Supplemental Alternatives Analysis Report

Appendix B.
Plan & Profile Drawings

Option A

Subsection #1-1 (San Francisco)

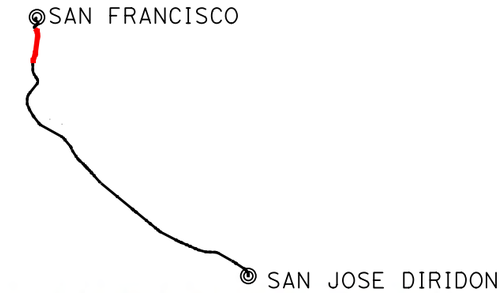
Length: 4.8 miles Land Use: Urban

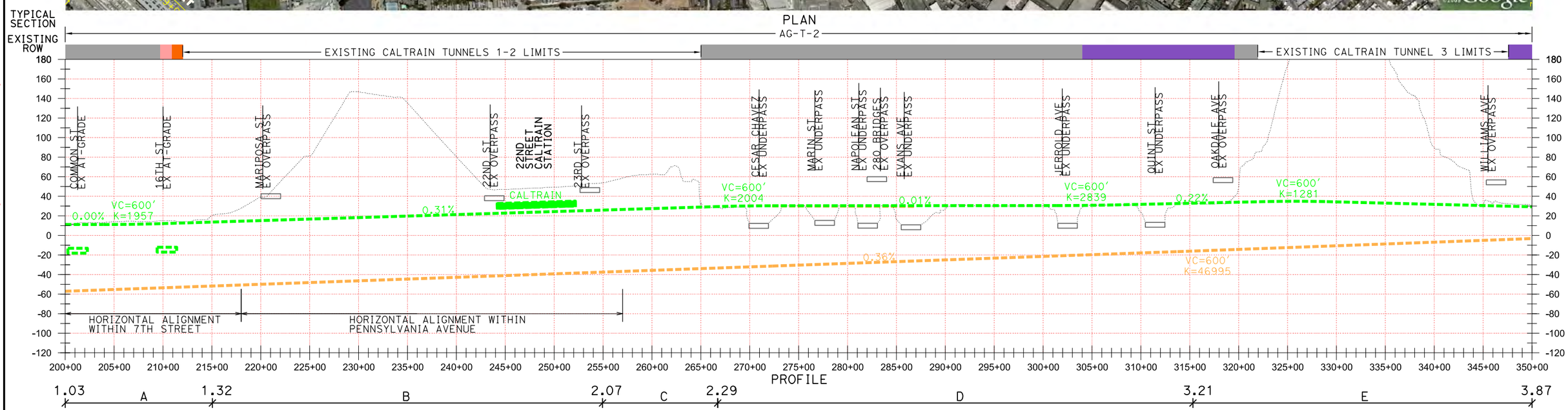
North of Common Street to South Portal Tunnel No. 4 (MP. 1.03 to MP. 5.77)
This subsection is located within the City and County of San Francisco. Except for two crossings near Mission Bay, all other street crossings in this subsection are grade separated. The existing Caltrain alignment passes through a series of hills and valleys necessitating 4 tunnels and several embankment and trench segments. The I-280 freeway structure above the tracks and its supporting columns are constraints in the northern portion of the subsection.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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cdavid

Subsection #1-2 (San Francisco/Brisbane)

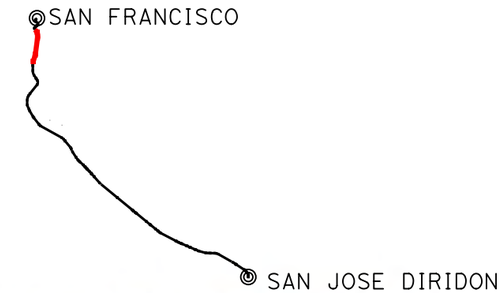
Length: 4.8 miles Land Use: Urban

North of Common Street to South Portal Tunnel No. 4 (MP. 1.03 to MP. 5.77)
This subsection is located within the City and County of San Francisco. Except for two crossings near Mission Bay, all other street crossings in this subsection are grade separated. The existing Caltrain alignment passes through a series of hills and valleys necessitating 4 tunnels and several embankment and trench segments. The I-280 freeway structure above the tracks and its supporting columns are constraints in the northern portion of the subsection.

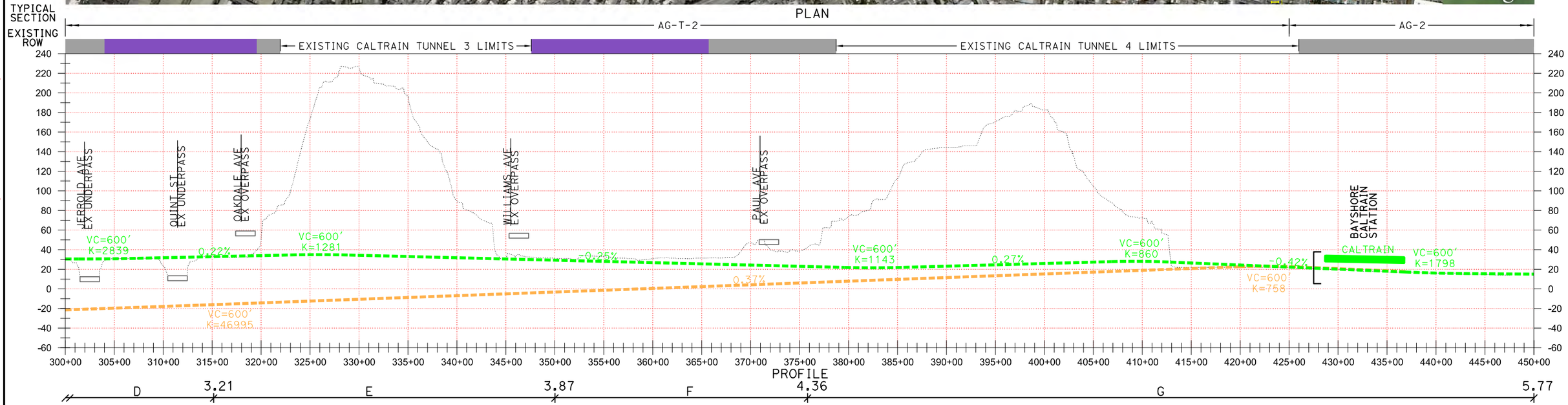
EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.



PLAN



CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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cdavid

Subsection #2-1 (San Francisco/Brisbane)

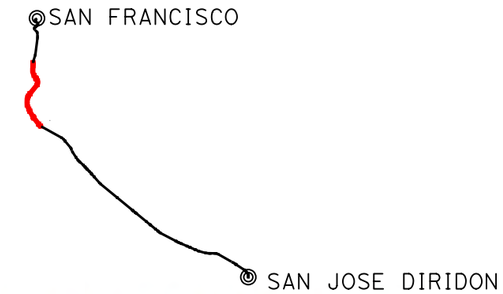
Length: 8.6 miles Land Use: Urban

South Portal Tunnel No. 4 to South of Millbrae Avenue (MP. 5.77 to MP. 14.38)
This subsection is located in the Cities of Brisbane, South San Francisco, San Bruno and Millbrae. The existing Caltrain alignment is at-grade in this subsection and many crossings are grade separated. The northern portion of this subsection is completely grade separated and includes an existing 4-track segment in Brisbane. In the southern portion of the subsection, BART runs underneath and alongside the Caltrain tracks.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

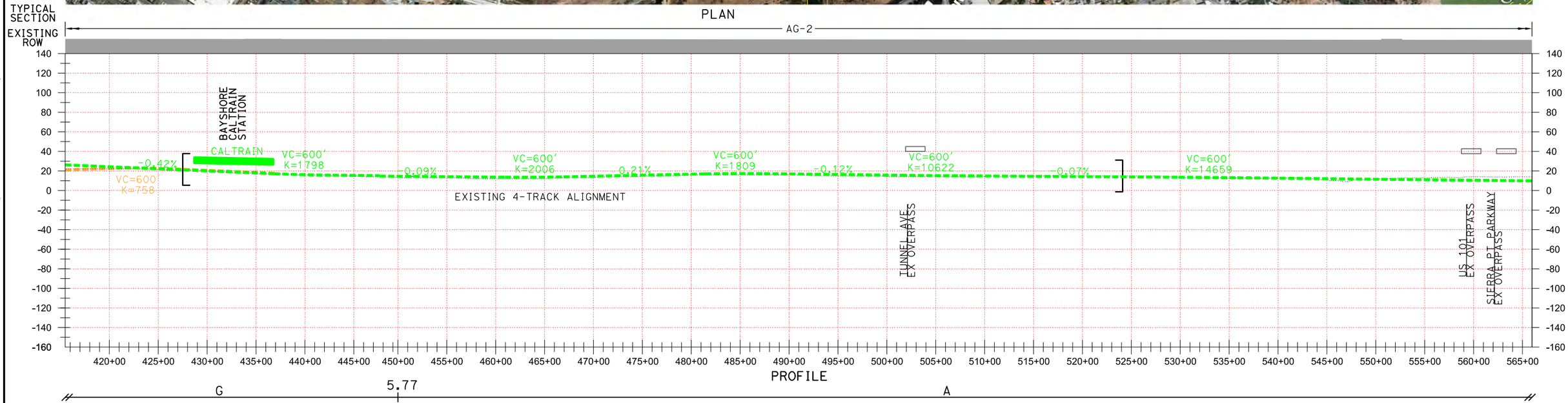
ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.



PLAN

TYPICAL SECTION



CALIFORNIA HIGH SPEED RAIL AUTHORITY
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Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
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HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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03-AUG-2010 14:19
cdavid

Subsection #2-2 (Brisbane/South San Francisco/ San Bruno)

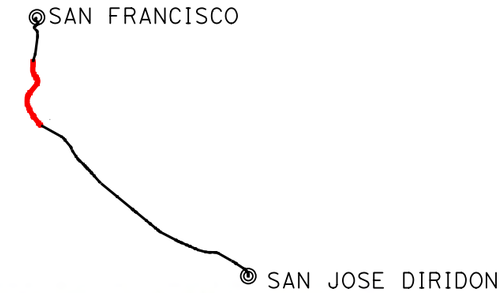
Length: 8.6 miles Land Use: Urban

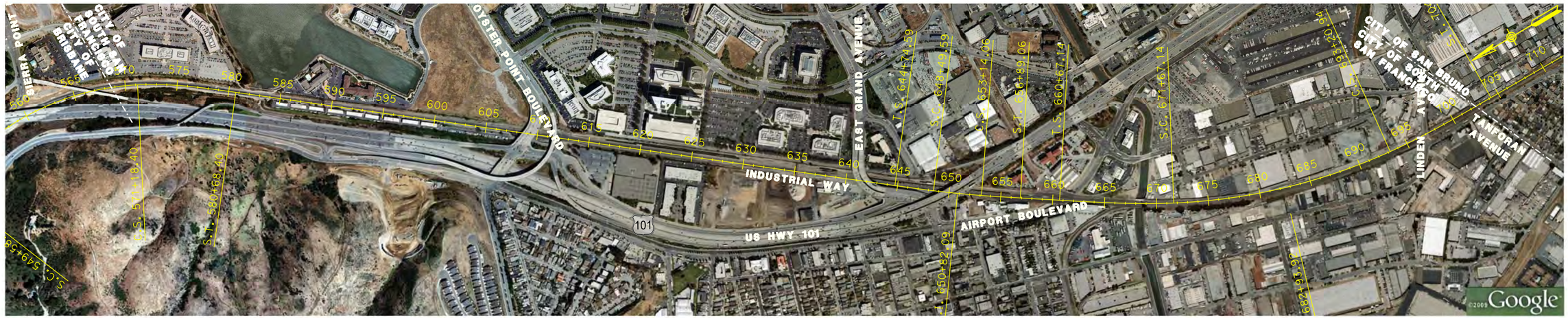
South Portal Tunnel No. 4 to South of Millbrae Avenue (MP. 5.77 to MP. 14.38)
This subsection is located in the Cities of Brisbane, South San Francisco, San Bruno and Millbrae. The existing Caltrain alignment is at-grade in this subsection and many crossings are grade separated. The northern portion of this subsection is completely grade separated and includes an existing 4-track segment in Brisbane. In the southern portion of the subsection, BART runs underneath and alongside the Caltrain tracks.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

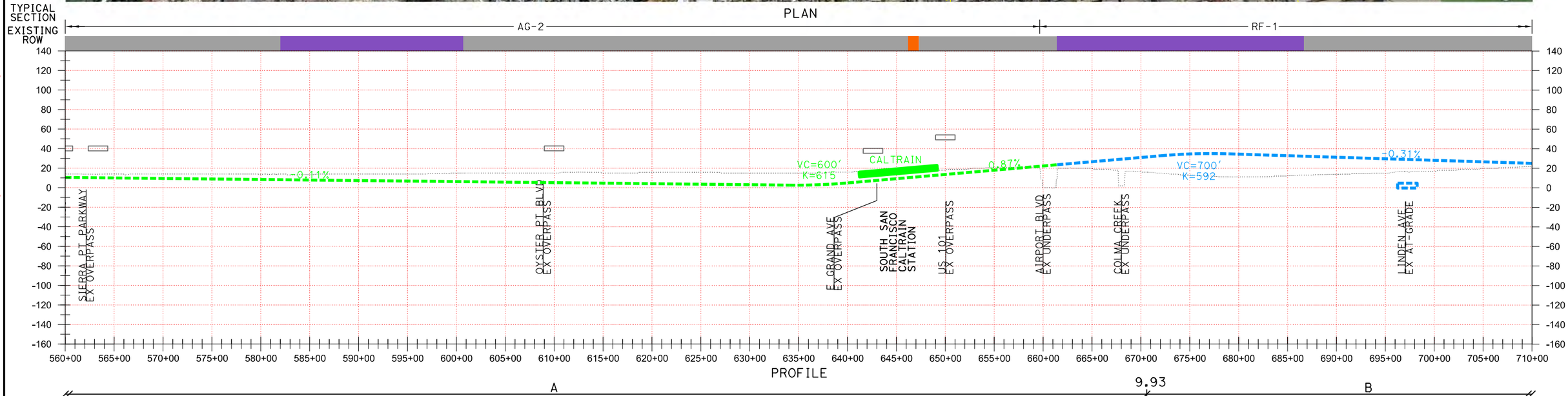
NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





TYPICAL SECTION

PLAN



CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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cdavid

Subsection #2-3 (South San Francisco/San Bruno/ SF Airport)

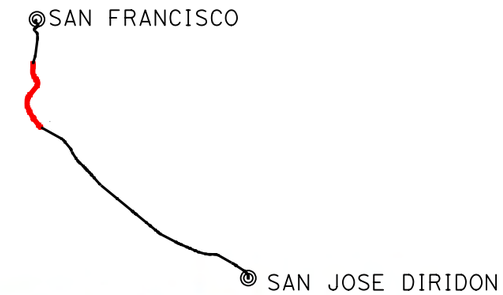
Length: 8.6 miles Land Use: Urban

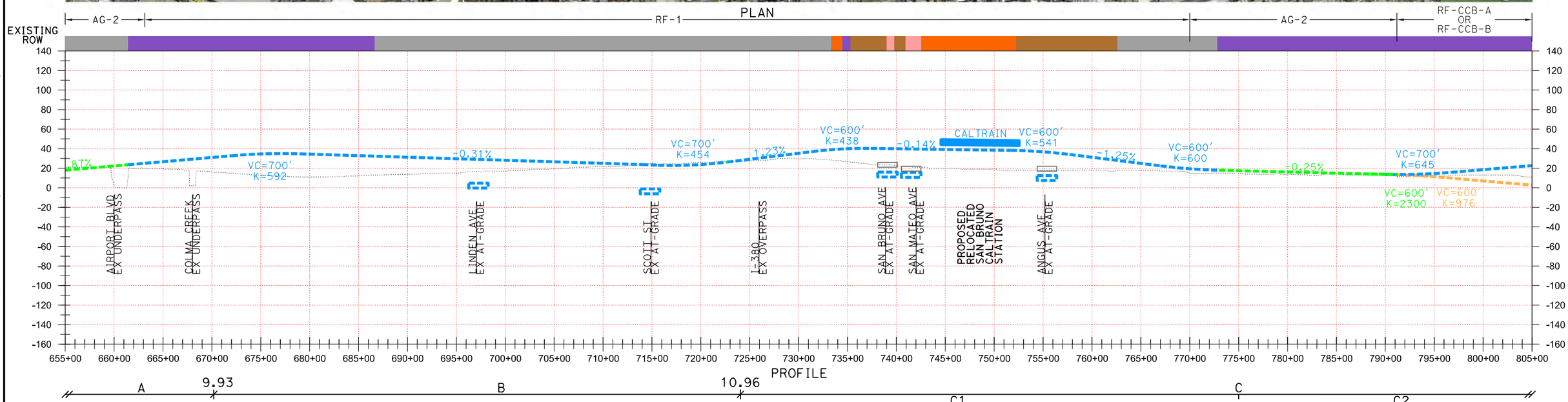
South Portal Tunnel No. 4 to South of Millbrae Avenue (MP. 5.77 to MP. 14.38)
This subsection is located in the Cities of Brisbane, South San Francisco, San Bruno and Millbrae. The existing Caltrain alignment is at-grade in this subsection and many crossings are grade separated. The northern portion of this subsection is completely grade separated and includes an existing 4-track segment in Brisbane. In the southern portion of the subsection, BART runs underneath and alongside the Caltrain tracks.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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cdavid

Subsection #2-4 (San Bruno/SF International Airport/ Millbrae/Burlingame)

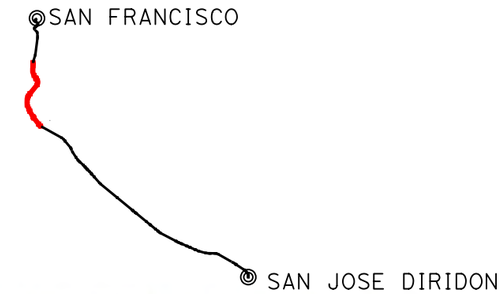
Length: 8.6 miles Land Use: Urban

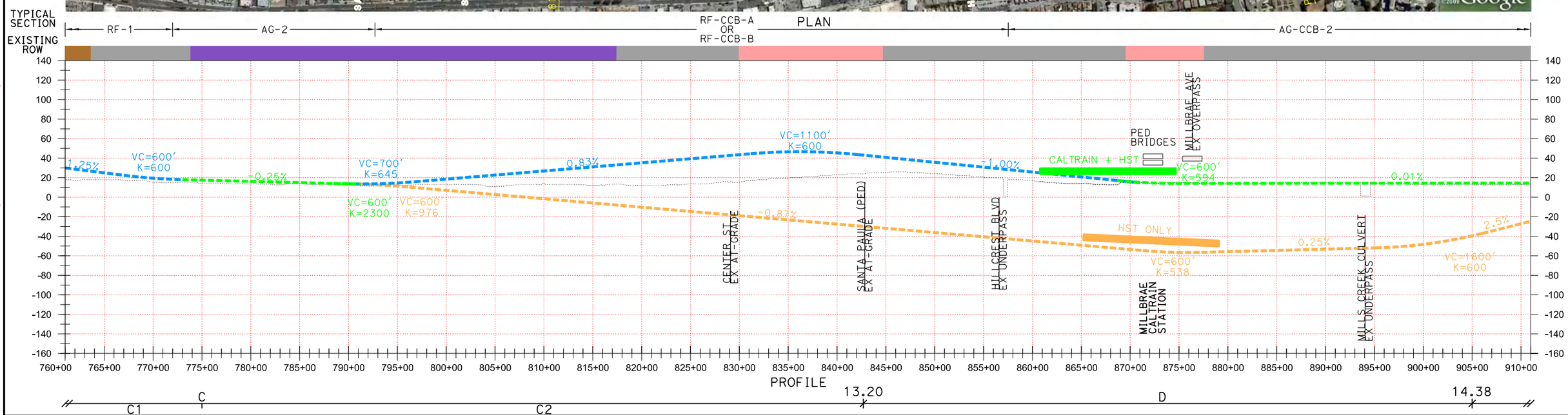
South Portal Tunnel No. 4 to South of Millbrae Avenue (MP. 5.77 to MP. 14.38)
This subsection is located in the Cities of Brisbane, South San Francisco, San Bruno and Millbrae. The existing Caltrain alignment is at-grade in this subsection and many crossings are grade separated. The northern portion of this subsection is completely grade separated and includes an existing 4-track segment in Brisbane. In the southern portion of the subsection, BART runs underneath and alongside the Caltrain tracks.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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cdavid

Subsection #3-1 (Burlingame/San Mateo)

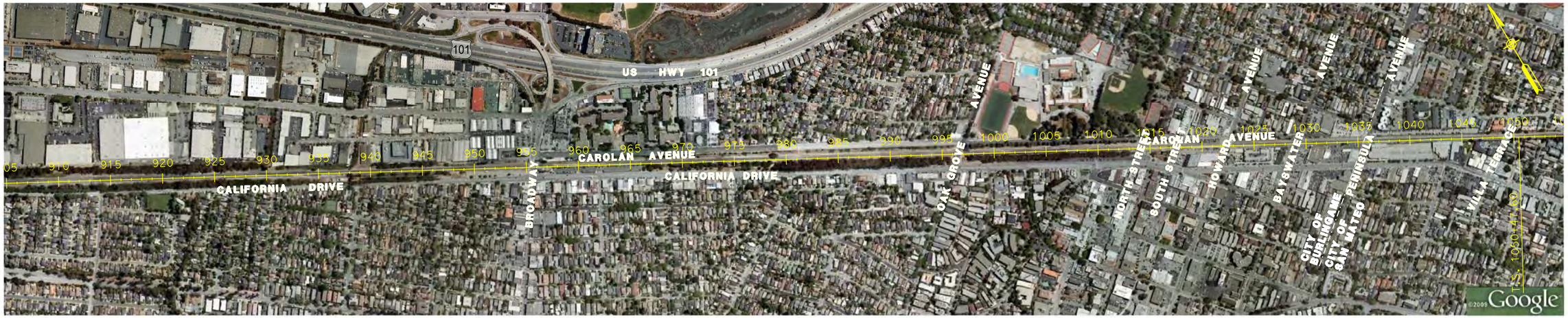
Length: 4.9 miles Land Use: Urban

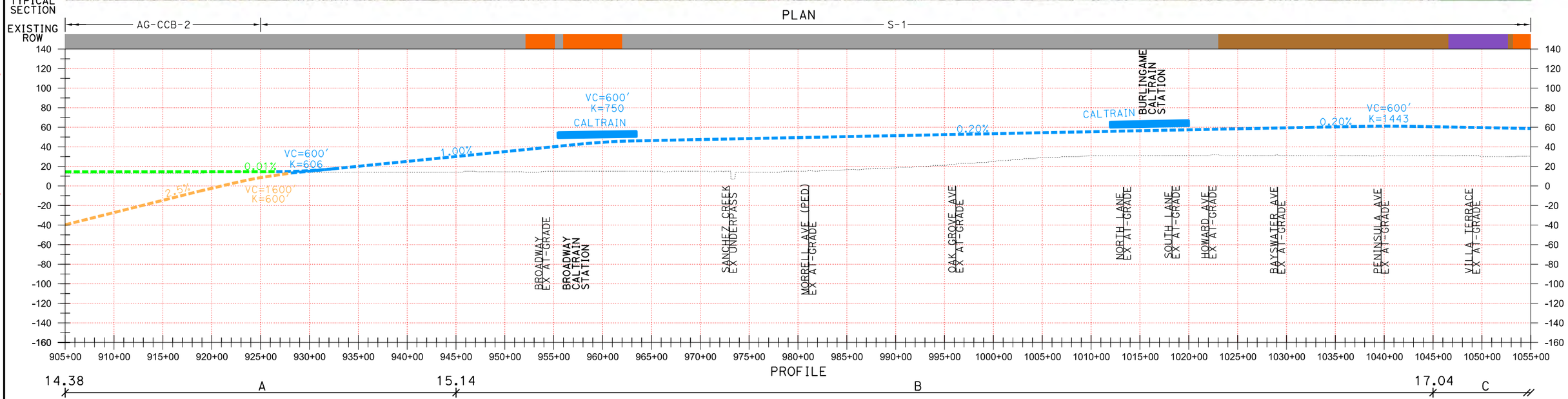
South of Millbrae Avenue to North of Highway 92 (MP. 14.38 to MP. 19.29)
This subsection is located in the Cities of Burlingame and San Mateo. In this subsection, the Caltrain tracks are primarily at-grade as are most of the crossings; those that are grade-separated have sub-standard clearances. This subsection includes a tight area through downtown San Mateo where a number of closely spaced at-gradecrossings are an integral part of the street grid.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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03-AUG-2010 10:56
cdavid

Subsection #3-2 (Burlingame/San Mateo)

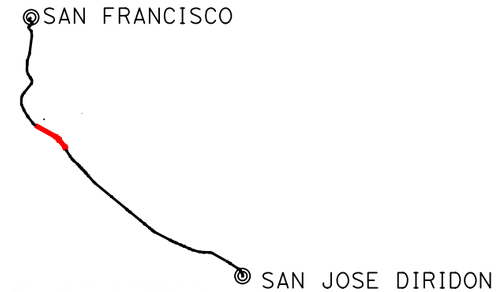
Length: 4.9 miles Land Use: Urban

South of Millbrae Avenue to North of Highway 92 (MP. 14.38 to MP. 19.29)
This subsection is located in the Cities of Burlingame and San Mateo. In this subsection, the Caltrain tracks are primarily at-grade as are most of the crossings; those that are grade-separated have sub-standard clearances. This subsection includes a tight area through downtown San Mateo where a number of closely spaced at-gradecrossings are an integral part of the street grid.

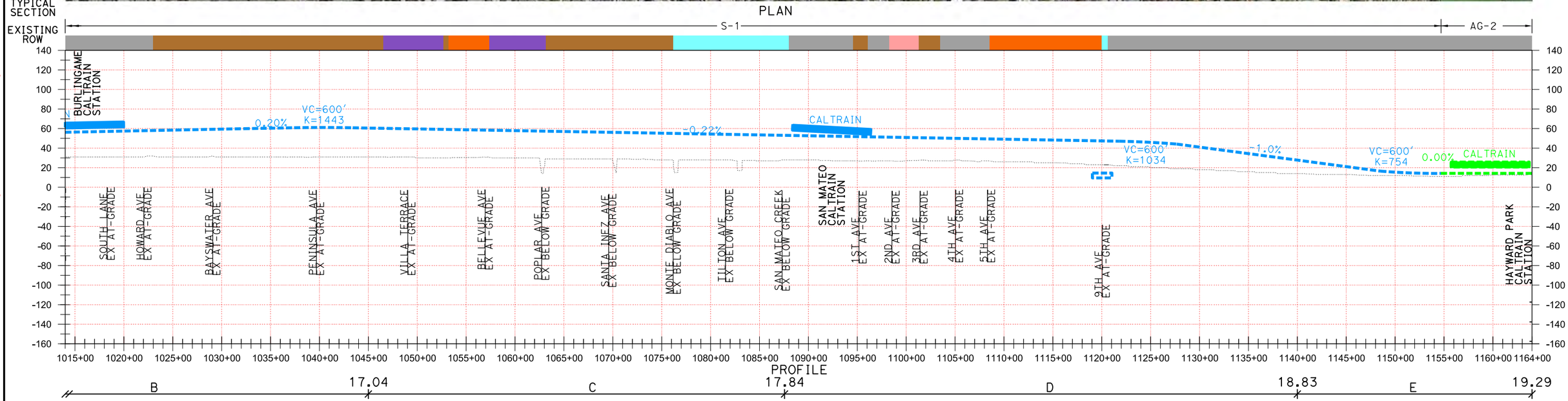
EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.



PLAN



CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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cdavid

Subsection #4-1 (San Mateo/Belmont)

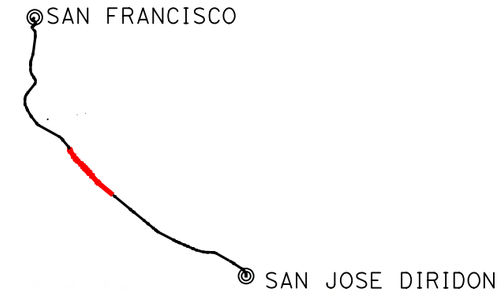
Length: 7.6 miles Land Use: Urban

North of Highway 92 to North of 5th Avenue (MP. 19.29 to MP. 26.88)
This subsection is located in the Cities of San Mateo, Belmont, San Carlos and Redwood City. For most of the northern portion of this subsection, the existing Caltrain tracks are on a recently constructed embankment that passes over the cross streets. In the southern portion of this subsection the at-grade Caltrain tracks pass through a number of at-grade crossings in downtown Redwood City. There is an existing 4 track segment at the southern end of this subsection.

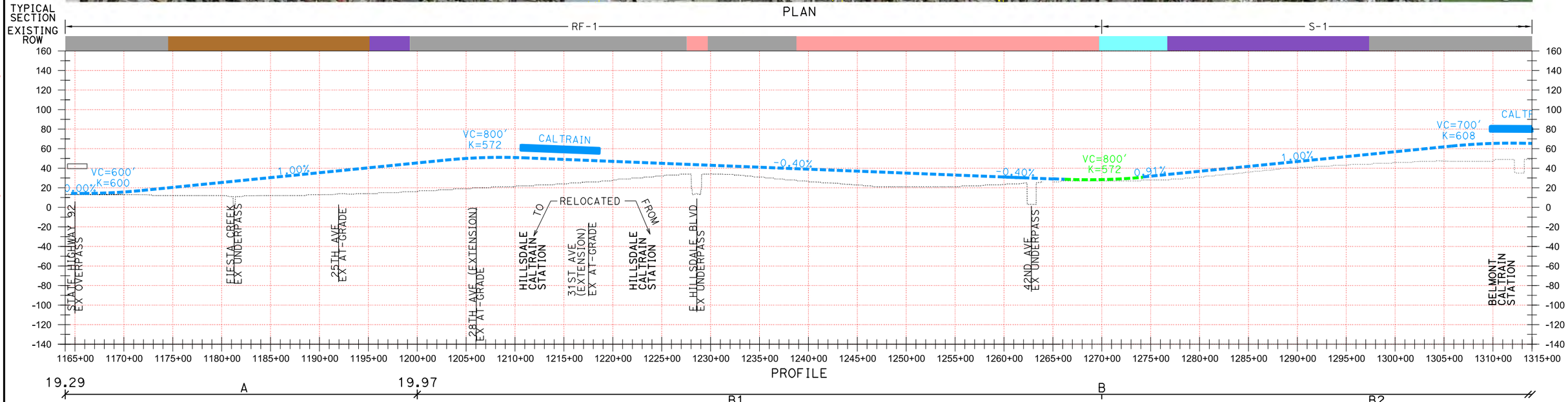
EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.



PLAN



CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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cdavid

Subsection #4-2 (Belmont/San Carlos)

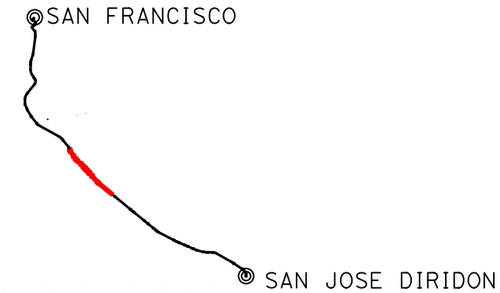
Length: 7.6 miles Land Use: Urban

North of Highway 92 to North of 5th Avenue (MP. 19.29 to MP. 26.88)
This subsection is located in the Cities of San Mateo, Belmont, San Carlos and Redwood City. For most of the northern portion of this subsection, the existing Caltrain tracks are on a recently constructed embankment that passes over the cross streets. In the southern portion of this subsection the at-grade Caltrain tracks pass through a number of at-grade crossings in downtown Redwood City. There is an existing 4 track segment at the southern end of this subsection.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

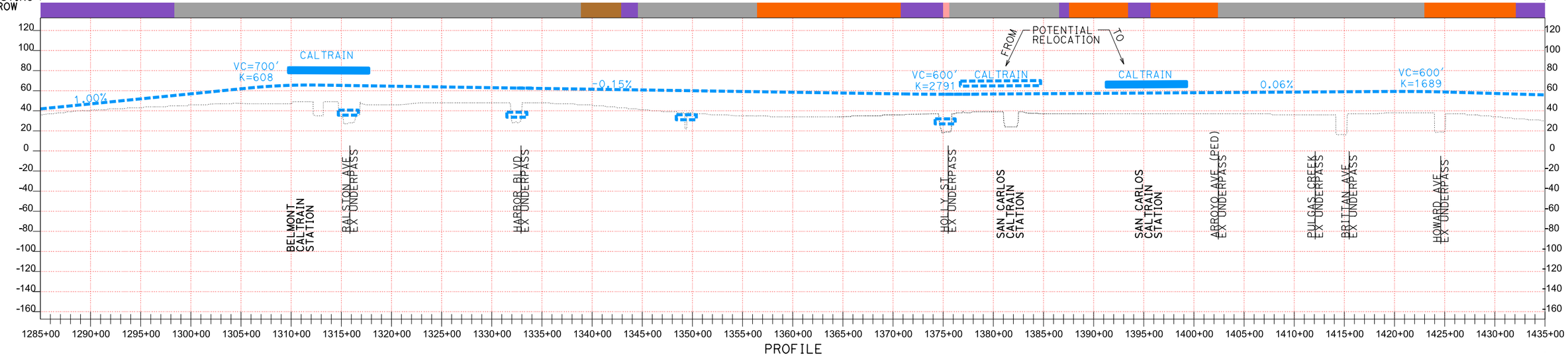
ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.



PLAN
S-1

TYPICAL SECTION
EXISTING ROW



PROFILE
B
B2

CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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cdavid

Subsection #4-3 (San Carlos/Redwood City/ Unincorporated San Mateo County)

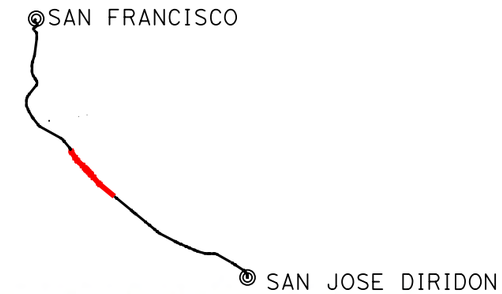
Length: 7.6 miles Land Use: Urban

North of Highway 92 to North of 5th Avenue (MP. 19.29 to MP. 26.88)
This subsection is located in the Cities of San Mateo, Belmont, San Carlos and Redwood City. For most of the northern portion of this subsection, the existing Caltrain tracks are on a recently constructed embankment that passes over the cross streets. In the southern portion of this subsection the at-grade Caltrain tracks pass through a number of at-grade crossings in downtown Redwood City. There is an existing 4 track segment at the southern end of this subsection.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.



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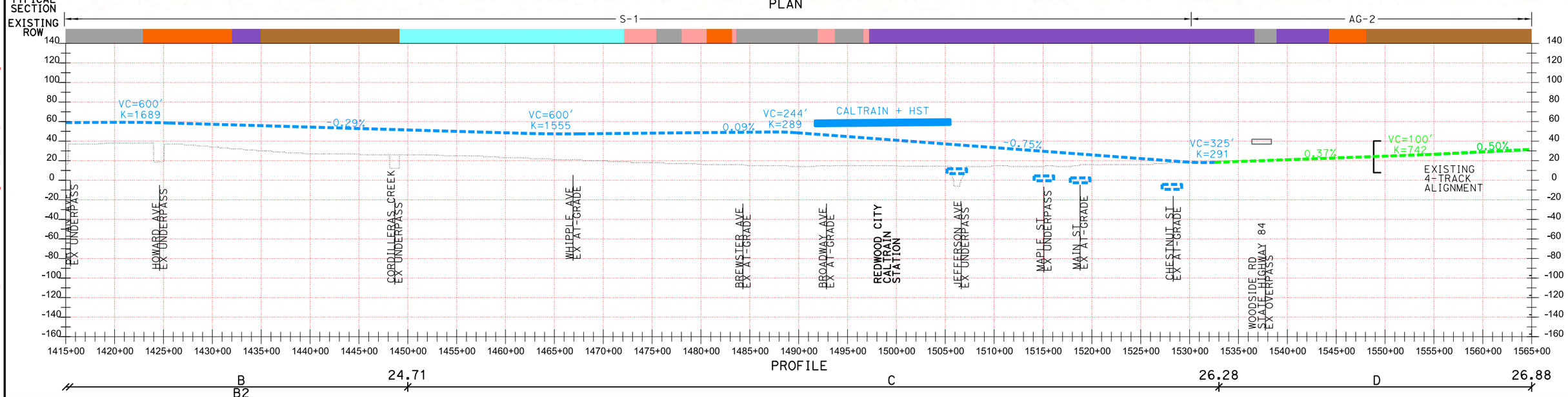
TYPICAL SECTION



CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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04-AUG-2010 15:38
ahenschke

Subsection #5-1 (Unincorporated San Mateo County/ Atherton/Menlo Park)

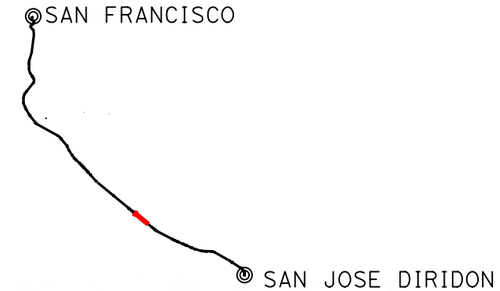
Length: 2.8 miles Land Use: Urban

North of 5th Avenue to North of SCL/SM County Line (MP. 26.88 to MP. 29.72)
This subsection is located in the Cities of Atherton and Menlo Park, with a small portion in unincorporated San Mateo County. The Caltrain tracks are at-grade, and with one exception, all street crossings are at-grade. Generally, the streets that cross the tracks are two-lane collectors serving residential areas. In most cases, these streets are integral parts of the local street network.

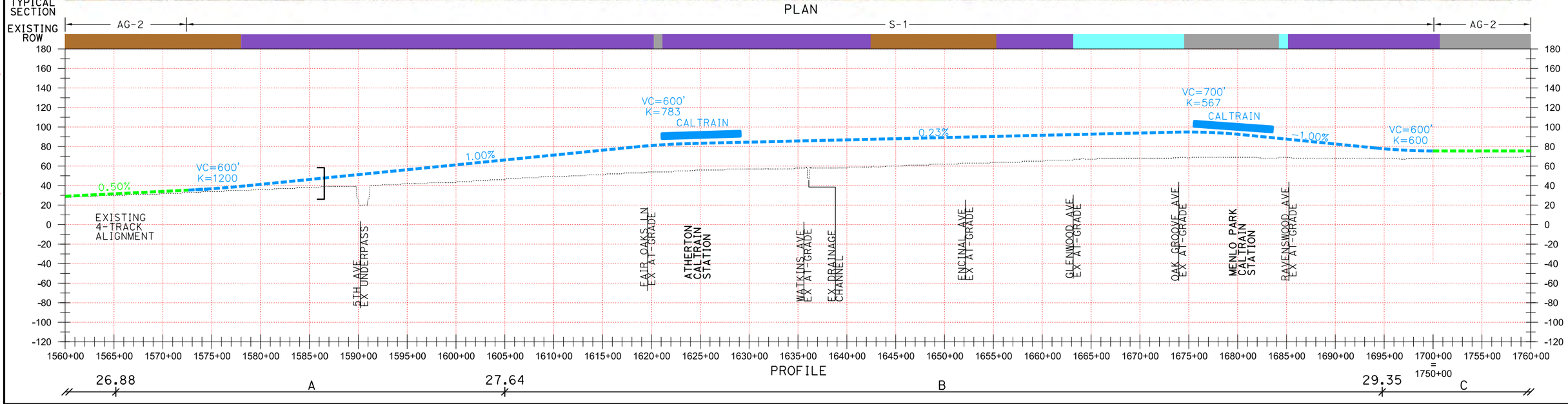
EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.



PLAN



CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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03-AUG-2010 12:43
cdavid

Subsection #6-1 (Menlo Park/Palo Alto)

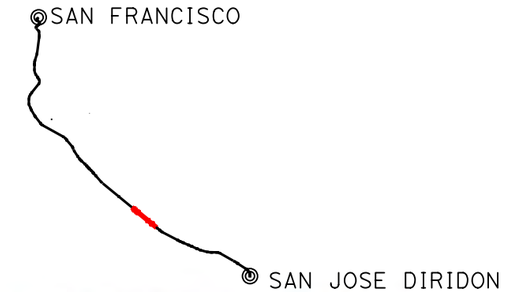
Length: 3.9 miles Land Use: Urban

North of SCL/SM County Line to North of Adobe Creek (MP. 29.72 to MP. 33.61)
This subsection is located in the City of Palo Alto. The Caltrain tracks are at-grade and all of the streets that are grade separated pass under the tracks. Several at-grade crossings occur between the grade separations. Alma Street runs alongside the Caltrain tracks for the entire length of this subsection.

EXISTING (APPROX)
- ROW WIDTH ≥ 100′
- ROW WIDTH 90′ - 99′
- ROW WIDTH 80′ - 89′
- ROW WIDTH 70′ - 79′
- ROW WIDTH 60′ - 69′
- ROW WIDTH < 60′

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

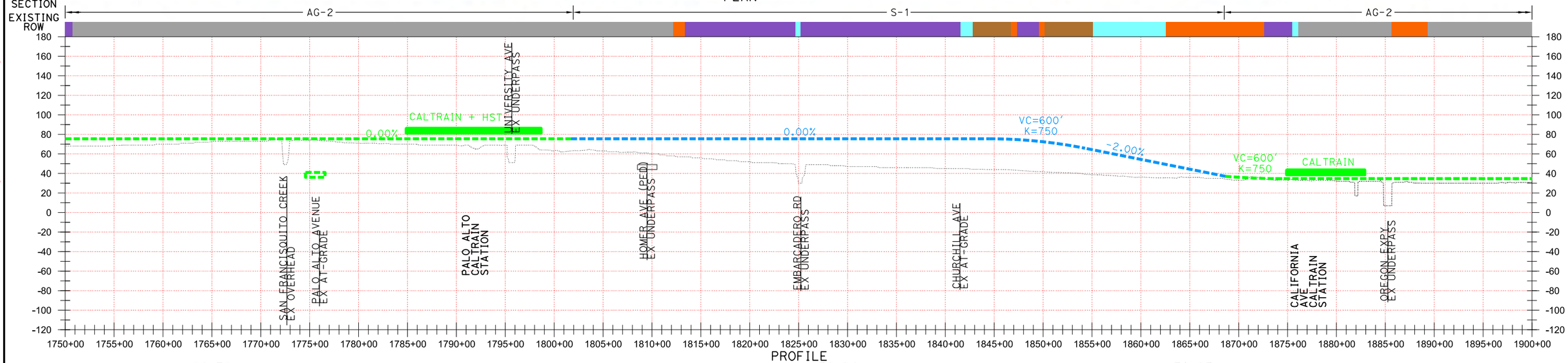
NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.



PLAN

TYPICAL SECTION

EXISTING ROW



C 29.72 A 30.94 B 31.63 C

CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
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San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500′

VERT. SCALE: 50 0 50 100 1"=50′

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03-AUG-2010 20:57
cdavid

Subsection #6-2 (Palo Alto)

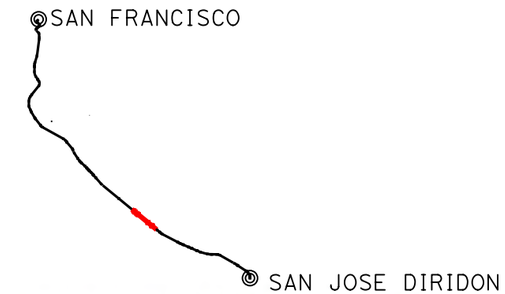
Length: 3.9 miles Land Use: Urban

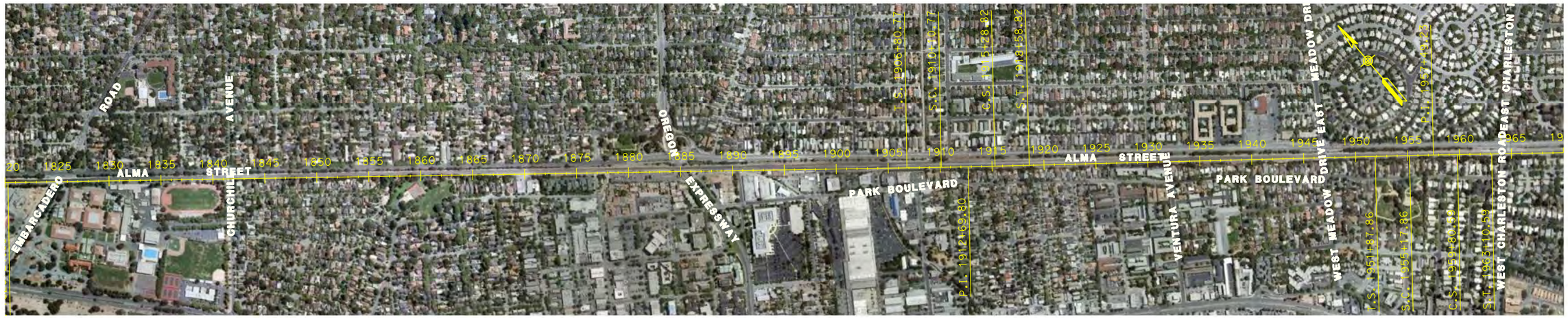
North of SCL/SM County Line to North of Adobe Creek (MP. 29.72 to MP. 33.61)
This subsection is located in the City of Palo Alto. The Caltrain tracks are at-grade and all of the streets that are grade separated pass under the tracks. Several at-grade crossings occur between the grade separations. Alma Street runs alongside the Caltrain tracks for the entire length of this subsection.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

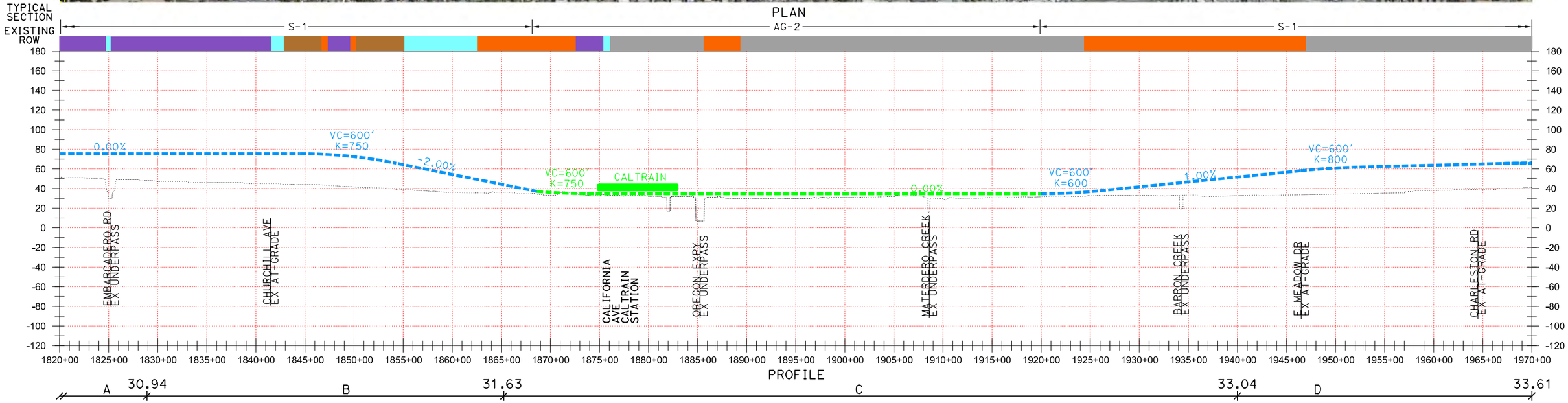
ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





PLAN



CALIFORNIA HIGH SPEED RAIL AUTHORITY
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August 2010

HORIZ. SCALE: 500 0 500 1000 — 1"=500'

VERT. SCALE: 50 0 50 100 — 1"=50'

IP_PWP:dms05695\Subsegment_6_Plan_Profile2A.dgn
03-AUG-2010 21:01
cdavid

Subsection #7-1 (Palo Alto/Mountain View)

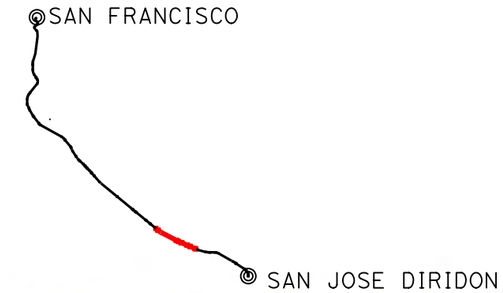
Length: 5.7 miles Land Use: Urban

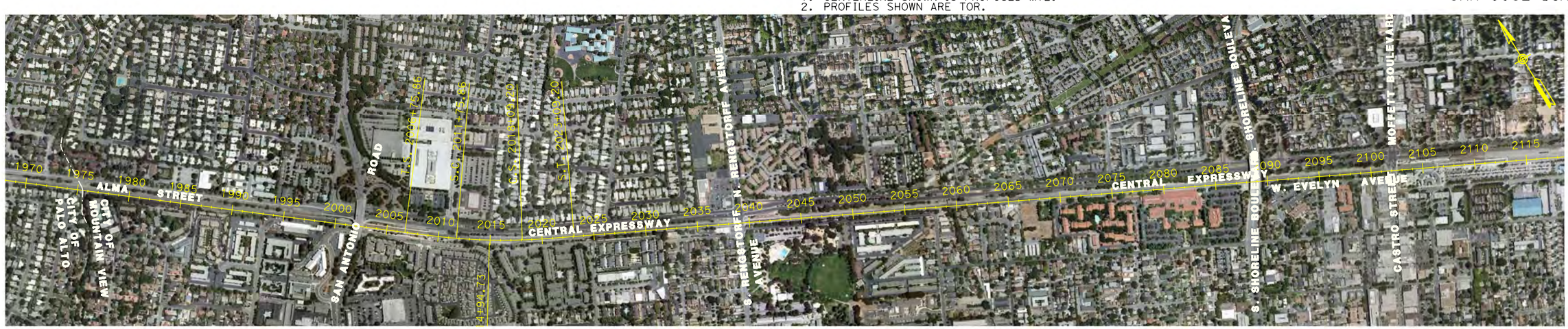
North of Adobe Creek to North of Fair Oaks Avenue (MP. 33.61 to MP. 39.29)
This subsection is located in the Cities of Mountain View and Sunnyvale. The Caltrain tracks are at-grade and all grade separated crossings pass over the tracks. Several at-grade crossings occur between the grade separations. Central Expressway and Evelyn Avenue run alongside the Caltrain tracks for a large portion of this subsection.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

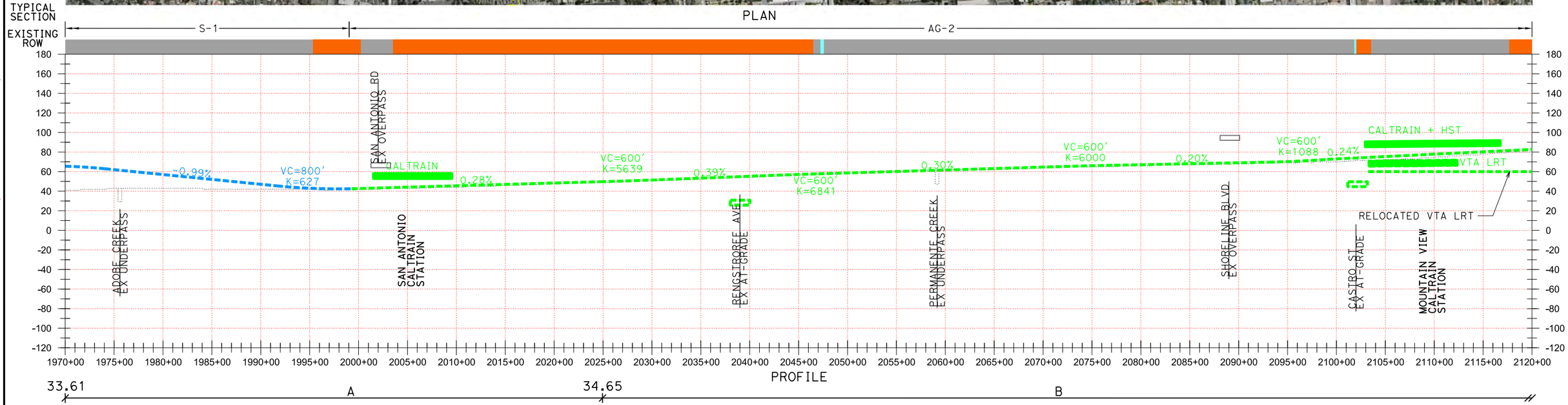
ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





PLAN



CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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03-AUG-2010 21:05
cdavid

Subsection #7-2 (Mountain View/Sunnyvale)

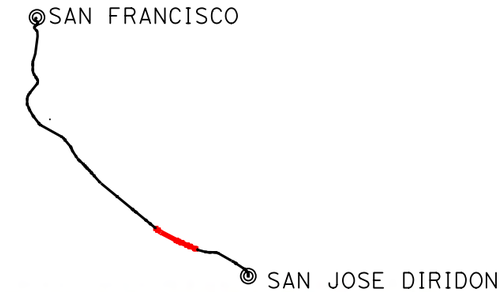
Length: 5.7 miles Land Use: Urban

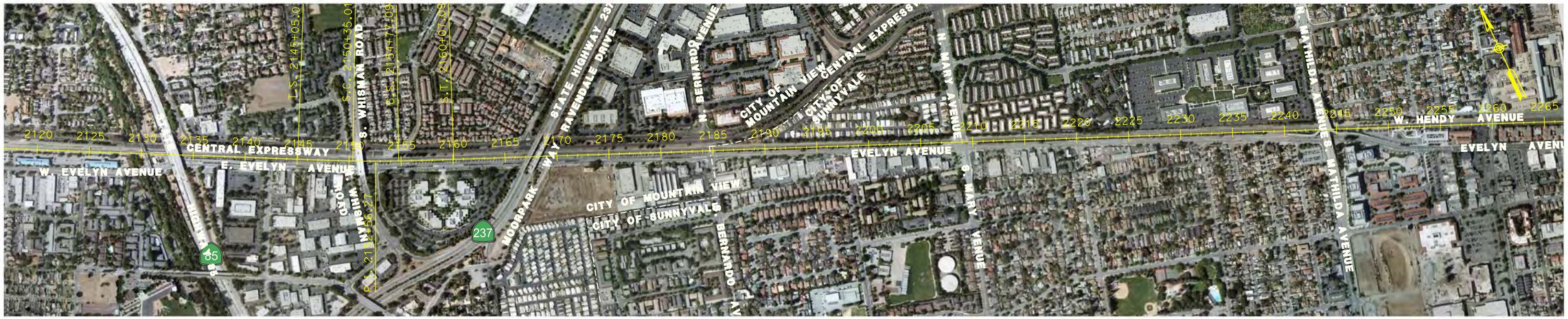
North of Adobe Creek to North of Fair Oaks Avenue (MP. 33.61 to MP. 39.29)
This subsection is located in the Cities of Mountain View and Sunnyvale. The Caltrain tracks are at-grade and all grade separated crossings pass over the tracks. Several at-grade crossings occur between the grade separations. Central Expressway and Evelyn Avenue run alongside the Caltrain tracks for a large portion of this subsection.

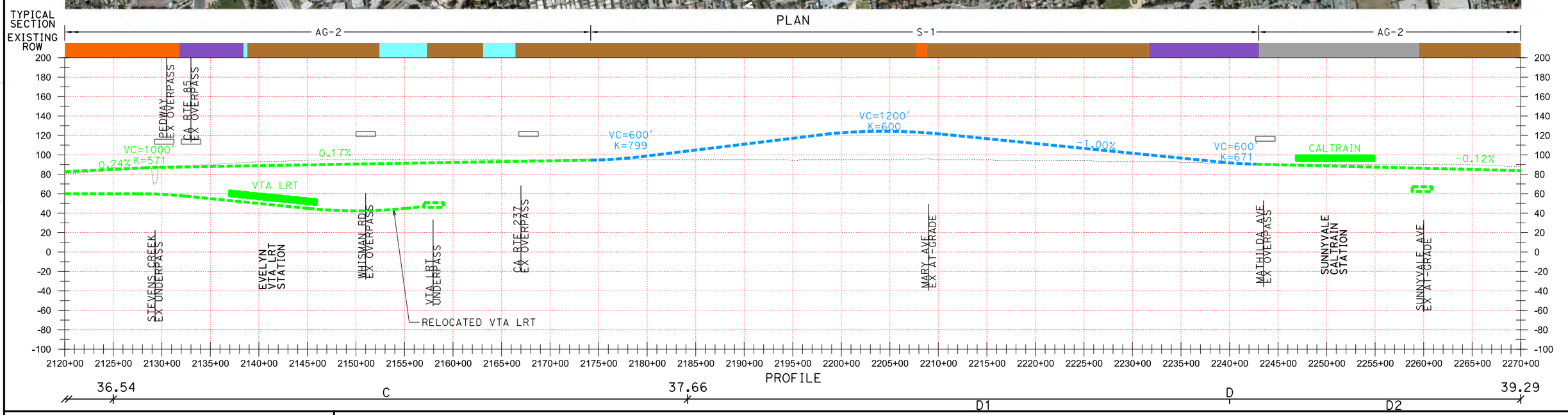
EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.







CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 (1"=500')
VERT. SCALE: 50 0 50 100 (1"=50')

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cdavid

Subsection #8-1 (Sunnyvale/Santa Clara)

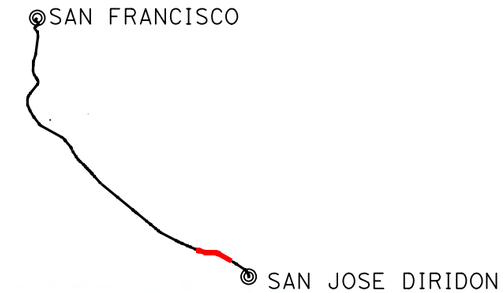
Length: 4.7 miles Land Use: Urban

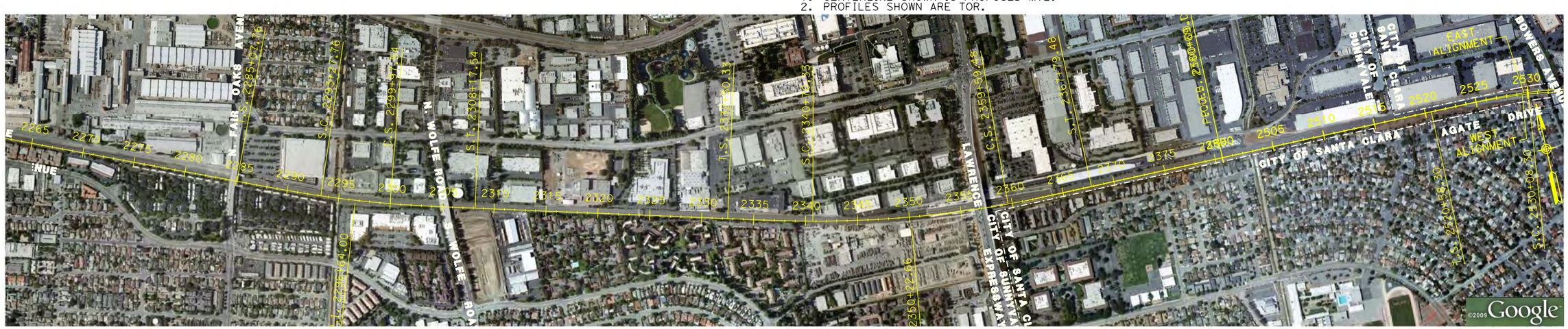
North of Fair Oaks Avenue to South of De La Cruz Boulevard (MP. 39.29 to MP. 44.04)
This subsection is located in the Cities of Sunnyvale and Santa Clara. The Caltrain tracks are at-grade and all crossings are grade separated. Most of the crossings pass over the tracks. This subsection includes an existing 4-track segment near Lawrence Expressway.

EXISTING (APPROX)
- ROW WIDTH ≥ 100′
- ROW WIDTH 90′ - 99′
- ROW WIDTH 80′ - 89′
- ROW WIDTH 70′ - 79′
- ROW WIDTH 60′ - 69′
- ROW WIDTH < 60′

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





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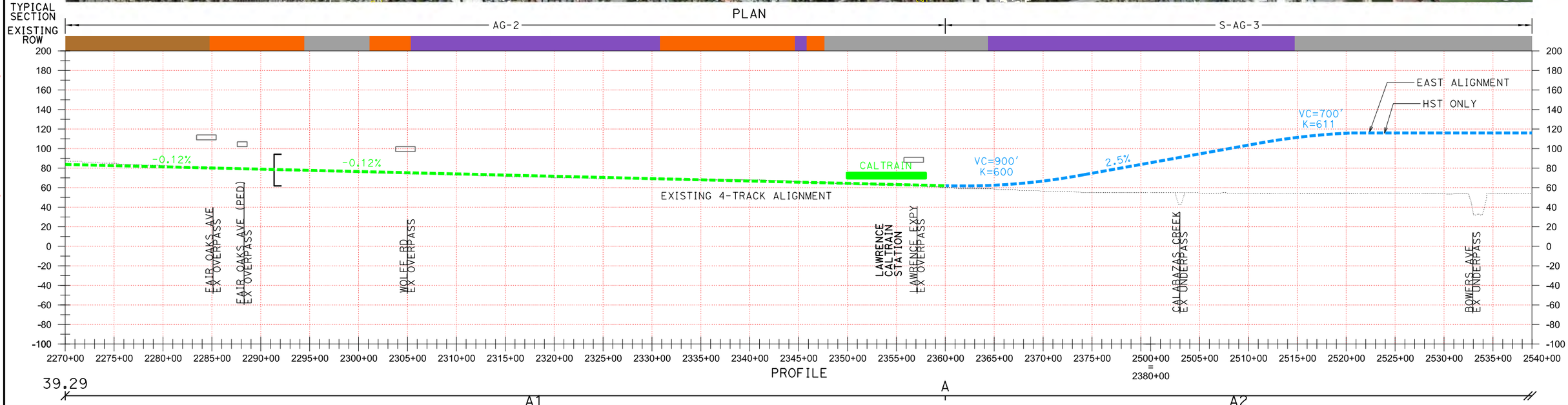

CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 (1"=500′)
VERT. SCALE: 50 0 50 100 (1"=50′)

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cdavid

Subsection #8-2 (Santa Clara)

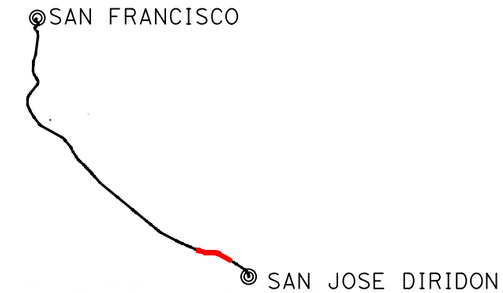
Length: 4.7 miles Land Use: Urban

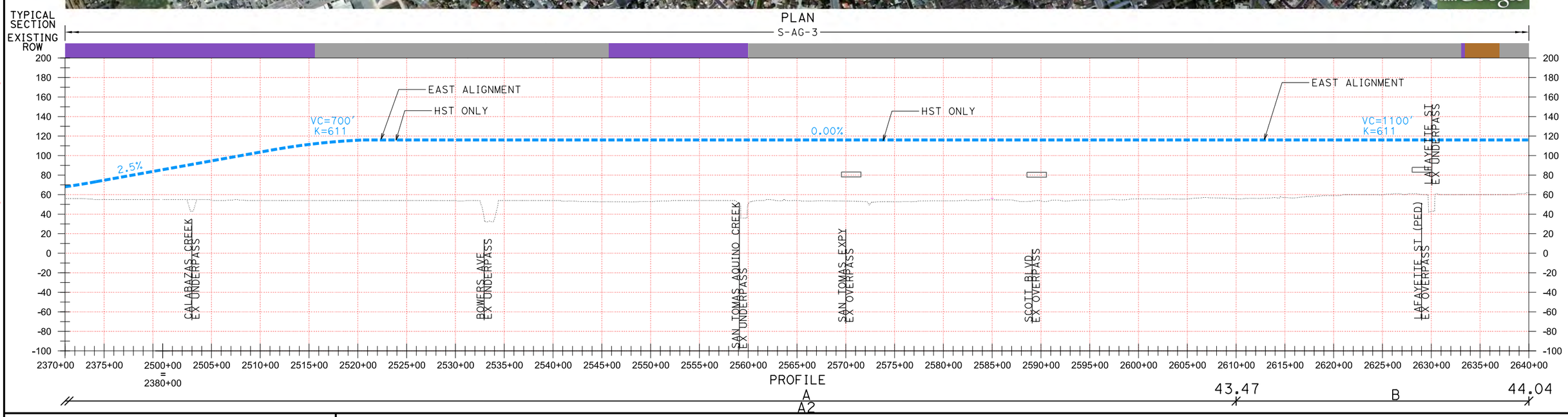
North of Fair Oaks Avenue to South of De La Cruz Boulevard (MP. 39.29 to MP. 44.04)
This subsection is located in the Cities of Sunnyvale and Santa Clara. The Caltrain tracks are at-grade and all crossings are grade separated. Most of the crossings pass over the tracks. This subsection includes an existing 4-track segment near Lawrence Expressway.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 — 1"=500'

VERT. SCALE: 50 0 50 100 — 1"=50'

IP_PWP:dms05695\Subsegment_8_Plan_Profile2A.dgn
03-AUG-2010 15:11
cdavid

Subsection #9 (a)-1 (Santa Clara/San Jose)

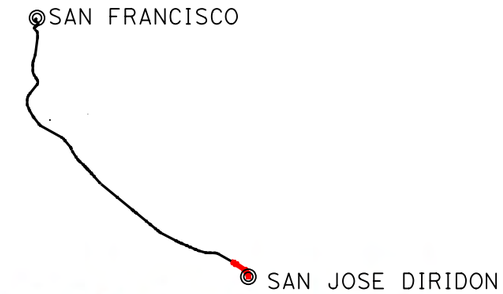
Length: 3.5 miles Land Use: Urban

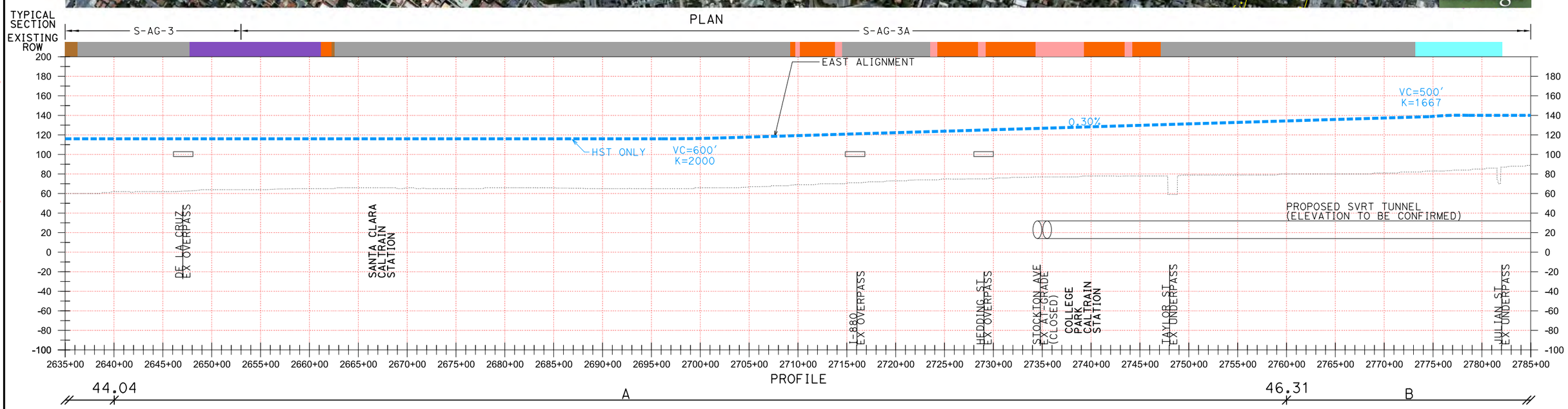
North of De La Cruz Boulevard to San Jose Diridon Station (MP. 44.04 to MP. 47.54)
This subsection is located in the Cities of San Jose and Santa Clara. The Caltrain tracks are at-grade and all crossings are grade separated. Besides Caltrain, this subsection is also used by ACE, Capitol Corridor and Amtrak long distance passenger trains and UPRR through freight trains. The future BART extension will also run alongside this subsection, primarily in a tunnel.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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03-AUG-2010 21:11
cdavid

Subsection #9 (a)-2 (San Jose)

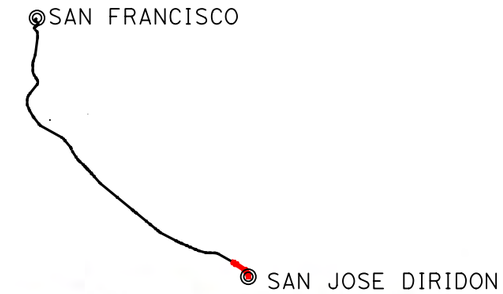
Length: 3.5 miles Land Use: Urban

North of De La Cruz Boulevard to San Jose Diridon Station (MP. 44.04 to MP. 47.54)
This subsection is located in the Cities of San Jose and Santa Clara. The Caltrain tracks are at-grade and all crossings are grade separated. Besides Caltrain, this subsection is also used by ACE, Capitol Corridor and Amtrak long distance passenger trains and UPRR through freight trains. The future BART extension will also run alongside this subsection, primarily in a tunnel.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

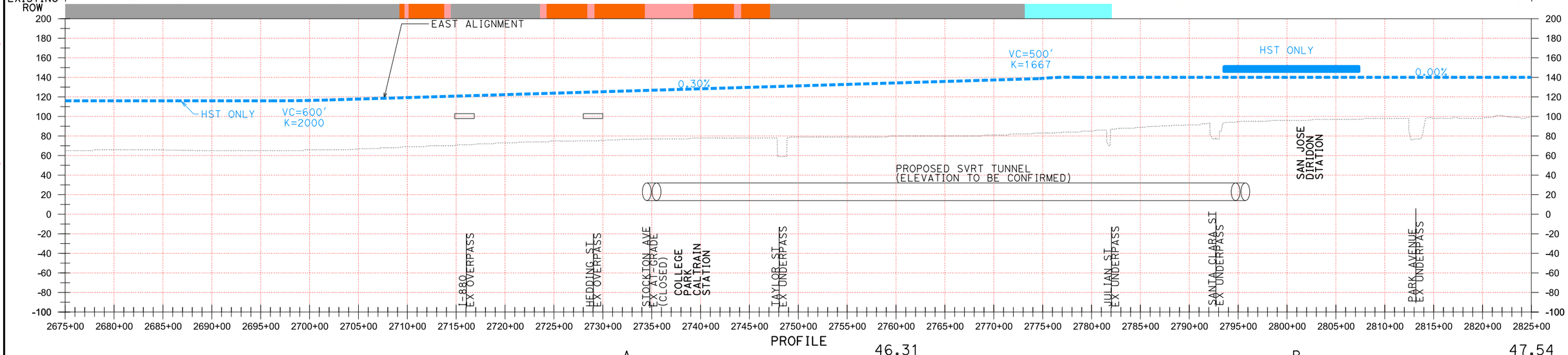
NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.



PLAN
S-AG-3A

TYPICAL SECTION

EXISTING ROW



PROFILE

A — 46.31 — B — 47.54

CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option A
August 2010

HORIZ. SCALE: 500 0 500 1000 — 1"=500'

VERT. SCALE: 50 0 50 100 — 1"=50'

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cdavid

Option B / B1

Subsection #1-1 (San Francisco)

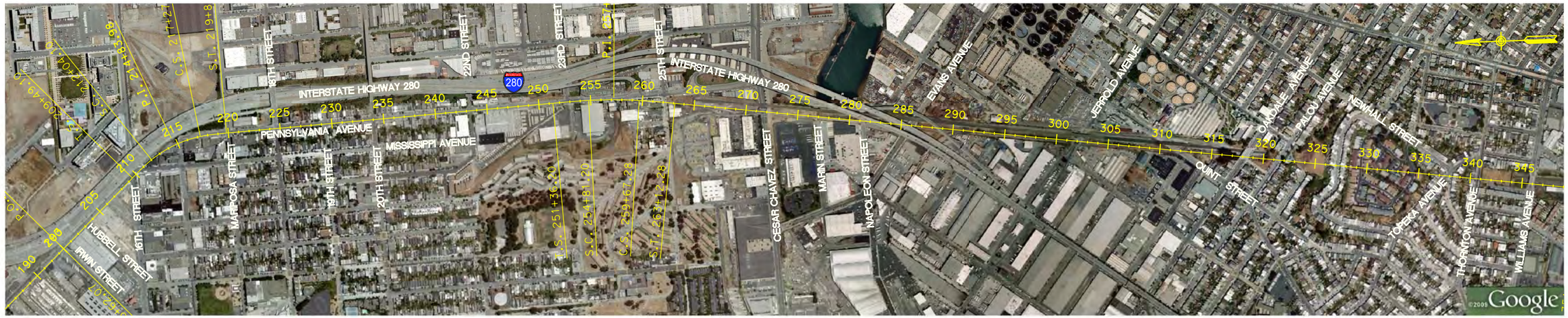
Length: 4.8 miles Land Use: Urban

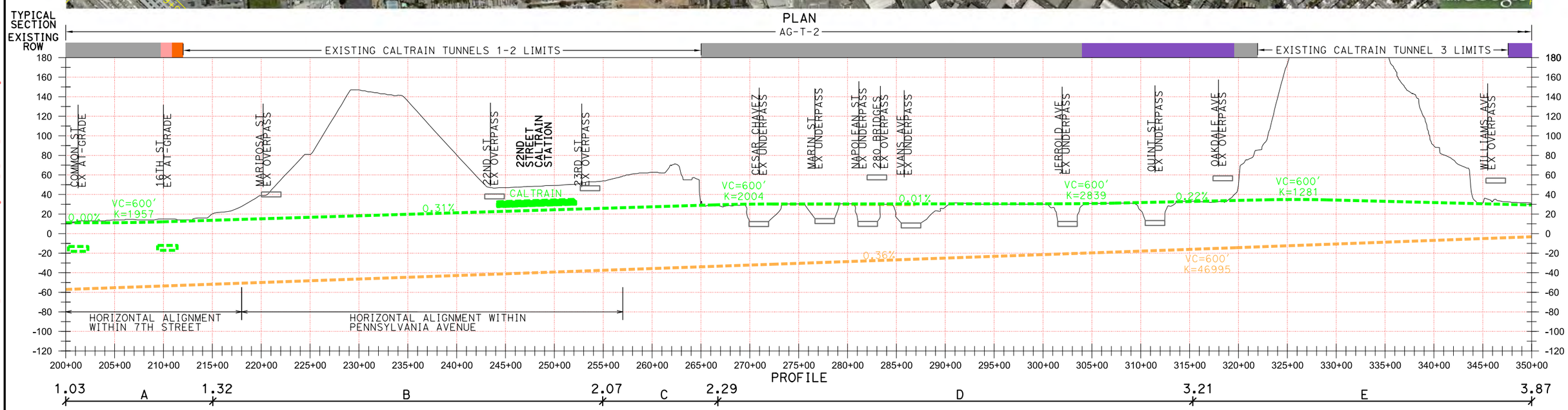
North of Common Street to South Portal Tunnel No. 4 (MP. 1.03 to MP. 5.77)
This subsection is located within the City and County of San Francisco. Except for two crossings near Mission Bay, all other street crossings in this subsection are grade separated. The existing Caltrain alignment passes through a series of hills and valleys necessitating 4 tunnels and several embankment and trench segments. The I-280 freeway structure above the tracks and its supporting columns are constraints in the northern portion of the subsection.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option B/B1
August 2010

HORIZ. SCALE: 500 0 500 1000 — 1"=500'

VERT. SCALE: 50 0 50 100 — 1"=50'

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03-AUG-2010 13:24
ahenschke

Subsection #1-2 (San Francisco/Brisbane)

Length: 4.8 miles Land Use: Urban

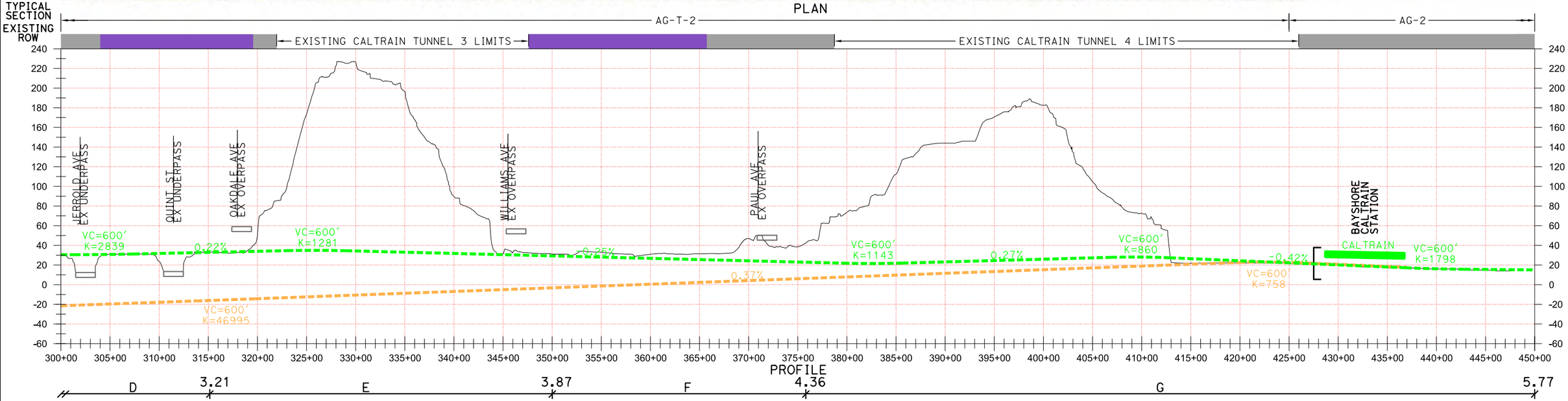
North of Common Street to South Portal Tunnel No. 4 (MP. 1.03 to MP. 5.77)
This subsection is located within the City and County of San Francisco. Except for two crossings near Mission Bay, all other street crossings in this subsection are grade separated. The existing Caltrain alignment passes through a series of hills and valleys necessitating 4 tunnels and several embankment and trench segments. The I-280 freeway structure above the tracks and its supporting columns are constraints in the northern portion of the subsection.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.

PLAN



CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option B/B1
August 2010

HORIZ. SCALE: 500 0 500 1000 — 1"=500'
VERT. SCALE: 50 0 50 100 — 1"=50'

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03-AUG-2010 13:27
ahenschke

Subsection #2-1 (San Francisco/Brisbane)

Length: 8.6 miles Land Use: Urban

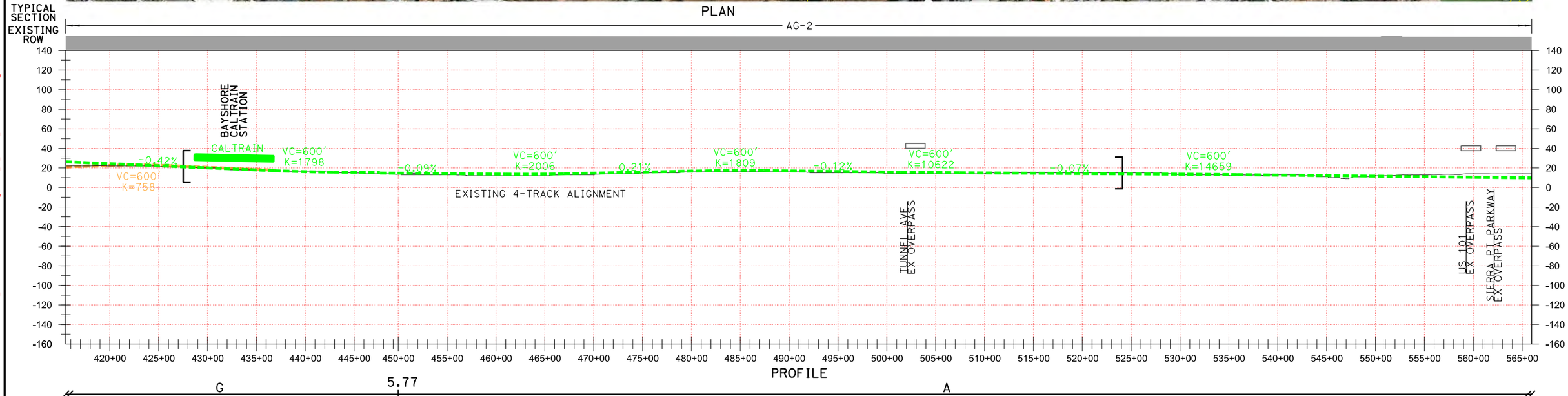
South Portal Tunnel No. 4 to South of Millbrae Avenue (MP. 5.77 to MP. 14.38)
This subsection is located in the Cities of Brisbane, South San Francisco, San Bruno and Millbrae. The existing Caltrain alignment is at-grade in this subsection and many crossings are grade separated. The northern portion of this subsection is completely grade separated and includes an existing 4-track segment in Brisbane. In the southern portion of the subsection, BART runs underneath and alongside the Caltrain tracks.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.

PLAN



CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
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San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option B/B1
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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Subsection #2-2 (Brisbane/South San Francisco/ San Bruno)

Length: 8.6 miles Land Use: Urban

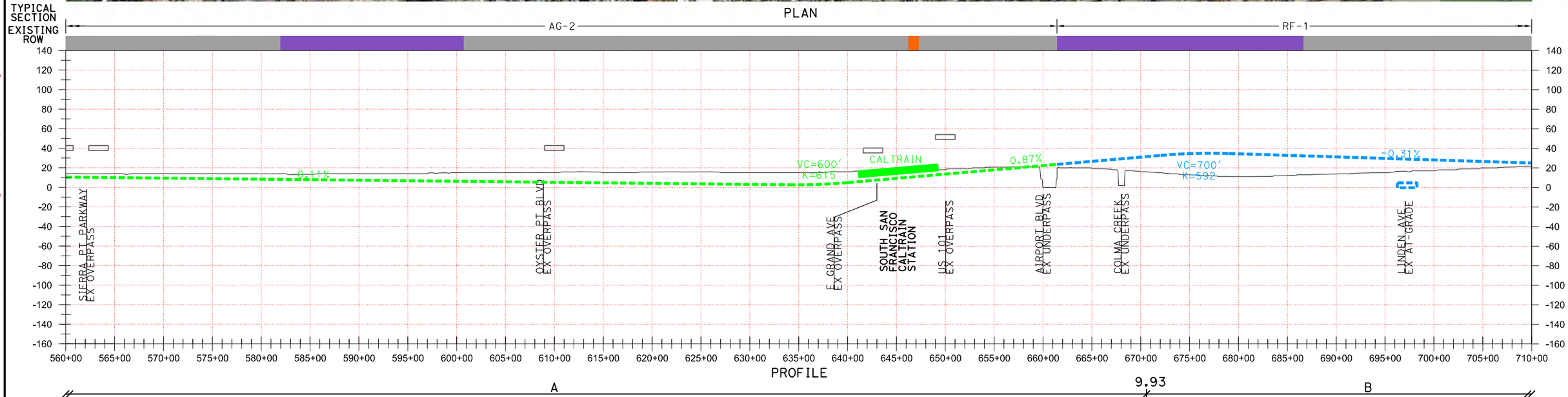
South Portal Tunnel No. 4 to South of Millbrae Avenue (MP. 5.77 to MP. 14.38)
This subsection is located in the Cities of Brisbane, South San Francisco, San Bruno and Millbrae. The existing Caltrain alignment is at-grade in this subsection and many crossings are grade separated. The northern portion of this subsection is completely grade separated and includes an existing 4-track segment in Brisbane. In the southern portion of the subsection, BART runs underneath and alongside the Caltrain tracks.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.

PLAN



CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
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San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option B/B1
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

IP_PWP:dms05696\Subsegment_2_Plan_Profile2B.dgn
03-AUG-2010 13:33
ahenschke

Subsection #2-3 (South San Francisco/San Bruno/ SF International Airport)

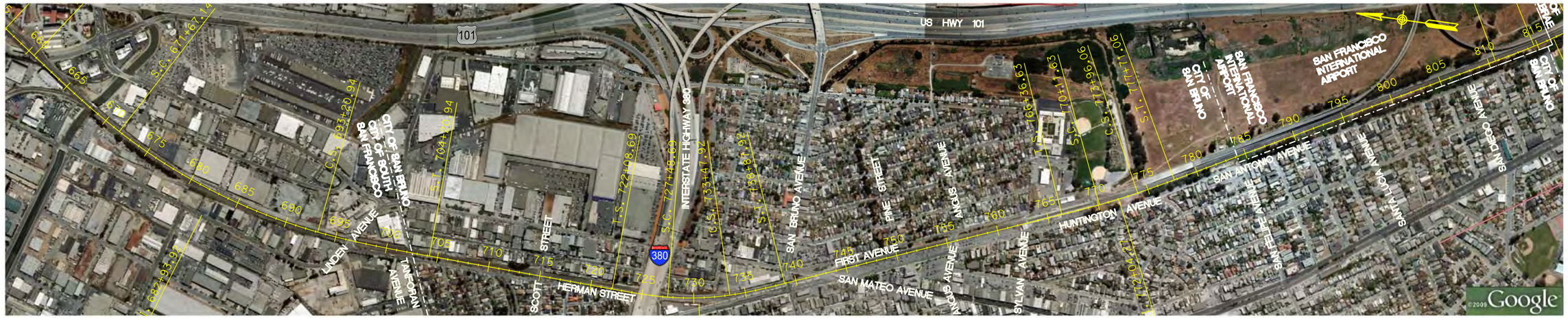
Length: 8.6 miles Land Use: Urban

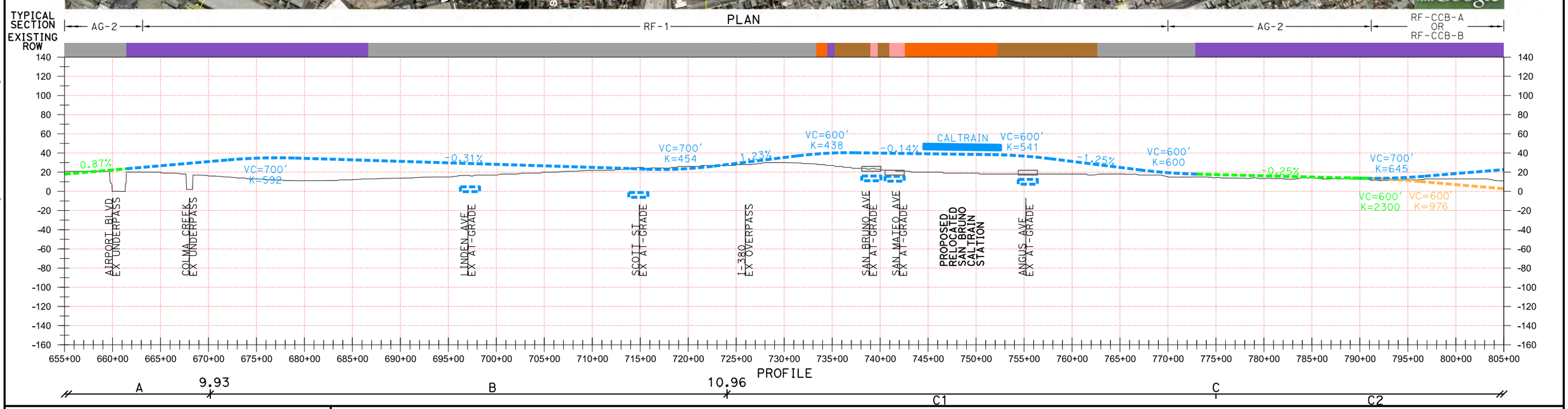
South Portal Tunnel No. 4 to South of Millbrae Avenue (MP. 5.77 to MP. 14.38)
This subsection is located in the Cities of Brisbane, South San Francisco, San Bruno and Millbrae. The existing Caltrain alignment is at-grade in this subsection and many crossings are grade separated. The northern portion of this subsection is completely grade separated and includes an existing 4-track segment in Brisbane. In the southern portion of the subsection, BART runs underneath and alongside the Caltrain tracks.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option B/B1
August 2010

HORIZ. SCALE: 500 0 500 1000 — 1"=500'
VERT. SCALE: 50 0 50 100 — 1"=50'

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03-AUG-2010 13:49
ahenschke

Subsection #2-4 (San Bruno/SF International Airport/ Millbrae/Burlingame)

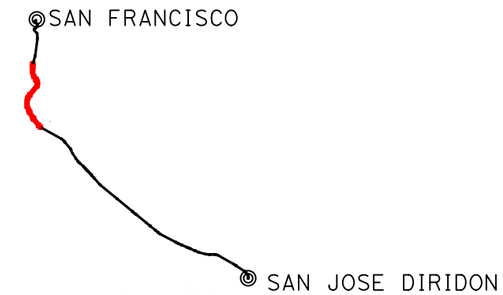
Length: 8.6 miles Land Use: Urban

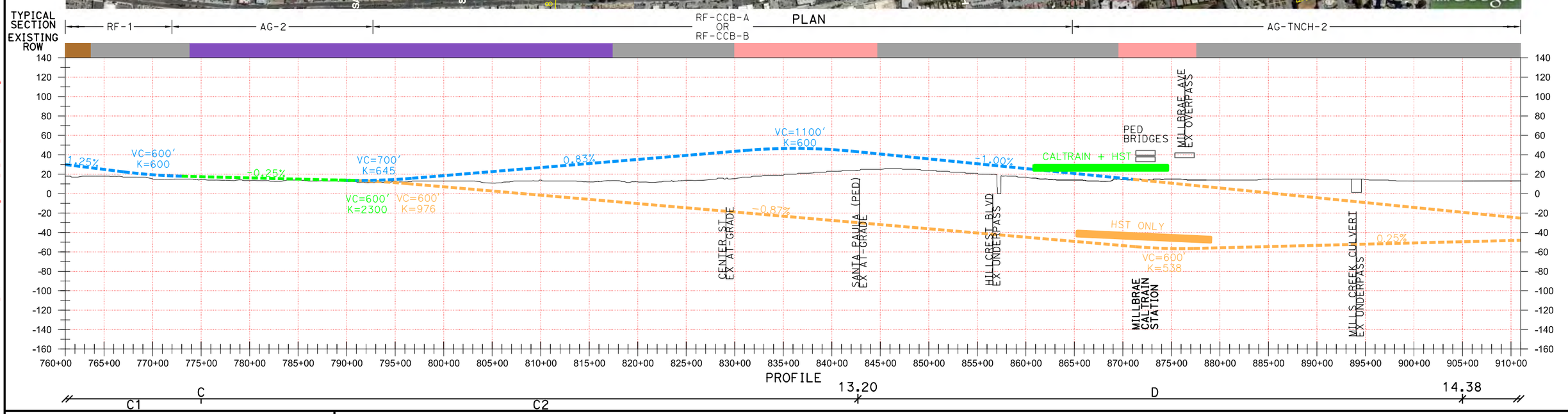
South Portal Tunnel No. 4 to South of Millbrae Avenue (MP. 5.77 to MP. 14.38)
This subsection is located in the Cities of Brisbane, South San Francisco, San Bruno and Millbrae. The existing Caltrain alignment is at-grade in this subsection and many crossings are grade separated. The northern portion of this subsection is completely grade separated and includes an existing 4-track segment in Brisbane. In the southern portion of the subsection, BART runs underneath and alongside the Caltrain tracks.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
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San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option B/B1
August 2010

HORIZ. SCALE: 500 0 500 1000 (1"=500')
VERT. SCALE: 50 0 50 100 (1"=50')

IP_PWP:dms05696\Subsegment_2_Plan_Profile4B.dgn
03-AUG-2010 13:56
ahenschke

Subsection #3-1 (Burlingame/San Mateo)

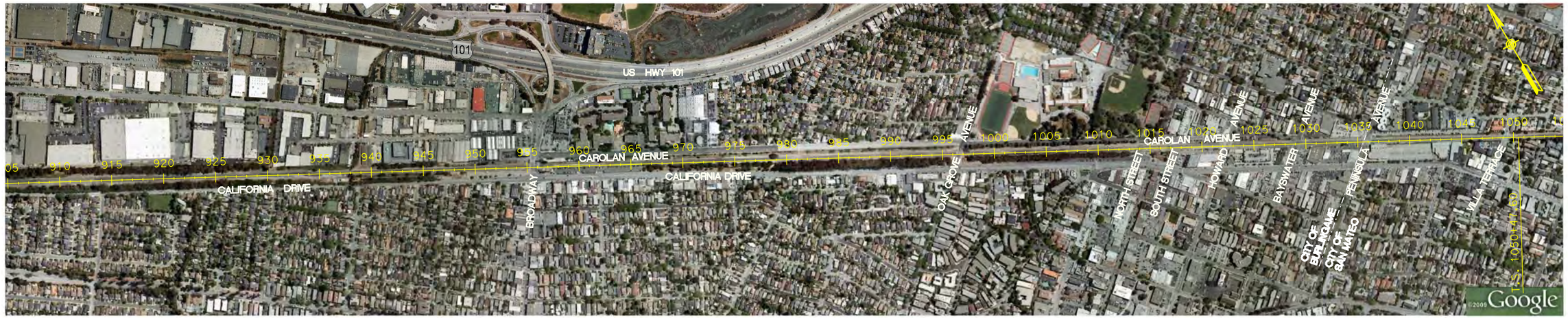
Length: 4.9 miles Land Use: Urban

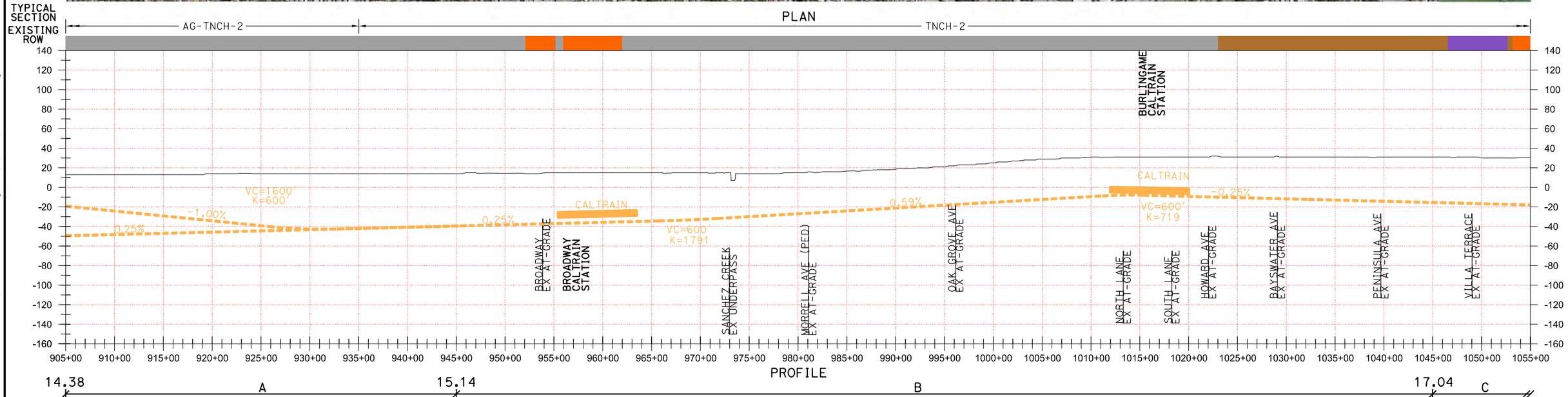
South of Millbrae Avenue to North of Highway 92 (MP. 14.38 to MP. 19.29)
This subsection is located in the Cities of Burlingame and San Mateo. In this subsection, the Caltrain tracks are primarily at-grade as are most of the crossings; those that are grade-separated have sub-standard clearances. This subsection includes a tight area through downtown San Mateo where a number of closely spaced at-gradecrossings are an integral part of the street grid.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
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August 2010

HORIZ. SCALE: 500 0 500 1000 — 1"=500'
VERT. SCALE: 50 0 50 100 — 1"=50'

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03-AUG-2010 13:59
ahenschke

Subsection #3-2 (Burlingame/San Mateo)

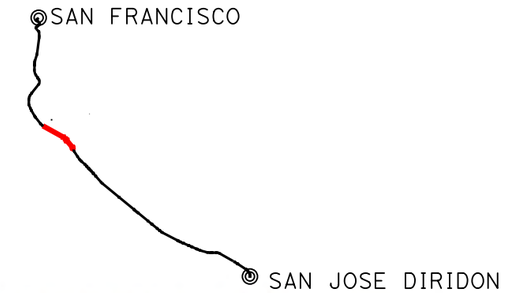
Length: 4.9 miles Land Use: Urban

South of Millbrae Avenue to North of Highway 92 (MP. 14.38 to MP. 19.29)
This subsection is located in the Cities of Burlingame and San Mateo. In this subsection, the Caltrain tracks are primarily at-grade as are most of the crossings; those that are grade-separated have sub-standard clearances. This subsection includes a tight area through downtown San Mateo where a number of closely spaced at-gradecrossings are an integral part of the street grid.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

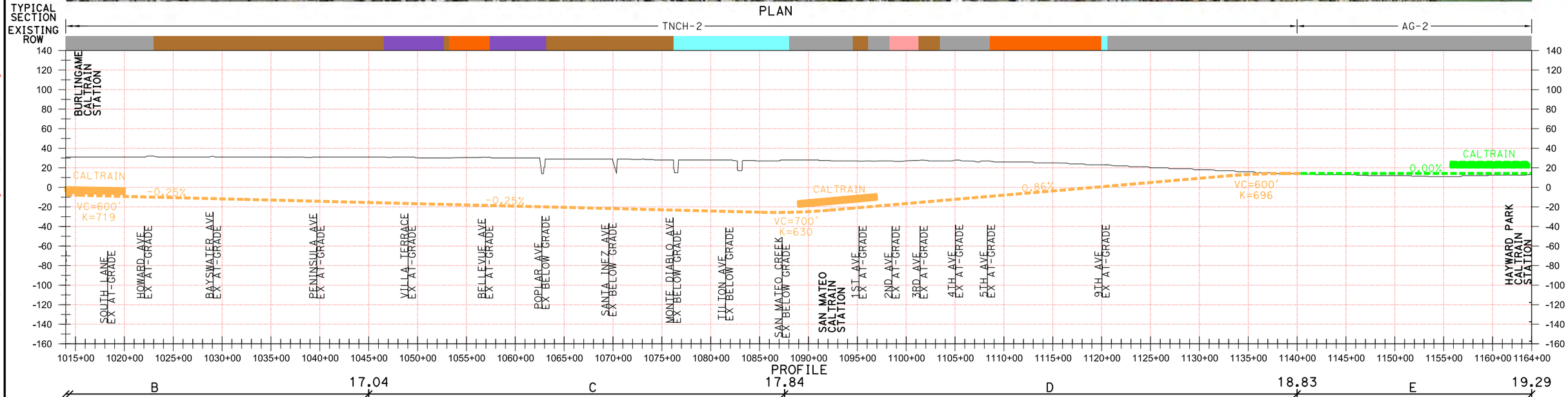
NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.



PLAN

TYPICAL SECTION

EXISTING ROW



CALIFORNIA HIGH SPEED RAIL AUTHORITY
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San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option B/B1
August 2010

HORIZ. SCALE: 500 0 500 1000 — 1"=500'

VERT. SCALE: 50 0 50 100 — 1"=50'

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Subsection #4-1 (San Mateo/Belmont)

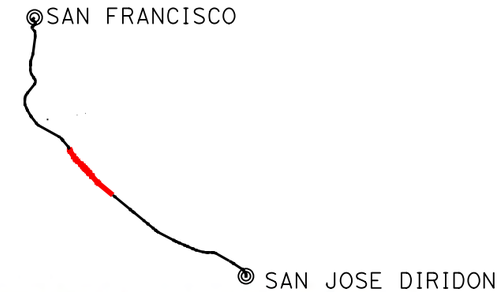
Length: 7.6 miles Land Use: Urban

North of Highway 92 to North of 5th Avenue (MP. 19.29 to MP. 26.88)
This subsection is located in the Cities of San Mateo, Belmont, San Carlos and Redwood City. For most of the northern portion of this subsection, the existing Caltrain tracks are on a recently constructed embankment that passes over the cross streets. In the southern portion of this subsection the at-grade Caltrain tracks pass through a number of at-grade crossings in downtown Redwood City. There is an existing 4 track segment at the southern end of this subsection.

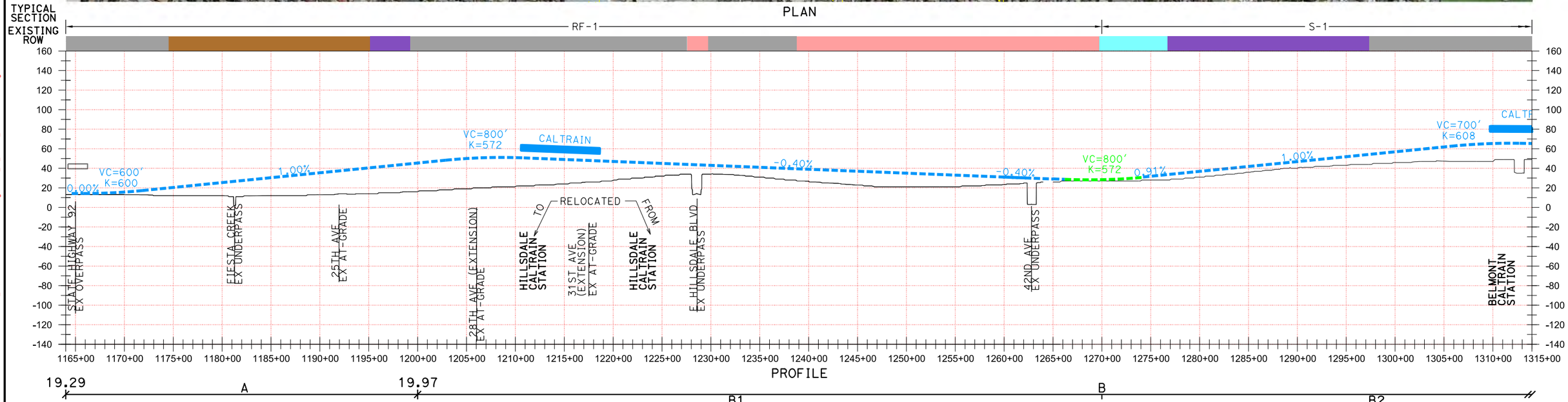
EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.



PLAN



CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
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San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option B/B1
August 2010

HORIZ. SCALE: 500 0 500 1000 — 1"=500'
VERT. SCALE: 50 0 50 100 — 1"=50'

IP_PWP:dms05696\Subsegment_4_Plan_Profile1B.dgn
03-AUG-2010 14:04
ahenschke

Subsection #4-2 (Belmont/San Carlos)

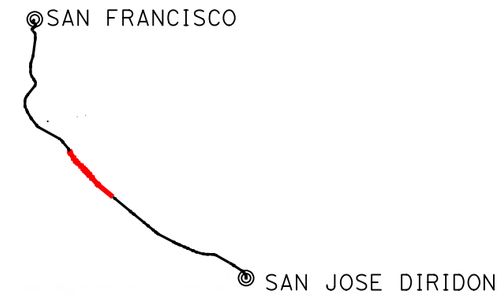
Length: 7.6 miles Land Use: Urban

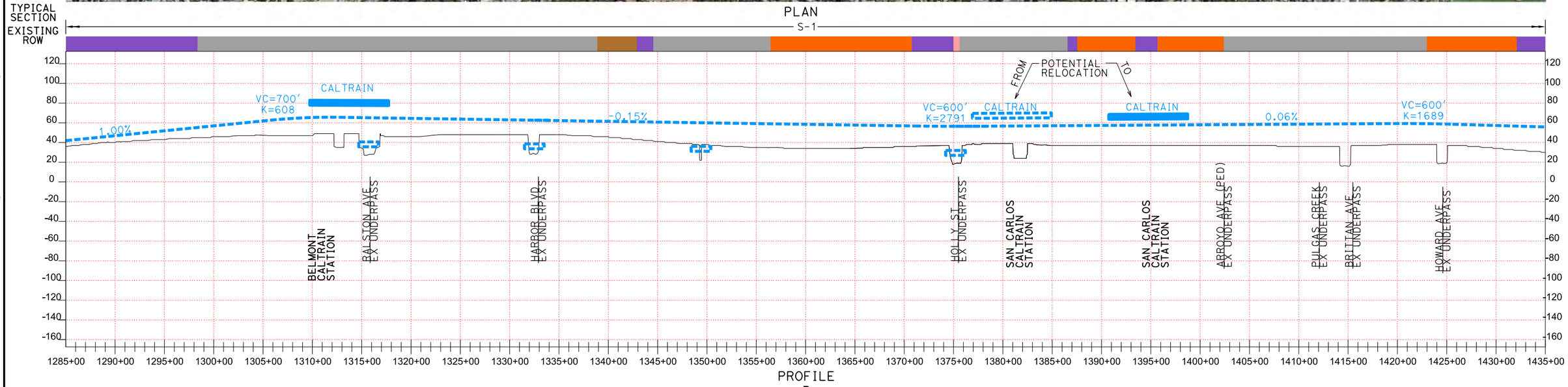
North of Highway 92 to North of 5th Avenue (MP. 19.29 to MP. 26.88)
This subsection is located in the Cities of San Mateo, Belmont, San Carlos and Redwood City. For most of the northern portion of this subsection, the existing Caltrain tracks are on a recently constructed embankment that passes over the cross streets. In the southern portion of this subsection the at-grade Caltrain tracks pass through a number of at-grade crossings in downtown Redwood City. There is an existing 4 track segment at the southern end of this subsection.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
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San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option B/B1
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'
VERT. SCALE: 50 0 50 100 1"=50'

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03-AUG-2010 18:39
cdavid

Subsection #4-3 (San Carlos/Redwood City/ Unincorporated San Mateo County)

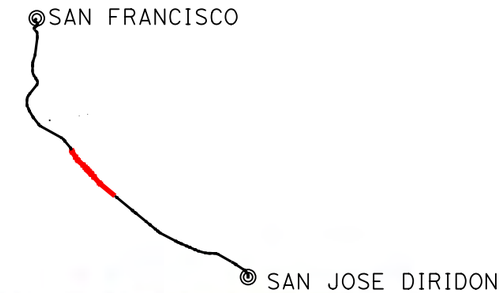
Length: 7.6 miles Land Use: Urban

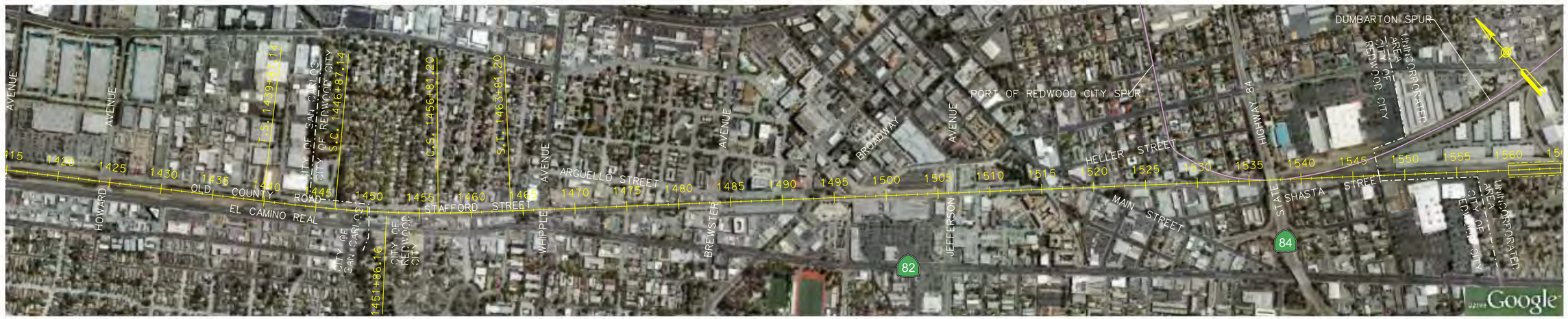
North of Highway 92 to North of 5th Avenue (MP. 19.29 to MP. 26.88)
This subsection is located in the Cities of San Mateo, Belmont, San Carlos and Redwood City. For most of the northern portion of this subsection, the existing Caltrain tracks are on a recently constructed embankment that passes over the cross streets. In the southern portion of this subsection the at-grade Caltrain tracks pass through a number of at-grade crossings in downtown Redwood City. There is an existing 4 track segment at the southern end of this subsection.

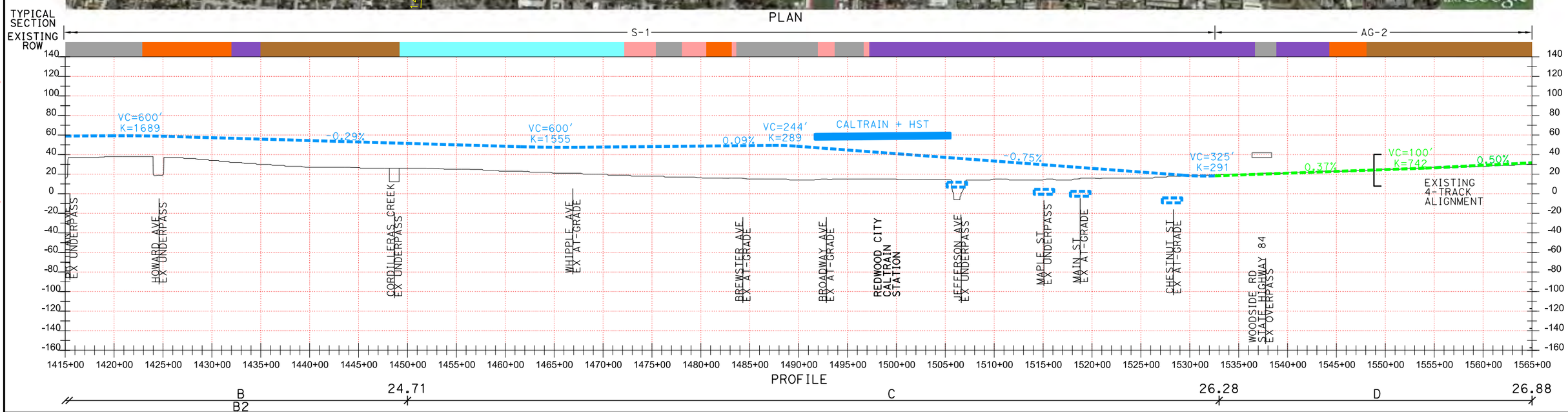
EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.







CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option B/B1
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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rrhoads

Subsection #5-1 (Unincorporated San Mateo County/ Atherton/Menlo Park)

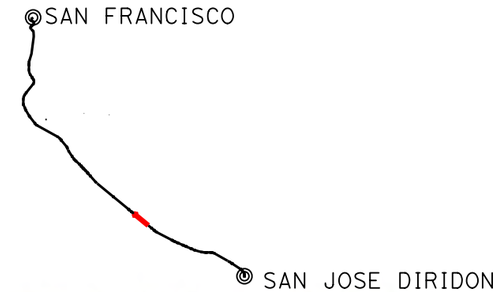
Length: 2.8 miles Land Use: Urban

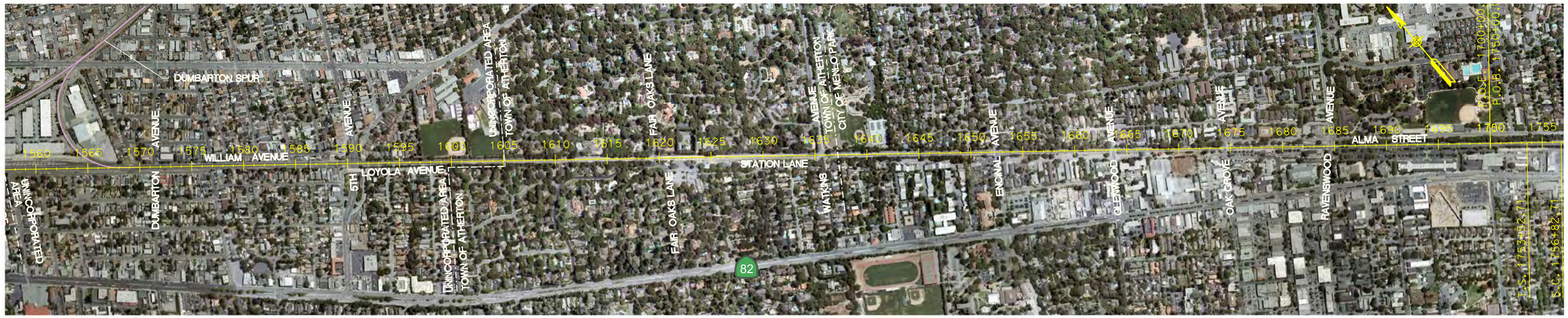
North of 5th Avenue to North of SCL/SM County Line (MP. 26.88 to MP. 29.72)
This subsection is located in the Cities of Atherton and Menlo Park, with a small portion in unincorporated San Mateo County. The Caltrain tracks are at-grade, and with one exception, all street crossings are at-grade. Generally, the streets that cross the tracks are two-lane collectors serving residential areas. In most cases, these streets are integral parts of the local street network.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





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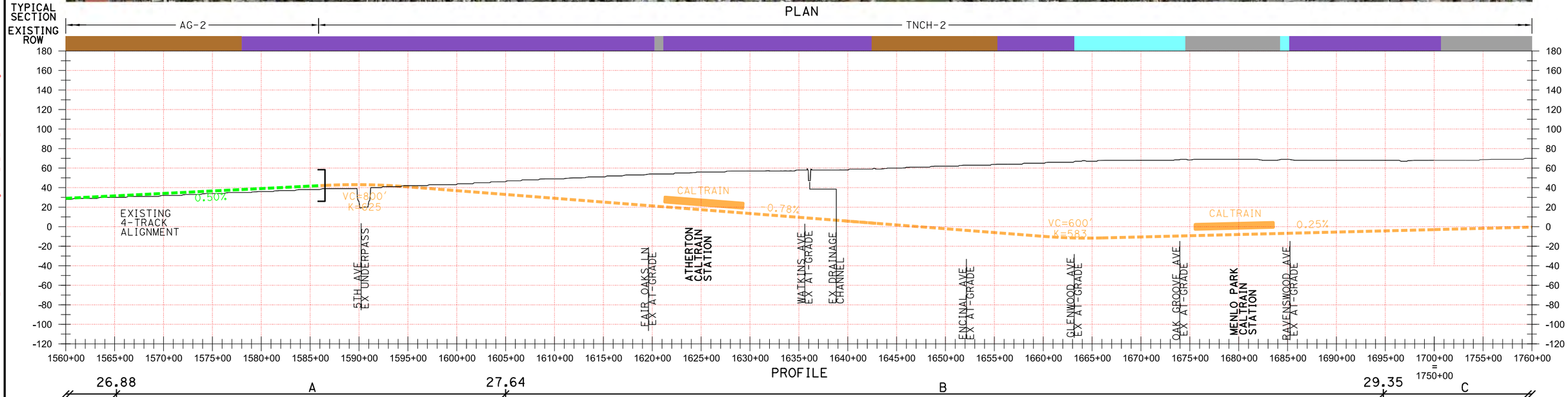

CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option B/B1
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'
VERT. SCALE: 50 0 50 100 1"=50'

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ahenschke

Subsection #6-1 (Menlo Park/Palo Alto)

Length: 3.9 miles Land Use: Urban

North of SCL/SM County Line to North of Adobe Creek (MP. 29.72 to MP. 33.61)
This subsection is located in the City of Palo Alto. The Caltrain tracks are at-grade and all of the streets that are grade separated pass under the tracks. Several at-grade crossings occur between the grade separations. Alma Street runs alongside the Caltrain tracks for the entire length of this subsection.

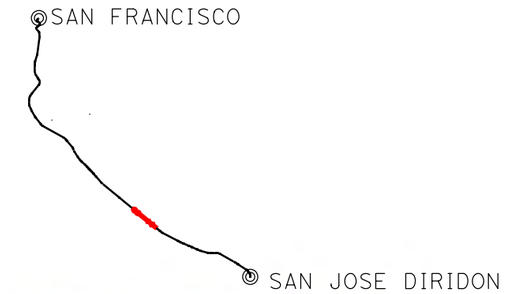
EXISTING (APPROX)

- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION

- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.



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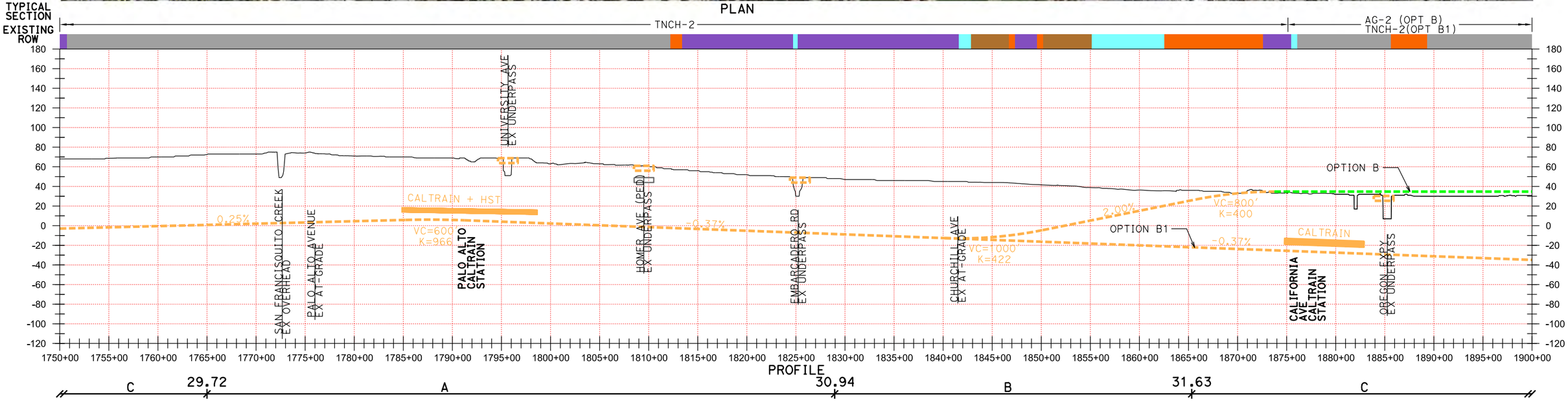

CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
Without ever leaving the ground.

San Francisco - San Jose

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August 2010

HORIZ. SCALE: 500 0 500 1000 — 1"=500'
VERT. SCALE: 50 0 50 100 — 1"=50'

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Subsection #6-2 (Palo Alto)

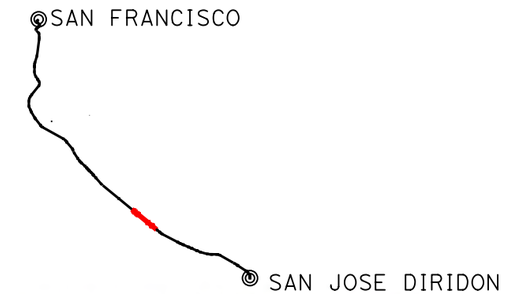
Length: 3.9 miles Land Use: Urban

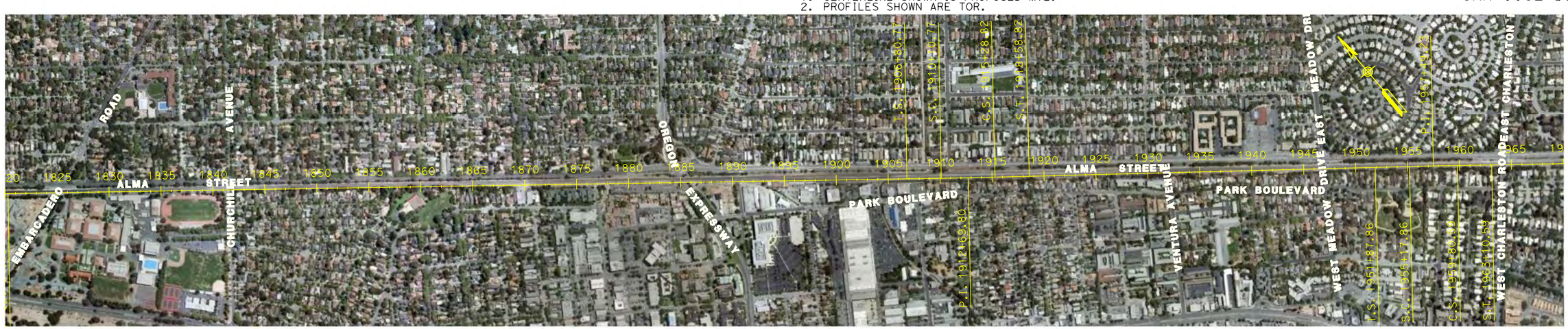
North of SCL/SM County Line to North of Adobe Creek (MP. 29.72 to MP. 33.61)
This subsection is located in the City of Palo Alto. The Caltrain tracks are at-grade and all of the streets that are grade separated pass under the tracks. Several at-grade crossings occur between the grade separations. Alma Street runs alongside the Caltrain tracks for the entire length of this subsection.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





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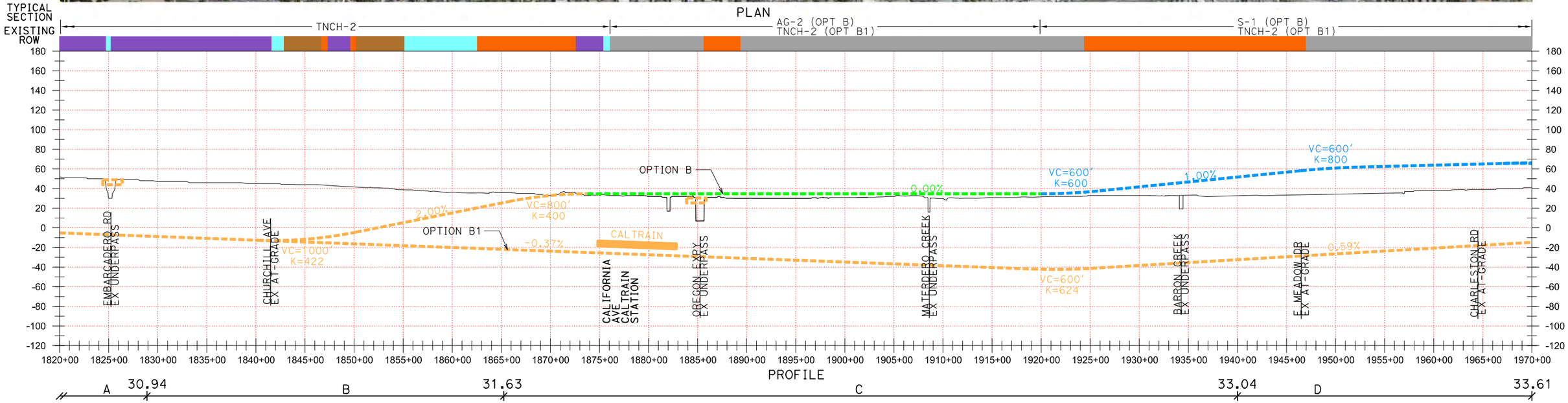

CALIFORNIA HIGH SPEED RAIL AUTHORITY
FLY CALIFORNIA
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San Francisco - San Jose

DRAFT Supplemental Vertical Alternatives Discussion - Option B/B1
August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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cdavid

Subsection #7-1 (Palo Alto/Mountain View)

Length: 5.7 miles Land Use: Urban

North of Adobe Creek to North of Fair Oaks Avenue (MP. 33.61 to MP. 39.29)
This subsection is located in the Cities of Mountain View and Sunnyvale. The Caltrain tracks are at-grade and all grade separated crossings pass over the tracks. Several at-grade crossings occur between the grade separations. Central Expressway and Evelyn Avenue run alongside the Caltrain tracks for a large portion of this subsection.

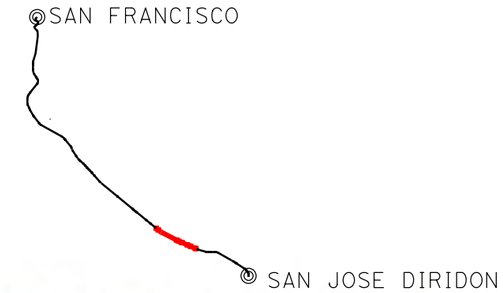
EXISTING (APPROX)

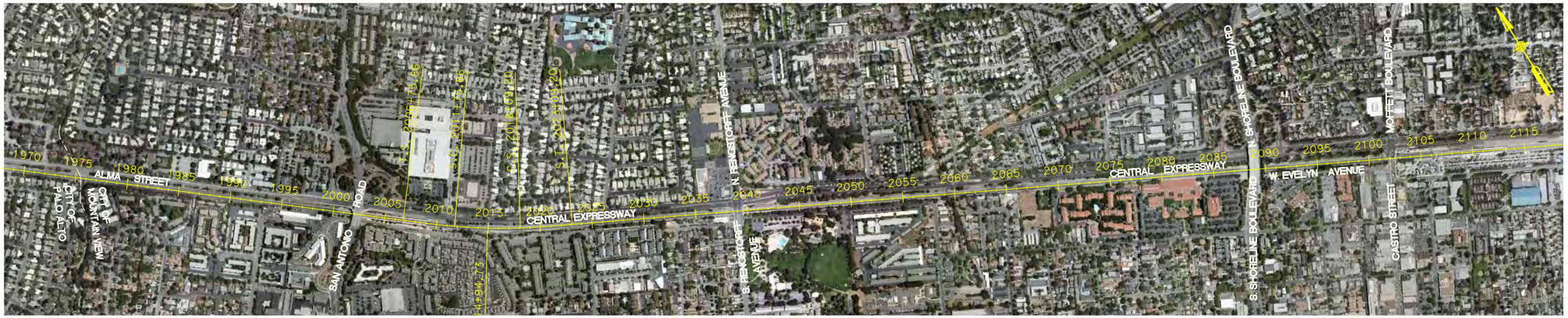
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION

- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





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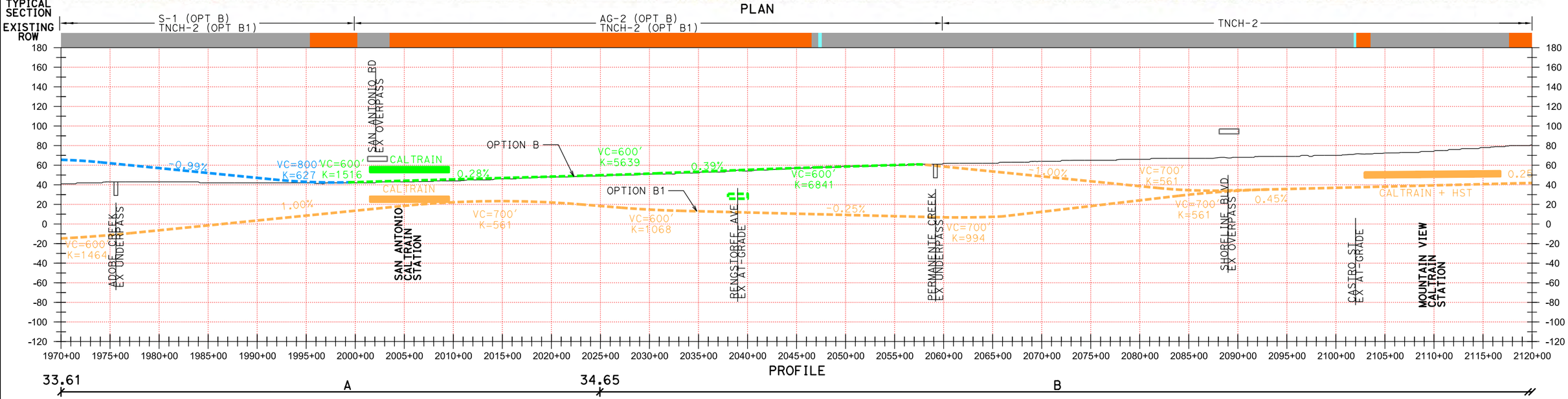
TYPICAL SECTION



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August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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Subsection #7-2 (Mountain View/Sunnyvale)

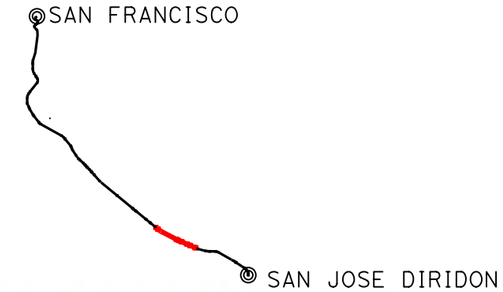
Length: 5.7 miles Land Use: Urban

North of Adobe Creek to North of Fair Oaks Avenue (MP. 33.61 to MP. 39.29)
This subsection is located in the Cities of Mountain View and Sunnyvale. The Caltrain tracks are at-grade and all grade separated crossings pass over the tracks. Several at-grade crossings occur between the grade separations. Central Expressway and Evelyn Avenue run alongside the Caltrain tracks for a large portion of this subsection.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.



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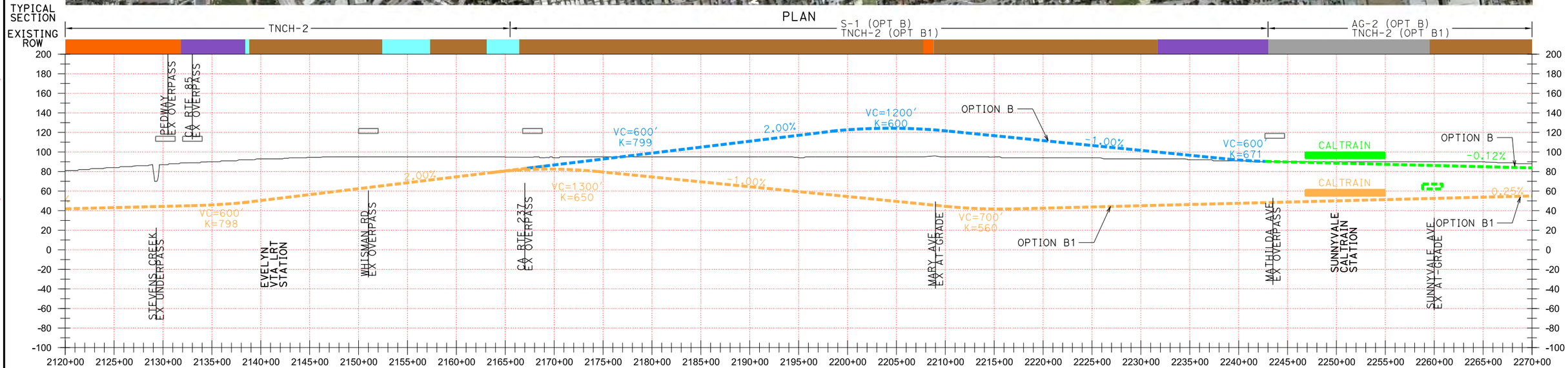

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August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'

VERT. SCALE: 50 0 50 100 1"=50'

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cdavid

Subsection #8-1 (Sunnyvale/Santa Clara)

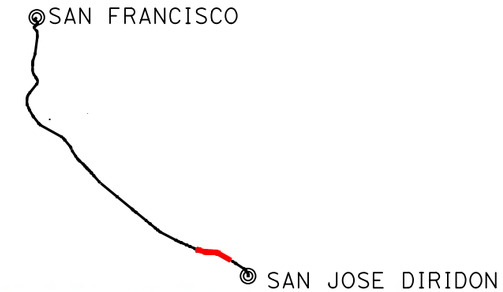
Length: 4.7 miles Land Use: Urban

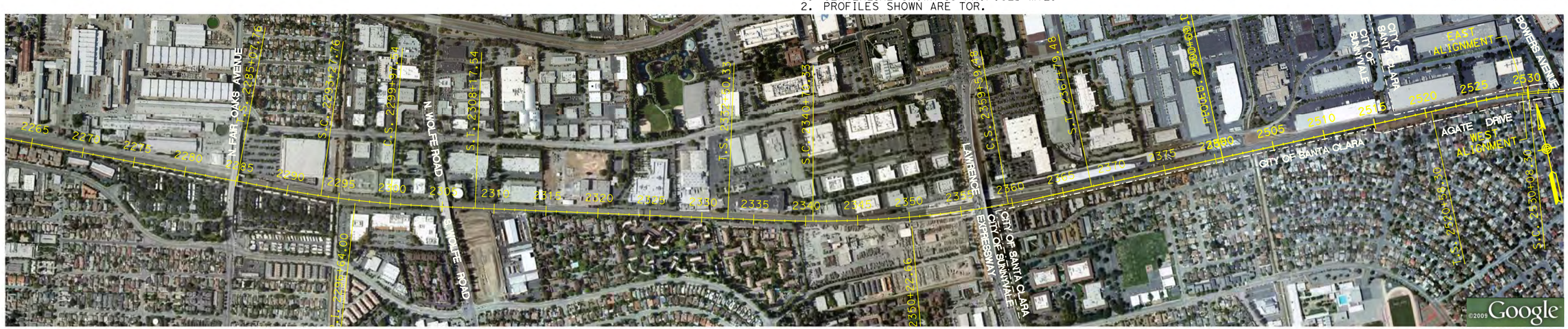
North of Fair Oaks Avenue to South of De La Cruz Boulevard (MP. 39.29 to MP. 44.04)
This subsection is located in the Cities of Sunnyvale and Santa Clara. The Caltrain tracks are at-grade and all crossings are grade separated. Most of the crossings pass over the tracks. This subsection includes an existing 4-track segment near Lawrence Expressway.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





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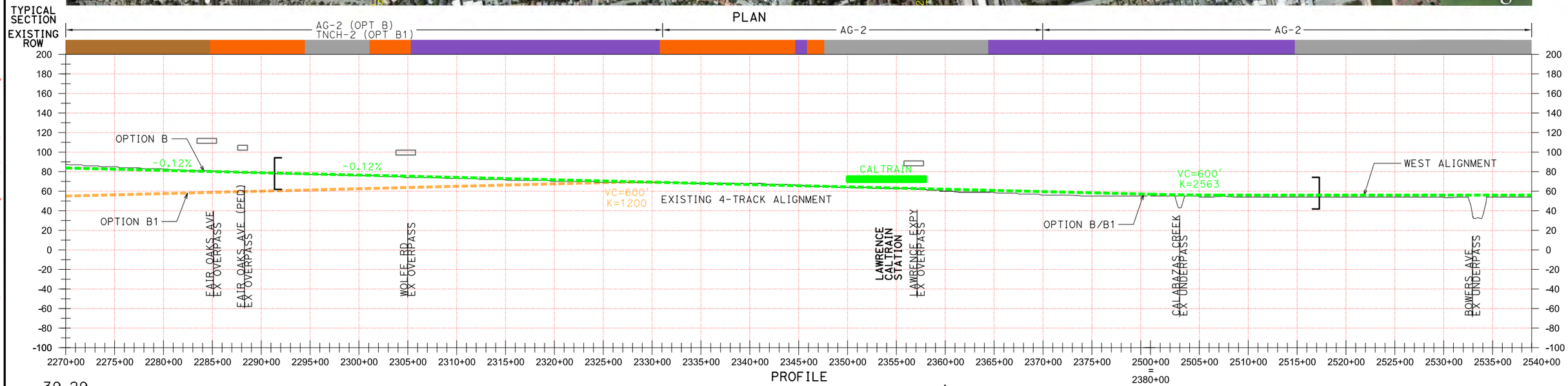

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August 2010

HORIZ. SCALE: 500 0 500 1000 — 1"=500'

VERT. SCALE: 50 0 50 100 — 1"=50'

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ahenschke

Subsection #8-2 (Santa Clara)

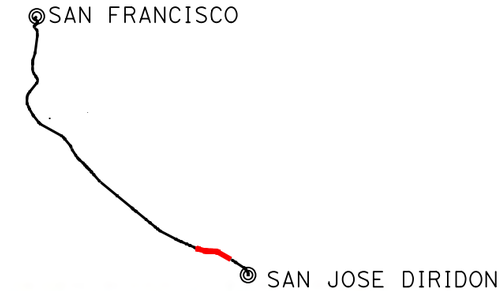
Length: 4.7 miles Land Use: Urban

North of Fair Oaks Avenue to South of De La Cruz Boulevard (MP. 39.29 to MP. 44.04)
This subsection is located in the Cities of Sunnyvale and Santa Clara. The Caltrain tracks are at-grade and all crossings are grade separated. Most of the crossings pass over the tracks. This subsection includes an existing 4-track segment near Lawrence Expressway.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.



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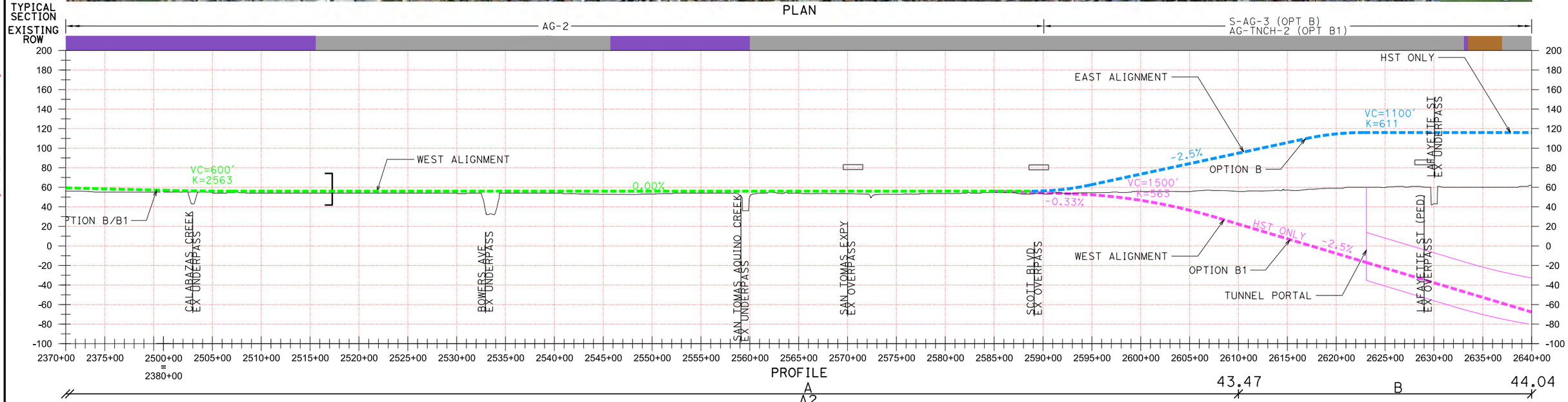

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August 2010

HORIZ. SCALE: 500 0 500 1000 — 1"=500'
VERT. SCALE: 50 0 50 100 — 1"=50'

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ahenschke

Subsection #9 (a)-1 (Santa Clara/San Jose)

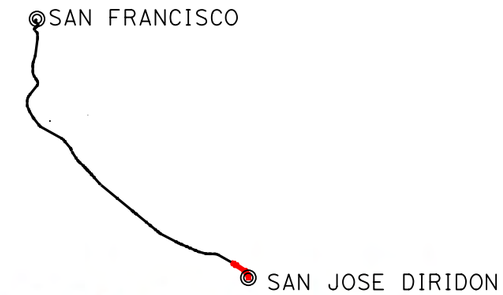
Length: 3.5 miles Land Use: Urban

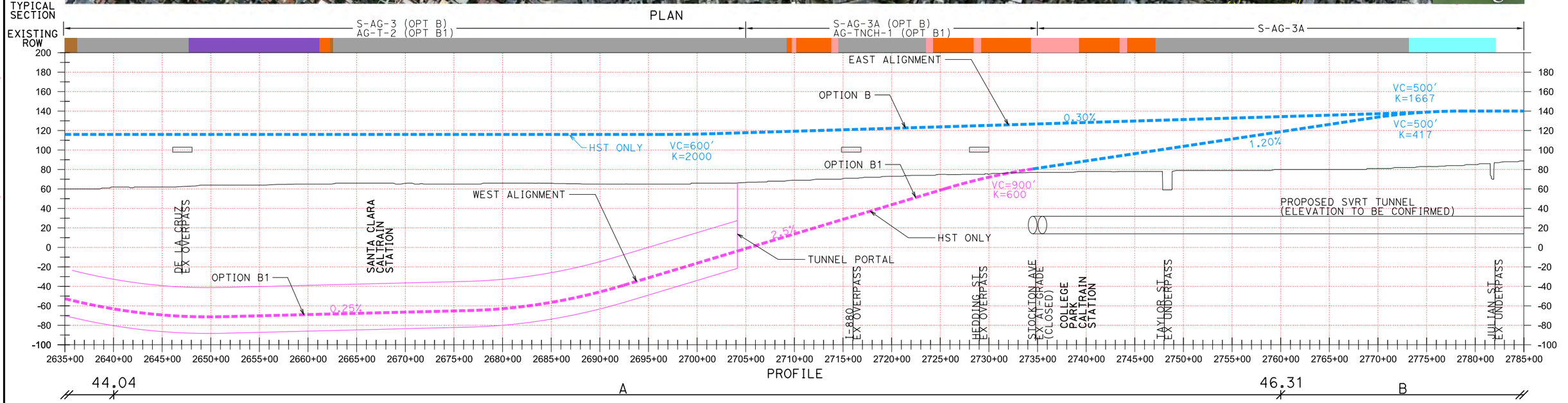
North of De La Cruz Boulevard to San Jose Diridon Station (MP. 44.04 to MP. 47.54)
This subsection is located in the Cities of San Jose and Santa Clara. The Caltrain tracks are at-grade and all crossings are grade separated. Besides Caltrain, this subsection is also used by ACE, Capitol Corridor and Amtrak long distance passenger trains and UPRR through freight trains. The future BART extension will also run alongside this subsection, primarily in a tunnel.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





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August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'
VERT. SCALE: 50 0 50 100 1"=50'

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cdavid

Subsection #9 (a)-2 (San Jose)

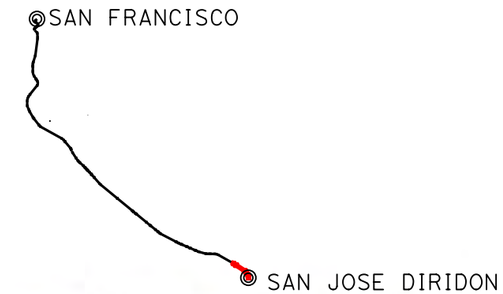
Length: 3.5 miles Land Use: Urban

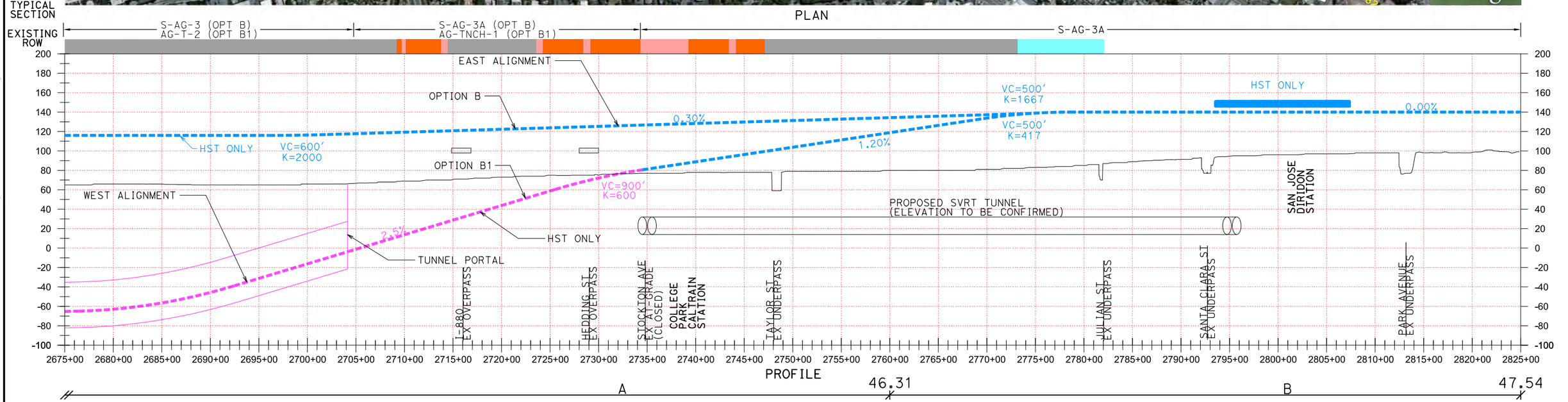
North of De La Cruz Boulevard to San Jose Diridon Station (MP. 44.04 to MP. 47.54)
This subsection is located in the Cities of San Jose and Santa Clara. The Caltrain tracks are at-grade and all crossings are grade separated. Besides Caltrain, this subsection is also used by ACE, Capitol Corridor and Amtrak long distance passenger trains and UPRR through freight trains. The future BART extension will also run alongside this subsection, primarily in a tunnel.

EXISTING (APPROX)
- ROW WIDTH ≥ 100'
- ROW WIDTH 90' - 99'
- ROW WIDTH 80' - 89'
- ROW WIDTH 70' - 79'
- ROW WIDTH 60' - 69'
- ROW WIDTH < 60'

ROADWAY DESIGN OPTION
- STATION — ELEVATED (AERIAL/BERM)
- STATION — EXISTING CALTRAIN GRADE
- STATION — BELOW GRADE (TRENCH/TUNNEL)
- BELOW GRADE (DEEP TUNNEL) (HST ONLY)

NOTES:
1. CENTERLINE SHOWN IS PROPOSED MT2.
2. PROFILES SHOWN ARE TOR.





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August 2010

HORIZ. SCALE: 500 0 500 1000 1"=500'
VERT. SCALE: 50 0 50 100 1"=50'

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cdavid