-/-/- LOWER LAYERED SEDIMENTS
-/+/- SLOPE DEBRIS/RAVINE FILL
-/-/- FRANCISCAN COMPLEX BEDROCK

PLAN
SCALE: 1" = 400'
NOTES
1. THE STRATIGRAPHY SHOWN IS BASED ON LIMITED INFORMATION RECOVERED AT TIME OF STUDY AND MAY CHANGE WITH ACTUAL GROUND INVESTIGATION.
2. VENTILATION AND FIRE LIFE SAFETY REQUIREMENTS HAVE NOT BEEN CONSIDERED AS PART OF THIS STUDY.
3. POTENTIAL CONFLICT WITH PILES TO AT&T ENTRANCE BUILDING MAY BE AVOIDED BY LOWERING ALIGNMENT ALTHOUGH BUILDING PROTECTION MEASURES WOULD BE REQUIRED.
4. CLASH WITH BRIDGE FOUNDATIONS WILL REQUIRE MAJOR PROTECTION WORKS OR COMPLETE RECONSTRUCTION.

GEOLOGICAL KEY:
- ASSUMED BOUNDARY
- ARTIFICIAL FILL
- OLDER BAY MUD
- UPPER LAYERED SEDIMENTS
- OLD BAY CLAY
- LOWER LAYERED SEDIMENTS
- SLOPE DEBRIS/RAVINE FILL
- FRANCISCAN COMPLEX BEDROCK

PROFILE
SCALE: Horiz: 1"=400'
Vert: 1"=80'

EXHIBIT 3.1
ALIGNMENT 3: MISSION BAY PLAN AND PROFILE
SITE: SF RAILYARD ALTERNATIVES AND I-280 BOULEVARD FEASIBILITY STUDY

DRAFT
CONCEPTUAL DESIGN ONLY

ARCHITECT
11-02-16

PROJECT
CITY AND COUNTY OF SAN FRANCISCO, PLANNING DEPARTMENT

CLIENT
CITY AND COUNTY OF SAN FRANCISCO, PLANNING DEPARTMENT

PLANNING DEPARTMENT

SCALE REV
AS SHOWN AT 11" X 17"
NOTES
1. THE STRATIGRAPHY SHOWN IS BASED ON LIMITED INFORMATION AVAILABLE AT TIME OF STUDY AND MAY CHANGE WITH ACTUAL GROUND INVESTIGATION.
2. VENTILATION AND FIRE LIFE SAFETY REQUIREMENTS HAVE NOT BEEN CONSIDERED AS PART OF THIS STUDY.
3. FOR STATION DETAIL SEE EXHIBIT 5.1 AND FOR ALTERNATIVE BORED TUNNEL STATION SEE EXHIBIT 5.2. ADDITIONAL PLATFORM OPTIONS SHOWN FOR BOTH.

GEOLOGICAL KEY:
- ASSUMED BOUNDARY
- ARTIFICIAL FILL
- YOUNGER BAY MUD
- UPPER LAYERED SEDIMENTS
- OLD BAY CLAY
- LOWER LAYERED SEDIMENTS
- SLOPE DEBRIS/RAVINE FILL
- FRANCISCAN COMPLEX BEDROCK

PROFILE
SCALE: 1"=400'

PLAN
SCALE: 1"=400'

DRAFT
CONCEPTUAL DESIGN ONLY

SITE OF PROPOSED WARRIORS ARENA
TRIPLE TRACK TUNNEL
TUNNEL BELOW YOUNGER BAY MUD
PILE CONFLICT MITIGATION REQUIRED

CLIENT CITY AND COUNTY OF SAN FRANCISCO, PLANNING DEPARTMENT
PROJECT SF RAIL YARD ALTERNATIVES AND I-280 BOULEVARD FEASIBILITY STUDY
ALIGNMENT 3: MISSION BAY PLAN AND PROFILE

IN PROCESS, FOR DISCUSSION ONLY

AS SHOWN AT 11" X 17"

DRAWN CHECKED APPROVED
MJM SDF JS 06-03-16 06-03-16 06-09-16

GEOLOGICAL KEY:
- ASSUMED BOUNDARY
- ARTIFICIAL FILL
- YOUNGER BAY MUD
- UPPER LAYERED SEDIMENTS
- OLD BAY CLAY
- LOWER LAYERED SEDIMENTS
- SLOPE DEBRIS/RAVINE FILL
- FRANCISCAN COMPLEX BEDROCK
NOTES
1. THE STRATIGRAPHY SHOWN IS BASED ON LIMITED INFORMATION AVAILABLE AT TIME OF STUDY AND MAY CHANGE WITH ACTUAL GROUND INVESTIGATION.
2. VENTILATION AND FIRE LIFE SAFETY REQUIREMENTS HAVE NOT BEEN CONSIDERED AS PART OF THIS STUDY.
3. 22ND STREET STATION LOCATION AND DEPTH ARE INDICATIVE ONLY. REQUIRES FURTHER INVESTIGATION.

GEOLOGICAL KEY:
- ASSUMED BOUNDARY
- ARTIFICIAL FILL
- YOUNGER BAY MUD
- UPPER LAYERED SEDIMENTS
- OLD BAY CLAY
- LOWER LAYERED SEDIMENTS
- SLOPE DEBRIS/RAVINE FILL
- FRANCISCAN COMPLEX BEDROCK

PLAN
SCALE: 1"=400'

PROFILE
SCALE: Hor'iz: 1"=400' Vert: 1"=80'

DRAFT
CONCEPTUAL DESIGN ONLY
GEOLOGICAL KEY:

- **?** - Assumed Boundary
- **-** - Artificial Fill
- **Y** - Younger Bay Mud
- **-** - Upper Layered Sediments
- **O** - Old Bay Clay
- **-** - Lower Layered Sediments
- **S** - Slope Debris/Ravine Fill
- **F** - Franciscan Complex Bedrock

NOTES

1. The stratigraphy shown is based on limited information available at the time of the study and may change with actual ground investigation.

2. Ventilation and fire life safety requirements have not been considered as part of this study.

3. Potential clash with piles to AT&T entrance building may be avoided by lowering alignment although building protection measures would be required.

4. Clash with bridge foundations will require major protection works or complete reconstruction.

CONFLICT WITH PILES TO AT&T ENTRANCE BUILDING

CONFLICT WITH BRIDGE FOUNDATIONS

PROFILE

SCALE: Horiz: 1"=400' Vert: 1"=80'

PLAN

SCALE: 1"=400'

DRAFT

CONCEPTUAL DESIGN ONLY
3RD ST STATION ENTRANCES  
CHINA BASIN  
SITE OF PROPOSED WARRIORS ARENA  
3RD STREET BRIDGE FOUNDATIONS  
LARGE BORE TUNNEL

PLAN
SCALE: 1"=400'

PROFILE
SCALE: Hori: 1"=400'
Vert: 1"=80'

GEOLOGICAL KEY:
- ? - ASSUMED BOUNDARY
- Artificial Fill
- Younger Bay Mud
- Upper Layered Sediments
- Colonial Clay
- Lower Layered Sediments
- Slope Debris/填补
- Franciscan Complex Bedrock

NOTES
1. THE STRATIGRAPHY SHOWN IS BASED ON LIMITED
INFORMATION AVAILABLE AT TIME OF STUDY AND
MAY CHANGE WITH ACTUAL GROUND INVESTIGATION.
2. VENTILATION AND FIRE LIFE SAFETY REQUIREMENTS
HAVE NOT BEEN CONSIDERED AS PART OF THIS STUDY.
3. FOR STATION DETAIL SEE EXHIBIT 5.2 AND FOR ALTERNATIVE
BOX STATION SEE EXHIBIT 5.1. ADDITIONAL PLATFORM OPTIONS
SHOWN FOR BOTH DRAFT CONCEPTUAL DESIGN ONLY

DRAFT
CONCEPTUAL DESIGN ONLY

CITY AND COUNTY OF SAN FRANCISCO,
PLANNING DEPARTMENT
PROJECT
SF RAILYARD ALTERNATIVES AND I-280
BOULEVARD FEASIBILITY STUDY
TITLE
ALIGNMENT 3: MISSION BAY
PLAN AND PROFILE
DRAWING NUMBER
EXHIBIT 3.2B

SCALE 1"=400'

SCALE REV
AS SHOWN AT 11" X 17"
PROPOSED 22ND STREET STATION

1. THE STRATIGRAPHY SHOWN IS BASED ON LIMITED INFORMATION AVAILABLE AT TIME OF STUDY AND MAY CHANGE WITH ACTUAL GROUND INVESTIGATION.

2. VENTILATION AND FIRE LIFE SAFETY REQUIREMENTS HAVE NOT BEEN CONSIDERED AS PART OF THIS STUDY.

3. INFORMATIVE ONLY. REQUIRES FURTHER INVESTIGATION.

GEOLOGICAL KEY:

- LOWER LAYERED SEDIMENTS
- OLD BAY CLAY
- UPPER LAYERED SEDIMENTS

GM - CONCEPTUAL DESIGN ONLY

PLAN
SCALE: 1"=400'

PROFILE
SCALE: Hor'iz: 1"=400'
Vert: 1"=80'

PROPOSED 22ND STREET STATION
SINGLE LARGE BORED TUNNEL
CUT & COVER TUNNEL
EXISTING TUNNEL
EXISTING PORTAL
Pennsylvania Ave

SCALE: 1"=400'

DRAFT
CONCEPTUAL DESIGN ONLY
SECTION

TOWNSEND ST (RECONSTRUCTED)

45°
55°

12'
12'

APPROXIMATELY 50'

4'-6'
5'-7'
5'-7'
10'

5'-7'
17'
5'-7'
13'
12'

14'-6'
5'-7'
17'
13'

PLT 3PM
PLT 3PM

3' SLURRY WALL
4'-6' PCC WALL

MEZZANINE

POTENTIAL OVER-SITE DEVELOPMENT

CONSTRUCTION ASSUMPTIONS:

1. STATIONS BUILT USING ASSUMED CUT AND COVER METHOD
   WITH SLURRY WALLS (APPROX. 4'-6" THICK), PROVIDED PORE SPACE
   AT TUNNEL TO SUPPORT STATION STRUCTURES

2. DEPTH OF SLURRY WALLS AND OTHER GROUND TREATMENT
   REQUIRED TO BE DETERMINED

3. SLURRY WALLS ARE REQUIRED TO BE SHOWN BEYOND LIMIT OF SLURRY WALL
   REQUIREMENTS TO BE DETERMINED

4. TRACK AND PLATFORM DIMENSIONS ARE BASED ON CURRENT
   STATION DESIGN

5. A MINIMUM CLEARANCE IS REQUIRED AS AN ACCESS PATH TO
   THE PLATFORM, SUBWAY STAIRS AND EGRESSES

6. STRUCTURAL SUBWAY PLATFORM STAIRS ARE NOT SHOWN

7. STATION OPERATIONS AND PLANT ROOMS ARE ASSUMED TO BE
   SHOWN AS PERmitted. HEIGHT OF WALL CAN BE DESIGNED FOR CONCRETE DEVELOPMENT

OPERATION ASSUMPTIONS:

1. FOUR TRACKS AND FOUR PLATFORM EDGES

2. CARS ENTER THE STATION AT SINGLE LENGTH PLATFORMS.
   ALL OTHER TRACKS PASS THROUGH FROM THE SOUTH.

3. DEPTH OF SLURRY WALLS AND OTHER GROUND TREATMENT
   REQUIRED TO BE DETERMINED

4. TRACK AND PLATFORM DIMENSIONS ARE BASED ON CURRENT
   STATION DESIGN

5. A MINIMUM CLEARANCE IS REQUIRED AS AN ACCESS PATH TO
   THE PLATFORM, SUBWAY STAIRS AND EGRESSES

6. STRUCTURAL SUBWAY PLATFORM STAIRS ARE NOT SHOWN

7. STATION OPERATIONS AND PLANT ROOMS ARE ASSUMED TO BE
   SHOWN AS PERMITTED. HEIGHT OF WALL CAN BE DESIGNED FOR CONCRETE DEVELOPMENT

DRAFT CONCEPTUAL DESIGN ONLY

CITY AND COUNTY OF SAN FRANCISCO, PLANNING DEPARTMENT

SF RAILYARD ALTERNATIVES AND I-280 BOULEVARD FEASIBILITY STUDY

ALIGNMENT 2: PENNSYLVANIA AVENUE STATION CONFIGURATION OPTION C

EXHIBIT 4.1

IN PROCESS, FOR DISCUSSION ONLY

AS SHOWN AT 11" X 17"

Page A-11
CONSTRUCTION ASSUMPTIONS:
1. STATIONS BUILT USING ASSUMED CUT AND COVER METHOD WITH SLURRY WALL LEWNDED TO 3 FEET AND A STRUCTURAL CONCRETE WALL (APPROX. 4'-6" THICK) SHOWN BEYOND LIMIT OF SLURRY WALL.
2. 12" DIA. WATER Mains AND SEWER PIPES SHOWN IN EXISTING TIME-OF-CYCLIC BOUNDARY.
3. 12" DIA. EXISTING WATER Mains AND SEWER PIPES SHOWED OTHER SIDE OF SLURRY WALL.
4. PLATFORM DIMENSIONS ARE BASED ON CURRENT DATA, NOT CURRENTLY PLANNED TO BE UPDATED.
5. A MEZZANINE LEVEL IS PROVIDED AS AN ACCESS POINT TO THE MEZZANINE Levels, SUBWAY LEVEL, PLATFORM ELEVATION, AND EXIT TO MEZZANINE LEVE ls, SUBWAY LEVEL, AND EXIT TO MEZZANINE LEVEL.
6. A MEZZANINE LEVEL IS REQUIRED AS AN ACCESS POINT TO THE MEZZANINE LEVELS, SUBWAY ELEVATION, PLATFORM ELEVATION, AND EXIT TO MEZZANINE LEVEL.
7. STATION OPERATIONS AND PLATFORM AREAS ARE ASSUMED TO BE HOWN WHERE AS BUILT TO BE CONSIDERED AS EASEMENT OF WAY CAN BE DESIGNED FOR OVERSIGHT DEVELOPMENT.

OPERATION ASSUMPTIONS:
1. SIX TRACKS AND SIX PLATFORMS DESIGNATED SIX TRAVELING TRACKS AT SINGLE LENGTH PLATFORMS.
2. SIX TRACKS AND SIX PLATFORMS ASSUMED SIX STOPPING TRACKS AT SINGLE LENGTH PLATFORMS.
3. ALL OTHER TRACKS PASS THROUGH FROM THE SOUTH TO NORTH.
4. A MEZZANINE LEVEL IS PROVIDED AS AN ACCESS POINT TO THE MEZZANINE LEVELS, SUBWAY ELEVATION, PLATFORM ELEVATION, AND EXIT TO MEZZANINE LEVEL.
5. A MEZZANINE LEVEL IS REQUIRED AS AN ACCESS POINT TO THE MEZZANINE LEVELS, SUBWAY ELEVATION, PLATFORM ELEVATION, AND EXIT TO MEZZANINE LEVEL.
6. A MEZZANINE LEVEL IS REQUIRED AS AN ACCESS POINT TO THE MEZZANINE LEVELS, SUBWAY ELEVATION, PLATFORM ELEVATION, AND EXIT TO MEZZANINE LEVEL.

SCHEDULE:
CITY AND COUNTY OF SAN FRANCISCO, PLANNING DEPARTMENT
SF RAILYARD ALTERNATIVES AND 1-280 BOULEVARD FEASIBILITY STUDY
ALIGNMENT 2: PENNSYLVANIA AVENUE STATION CONFIGURATION OPTION D

EXHIBIT 4.2
DRAFT CONCEPTUAL DESIGN ONLY

PLAN

SECTION

POTENTIAL OVER-SITE DEVELOPMENT

CONCEPTUAL DESIGN ONLY

AS SHOWN AT 11" X 17"