Santa Ana and Garden Grove Fixed Guideway Corridor

CONCEPTUAL DESIGN PLAN SET

OCTOBER 22, 2012

CORDOBA CORPORATION

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR CONCEPTUAL DESIGN DRAWINGS		
SHEET NO.	DRAWING TITLE	DRAWING NO.
	SHEET INDEX	G-01
	SITE LOCATION MAP	G-02
	SECTION 1 TRACK ALIGNMENT AND ROADWAY IMPROVEMENTS	
	PE ROW SEGMENT - ALT 1 & ALT 2 WESTERN TERMINUS OPTION A: AT-GRADE WESTERN TERMINUS TO STA 17+00	TR-01A
	PE ROW SEGMENT - ALT 1 & ALT 2 WESTERN TERMINUS OPTION B: ELEVATED WESTERN TERMINUS TO STA 17+00	TR-01B
	PE ROW SEGMENT - ALT 1 & ALT 2 WESTERN TERMINUS OPTION C: TRUNCATED AT-GRADE WESTERN TERMINUS TO STA 17+00	TR-01C
	PE ROW SEGMENT - ALT 1 & ALT 2 STA 17+00 TO STA 30+00	TR-02
	PE ROW SEGMENT - ALT 1 & ALT 2 STA 30+00 TO STA 45+00	TR-03
	PE ROW SEGMENT - ALT 1 & ALT 2 BRIDGE OPTIONS 1 & 3: BRIDGE REPLACEMENT RIVER BRIDGE AT STA 46+00 TO STA 59+20	TR-04A
	PE ROW SEGMENT - ALT 1 & ALT 2 BRIDGE OPTION 2: BRIDGE AVOIDANCE OPTION A RIVER BRIDGE AT STA 46+00 TO STA 59+20	TR-04B
	PE ROW SEGMENT - ALT 1 & ALT 2 BRIDGE OPTION 4: BRIDGE AVOIDANCE OPTION B RIVER BRIDGE AT STA 46+00 TO STA 59+20	TR-04C
	TRACK ALIGNMENT AND ROWY IMPROVEMENTS PE ROW SEGMENT - ALT 1 & ALT 2 STA 59+20 TO STA 73+00	TR-05A
	TRACK ALIGNMENT AND ROWY IMPROVEMENTS FAIRVIEW/CIVIC CENTER INTERSECTION IMPROVEMENTS STA 59+20 TO STA 73+00	TR-05B
	PE ROW SEGMENT - ALT 1 & ALT 2 STA 73+00 TO STA 88+00	TR-06
	RAITT TO FLOWER SEGMENT - ALT 1 & ALT 2 FULL ALIGNMENT IN VICINITY OF RAITT STATION STA 88+00 TO STA 103+00	TR-07
	RAITT TO FLOWER SEGMENT - ALT 1 & ALT 2 INITIAL OPERABLE SEGMENT ASSUMING SITE A O&M FACILITY STA 88+00 TO STA 103+00	TR-07A-IOS
	RAITT TO FLOWER SEGMENT - ALT 1 & ALT 2 INITIAL OPERABLE SEGMENT ASSUMING SITE B O&M FACILITY STA 88+00 TO STA 103+00	TR-07B-IOS
	RAITT TO FLOWER SEGMENT - ALT 1 & ALT 2 STA 103+00 TO STA 117+00	TR-08
	RAITT TO FLOWER SEGMENT - ALT 1 & ALT 2 STA 117+00 TO STA 132+00	TR-09
	RAITT TO FLOWER SEGMENT - ALT 1 & ALT 2 STA 132+00 TO STA 147+00	TR-10
	DOWNTOWN SEGMENT - ALT 1 STA 147+00 TO STA 156+00	TR-11
	DOWNTOWN SEGMENT - ALT 1 SASSCER PARK OPTION A: DIRECT ROUTE STA 156+00 EB TO STA 165+00 EB	TR-12A
	DOWNTOWN SEGMENT - ALT 1 SASSCER PARK OPTION A: CURVED ROUTE STA 156+00 EB TO STA 165+00 EB	TR-12B
	DOWNTOWN SEGMENT - ALT 1 4TH ST PARKING OPTION A: SOUTH SIDE PARALLEL STA 165+00 EB TO STA 173+00 EB	TR-13A
	DOWNTOWN SEGMENT - ALT 1 4TH ST PARKING OPTION B: SOUTH SIDE REMOVAL STA 165+00 EB TO STA 173+00 EB	TR-13B

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR CONCEPTUAL DESIGN DRAWINGS		
SHEET NO.	DRAWING TITLE	DRAWING NO.
	DOWNTOWN SEGMENT - ALT 1 4TH ST PARKING OPTION C: SO SIDE AND NO SIDE REMOVAL STA 165+00 EB TO STA 173+00 EB	TR-13C
	DOWNTOWN SEGMENT - ALT 1 4TH ST PARKING OPTION A: SOUTH SIDE PARALLEL STA 173+00 EB TO STA 182+00 EB	TR-14A
	DOWNTOWN SEGMENT - ALT 1 4TH ST PARKING OPTION B: SOUTH SIDE REMOVAL STA 173+00 EB TO STA 182+00 EB	TR-14B
	DOWNTOWN SEGMENT - ALT 1 4TH ST PARKING OPTION C: SO SIDE AND NO SIDE REMOVAL STA 173+00 EB TO STA 182+00 EB	TR-14C
	DOWNTOWN SEGMENT - ALT 1 4TH ST PARKING OPTION A: SOUTH SIDE PARALLEL STA 182+00 EB TO STA 197+00 EB	TR-15A
	DOWNTOWN SEGMENT - ALT 1 4TH ST PARKING OPTION B: SOUTH SIDE REMOVAL STA 182+00 EB TO STA 197+00 EB	TR-15B
	DOWNTOWN SEGMENT - ALT 1 4TH ST PARKING OPTION C: SO AND NO SIDE REMOVAL STA 182+00 EB TO STA 197+00 EB	TR-15C
	DOWNTOWN SEGMENT - ALT 1 STA 197+00 EB TO STA 216+85.76 EB	TR-16
	DOWNTOWN SEGMENT - ALT 1 STA 216+85.76 EB TO GARTO	TR-17
	DOWNTOWN SEGMENT - ALT 2 STA 147+00 EB TO STA 155+00 EB	TR-18
	DOWNTOWN SEGMENT - ALT 2 STA 155+00 EB TO STA 165+00 EB	TR-19
	DOWNTOWN SEGMENT - ALT 2 STA 165+00 EB TO STA 173+00 EB	TR-20
	DOWNTOWN SEGMENT - ALT 2 STA 173+00 EB TO STA 182+00 EB	TR-21
	DOWNTOWN SEGMENT - ALT 2 STA 182+00 EB TO STA 200+00 EB	TR-22
	DOWNTOWN SEGMENT - ALT 2 STA 200+00 EB TO GARTO	TR-23
	DOWNTOWN SEGMENT - ALT 2 CIVIC CENTER DRIVE OPTION A STA 154+00 WB TO STA 169+00 WB	TR-24A
	DOWNTOWN SEGMENT - ALT 2 CIVIC CENTER DRIVE OPTION B STA 154+00 WB TO STA 169+00 WB	TR-24B
	DOWNTOWN SEGMENT - ALT 2 CIVIC CENTER DRIVE OPTION A STA 169+00 WB TO STA 182+00 WB	TR-25A
	DOWNTOWN SEGMENT - ALT 2 CIVIC CENTER DRIVE OPTION B STA 169+00 WB TO STA 182+00 WB	TR-25B
	DOWNTOWN SEGMENT - ALT 2 CIVIC CENTER DRIVE OPTION A STA 182+00 WB TO STA 198+00 WB	TR-26A
	DOWNTOWN SEGMENT - ALT 2 CIVIC CENTER DRIVE OPTION B STA 182+00 WB TO STA 198+00 WB	TR-26B

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR CONCEPTUAL DESIGN DRAWINGS		
SHEET NO.	DRAWING TITLE	DRAWING NO.
	SECTION 2 STRUCTURAL FACILITIES	
	SANTA ANA RIVER BRIDGE OPTION 1: BRIDGE REPLACEMENT	SR-01A
	SANTA ANA RIVER BRIDGE OPTION 2: BRIDGE AVOIDANCE OPTION A	SR-01B
	SANTA ANA RIVER BRIDGE OPTION 3: BRIDGE RELOCATION (NEW BRIDGE)	SR-01C
	SANTA ANA RIVER BRIDGE OPTION 3: BRIDGE RELOCATION (OLD BRIDGE)	SR-01D
	SANTA ANA RIVER BRIDGE OPTION 4: BRIDGE AVOIDANCE OPTION B	SR-01E
	WESTMINSTER AVE BRIDGE GENERAL PLAN	SR-02
	SECTION 3 MAINTENANCE FACILITY SITE PLANS & DETAILS	
	ALTERNATIVE SITE "A" LAYOUT GENERAL PLAN	MF-01
	ALTERNATIVE SITE "A" LAYOUT SITE A ACCESS - ALTERNATIVE 1	MF-01A
	ALTERNATIVE SITE "A" LAYOUT SITE A ACCESS - ALTERNATIVE 2	MF-01B
	ALTERNATIVE SITE "B" LAYOUT GENERAL PLAN	MF-02
	ALTERNATIVE SITE "B" LAYOUT SITE A ACCESS - ALTERNATIVE 1 & ALTERNATIVE 2	MF-02A
	STREETCAR MAINTENANCE FACILITY FUNCTIONAL LAYOUT - GROUND FLOOR	MF-03
	STREETCAR MAINTENANCE FACILITY TYPICAL CROSS-SECTION	MF-04
	SECTION 4 URBAN DESIGN	
	SIDE LOADED PLATFORM SHELTER CONCEPT 1A	A-01
	SIDE LOADED PLATFORM SHELTER CONCEPT 1B	A-02
	SIDE LOADED PLATFORM SHELTER CONCEPT 2A	A-03
	CENTER LOADED PLATFORM SHELTER CONCEPT 1A	A-04
	CENTER LOADED PLATFORM SHELTER CONCEPT 1B	A-05
	CENTER LOADED PLATFORM SHELTER CONCEPT 2A	A-06
	SECTION 5 SYSTEMS AND TECHNOLOGY	
	TRACTION POWER SUBSTATIONS TYPICAL LAYOUT DETAIL	SY-01
	MODERN STREETCAR VEHICLE DETAIL SIEMENS S70 ULTRASHORT	SY-02
	MODERN STREETCAR VEHICLE DETAIL OREGON IRONWORKS/UNITED STREETCAR (TUCSON VEHICLE)	SY-03
	SECTION 6 DRAINAGE DESIGN	
	DRAINAGE PLAN KEY MAP - ALT 1 & ALT 2	GD-01
	DRAINAGE PLAN RAITT TO FLOWER SEGMENT - ALT1 & ALT 2	D-01
	DRAINAGE PLAN RAITT TO FLOWER SEGMENT - ALT1 & ALT 2	D-02
	DRAINAGE PLAN DOWNTOWN SEGMENT - ALT 1	D-03

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR CONCEPTUAL DESIGN DRAWINGS		
SHEET NO.	DRAWING TITLE	DRAWING NO.
	DRAINAGE PLAN DOWNTOWN SEGMENT - ALT 1	D-04
	DRAINAGE PLAN DOWNTOWN SEGMENT - ALT 1	D-05
	DRAINAGE PLAN DOWNTOWN SEGMENT - ALT 1	D-06
	DRAINAGE PLAN DOWNTOWN SEGMENT - ALT 1	D-07
	DRAINAGE PLAN DOWNTOWN SEGMENT - ALT 2	D-08
	DRAINAGE PLAN DOWNTOWN SEGMENT - ALT 2	D-09
	DRAINAGE PLAN DOWNTOWN SEGMENT - ALT 2	D-10
	DRAINAGE PLAN DOWNTOWN SEGMENT - ALT 2	D-11
	DRAINAGE PLAN DOWNTOWN SEGMENT - ALT 2	D-12
	DRAINAGE PLAN MISCELLANEOUS DRAINAGE DETAILS	D-13
	SECTION 7 UTILITY PLANS	
	EXISTING UTILITY PLANS KEY MAP - ALT 1 & ALT 2	GU-01
	PE ROW SEGMENT - ALT 1 & ALT 2 STA 80+00 to STA 117+00	U-01
	RAITT TO FLOWER SEGMENT - ALT 1 & ALT 2 STA 117+00 to STA 147+00	U-02
	RAITT TO FLOWER SEGMENT - ALT 1 & ALT 2 STA 147+00 to STA 155+00	U-03
	DOWNTOWN SEGMENT ALT-1 STA 155+00 to STA 165+00 EB	U-04
	DOWNTOWN SEGMENT ALT-1 STA 165+00 EB to STA 173+00 EB	U-05
	DOWNTOWN SEGMENT ALT-1 STA 173+00 EB to STA 182+00 EB	U-06
	DOWNTOWN SEGMENT ALT-1 STA 182+00 EB to STA 197+00 EB	U-07
	DOWNTOWN SEGMENT ALT-1 STA 197+00 EB to STA 216+85.76 EB	U-08
	DOWNTOWN SEGMENT ALT-2 STA 147+00 EB to STA 160+00 EB	U-09
	DOWNTOWN SEGMENT ALT-2 STA 160+00 EB to STA 170+00 EB	U-10
	DOWNTOWN SEGMENT ALT-2 STA 170+00 EB to STA 183+00 EB	U-11
	DOWNTOWN SEGMENT ALT-2 STA 183+00 EB to STA 200+00 EB	U-12
	DOWNTOWN SEGMENT ALT-2 STA 200+00 EB to STA 220+00 EB	U-13
	DOWNTOWN SEGMENT ALT-2 STA 220+00 EB to LOOP	U-14
	DOWNTOWN SEGMENT ALT-2 STA 154+00 WB to STA 168+00 WB	U-15
	DOWNTOWN SEGMENT ALT-2 STA 168+00 WB to STA 182+00 WB	U-16
	DOWNTOWN SEGMENT ALT-2 STA 182+00 WB to STA 198+00 WB	U-17

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SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

SHEET INDEX

DRAWING NO. G-01
SHEET NO.
SCALE NONE

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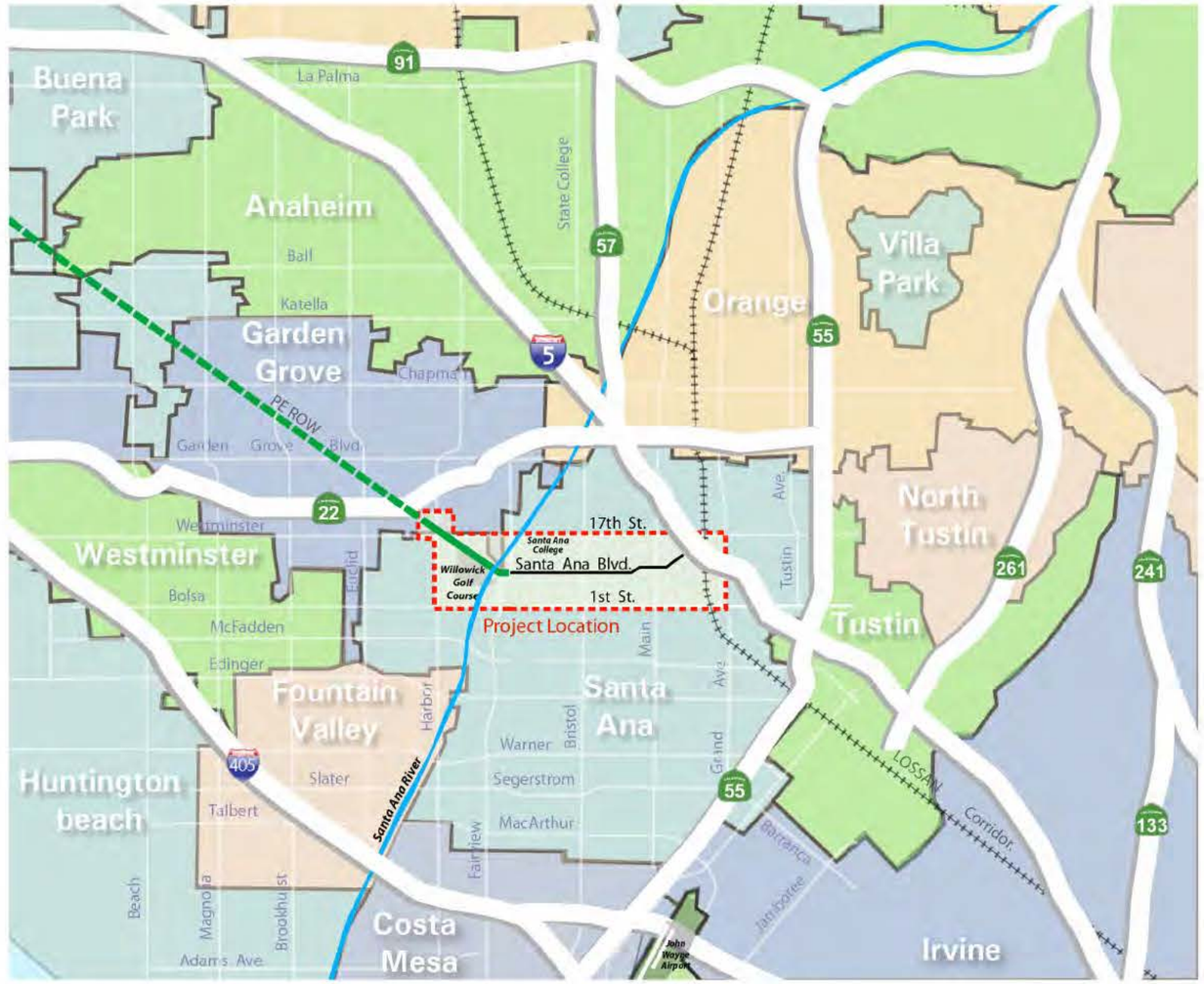

LEGEND

NORTH

- Study Area
- Metrolink/Amtrak Rail Line
- PE ROW

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SITE LOCATION MAP

DRAWING NO. G-02

SHEET NO.

SCALE NONE

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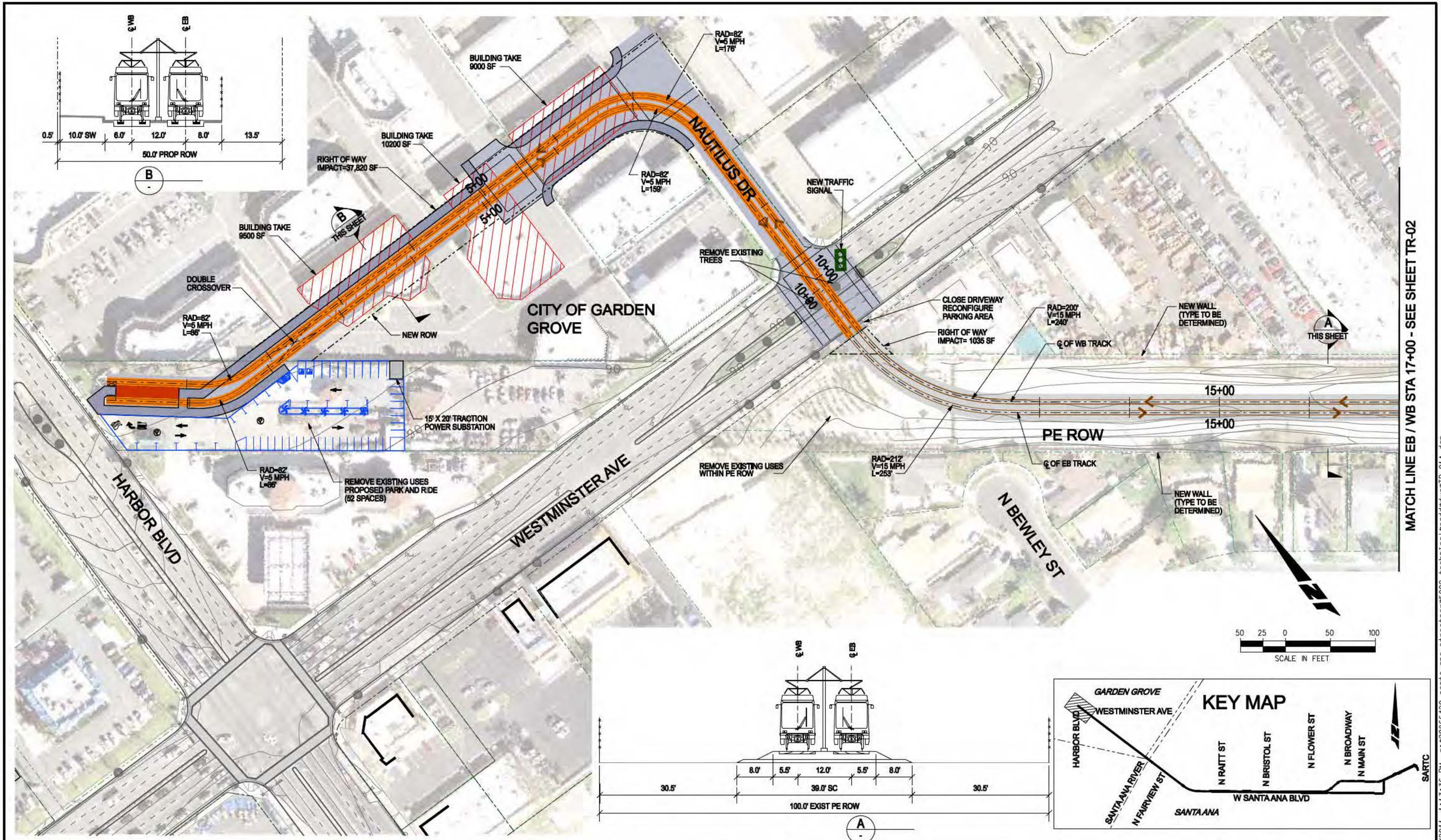
Santa Ana and Garden Grove Fixed Guideway Corridor

SECTION 1:
TRACK ALIGNMENT AND ROADWAY IMPROVEMENTS

CORDOBA CORPORATION



LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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PE ROW SEGMENT - ALT1 & ALT 2
WESTERN TERMINUS OPTION A: AT-GRADE
WESTERN TERMINUS TO STA 17+00

DRAWING NO. TR - 01A
SHEET NO.
SCALE

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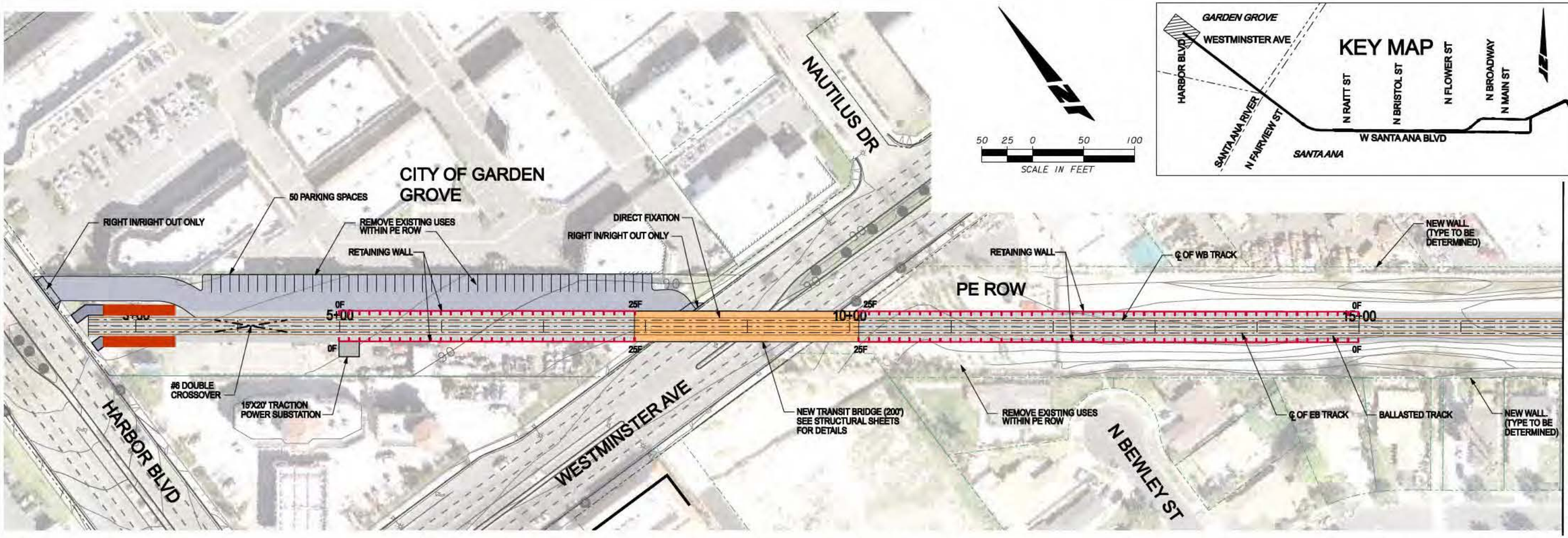
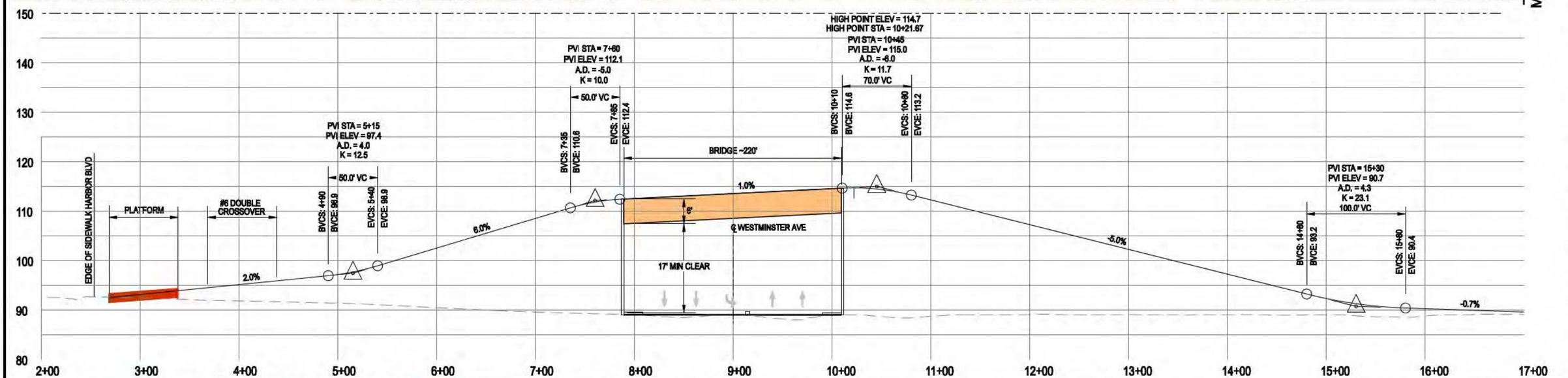


MATCH LINE EB / WB STA 17+00 - SEE SHEET TR-02



LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL	
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL	P
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL	
PARKING Ⓟ	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL	T
NEW ROW				
STRUCTURE				

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PE ROW SEGMENT - ALT1 & ALT2
WESTERN TERMINUS OPTION B: ELEVATED
WESTERN TERMINUS TO STA 17-00

DRAWING NO. TR-01B
SHEET NO. OF 28
SCALE

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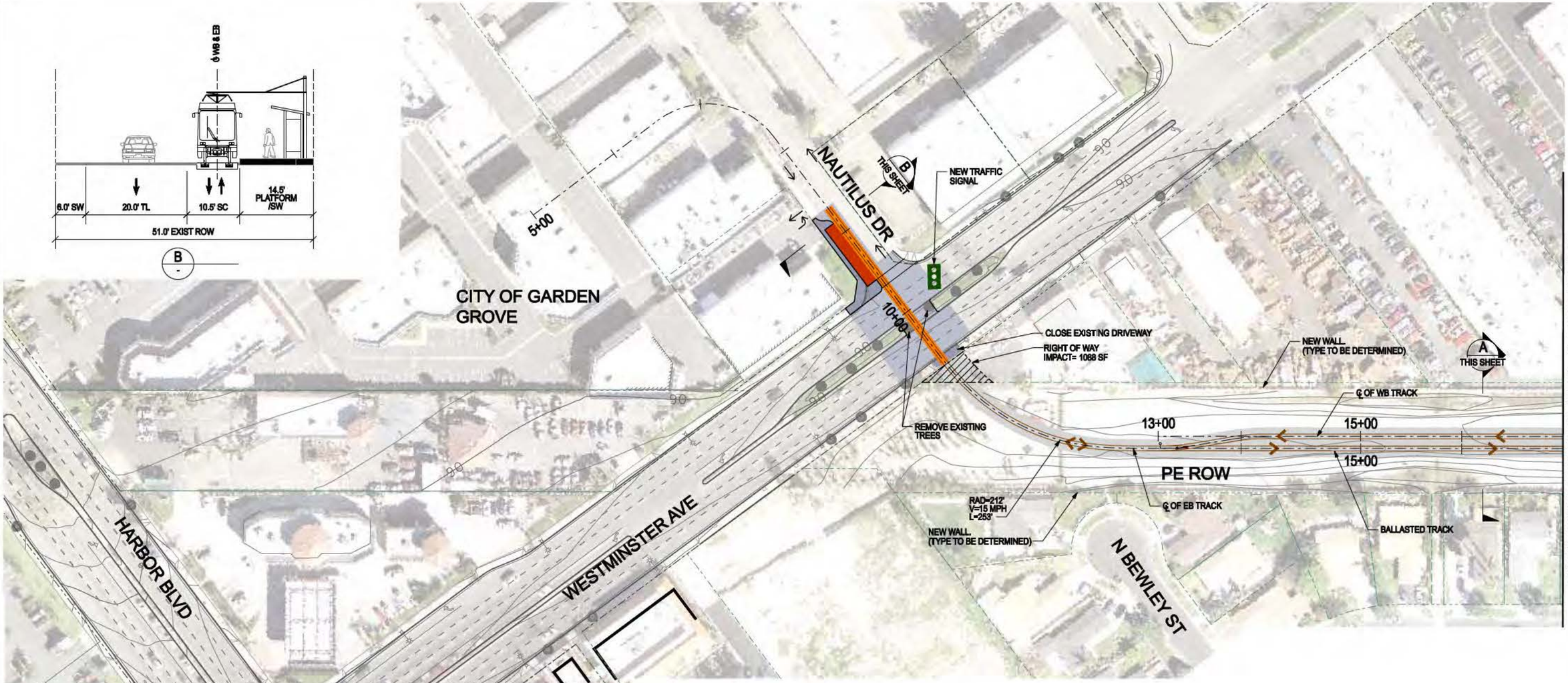

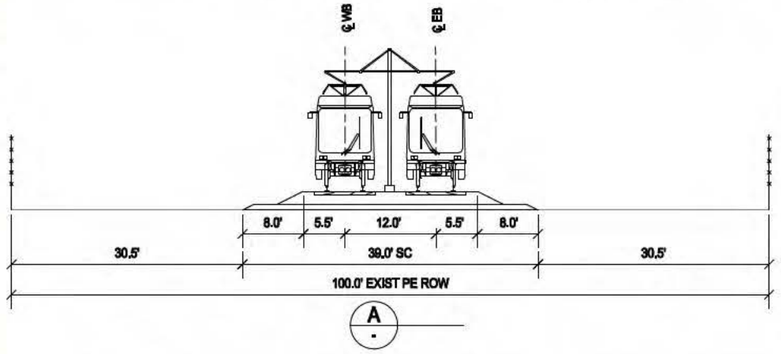

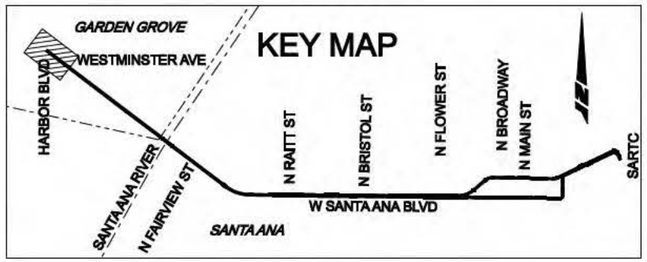

LEGEND

- DIRECTION OF TRAFFIC
- PLATFORM
- GATE
- PARKING
- NEW ROW
- STRUCTURE
- BUILDING-REMOVAL
- WORK LIMITS - ASPHALT
- WORK LIMITS - CONCRETE
- WORK LIMITS - BALLAST
- EASTBOUND EMBEDDED TRACK
- WESTBOUND EMBEDDED TRACK
- EASTBOUND BALLASTED TRACK
- WESTBOUND BALLASTED TRACK
- EXISTING SIGNAL
- EXISTING PED SIGNAL
- NEW SIGNAL
- ADD TRANSIT ONLY SIGNAL

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PE ROW SEGMENT - ALT1 & ALT 2
WESTERN TERMINUS OPTION C: TRUNCATED AT-GRADE WESTERN TERMINUS TO STA 17-00

DRAWING NO. TR - 01C
SHEET NO.
SCALE

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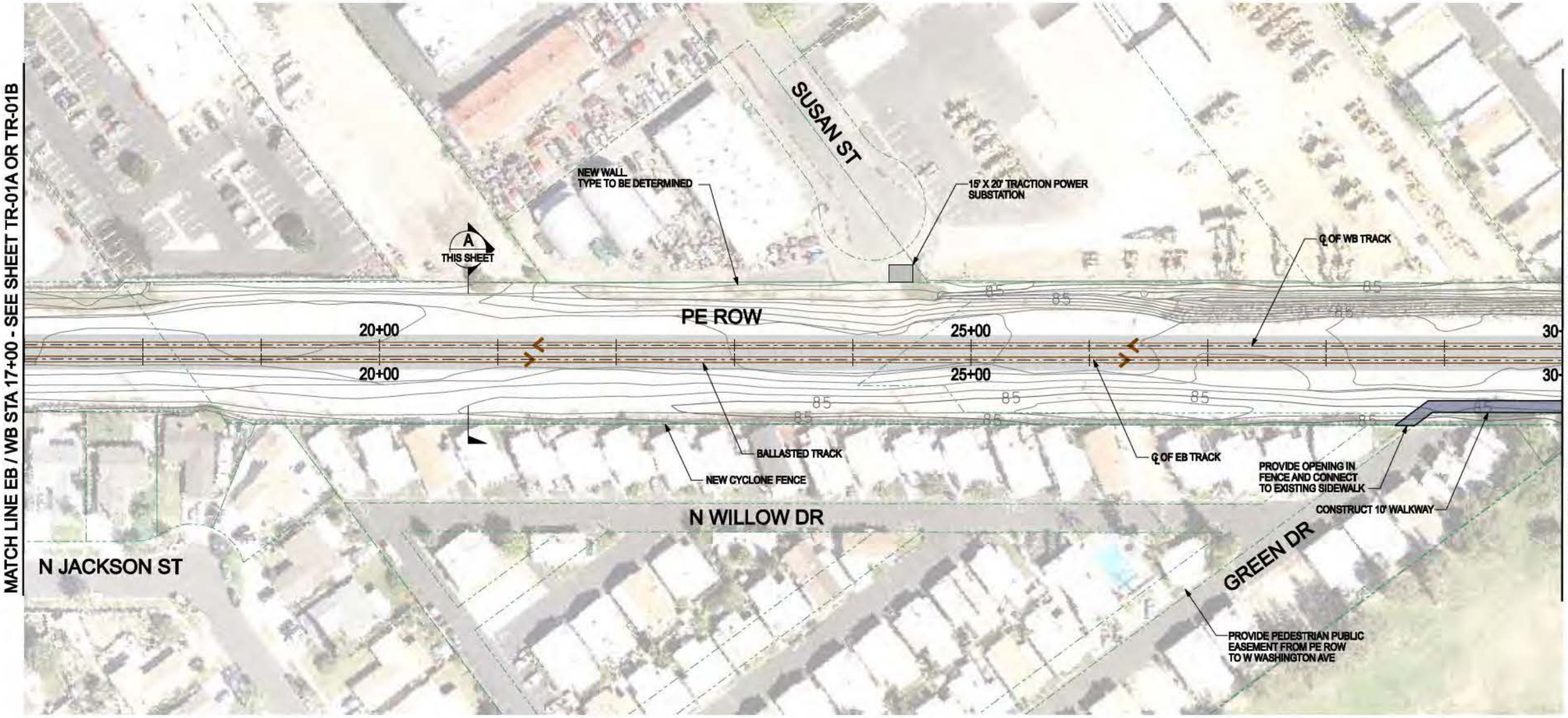

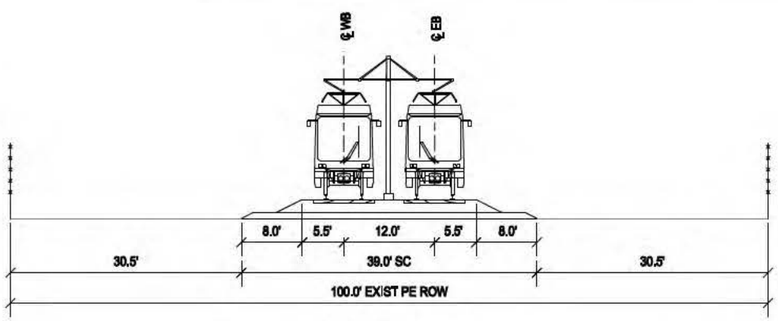

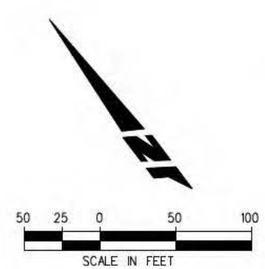

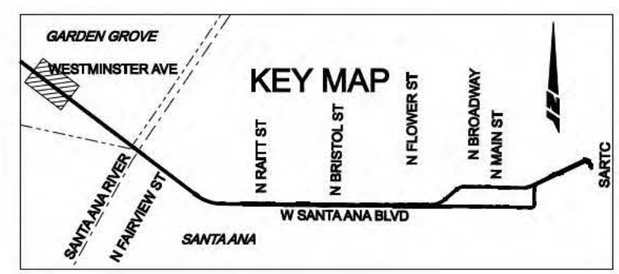

LEGEND

- DIRECTION OF TRAFFIC
- PLATFORM
- GATE
- PARKING
- NEW ROW
- STRUCTURE
- BUILDING-REMOVAL
- WORK LIMITS - ASPHALT
- WORK LIMITS - CONCRETE
- WORK LIMITS - BALLAST
- EASTBOUND EMBEDDED TRACK
- WESTBOUND EMBEDDED TRACK
- EASTBOUND BALLASTED TRACK
- WESTBOUND BALLASTED TRACK
- EXISTING SIGNAL
- EXISTING PED SIGNAL
- NEW SIGNAL
- ADD TRANSIT ONLY SIGNAL

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TRACK ALIGNMENT AND RDWY IMPROVEMENTS PE ROW SEGMENT - ALT1 & ALT2 STA 17+00 TO 30+00

DRAWING NO. TR - 02

SHEET NO.

SCALE

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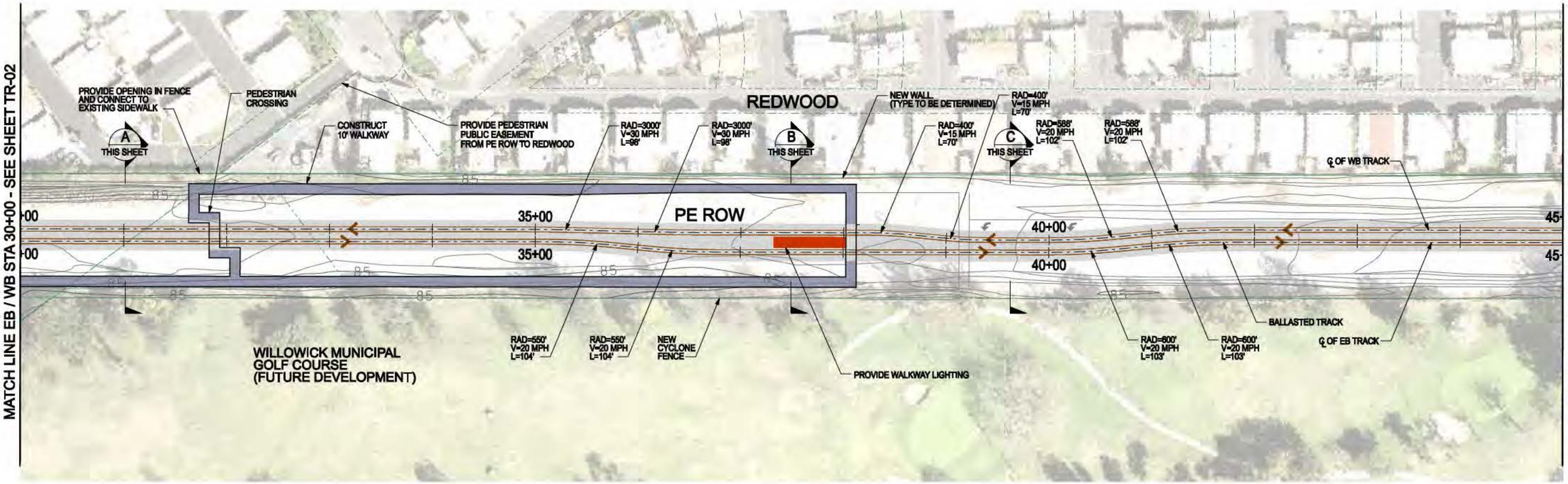

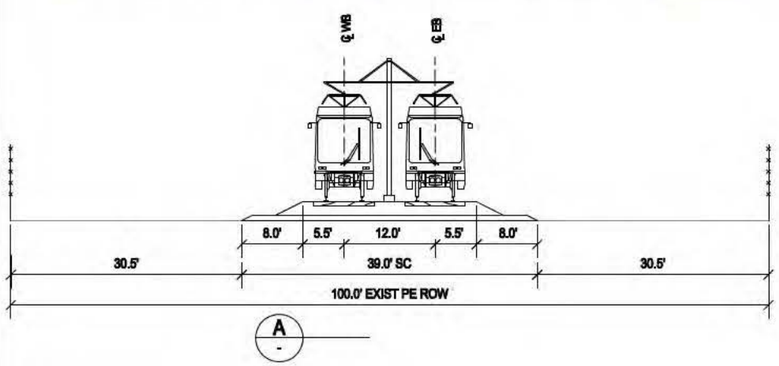

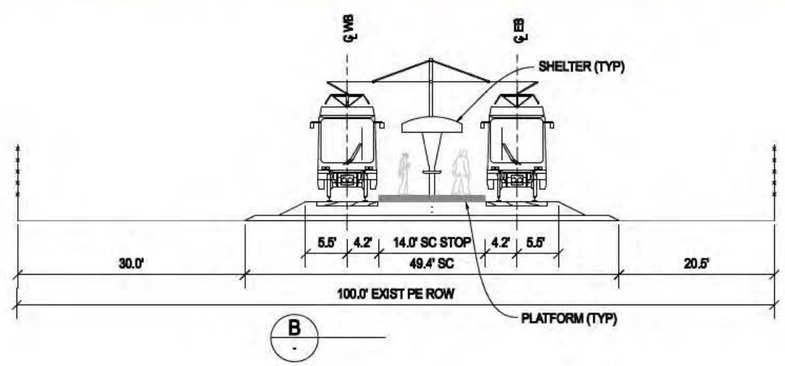

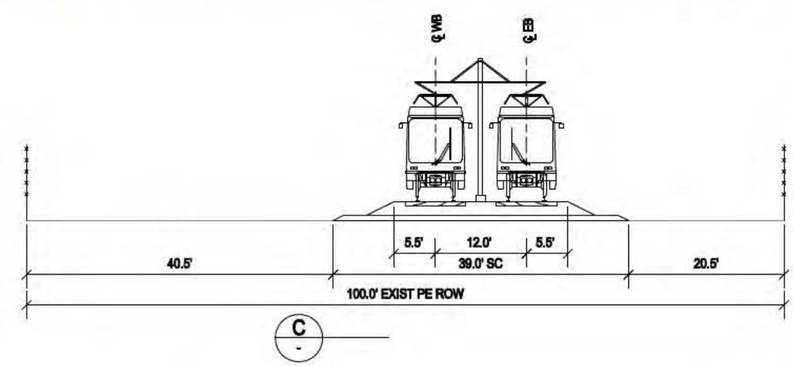

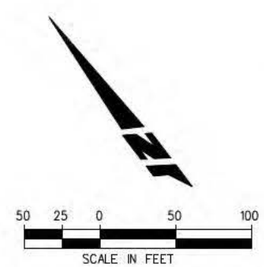

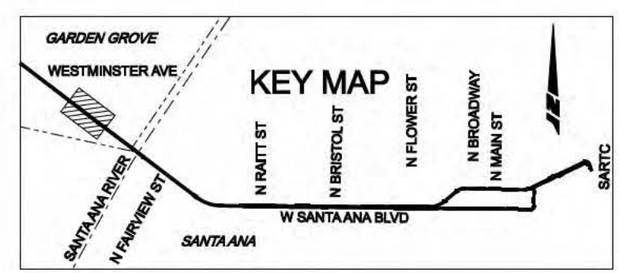

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING (P)	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

CORDOBA CORPORATION
2677 NORTH MAIN STREET, SUITE 240
SANTA ANA, CA 92705
714.558.6624 PH - 714.558.8467 FAX

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OCTA

Santa Ana Education 1st

GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS PE ROW SEGMENT - ALT1 & ALT2 STA 30+00 TO 45+00

DRAWING NO. TR-03

SHEET NO.

SCALE

Plot Driver= SA-StreetCar.plt
Pentable= PDX_Exh_SA-StreetCar.tbl
USER=Jiming_Huang 9/17/2011 1:18:02 PM o:\29866420 santa ana streetcar\5000 technical\cadd\dwg\TR-03.dgn

MATCH LINE EB / WB STA 45+00 - SEE SHEET TR-03

MATCH LINE EB / WB STA 59+20 - SEE SHEET TR-05

REDWOOD

PE ROW

WILLOWICK MUNICIPAL GOLF COURSE (FUTURE DEVELOPMENT)

SANTA ANA RIVER

SANTA ANA RIVER TRAIL

EXISTING PROPERTY ENCROACHES INTO PE ROW. REMOVE TREE AND FENCING IF IN DIRECT CONFLICT WITH STREETCAR

NEW WALL. (TYPE TO BE DETERMINED)

RAD=5012' L=22'

GRADING LIMITS

PROTECT MAINTENANCE ROAD IN PLACE

REMOVE EXISTING BRIDGE

15'X20' TRACTION POWER SUBSTATION (NEW ROW 500 SF)

RAD=4988' L=20'

AT GRADE CROSSING EMERGENCY VEHICLE ONLY

℄ OF WB TRACK

A THIS SHEET

50+00

55+00

℄ OF EB TRACK

BALLASTED TRACK

NEW CYCLONE FENCE

RAD=5000' L=20'

AT GRADE CROSSING EMERGENCY VEHICLE ONLY

NEW TRANSIT STRUCTURE (360') SEE STRUCTURAL PLANS FOR DETAILS

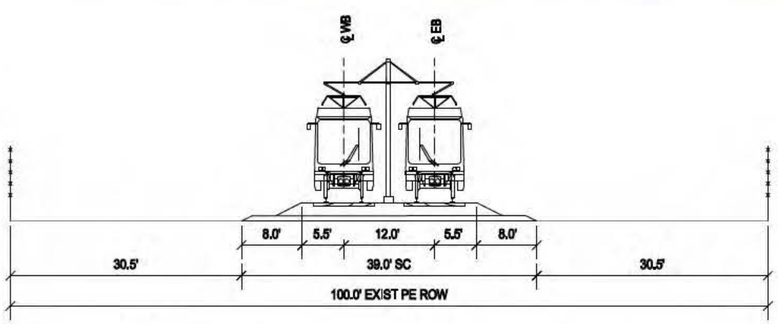
DIRECT FIXATION TRACK

PROTECT BIKEPATH IN PLACE

RAD=5000' L=20'

GRADING LIMITS

BALLASTED TRACK



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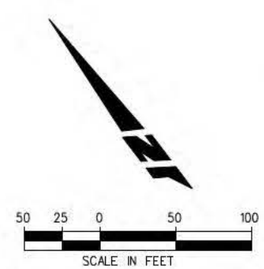

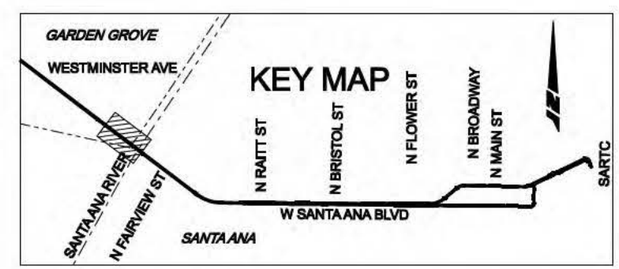

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

CORDOBA CORPORATION
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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

PE ROW SEGMENT - ALT1 & ALT 2

BRIDGE OPTIONS 1 & 3: NEW BRIDGE

RIVER BRIDGE AT STA 45+00 TO STA 59-20

DRAWING NO. TR - 04A

SHEET NO.

SCALE

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MATCH LINE EB / WB STA 45+00 - SEE SHEET TR-03

REDWOOD

NEW WALL (TYPE TO BE DETERMINED)

RAD=1500' L=26'

RAD=1500' L=33'

GRADING LIMITS (6' FILL MAX)

℄ OF WB TRACK

A THIS SHEET

B THIS SHEET

SANTA ANA RIVER

EXISTING BRIDGE TO REMAIN

SANTA ANA RIVER TRAIL

15'X20' TRACTION POWER SUBSTATION (NEW ROW 500 SF)

RAD=1500' L=30'

RAD=1500' L=36'

BALLASTED TRACK

PE ROW

50+00

55+00

℄ OF EB TRACK

RAD=1500' L=150'

BALLASTED TRACK

RAD=1500' L=144'

AT GRADE CROSSING EMERGENCY VEHICLE ONLY

NEW CYCLONE FENCE

WILLOWICK MUNICIPAL GOLF COURSE (FUTURE DEVELOPMENT)

NEW TRANSIT STRUCTURE (388') PARALLEL TO EXISTING STRUCTURE

DIRECT FIXATION TRACK

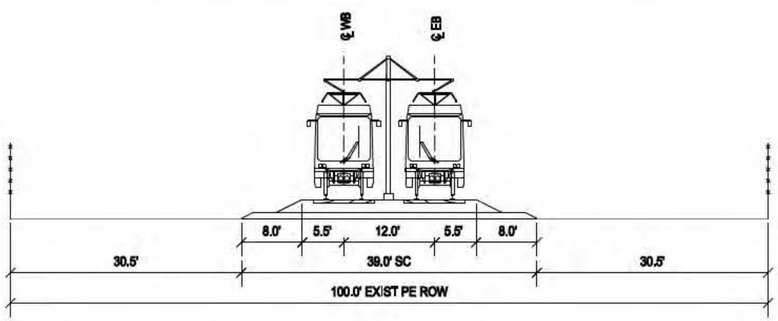
RAD=1500' L=153'

GRADING LIMITS (6' FILL MAX)

AT GRADE CROSSING EMERGENCY VEHICLE ONLY

RAD=1500' L=147'

MATCH LINE EB / WB STA 59+20 - SEE SHEET TR-05
= "OPTION B" EB STA 59+21.60
= "OPTION B" WB STA 59+20.12



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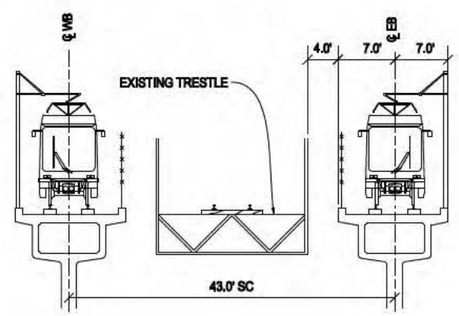

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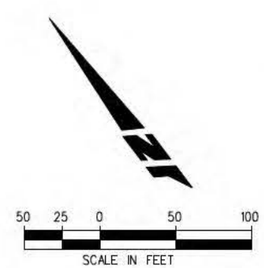

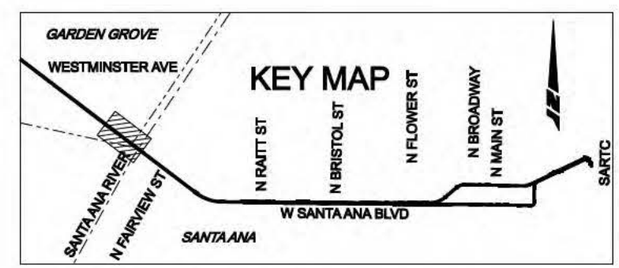

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

CORDOBA CORPORATION
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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

PE ROW SEGMENT - ALT1 & ALT 2
BRIDGE OPTION 2: BRIDGE AVOIDANCE - A
RIVER BRIDGE AT STA 45+00 TO STA 59+20

DRAWING NO. TR - 04B
SHEET NO.
SCALE

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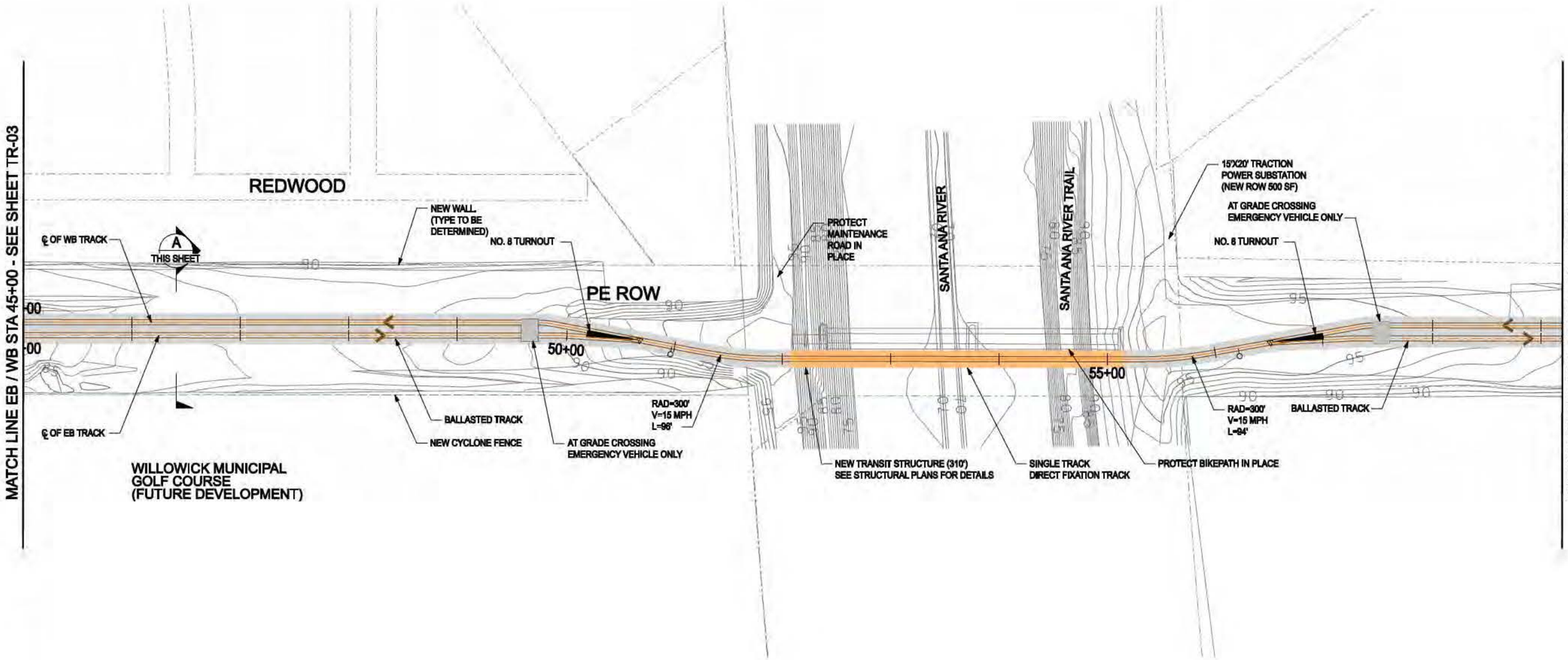

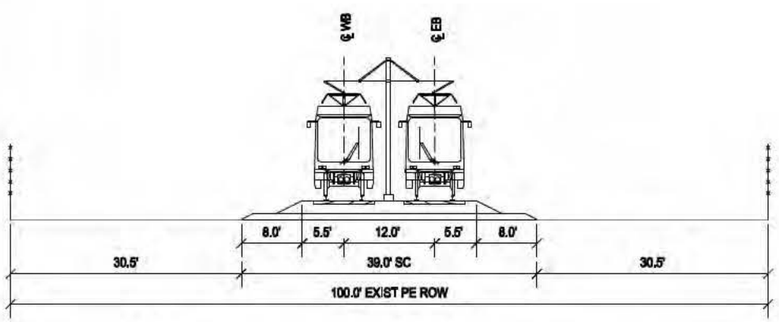

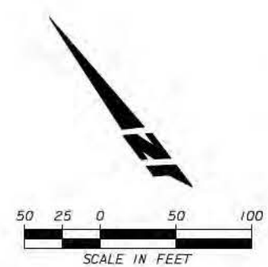

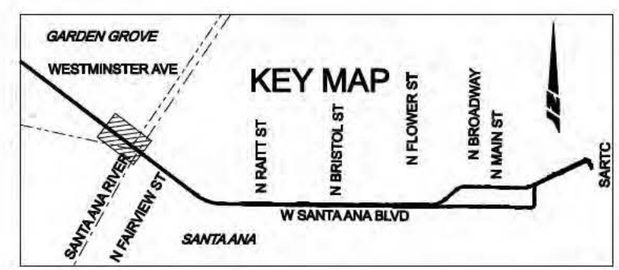

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

PE ROW SEGMENT - ALT1 & ALT 2
BRIDGE OPTION 4: BRIDGE AVOIDANCE - B
STA 45+00 TO 59+20

DRAWING NO. TR-04D
SHEET NO. OF 28
SCALE

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MATCH LINE EB / WB STA 59+20 - SEE SHEET TR-04

MATCH LINE EB / WB STA 73+00 - SEE SHEET TR-06

SANTA ANA UNIFIED SCHOOL DISTRICT

SPURGEON INTERMEDIATE SCHOOL

N FAIRVIEW ST

W 7TH ST

PE ROW

SEE DRAWING TR-05B FOR IMPROVEMENTS NEAR CIVIC CENTER DR.

REMOVE EXISTING USES WITHIN PE ROW

THIS SHEET

GATED CROSSING (TRAFFIC AND PEDESTRIAN)

WESTBOUND PALTFORM (70')

RAD=498' L=60'

CROSSING PANELS

PEDESTRIAN GATE

RAD=501.2' L=52'

60+00

65+00

70+00

RAD=600' L=44'

EASTBOUND PALTFORM (70')

BALLASTED TRACK

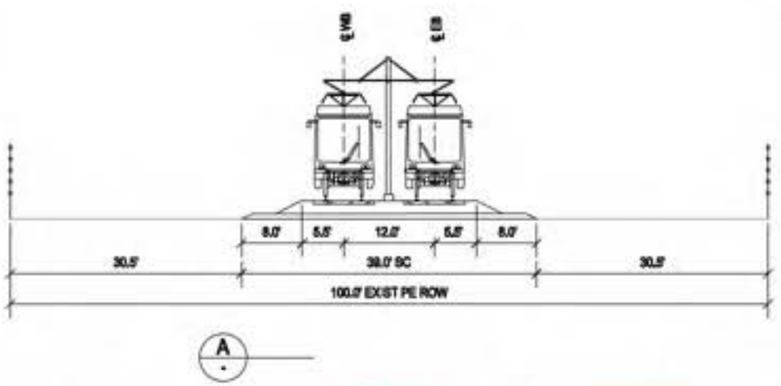
℄ OF WB TRACK

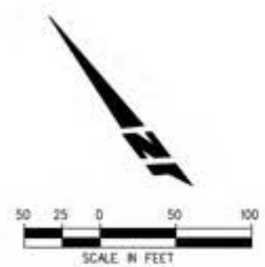
℄ OF EB TRACK

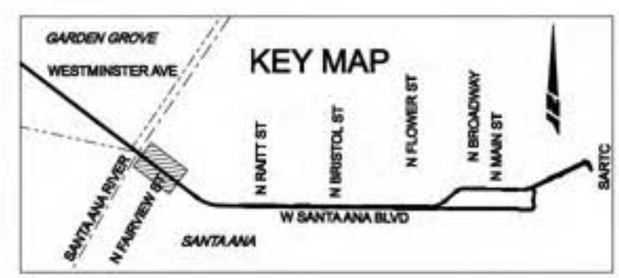
GATED CROSSING (TRAFFIC AND PEDESTRIAN)

LENGTHEN EXISTING LEFT TURN POCKET

REMOVE TREES







LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

CORDOBA CORPORATION
2677 NORTH MAIN STREET, SUITE 240
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TK.558.8484 PH · TK.558.8467 FAX

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS PE ROW SEGMENT - ALT1 & ALT2 STA 59+20 TO 73+00

DRAWING NO. TR - 05A

SHEET NO.

SCALE

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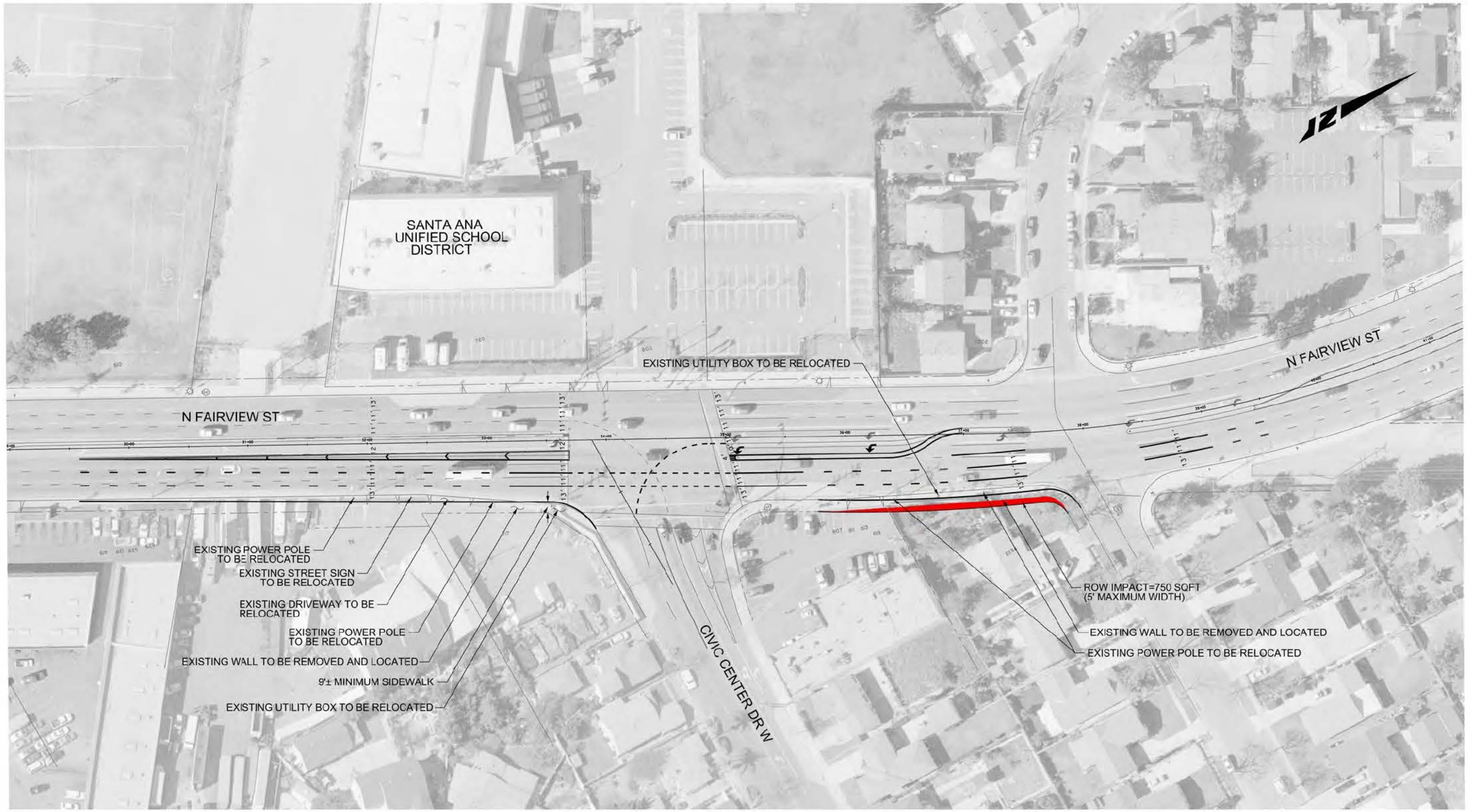

LEGEND

RIGHT OF WAY IMPACT
EXISTING RIGHT OF WAY
PROPOSED RIGHT OF WAY

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

FAIRVIEW ST AND CIVIC CENTER DR INTERSECTION IMPROVEMENTS

DRAWING NO. TR-05B
SHEET NO. OF
SCALE 1"=40'

USER=cad8 3/15/2012 5:10:40 PM Z:\ENG\Santa_Ana_Fixed_Guideway\CADD\Exhibits_Fairview St - Civic Center Rd.dgn
Plot Driver=SA-StreetCar.pltcfg Pentable=SA-STREETCAR.TBL

MATCH LINE EB / WB STA 88+00 - SEE SHEET TR-07

MATCH LINE EB / WB STA 73+00 - SEE SHEET TR-05

W 6TH ST

N HAWLEY ST

W 5TH ST

REMOVE EXISTING USES WITHIN PE ROW

RAD=1438'
V=40 MPH
L=1068'

85+00

85+00

PE ROW

RAISED MEDIAN

WARNING DEVICE

GATED CROSSING (TRAFFIC AND PEDESTRIAN)

℄ OF WB TRACK

REMOVE EXISTING USES WITHIN PE ROW

A
THIS SHEET

CROSSING PANELS

PEDESTRIAN GATE

80+00

80+00

75+00

75+00

RAD=1450'
V=40 MPH
L=1076'

BALLASTED TRACK

PEDESTRIAN GATE

CLOSE DRIVEWAY

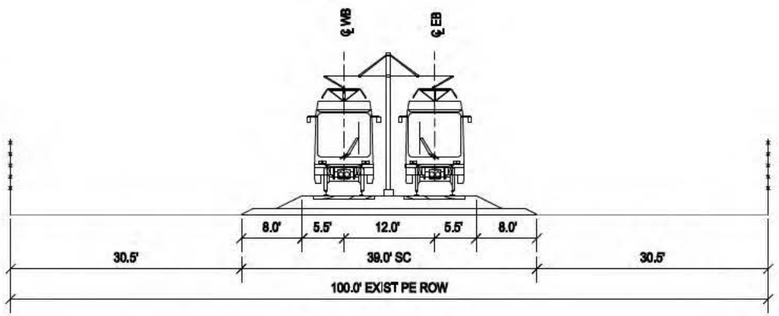
℄ OF EB TRACK

W 5TH ST

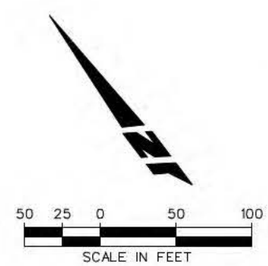
WARNING DEVICE

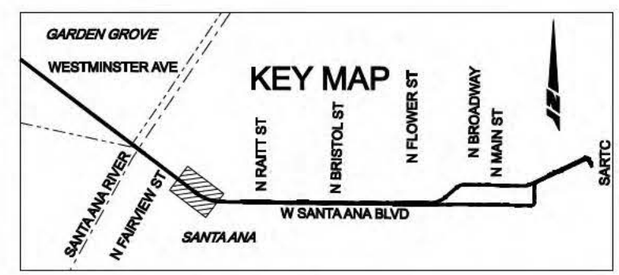
REMOVE EXISTING USES WITHIN PE ROW

RAISED MEDIAN



A
-





LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS PE ROW SEGMENT - ALT1 & ALT2 STA 73+00 TO 88+00

DRAWING NO. TR-06

SHEET NO.

SCALE

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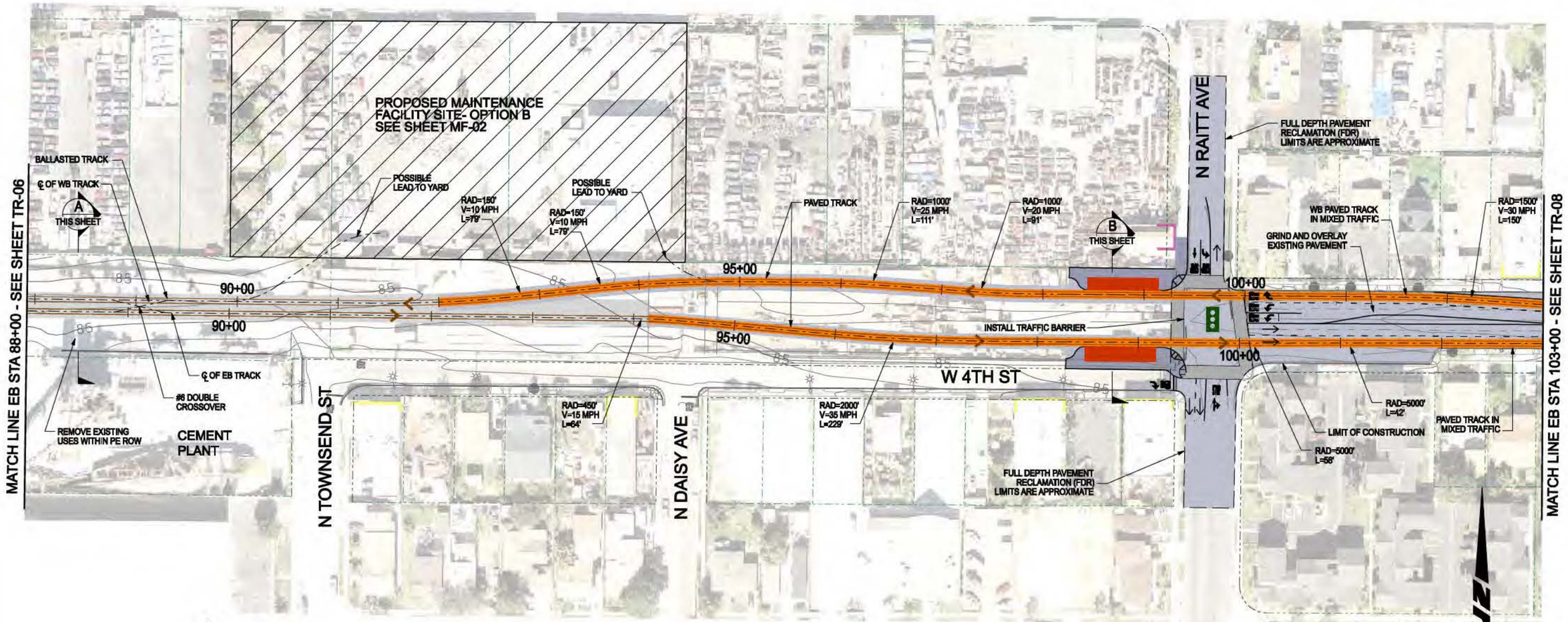
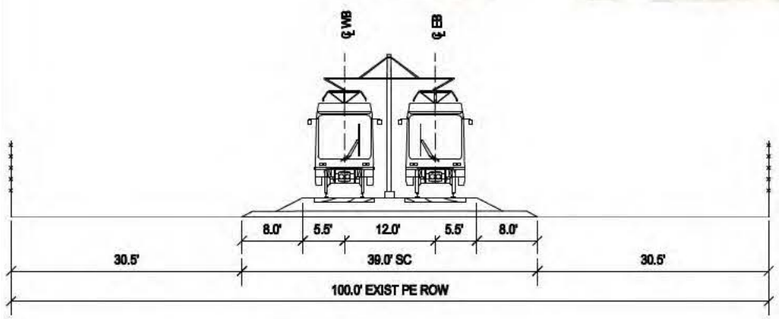
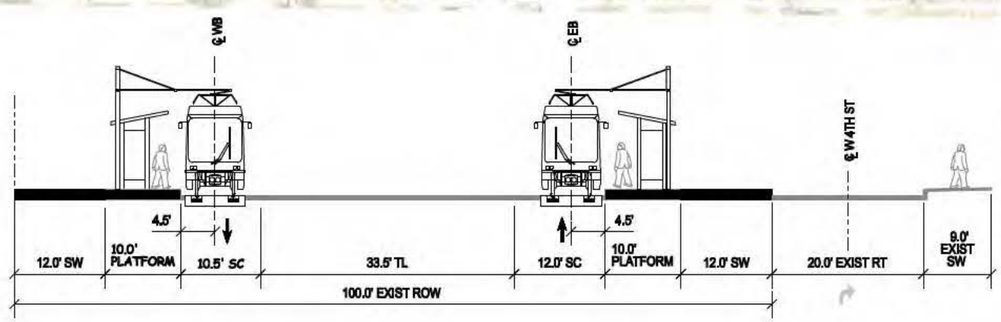
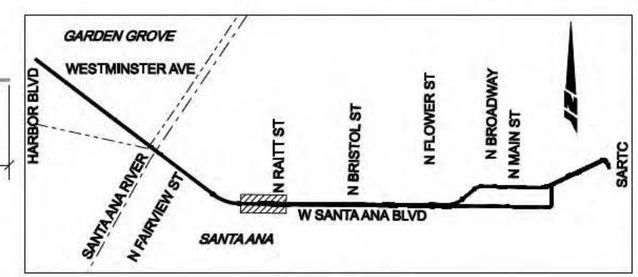
Pentable= PDX_Exh_SA-StreetCar.tbl









KEY MAP

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

RAITT TO FLOWER SEGMENT - ALT1 & ALT 2
FULL ALIGNMENT IN VICINITY OF RAITT STATION
STA 88+00 TO STA 103+20

DRAWING NO. TR - 07
SHEET NO.
SCALE

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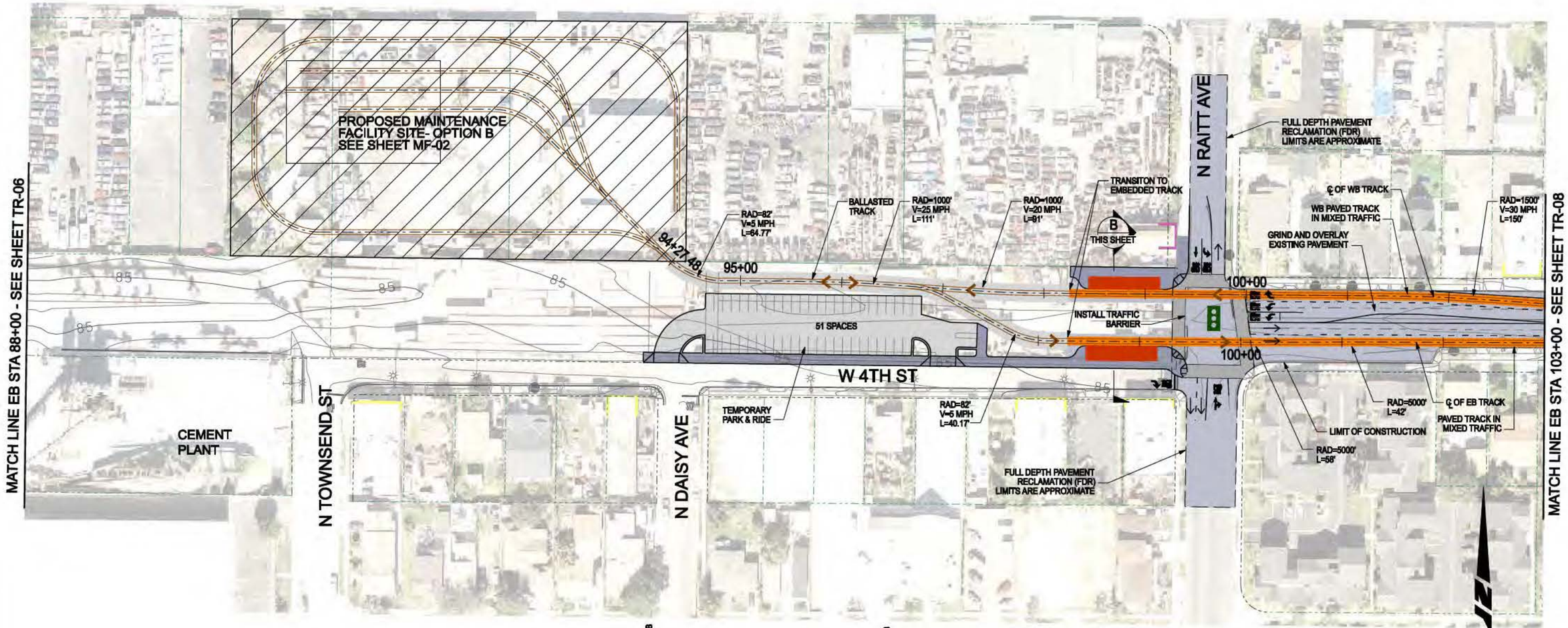

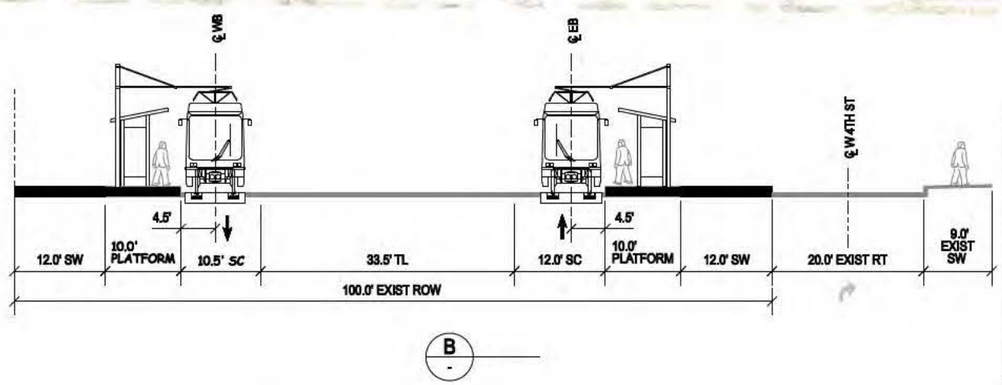

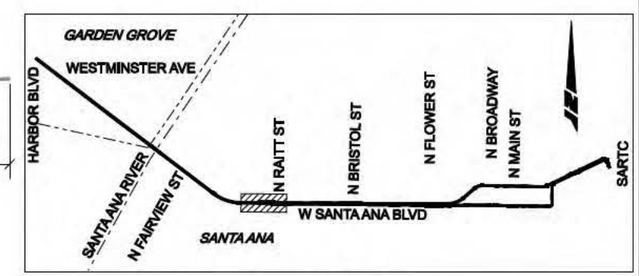

KEY MAP

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

CORDOBA CORPORATION
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Santa Ana Education 1st

GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

RAITT TO FLOWER - IOS 1 & IOS 2
WITH O&M FACILITY AT SITE B
STA 94+27.48 TO 103+00

DRAWING NO. TR - 07A-IOS
SHEET NO.
SCALE

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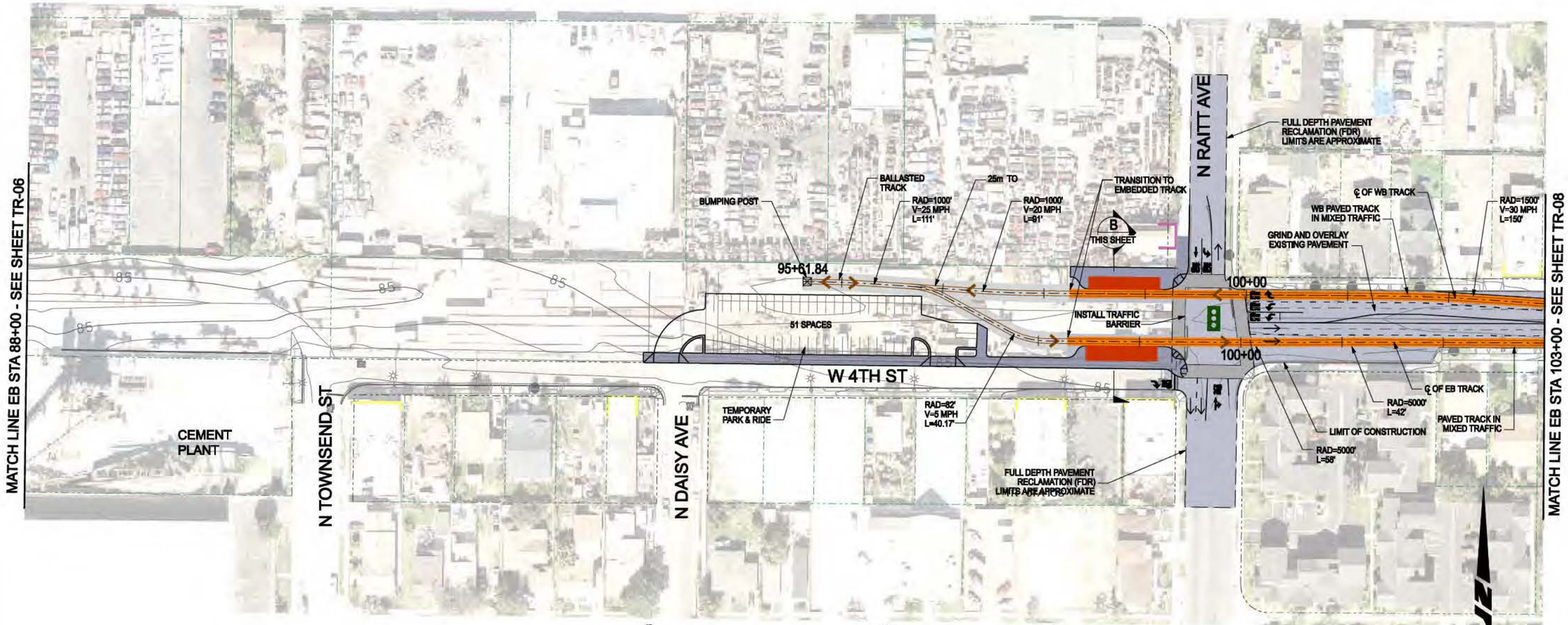

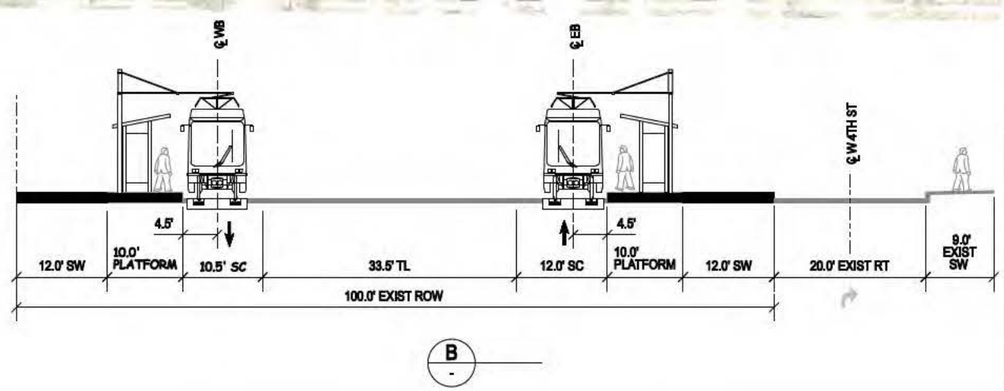

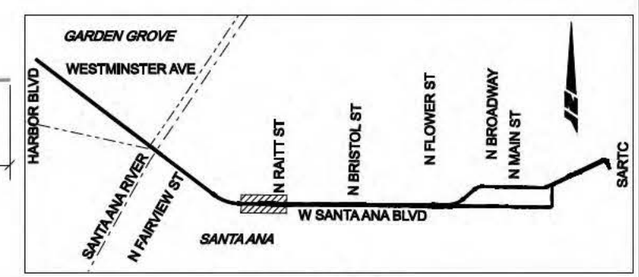

KEY MAP

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

CORDOBA CORPORATION
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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

RAITT TO FLOWER - IOS 1 & IOS 2
WITH O&M FACILITY AT SITE A
STA 95+61.84 TO 103+00

DRAWING NO. TR - 07B-IOS
SHEET NO.
SCALE

USER=yiming_Huang 12/13/2011 11:26:06 AM D:\#29866420 Santa Ana Streetcar\5000 Technical\CADD\dwg\TR-07 IOS-2.dgn
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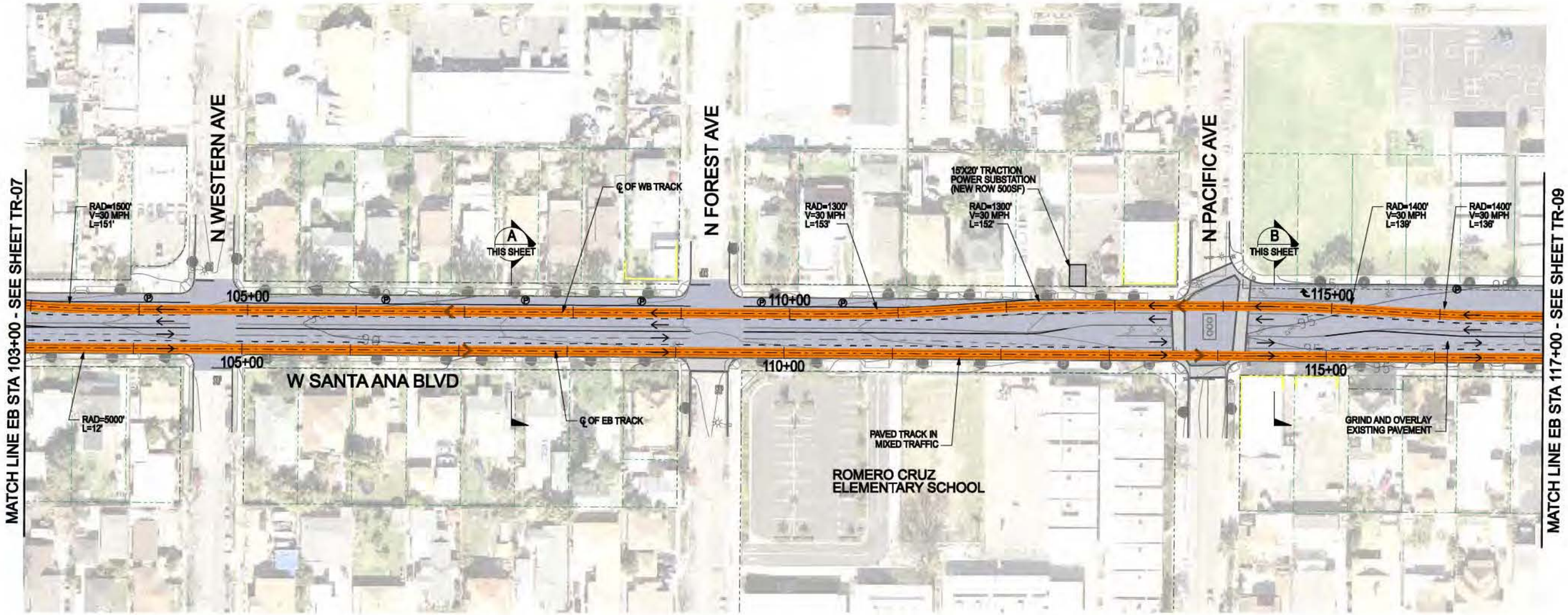

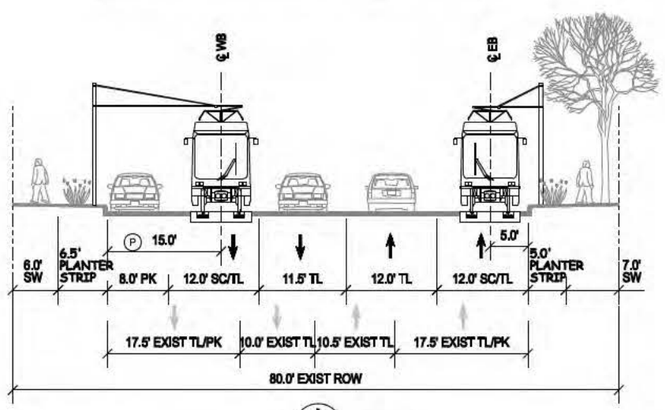

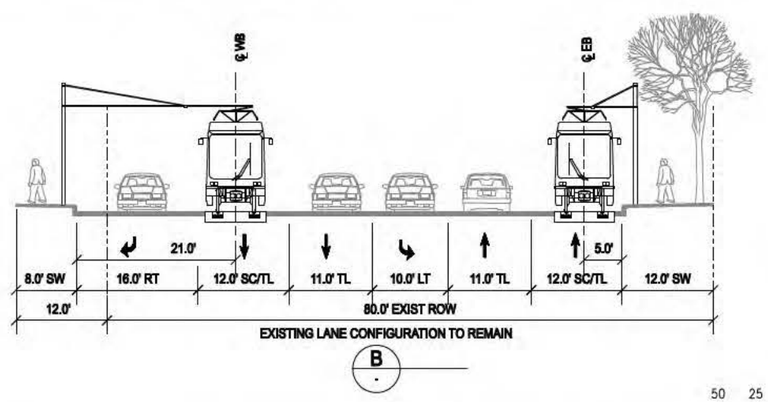

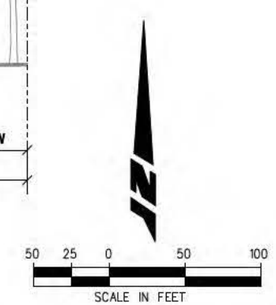

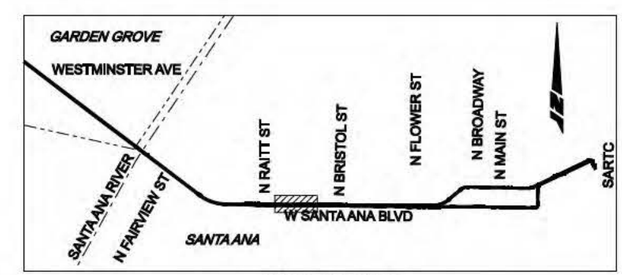

KEY MAP

LEGEND

- DIRECTION OF TRAFFIC
- PLATFORM
- GATE
- PARKING
- NEW ROW
- STRUCTURE
- BUILDING-REMOVAL
- WORK LIMITS - ASPHALT
- WORK LIMITS - CONCRETE
- WORK LIMITS - BALLAST
- EASTBOUND EMBEDDED TRACK
- WESTBOUND EMBEDDED TRACK
- EASTBOUND BALLASTED TRACK
- WESTBOUND BALLASTED TRACK
- EXISTING SIGNAL
- EXISTING PED SIGNAL
- NEW SIGNAL
- ADD TRANSIT ONLY SIGNAL

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS RAITT TO FLOWER SEGMENT - ALT1 & ALT2 STA 103+00 TO 117+00

DRAWING NO. TR - 08

SHEET NO.

SCALE

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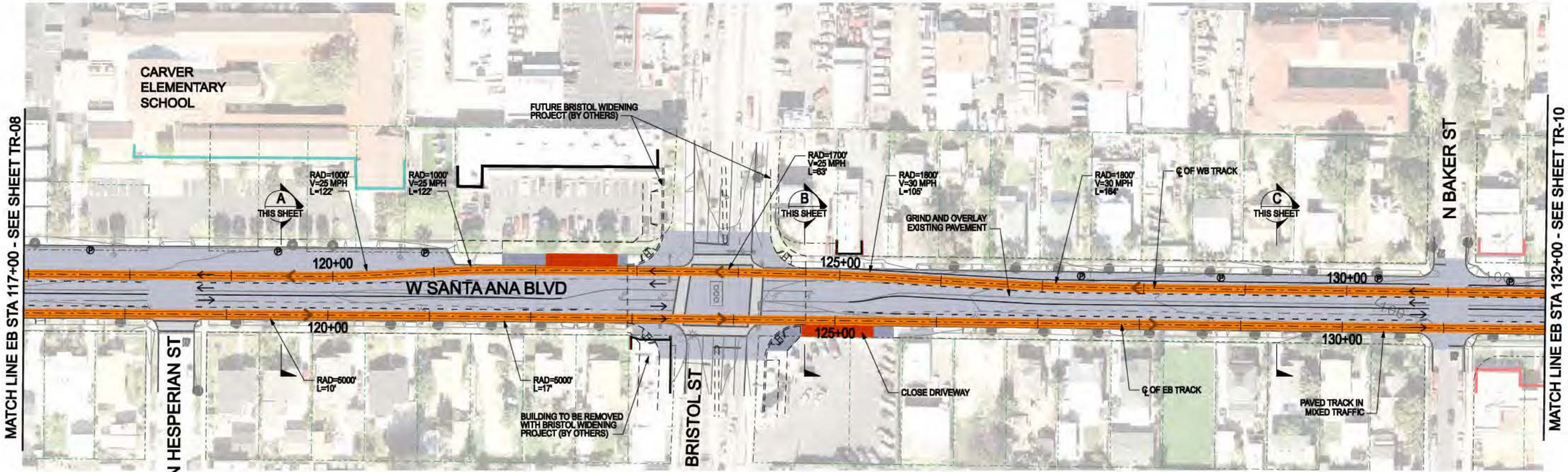
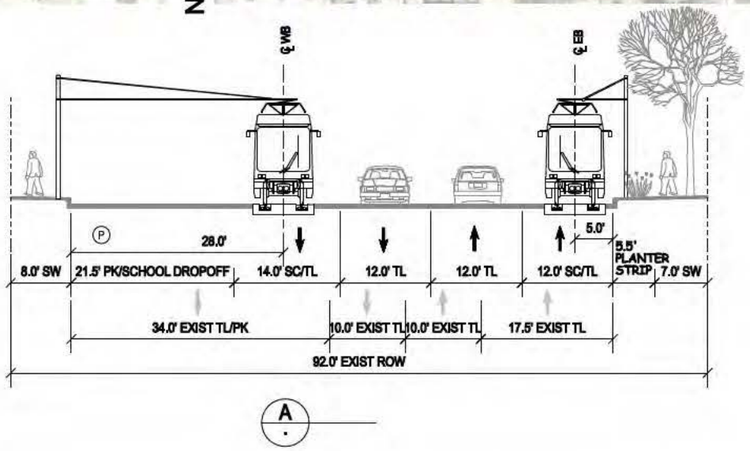
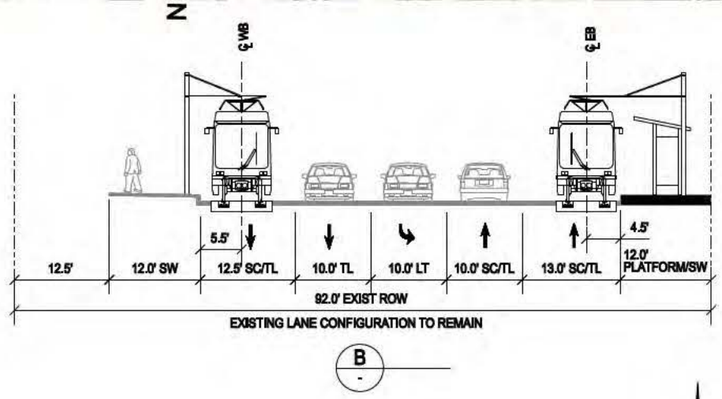
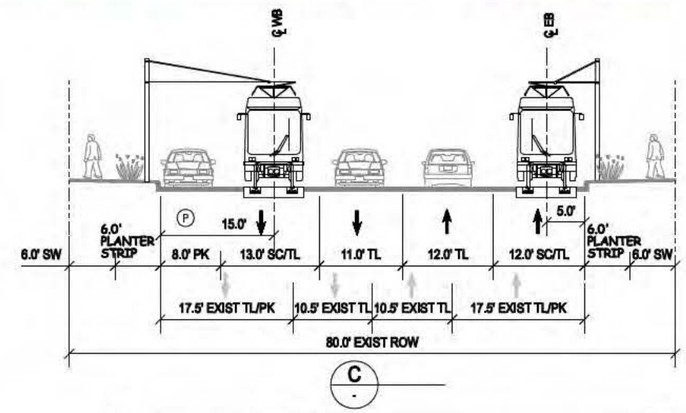
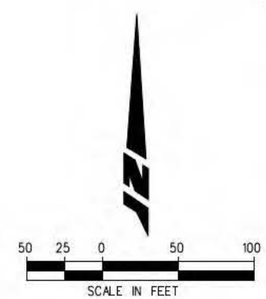
Pentable= PDX_Exh_SA-StreetCar.tbl

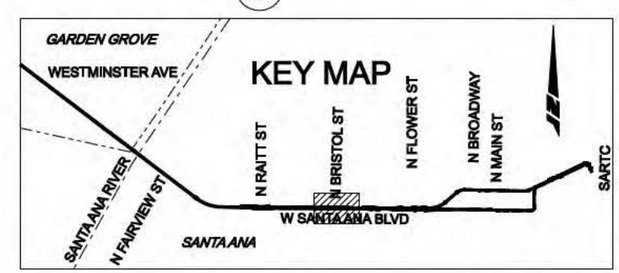












LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS RAITT TO FLOWER SEGMENT - ALT1 & ALT2 STA 117+00 TO 132+00

DRAWING NO. TR - 09

SHEET NO.

SCALE

USER=Jiming.Huang 9/27/2011 4:14:32 PM o:\29866420 santa ana streetcar\5000 technical\cadd\dwg\TR-09.dgn

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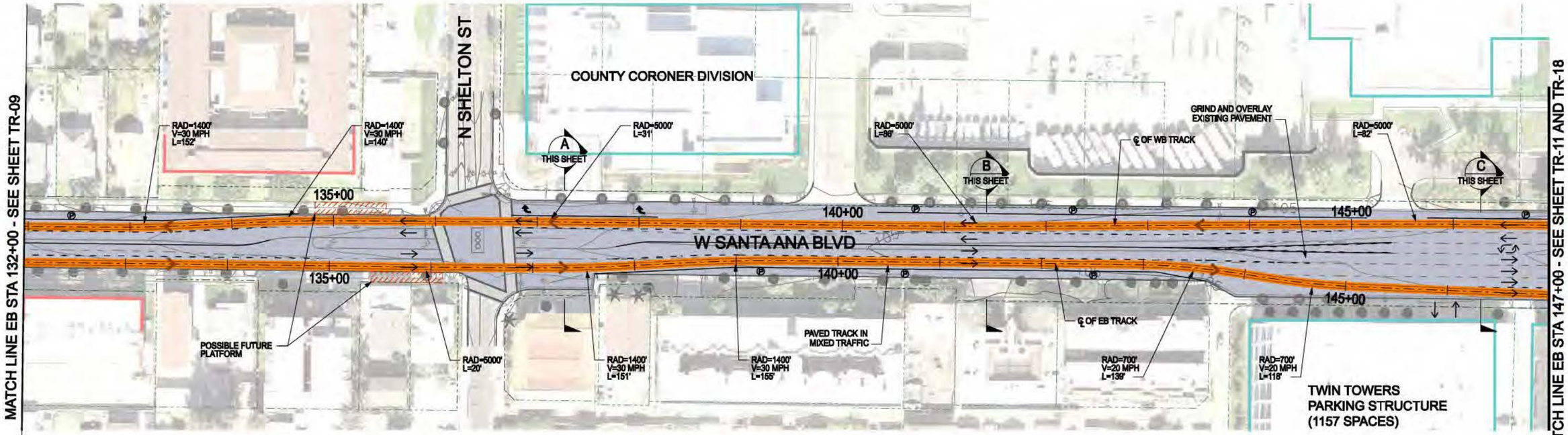
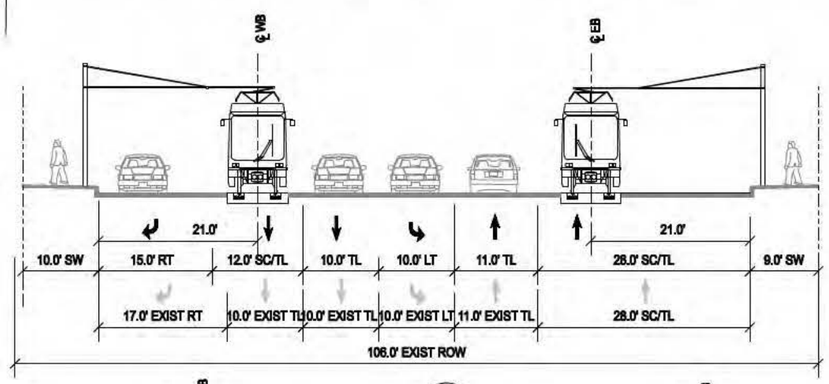
Pentable= PDX_Exh_SA-StreetCar.tbl





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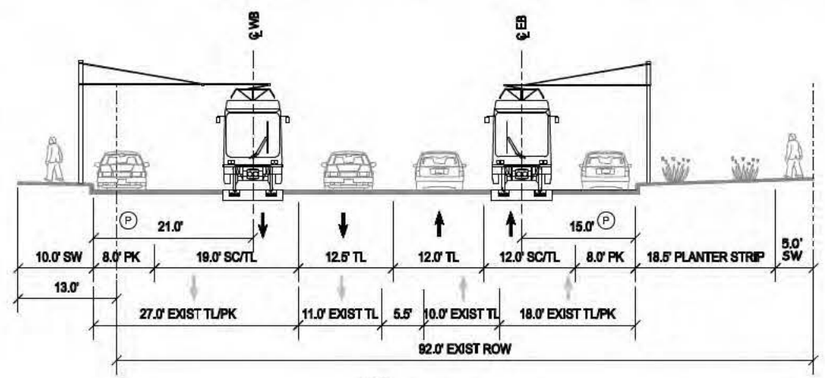

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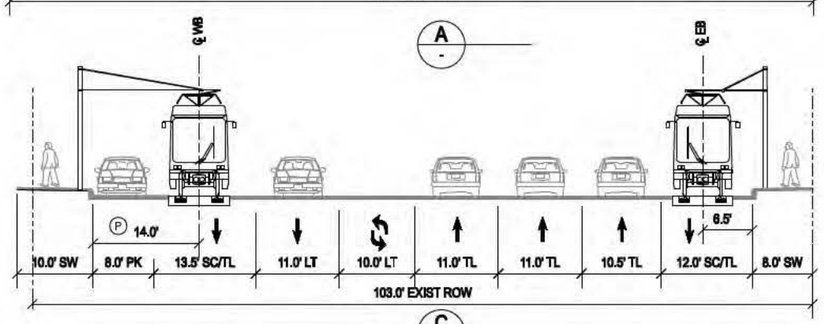

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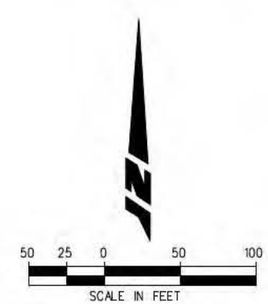

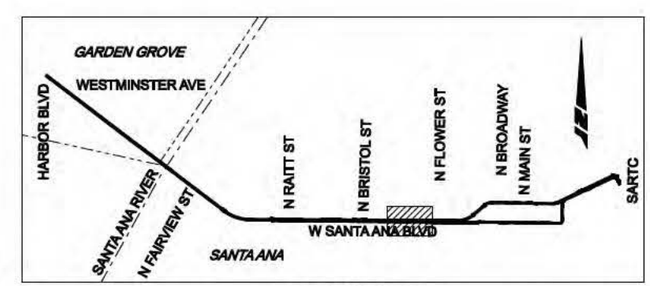

KEY MAP

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS RAITT TO FLOWER SEGMENT - ALT1 & ALT2 STA 132+00 TO 147+00

DRAWING NO. TR - 10
SHEET NO.
SCALE

Plot Driver= SA-StreetCar.plt
Pentable= PDX_Exh_SA-StreetCar.tbl

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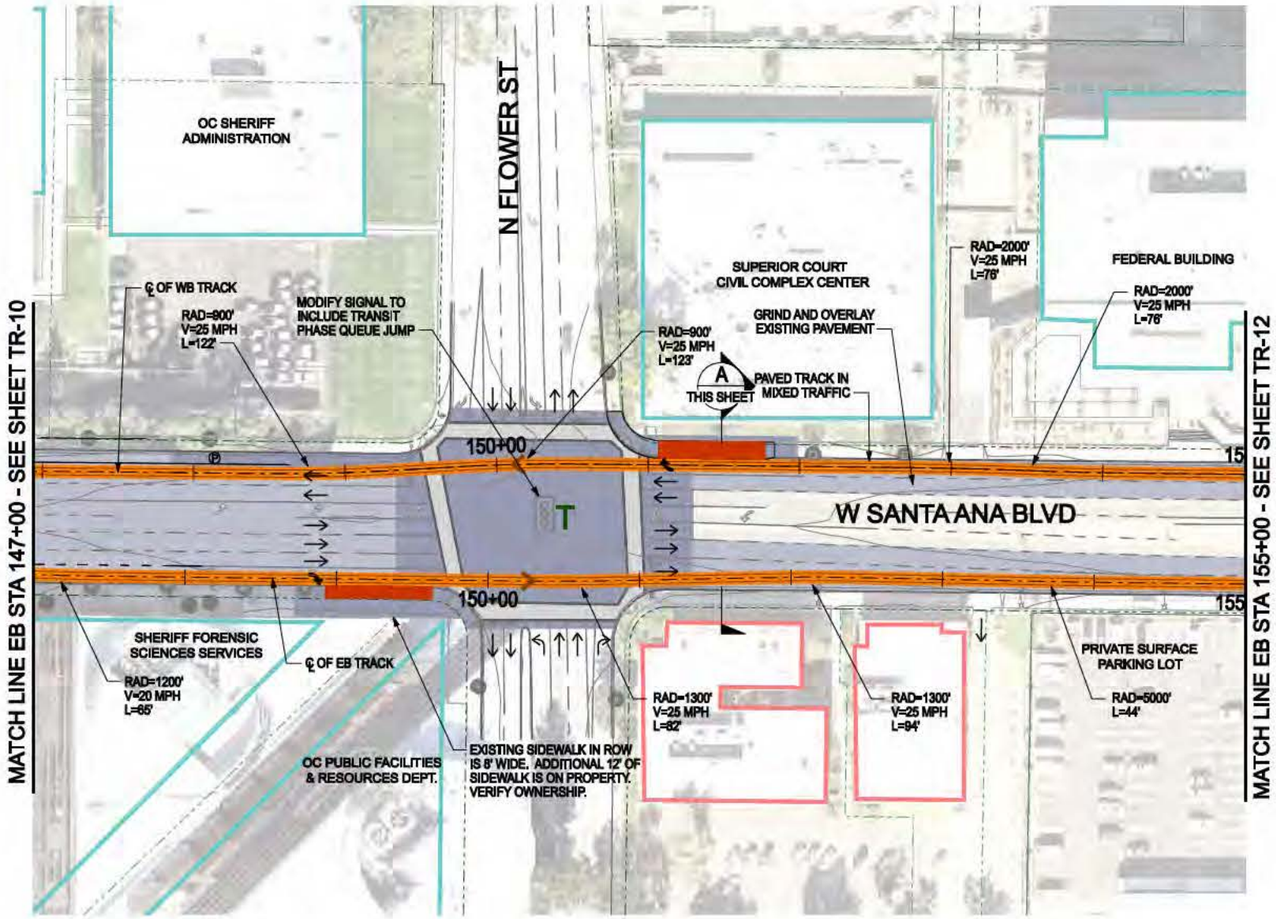

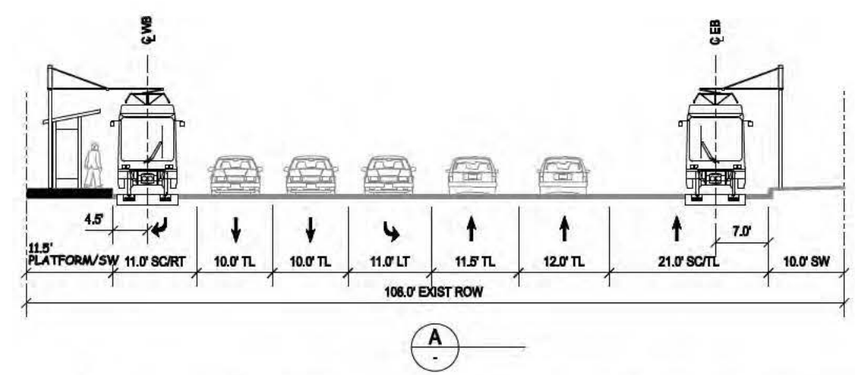

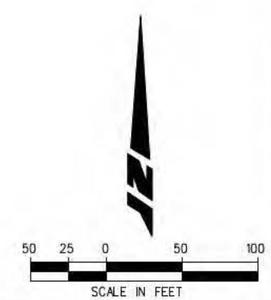

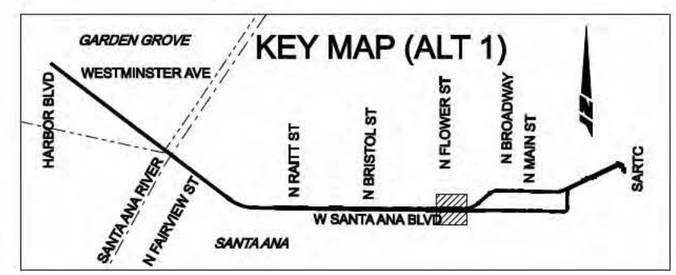

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS DOWNTOWN SEGMENT - ALT1 STA 147+00 TO 155+00

DRAWING NO. TR - 11

SHEET NO.

SCALE

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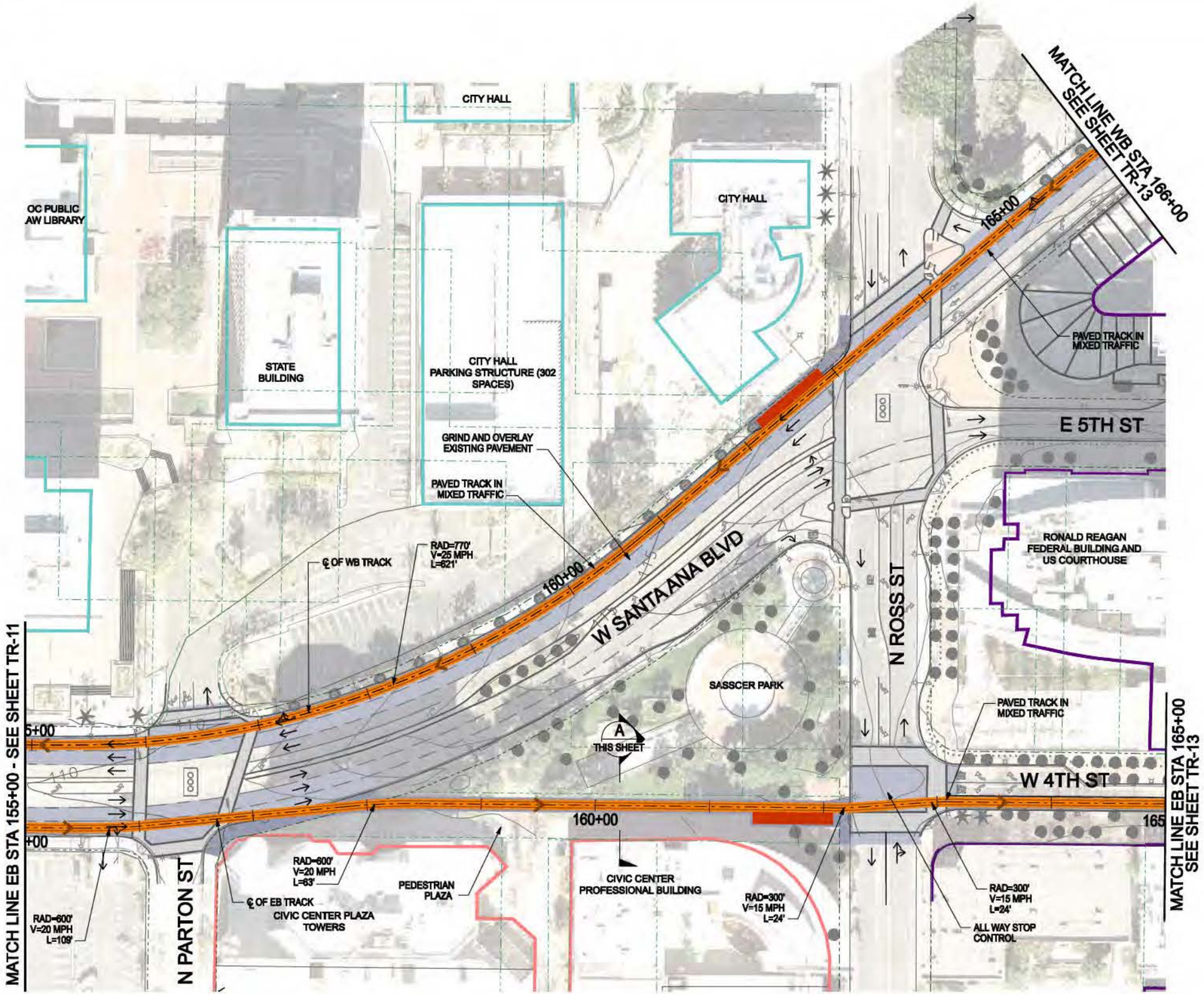

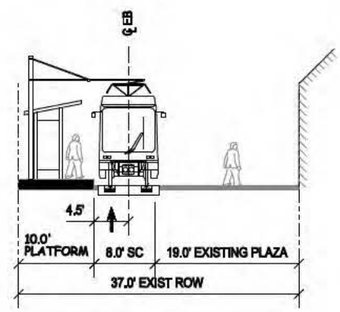

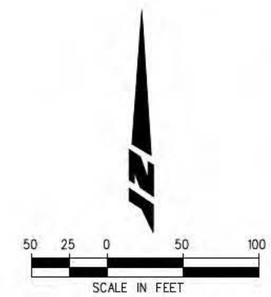

A
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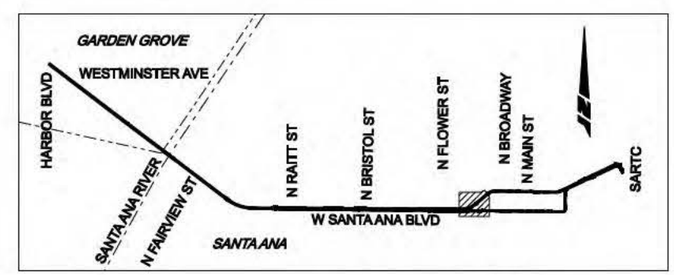

KEY MAP (ALT 1)

LEGEND

DIRECTION OF TRAFFIC
PLATFORM
GATE
PARKING
NEW ROW
STRUCTURE
BUILDING-REMOVAL
WORK LIMITS - ASPHALT
WORK LIMITS - CONCRETE
WORK LIMITS - BALLAST
EASTBOUND EMBEDDED TRACK
WESTBOUND EMBEDDED TRACK
EASTBOUND BALLASTED TRACK
WESTBOUND BALLASTED TRACK
EXISTING SIGNAL
EXISTING PED SIGNAL
NEW SIGNAL
ADD TRANSIT ONLY SIGNAL

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 1
SASSCER PARK OPTION A: DIRECT ROUTE
STA 155+00 TO STA 165+00 EB

DRAWING NO. TR - 12A
SHEET NO.
SCALE

USER=JTming_Huang 7/27/2011 4:15:00 PM d:\29866420 santa ana streetcar\5000 technical\cadd\dwg\TR-12.dgn
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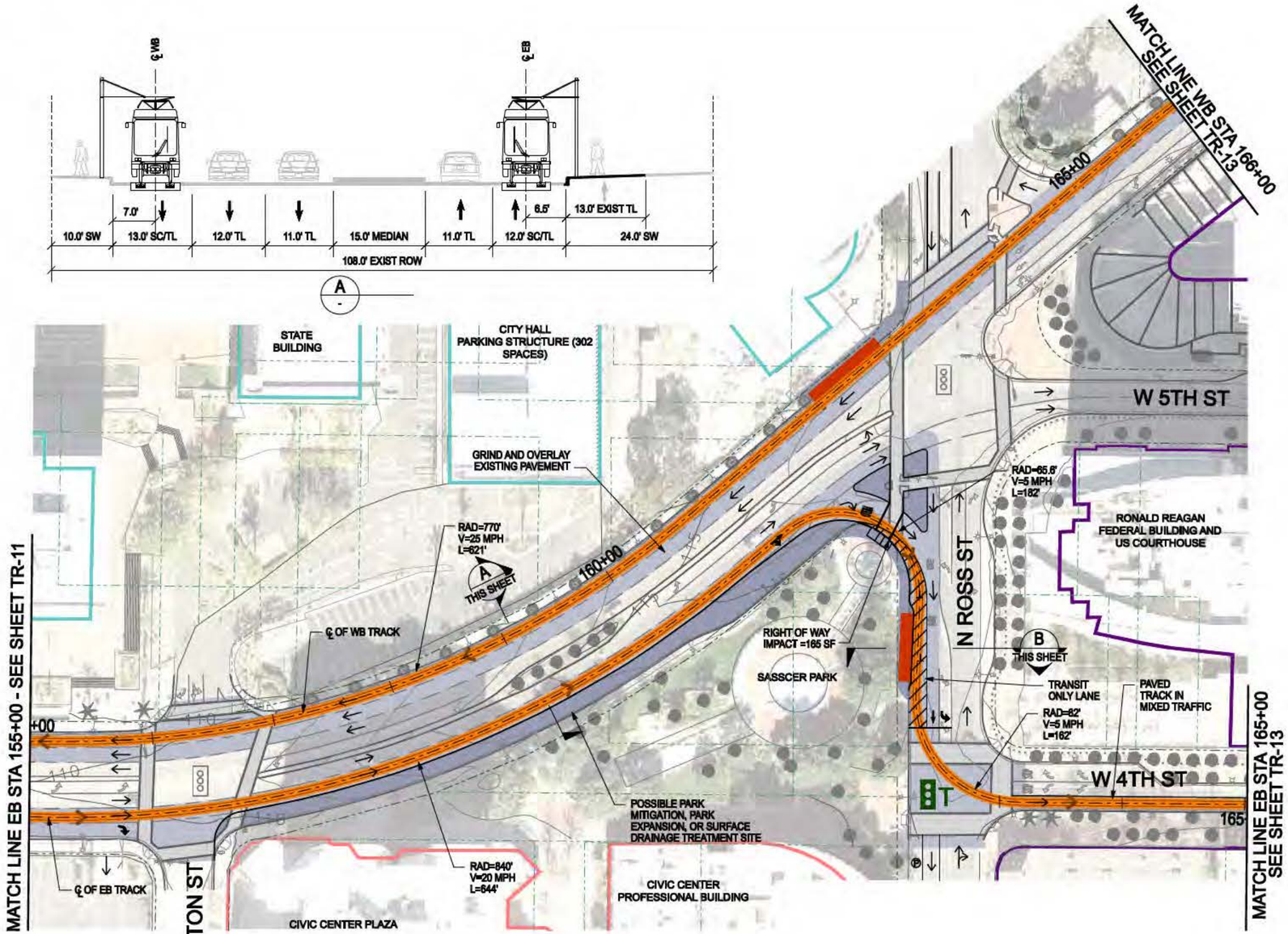

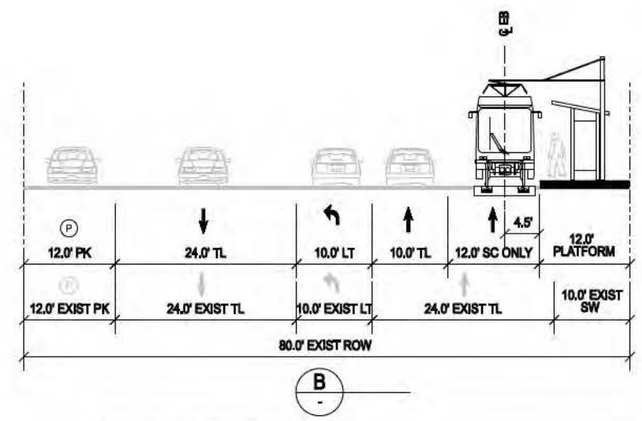

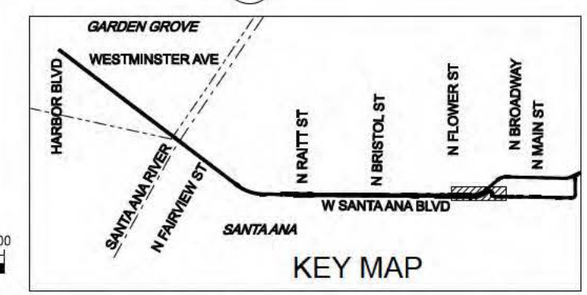

50 25 0 50 100
SCALE IN FEET

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 1
SASSCER PARK OPTION A: CURVED ROUTE
STA 155+00 TO STA 165+00 EB

DRAWING NO. TR - 12B
SHEET NO.
SCALE

Plot Driver= SA-StreetCar.plt
Pentable= PDX_Exh_SA-StreetCar.tbl
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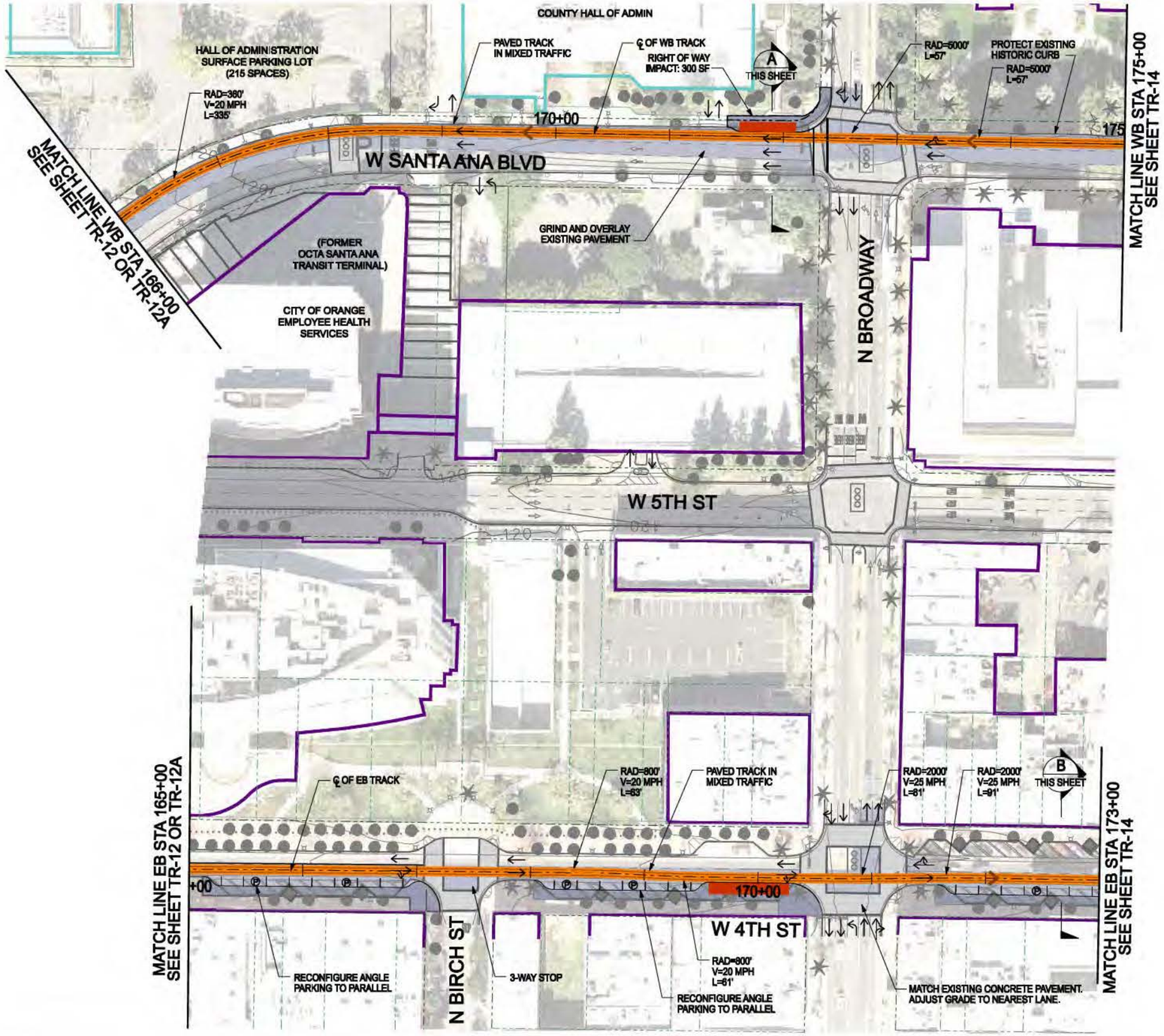

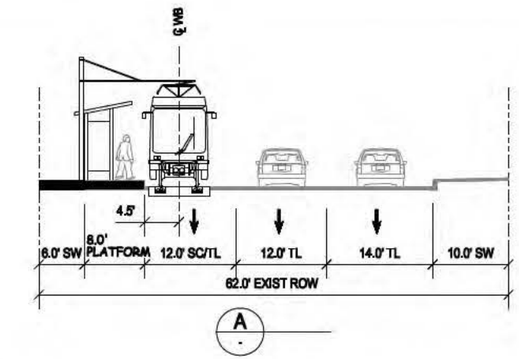

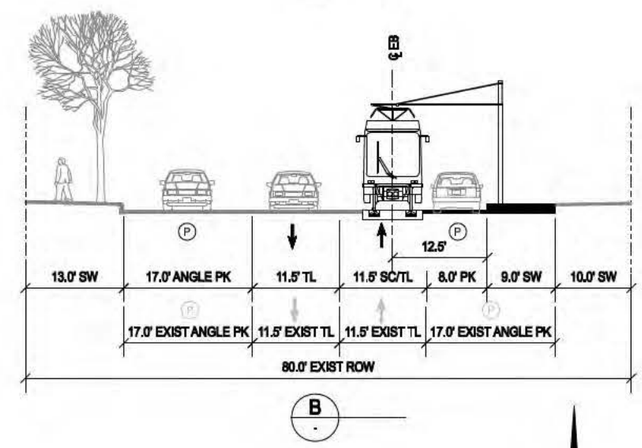

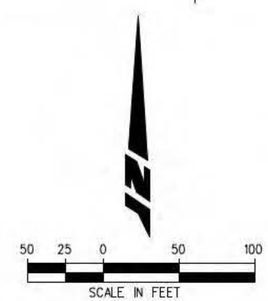

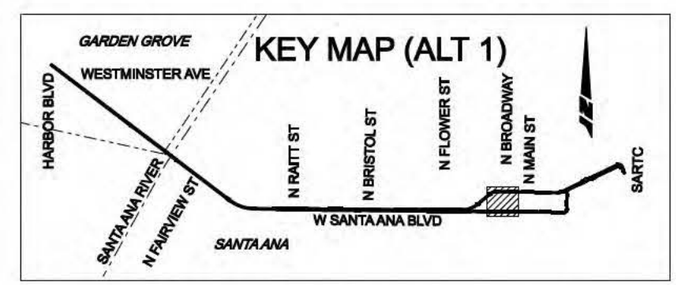

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL
PLATFORM	WORK LIMITS - ASPHALT
GATE	WORK LIMITS - CONCRETE
PARKING (P)	WORK LIMITS - BALLAST
NEW ROW	EASTBOUND EMBEDDED TRACK
STRUCTURE	WESTBOUND EMBEDDED TRACK
	EASTBOUND BALLASTED TRACK
	WESTBOUND BALLASTED TRACK
	EXISTING SIGNAL
	EXISTING PED SIGNAL
	NEW SIGNAL
	ADD TRANSIT ONLY SIGNAL

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2677 NORTH MAIN STREET, SUITE 240
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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 1

4TH ST PARKING OPTION A: SOUTH SIDE PARALLEL

STA 165+00 TO STA 173+00 EB

DRAWING NO. TR - 13A

SHEET NO.

SCALE

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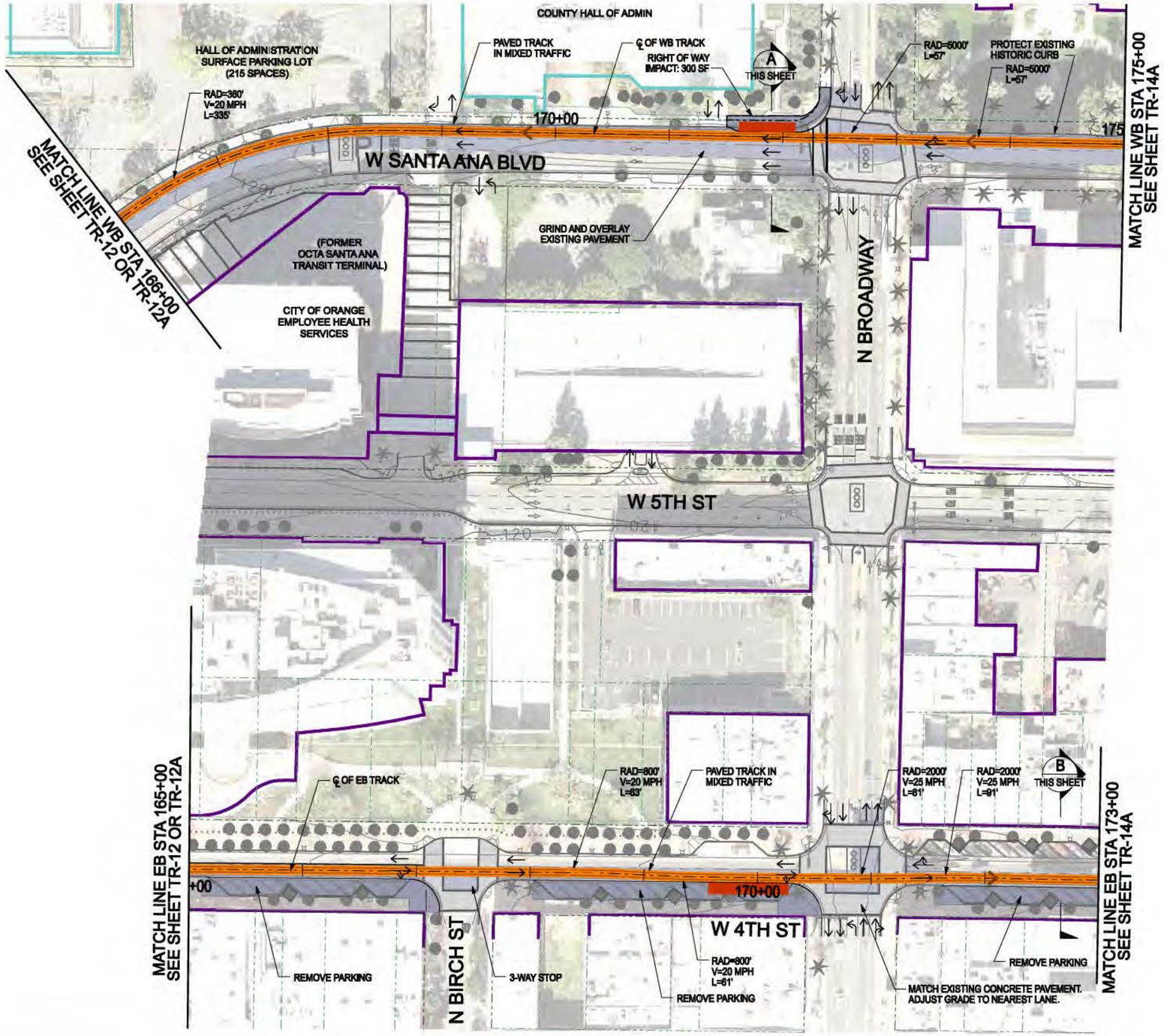

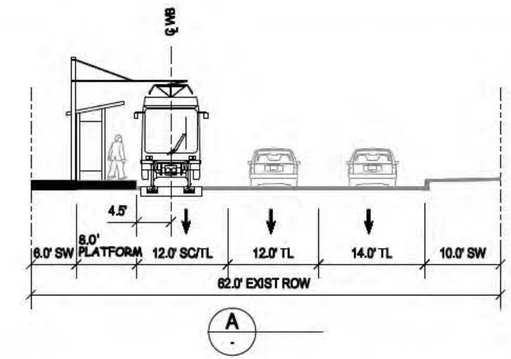

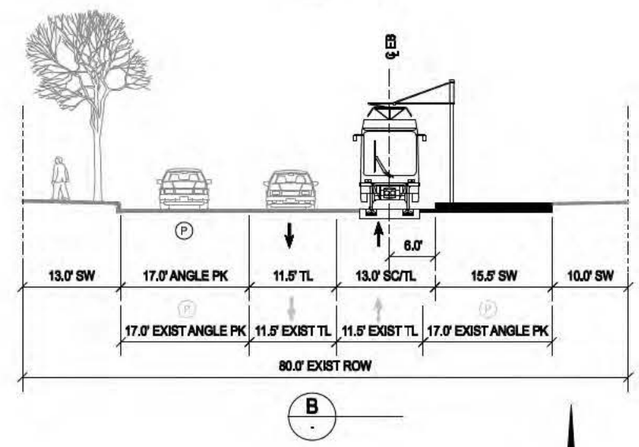

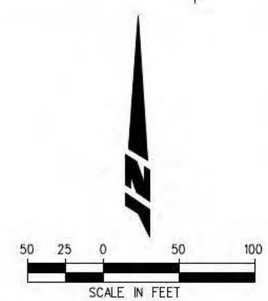

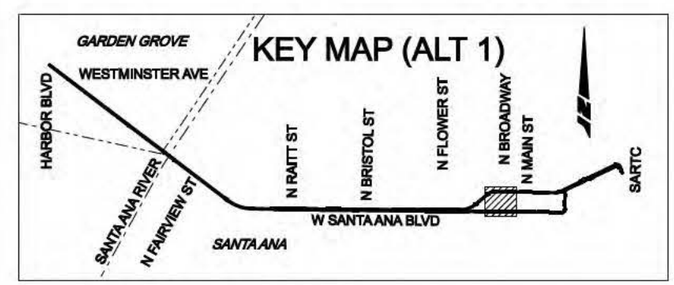

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL
PLATFORM	WORK LIMITS - ASPHALT
GATE	WORK LIMITS - CONCRETE
PARKING (P)	WORK LIMITS - BALLAST
NEW ROW	EASTBOUND EMBEDDED TRACK
STRUCTURE	WESTBOUND EMBEDDED TRACK
	EASTBOUND BALLASTED TRACK
	WESTBOUND BALLASTED TRACK
	EXISTING SIGNAL
	EXISTING PED SIGNAL
	NEW SIGNAL
	ADD TRANSIT ONLY SIGNAL

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 1

4TH ST PARKING OPTION B: SOUTH SIDE REMOVAL

STA 165+00 TO STA 173+00 EB

DRAWING NO. TR - 13B

SHEET NO.

SCALE

USER=Jiming_Huang 11/17/2011 1:18:51 PM d:\29866420 santa ana streetcar\5000 Technical\cadd\dwg\TR-13A.dgn
Plot Driver=SA-StreetCar.plt
Pentable= PDX_Exh_SA-StreetCar.tbl

COUNTY HALL OF ADMIN

HALL OF ADMINISTRATION SURFACE PARKING LOT (215 SPACES)

RAD=380' V=20 MPH L=335'

PAVED TRACK IN MIXED TRAFFIC

℄ OF WB TRACK

RIGHT OF WAY IMPACT: 300 SF

A THIS SHEET

RAD=5000' L=57'

PROTECT EXISTING HISTORIC CURB

RAD=5000' L=57'

170+00

175

W SANTA ANA BLVD

MATCH LINE WB STA 166+00 SEE SHEET TR-12 OR TR-12A

MATCH LINE WB STA 175+00 SEE SHEET TR-14B

(FORMER OCTA SANTA ANA TRANSIT TERMINAL)

GRIND AND OVERLAY EXISTING PAVEMENT

CITY OF ORANGE EMPLOYEE HEALTH SERVICES

N BROADWAY

W 5TH ST

℄ OF EB TRACK

REMOVE CURB CUT AND ADD SIDEWALK

RAD=800' V=20 MPH L=63'

PAVED TRACK IN MIXED TRAFFIC

REMOVE PARKING

RAD=2000' V=25 MPH L=81'

RAD=2000' V=25 MPH L=91'

REMOVE PARKING

B THIS SHEET

MATCH LINE EB STA 165+00 SEE SHEET TR-12 OR TR-12A

MATCH LINE EB STA 173+00 SEE SHEET TR-14B

+00

170+00

W 4TH ST

N BIRCH ST

REMOVE PARKING

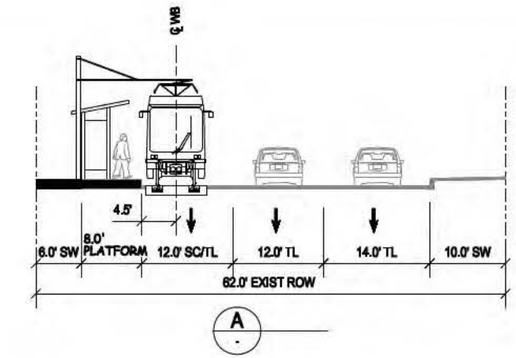
3-WAY STOP

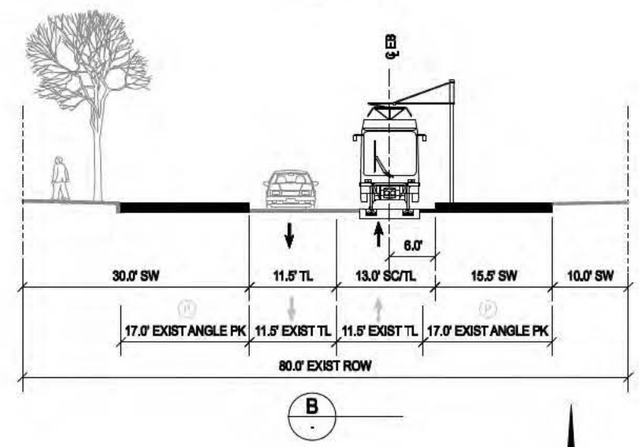
RAD=800' V=20 MPH L=61'

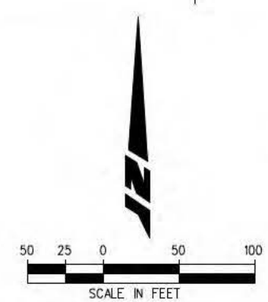
REMOVE PARKING

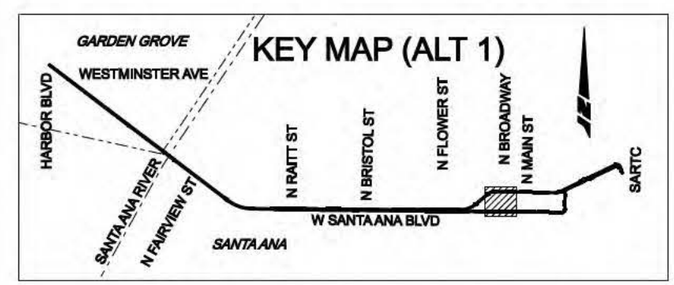
MATCH EXISTING CONCRETE PAVEMENT. ADJUST GRADE TO NEAREST LANE.

REMOVE PARKING









LEGEND

DIRECTION OF TRAFFIC	→
PLATFORM	
GATE	
PARKING	Ⓟ
NEW ROW	
STRUCTURE	
BUILDING-REMOVAL	
WORK LIMITS - ASPHALT	
WORK LIMITS - CONCRETE	
WORK LIMITS - BALLAST	
EASTBOUND EMBEDDED TRACK	
WESTBOUND EMBEDDED TRACK	
EASTBOUND BALLASTED TRACK	
WESTBOUND BALLASTED TRACK	
EXISTING SIGNAL	
EXISTING PED SIGNAL	P
NEW SIGNAL	
ADD TRANSIT ONLY SIGNAL	T

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 1

4TH ST PARKING OPTION C: SO SIDE & NO SIDE REMOVAL

STA 165+00 TO STA 173+00 EB

DRAWING NO. TR - 13C

SHEET NO.

SCALE

Plot Driver=SA-StreetCar.plt Pentable=PDX_Exh_SA-StreetCar.tbl

USER=Jiming_Huang 11/17/2011 1:19:01 PM d:\29866420 santa ana streetcar\5000 Technical\cadd\dwg\TR-13B.dgn

MATCH LINE WB STA 175+00
SEE SHEET TR-13

R=5000'
L=51'

PAVED TRACK IN
MIXED TRAFFIC

R=5000'
L=57'

GRIND AND OVERLAY
EXISTING PAVEMENT

℄ OF WB TRACK

R=2500'
V=30 MPH
L=147'

R=2500'
V=30 MPH
L=146'

A
THIS SHEET

MATCH LINE WB STA 184+00
SEE SHEET TR-15

175+00

180+00

W SANTA ANA BLVD

E SANTA ANA BLVD

N SYCAMORE ST

N MAIN ST

N BUSH ST

W 5TH ST

E 5TH ST

PUBLIC PARKING
STRUCTURE

15'X20' TRACTION POWER SUBSTATION
(INSIDE EXISTING PARKING STRUCTURE)

PUBLIC PARKING
STRUCTURE

4-WAY STOP

MATCH EXISTING CONCRETE PAVEMENT.
ADJUST GRADE TO NEAREST LANE.

℄ OF EB TRACK

B
THIS SHEET

PAVED TRACK IN
MIXED TRAFFIC

R=5000'
L=45'

R=5000'
L=63'

MATCH LINE EB STA 173+00
SEE SHEET TR-13

MATCH LINE EB STA 182+00
SEE SHEET TR-15

W 4TH ST

E 4TH ST

175+00

180+00

R=1000'
V=20 MPH
L=82'

EXISTING PLANTER
TO REMAIN

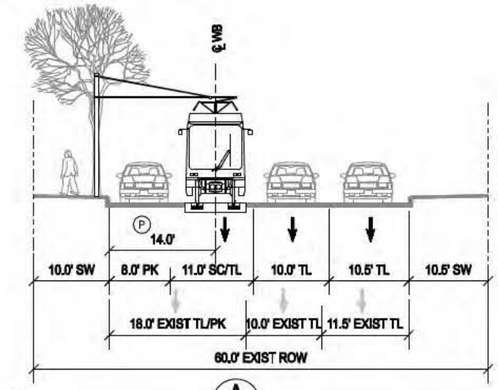
R=1000'
V=20 MPH
L=60'

RECONFIGURE ANGLE
PARKING TO PARALLEL

R=1000'
V=20 MPH
L=74'

R=1000'
V=20 MPH
L=76'

RECONFIGURE ANGLE
PARKING TO PARALLEL



A
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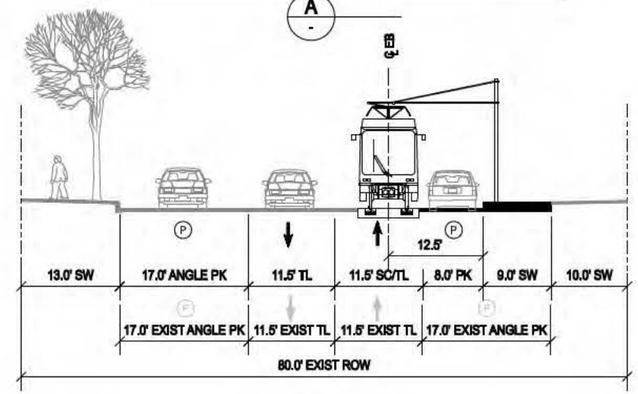
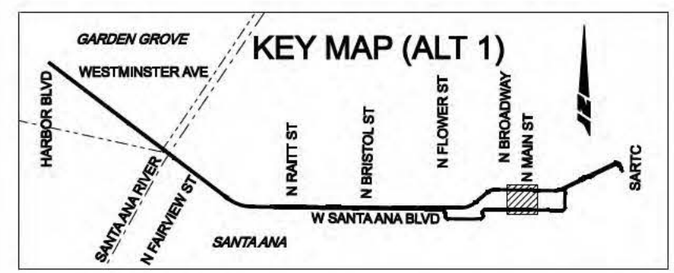


B
-

50 25 0 50 100
SCALE IN FEET



LEGEND

DIRECTION OF TRAFFIC	→	BUILDING-REMOVAL		EASTBOUND EMBEDDED TRACK		EXISTING SIGNAL	
PLATFORM		WORK LIMITS - ASPHALT		WESTBOUND EMBEDDED TRACK		EXISTING PED SIGNAL	P
GATE		WORK LIMITS - CONCRETE		EASTBOUND BALLASTED TRACK		NEW SIGNAL	
PARKING	Ⓟ	WORK LIMITS - BALLAST		WESTBOUND BALLASTED TRACK		ADD TRANSIT ONLY SIGNAL	T
NEW ROW							
STRUCTURE							

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 1

4TH ST PARKING OPTION A: SOUTH SIDE PARALLEL

STA 173+00 TO STA 182+00 EB

DRAWING NO. TR - 14A

SHEET NO.

SCALE

Plot Driver=SA-StreetCar.plt
Pentable= PDX_Exh_SA-StreetCar.tbl
USER=Jiming_Huang 8/15/2011 4:23:11 PM o:\29866420 santa ana streetcar\5000 Technical\cadd\dwg\TR-14.dgn

MATCH LINE WB STA 175+00
SEE SHEET TR-13A

R=5000'
L=51'

PAVED TRACK IN
MIXED TRAFFIC

R=5000'
L=57'

GRIND AND OVERLAY
EXISTING PAVEMENT

℄ OF WB TRACK

R=2500'
V=30 MPH
L=147'

R=2500'
V=30 MPH
L=146'

A
THIS SHEET

+00

180+00

W SANTA ANA BLVD

E SANTA ANA BLVD

MATCH LINE WB STA 184+00
SEE SHEET TR-15A

N SYCAMORE ST

N MAIN ST

N BUSH ST

W 5TH ST

E 5TH ST

PUBLIC PARKING
STRUCTURE

15'X20' TRACTION POWER SUBSTATION
(INSIDE EXISTING PARKING STRUCTURE)

PUBLIC PARKING
STRUCTURE

4-WAY STOP

MATCH EXISTING CONCRETE PAVEMENT.
ADJUST GRADE TO NEAREST LANE.

℄ OF EB TRACK

B
THIS SHEET

PAVED TRACK IN
MIXED TRAFFIC

R=5000'
L=45'

R=5000'
L=63'

MATCH LINE EB STA 173+00
SEE SHEET TR-13A

W 4TH ST

E 4TH ST

175+00

180+00

MATCH LINE EB STA 182+00
SEE SHEET TR-15A

R=1000'
V=20 MPH
L=82'

EXISTING PLANTER
TO REMAIN

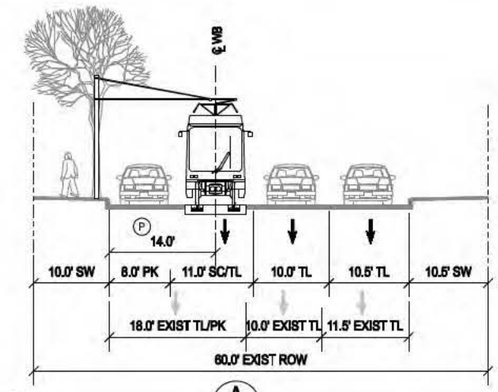
R=1000'
V=20 MPH
L=80'

REMOVE PARKING

R=1000'
V=20 MPH
L=74'

R=1000'
V=20 MPH
L=76'

REMOVE PARKING



A
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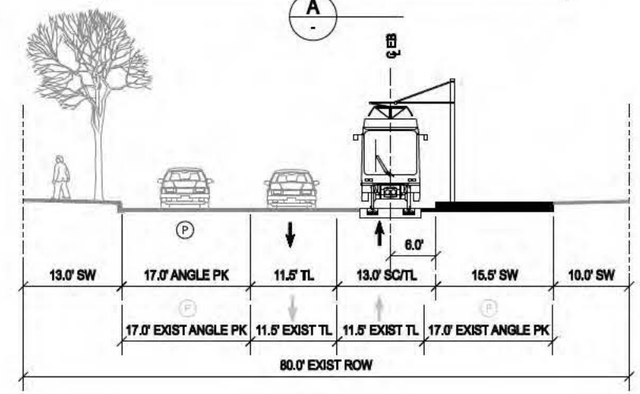
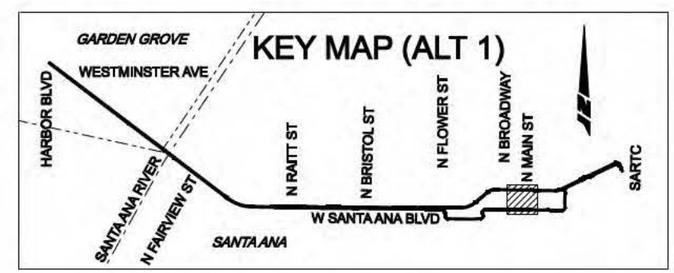


B
-

50 25 0 50 100
SCALE IN FEET



LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 1

4TH ST PARKING OPTION B: SOUTH SIDE REMOVAL

STA 173+00 TO STA 182+00 EB

DRAWING NO. TR - 14B

SHEET NO.

SCALE

Plot Driver=SA-StreetCar.plt
Pentable= PDX_Exh_SA-StreetCar.tbl
USER=Jiming_Huang 7/15/2011 4:23:19 PM o:\29866420 santa ana streetcar\5000 Technical\cadd\dwg\TR-14A.dgn

MATCH LINE WB STA 175+00
SEE SHEET TR-13B

R=5000'
L=51'

PAVED TRACK IN
MIXED TRAFFIC

R=5000'
L=57'

GRIND AND OVERLAY
EXISTING PAVEMENT

℄ OF WB TRACK

R=2500'
V=30 MPH
L=147'

R=2500'
V=30 MPH
L=146'

A
THIS SHEET

MATCH LINE WB STA 184+00
SEE SHEET TR-15B

+00

180+00

W SANTA ANA BLVD

E SANTA ANA BLVD

N SYCAMORE ST

N MAIN ST

N BUSH ST

W 5TH ST

E 5TH ST

PUBLIC PARKING
STRUCTURE

15'X20' TRACTION POWER SUBSTATION
(INSIDE EXISTING PARKING STRUCTURE)

PUBLIC PARKING
STRUCTURE

4-WAY STOP

MATCH EXISTING CONCRETE PAVEMENT.
ADJUST GRADE TO NEAREST LANE.

REMOVE PARKING

℄ OF EB TRACK

B
THIS SHEET

REMOVE PARKING

PAVED TRACK IN
MIXED TRAFFIC

R=5000'
L=45'

REMOVE PARKING

R=5000'
L=63'

MATCH LINE EB STA 173+00
SEE SHEET TR-13B

W 4TH ST

E 4TH ST

175+00

180+00

MATCH LINE EB STA 182+00
SEE SHEET TR-15B

R=1000'
V=20 MPH
L=82'

EXISTING PLANTER
TO REMAIN

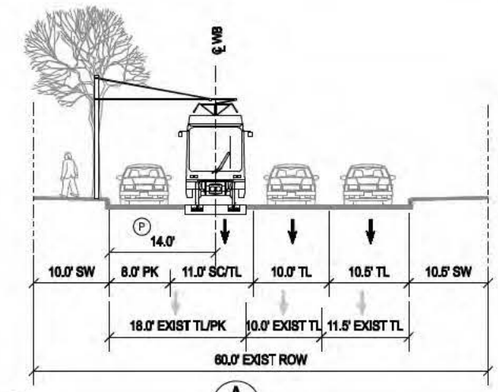
R=1000'
V=20 MPH
L=60'

REMOVE PARKING

R=1000'
V=20 MPH
L=74'

R=1000'
V=20 MPH
L=76'

REMOVE PARKING



A
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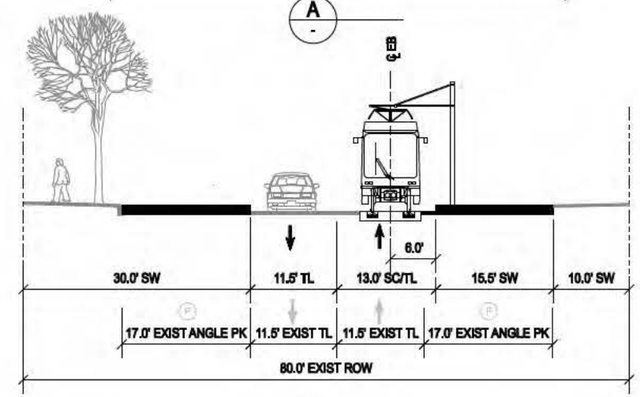
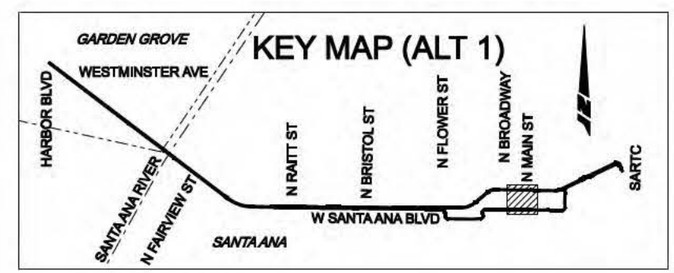


B
-

50 25 0 50 100
SCALE IN FEET



LEGEND

DIRECTION OF TRAFFIC	→	BUILDING-REMOVAL		EASTBOUND EMBEDDED TRACK		EXISTING SIGNAL	
PLATFORM		WORK LIMITS - ASPHALT		WESTBOUND EMBEDDED TRACK		EXISTING PED SIGNAL	P
GATE		WORK LIMITS - CONCRETE		EASTBOUND BALLASTED TRACK		NEW SIGNAL	
PARKING	Ⓟ	WORK LIMITS - BALLAST		WESTBOUND BALLASTED TRACK		ADD TRANSIT ONLY SIGNAL	T
NEW ROW							
STRUCTURE							

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 1

4TH ST PARKING OPTION B: SO SIDE & NO SIDE REMOVAL

STA 173+00 TO STA 182+00 EB

DRAWING NO. TR - 14C

SHEET NO.

SCALE

Plot Driver=SA-StreetCar.plt
Pentable=PDX_Exh_SA-StreetCar.tbl
USER=Jiming_Huang 7/15/2011 4:23:28 PM o:\29866420 santa ana streetcar\5000 Technical\cadd\dwg\TR-14B.dgn

MATCH LINE WB STA 184+00-SEE SHEET TR-14

MATCH LINE WB STA 192+00
SEE SHEET TR-16

MATCH LINE EB STA 197+00
SEE SHEET TR-16

GRIND AND OVERLAY EXISTING PAVEMENT

PAVED TRACK IN MIXED TRAFFIC

RAD=5000' L=69'

RAD=5000' L=55'

℄ OF WB TRACK

A THIS SHEET

RAD=300' V=15 MPH L=188'

190+00

185+00

RAD=82' V=5 MPH L=124'

E 6TH ST

E SANTA ANA BLVD

N SPURGEON ST

RAD=1300' V=25 MPH L=85'

195+00

B THIS SHEET

E 5TH ST

N FRENCH ST

MORTIMER ST

RAD=5000' L=181'

MATCH EXISTING CONCRETE PAVEMENT. ADJUST GRADE TO NEAREST LANE.

PAVED TRACK IN MIXED TRAFFIC

NO RIGHT TURN ON RED

MATCH LINE EB STA 182+00
SEE SHEET TR-14

4-WAY STOP

℄ OF WB TRACK

C THIS SHEET

RAD=2000' V=25 MPH L=70'

190+00

185+00

E 4TH ST

RAD=5000' L=63'

RAD=2000' V=25 MPH L=70'

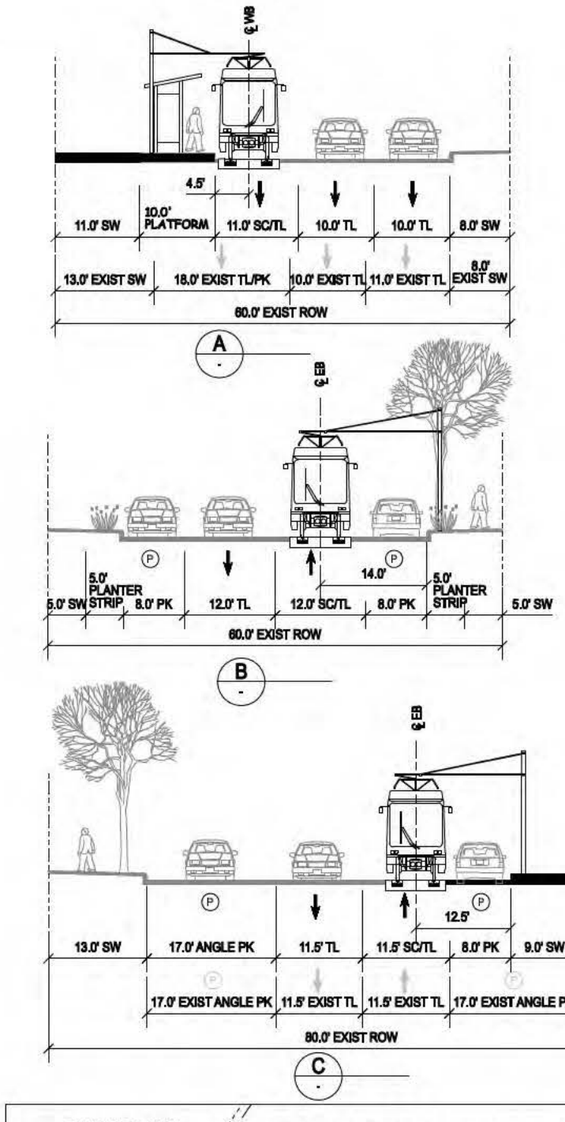
RECONFIGURE ANGLE PARKING TO PARALLEL

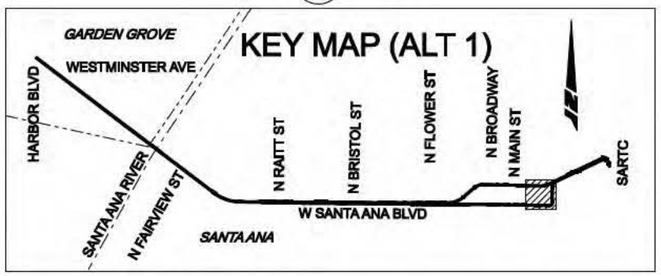
RAD=1000' V=20 MPH L=67'

RAD=300' V=5 MPH L=16'

RAD=82' V=5 MPH L=163'

50 25 0 50 100
SCALE IN FEET





LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 1

4TH ST PARKING OPTION A: SOUTH SIDE PARALLEL

STA 182+00 TO STA 197+00 EB

DRAWING NO. TR - 15A

SHEET NO.

SCALE

USER=Jiming_Huang 9/27/2011 4:16:17 PM o:\29866420 santa ana streetcar\5000 technical\cadd\dwg\TR-15.dgn

Plot Driver= SA-StreetCar.plt Pentable= PDX_Exh_SA-StreetCar.tbl

MATCH LINE WB STA 184+00-SEE SHEET TR-14A

MATCH LINE WB STA 192+00
SEE SHEET TR-16

MATCH LINE EB STA 197+00
SEE SHEET TR-16

GRIND AND OVERLAY EXISTING PAVEMENT

PAVED TRACK IN MIXED TRAFFIC

RAD=300' V=15 MPH L=188'

RAD=5000' L=69'

RAD=5000' L=55'

℄ OF WB TRACK

A THIS SHEET

185+00

190+00

RAD=82' V=5 MPH L=124'

E 6TH ST

E SANTA ANA BLVD

N SPURGEON ST

RAD=1300' V=25 MPH L=85'

195+00

B THIS SHEET

E 5TH ST

N FRENCH ST

MORTIMER ST

RAD=5000' L=181'

MATCH LINE EB STA 182+00
SEE SHEET TR-14A

4-WAY STOP

℄ OF WB TRACK

C THIS SHEET

RAD=2000' V=25 MPH L=70'

MATCH EXISTING CONCRETE PAVEMENT. ADJUST GRADE TO NEAREST LANE.

PAVED TRACK IN MIXED TRAFFIC

NO RIGHT TURN ON RED

190+00

185+00

E 4TH ST

RAD=5000' L=63'

RAD=2000' V=25 MPH L=70'

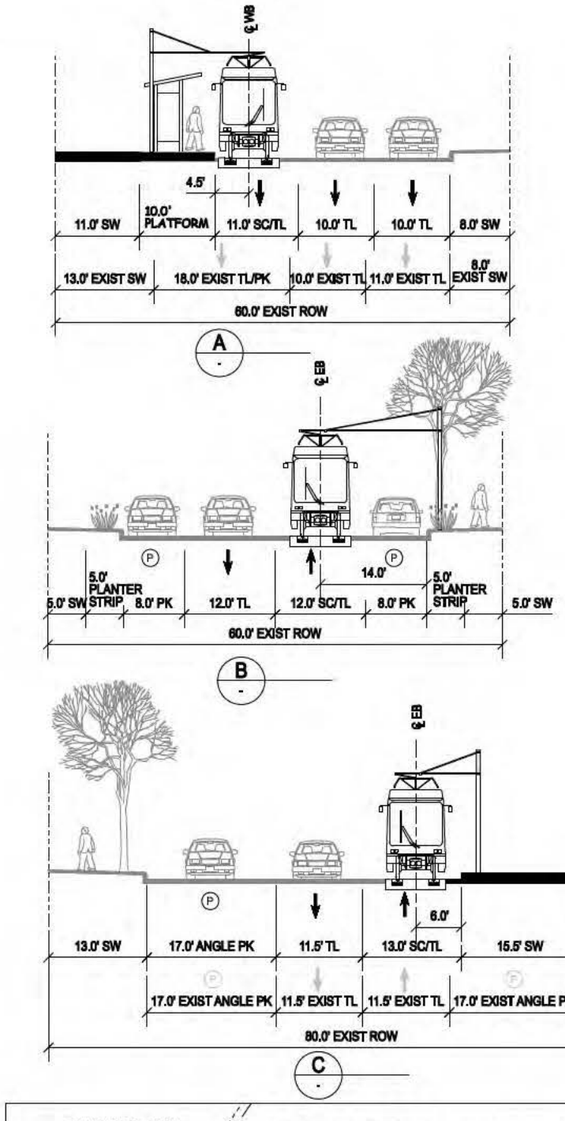
REMOVE PARKING

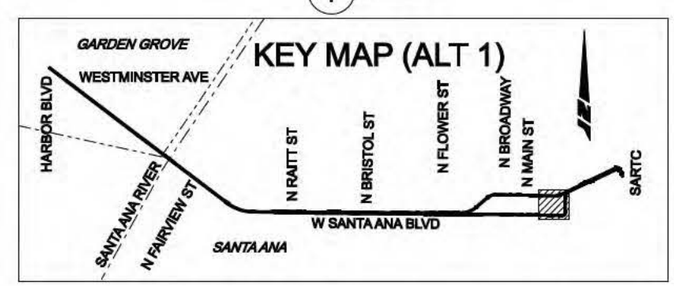
RAD=1000' V=20 MPH L=67'

RAD=300' V=5 MPH L=16'

RAD=82' V=5 MPH L=163'

50 25 0 50 100
SCALE IN FEET





LEGEND

DIRECTION OF TRAFFIC	→	BUILDING-REMOVAL		EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM		WORK LIMITS - ASPHALT		WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE		WORK LIMITS - CONCRETE		EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	Ⓟ	WORK LIMITS - BALLAST		WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL T
NEW ROW					
STRUCTURE					

CORDOBA CORPORATION
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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 1

4TH ST PARKING OPTION B: SOUTH SIDE REMOVAL

STA 182+00 TO STA 197+00 EB

DRAWING NO. TR - 15B

SHEET NO.

SCALE

Plot Driver= SA-StreetCar.plt

Pentable= PDX_Exh_SA-StreetCar.tbl

USER=Liming_Huang 4:16:28 PM 01/27/2011 o:\29866420 santa ana streetcar\5000 technical\cadd\dwg\TR-15A.dgn

MATCH LINE WB STA 184+00-SEE SHEET TR-14B

MATCH LINE WB STA 192+00
SEE SHEET TR-16

MATCH LINE EB STA 197+00
SEE SHEET TR-16

GRIND AND OVERLAY EXISTING PAVEMENT

PAVED TRACK IN MIXED TRAFFIC

RAD=300' V=15 MPH L=188'

RAD=5000' L=69'

RAD=5000' L=55'

℄ OF WB TRACK

A THIS SHEET

185+00

190+00

RAD=82' V=5 MPH L=124'

E 6TH ST

E SANTA ANA BLVD

N SPURGEON ST

RAD=1300' V=25 MPH L=85'

195+00

B THIS SHEET

E 5TH ST

N FRENCH ST

MORTIMER ST

RAD=5000' L=181'

MATCH EXISTING CONCRETE PAVEMENT. ADJUST GRADE TO NEAREST LANE.

PAVED TRACK IN MIXED TRAFFIC

NO RIGHT TURN ON RED

MATCH LINE EB STA 182+00
SEE SHEET TR-14B

4-WAY STOP

REMOVE PARKING

℄ OF WB TRACK

C THIS SHEET

REMOVE PARKING

RAD=2000' V=25 MPH L=70'

190+00

185+00

E 4TH ST

RAD=5000' L=63'

RAD=2000' V=25 MPH L=70'

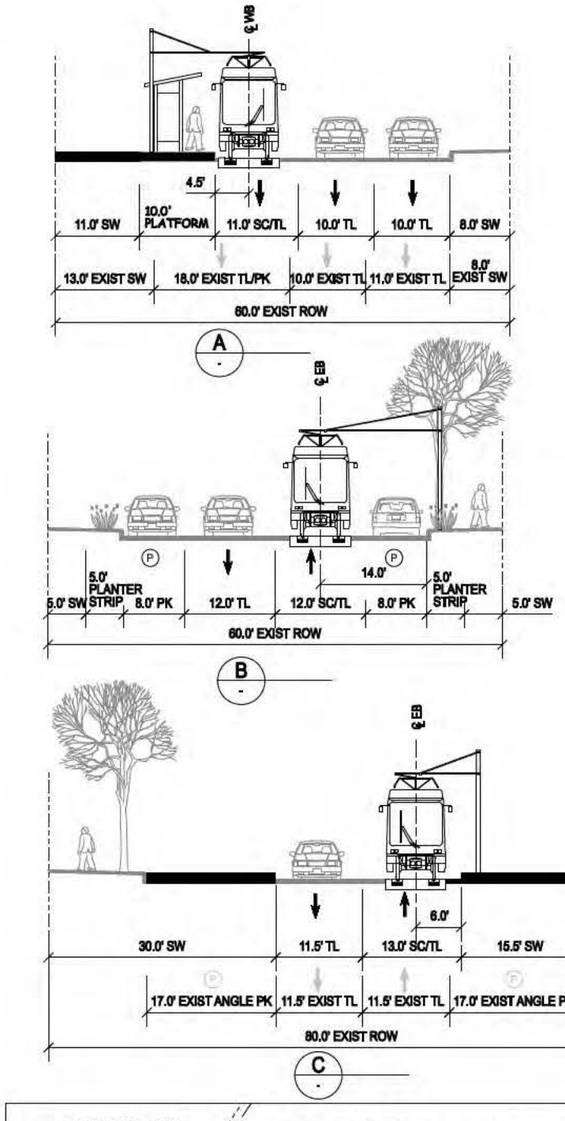
REMOVE PARKING

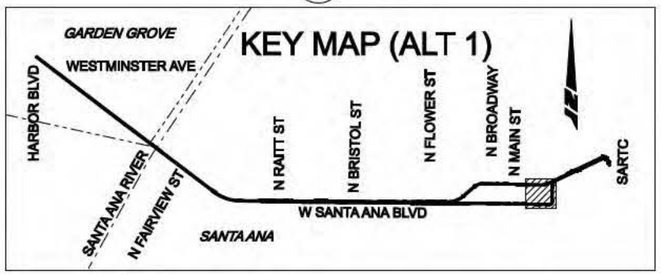
RAD=1000' V=20 MPH L=67'

RAD=300' V=5 MPH L=16'

RAD=82' V=5 MPH L=163'

50 25 0 50 100
SCALE IN FEET





LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 1

4TH ST PARKING OPTION B: SO & NO SIDE REMOVAL

STA 182+00 TO STA 197+00 EB

DRAWING NO. TR - 15C

SHEET NO.

SCALE

USER=Liming_Huang 2/27/2011 4:16:39 PM o:\29866420 santa ana streetcar\5000 technical\cadd\dwg\TR-15B.dgn

Plot Driver= SA-StreetCar.plt

Pentable= PDX_Exh_SA-StreetCar.tbl

MATCH LINE WB STA 192+00
SEE SHEET TR-15

MATCH LINE EB STA 197+00
SEE SHEET TR-15

MATCH LINE WB STA 205+00
SEE SHEET TR-17

MATCH LINE EB STA 210+00
SEE SHEET TR-17

N MINTER ST

E SANTA ANA BLVD

N LACY ST

GARFIELD ST

GRIND AND OVERLAY EXISTING PAVEMENT

℄ OF WB TRACK

℄ OF EB TRACK

PAVED TRACK IN MIXED TRAFFIC

A THIS SHEET

B THIS SHEET

INSTALL NEW TRAFFIC SIGNAL W/ TRANSIT PHASE

R=700' V=20 MPH L=108'

R=700' V=20 MPH L=108'

R=5000' L=34'

R=5000' L=25'

R=5000' L=40'

R=5000' L=28'

R=5000' L=33'

R=5000' L=60'

R=5000' L=63'

R=600' V=20 MPH L=99'

R=600' V=20 MPH L=98'

15'X20' TRACTION POWER SUBSTATION

195+00

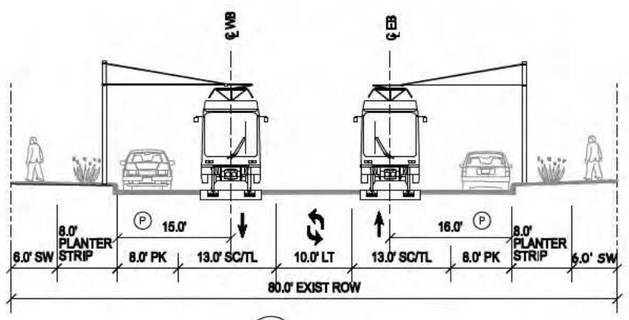
200+00

205+00

205

50 25 0 50 100

SCALE IN FEET



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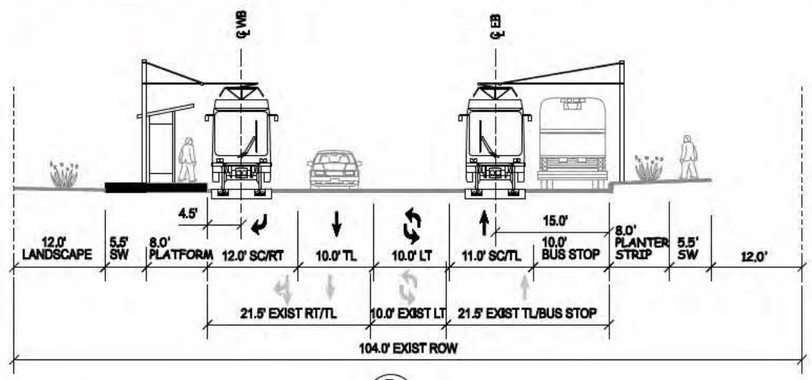

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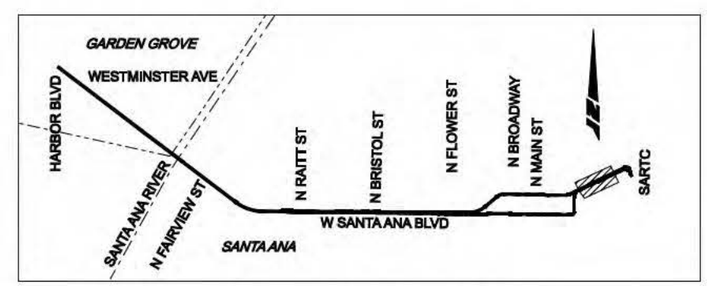

KEY MAP (ALT 1)

LEGEND

DIRECTION OF TRAFFIC
PLATFORM
GATE
PARKING
NEW ROW
STRUCTURE
BUILDING-REMOVAL
WORK LIMITS - ASPHALT
WORK LIMITS - CONCRETE
WORK LIMITS - BALLAST
EASTBOUND EMBEDDED TRACK
WESTBOUND EMBEDDED TRACK
EASTBOUND BALLASTED TRACK
WESTBOUND BALLASTED TRACK
EXISTING SIGNAL
EXISTING PED SIGNAL
NEW SIGNAL
ADD TRANSIT ONLY SIGNAL

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GARDEN GROVE

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TRACK ALIGNMENT AND RDWY IMPROVEMENTS DOWNTOWN SEGMENT - ALT1 STA 197+00 EB TO 210+00 EB

DRAWING NO. TR - 16

SHEET NO.

SCALE

USER=Jiming_Huang 7/27/2011 4:16:49 PM o:\29866420 santa ana streetcar\5000 technical\cadd\dwg\TR-16.dgn

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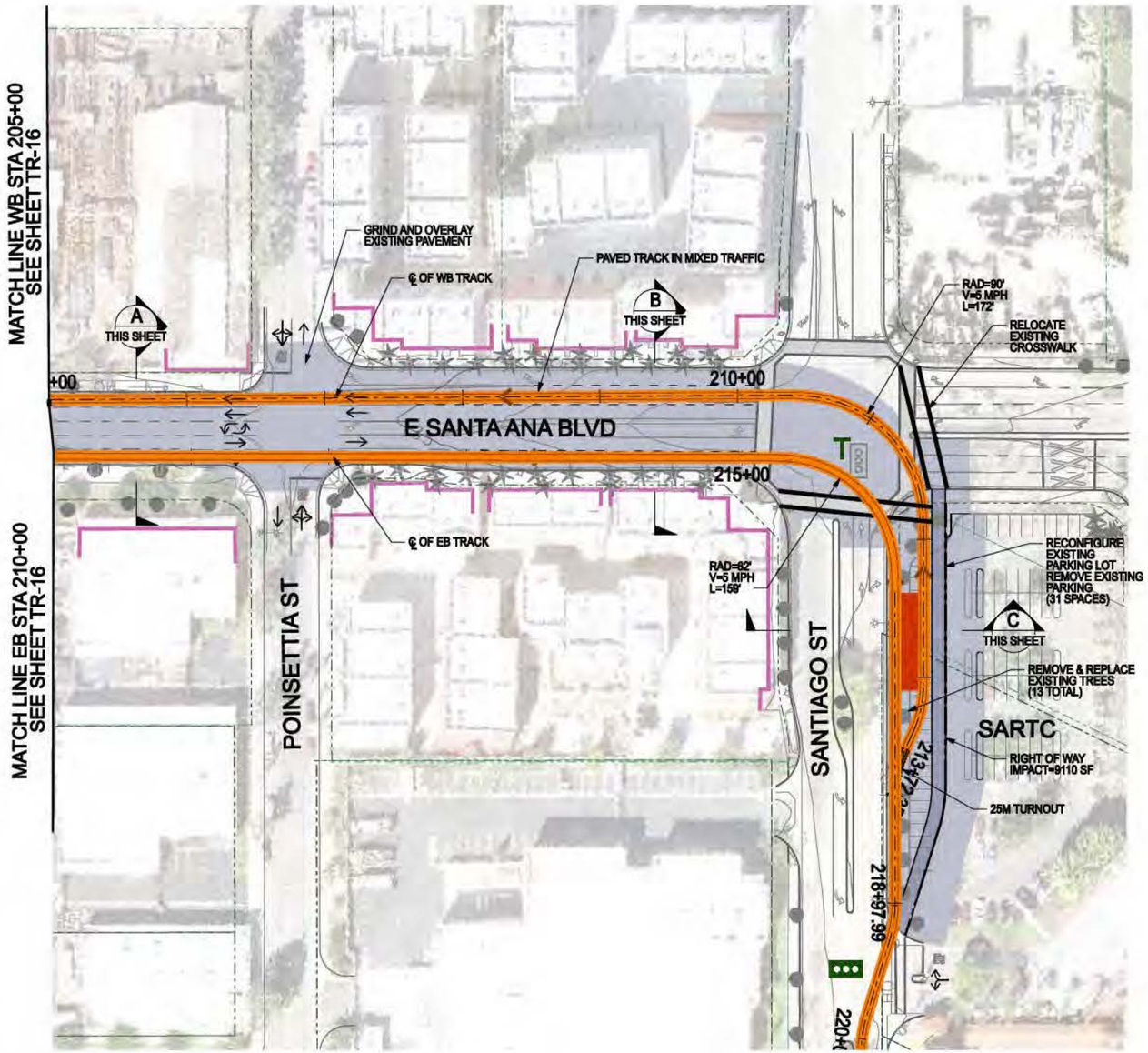
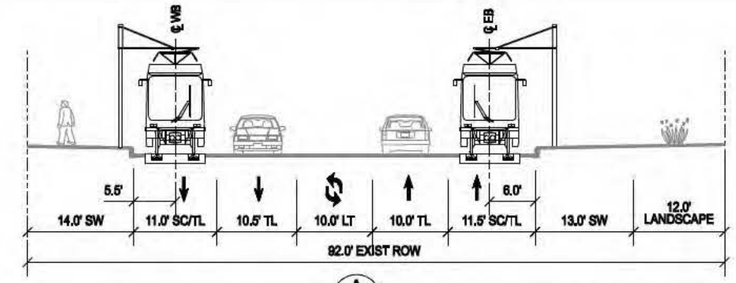
Pentable= PDX_Exh_SA-StreetCar.tbl





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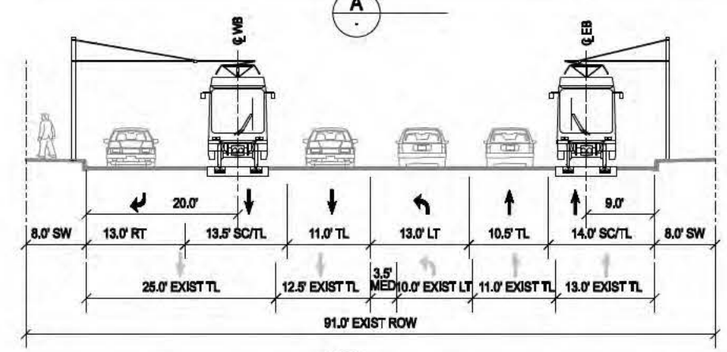

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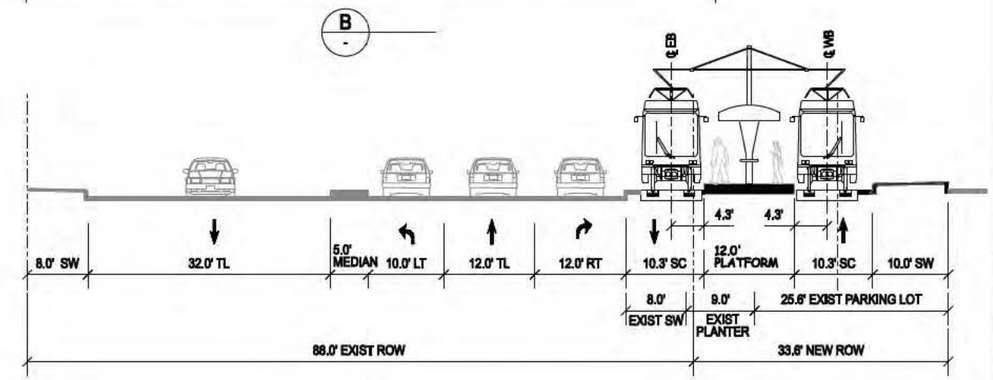

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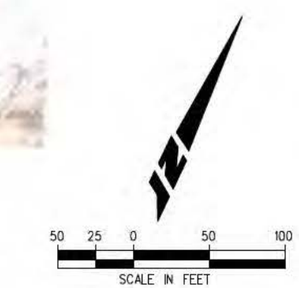

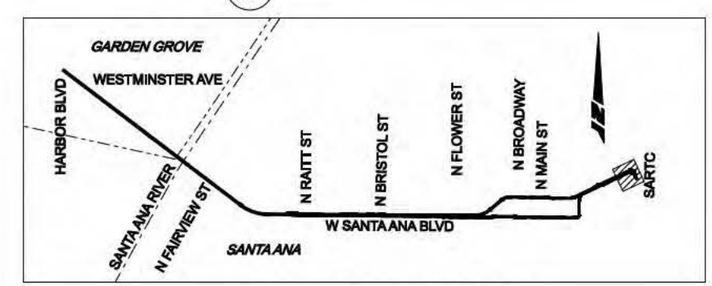

KEY MAP (ALT 1)

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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GARDEN GROVE

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TRACK ALIGNMENT AND RDWY IMPROVEMENTS DOWNTOWN SEGMENT - ALT1 STA 210+00 EB TO SARTC

DRAWING NO. TR - 17

SHEET NO.

SCALE

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Pentable= PDX_Exh_SA-StreetCar.tbl

USER=Jiming_Huang 9/27/2011 4:16:58 PM d:\29866420 santa ana streetcar\5000 technical\cadd\dwg\TR-17.dgn

MATCH LINE WB STA 154+00 - SEE SHEET TR-24

CENTRAL UTILITY FACILITY

SUPERBLOCK SURFACE PARKING LOT (702 SPACES)

℄ OF WB TRACK

OC SHERIFF ADMINISTRATION

N FLOWER ST

RAD=1000' V=20 MPH L=83'

B THIS SHEET

SUPERIOR COURT CIVIL COMPLEX CENTER

FEDERAL BUILDING

25M TURNOUT

RAD=82' V=5 MPH L=21'

RAD=82' V=5 MPH L=131'

NON-REVENUE TRACK

150+00

A THIS SHEET

W SANTA ANA BLVD

MATCH LINE EB STA 147+00 - SEE SHEET TR-10

MATCH LINE EB STA 158+00 - SEE SHEET TR-19

150+00

155+00

SHERIFF FORENSIC SCIENCES SERVICES

℄ OF EB TRACK

RAD=1400' V=20 MPH L=63'

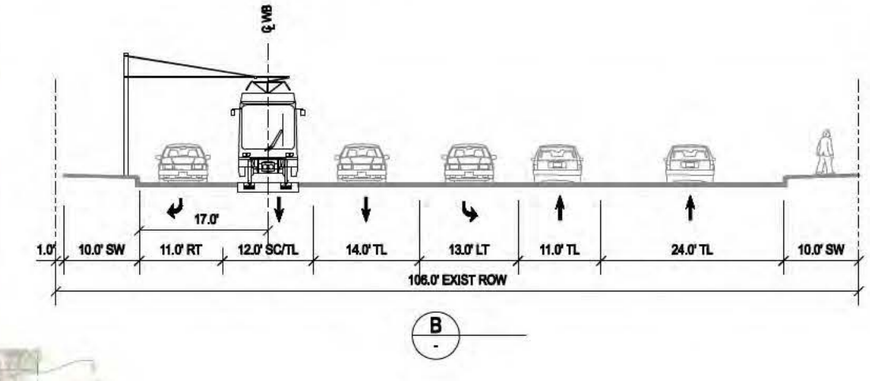
RAD=1400' V=20 MPH L=62'

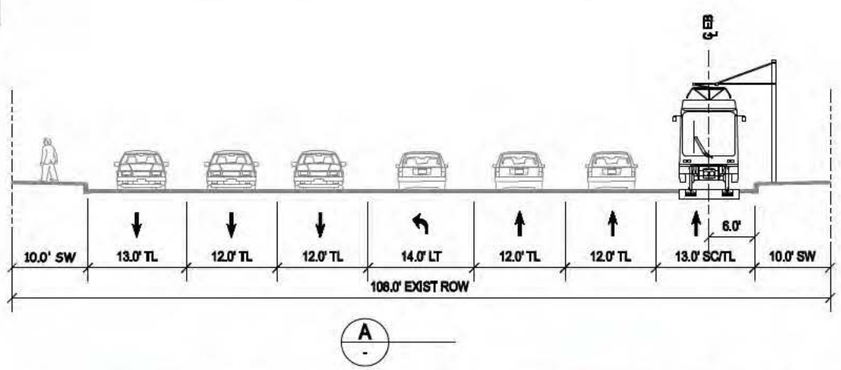
PRIVATE SURFACE PARKING LOT

PAVED TRACK IN MIXED TRAFFIC

N PARTON ST

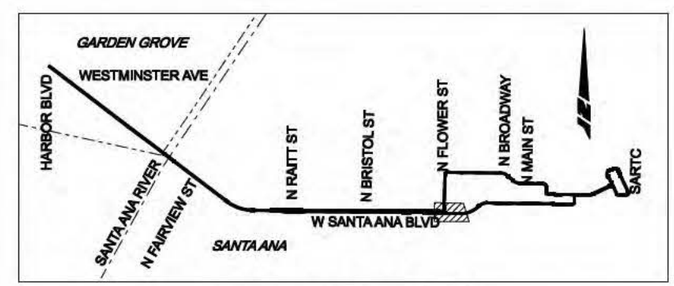
CIVIC CENTER PLAZA TOWERS





50 25 0 50 100

SCALE IN FEET



KEY MAP (ALT 2)

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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GARDEN GROVE

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TRACK ALIGNMENT AND RDWY IMPROVEMENTS DOWNTOWN SEGMENT - ALT2 STA 147+00 EB TO 158+00 EB

DRAWING NO. TR - 18

SHEET NO.

SCALE

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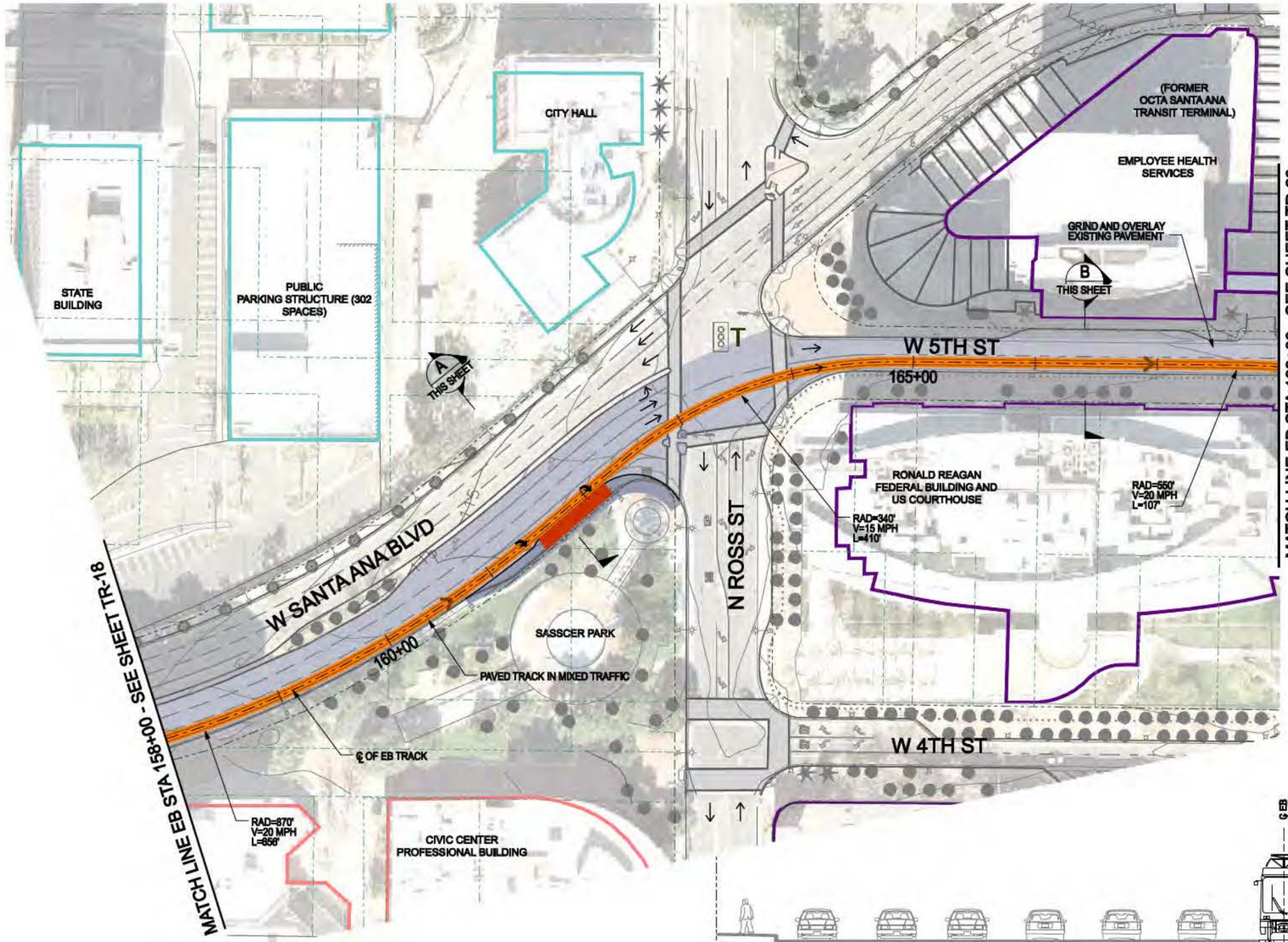
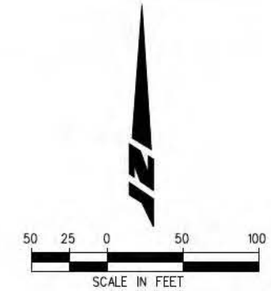
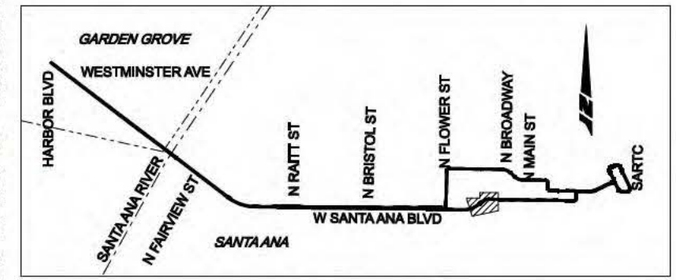
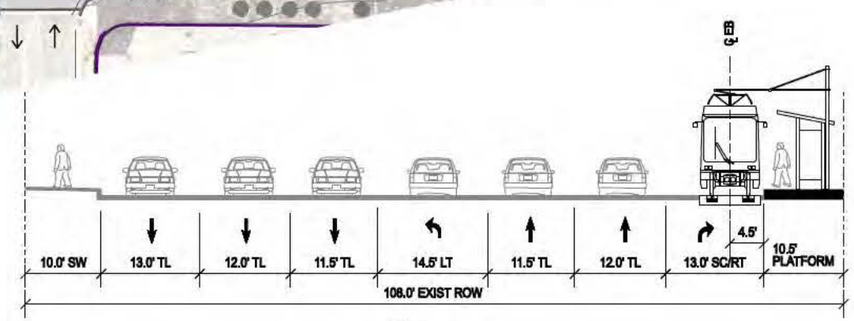






KEY MAP (ALT 2)



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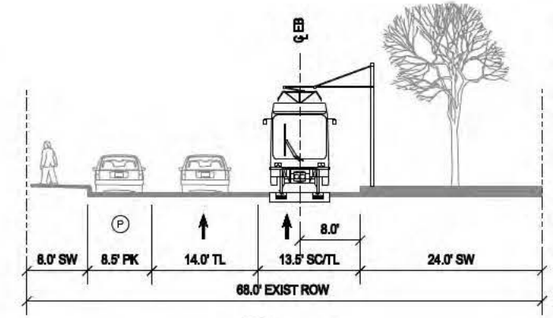

B

LEGEND

DIRECTION OF TRAFFIC	→	BUILDING-REMOVAL		EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM		WORK LIMITS - ASPHALT		WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE		WORK LIMITS - CONCRETE		EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	Ⓟ	WORK LIMITS - BALLAST		WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL T
NEW ROW					
STRUCTURE					

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS DOWNTOWN SEGMENT - ALT2 STA 158+00 EB TO 168+00 EB

DRAWING NO. TR - 19
SHEET NO.
SCALE

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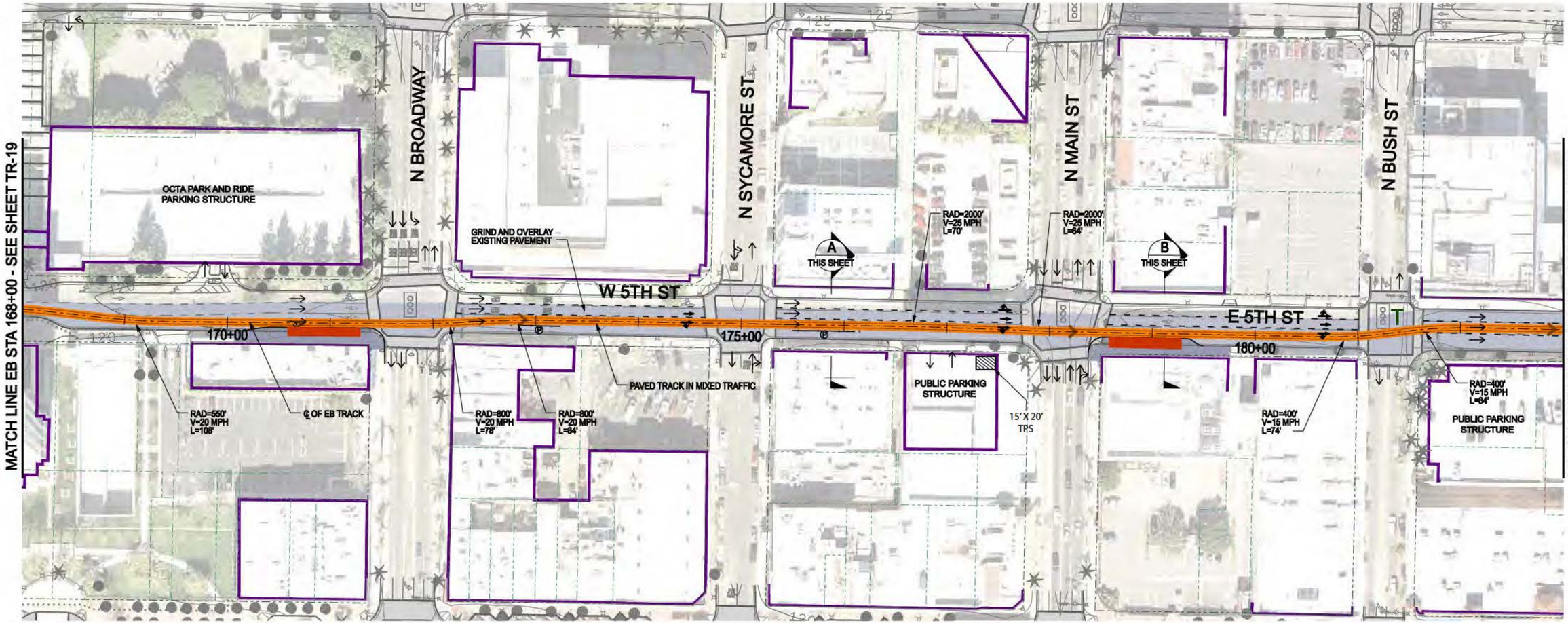

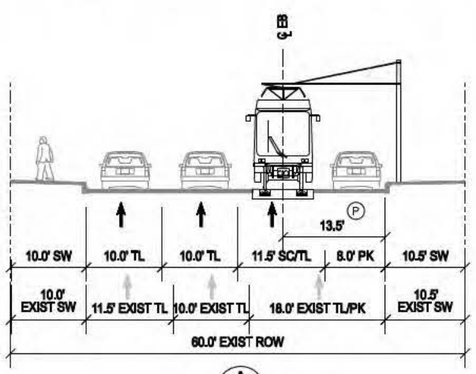

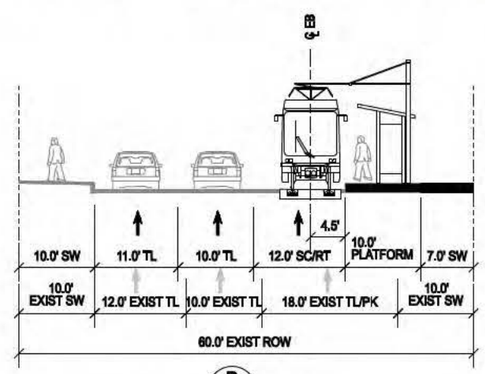

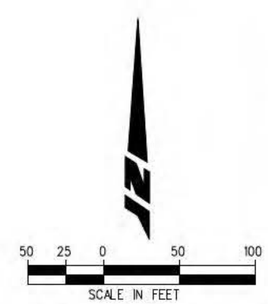

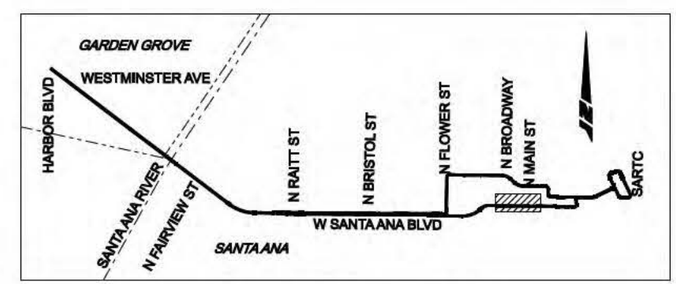

KEY MAP (ALT 2)

LEGEND

- DIRECTION OF TRAFFIC
- PLATFORM
- GATE
- PARKING
- NEW ROW
- STRUCTURE
- BUILDING-REMOVAL
- WORK LIMITS - ASPHALT
- WORK LIMITS - CONCRETE
- WORK LIMITS - BALLAST
- EASTBOUND EMBEDDED TRACK
- WESTBOUND EMBEDDED TRACK
- EASTBOUND BALLASTED TRACK
- WESTBOUND BALLASTED TRACK
- EXISTING SIGNAL
- EXISTING PED SIGNAL
- NEW SIGNAL
- ADD TRANSIT ONLY SIGNAL

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SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS DOWNTOWN SEGMENT - ALT2 STA 168+00 EB TO 183+00 EB

DRAWING NO. TR - 20

SHEET NO.

SCALE

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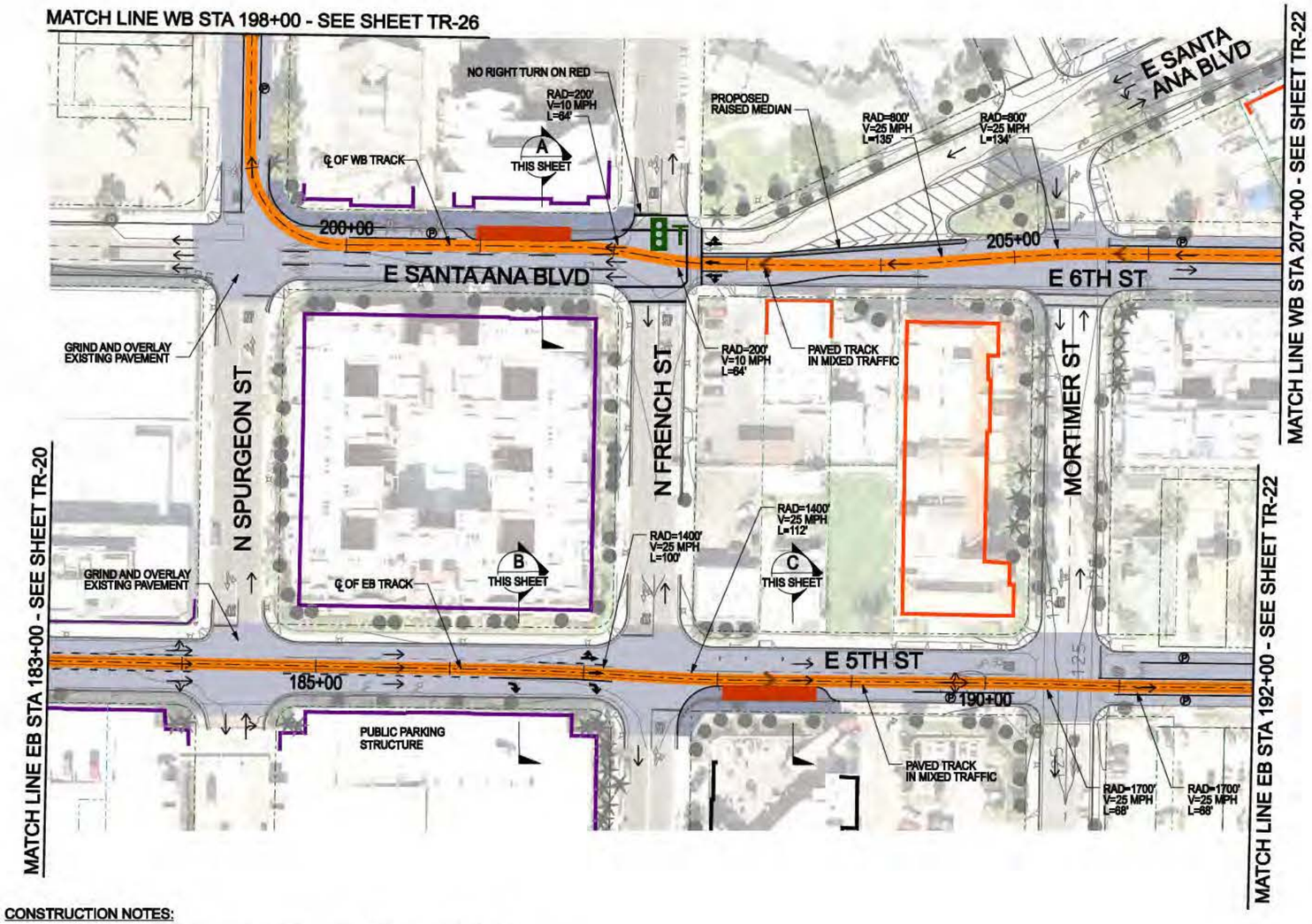
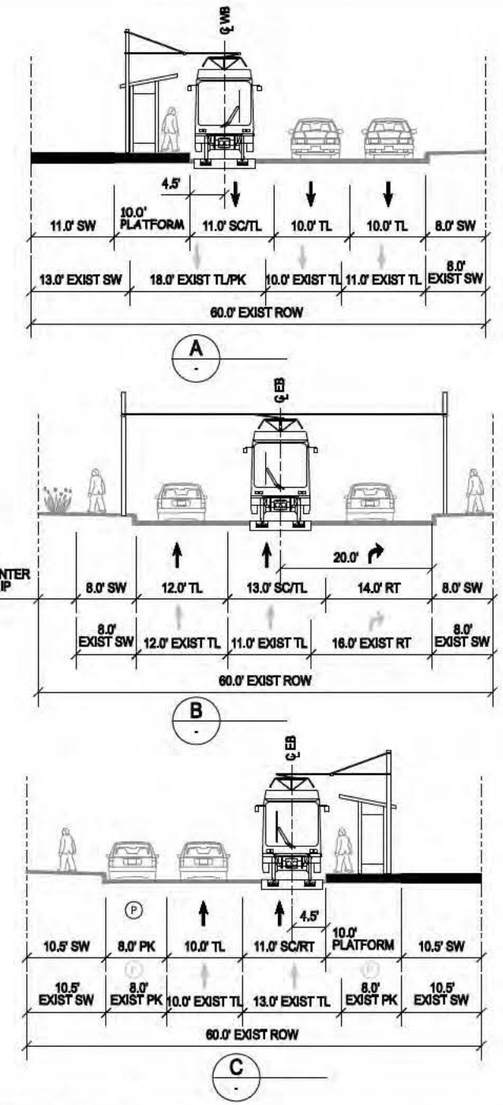
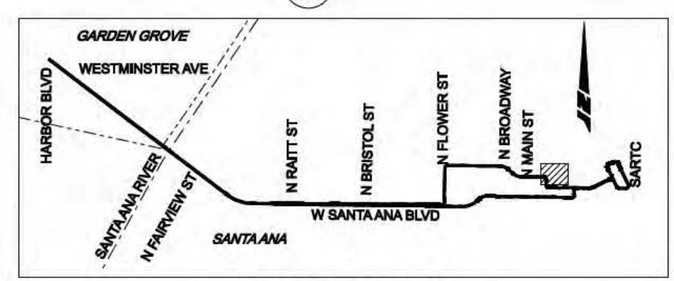




CONSTRUCTION NOTES:

1. ADD NEW 3 PHASE SIGNAL AT INTERSECTION OF N FRENCH ST, E 6TH ST, AND E SANTA ANA BLVD.
2. E 6TH ST AND STREETCAR WILL MERGE ONTO E SANTA ANA BLVD IN ITS OWN PHASE.
3. E SANTA ANA BLVD WILL HAVE ITS OWN PHASE.
4. N FRENCH ST WILL HAVE ITS OWN PHASE.
5. RIGHT TURN FROM N FRENCH ST TO E SANTA ANA BLVD AND E 6TH ST SHALL NOT BE PERMITTED.

50 25 0 50 100
SCALE IN FEET



KEY MAP (ALT 2)

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL	
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL	P
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL	
PARKING Ⓟ	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL	T
NEW ROW				
STRUCTURE				

Plot Driver= SA-StreetCar.plt Pentable= PDX_Exh_SA-StreetCar.tbl

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS DOWNTOWN SEGMENT - ALT2 STA 183+00 EB TO 192+00 EB

DRAWING NO. TR - 21
SHEET NO.
SCALE

USER=Jiming_Huang 7/27/2011 4:17:37 PM d:\29866420 santa ana streetcar\5000 technical\cadd\dwg\TR-21.dgn

MATCH LINE WB STA 207+00 - SEE SHEET TR-21

MATCH LINE EB STA 192+00 - SEE SHEET TR-21

MATCH LINE WB STA 220+23 - SEE SHEET TR-23

MATCH LINE EB STA 208+00 - SEE SHEET TR-23

GRIND AND OVERLAY EXISTING PAVEMENT

CLOSE EXISTING DRIVEWAY

A THIS SHEET

B THIS SHEET

EXISTING ALLEY TO REMAIN OPEN

RAD=300' V=15 MPH L=179'

RAD=700' V=10 MPH L=60'

210+00

200+00

195+00

215+00

205+00

220+00

E 6TH ST

E 5TH ST

N MINTER ST

N PORTER ST

N LACY ST

BROWN ST

GARFIELD ST

JAMES GARFIELD ELEMENTARY SCHOOL

RIGHT OF WAY IMPACT=360 SF

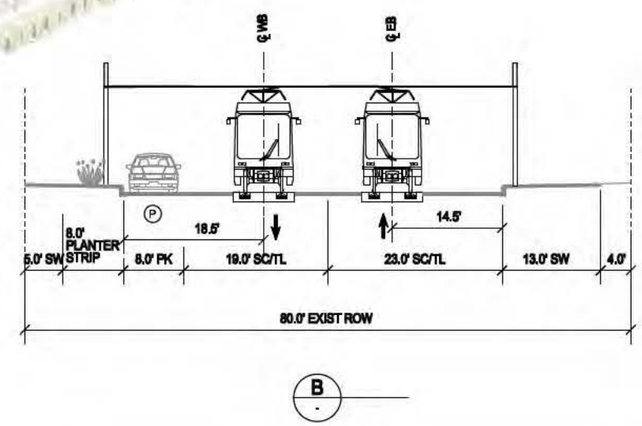
RAD=82' V=5 MPH L=159'

RAD=300' V=5 MPH L=44'

RAD=300' V=5 MPH L=40'

RAD=82' V=5 MPH L=182'

PAVED TRACK IN MIXED TRAFFIC



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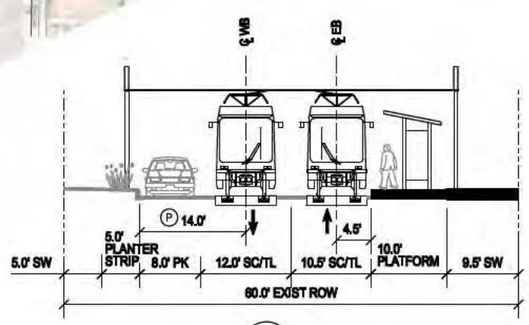

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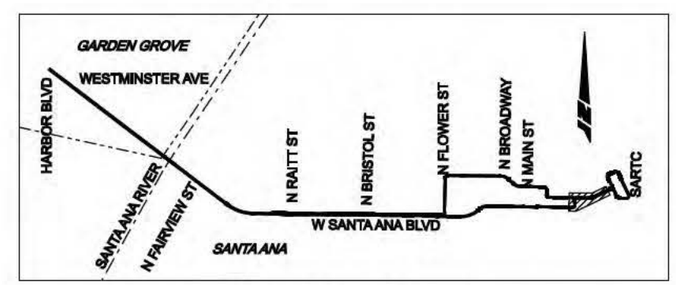
SCALE IN FEET



KEY MAP (ALT 2)

LEGEND

DIRECTION OF TRAFFIC
PLATFORM
GATE
PARKING
NEW ROW
STRUCTURE
BUILDING-REMOVAL
WORK LIMITS - ASPHALT
WORK LIMITS - CONCRETE
WORK LIMITS - BALLAST
EASTBOUND EMBEDDED TRACK
WESTBOUND EMBEDDED TRACK
EASTBOUND BALLASTED TRACK
WESTBOUND BALLASTED TRACK
EXISTING SIGNAL
EXISTING PED SIGNAL
NEW SIGNAL
ADD TRANSIT ONLY SIGNAL

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS
DOWNTOWN SEGMENT - ALT2
STA 192+00 EB TO 208+00 EB

DRAWING NO. TR-22
SHEET NO. OF 28
SCALE

USER=Jiming_Huang 8/18/2012 4:59:01 PM D:\29866420 Santa Ana Streetcar\5000 Technical\CADD\dwg\TR-22.dgn

Plot Driver= SA-StreetCar.plt Pentable= PDX_Exh_SA-StreetCar.tbl

SARTC

EXISTING PARK & RIDE / BUS FACILITY

B THIS SHEET

SANTIAGO ST

220+00

225+00

RAD=82' V=5 MPH L=197'

PROPOSED MAINTENANCE FACILITY SITE OPTION A SEE SHEET MF-01B

POSSIBLE LEADS TO MAINTENANCE FACILITY

RAD=82' V=5 MPH L=147'

RAD=82' V=5 MPH L=33'

RIGHT OF WAY IMPACT=1500 SF

E SANTA ANA BLVD

E 6TH ST

RAD=82' V=5 MPH L=31'

215+00

15'X20' TRACTION POWER SUBSTATION

GRIND AND OVERLAY EXISTING PAVEMENT

RELOCATE DRIVEWAY AS SHOWN. MAKE EXIT RIGHT TURN ONLY

RAD=82' V=5 MPH L=169'

RAD=400' V=15 MPH L=73'

NON-REVENUE TRACK (100')

A THIS SHEET

25m TURNOUT

RIGHT OF WAY IMPACT=300 SF

230+00

210+00

222+48.30

POINSETTIA ST

233+54.70

POINSETTIA ST

T

25m TURNOUT

RAD=82' V=5 MPH L=122'

℄ OF TRACK

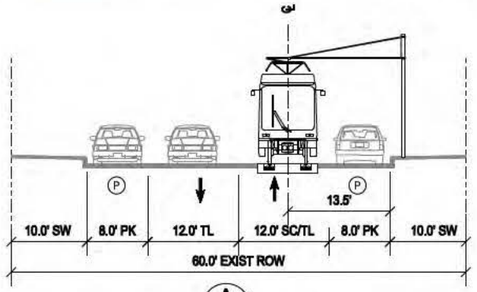
RAD=82' V=5 MPH L=167'

DIAMOND CROSSING

RAD=82' V=5 MPH L=166'

PAVED TRACK IN MIXED TRAFFIC

MATCH LINE WB STA 220+23 - SEE SHEET TR-22
MATCH LINE EB STA 208+00 - SEE SHEET TR-22



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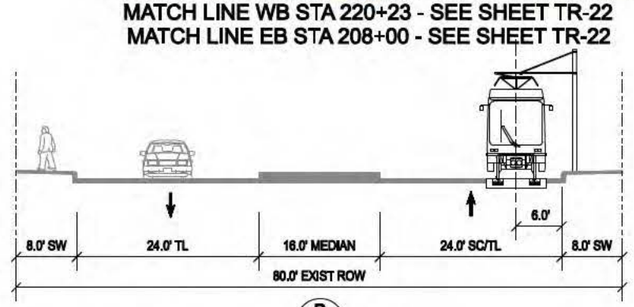
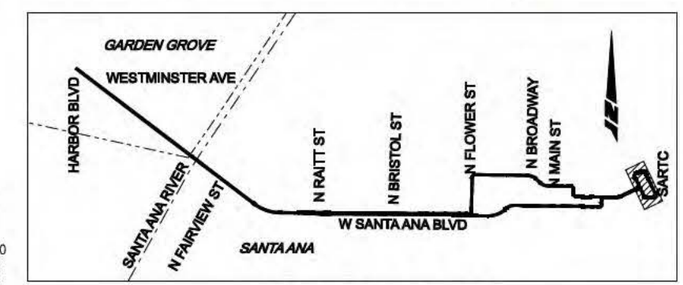


B

50 25 0 50 100
SCALE IN FEET



KEY MAP (ALT 2)

LEGEND

DIRECTION OF TRAFFIC
PLATFORM
GATE
PARKING
NEW ROW
STRUCTURE
BUILDING-REMOVAL
WORK LIMITS - ASPHALT
WORK LIMITS - CONCRETE
WORK LIMITS - BALLAST
EASTBOUND EMBEDDED TRACK
WESTBOUND EMBEDDED TRACK
EASTBOUND BALLASTED TRACK
WESTBOUND BALLASTED TRACK
EXISTING SIGNAL
EXISTING PED SIGNAL
NEW SIGNAL
ADD TRANSIT ONLY SIGNAL

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS
DOWNTOWN SEGMENT - ALT2
STA 208+00 EB TO SARTC

DRAWING NO. TR - 23
SHEET NO.
SCALE

Plot Driver= SA-StreetCar.plt Pentable= PDX_Exh_SA-StreetCar.tbl

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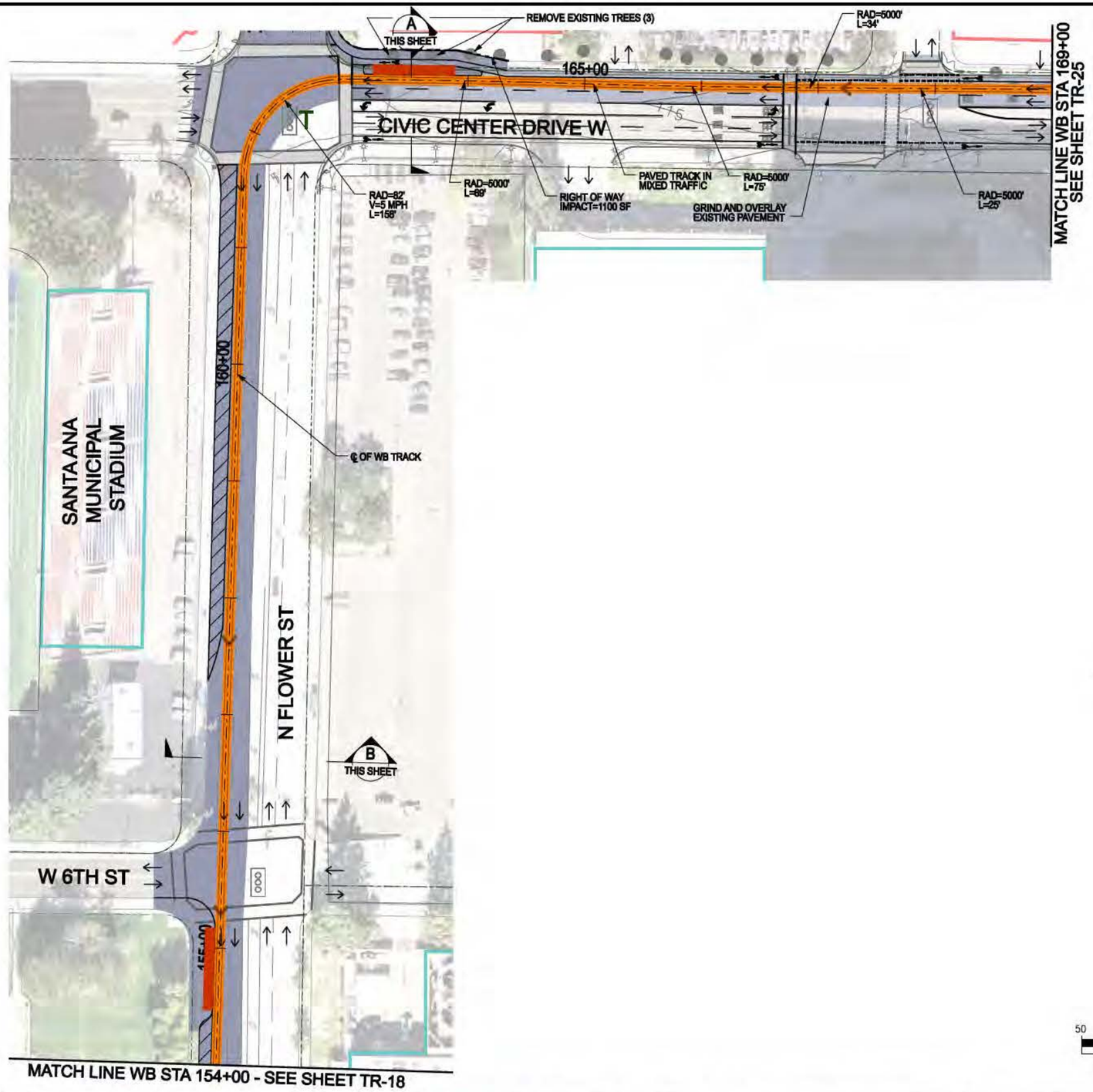

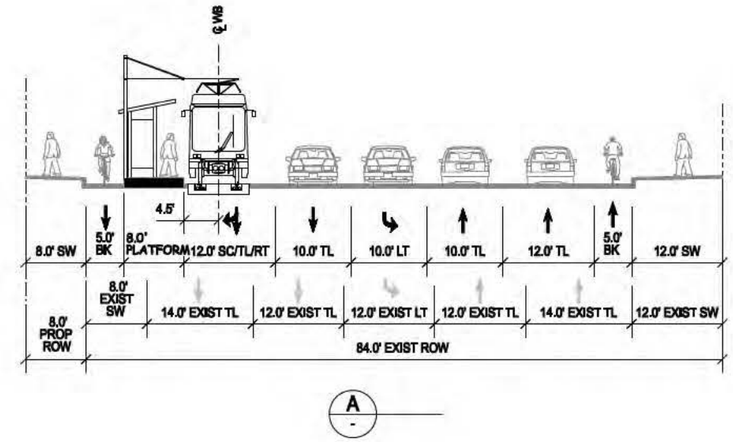

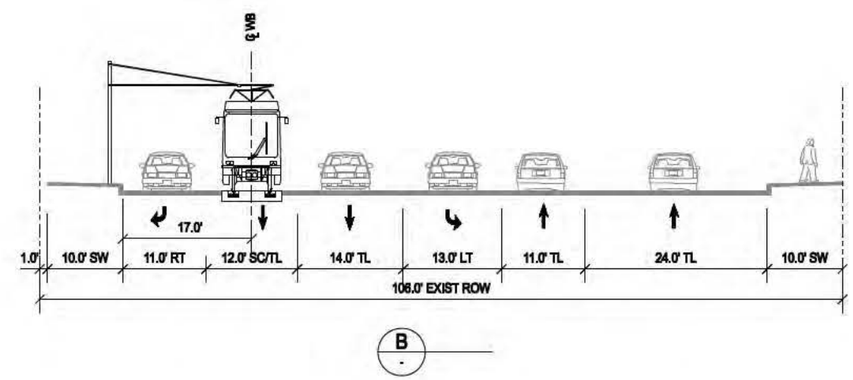

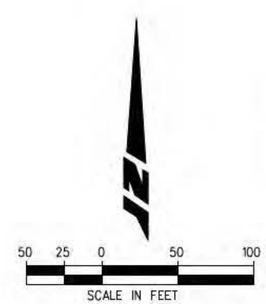

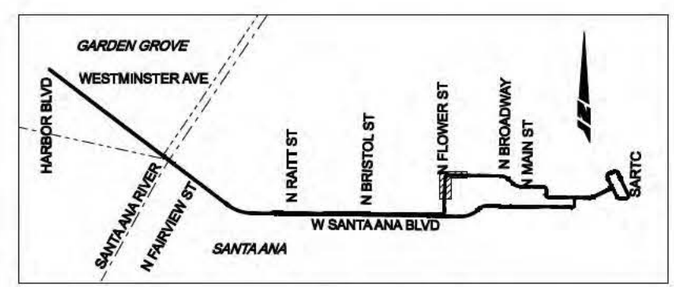

KEY MAP (ALT 2)

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

Plot Driver= SA-StreetCar.plt Pentable= PDX_Exh_SA-StreetCar.tbl

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 2
CIVIC CENTER DRIVE OPTION A
STA 154+00 TO STA 169+00 WB

DRAWING NO. TR - 24A
SHEET NO.
SCALE

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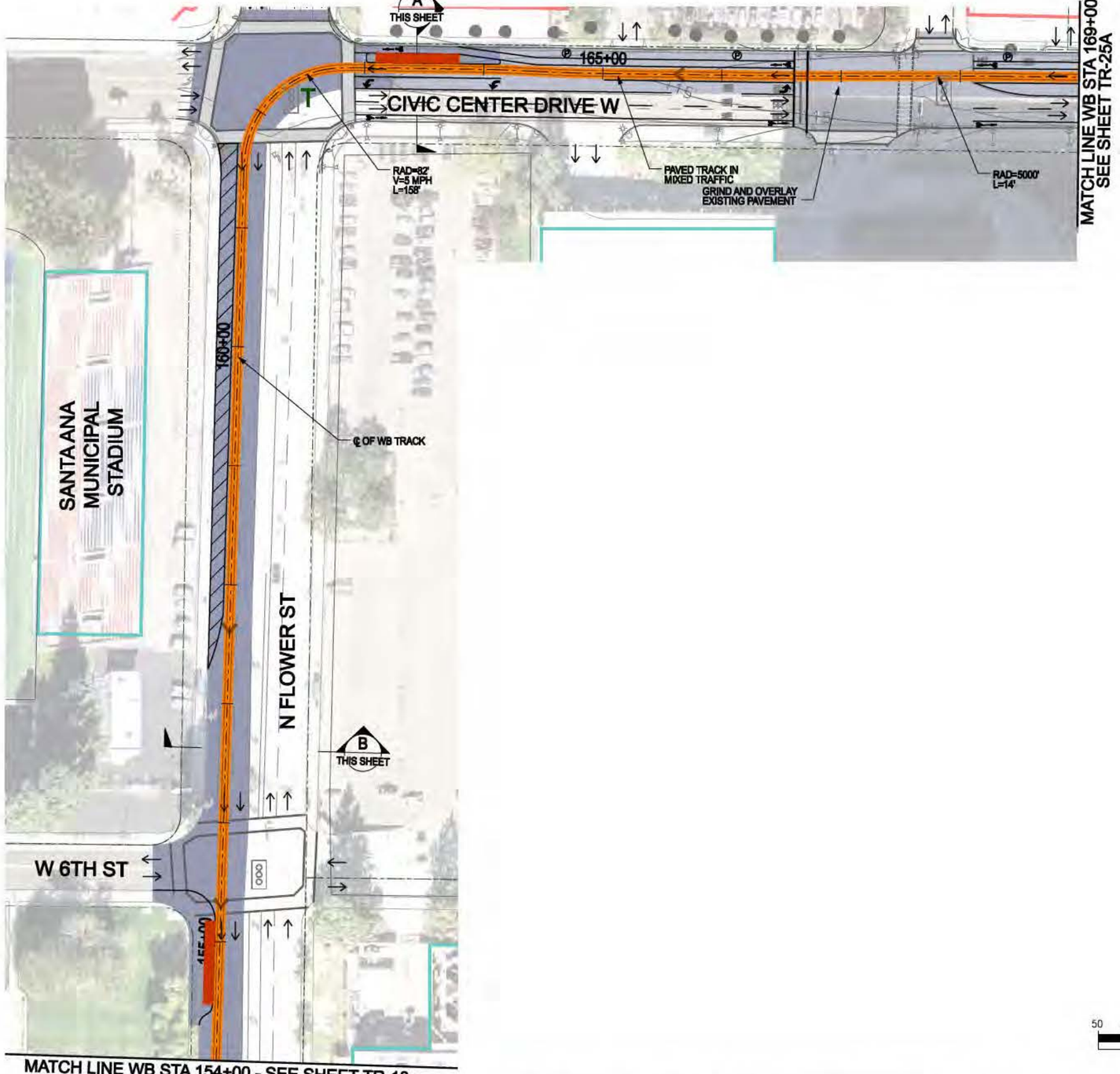

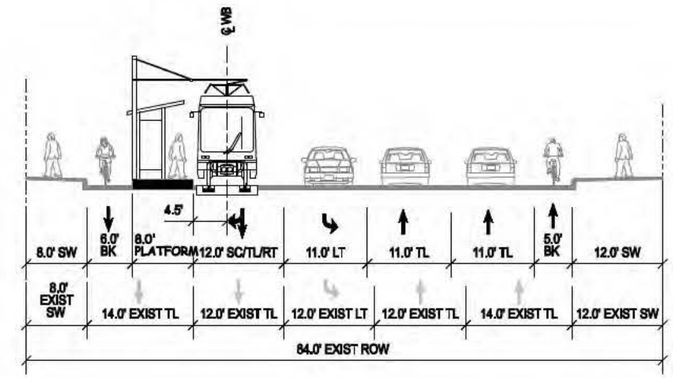

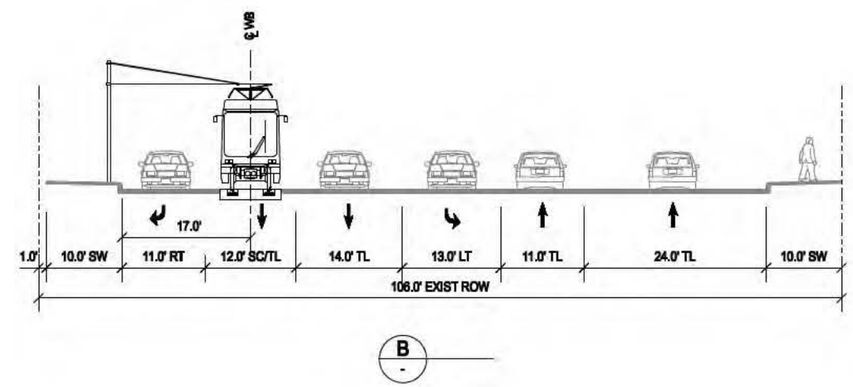

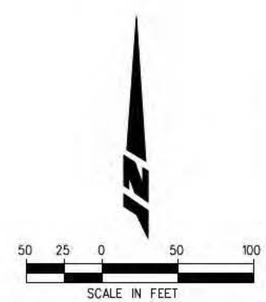

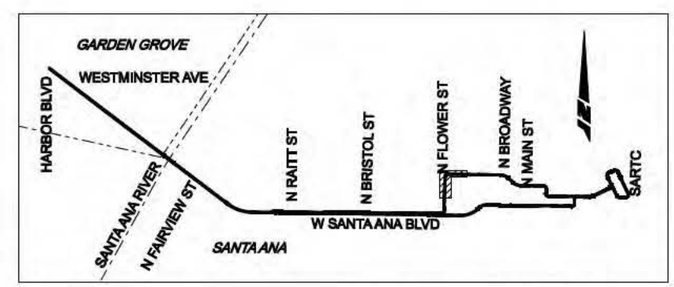

KEY MAP (ALT 2)

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 2
CIVIC CENTER DRIVE OPTION B
STA 154+00 TO STA 169+00 WB

DRAWING NO. TR - 24B
SHEET NO.
SCALE

Plot Driver= SA-StreetCar.plt
Pentable= PDX_Exh_SA-StreetCar.tbl
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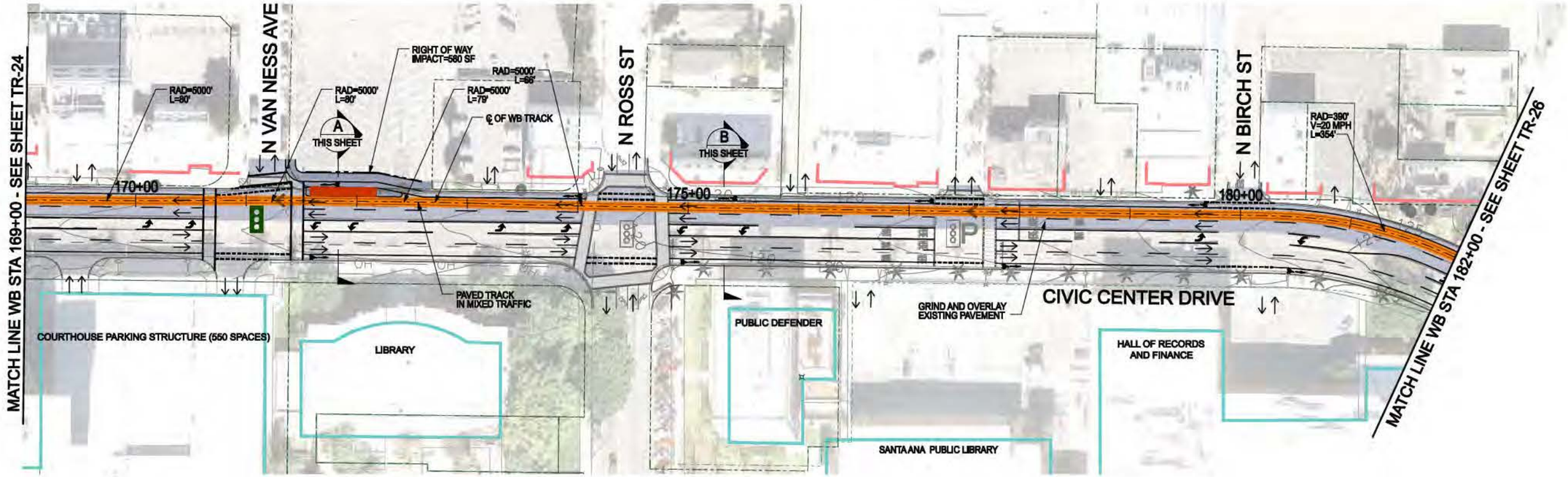

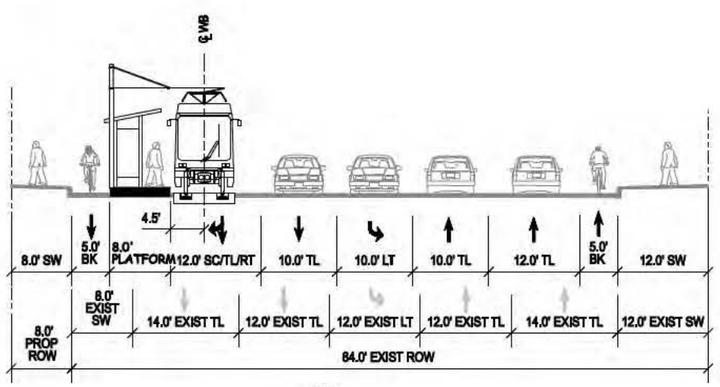

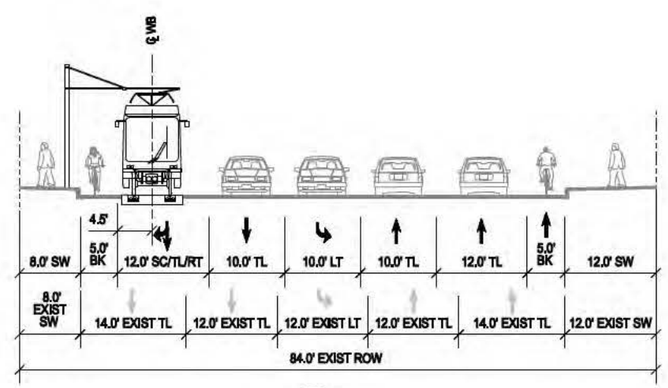

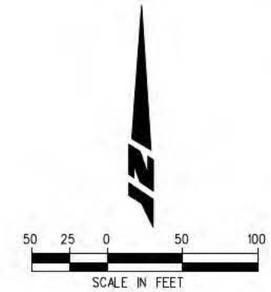

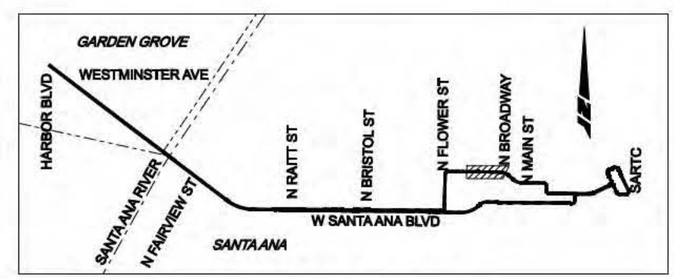

KEY MAP (ALT 2)

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 2
CIVIC CENTER DRIVE OPTION A
STA 169+00 TO STA 182+00 WB

DRAWING NO. TR - 25A
SHEET NO.
SCALE

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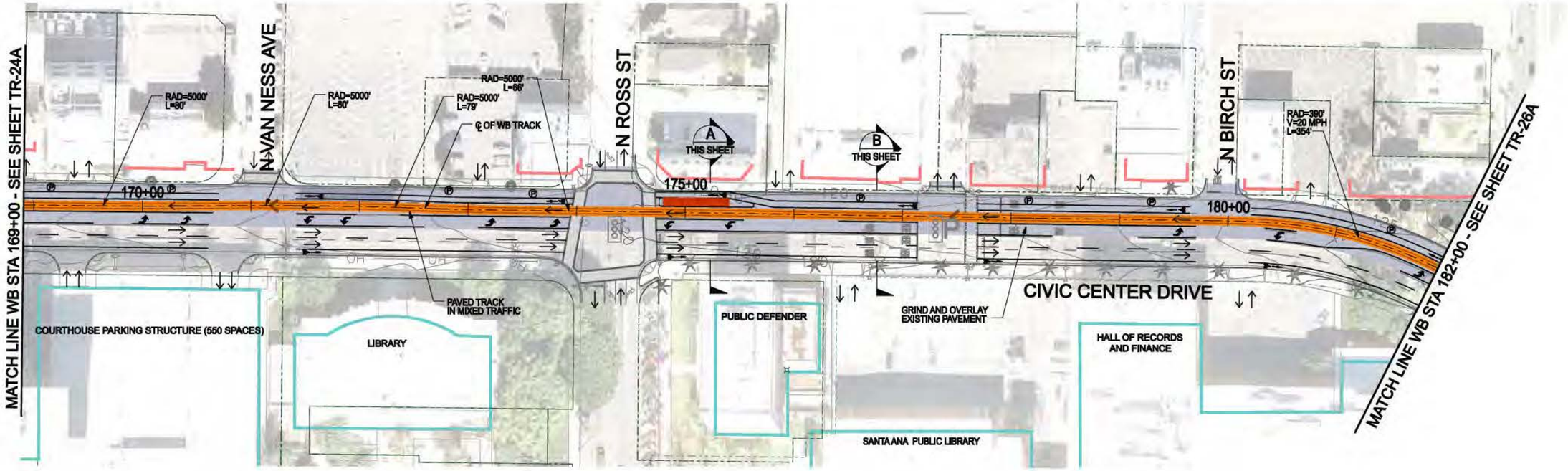
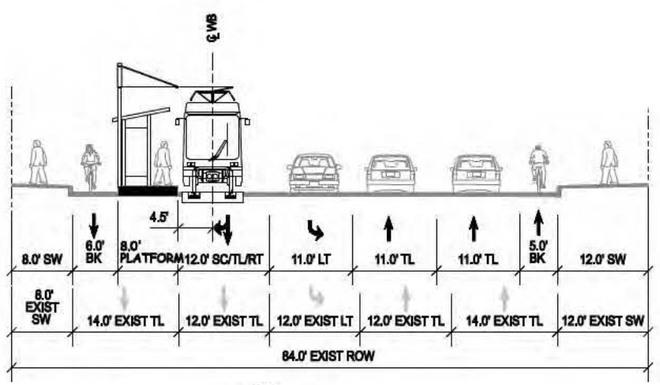
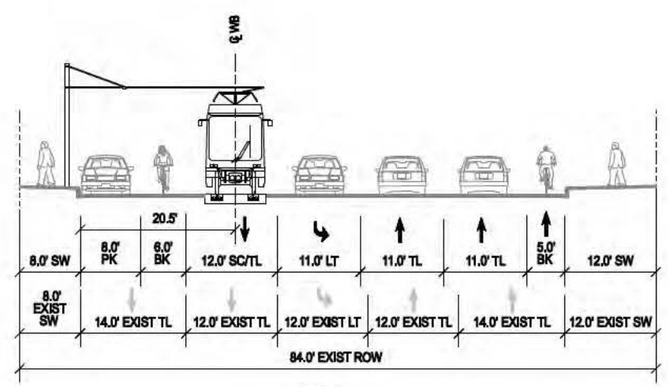
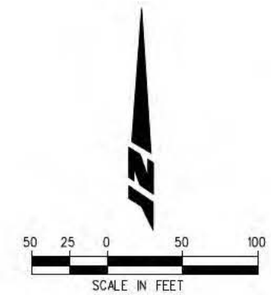
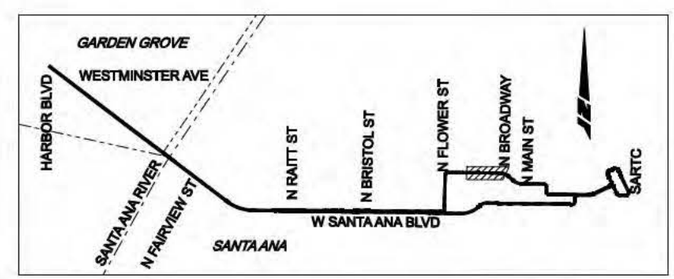
Pentable= PDX_Exh_SA-StreetCar.tbl











KEY MAP (ALT 2)

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

Plot Driver= SA-StreetCar.plt Pentable= PDX_Exh_SA-StreetCar.tbl

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 2
CIVIC CENTER DRIVE OPTION B
STA 169+00 TO STA 182+00 WB

DRAWING NO. TR - 25B
SHEET NO.
SCALE

USER=jlming_Huang 2/27/2011 4:18:38 PM o:\29866420 santa ana streetcar\5000 technical\cadd\dwg\TR-25A.dgn

MATCH LINE WB STA 182+00
SEE SHEET TR-25

RIGHT OF WAY IMPACT=730 SF

MODIFY EXISTING DRIVEWAY

185+00

N BROADWAY

N SYCAMORE ST

RAD=420'
V=20 MPH
L=375'

A
THIS SHEET

℄ OF WB TRACK

RAD=5000'
L=75'

190+00

N MAIN ST

RAD=5000'
L=57'

RIGHT OF WAY IMPACT=16719 SF

B
THIS SHEET

RAD=5000'
L=65'

N BUSH ST

RAD=5000'
L=66'

195+00

RAD=821'
V=5 MPH
L=159'

N SPURGEON ST

OLD COURTHOUSE SURFACE PARKING LOT (25 SPACES)

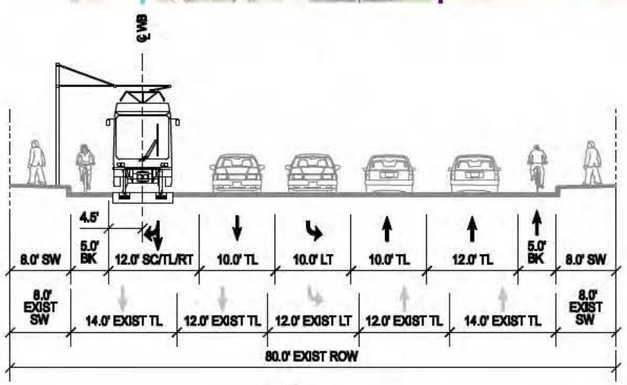
OLD COURTHOUSE

GRIND AND OVERLAY EXISTING PAVEMENT

PAVED TRACK IN MIXED TRAFFIC

CIVIC CENTER DRIVE W

MATCH LINE WB STA 198+00
SEE SHEET TR-21



A
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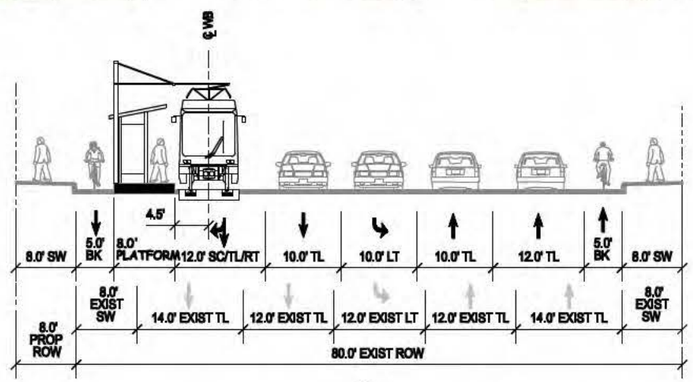
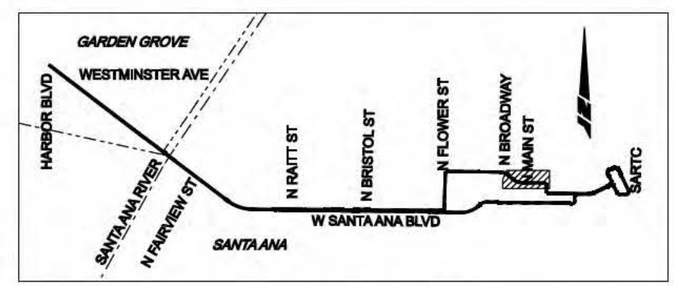


B
-

50 25 0 50 100
SCALE IN FEET



KEY MAP (ALT 2)

LEGEND

DIRECTION OF TRAFFIC
PLATFORM
GATE
PARKING
NEW ROW
STRUCTURE
BUILDING-REMOVAL
WORK LIMITS - ASPHALT
WORK LIMITS - CONCRETE
WORK LIMITS - BALLAST
EASTBOUND EMBEDDED TRACK
WESTBOUND EMBEDDED TRACK
EASTBOUND BALLASTED TRACK
WESTBOUND BALLASTED TRACK
EXISTING SIGNAL
EXISTING PED SIGNAL
NEW SIGNAL
ADD TRANSIT ONLY SIGNAL

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS DOWNTOWN SEGMENT - ALT2 STA 182+00 WB TO 198+00 WB

DRAWING NO. TR-26
SHEET NO. OF 28
SCALE

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Plot Driver= SA-StreetCar.plt Pentable= PDX_Exh_SA-StreetCar.tbl

MATCH LINE WB STA 182+00
SEE SHEET TR-25A

MODIFY EXISTING DRIVEWAY

N BROADWAY

N SYCAMORE ST

N MAIN ST

N BUSH ST

N SPURGEON ST

185+00

190+00

195+00

RAD=420'
V=20 MPH
L=375'

A
THIS SHEET

℄ OF WB TRACK

RAD=5000'
L=75'

RAD=5000'
L=57'

B
THIS SHEET

RAD=5000'
L=65'

RAD=5000'
L=68'

RAD=82'
V=5 MPH
L=159'

OLD COURTHOUSE SURFACE PARKING LOT (25 SPACES)

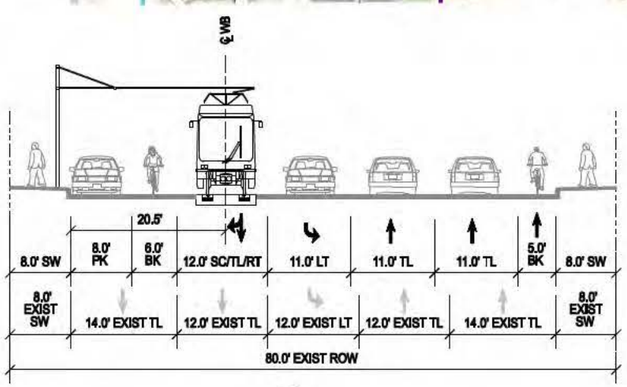
OLD COURTHOUSE

GRIND AND OVERLAY EXISTING PAVEMENT

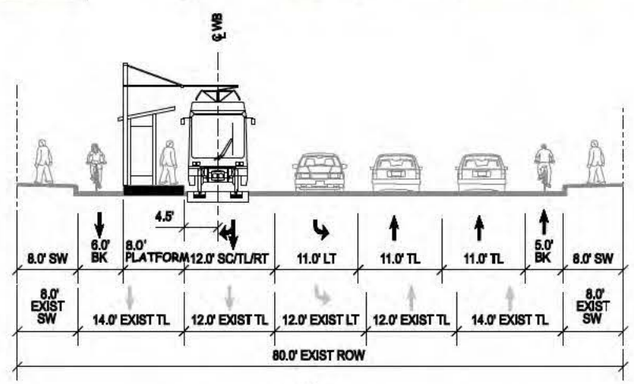
PAVED TRACK IN MIXED TRAFFIC

CIVIC CENTER DRIVE W

MATCH LINE WB STA 198+00
SEE SHEET TR-21

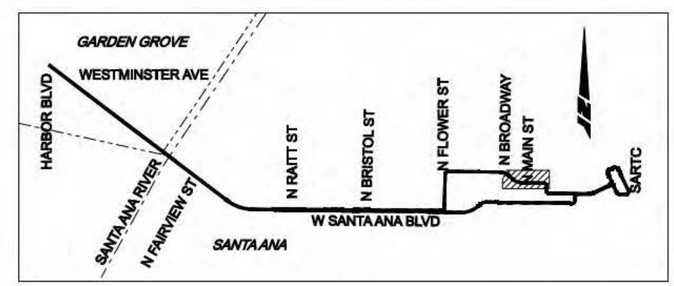


A
-



B
-

50 25 0 50 100
SCALE IN FEET



KEY MAP (ALT 2)

LEGEND

- DIRECTION OF TRAFFIC
- PLATFORM
- GATE
- PARKING
- NEW ROW
- STRUCTURE
- BUILDING-REMOVAL
- WORK LIMITS - ASPHALT
- WORK LIMITS - CONCRETE
- WORK LIMITS - BALLAST
- EASTBOUND EMBEDDED TRACK
- WESTBOUND EMBEDDED TRACK
- EASTBOUND BALLASTED TRACK
- WESTBOUND BALLASTED TRACK
- EXISTING SIGNAL
- EXISTING PED SIGNAL
- NEW SIGNAL
- ADD TRANSIT ONLY SIGNAL

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DOWNTOWN SEGMENT - ALT 2
CIVIC CENTER DRIVE OPTION B
STA 182+00 TO STA 198+00 WB

DRAWING NO. TR - 26B
SHEET NO.
SCALE

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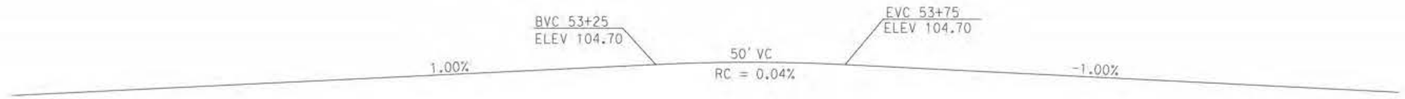
Pentable= PDX_Exh_SA-StreetCar.tbl

SECTION 2:
STRUCTURAL FACILITIES

CORDOBA CORPORATION



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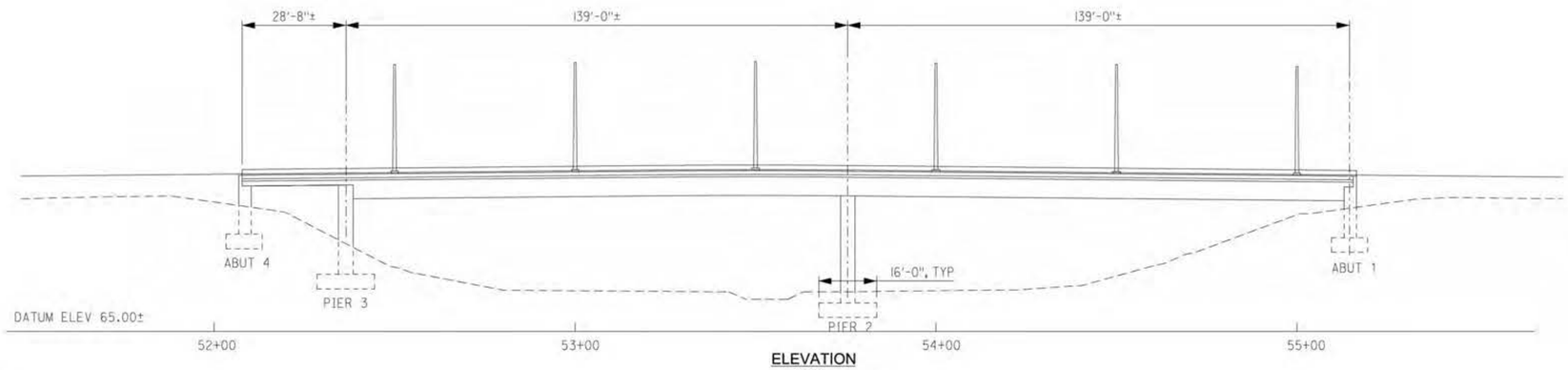
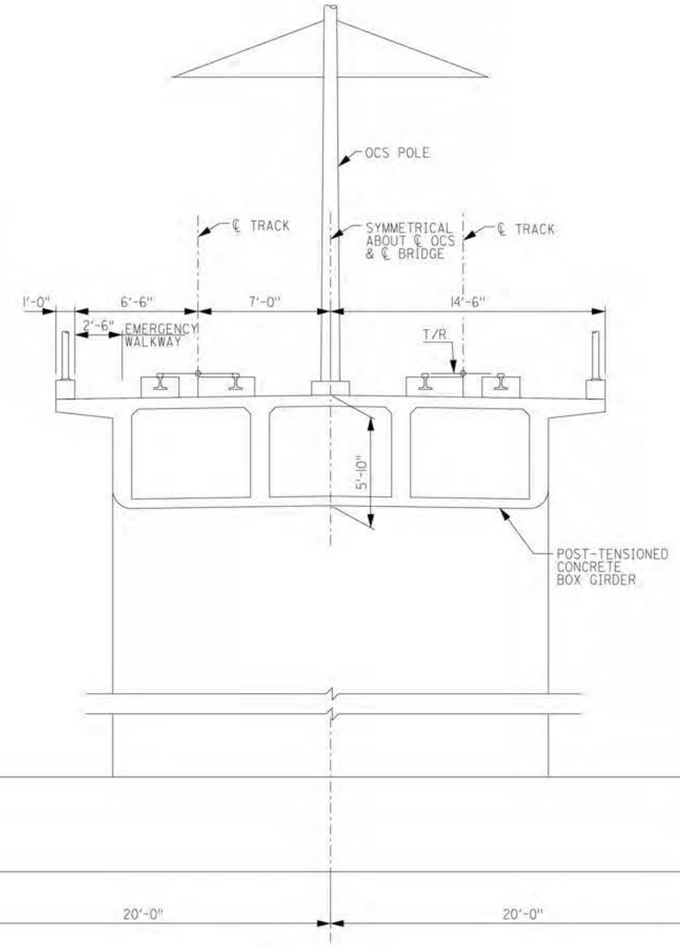
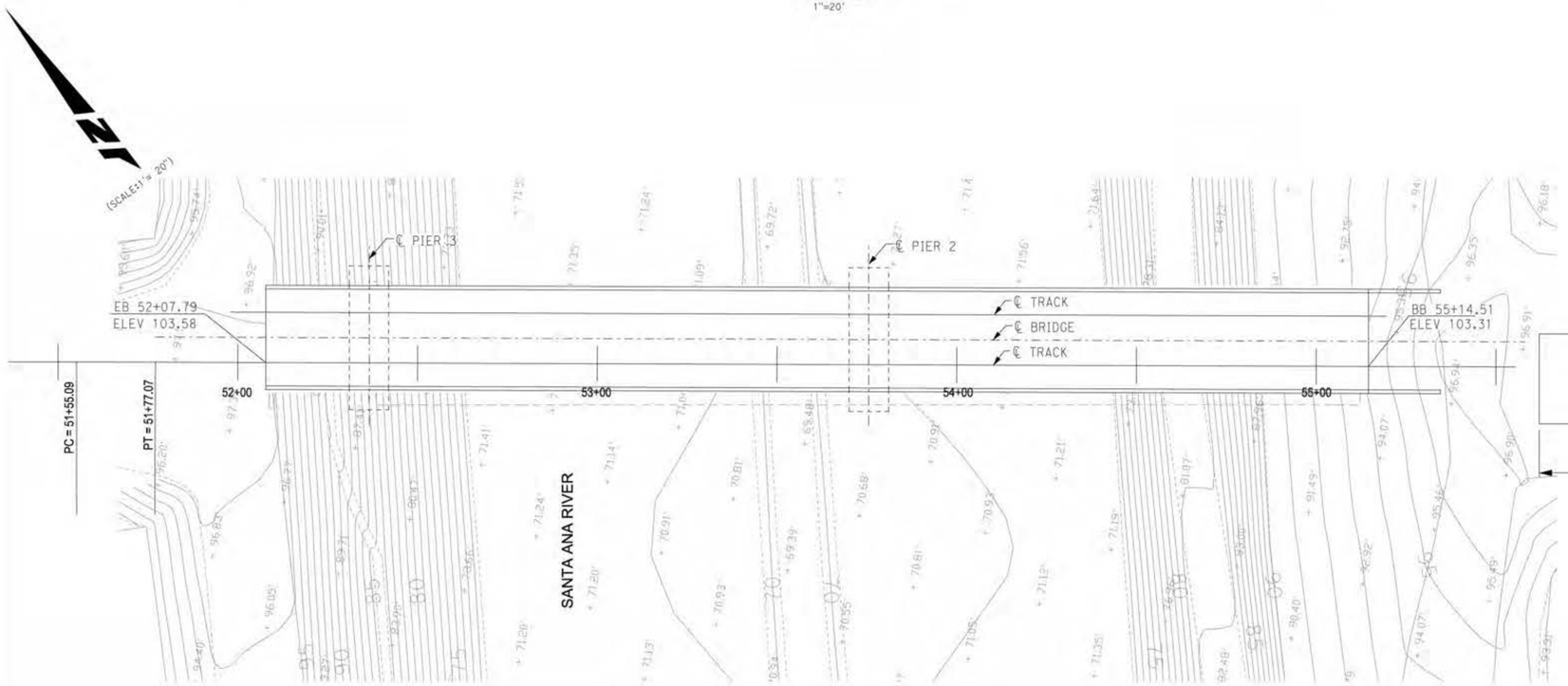


ELEVATION
1"=20'



TYPICAL SECTION
1/4"=1'-0"



PLAN
1"=20'

NOTES:

1. EXIST BRIDGE NOT SHOWN.
2. FOR EXISTING BRIDGE RELOCATION, SEE "EXIST BRIDGE RELOCATION - OPTION 1" SHEET.

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SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

SANTA ANA RIVER BRIDGE

OPTION 1: BRIDGE REPLACEMENT

DRAWING NO. S-01A

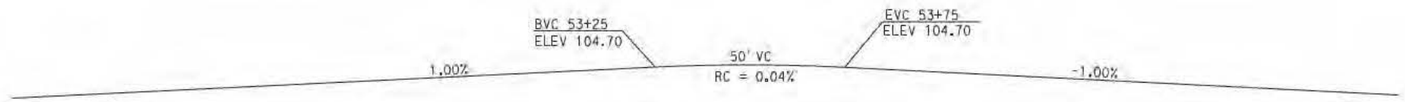
SHEET NO. OF

SCALE

9/7/2012 3:07:49 PM S1_GP-OPT1.dgn

lzhang

Plot Driver= $PLTDRV$$ Pentable= $PENTBL$$



PROFILE GRADE
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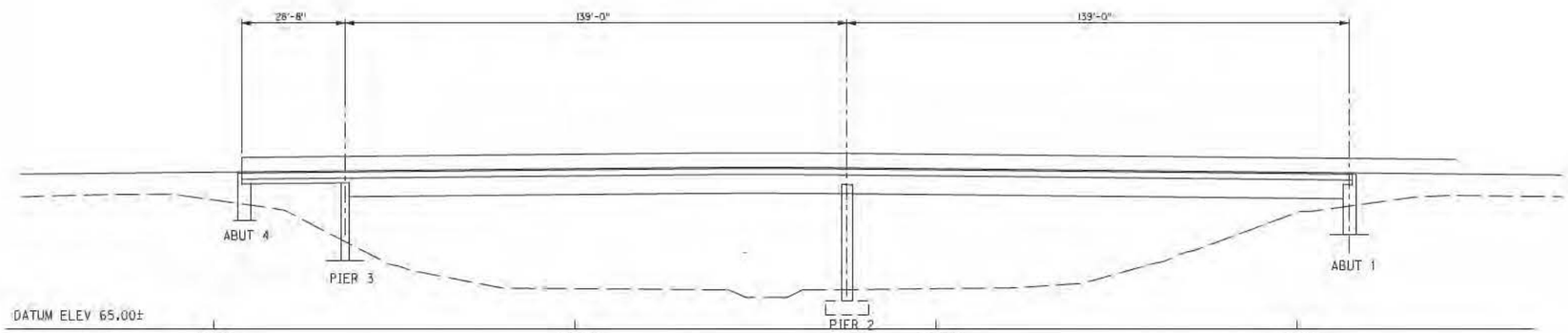

ELEVATION
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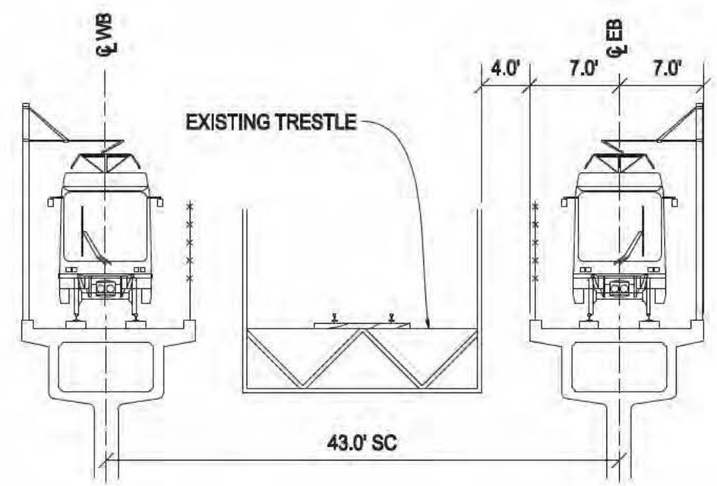

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SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

SANTA ANA RIVER BRIDGE
OPTION 2: BRIDGE AVOIDANCE OPTION A

DRAWING NO. SR - 01B
SHEET NO.
SCALE

8/8/2011 11:58:57 AM S1_GP.dgn
jzhang

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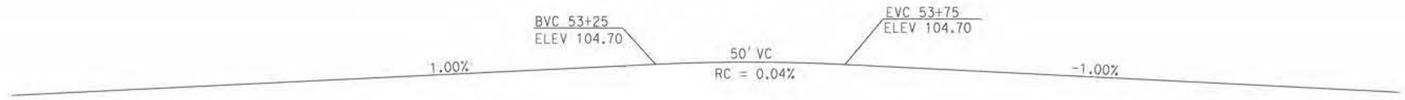
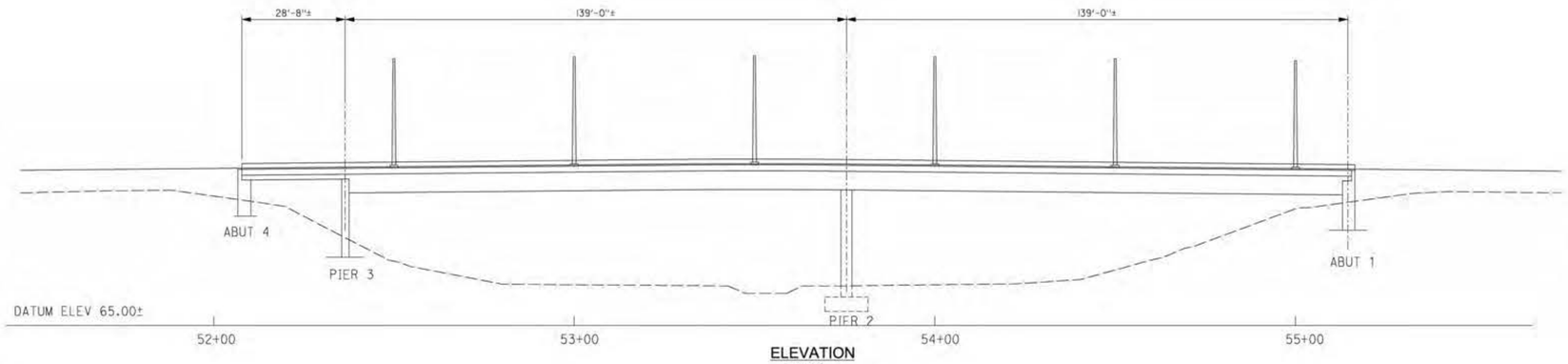


PROFILE GRADE
NO SCALE



ELEVATION
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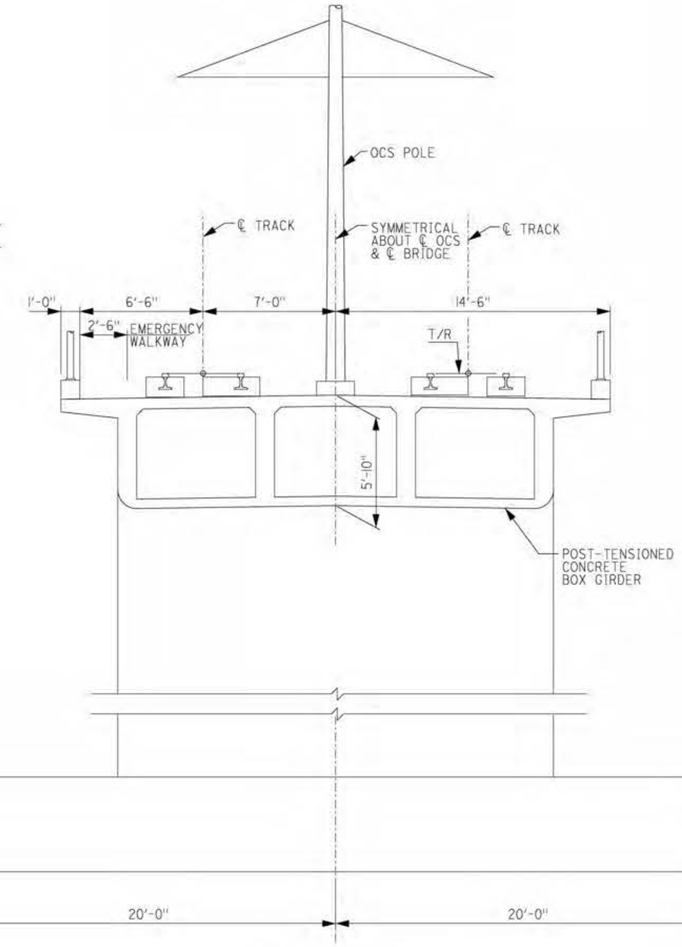
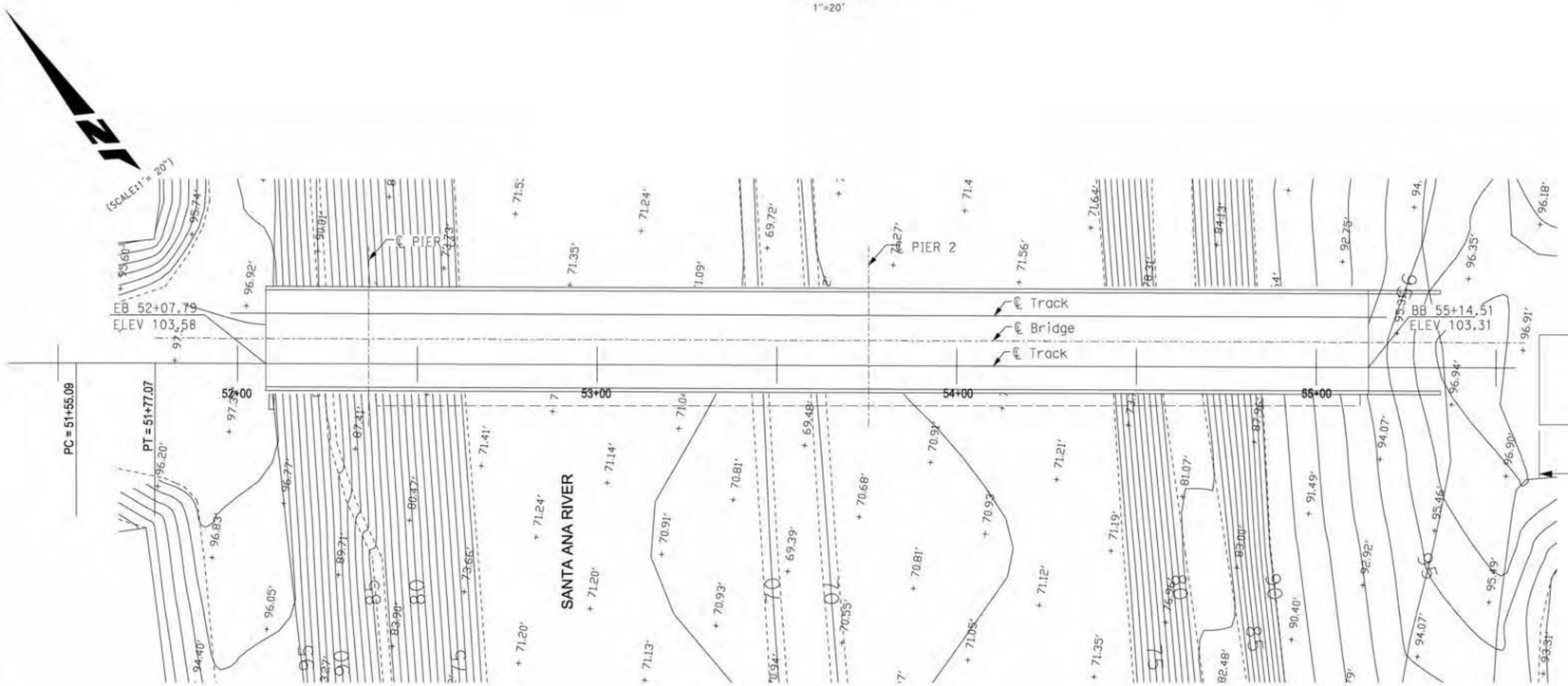


TYPICAL SECTION
1/4"=1'-0"



PLAN
1"=20'

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GARDEN GROVE

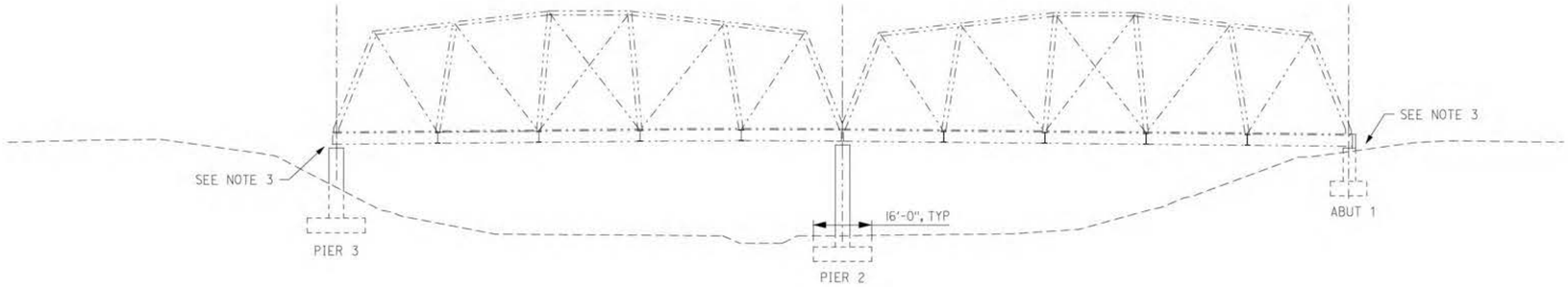
SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

SANTA ANA RIVER BRIDGE
OPTION 3: BRIDGE RELOCATION
(NEW BRIDGE)

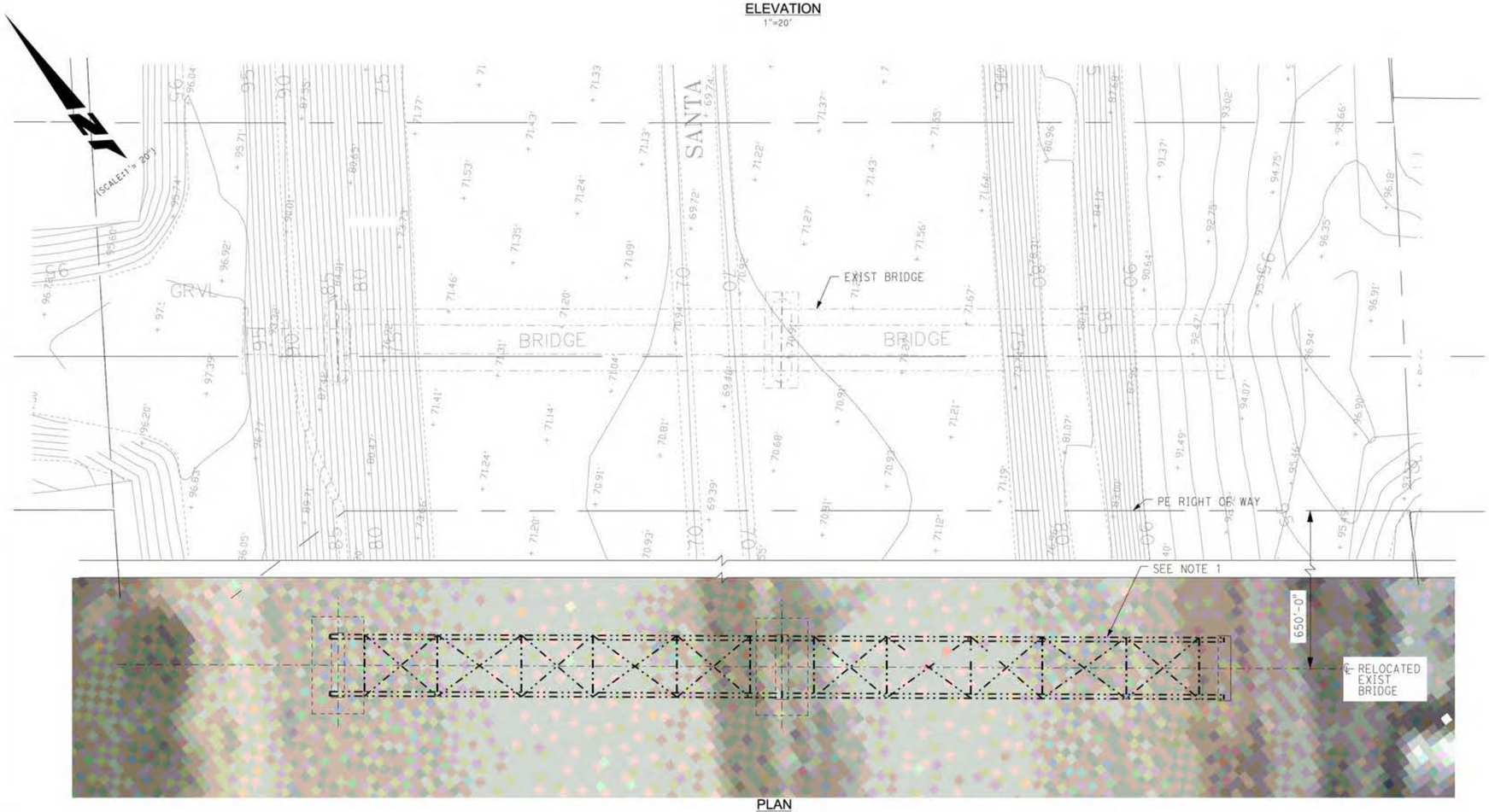
DRAWING NO. SR-01C
SHEET NO. OF
SCALE

8/31/2012 10:13:45 AM $FILE$
lzhang

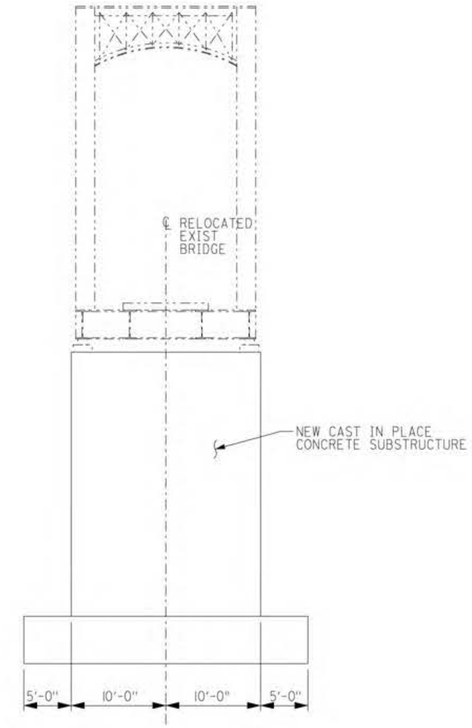
Plot Driver= $PLTDRVS$ Pentable= $PENTBLS$



ELEVATION
1"=20'



PLAN
1"=20'



TYPICAL SECTION
1/8"=1'-0"

NOTES:

1. EXIST BRIDGE TO BE RELOCATED 650' SOUTH OF ROW.
2. THE EXISTING BRIDGE HAS NOT BEEN EVALUATED TO CARRY DEAD OR LIVE LOAD.
3. APPROACH STRUCTURE BY OTHERS.
4. EXIST BRIDGE SPANS TO BE PROTECTED DURING RELOCATION.

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

SANTA ANA RIVER BRIDGE
OPTION 3: BRIDGE RELOCATION
(OLD BRIDGE)

DRAWING NO.	SR - 01D
SHEET NO.	OF
SCALE	

9/7/2012 3:09:10 PM S1_GP-OPT1-2.dgn
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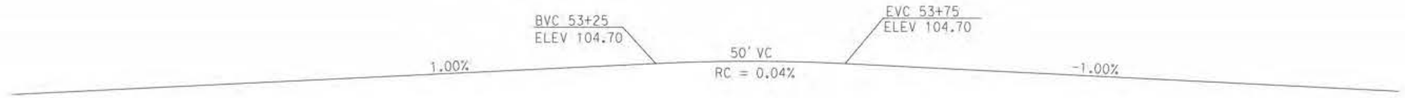
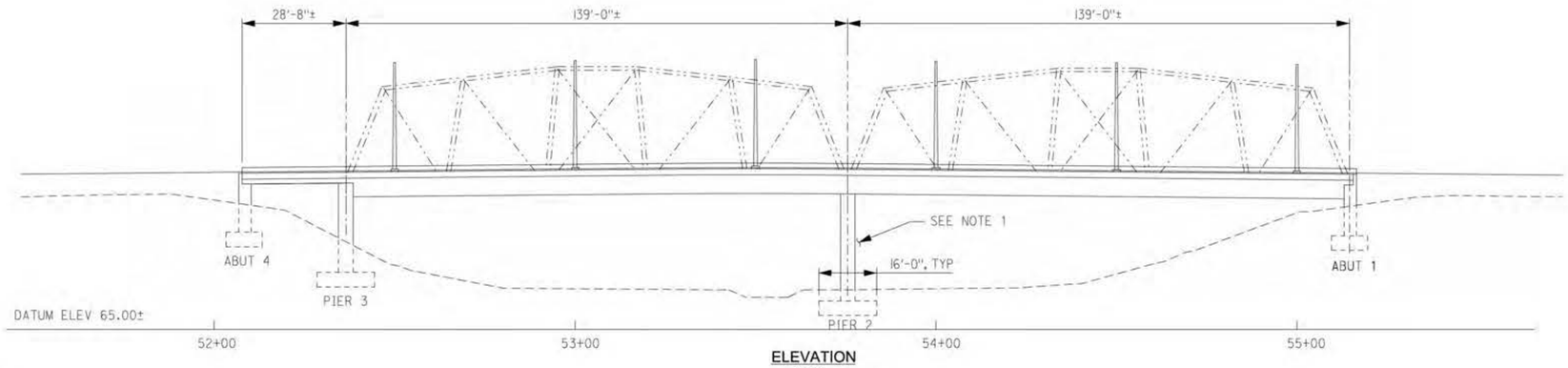
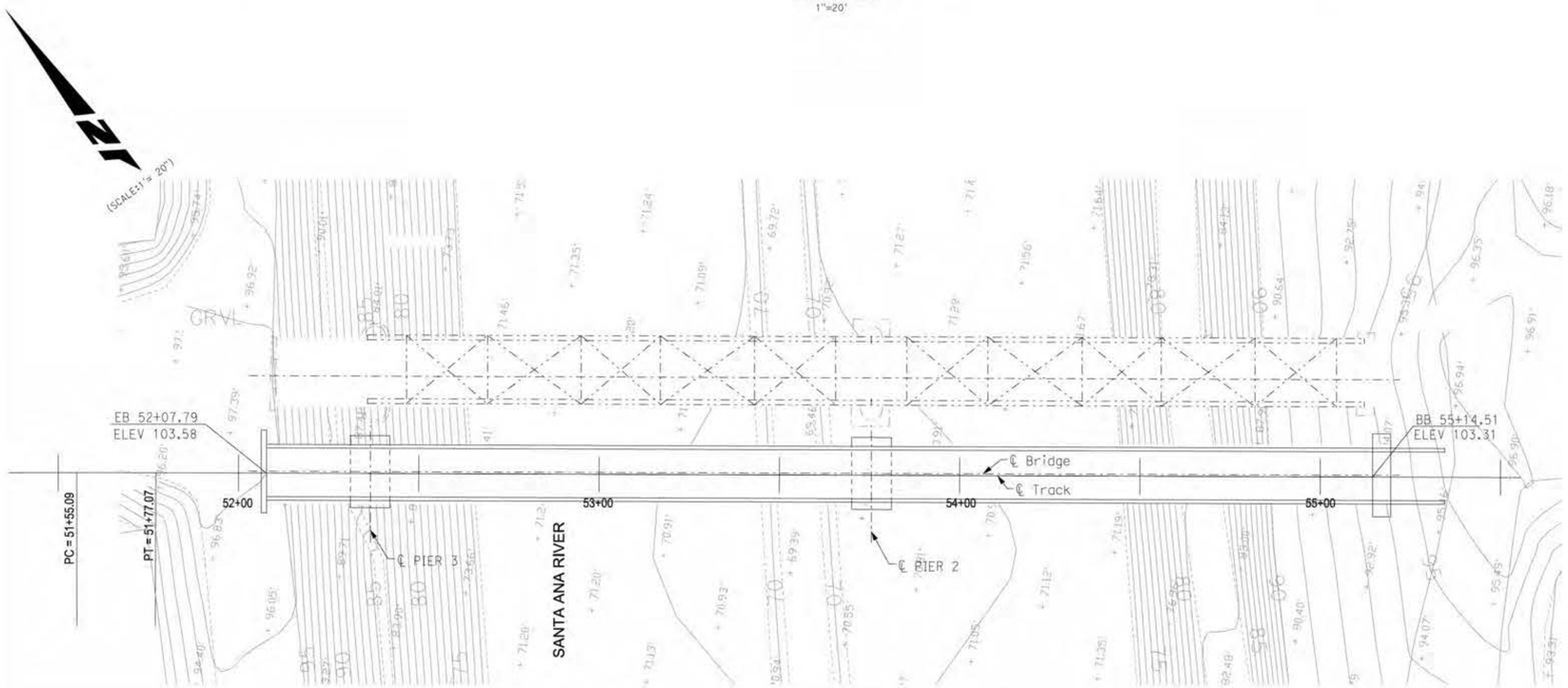
Pentable= $PENTBLS$



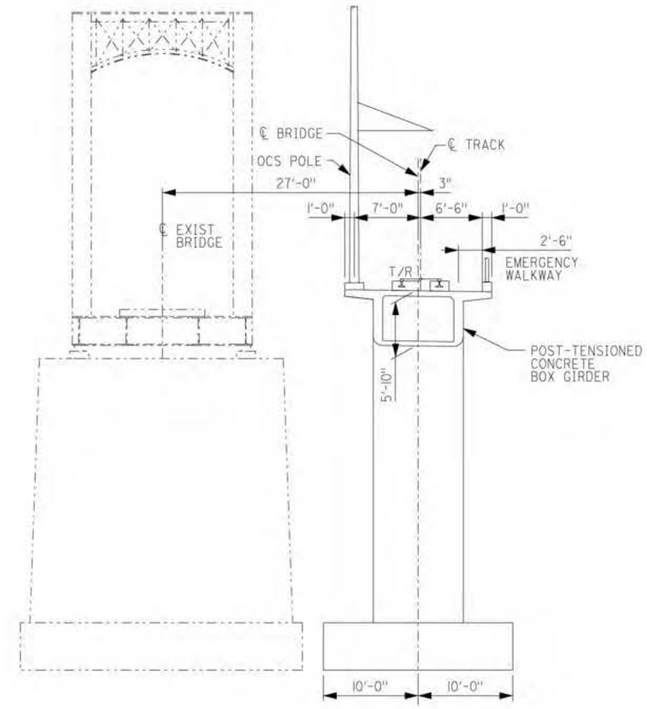
PROFILE GRADE
NO SCALE



ELEVATION
1"=20'



PLAN
1"=20'



TYPICAL SECTION
1/8"=1'-0"

NOTES:

1. EXIST SUBSTRUCTURE BEYOND NOT SHOWN FOR CLARITY.
2. THE EXIST BRIDGE HAS NOT BEEN EVALUATED TO CARRY DEAD OR LIVE LOAD.

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GARDEN GROVE

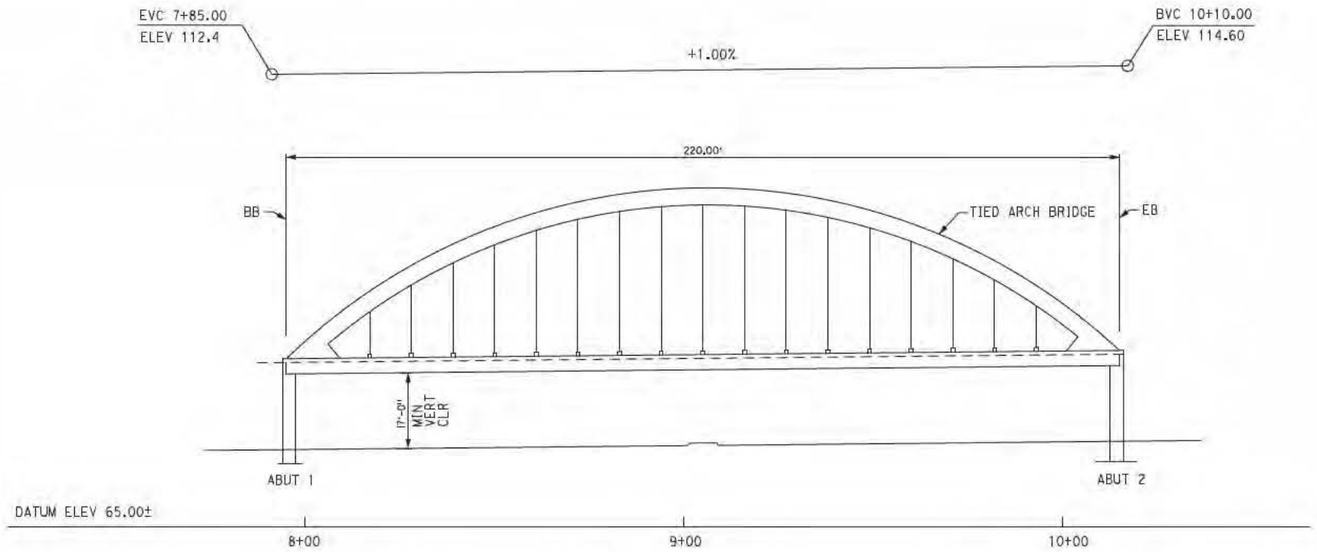
SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

SANTA ANA RIVER BRIDGE
OPTION 4: BRIDGE AVOIDANCE
OPTION B

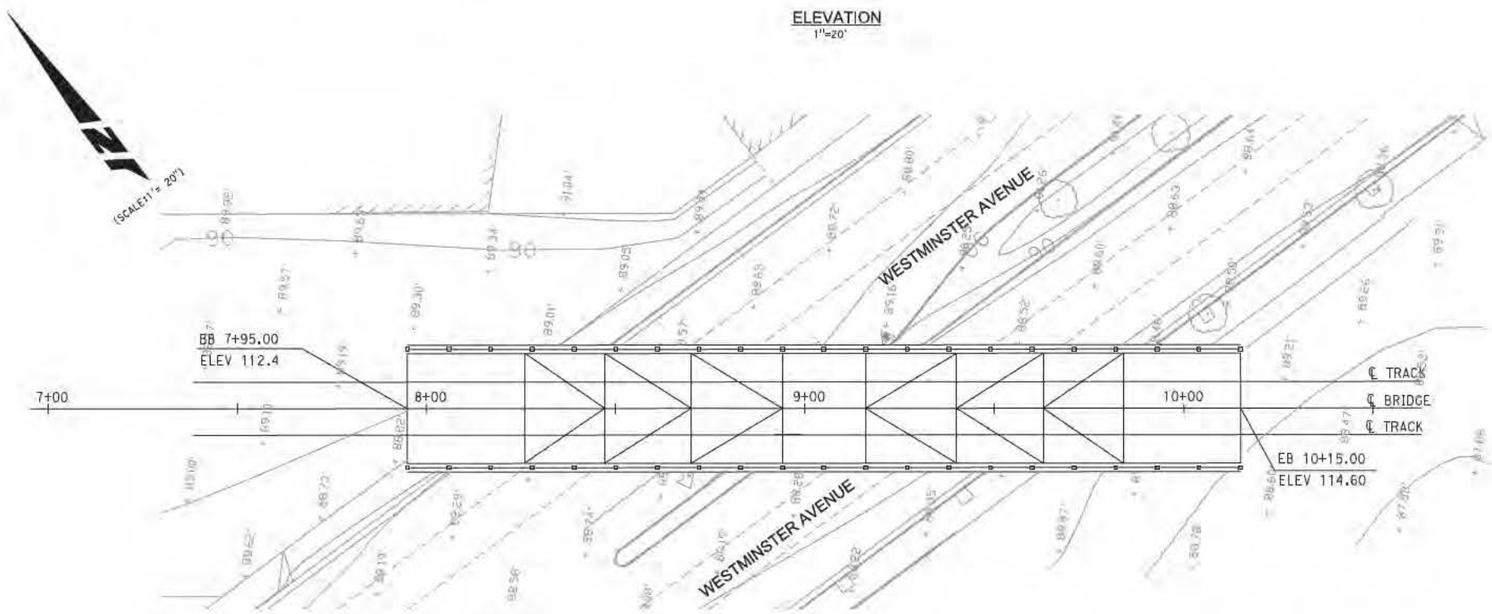
DRAWING NO. S-01E
SHEET NO. OF
SCALE

9/7/2012 12:40:59 PM S1_GP-OPT2.dgn
lzhang

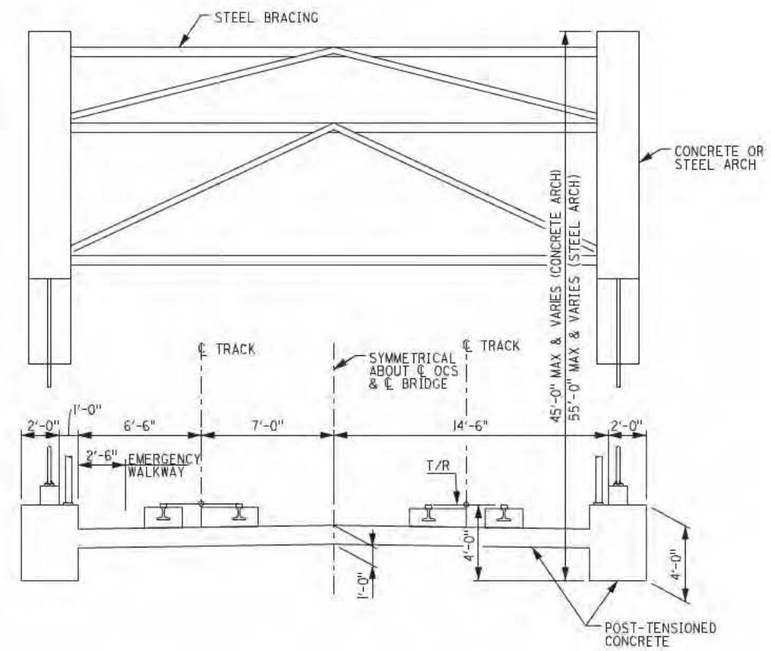
Plot Driver= $PLTDRVS$ Pentable= $PENTBLS$



ELEVATION
1"=20'



PLAN
1"=20'



TYPICAL SECTION
1/4"=1'-0"

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SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

WESTMINSTER AVE BRIDGE GENERAL PLAN

DRAWING NO. SR - 02

SHEET NO.

SCALE

8/8/2011 12:02:25 PM S2_GP_A1T2.dgn

lzhang

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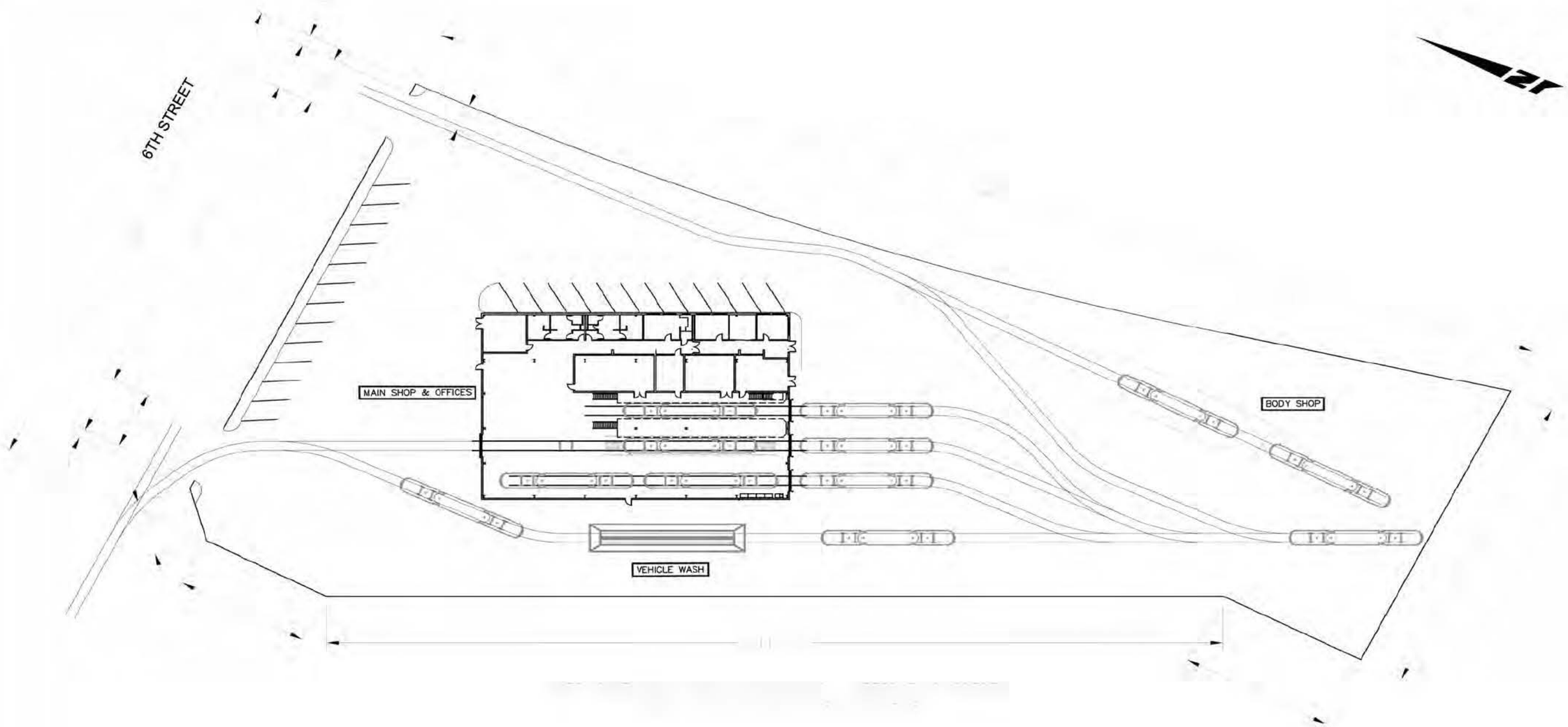
SECTION 3:
MAINTENANCE FACILITY SITE PLANS & DETAILS

CORDOBA CORPORATION



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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

STREETCAR MAINTENANCE FACILITY
ALTERNATIVE SITE "A" LAYOUT

DRAWING NO. MF - 01

SHEET NO.

SCALE NTS

USER=CAD6 3/22/2011 5:53:58 PM Z:\ENG\Santa_Ana_Fixed_Guideway\CADD\12_Maint_facility\MF-01.dgn

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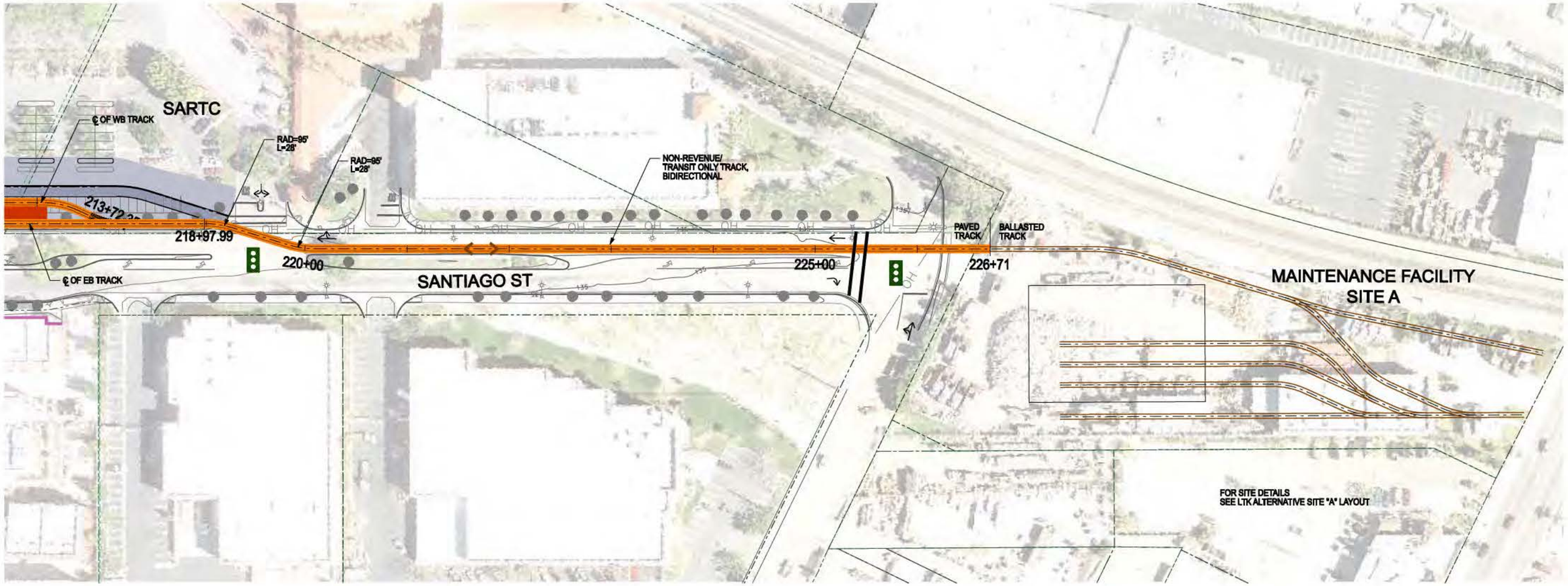

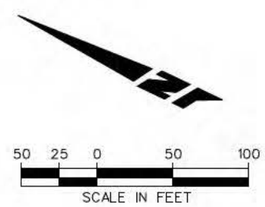

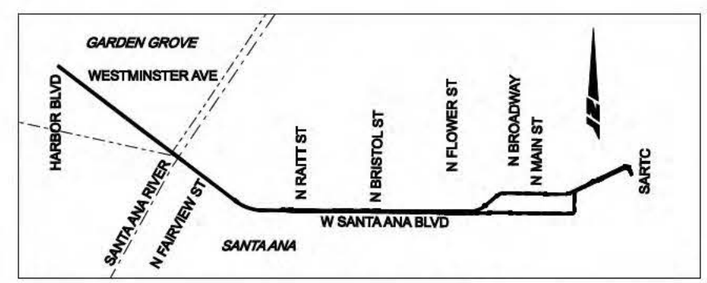

KEY MAP (ALT 1)

LEGEND

DIRECTION OF TRAFFIC
PLATFORM
GATE
PARKING
NEW ROW
STRUCTURE
BUILDING-REMOVAL
WORK LIMITS - ASPHALT
WORK LIMITS - CONCRETE
WORK LIMITS - BALLAST
EASTBOUND EMBEDDED TRACK
WESTBOUND EMBEDDED TRACK
EASTBOUND BALLASTED TRACK
WESTBOUND BALLASTED TRACK
EXISTING SIGNAL
EXISTING PED SIGNAL
NEW SIGNAL
ADD TRANSIT ONLY SIGNAL

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS DOWNTOWN SEGMENT - ALT1 ACCESS TO MAINTENANCE FACILITY - SITE A

DRAWING NO. MF - 01A
SHEET NO.
SCALE

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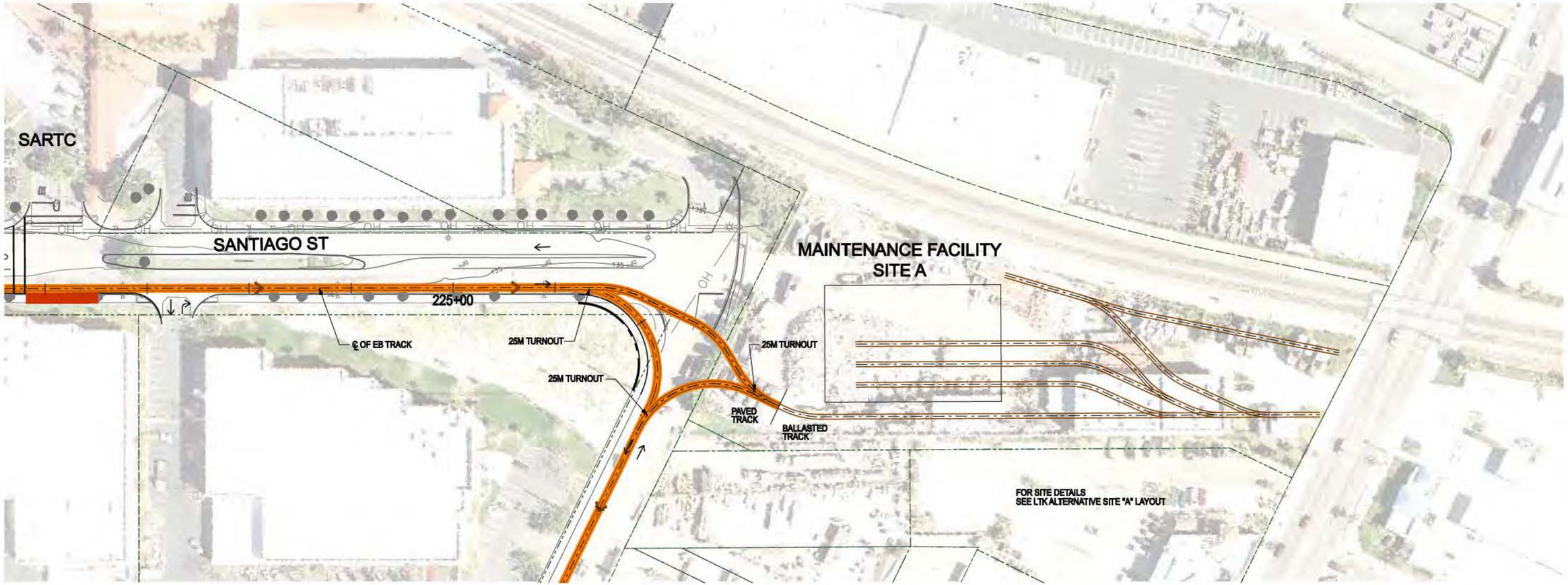

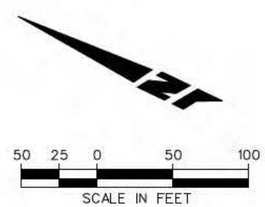

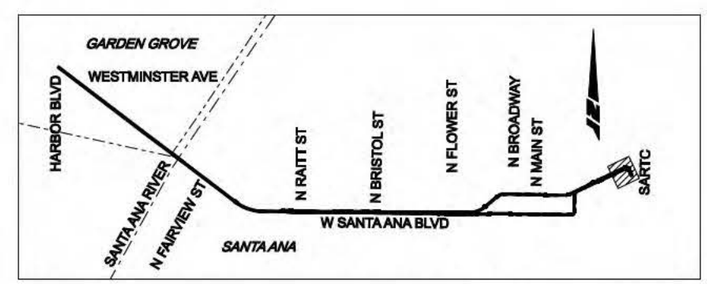

KEY MAP (ALT 2)

LEGEND

DIRECTION OF TRAFFIC	BUILDING-REMOVAL	EASTBOUND EMBEDDED TRACK	EXISTING SIGNAL
PLATFORM	WORK LIMITS - ASPHALT	WESTBOUND EMBEDDED TRACK	EXISTING PED SIGNAL
GATE	WORK LIMITS - CONCRETE	EASTBOUND BALLASTED TRACK	NEW SIGNAL
PARKING	WORK LIMITS - BALLAST	WESTBOUND BALLASTED TRACK	ADD TRANSIT ONLY SIGNAL
NEW ROW			
STRUCTURE			

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SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS DOWNTOWN SEGMENT - ALT2 ACCESS TO MAINTENANCE FACILITY - SITE A

DRAWING NO. MF - 01B

SHEET NO.

SCALE

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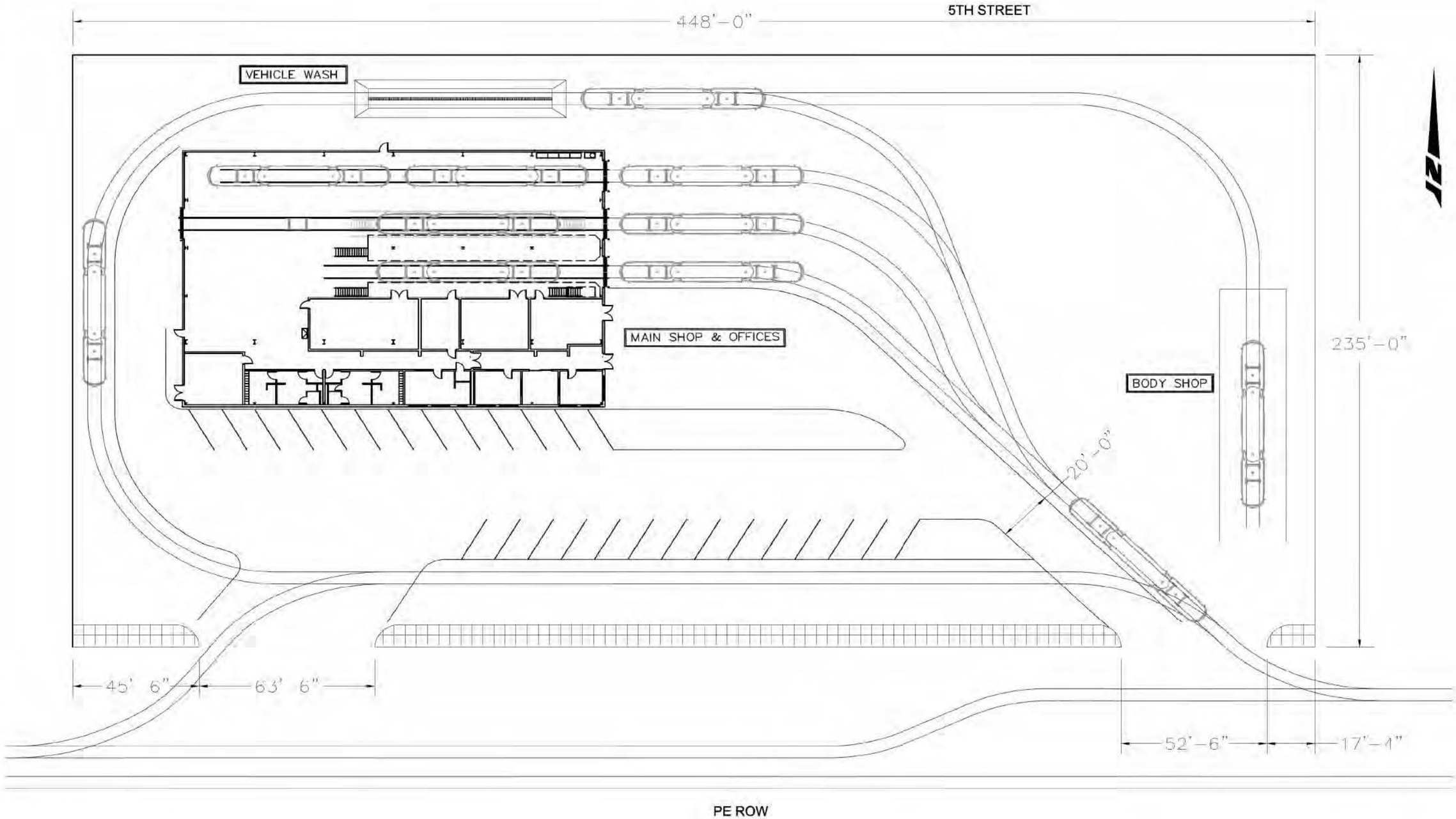

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

STREETCAR MAINTENANCE FACILITY
ALTERNATIVE SITE "B" LAYOUT

DRAWING NO. MF - 02
SHEET NO.
SCALE NTS

USER=CAD3 3/22/2011 6:24:27 PM z:\ENG\Santa_Ana_Fixed_Guideway\CADD\12_Maint_facility\MF-02.dgn

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MAINTENANCE FACILITY
SITE B

FOR SITE DETAILS
SEE LTK ALTERNATIVE SITE "A" LAYOUT

BALLASTED TRACK

℄ OF WB TRACK

90+00

90+00

℄ OF EB TRACK

25M TURNOUT

PAVED TRACK

BALLASTED TRACK

25M TURNOUT

PAVED TRACK

95+00

95+00

85

CEMENT PLANT

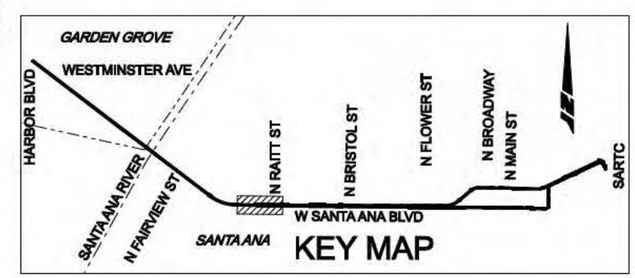
N TOWNSEND ST

W 4TH ST

N DAISY AVE

30 15 0 30 60

SCALE IN FEET



LEGEND

DIRECTION OF TRAFFIC
PLATFORM
GATE
PARKING
NEW ROW
STRUCTURE
BUILDING-REMOVAL
WORK LIMITS - ASPHALT
WORK LIMITS - CONCRETE
WORK LIMITS - BALLAST
EASTBOUND EMBEDDED TRACK
WESTBOUND EMBEDDED TRACK
EASTBOUND BALLASTED TRACK
WESTBOUND BALLASTED TRACK
EXISTING SIGNAL
EXISTING PED SIGNAL
NEW SIGNAL
ADD TRANSIT ONLY SIGNAL

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACK ALIGNMENT AND RDWY IMPROVEMENTS RAITT TO FLOWER SEGMENT - ALT1 & ALT2 ACCESS TO MAINTENANCE FACILITY - SITE B

DRAWING NO. MF - 02A

SHEET NO.

SCALE

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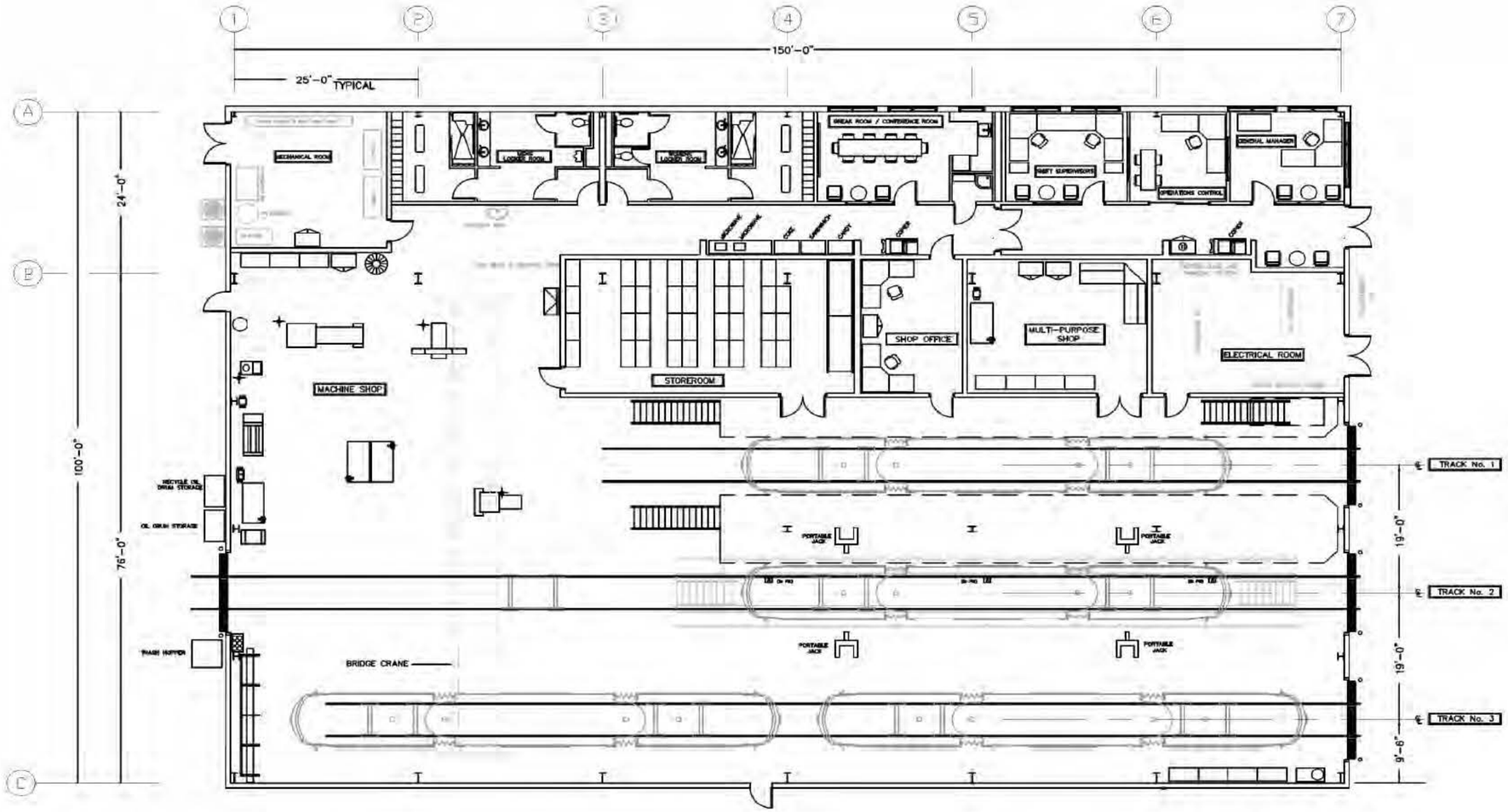

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

STREETCAR MAINTENANCE FACILITY FUNCTIONAL LAYOUT - GROUND FLOOR

DRAWING NO. MF - 03

SHEET NO.

SCALE NTS

3/22/2011 6:22:46 PM Z:\ENG\Santa_Ana_Fixed_Guideway\CADD\12_Maint_facility\MF-03.dgn

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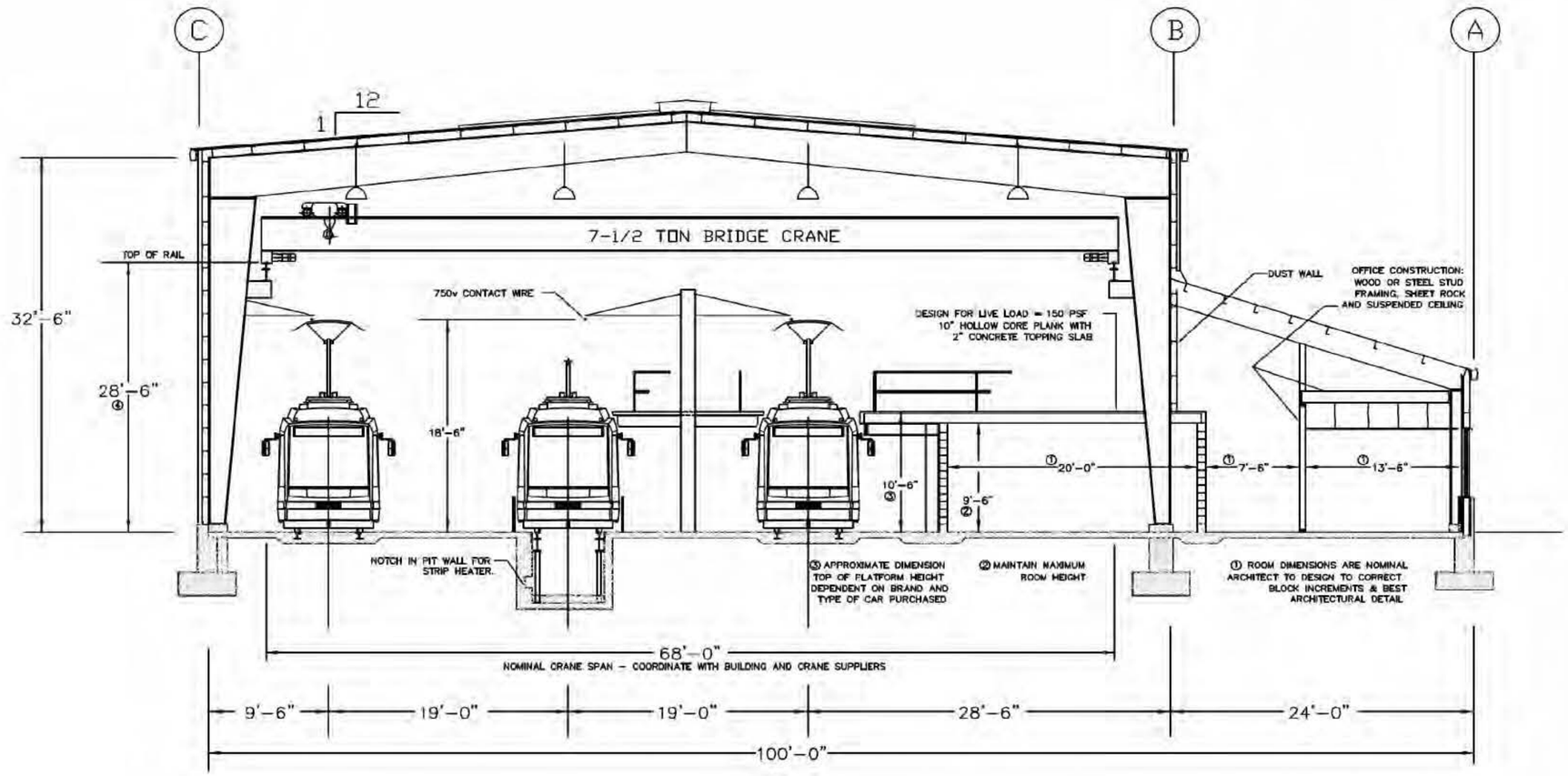

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SANTA ANA AND GARDEN GROVE
FIXED GUIDEWAY CORRIDOR

STREETCAR MAINTENANCE FACILITY
TYPICAL CROSS SECTION

DRAWING NO. MF - 04
SHEET NO.
SCALE NTS

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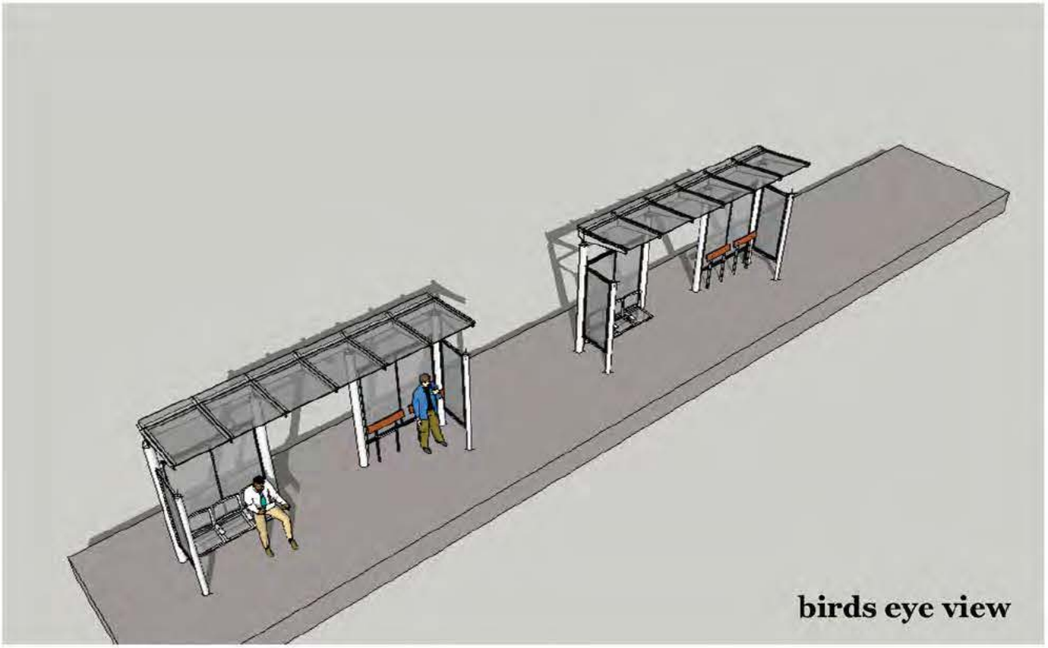
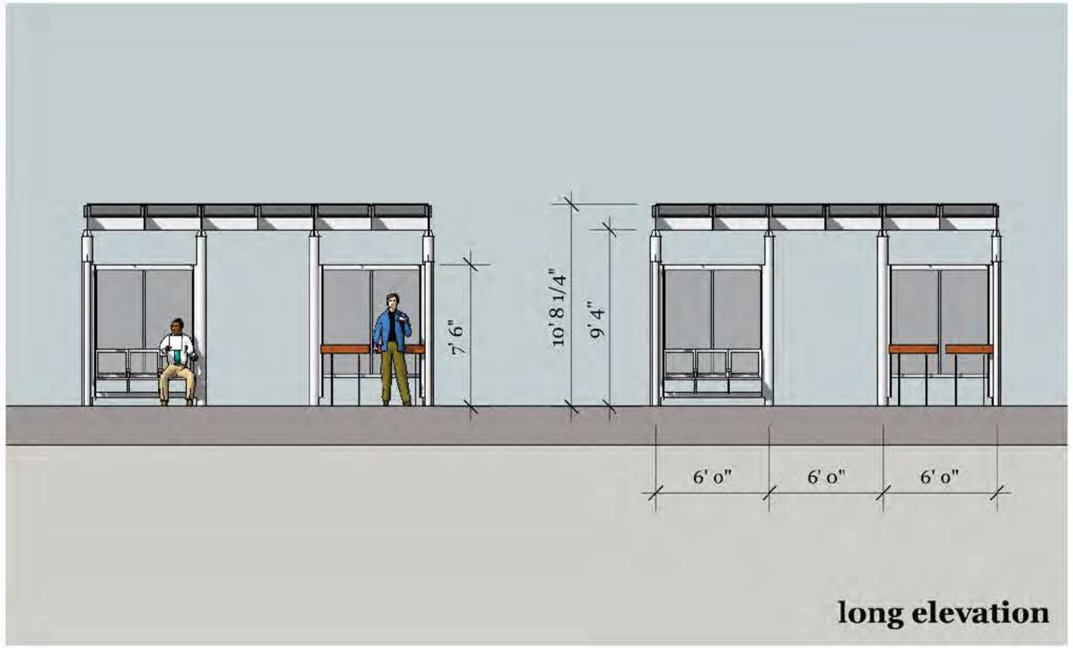
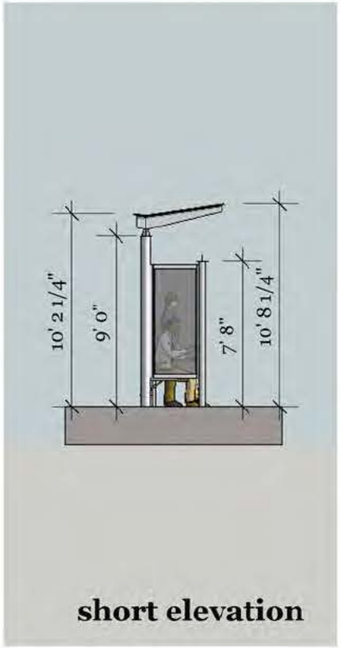
SECTION 4: URBAN DESIGN



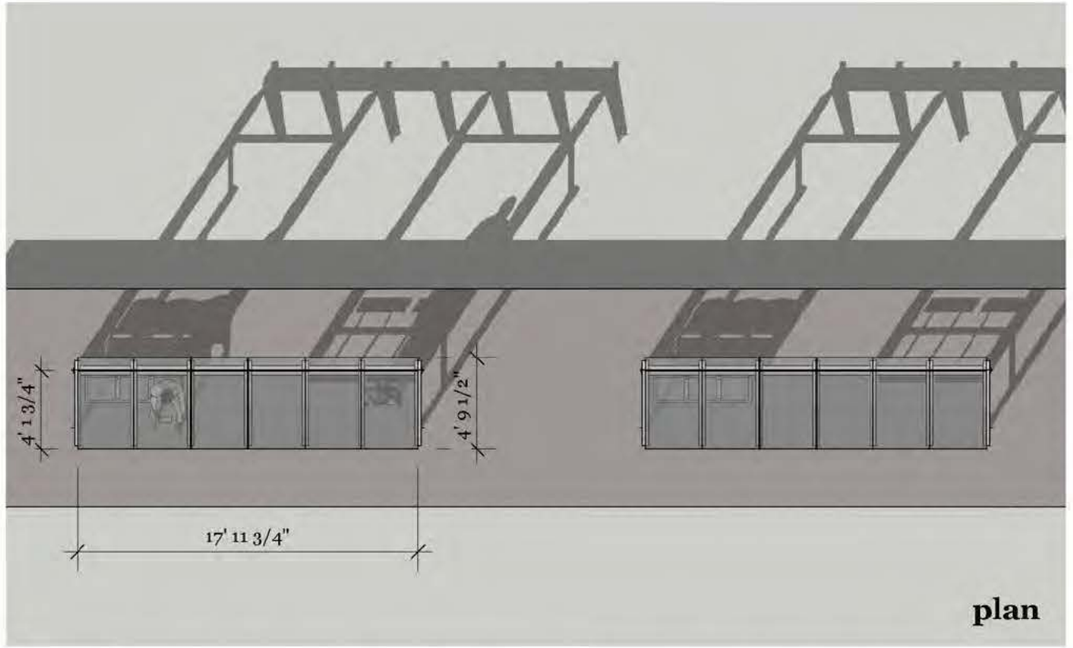
birds eye view



long elevation



short elevation



plan

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE
FIXED GUIDEWAY CORRIDOR
SIDE LOADED PLATFORM
SHELTER CONCEPT 1A

DRAWING NO. A - 01

SHEET NO.

SCALE

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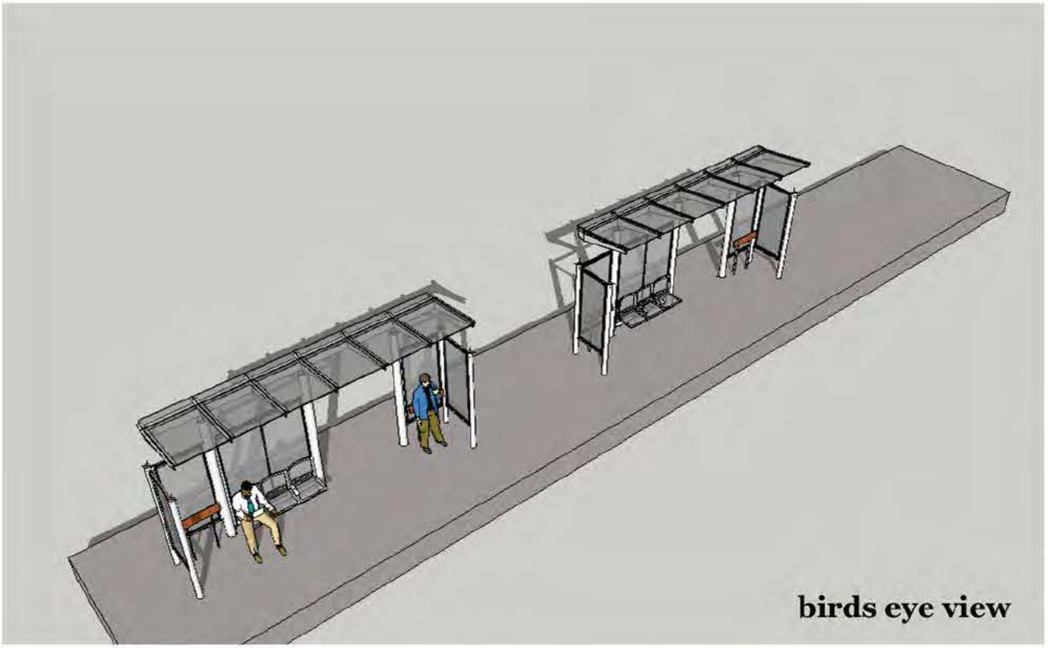
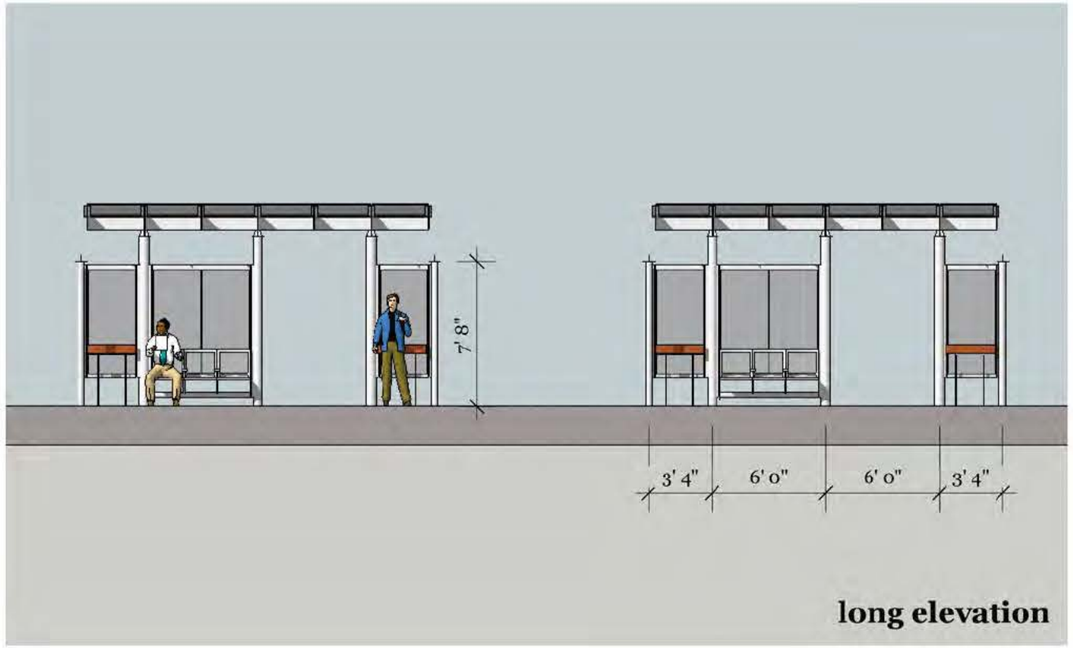


birds eye view



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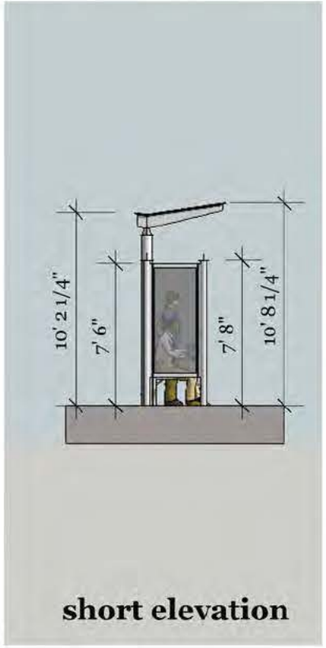

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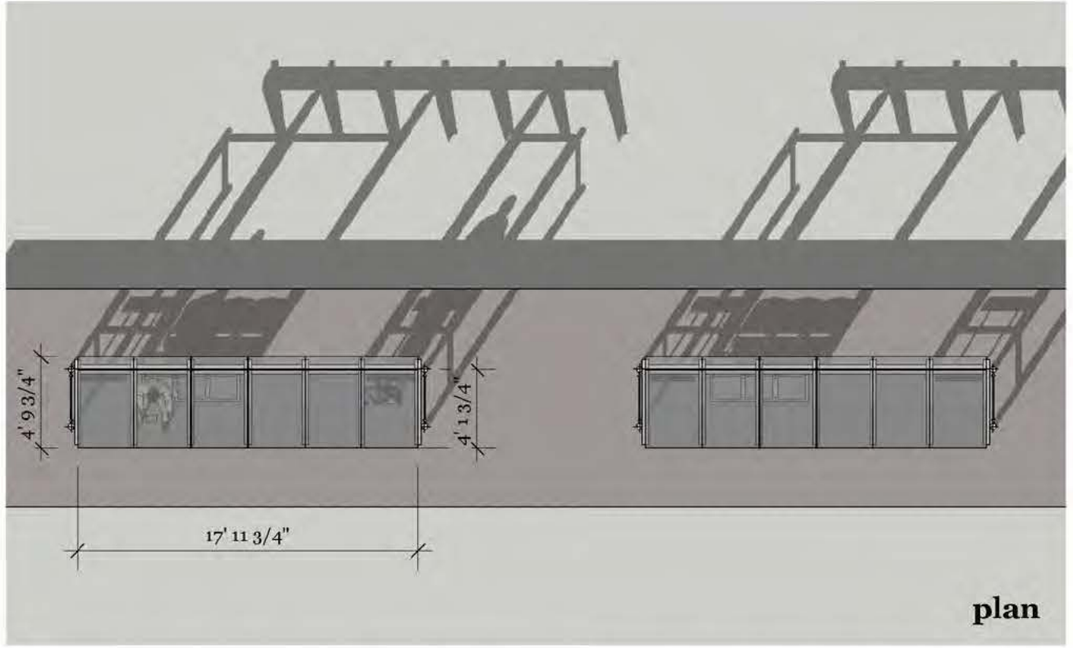

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE
FIXED GUIDEWAY CORRIDOR
SIDE LOADED PLATFORM
SHELTER CONCEPT 1B

DRAWING NO. A - 02

SHEET NO.

SCALE

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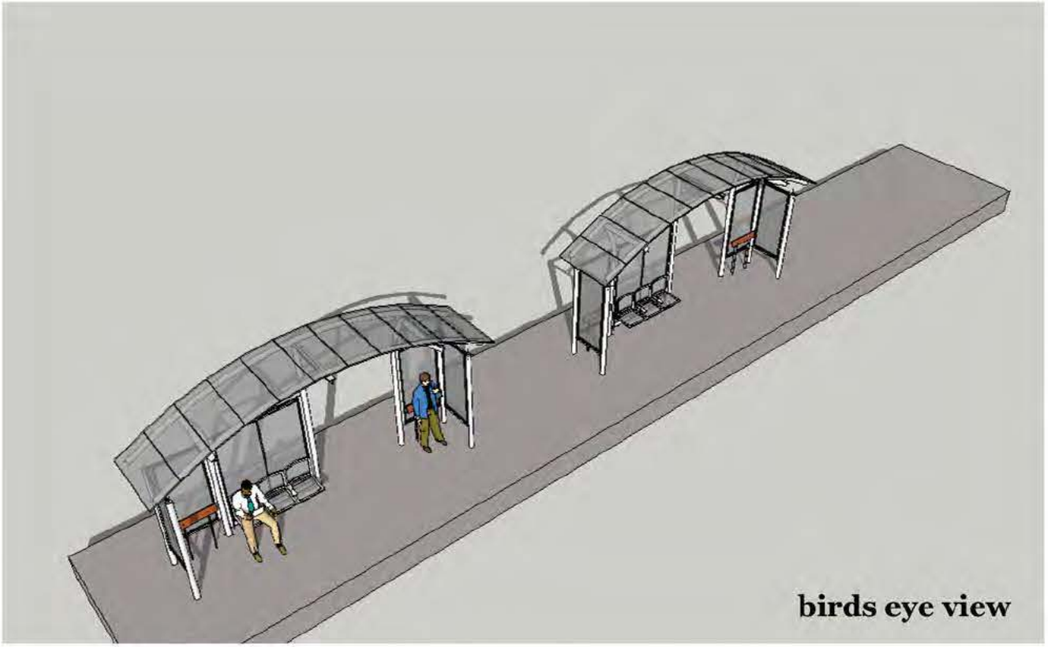
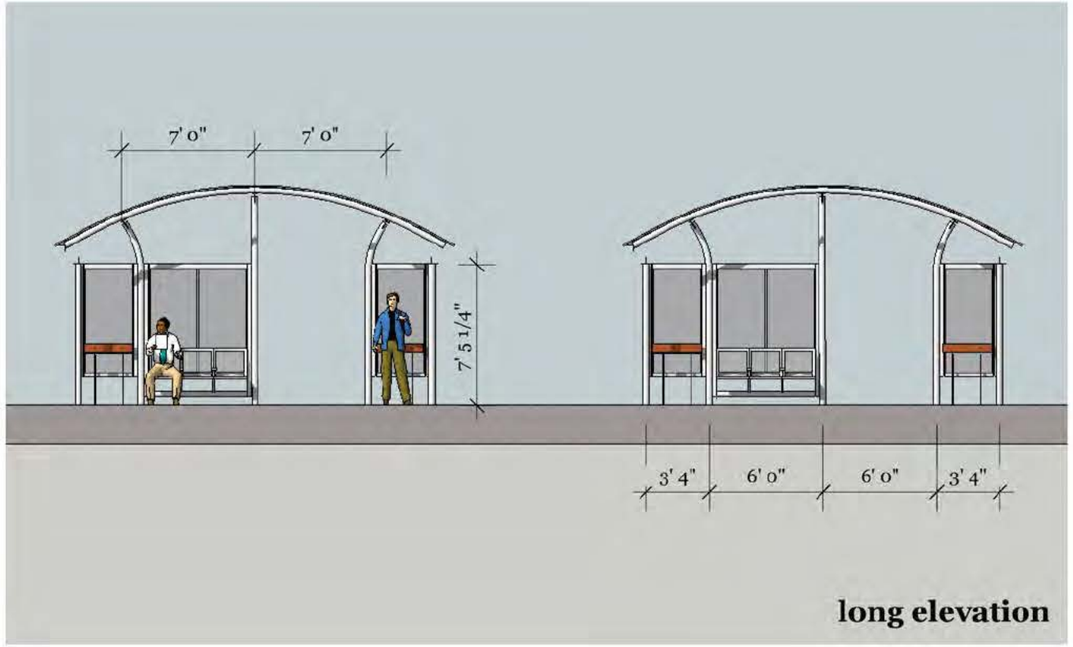
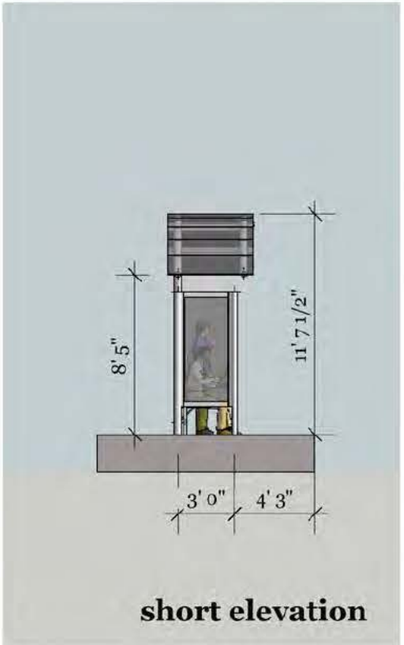


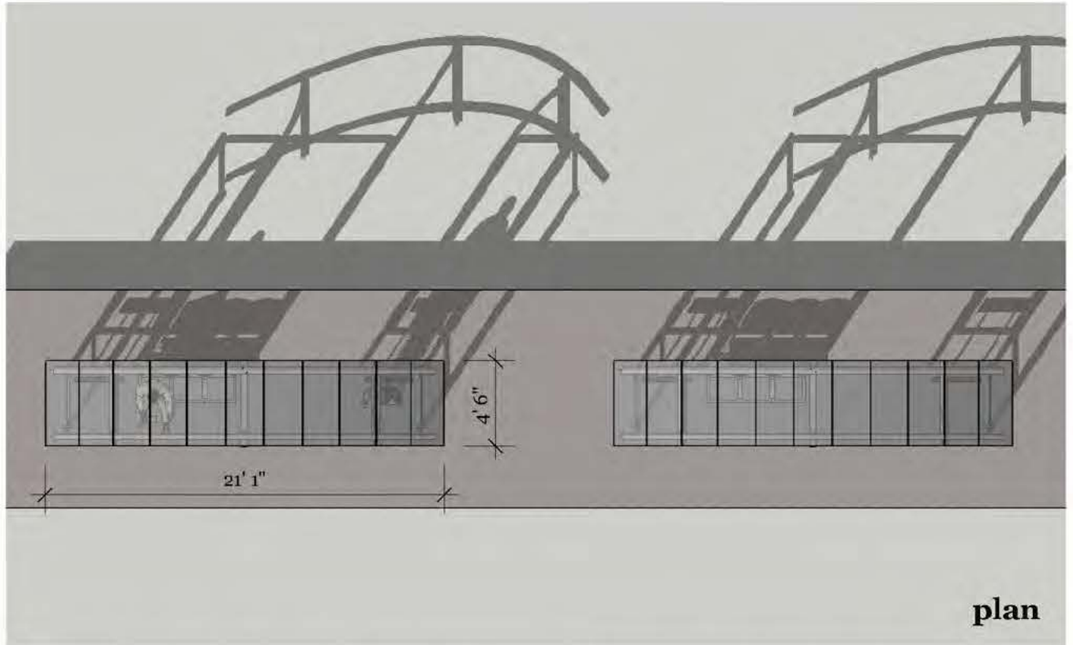
birds eye view



long elevation



short elevation



plan

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE
FIXED GUIDEWAY CORRIDOR
SIDE LOADED PLATFORM
SHELTER CONCEPT 2A

DRAWING NO. A - 03

SHEET NO.

SCALE

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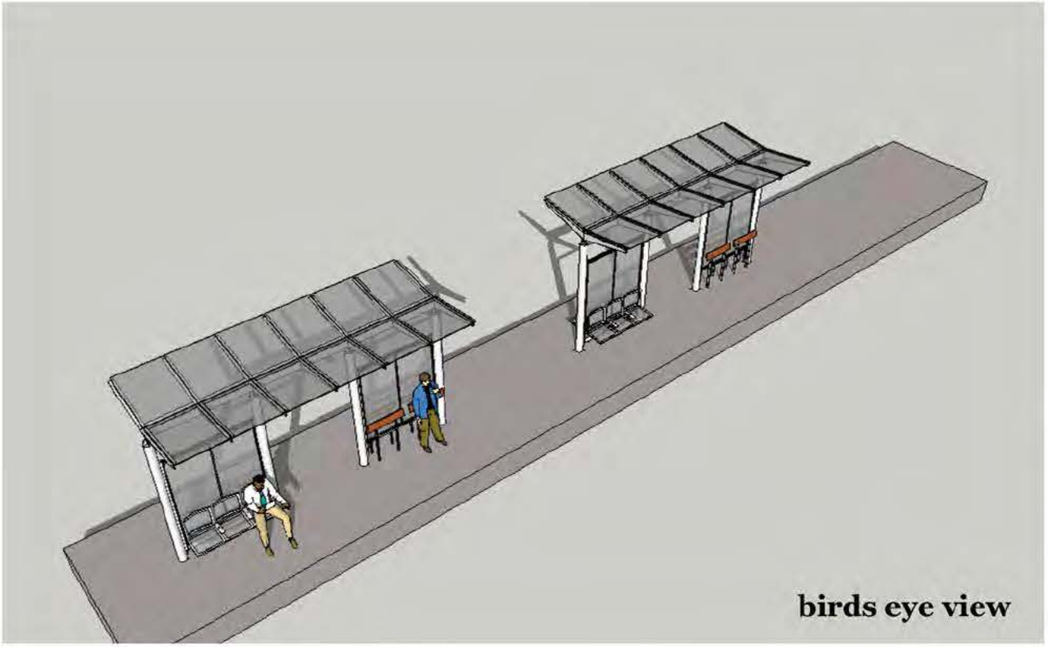
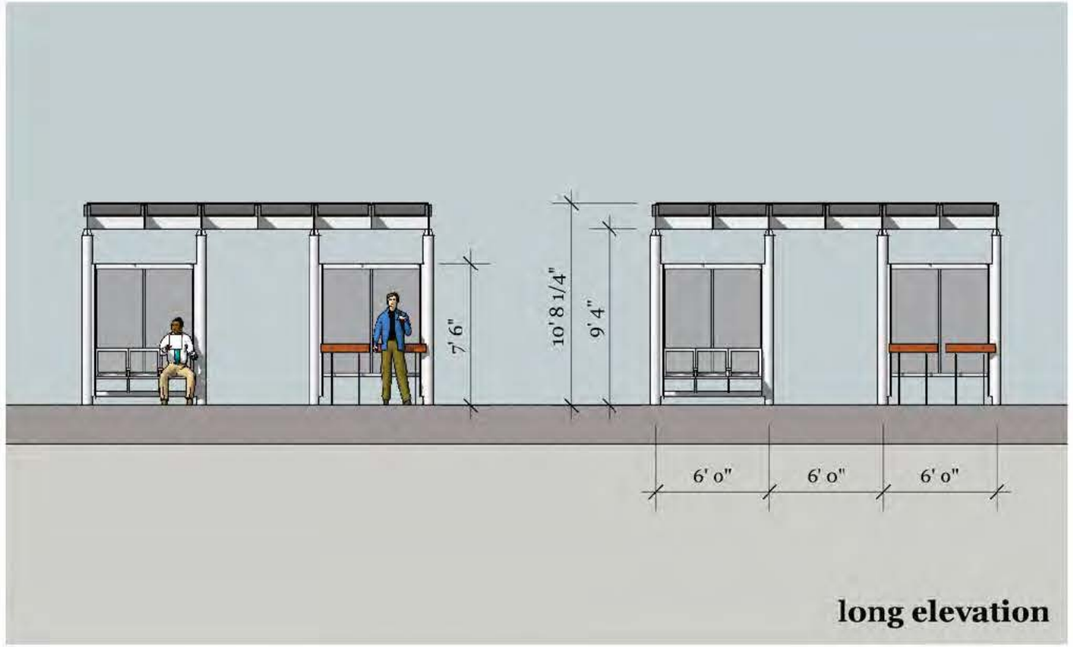


birds eye view



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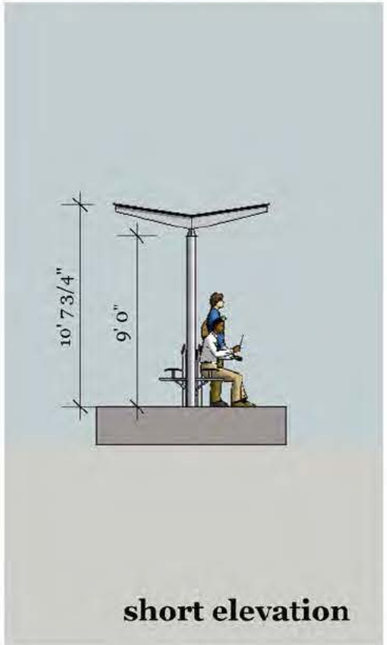

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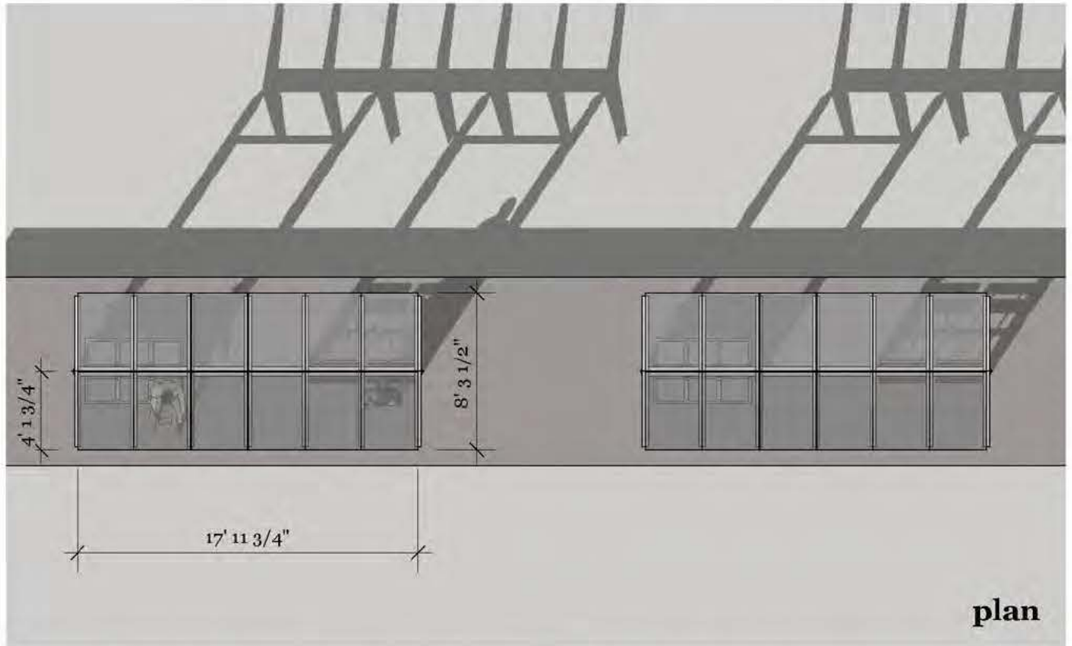

plan

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR CENTER LOADED PLATFORM SHELTER CONCEPT 1A

DRAWING NO. A - 04

SHEET NO.

SCALE

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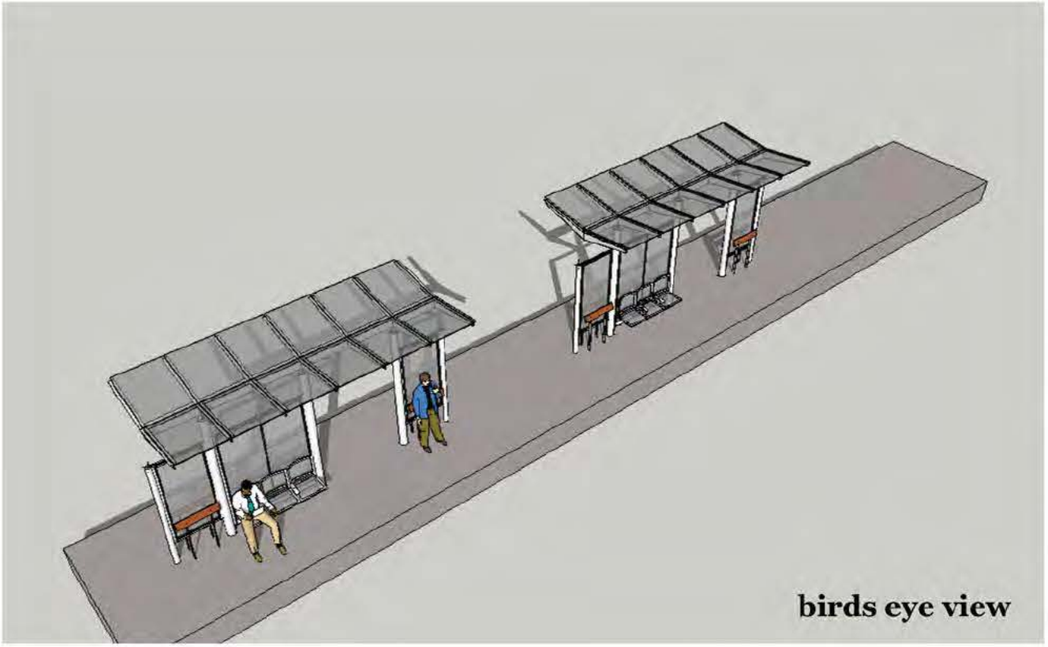
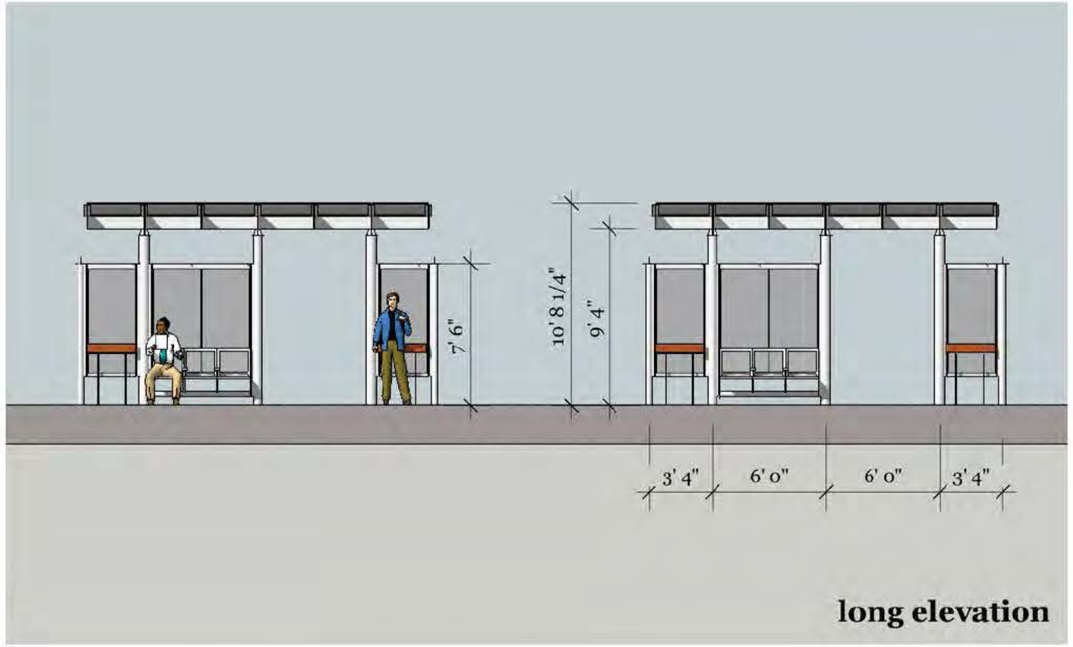
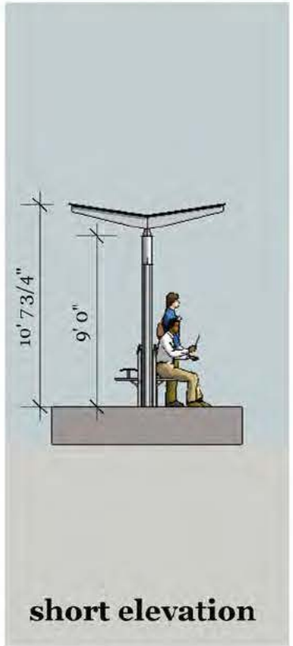


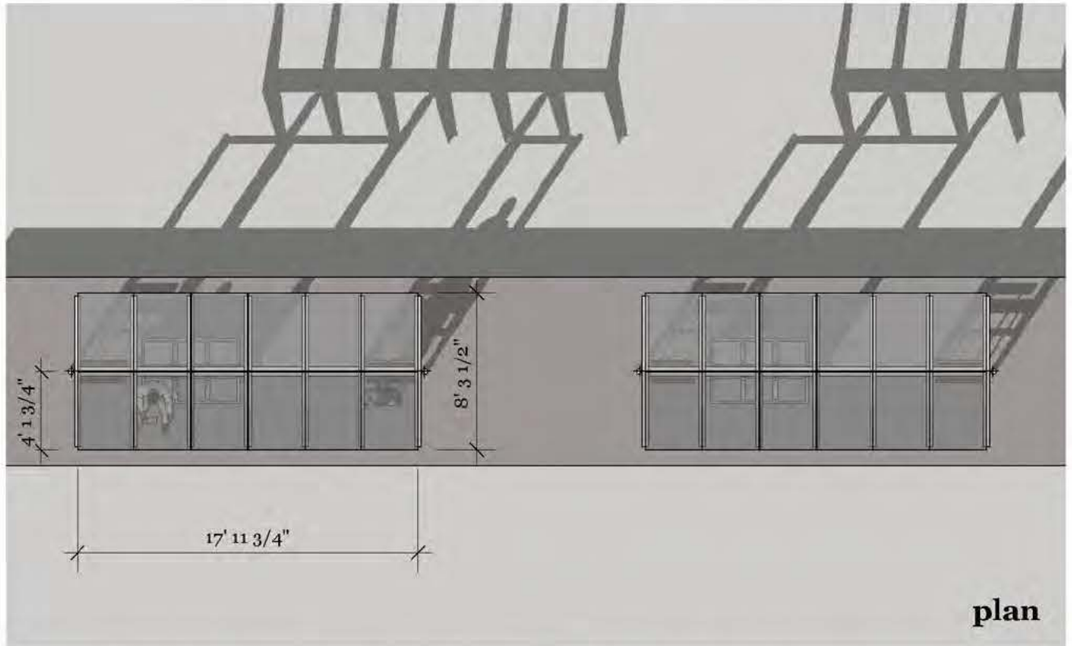
birds eye view



long elevation



short elevation



plan

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR CENTER LOADED PLATFORM SHELTER CONCEPT 1B

DRAWING NO. A - 05

SHEET NO.

SCALE

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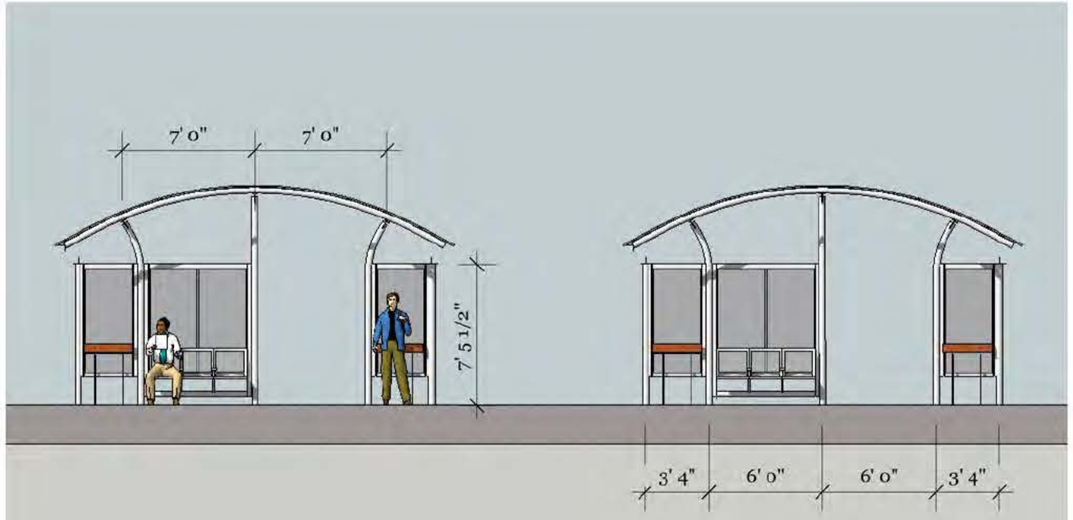
birds eye view



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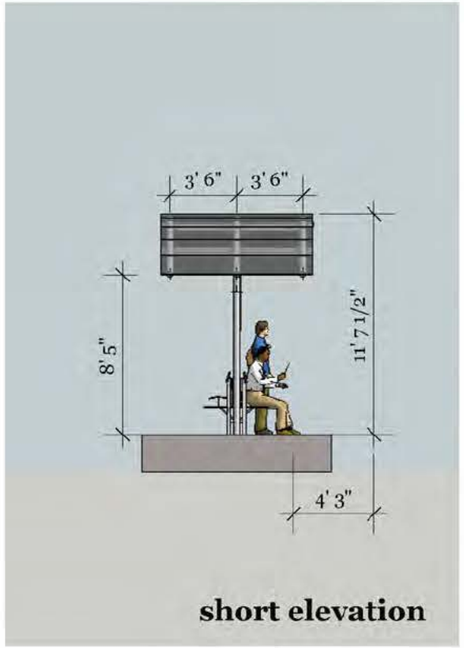
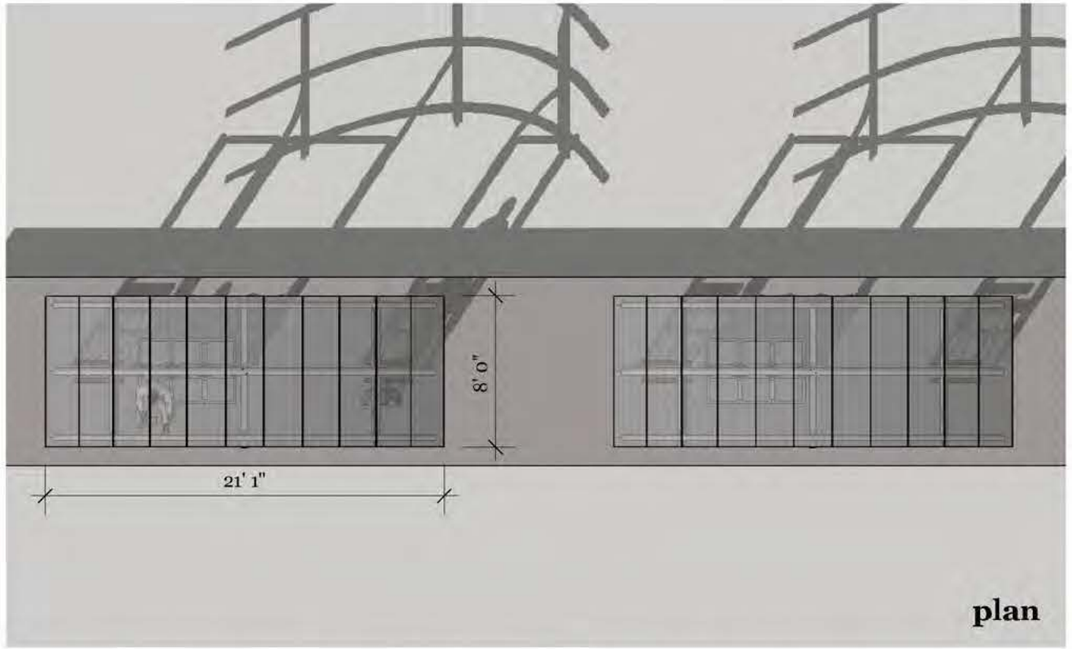


short elevation



plan

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR CENTER LOADED PLATFORM SHELTER CONCEPT 2A

DRAWING NO. A - 06

SHEET NO.

SCALE

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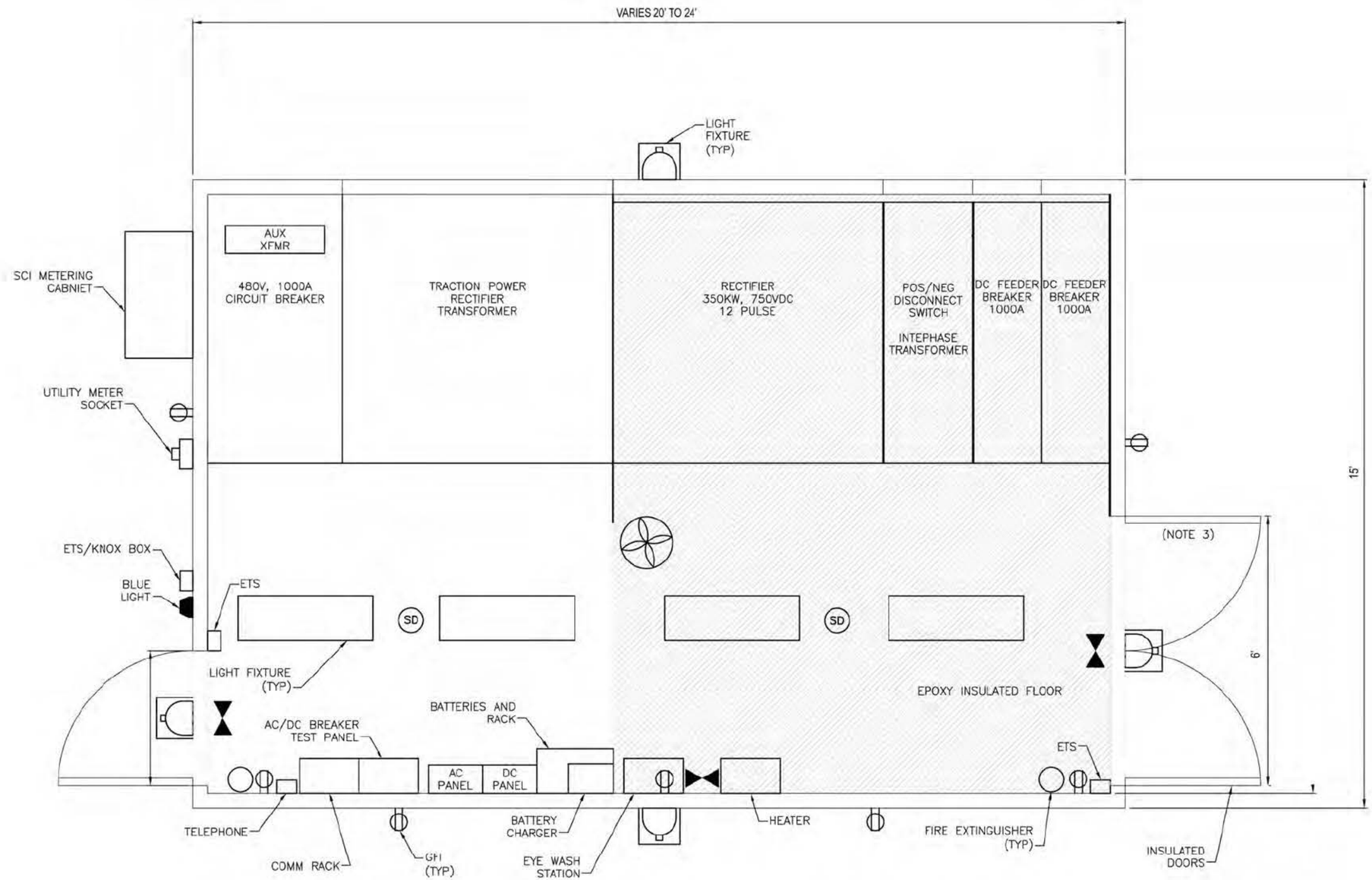
Santa Ana and Garden Grove Fixed Guideway Corridor

SECTION 5: SYSTEMS AND TECHNOLOGY



NOTE: Height varies 12' to 13'

REVISIONS			
NUMBER	DATE	DESCRIPTIONS	APPRVD

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DESIGNED BY	J.GARCIA
DRAWN BY	J.GARCIA
CHECKED BY	S.CUEVAS
APPROVED BY	S.CUEVAS
DATE	

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GARDEN GROVE

CITY OF SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

TRACTION POWER SUBSTATIONS
TYPICAL LAYOUT DETAIL

CONTRACT NO.	
DRAWING NO.	SY - 01
REVISION	SHEET NO.
SCALE	NTS

3/25/2011 3:04:44 PM Z:\Users\Jose Garcia\Power Substation Detail.dgn

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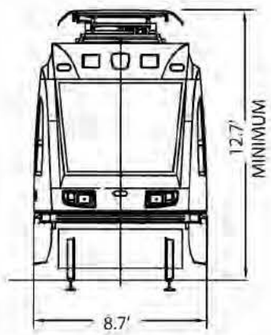

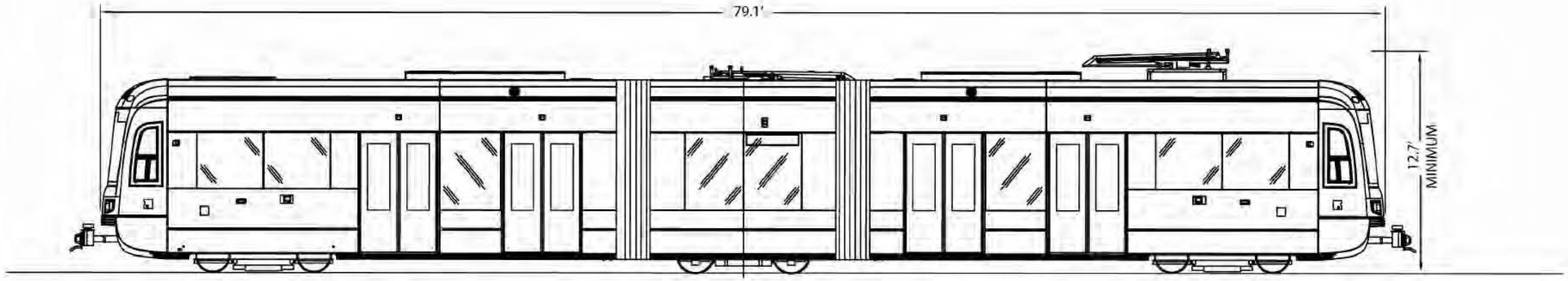

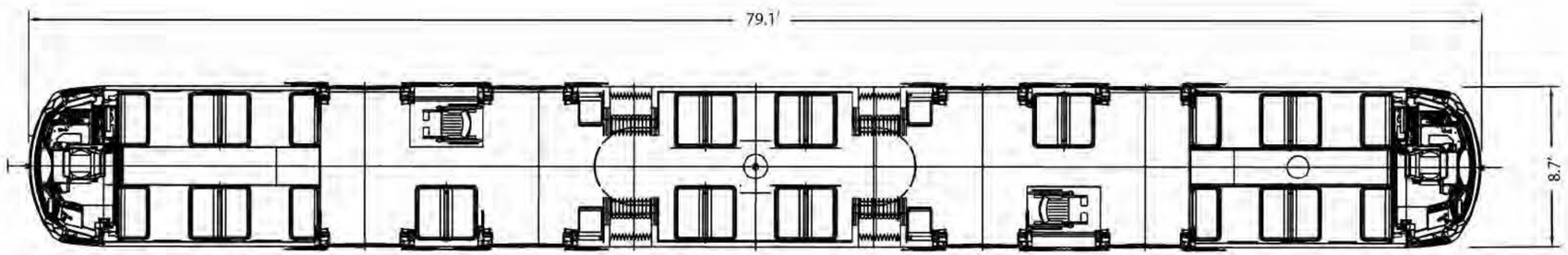

Seating Capacity	64
Total Capacity	221
Wheelchair Capacity	4

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

MODERN STREETCAR VEHICLE DETAIL
SIEMENS S70 ULTRASHORT

DRAWING NO. SY - 02
SHEET NO.
SCALE NTS

USER=CA03 3/21/2011 4:29:35 PM Z:\ENG\Santa_Ana_Fixed_Guideway\CADD\Exhibits\SY-02.dgn
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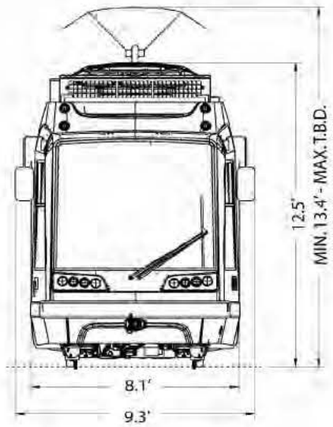

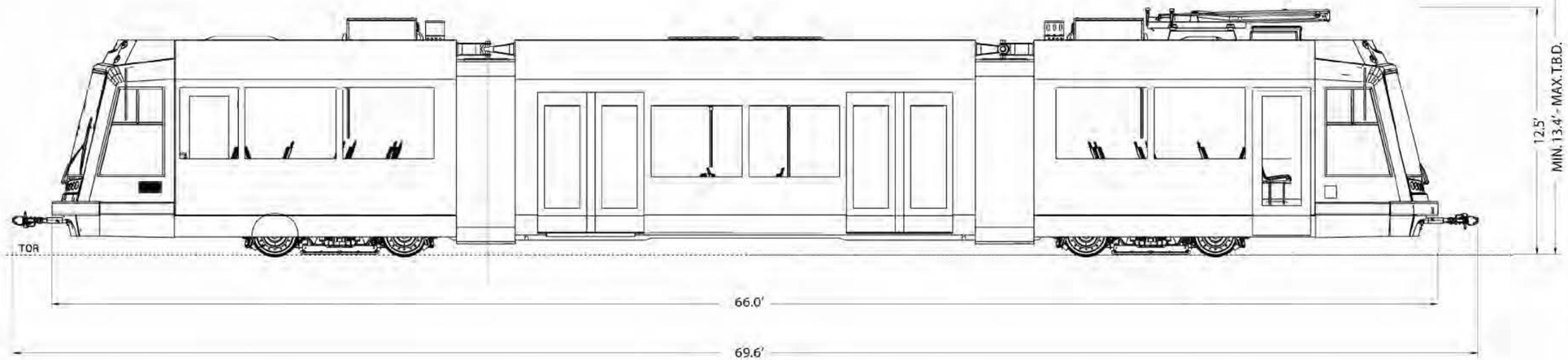

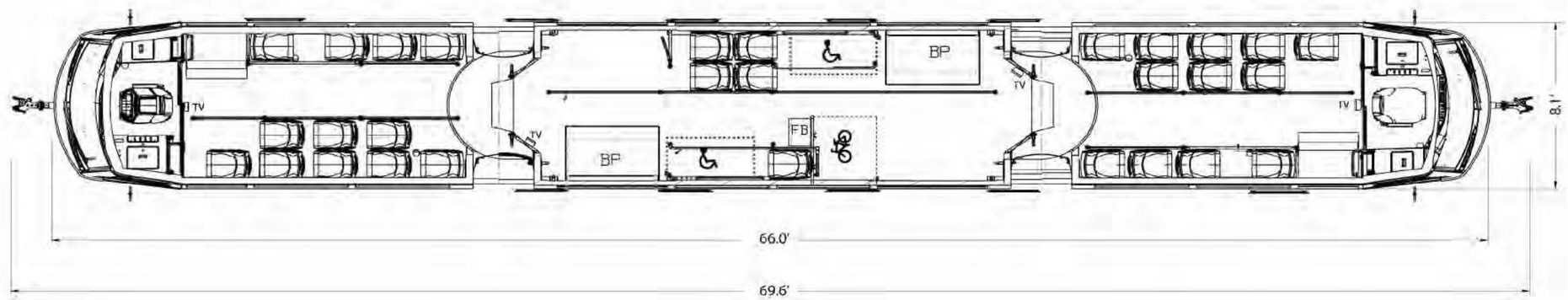

Seating Capacity	29
Total Capacity	143
Wheelchair Capacity	4

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

MODERN STREETCAR VEHICLE DETAIL
OREGON IRONWORKS/UNITED STREETCAR
(TUCSON VEHICLE)

DRAWING NO. SY - 03
SHEET NO.
SCALE NTS

USER=CAD3 3/21/2011 5:05:05 PM z:\ENG\Santa_Ana_Fixed_Guideway\CAD\Exhibits\SY-03.dgn
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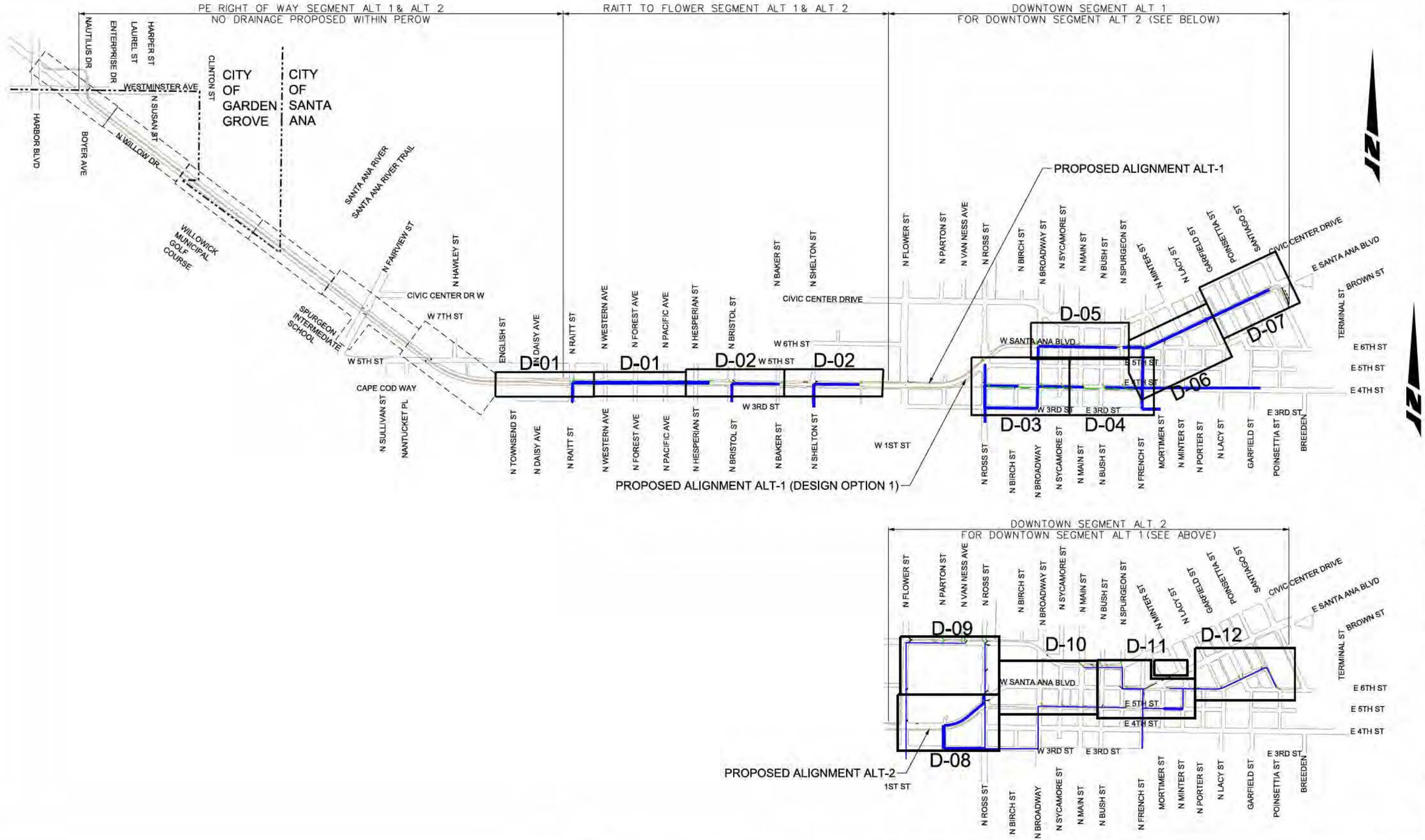
SECTION 6: DRAINAGE DESIGN

CORDOBA CORPORATION



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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

DRAINAGE PLANS
KEY MAP
ALT 1 & 2

DRAWING NO. GD - 01
SHEET NO.
SCALE HOR: 1"=1400'

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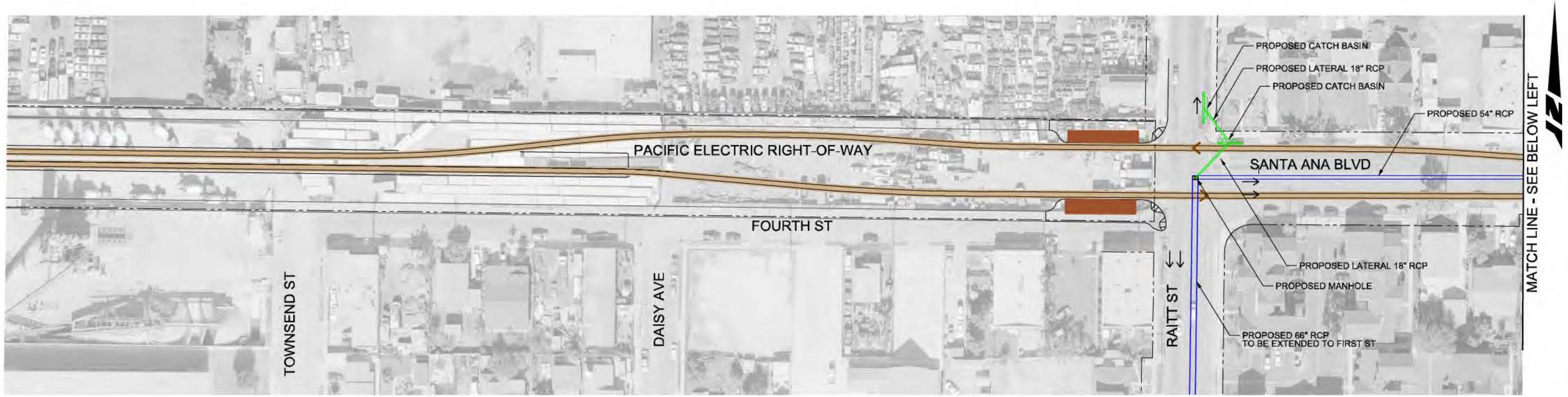

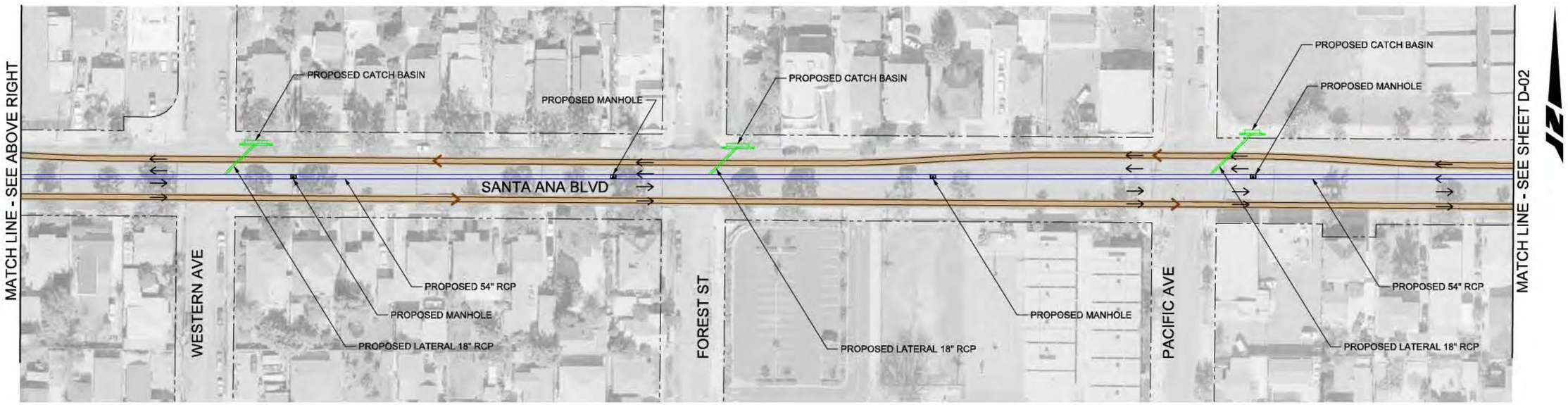

LEGEND

	PROPOSED CATCH BASIN
	EXISTING CATCH BASIN
	PROPOSED MANHOLE
RCP	REINFORCED CONCRETE PIPE
	PROPOSED MAIN LINE PIPE
	EXISTING MAIN LINE PIPE
	PROPOSED LATERAL
	EXISTING LATERAL
	PROPOSED PLATFORM

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DRAINAGE PLAN

RAITT TO FLOWER SEGMENT - ALT 1 & ALT 2

DRAWING NO. D - 01

SHEET NO.

SCALE HOR: 1"=100'

Plot Driver= SA-StreetCar.pltcfg
Pentable= SA-STREETCAR.TBL
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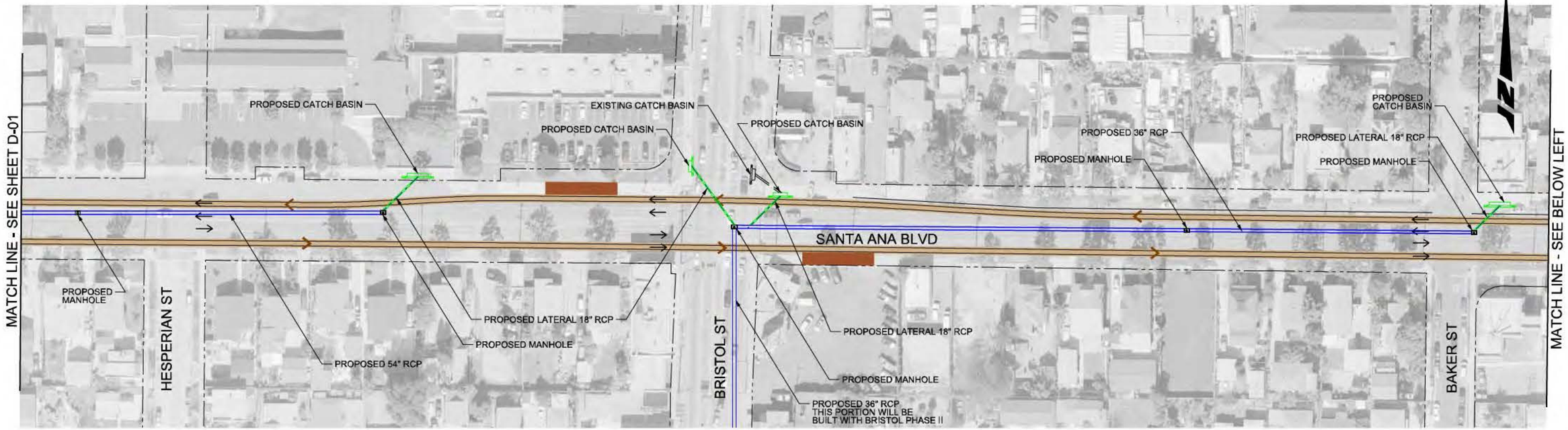

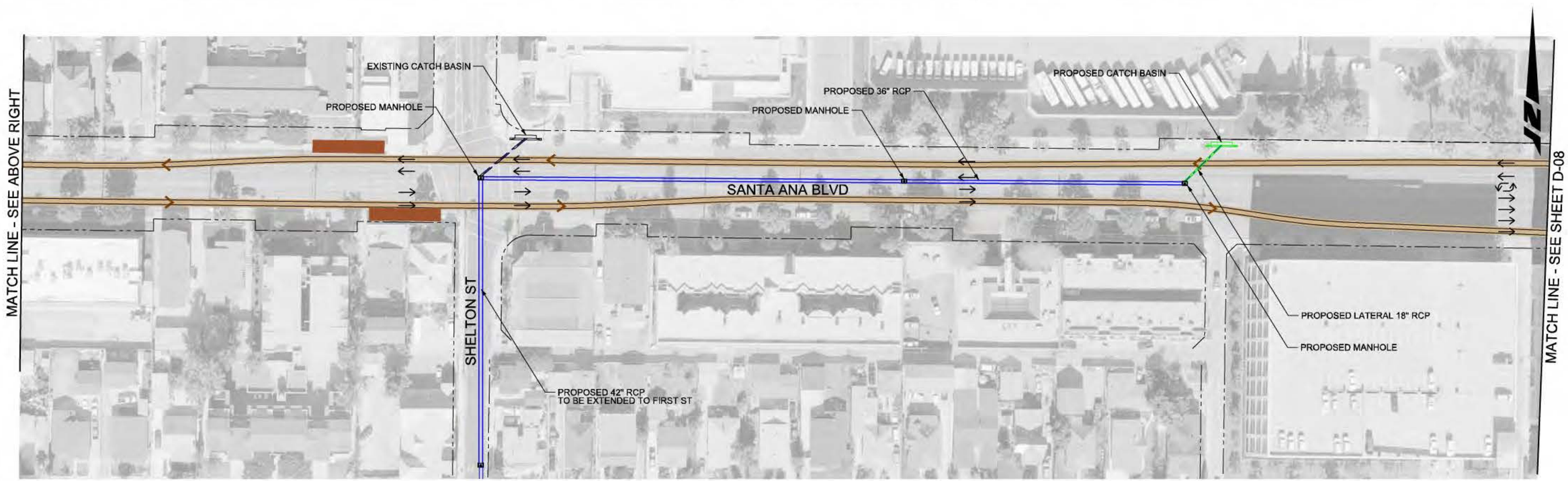

LEGEND

	PROPOSED CATCH BASIN
	EXISTING CATCH BASIN
	PROPOSED MANHOLE
RCP	REINFORCED CONCRETE PIPE
	PROPOSED MAIN LINE PIPE
	EXISTING MAIN LINE PIPE
	PROPOSED LATERAL
	EXISTING LATERAL
	PROPOSED PLATFORM

Plot Driver= SA-StreetCar.pltcfg Pentable= SA-STREETCAR.TBL

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DRAINAGE PLAN

RAITT TO FLOWER SEGMENT - ALT 1 & ALT 2

DRAWING NO. D - 02

SHEET NO.

SCALE HOR: 1"=100'

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MATCH LINE - SEE SHEET D-8

PROPOSED LATERAL 18" RCP
PROPOSED CATCH BASIN
EXISTING CATCH BASIN
EXISTING 24" RCP
SANTA ANA BLVD
PROPOSED MANHOLE
FIFTH ST
PROPOSED 54" RCP TO BE EXTENDED TO FIRST ST
PROPOSED CATCH BASIN
PROPOSED CATCH BASIN
PROPOSED 36" RCP
PROPOSED MANHOLE
PROPOSED CATCH BASIN
PROPOSED 36" RCP TO BE EXTENDED TO FIRST ST
PROPOSED MANHOLE
BROADWAY
PROPOSED CATCH BASIN
PROPOSED LATERAL 18" RCP
PROPOSED CATCH BASIN
PROPOSED CATCH BASIN
SYCAMORE ST
PROPOSED CATCH BASIN
PROPOSED LATERAL 18" RCP
PROPOSED CATCH BASIN
PROPOSED MANHOLE
PROPOSED CATCH BASIN
MATCH LINE - SEE SHEET D-04
FOURTH ST
PROPOSED LATERAL 18" RCP
PROPOSED MANHOLE
PROPOSED RIBBON GUTTER W/ SLOTTED DRAIN PER DETAIL ON SHEET D-13
PROPOSED LATERAL 18" RCP
PROPOSED RIBBON GUTTER W/ SLOTTED DRAIN PER DETAIL ON SHEET D-13
PROPOSED MANHOLE
CROSS GUTTER MODIFICATIONS PER DETAIL ON SHEET D-13
PROPOSED LATERAL 18" RCP
PROPOSED 36" RCP
PROPOSED RIBBON GUTTER W/ SLOTTED DRAIN PER DETAIL ON SHEET D-13
CROSS GUTTER MODIFICATIONS PER DETAIL ON SHEET D-13
PROPOSED LATERAL 18" RCP
ROSS ST
BIRCH ST
PROPOSED RIBBON GUTTER W/ SLOTTED DRAIN PER DETAIL ON SHEET D-13
PROPOSED MANHOLE
PROPOSED MANHOLE
PROPOSED MANHOLE
THIRD ST
PROPOSED 30" RCP

LEGEND

	PROPOSED CATCH BASIN
	EXISTING CATCH BASIN
	PROPOSED MANHOLE
RCP	REINFORCED CONCRETE PIPE
	PROPOSED MAIN LINE PIPE
	EXISTING MAIN LINE PIPE
	PROPOSED LATERAL
	EXISTING LATERAL
	PROPOSED PLATFORM

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DRAINAGE PLAN
DOWNTOWN SEGMENT - ALT 1

DRAWING NO. D - 03
SHEET NO.
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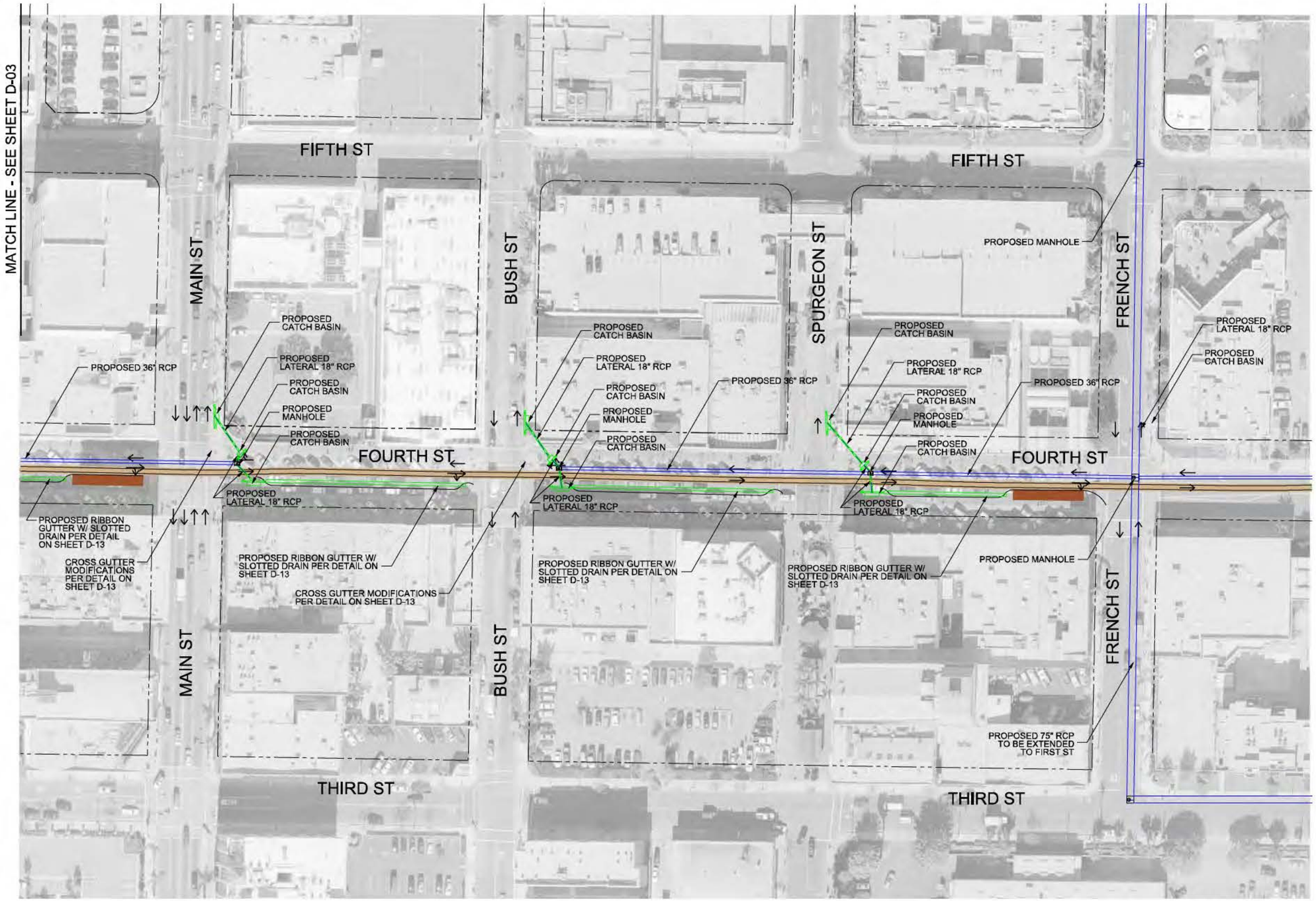

LEGEND

	PROPOSED CATCH BASIN
	EXISTING CATCH BASIN
	PROPOSED MANHOLE
RCP	REINFORCED CONCRETE PIPE
	PROPOSED MAIN LINE PIPE
	EXISTING MAIN LINE PIPE
	PROPOSED LATERAL
	EXISTING LATERAL
	PROPOSED PLATFORM

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DRAINAGE PLAN
DOWNTOWN SEGMENT - ALT 1

DRAWING NO. D - 04

SHEET NO.

SCALE HOR: 1"=100'

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Pentable= SA-STREETCAR.TBL

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MATCH LINE - SEE SHEET D-07

LEGEND

PROPOSED CATCH BASIN	PROPOSED MAIN LINE PIPE
EXISTING CATCH BASIN	EXISTING MAIN LINE PIPE
PROPOSED MANHOLE	PROPOSED LATERAL
RCP — REINFORCED CONCRETE PIPE	EXISTING LATERAL
	PROPOSED PLATFORM

Plot Driver= SA-StreetCar.pltcfg Pentable= SA-STREETCAR.TBL

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DRAINAGE PLAN
DOWNTOWN SEGMENT - ALT 1

DRAWING NO. D - 05

SHEET NO.

SCALE HOR: 1"=100'

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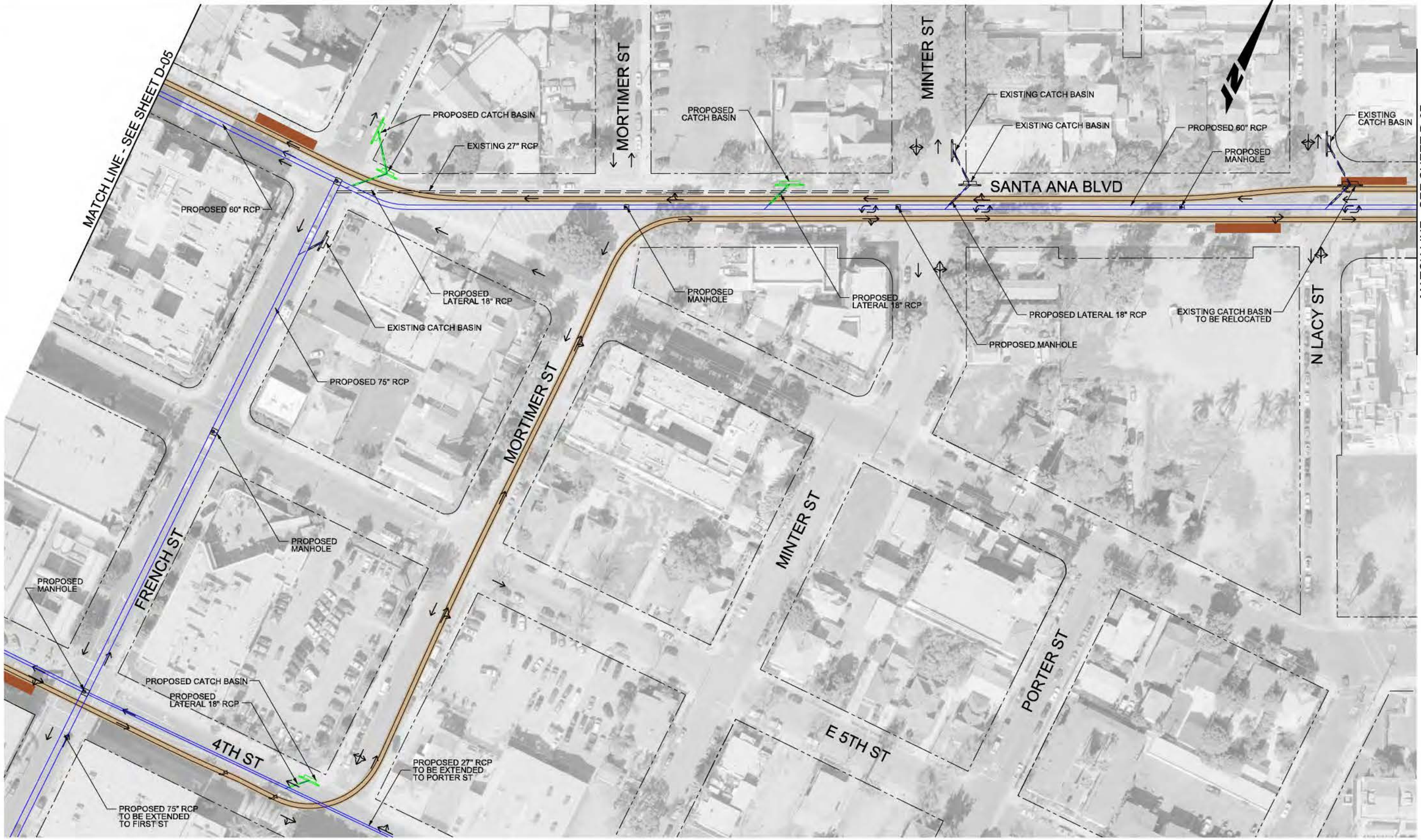

LEGEND

PROPOSED CATCH BASIN	PROPOSED MAIN LINE PIPE
EXISTING CATCH BASIN	EXISTING MAIN LINE PIPE
PROPOSED MANHOLE	PROPOSED LATERAL
RCP REINFORCED CONCRETE PIPE	EXISTING LATERAL
	PROPOSED PLATFORM

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DRAINAGE PLAN
DOWNTOWN SEGMENT - ALT 1

DRAWING NO. D - 06

SHEET NO.

SCALE HOR: 1"=100'

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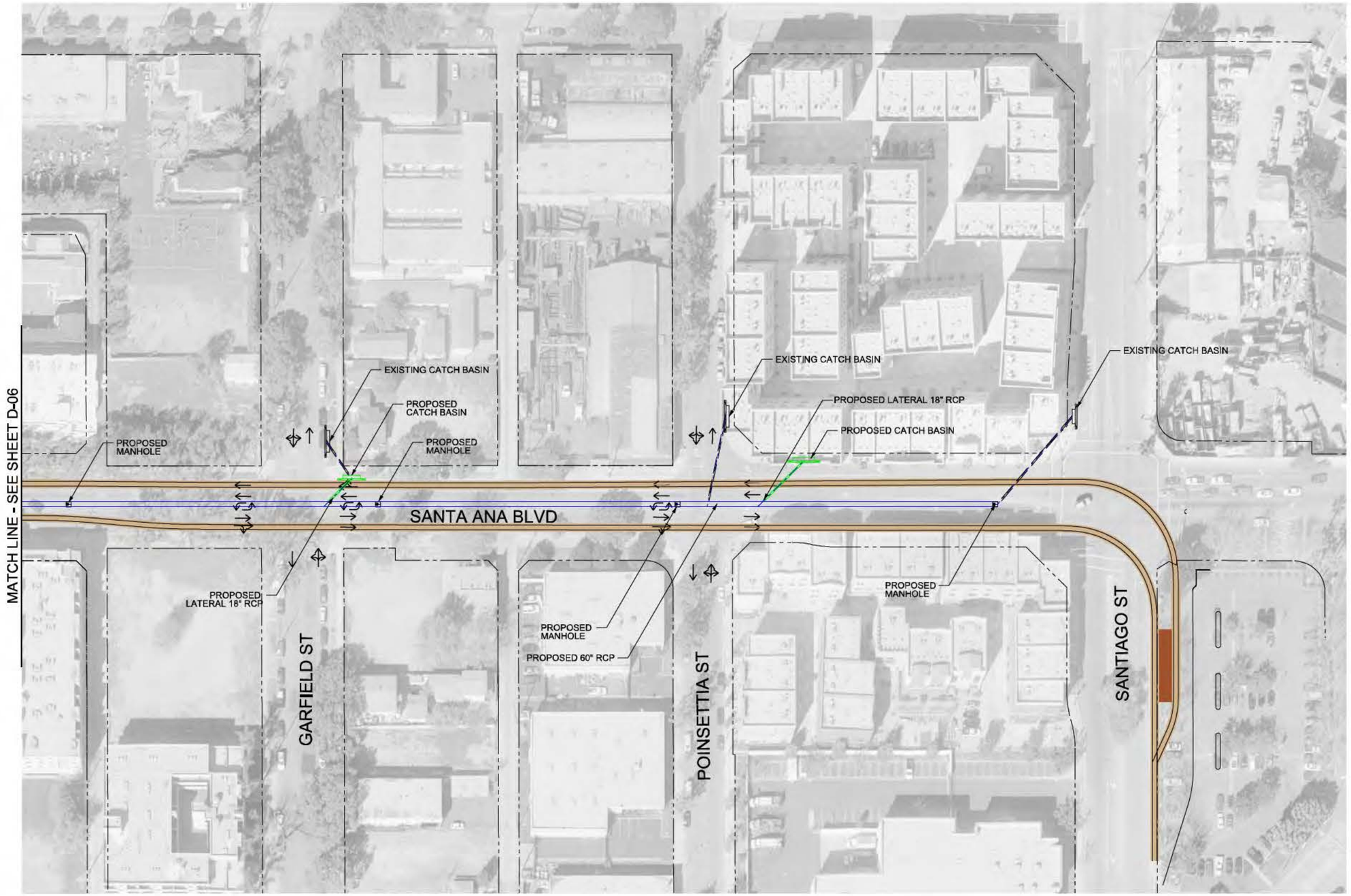

LEGEND

PROPOSED CATCH BASIN	PROPOSED MAIN LINE PIPE
EXISTING CATCH BASIN	EXISTING MAIN LINE PIPE
PROPOSED MANHOLE	PROPOSED LATERAL
RCP REINFORCED CONCRETE PIPE	EXISTING LATERAL
	PROPOSED PLATFORM

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DRAINAGE PLAN
DOWNTOWN SEGMENT - ATL 1

DRAWING NO. D - 07

SHEET NO.

SCALE HOR: 1"=100'

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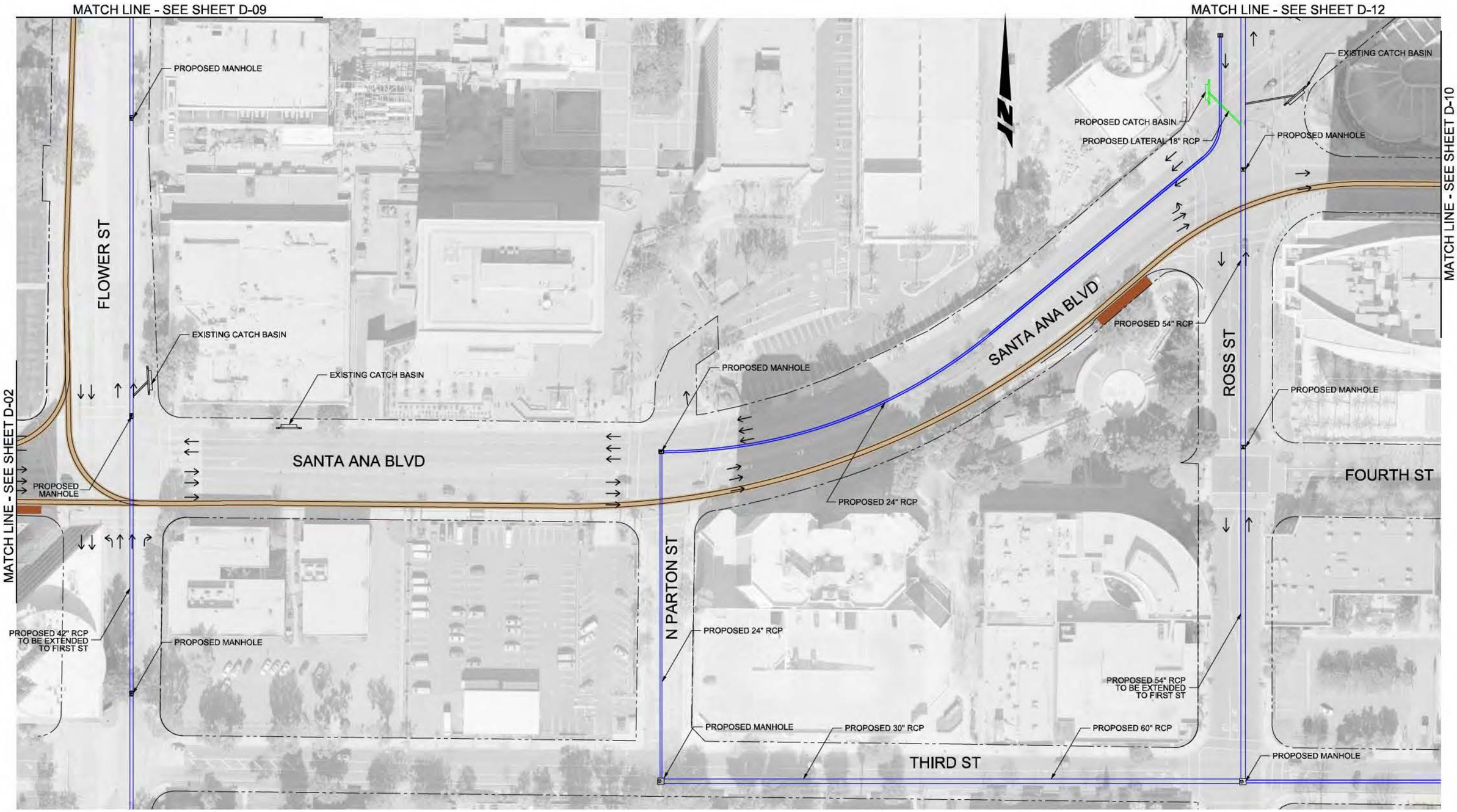

LEGEND

PROPOSED CATCH BASIN	PROPOSED MAIN LINE PIPE
EXISTING CATCH BASIN	EXISTING MAIN LINE PIPE
PROPOSED MANHOLE	PROPOSED LATERAL
RCP REINFORCED CONCRETE PIPE	EXISTING LATERAL
	PROPOSED PLATFORM

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DRAINAGE PLAN
DOWNTOWN SEGMENT - ALT 2

DRAWING NO. D - 08

SHEET NO.

SCALE HOR: 1"=100'

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MATCH LINE - SEE SHEET D-08

MATCH LINE - SEE SHEET D-08

LEGEND

	PROPOSED CATCH BASIN
	EXISTING CATCH BASIN
	PROPOSED MANHOLE
RCP	REINFORCED CONCRETE PIPE
	PROPOSED MAIN LINE PIPE
	EXISTING MAIN LINE PIPE
	PROPOSED LATERAL
	EXISTING LATERAL
	PROPOSED PLATFORM

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DRAINAGE PLAN
DOWNTOWN SEGMENT - ALT 2

DRAWING NO. D - 09

SHEET NO.

SCALE HOR: 1"=100'

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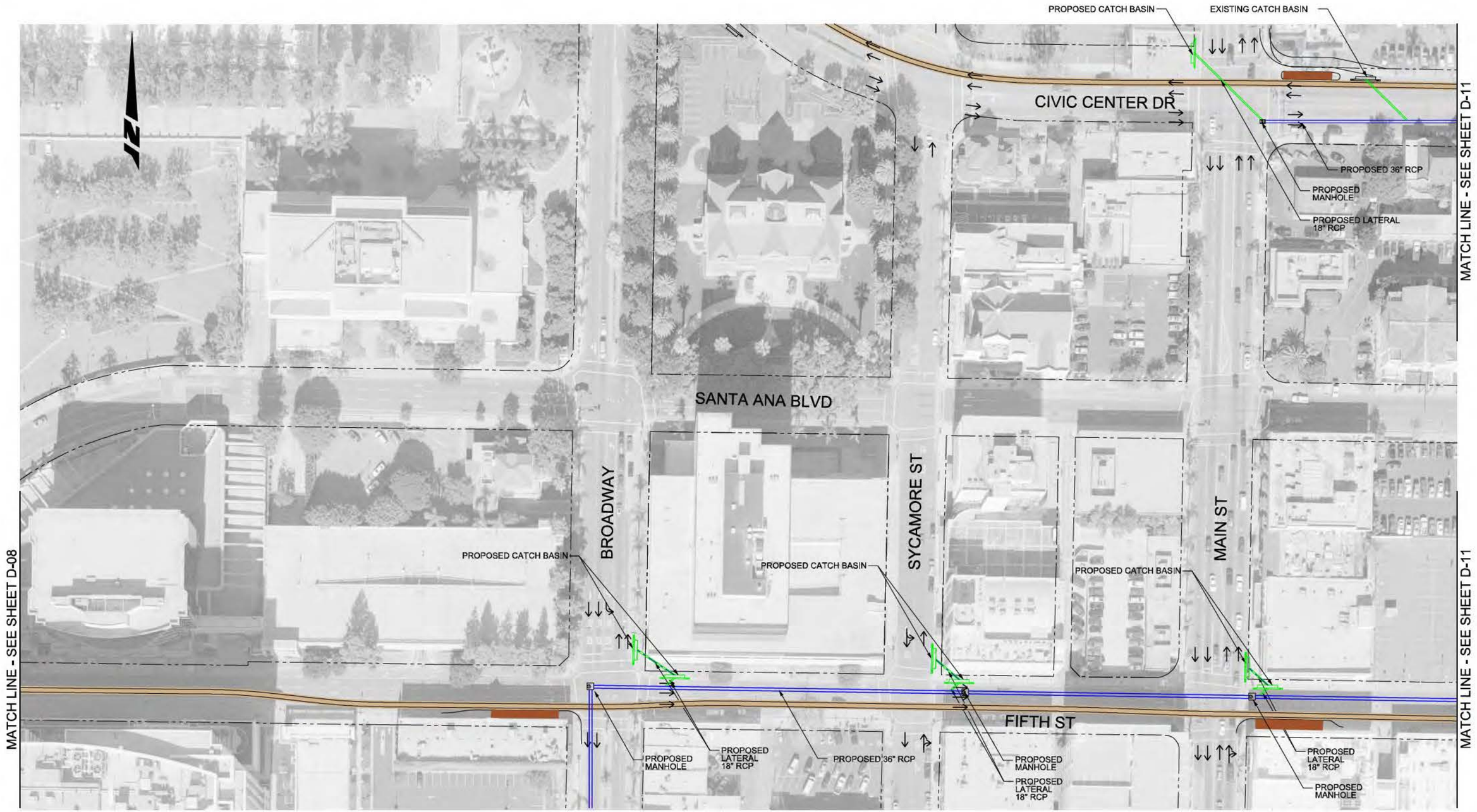

LEGEND

PROPOSED CATCH BASIN	PROPOSED MAIN LINE PIPE
EXISTING CATCH BASIN	EXISTING MAIN LINE PIPE
PROPOSED MANHOLE	PROPOSED LATERAL
RCP REINFORCED CONCRETE PIPE	EXISTING LATERAL
	PROPOSED PLATFORM

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DRAINAGE PLAN
DOWNTOWN SEGMENT - ALT 2

DRAWING NO. D - 10

SHEET NO.

SCALE HOR: 1"=100'

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LEGEND

	PROPOSED CATCH BASIN
	EXISTING CATCH BASIN
	PROPOSED MANHOLE
RCP	REINFORCED CONCRETE PIPE
	PROPOSED MAIN LINE PIPE
	EXISTING MAIN LINE PIPE
	PROPOSED LATERAL
	EXISTING LATERAL
	PROPOSED PLATFORM

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DRAINAGE PLAN
DOWNTOWN SEGMENT - ALT 2

DRAWING NO. D - 11

SHEET NO.

SCALE HOR: 1"=100'

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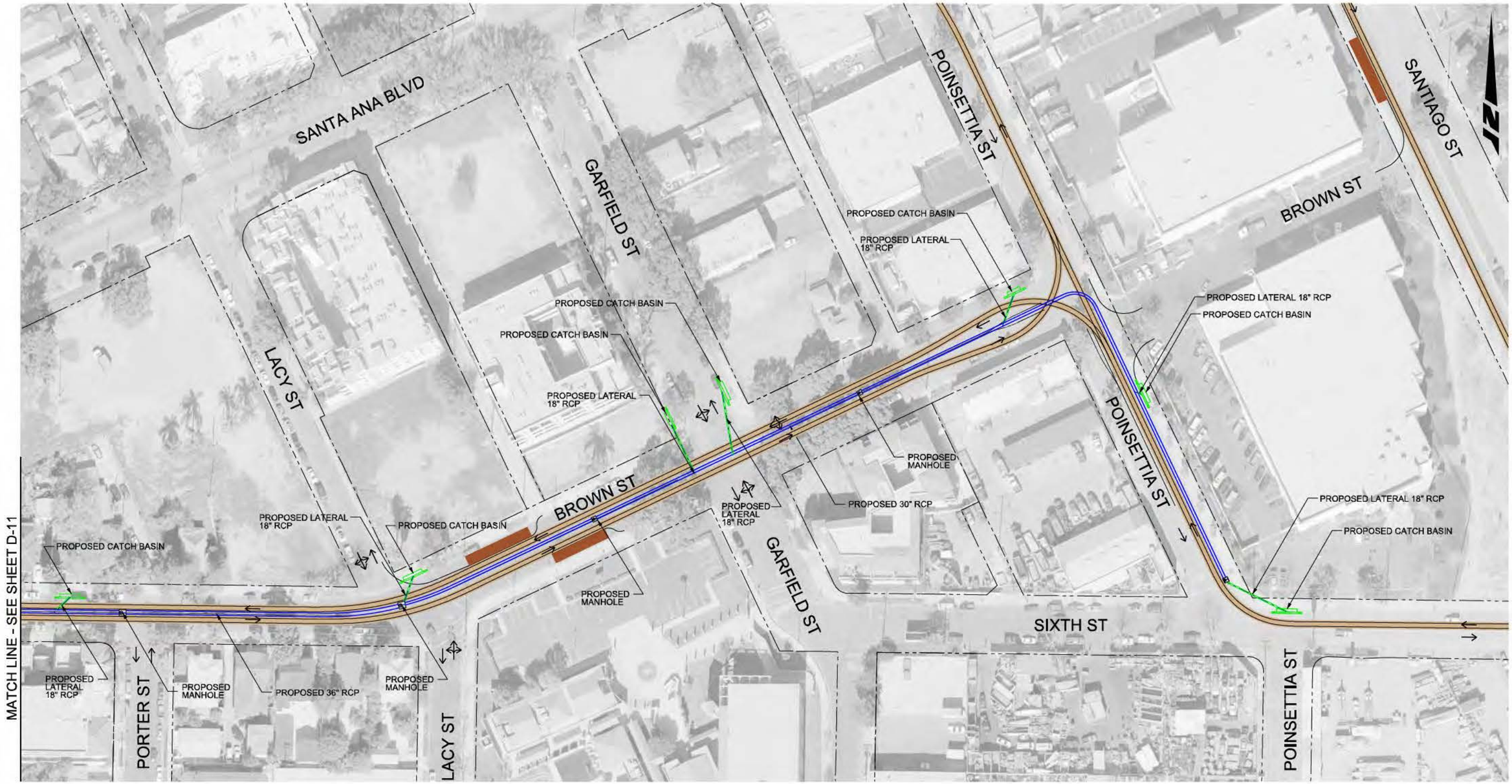

LEGEND

PROPOSED CATCH BASIN	PROPOSED MAIN LINE PIPE
EXISTING CATCH BASIN	EXISTING MAIN LINE PIPE
PROPOSED MANHOLE	PROPOSED LATERAL
RCP REINFORCED CONCRETE PIPE	EXISTING LATERAL
	PROPOSED PLATFORM

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DRAINAGE PLAN
DOWNTOWN SEGMENT - ALT 2

DRAWING NO. D - 12

SHEET NO.

SCALE HOR: 1"=100'

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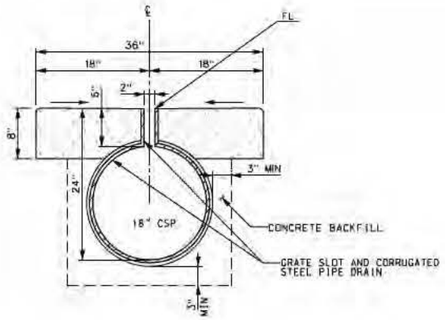
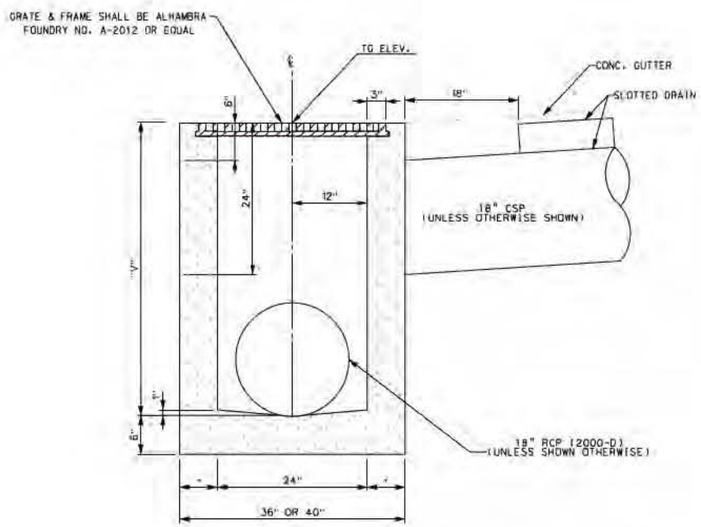


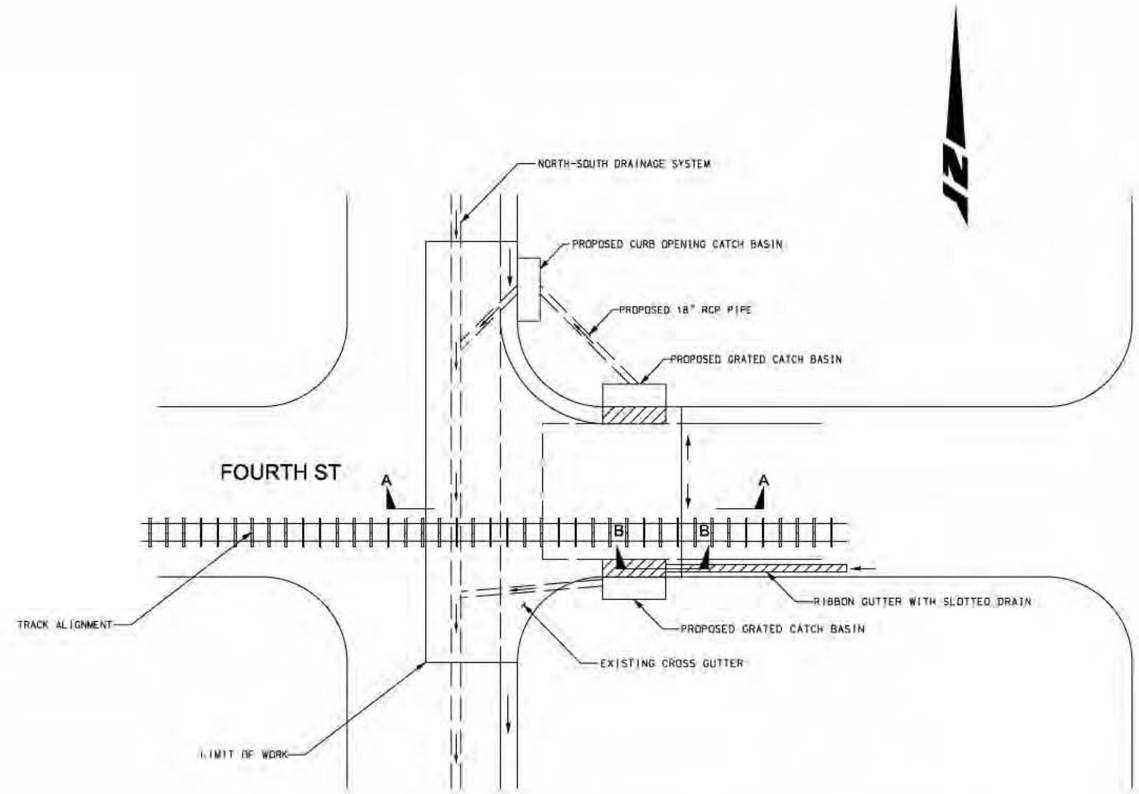
RIBBON GUTTER W/SLOTTED DRAIN

NTS

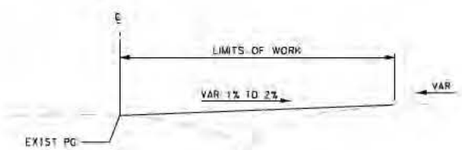


SECTION B-B

NTS



PLAN



SECTION A-A

NTS

CROSS-GUTTER MODIFICATIONS DETIAL

NTS

REVISIONS			
NUMBER	DATE	DESCRIPTIONS	APPRVD

INFORMATION CONFIDENTIAL: All plans, drawings, specifications, and or information furnished herewith shall remain the property of City of Santa Ana and shall be held confidential and shall not be used for any purpose not provided for in agreements with City of Santa Ana.

DESIGNED BY J.CARCIA
DRAWN BY D.SO
CHECKED BY R.RAMIREZ
APPROVED BY R.RAMIREZ
DATE

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CITY OF SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

MISCELLANEOUS DRAINAGE DETAILS

CONTRACT NO.
DRAWING NO. D - 13
REVISION
SHEET NO.
SCALE NTS

Plot Driver=SA-StreetCor.pltcfg Pentable=SA-STREETCAR.TBL

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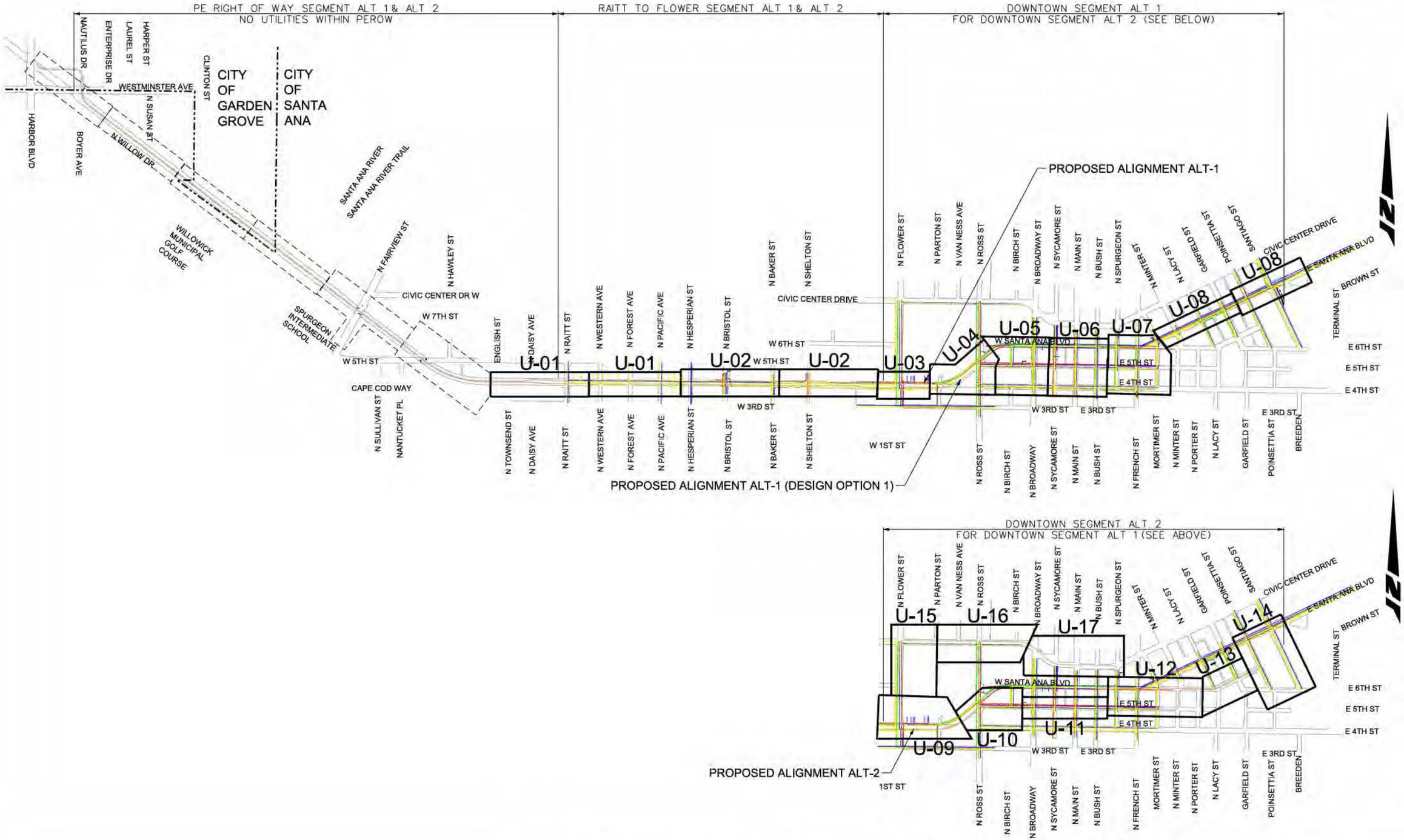
SECTION 7: UTILITY PLANS



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SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

EXISTING UTILITY PLANS
KEY MAP
ALT 1 & 2

DRAWING NO. GU - 01
SHEET NO.
SCALE HOR: 1"=1400'

8/17/2011 12:22:00 PM Z:\ENG\Santa_Ana_Fixed_Guideway\CADD\10_Util\Sheets\GU-01.dgn USER=CAD6

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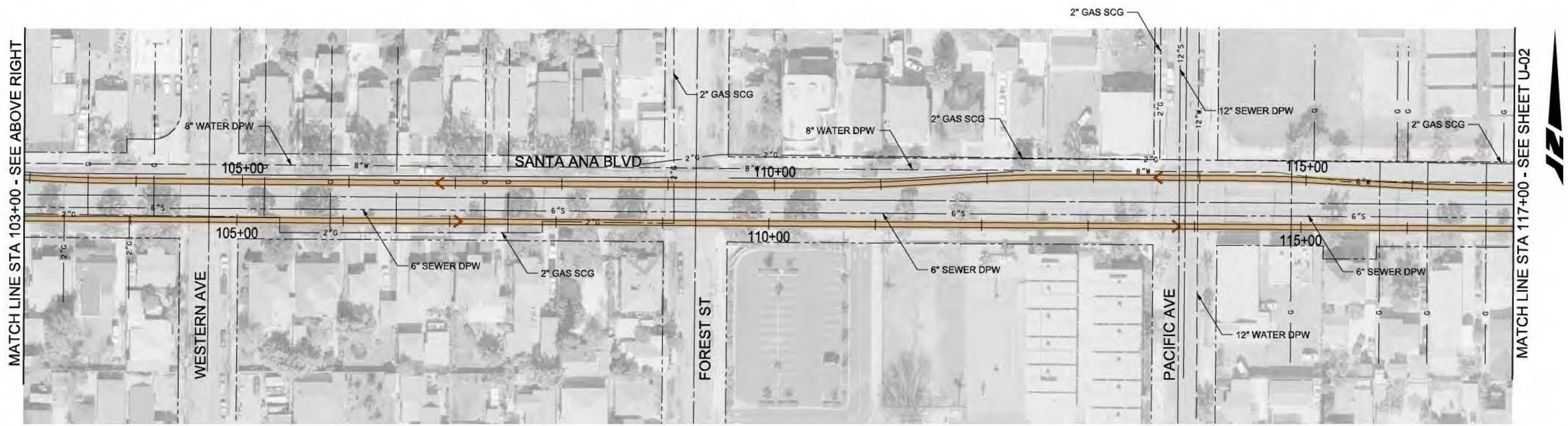

LEGEND

W	WATER
S	SEWER
G	GAS
E	ELECTRICAL
CATV	CABLE
T	TELEPHONE
	TRACK

ABBREVIATIONS

SCE	SOUTHERN CALIFORNIA EDISON
DPW	DEPARTMENT OF PUBLIC WORK
SCG	SOUTHERN CALIFORNIA GAS

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

EXISTING UTILITY PLANS
RAITT TO FLOWER SEGMENT - ALT 1 & ALT 2
STA 80+00 TO STA 117+00

DRAWING NO. U - 01
SHEET NO.
SCALE HOR: 1"=XX'

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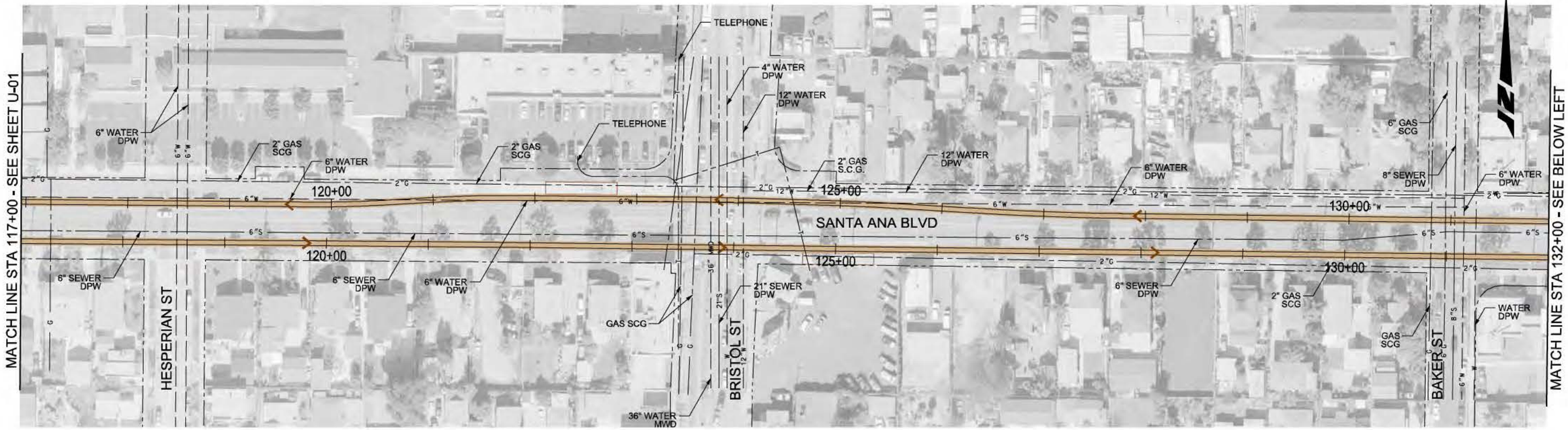

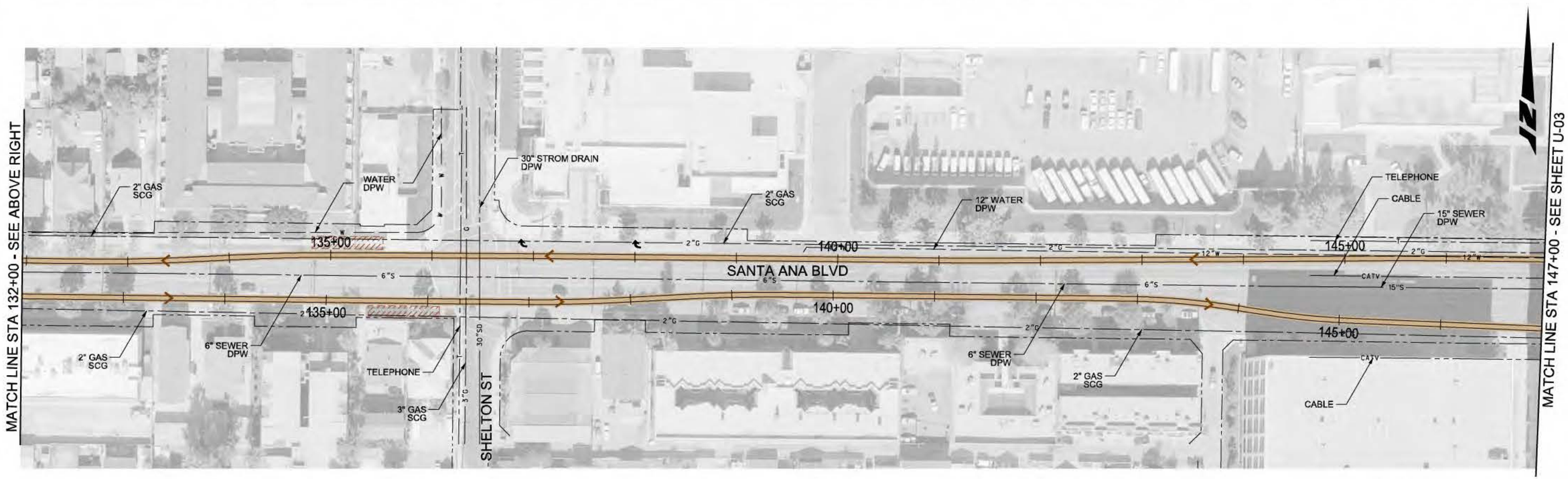

LEGEND

W	WATER
S	SEWER
G	GAS
E	ELECTRICAL
CATV	CABLE
T	TELEPHONE
	TRACK

ABBREVIATIONS

SCE	SOUTHERN CALIFORNIA EDISON
DPW	DEPARTMENT OF PUBLIC WORK
SCG	SOUTHERN CALIFORNIA GAS

CORDOBA CORPORATION
2677 NORTH MAIN STREET, SUITE 240
SANTA ANA, CA 92705
714.558.6124 PH - 714.558.8467 FAX

OCTA

Santa Ana Education 1st

GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

EXISTING UTILITY PLANS
RAITT TO FLOWER SEGMENT - ALT 1 & ALT 2
STA 117+00 TO STA 147+00

DRAWING NO. U - 02
SHEET NO.
SCALE HOR: 1"=100'

USER=CAD3 7/27/2011 11:29:00 AM z:\ENG\Santa_Ana_Fixed_Guideway\CADD\10_Util\Sheets\02_RAITT-FLOWER_SEG_1&2\U-02.dgn

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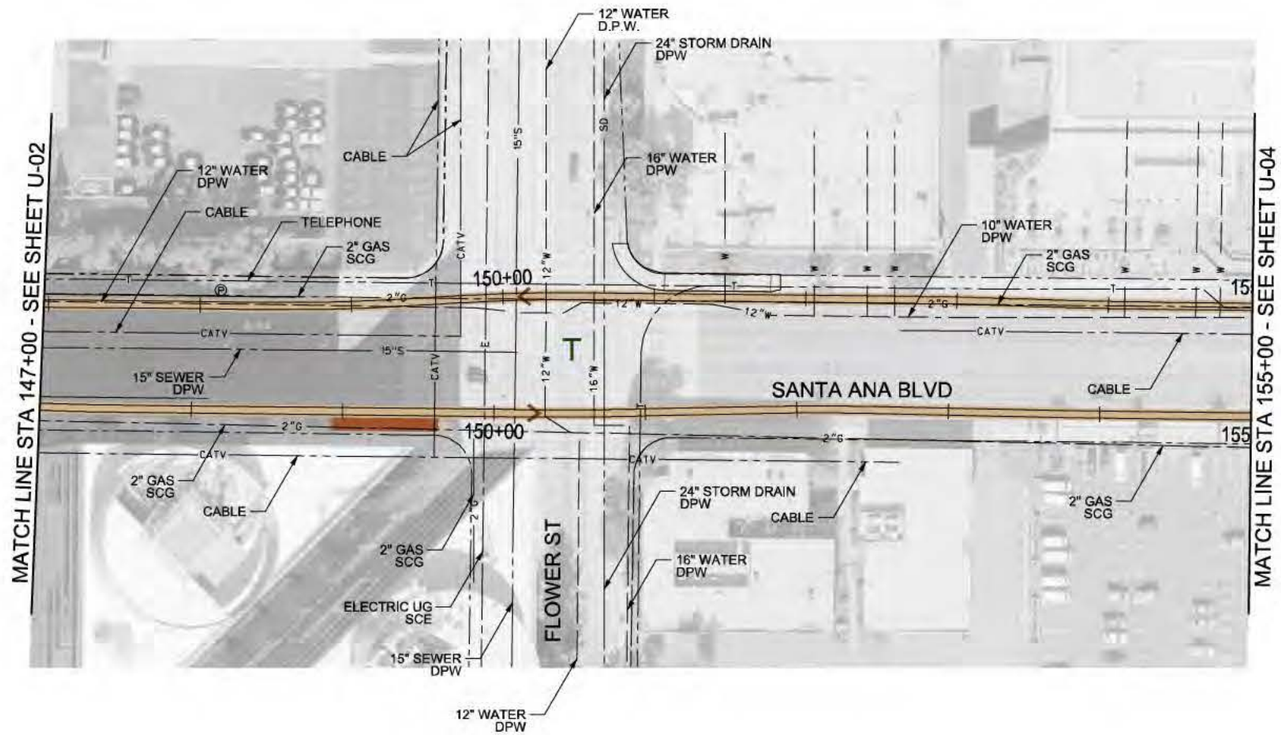

LEGEND

W	WATER
S	SEWER
G	GAS
E	ELECTRICAL
CATV	CABLE
T	TELEPHONE
	TRACK

ABBREVIATIONS

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 1
STA 147+00 TO STA 155+00

DRAWING NO. U - 03

SHEET NO.

SCALE HOR: 1"=100'

Plot Driver=SA-StreetCar.pltcfg
Pentable=SA-STREETCAR.TBL
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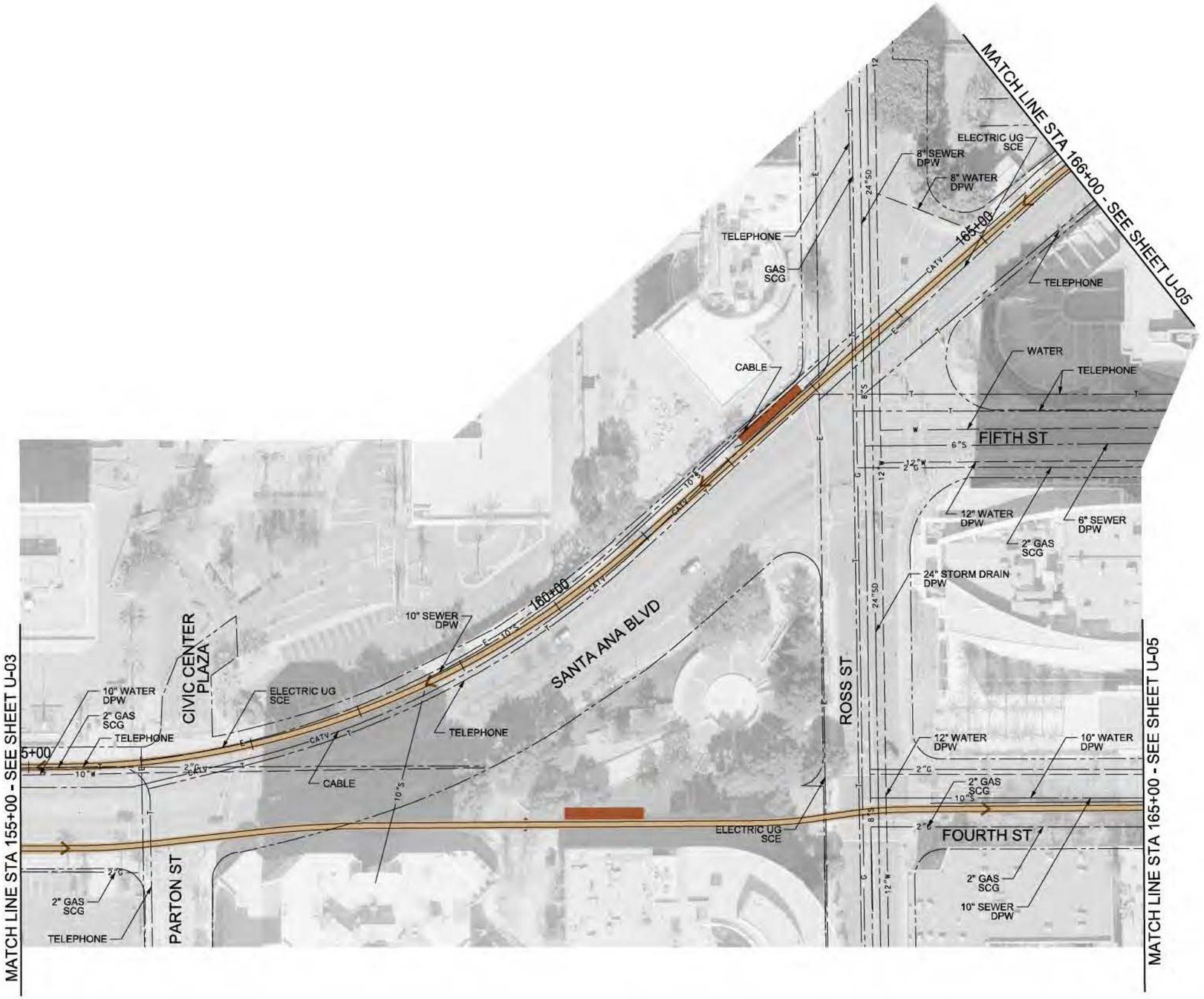

LEGEND

W	WATER
S	SEWER
G	GAS
E	ELECTRICAL
CATV	CABLE
T	TELEPHONE
	TRACK

ABBREVIATIONS

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 1
STA 155+00 EB TO STA 165+00 EB

DRAWING NO. U - 04
SHEET NO.
SCALE HOR: 1"=100'

Plot Driver= SA-StreetCar.pltcfg
Pentable= SA-STREETCAR.TBL
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LEGEND

W	WATER
S	SEWER
G	GAS
E	ELECTRICAL
CATV	CABLE
T	TELEPHONE
	TRACK

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 1
STA 165+00 EB TO STA 173+00 EB

DRAWING NO. U - 05
SHEET NO.
SCALE HOR: 1"=100'

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Plot Driver=SA-StreetCar.pltcfg Pentable=SA-STREETCAR.TBL

LEGEND

W	WATER
S	SEWER
G	GAS
E	ELECTRICAL
CATV	CABLE
T	TELEPHONE
	TRACK

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GARDEN GROVE

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EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 1
STA 173+00 EB TO STA 182+00 EB

DRAWING NO. U - 06
SHEET NO.
SCALE HOR: 1"=100'

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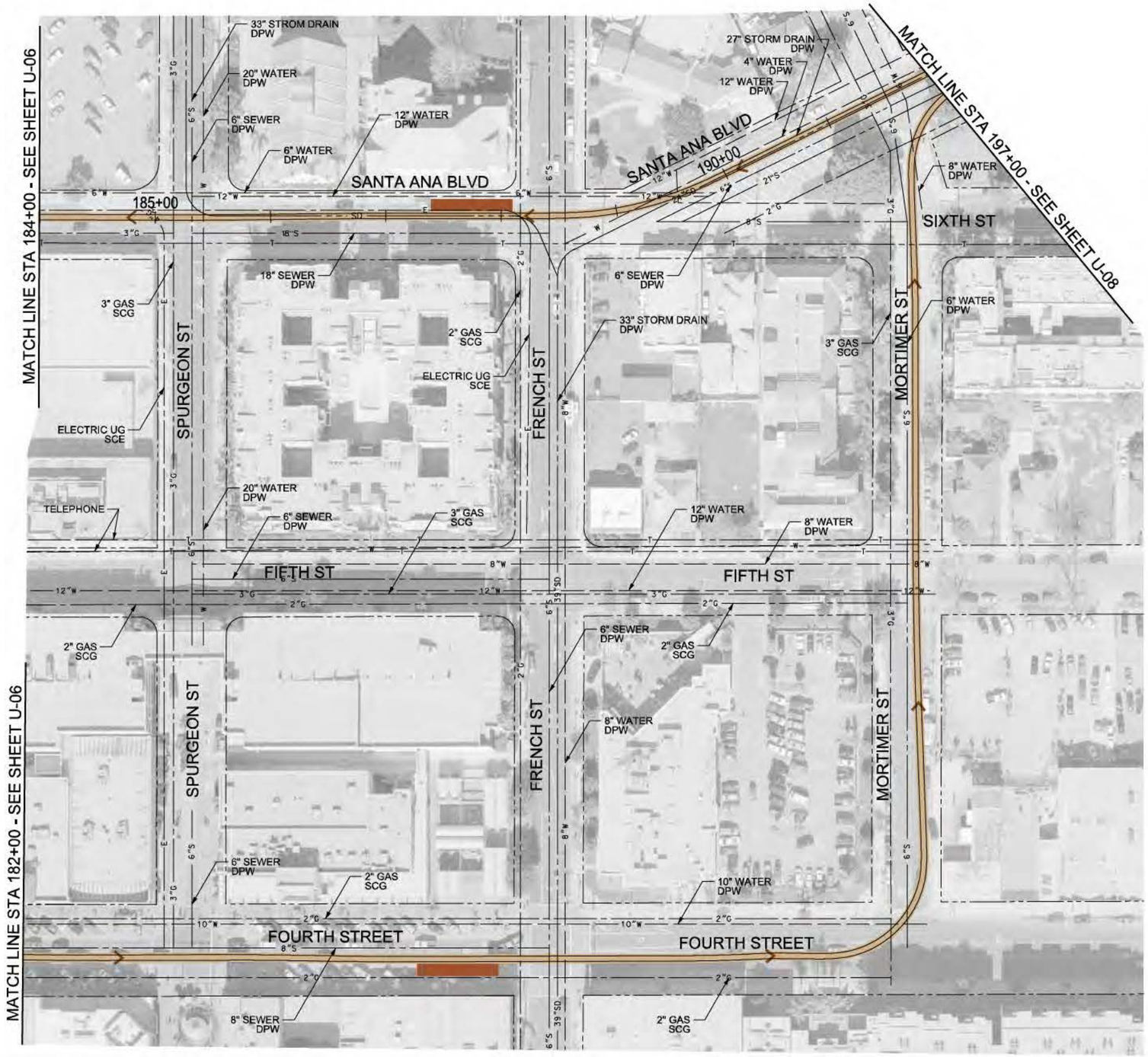

LEGEND

W	WATER
S	SEWER
G	GAS
E	ELECTRICAL
CATV	CABLE
T	TELEPHONE
	TRACK

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EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 1
STA 182+00 EB TO STA 197+00 EB

DRAWING NO. U - 07
SHEET NO.
SCALE HOR: 1"=100'

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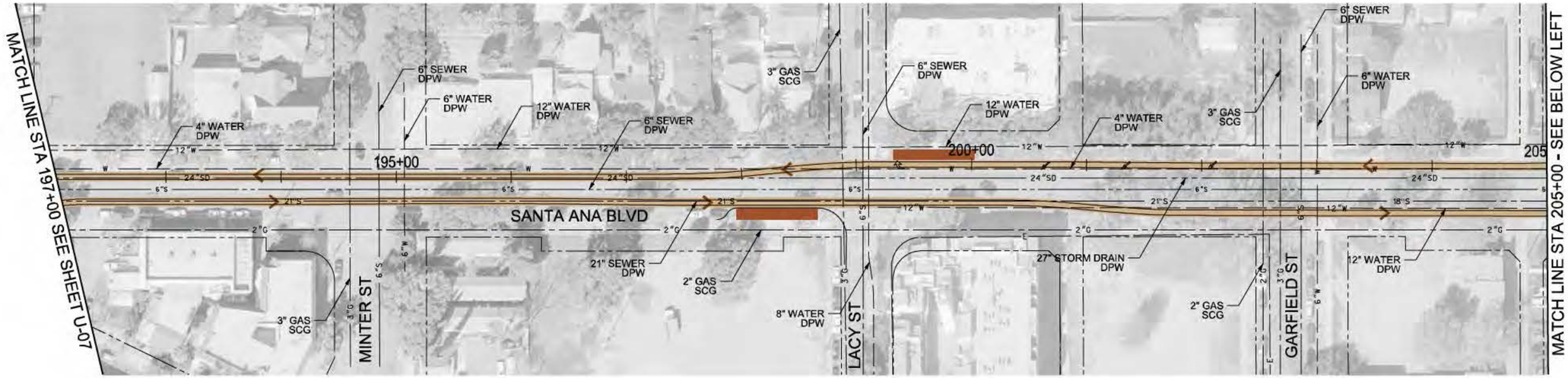

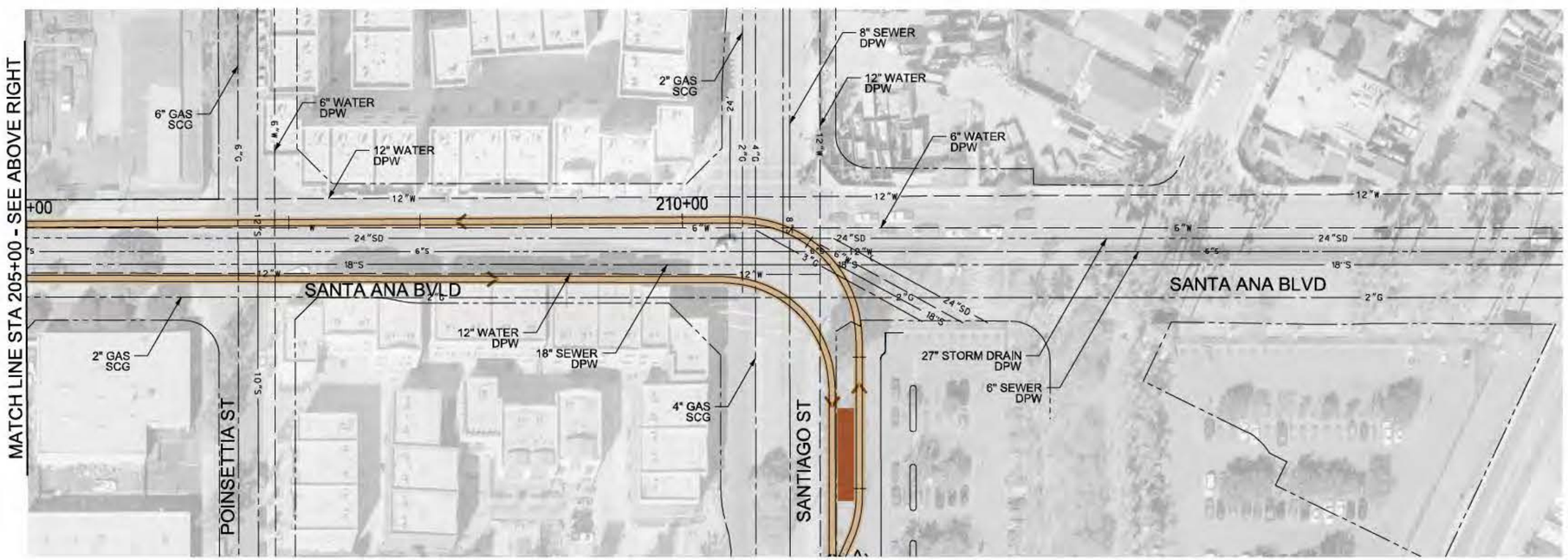

LEGEND

W	WATER
S	SEWER
G	GAS
E	ELECTRICAL
CATV	CABLE
T	TELEPHONE
	TRACK

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 1
STA 197+00 EB TO STA 216+85.76 EB

DRAWING NO. U - 08
SHEET NO.
SCALE HOR: 1"=100'

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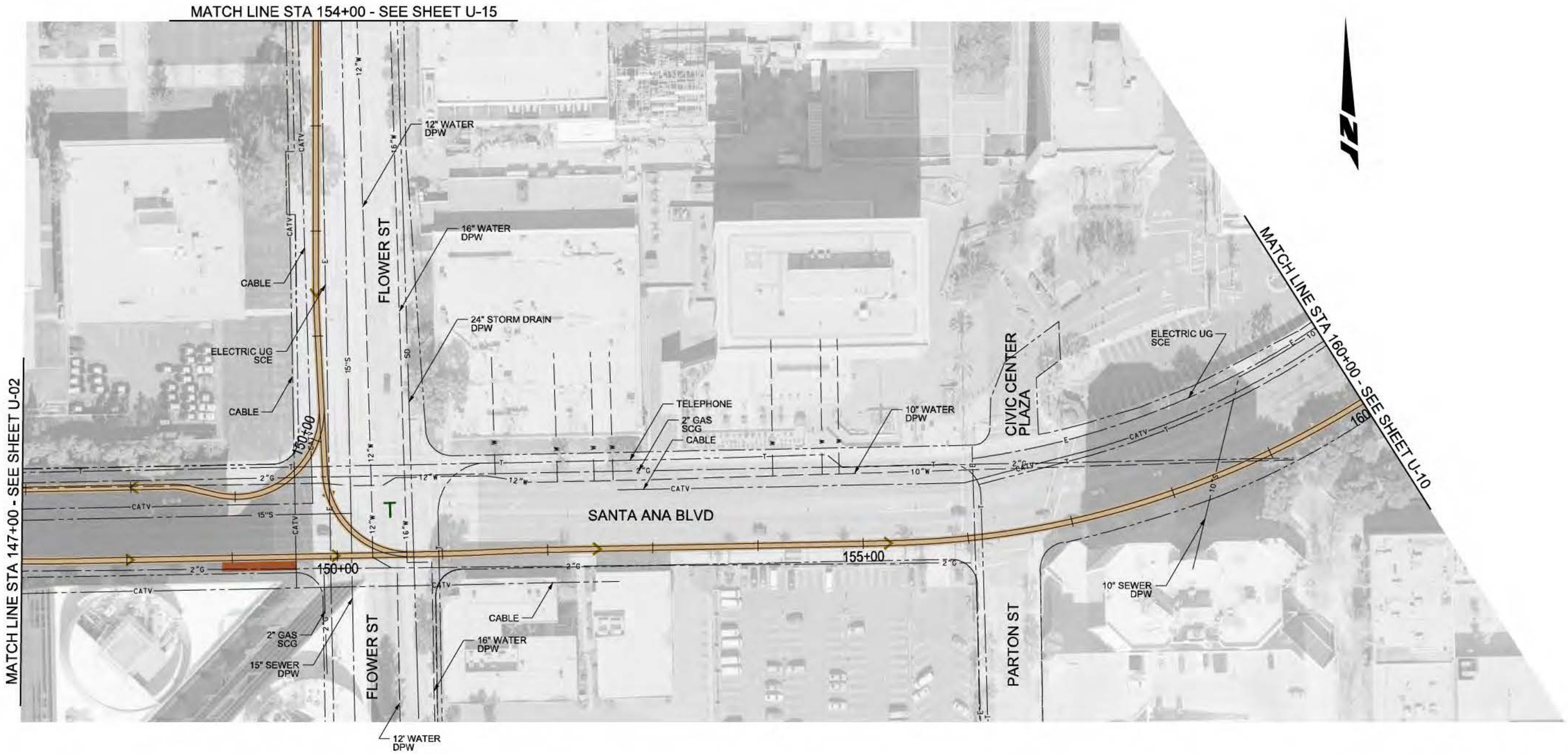

LEGEND

W	WATER
S	SEWER
G	GAS
E	ELECTRICAL
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GARDEN GROVE

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EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 2
STA 147+00 EB TO STA 160+00 EB

DRAWING NO. U - 09
SHEET NO.
SCALE HOR: 1"=100'

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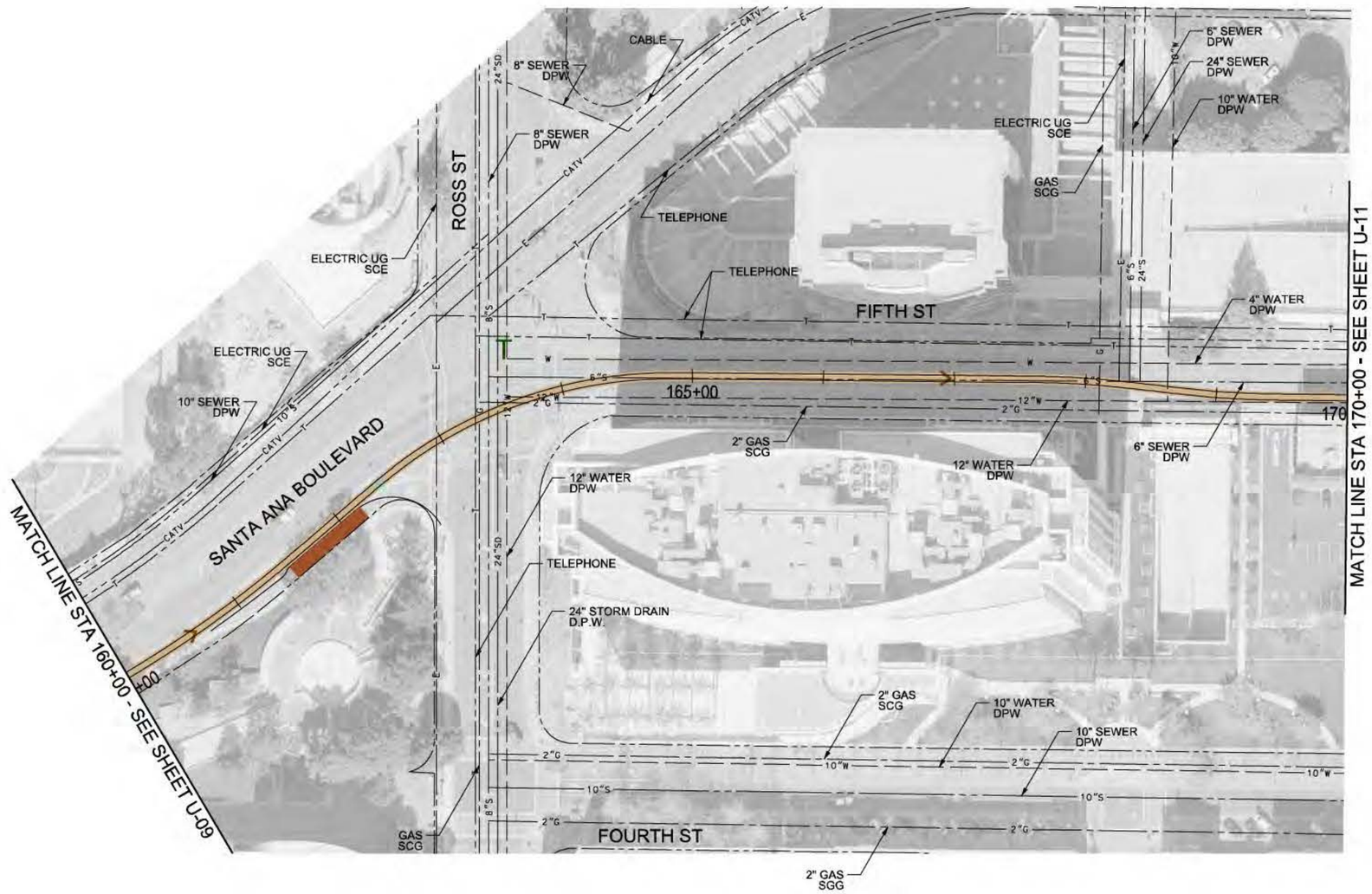

LEGEND

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S	SEWER
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E	ELECTRICAL
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GARDEN GROVE

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EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 2
STA 160+00 EB TO STA 170+00 EB

DRAWING NO. U - 10
SHEET NO.
SCALE HOR: 1"=100'

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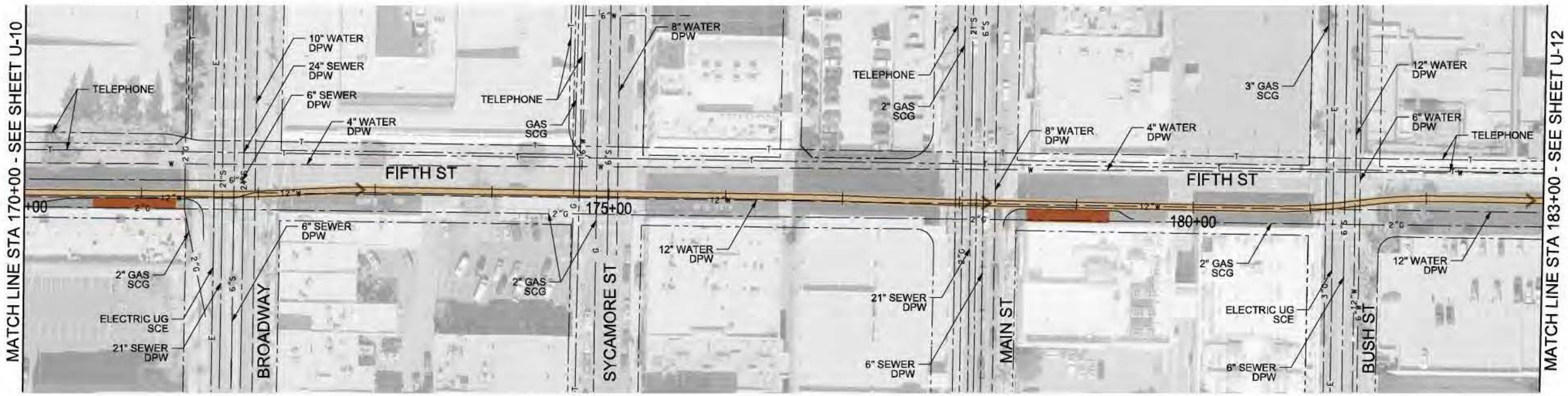

LEGEND

W	WATER
S	SEWER
G	GAS
E	ELECTRICAL
CATV	CABLE
T	TELEPHONE
	TRACK

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Santa Ana Education 1st

GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 2
STA 170+00 EB TO STA 183+00 EB

DRAWING NO. U - 11

SHEET NO.

SCALE HOR: 1"=100'

Plot Driver= SA-StreetCar.pltcfg
Pentable= SA-STREETCAR.TBL
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LEGEND

W	WATER
S	SEWER
G	GAS
E	ELECTRICAL
CATV	CABLE
T	TELEPHONE
	TRACK

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GARDEN GROVE

SANTA ANA AND GARDEN GROVE FIXED GUIDEWAY CORRIDOR

EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 2
STA 183+00 EB TO STA 200+00 EB

DRAWING NO. U - 12
SHEET NO.
SCALE HOR: 1"=100'

Plot Driver= SA-StreetCar.pltcfg
Pentable= SA-STREETCAR.TBL

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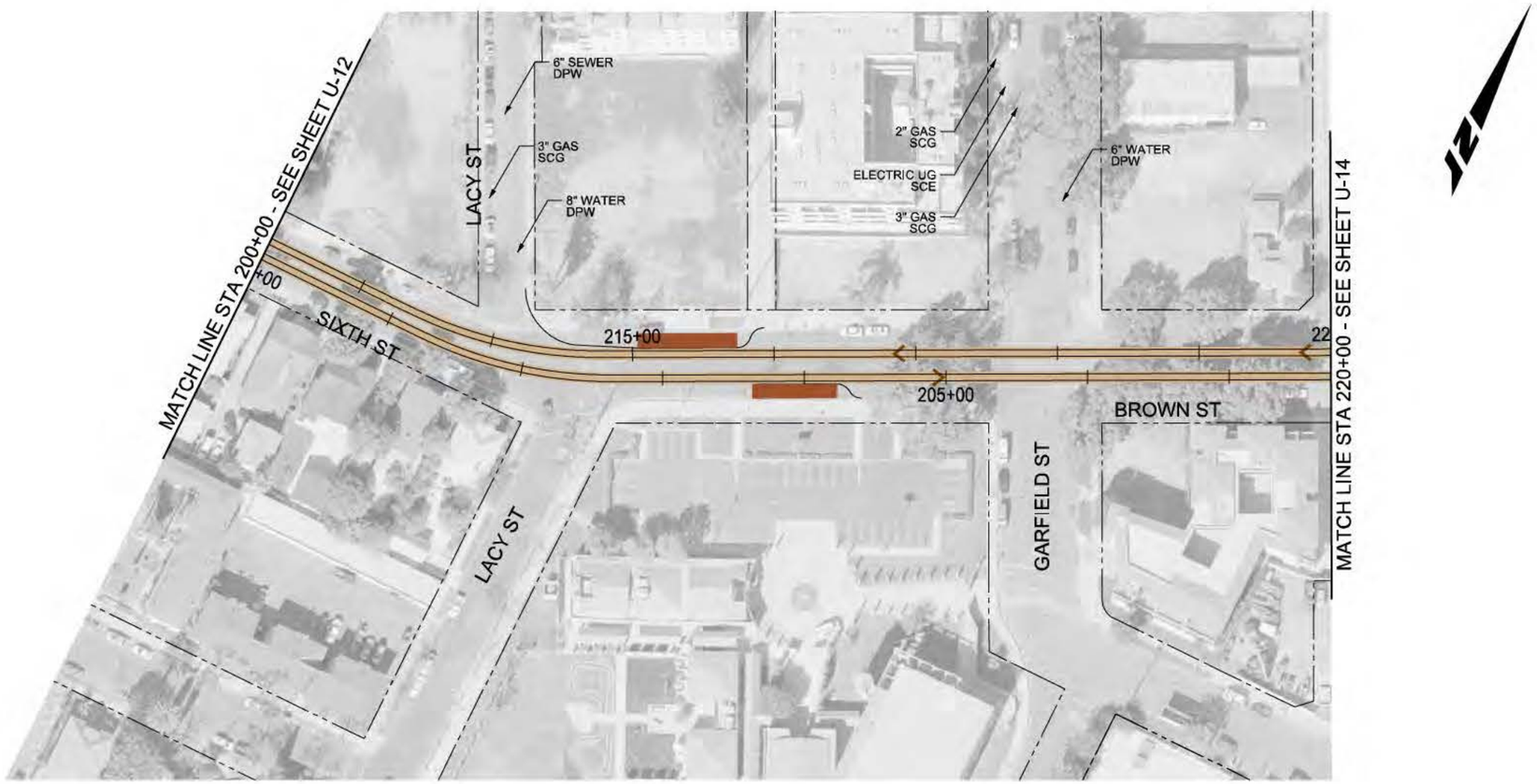

LEGEND

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S	SEWER
G	GAS
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CATV	CABLE
T	TELEPHONE
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GARDEN GROVE

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EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 2
STA 200+00 EB TO STA 220+00 EB

DRAWING NO. U - 13
SHEET NO.
SCALE HOR: 1"=100'

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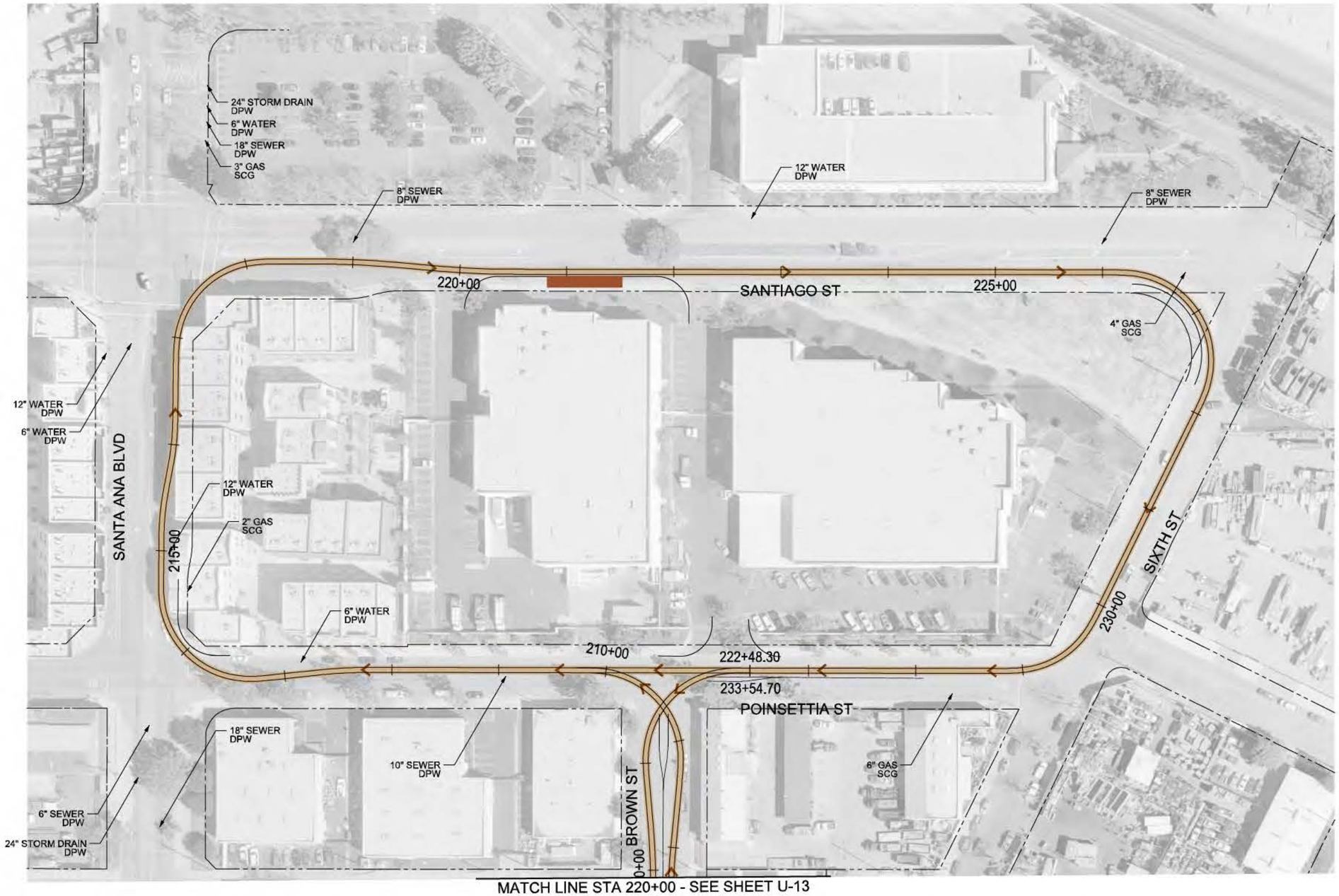

LEGEND

W	WATER
S	SEWER
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EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 2
STA 220+00 EB TO LOOP

DRAWING NO. U - 14
SHEET NO.
SCALE HOR: 1"=100'

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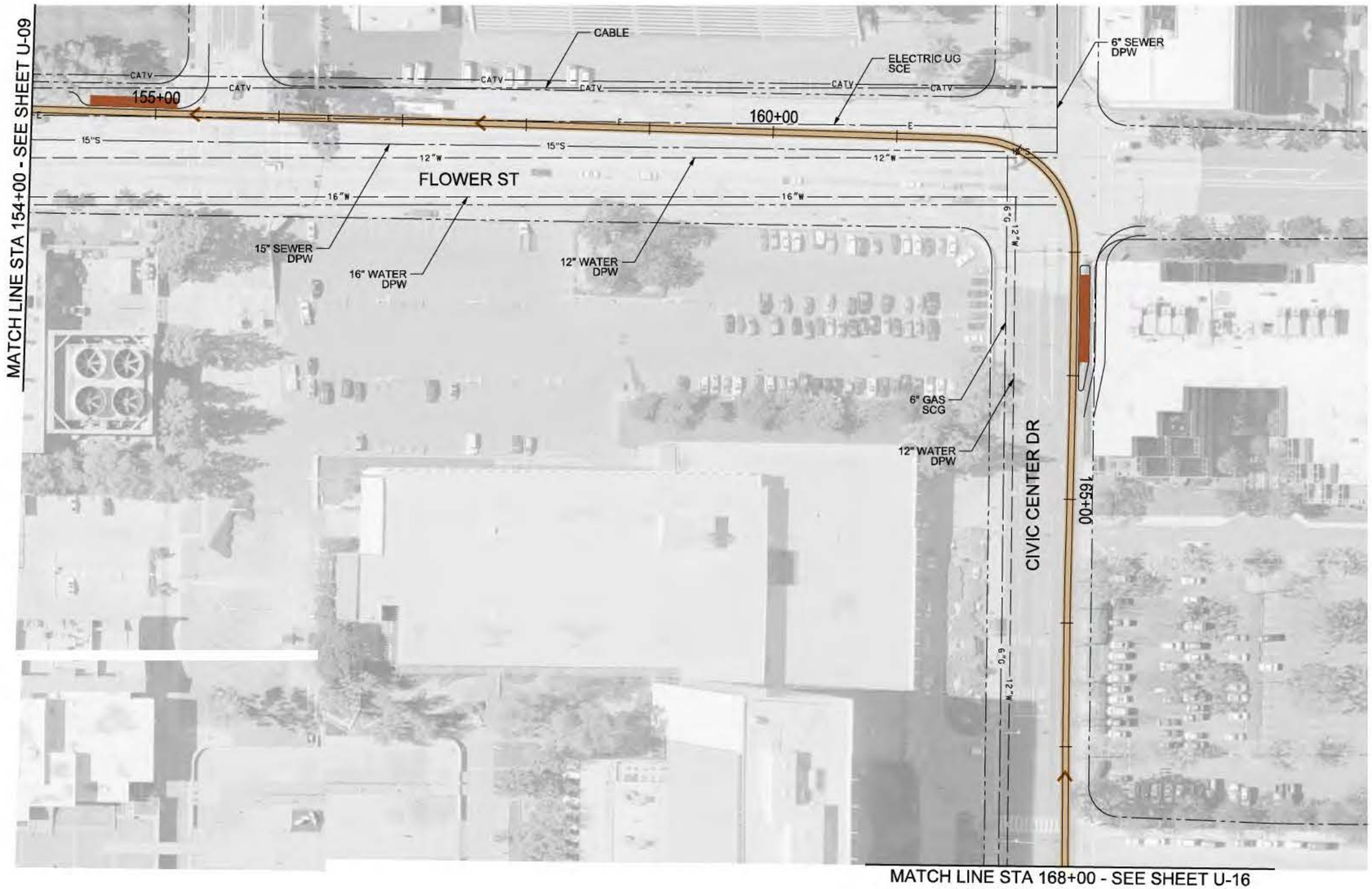

LEGEND

W	WATER
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EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 2
STA 154+00 WB TO STA 168+00 WB

DRAWING NO. U - 15
SHEET NO.
SCALE HOR: 1"=100'

USER=CAD3 7/27/2011 2:39:17 PM z:\ENG\Santa_Ana_Fixed_Guideway\CADD\10_Util\Sheets\03_DOWNTOWN_SEG_1&2\DOWNTOWN_SEG_Alt2\U-15.dgn

Plot Driver=SA-StreetCar.pltcfg Pentable=SA-STREETCAR.TBL

LEGEND

W	WATER
S	SEWER
G	GAS
E	ELECTRICAL
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EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 2
STA 168+00 WB TO STA 182+00 WB

DRAWING NO. U - 16
SHEET NO.
SCALE HOR: 1"=100'

USER=CAD3 7/27/2011 2:43:32 PM Z:\ENG\Santa_Ana_Fixed_Guideway\CADD\10_Util\Sheets\03_DOWNTOWN_SEG_1&2\DOWNTOWN_SEG_Alt2\U-16.dgn

Plot Driver=SA-StreetCar.pltcfg Pentable=SA-STREETCAR.TBL

LEGEND

W	WATER
S	SEWER
G	GAS
E	ELECTRICAL
CATV	CABLE
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EXISTING UTILITY PLANS
DOWNTOWN SEGMENT - ALT 2
STA 182+00 WB TO STA 198+00 WB

DRAWING NO. U - 17
SHEET NO.
SCALE HOR: 1"=100'

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