Transbay Transit Center
Bus Ramps

CAC Meeting - January 13th, 2009

Transbay Transit Center

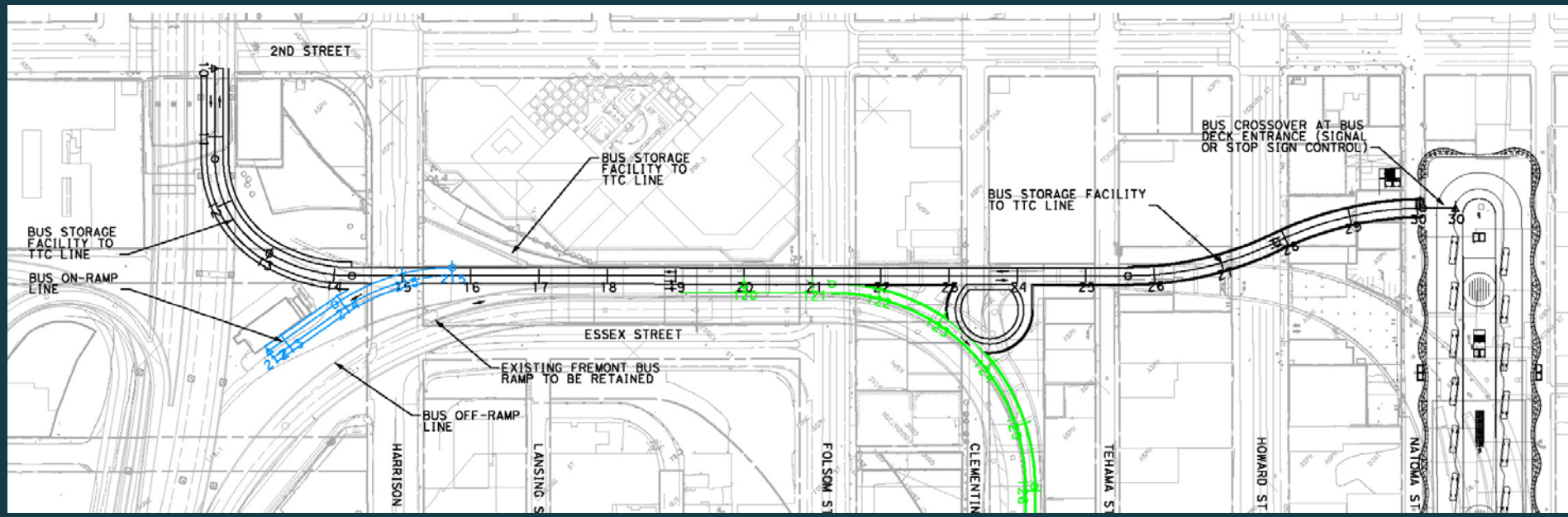
ARUP

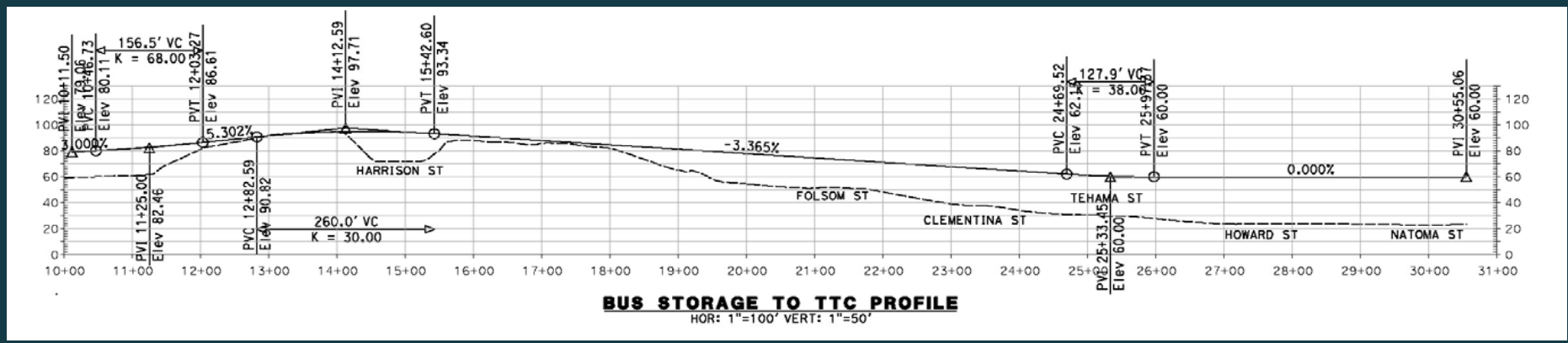
New Bus Ramps

Bus Ramp Objectives

- **Replace functionally obsolete structures**
  - Meet Caltrans “Lifeline” Status
- **Direct connections**
- **Provide all required bus movements**
  - Meet 2030 bus traffic predictions (EIR) (TJPA consider 2050)
  - Minimize impact to existing structures
- **Recognize site constraints**
  - Urban setting – architectural context – visual impacts
  - Geometric and ROW constraints
  - Maintenance of traffic
- **Best Value**

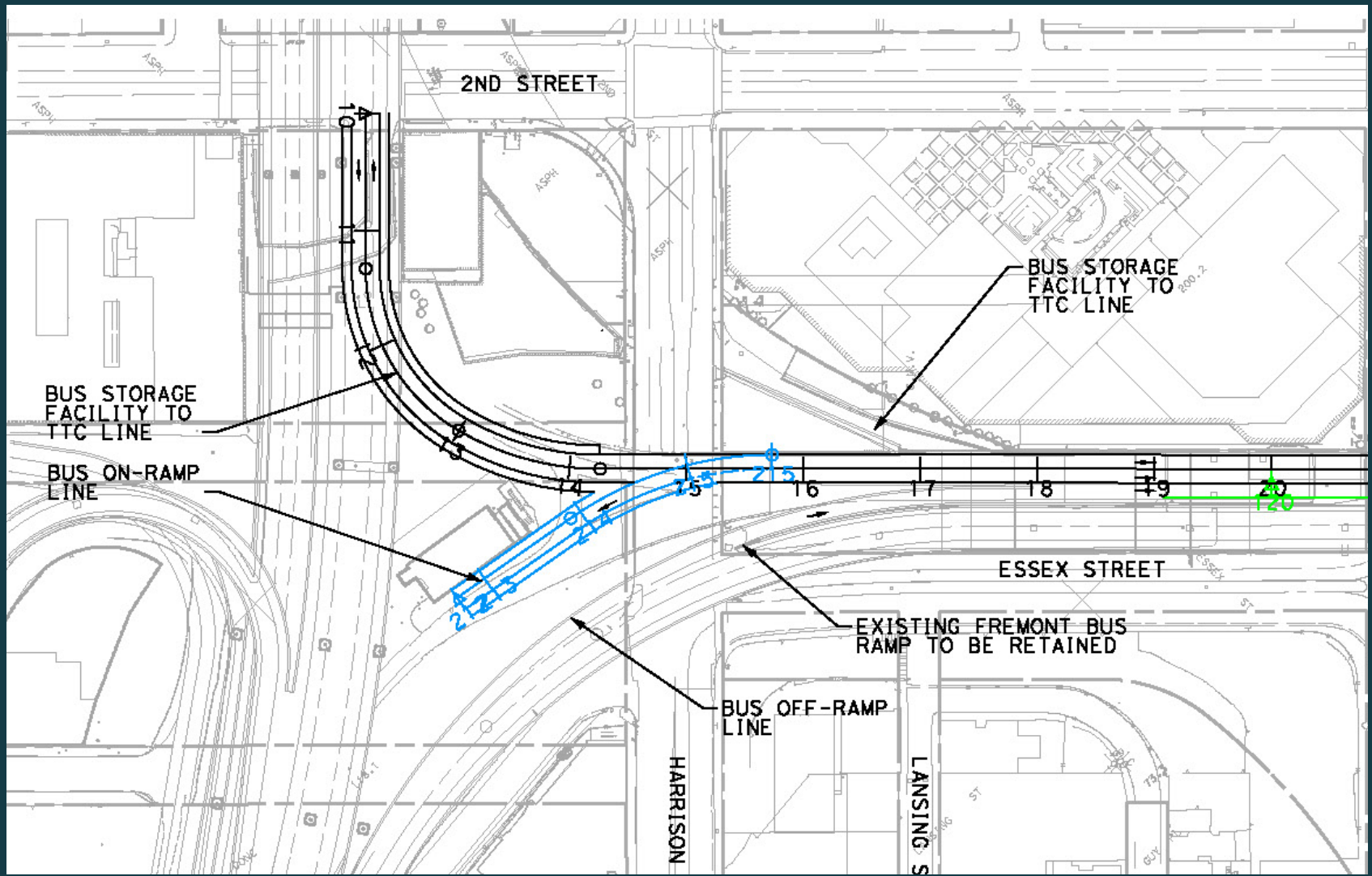
Alternative 1A – “Base Case”



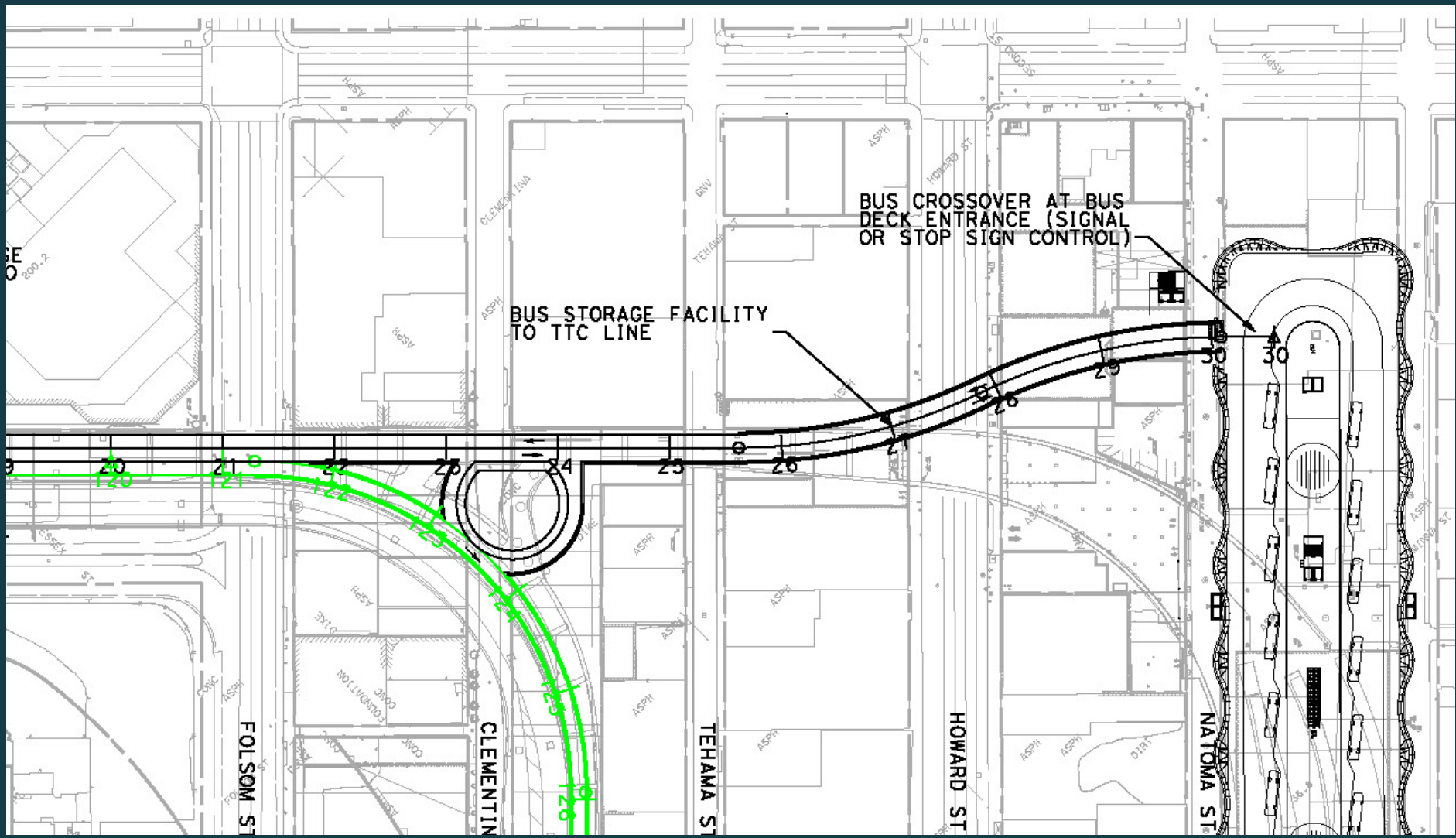


BUS STORAGE TO TTC PROFILE
HOR: 1"=100' VERT: 1"=50'

Alternative 1A – "Base Case"



Alternative 1A – "Base Case"



Traffic Studies

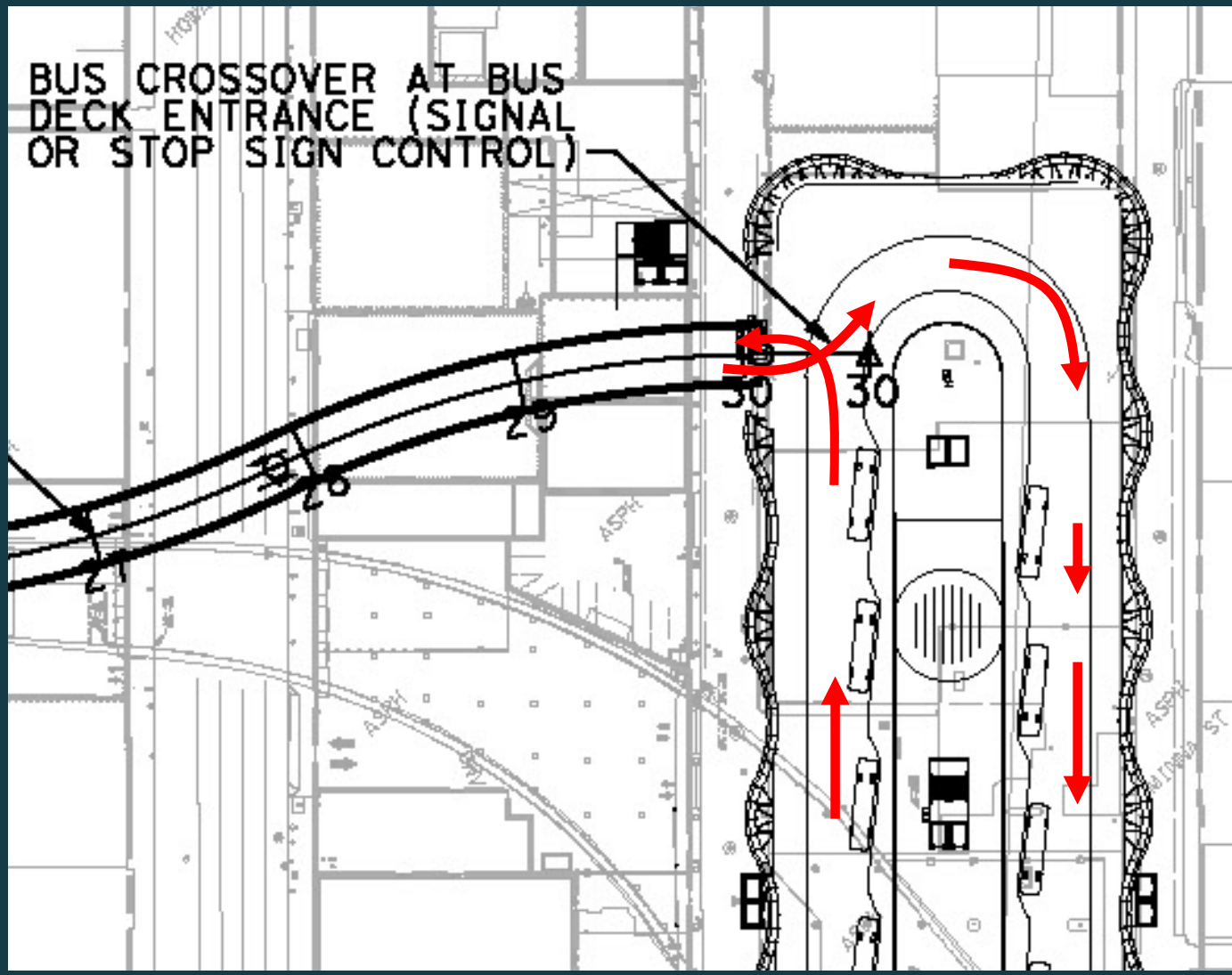
Bus Ramp Traffic

- **Peak Hour Modeling (VISSIM)**
- **Dedicated bus ramp to TTC and BSF**
  - AC Transit Transbay services
  - MUNI #108
  - WesCAT
  - Caltrans Bike Shuttle
- **Errant Motorists**
  - Signage, striping
  - Acceptable safety
- **Amtrak/Greyhound/GGT**

Year	Peak Hour
2008	90
2030	174
2050	290
GGT to Fremont	75

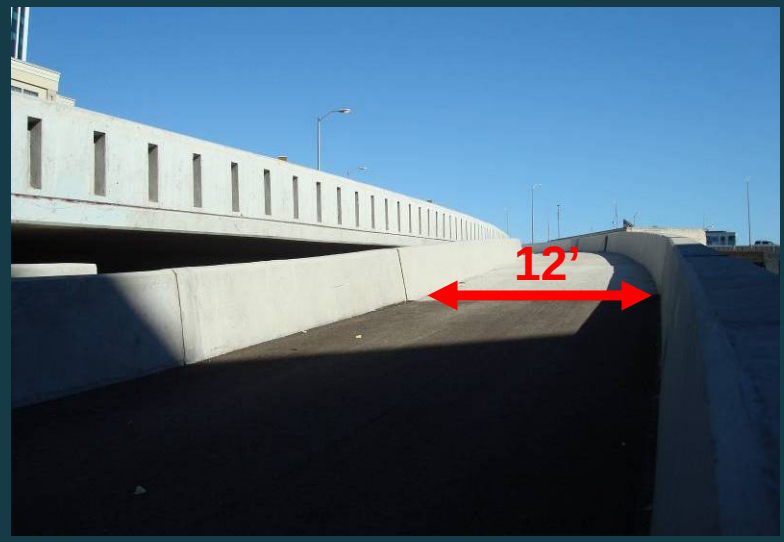
Alternative 1A – "Base Case"

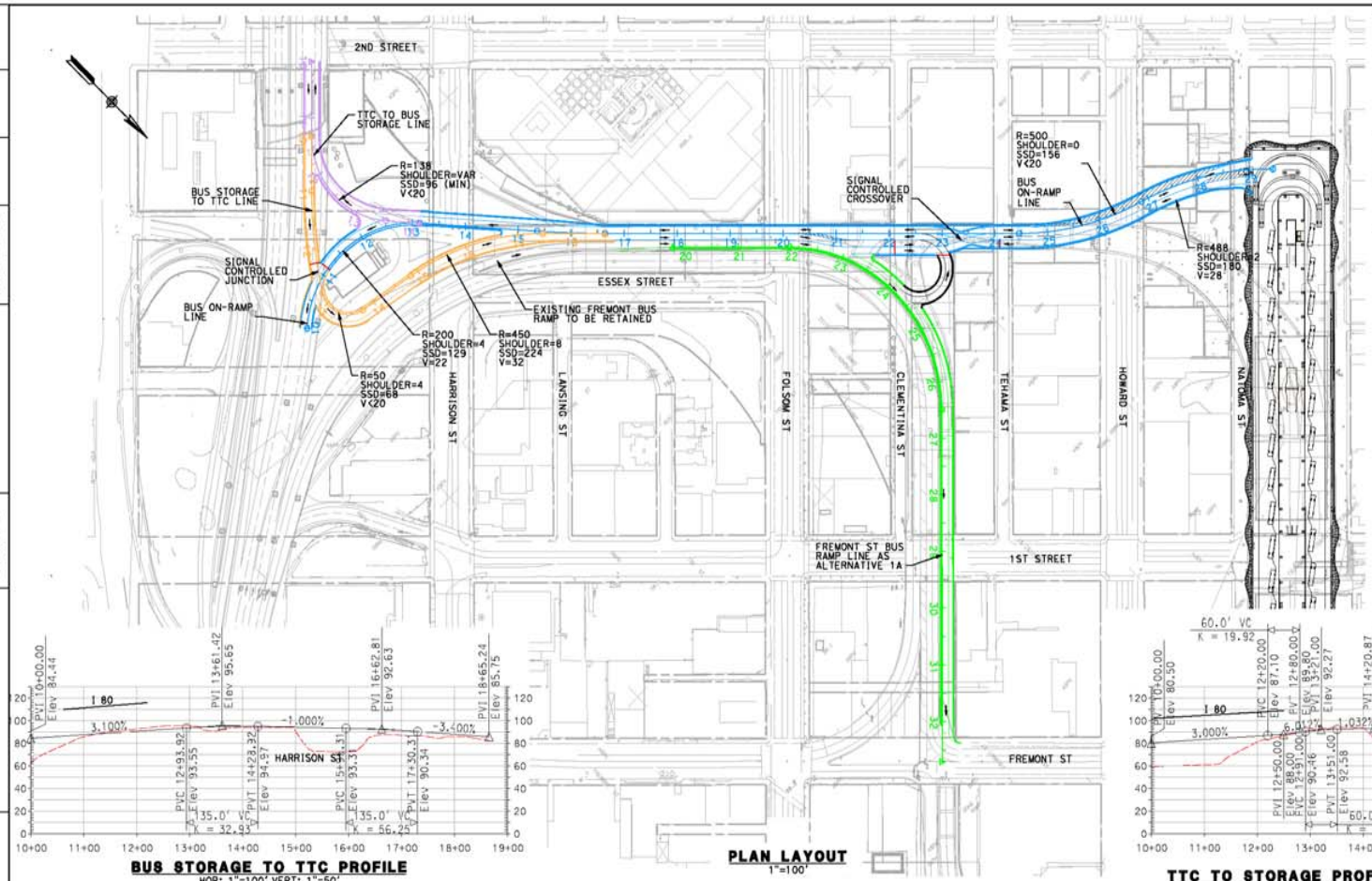
- **Buses Crossover at bus deck entrance**
- **Does not meet 2030/2050 objectives**
- **10 minute delays - gridlock**



Advantages of Preferred Alternative

- **Uses Fremont “Bus Off”**
- **Flexible design**
- **Lowest cost and impact**
- **Keeps Harrison Street Ramp**

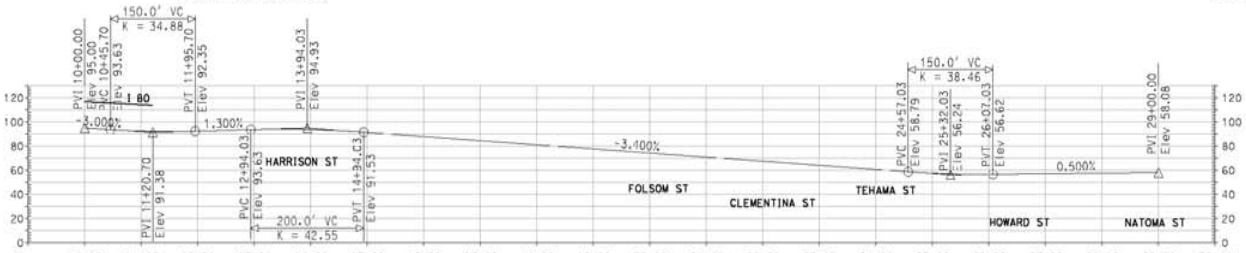




PLAN LAYOUT
1"=100'

BUS STORAGE TO TTC PROFILE
HOR: 1"=100' VERT: 1"=50'

TTC TO STORAGE PROFILE
HOR: 1"=100' VERT: 1"=50'



BUS ON-RAMP PROFILE
HOR: 1"=100' VERT: 1"=50'

DRAFT 01/12/09

TRANSBAY BUS RAMPS
ALTERNATIVE 1 D
NON-BRAIDED (BASE CASE)
SIGNAL CONTROLED ALTERNATIVE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

Arup North America Ltd.
901 Market St. Ste 260
San Francisco, CA 94103

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

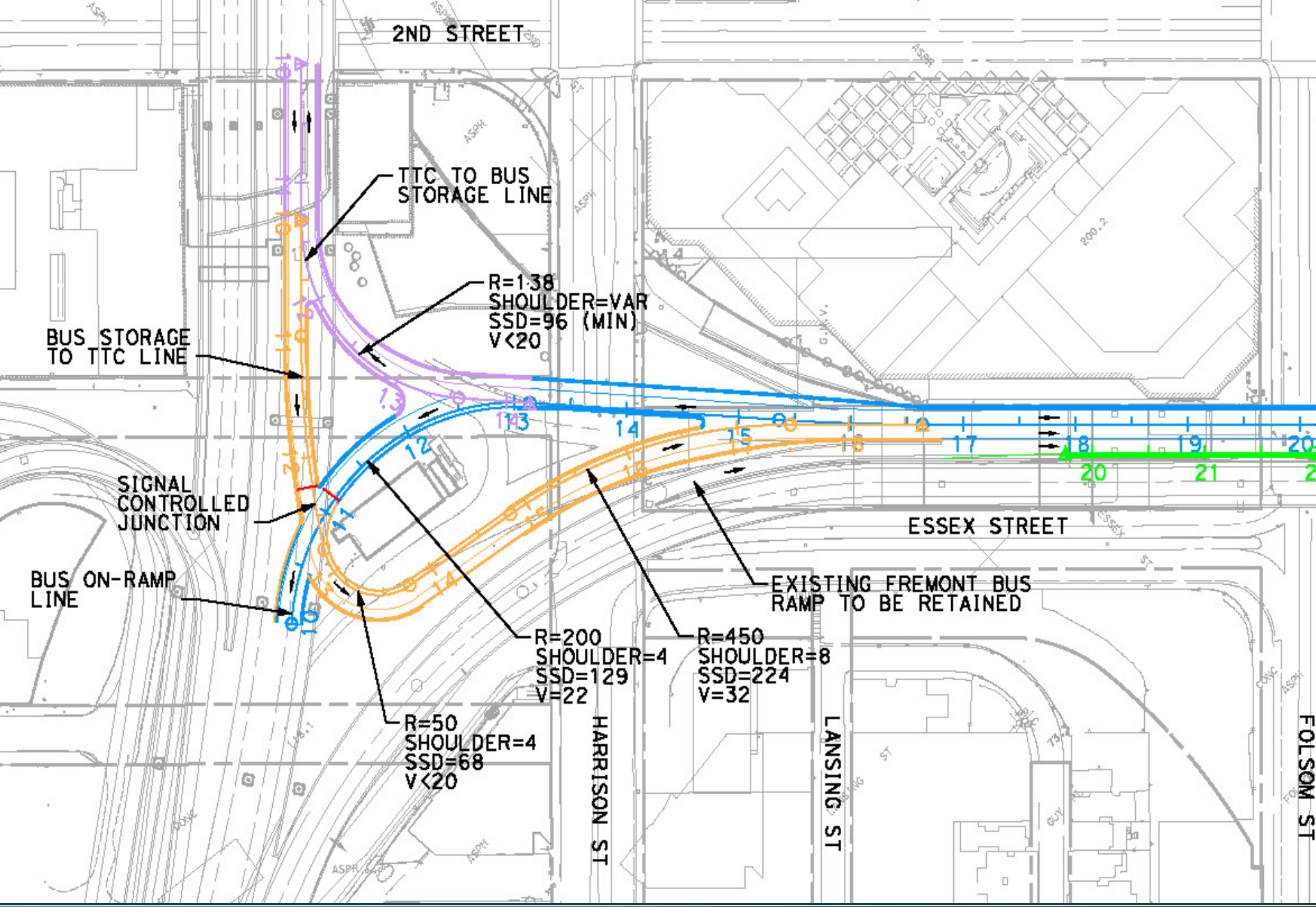
LAST REVISION 00-00-00 DATE PLOTTED => &DATE
TIME PLOTTED => &TIME

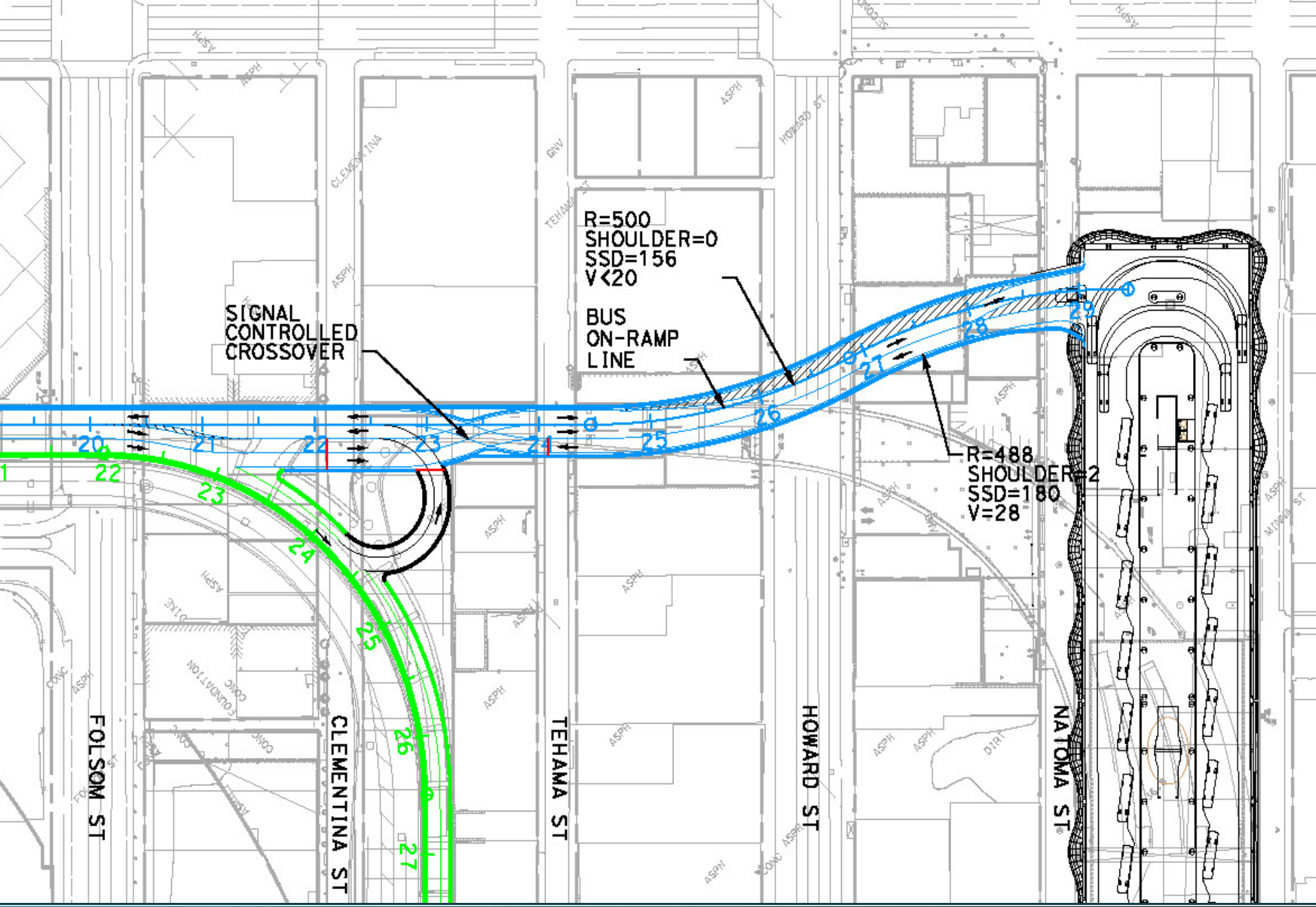
BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

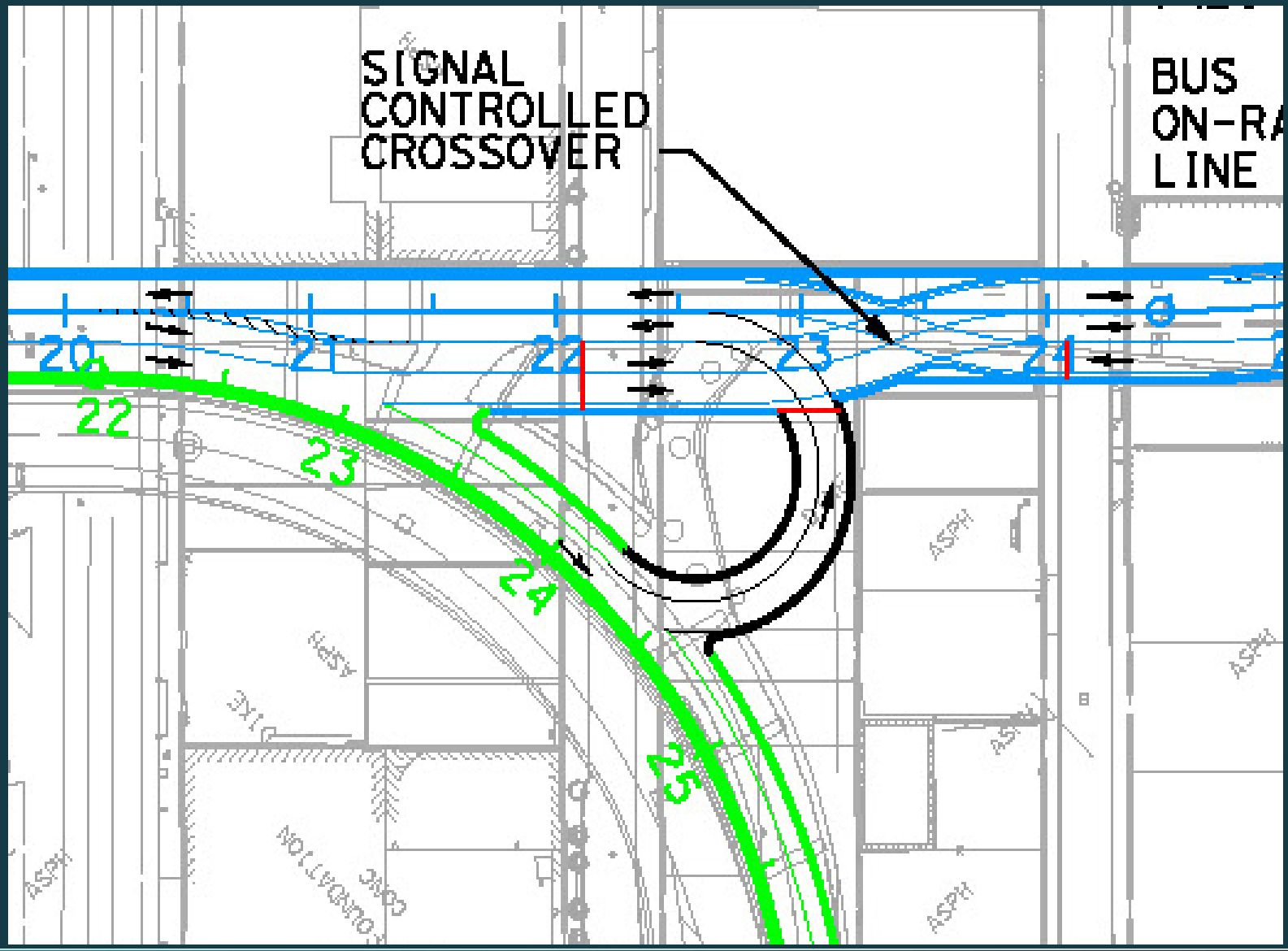
USERNAME => &USER
DGN FILE => &REQUEST

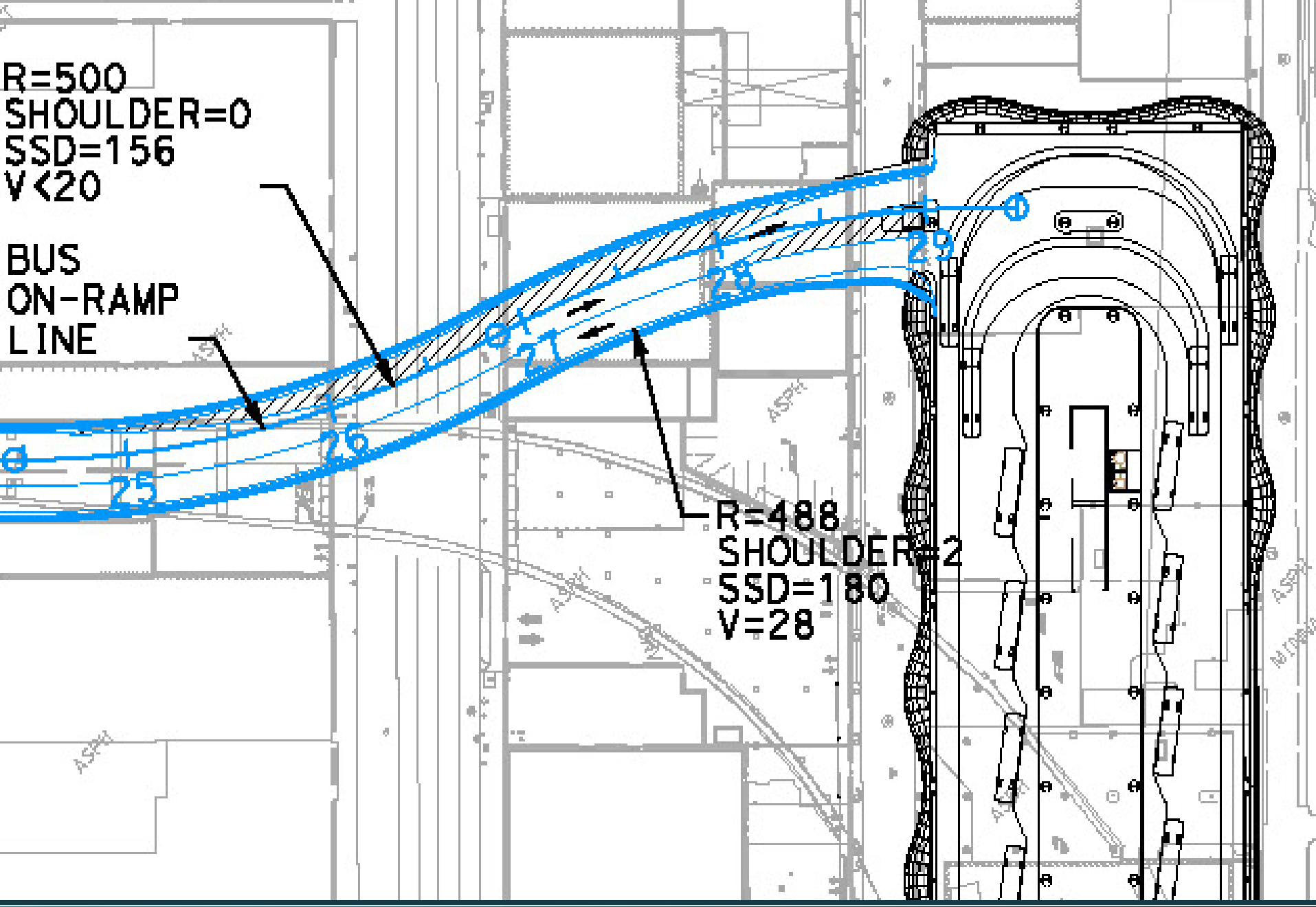
CU 00000 | EA 000000

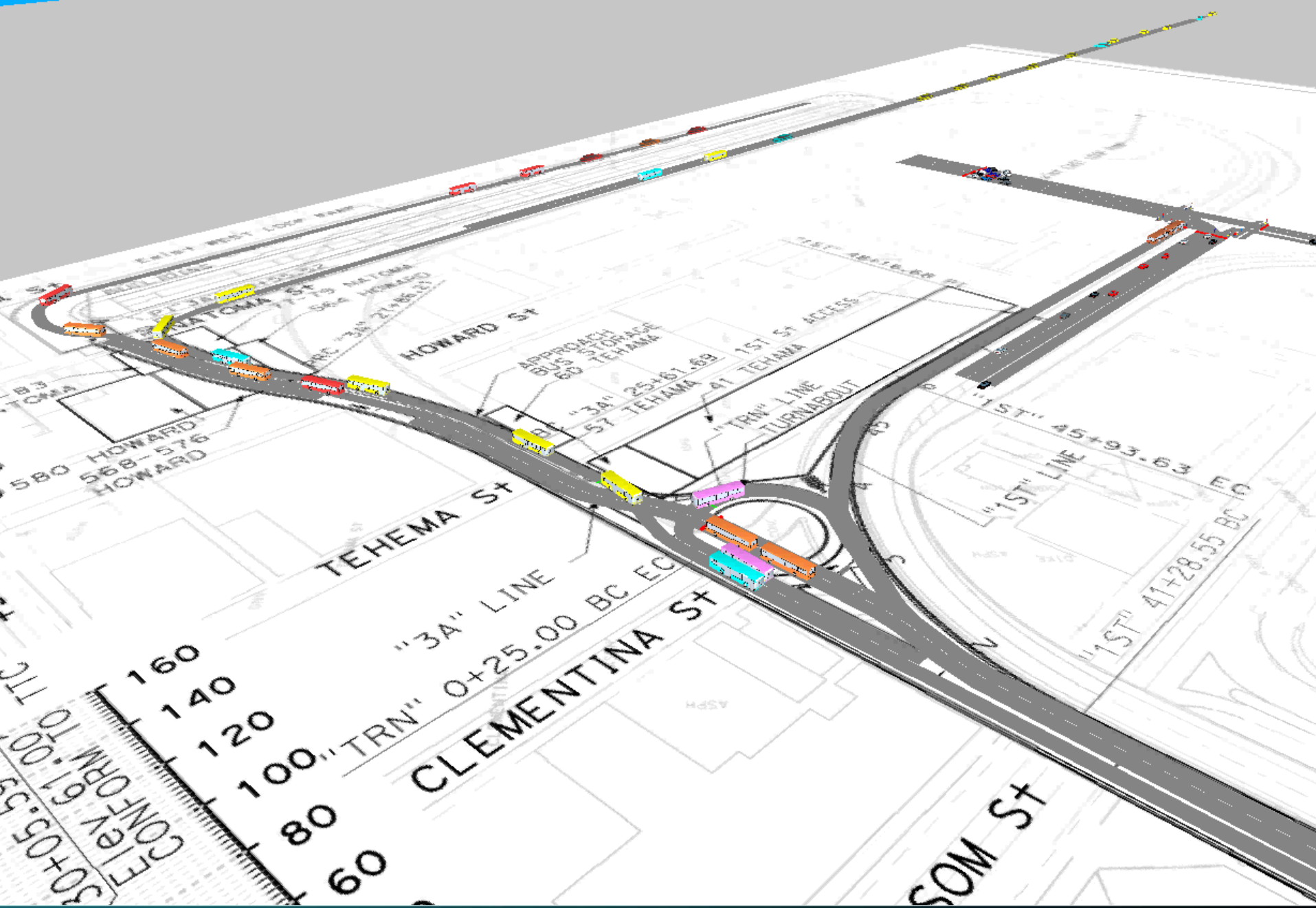

2ND STREET
TTC TO BUS STORAGE LINE
R=138
SHOULDER=VAR
SSD=96 (MIN)
V<20
BUS STORAGE TO TTC LINE
SIGNAL CONTROLLED JUNCTION
BUS ON-RAMP LINE
R=200
SHOULDER=4
SSD=129
V=22
R=450
SHOULDER=8
SSD=224
V=32
R=50
SHOULDER=4
SSD=68
V<20
EXISTING FREMONT BUS RAMP TO BE RETAINED
ESSEX STREET
HARRISON ST
LANSING ST
FOLSOM ST


SIGNAL
CONTROLLED
CROSSOVER
R=500
SHOULDER=0
SSD=156
V<20
BUS
ON-RAMP
LINE
R=488
SHOULDER=2
SSD=180
V=28
FOLSOM ST
CLEMENTINA ST
TEHAMA ST
HOWARD ST
NATOMA ST

Crossover Design




R=500
SHOULDER=0
SSD=156
V<20
BUS
ON-RAMP
LINE
R=488
SHOULDER=2
SSD=180
V=28
25
26
27
28
29
ASPH


HOWARD ST
TEHEMA ST
CLEMENTINA ST
"3A" LINE
"TRN" 0+25.00 BC EC
"1ST" LINE
"1ST" 45+93.63 EC
"1ST" 41+28.55 BC
"TRN" LINE TURNABOUT
APPROACH BUS STORAGE 63 TEHAMA
"3A" 25+61.69 57 TEHAMA
41 TEHAMA
1ST ST ACCESS
HOWARD 568-576 HOWARD
160
140
120
100
80
60

Preferred Alternative Summary

- **No significant delays in 2030 or 2050 models**
- **Meets all bus ramp objectives**
- **Fewer structures – lower cost**
- **Awaiting AC transit approval**
- **Caltrans PSR and approval**

Bus Ramp Design Schedule

- **Preliminary Engineering (35%) – May 2009**
  - Architectural Features
  - Traffic studies
  - Geotechnical Studies
- **Design Development (65%) –December, 2009**
- **Final Design for Approvals(100%) June, 2010**
- **Bidding and Contract Award – December, 2010**
- **Construction – March 2011 to August 2013**

Questions?