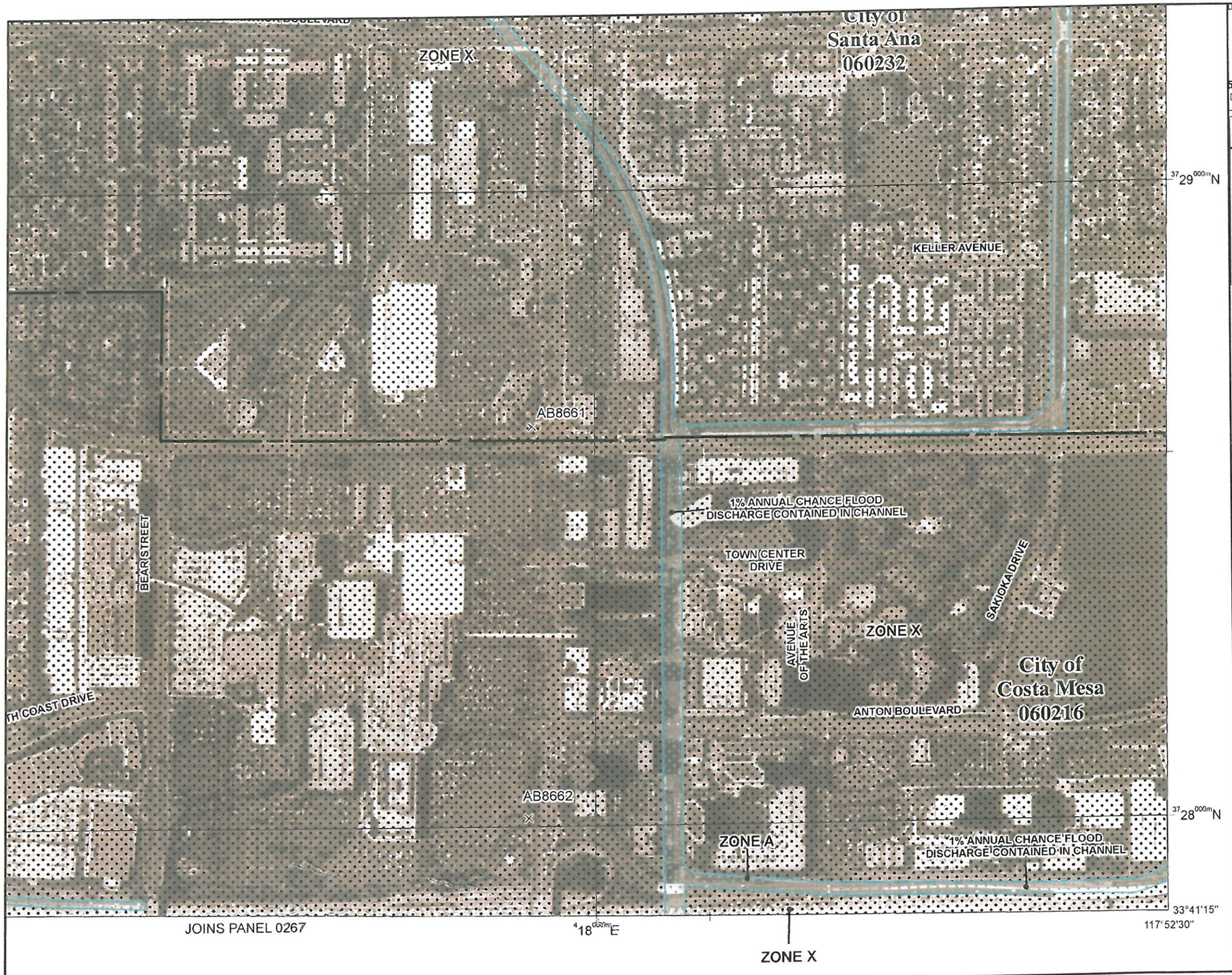
# Appendix Q Hydrology & Floodplains/Water Quality & Stormwater Runoff Exhibits

Q1: FEMA FIRM Maps

Q2: Treatment BMP Layout Sheets

# Q1: FEMA FIRM Maps




...ional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000

FEET

METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0259J

# FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 259 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| COSTA MESA, CITY OF | 060216 | 0259 | J |
| SANTA ANA, CITY OF | 060232 | 0259 | J |

Notice to User. The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
06059C0259J

MAP REVISED
DECEMBER 3, 2009

Federal Emergency Management Agency

DELHI CHANNEL

1 OF 2

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

tional Flood Insurance Program at 1-800-638-6620.

JOINS PANEL 0259

6065000 FT

117°52'30"

33°41'15"

MAP SCALE 1" = 500'

50 0 500 1000 FEET

METERS

City of Costa Mesa 060216

405

1% ANNUAL CHANCE FLOOD DISCHARGE CONTAINED IN CHANNEL

ZONE A

ZONE X

RHINE LANE

AB8667

PAULARINO AVENUE

Santa Ana Delhi Channel

ENTERPRISE AVENUE

ZONE X

DX2046

DX2043

BAKER STREET

DX2045

$^{37}27^{000m}$N

DX2044

ZONE X

73

55

BRISTOL STREET

ST CLAIR STREET

BEAR STREET

DX2042

DX3683

DX2041

PANEL 0267J

NATIONAL FLOOD INSURANCE PROGRAM

# FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 267 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| COSTA MESA, CITY OF | 060216 | 0267 | J |
| NEWPORT BEACH, CITY OF | 060227 | 0267 | J |
| ORANGE COUNTY | 060212 | 0267 | J |

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 06059C0267J

MAP REVISED DECEMBER 3, 2009

Federal Emergency Management Agency

# DELHI CHANNEL

# 2 OF 2

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

tional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000 FEET

METERS

Santa Ana
060232

City of
Costa Mesa
060216

WEST SUNFLOWER AVENUE

PACIFIC ELECTRIC RAILROAD

HYLAND AVENUE

$^{37}29^{000m}$N

ZONE X

ZONE A

SOUTH COAST DRIVE

reenville Banning Channel

ANNUAL CHANCE FLOOD
ARGE CONTAINED IN CHANNEL

ZONE A

ZONE X

City of
Costa Mesa
060216

ZONE A

IE X

Note: This area is shown as being protected from the 1-percent-annual-chance or greater flood hazard by a levee system. Overtopping or failure of any levee system is possible. For additional information, see the "Accredited Levee Note" in Notes to Users.

$^{37}28^{000m}$N

405

1% ANNUAL-CHANCE FLOOD DISCHARGE CONTAINED IN CHANNEL

33°41'15"

117°54'22.5"

JOINS PANEL 0266

$^{415}000m$E

$^{416}000m$E

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0258J

# FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 258 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| COSTA MESA, CITY OF | 060216 | 0258 | J |
| FOUNTAIN VALLEY, CITY OF | 060218 | 0258 | J |
| SANTA ANA, CITY OF | 060232 | 0258 | J |

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
06059C0258J

MAP REVISED
DECEMBER 3, 2009

Federal Emergency Management Agency

# GISLER STORM CHANNEL

1 OF 2

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

ional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000 FEET

METERS

WEST MACARTHUR BOULEVARD

ZONE X

City of Santa Ana 060232

CITY OF SANTA ANA

CITY OF COSTA MESA

ZONE X

City of Costa Mesa 060216

SMALLEY ROAD

BEAR STREET

SOUTH COAST DRIVE

BUCKINGHAM DRIVE

SOUTH COAST DRIVE

ZONE A

1% ANNUAL CHANCE FLOOD DISCHARGE CONTAINED IN CHANNEL

ZONE X

405

0000 FT

33°41'15"

117°54'22.5"

4 17 000m E

JOINS PANEL 0267

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0259J

# FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 259 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| COSTA MESA, CITY OF | 060216 | 0259 | J |
| SANTA ANA, CITY OF | 060212 | 0259 | J |

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 06059C0259J

MAP REVISED DECEMBER 3, 2009

Federal Emergency Management Agency

GISLER STORM CHANNEL

2 OF 2

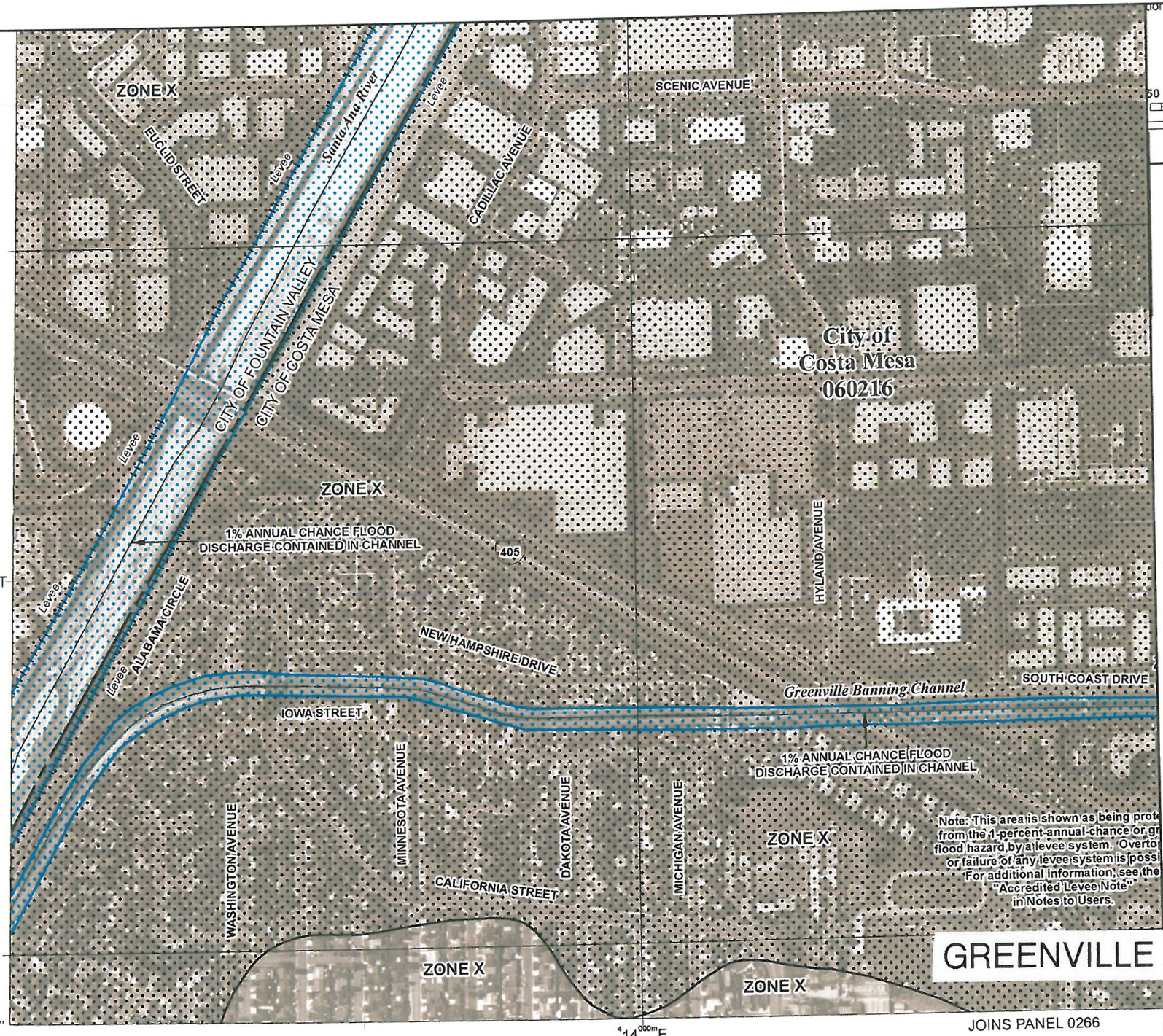
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

tional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000 FEET

METERS




NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0258J

# FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 258 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| COSTA MESA, CITY OF | 060216 | 0258 | J |
| FOUNTAIN VALLEY, CITY OF | 060710 | 0258 | J |
| SANTA ANA, CITY OF | 060212 | 0258 | J |

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

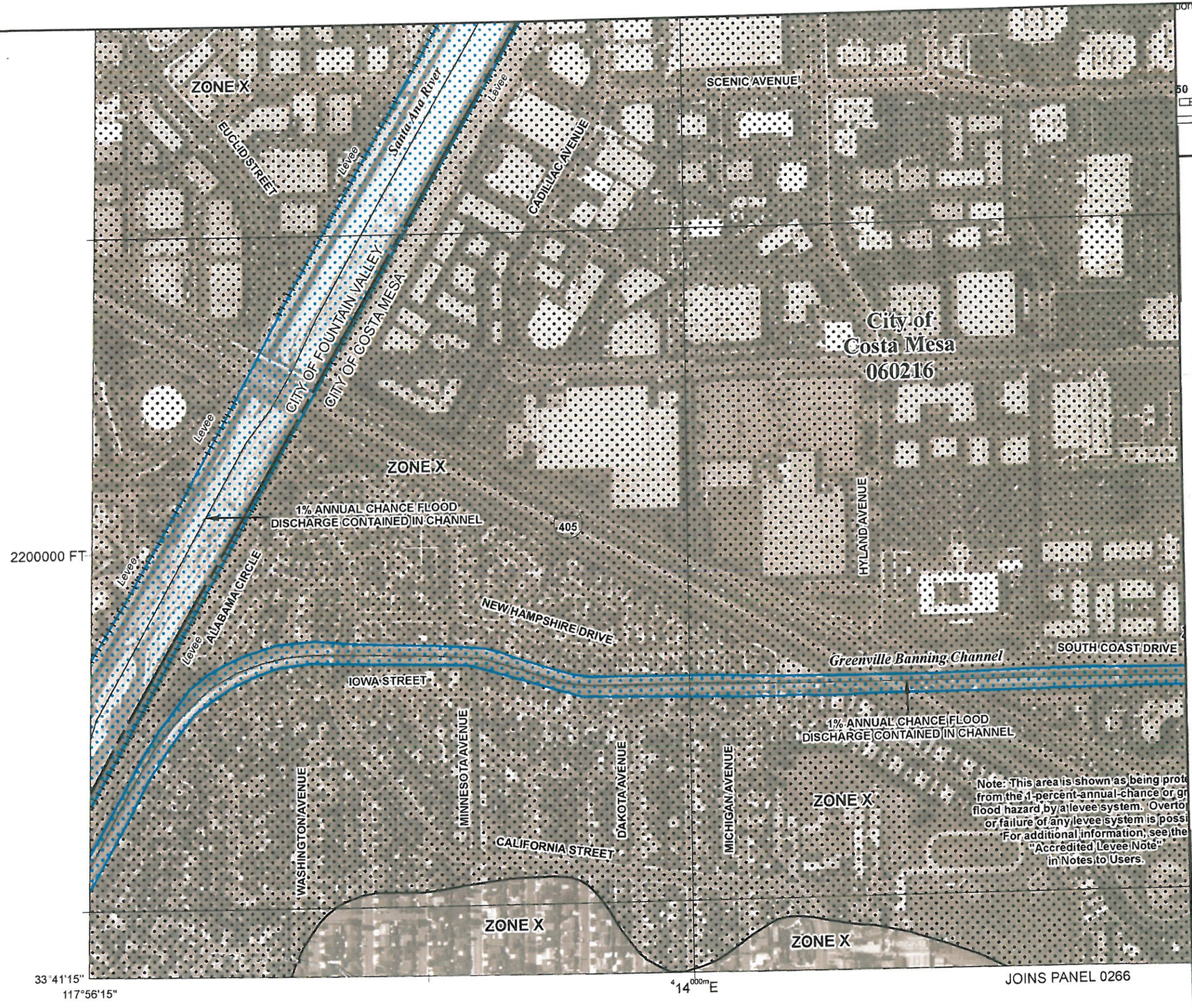
MAP NUMBER
06059C0258J

MAP REVISED
DECEMBER 3, 2009

Federal Emergency Management Agency

# GREENVILLE BANNING CHANNEL

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov




...onal Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000 FEET

METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0258J

# FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 258 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| COSTA MESA, CITY OF | 060216 | 0258 | J |
| FOUNTAIN VALLEY, CITY OF | 060218 | 0258 | J |
| SANTA ANA, CITY OF | 060232 | 0258 | J |

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

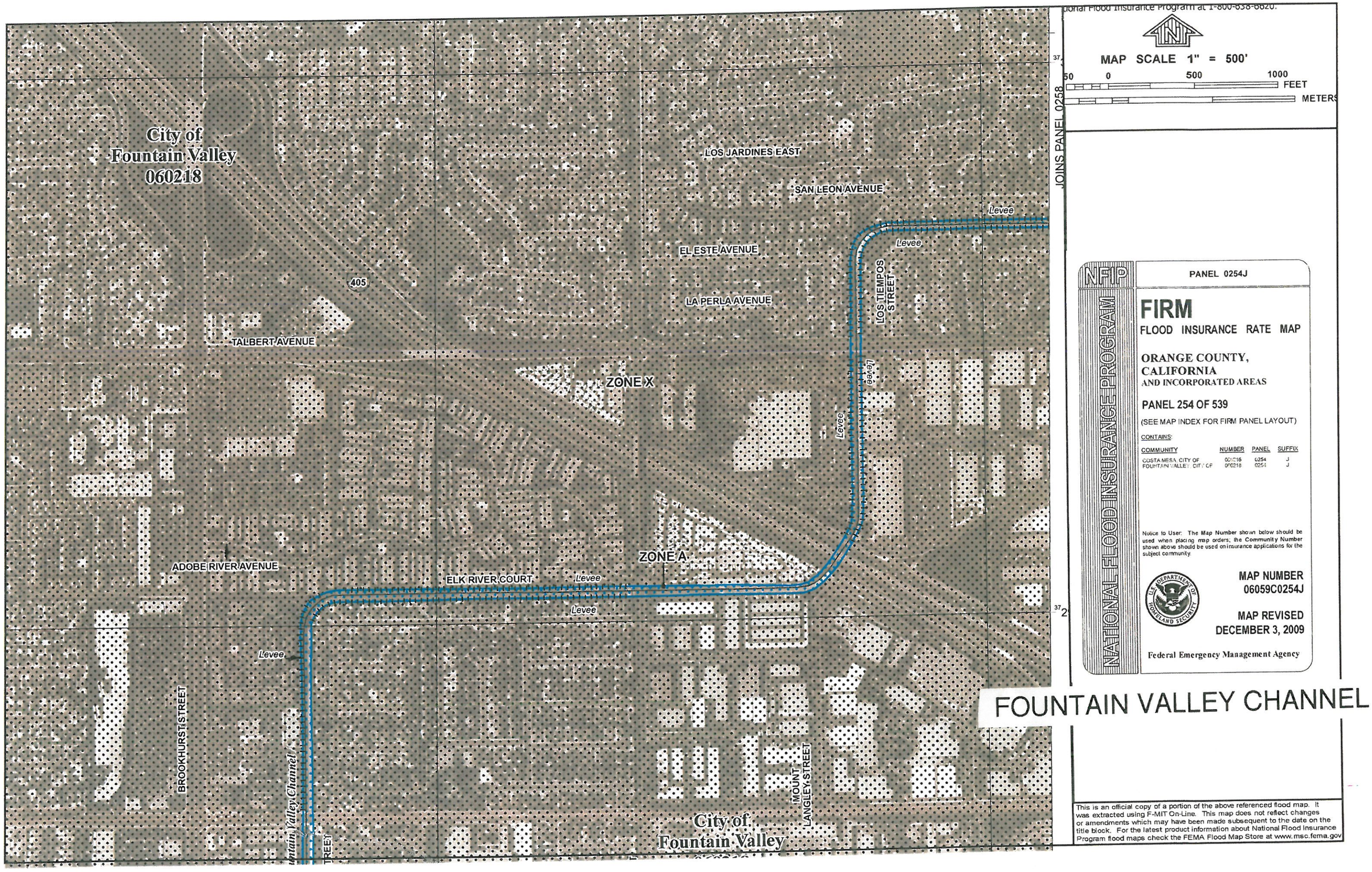
MAP NUMBER
06059C0258J

MAP REVISED
DECEMBER 3, 2009

Federal Emergency Management Agency

# SANTA ANA RIVER

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



City of Fountain Valley 060218
LOS JARDINES EAST
SAN LEON AVENUE
EL ESTE AVENUE
LA PERLA AVENUE
LOS TIEMPOS STREET
TALBERT AVENUE
405
ZONE X
ZONE A
ADOBE RIVER AVENUE
ELK RIVER COURT
Levee
BROOKHURST STREET
Fountain Valley Channel
MOUNT LANGLEY STREET
City of Fountain Valley
JOINS PANEL 0258
MAP SCALE 1" = 500'
50 0 500 1000 FEET
METERS
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0254J
FIRM
FLOOD INSURANCE RATE MAP
ORANGE COUNTY, CALIFORNIA
AND INCORPORATED AREAS
PANEL 254 OF 539
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
COSTA MESA, CITY OF 060216 0254 J
FOUNTAIN VALLEY, CITY OF 060218 0254 J
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER
06059C0254J
MAP REVISED
DECEMBER 3, 2009
Federal Emergency Management Agency
FOUNTAIN VALLEY CHANNEL
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

117°58'07.5"
07.5"

6040000 FT

JOINS PANEL 0252

6045000 FT

ional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000

FEET

METERS

DAISY AVENUE

MARIPOSA AVENUE

Ocean V

EMMONS CIRCLE

Ocean View Channel

ZONE A

WINTHROP CIRCLE

ZONE X

ZONE A

BUTTONWOOD STREET

BROOKHURST STREET

LA ESTRELLA AVENUE

405

BUSHARD STREET

SLATER AVENUE

LIMIT OF STUDY

Talbert Channel (D02)

ZONE X

ZONE A

FT

PANEL 0254J

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

# FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 254 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| COSTA MESA, CITY OF | 060216 | 0254 | J |
| FOUNTAIN VALLEY, CITY OF | 060218 | 0254 | J |

Notice to User. The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
06059C0254J

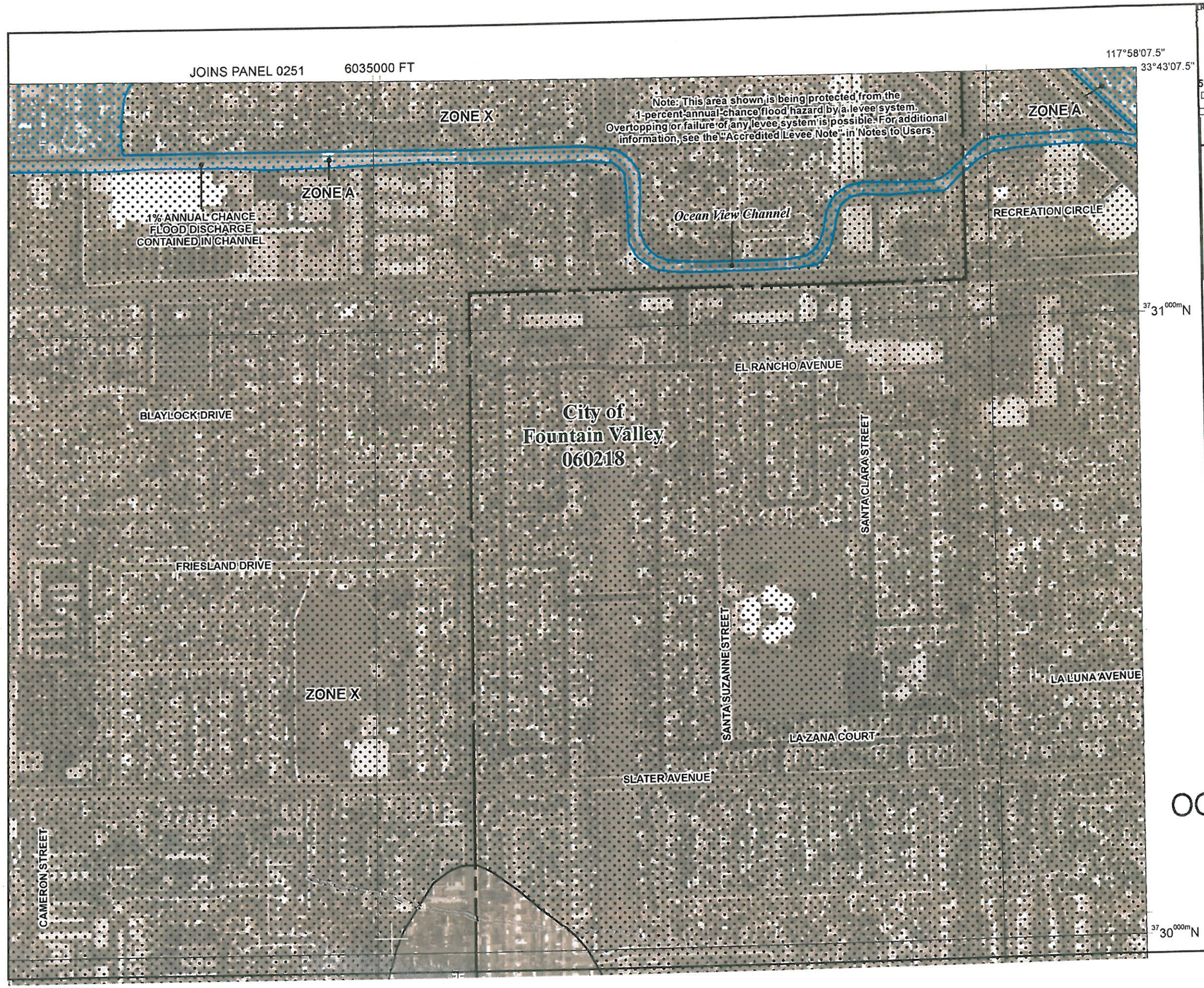
MAP REVISED
DECEMBER 3, 2009

Federal Emergency Management Agency

# OCEAN VIEW CHANNEL

1 OF 2

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov




...ional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000 FEET

METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0253J

# FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 253 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| FOUNTAIN VALLEY, CITY OF | 060218 | 0253 | J |
| HUNTINGTON BEACH, CITY OF | 065034 | 0253 | J |

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
06059C0253J

MAP REVISED
DECEMBER 3, 2009

Federal Emergency Management Agency

# OCEAN VIEW CHANNEL

2 OF 2

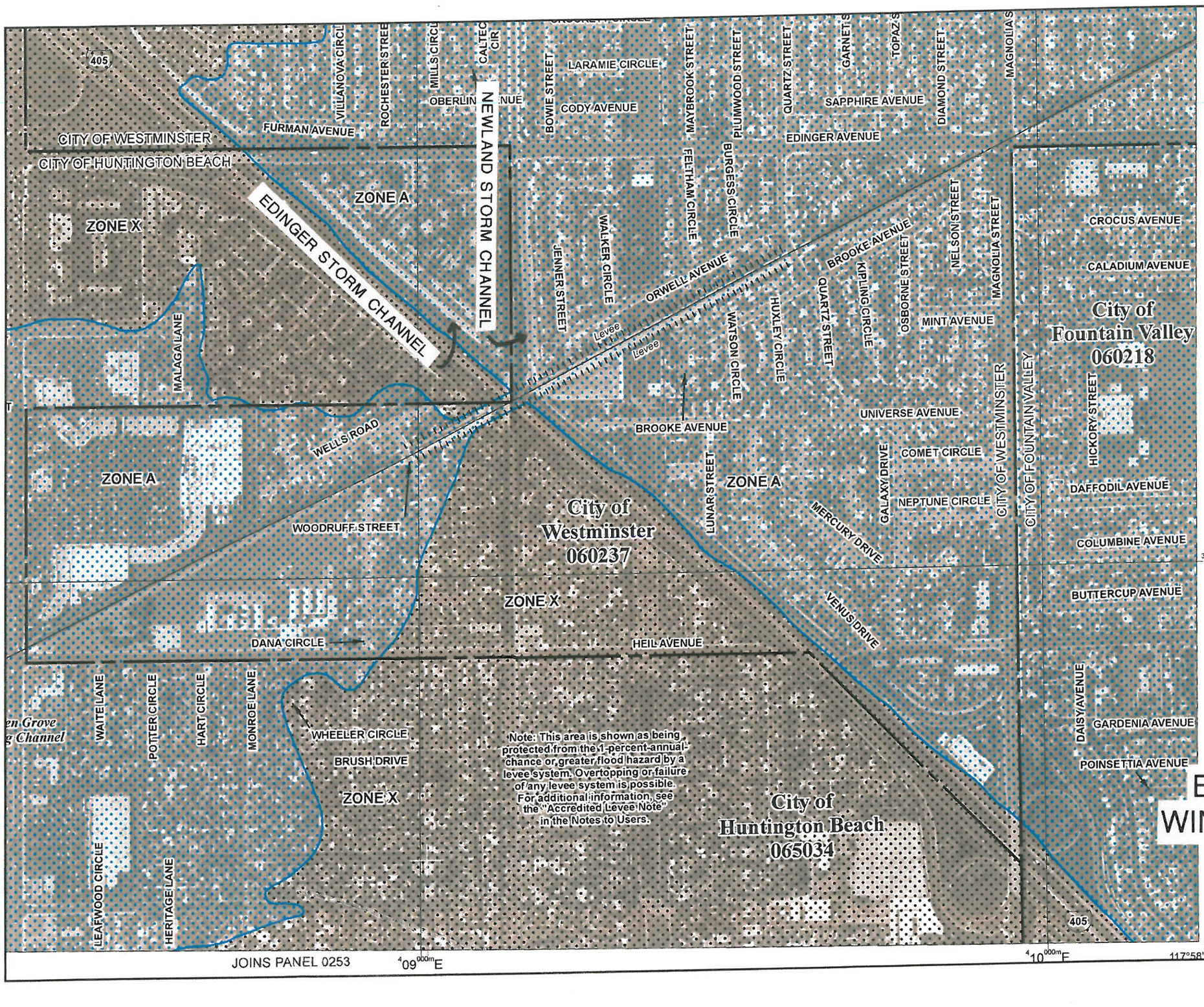
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

tional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000 FEET

METERS




NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0251J

# FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 251 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| FOUNTAIN VALLEY, CITY OF | 060218 | 0251 | J |
| HUNTINGTON BEACH, CITY OF | 065031 | 0251 | J |
| ORANGE COUNTY | 060212 | 0251 | J |
| WESTMINSTER, CITY OF | 060737 | 0251 | J |

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 06059C0251J

MAP REVISED DECEMBER 3, 2009

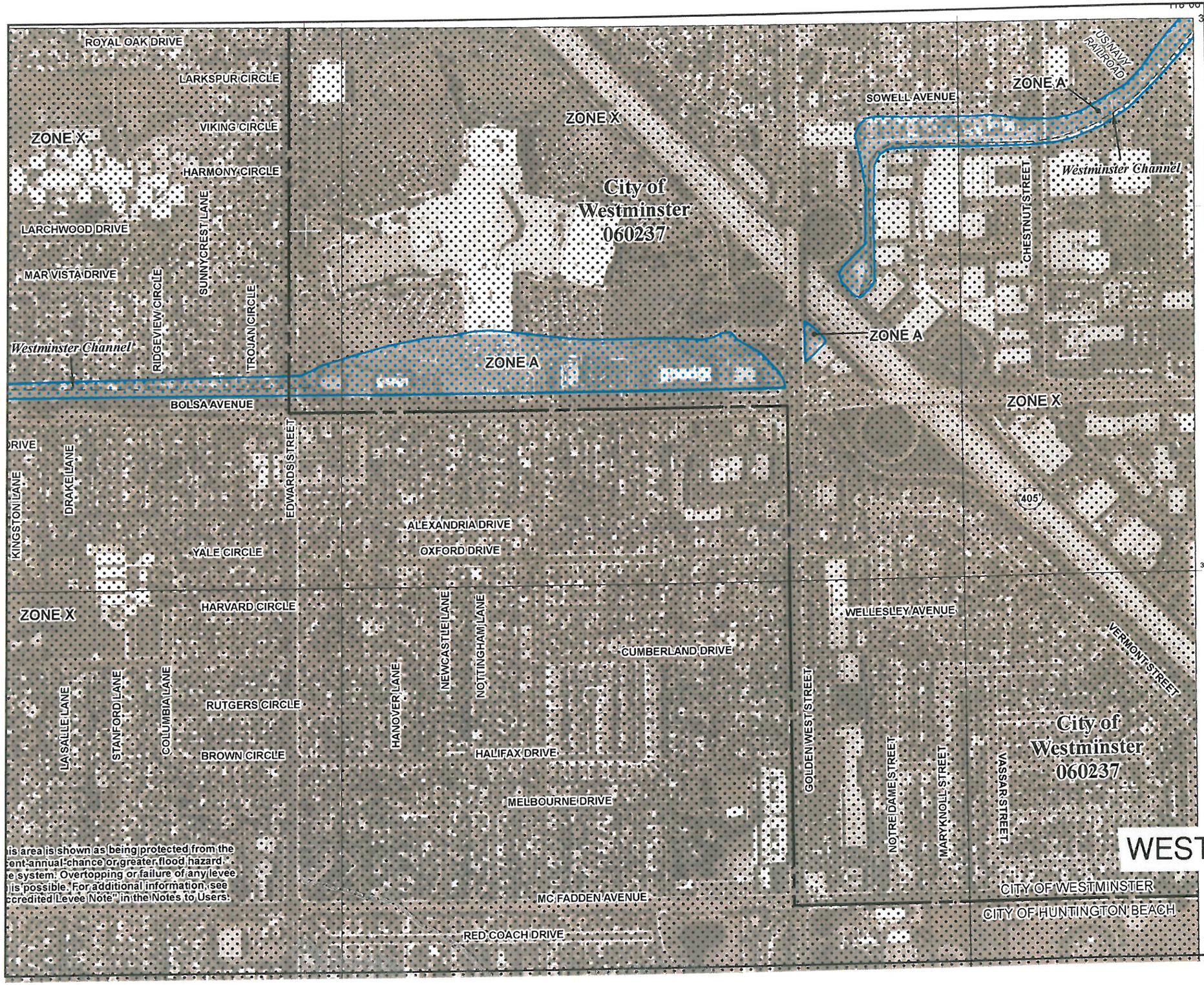
Federal Emergency Management Agency

EAST GARDEN GROVE WINTERSBURG CHANNEL

EDINGER CHANNEL

NEWLAND CHANNEL

Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov




is area is shown as being protected from the
ent-annual-chance or greater flood hazard.
e system. Overtopping or failure of any levee
is possible. For additional information, see
ccredited Levee Note" in the Notes to Users.

MAP SCALE 1" = 500'

50 0 500 1000 FEET

METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0232J

# FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 232 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| HUNTINGTON BEACH, CITY OF | 065034 | 0232 | J |
| WESTMINSTER, CITY OF | 060237 | 0232 | J |

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

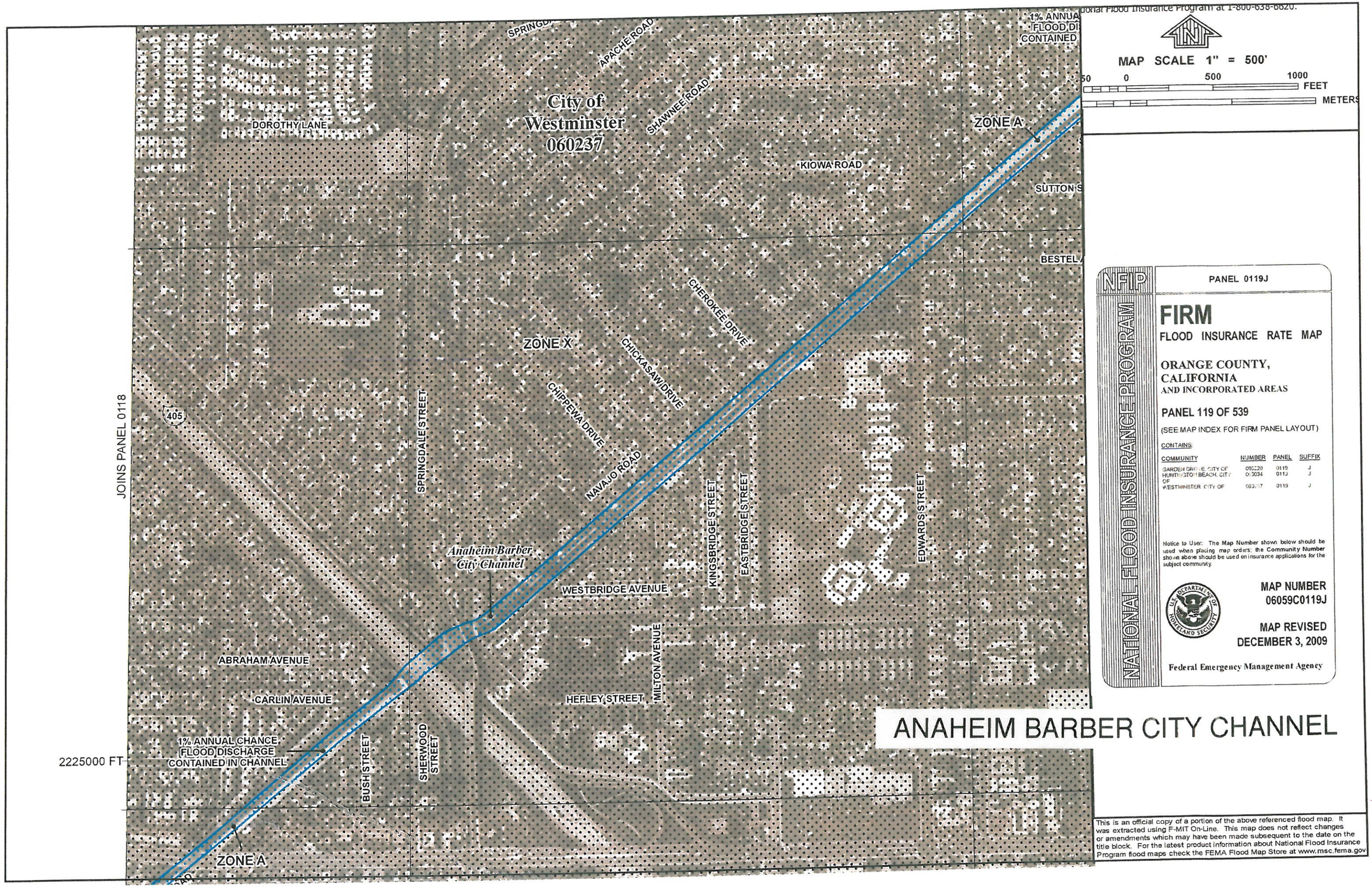
MAP NUMBER
06059C0232J

MAP REVISED
DECEMBER 3, 2009

Federal Emergency Management Agency

WESTMINSTER CHANNEL

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov




tional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000

FEET

METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0119J

# FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 119 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| GARDEN GROVE, CITY OF | 060220 | 0119 | J |
| HUNTINGTON BEACH, CITY OF | 060034 | 0119 | J |
| WESTMINSTER, CITY OF | 060237 | 0119 | J |

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
06059C0119J

MAP REVISED
DECEMBER 3, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

6015000 FT JOINS PANEL 0116

Golf Course Retarding Basin

ZONE X

ZONE AE
(EL 14)

IRONWOOD AVENUE

HAZELNUT AVENUE

GUAVA AVENUE

LAMPSON AVENUE

FIR AVENUE

City of
Seal Beach
060233

ELDER AVENUE

DOGWOOD AVENUE

ZONE X

ASTER STREET

CANDLEBERRY AVENUE

BIRCHWOOD AVENUE

ALMOND AVENUE

405

DY0650

DY0649

DY0647

DY0646

DY0651

DY0648

DY0645

Note: This area is shown as being protected from the 1-percent-annual-chance or greater flood hazard by a levee system that has been provisionally accredited. Overtopping or failure is possible. For additional information, see the "Provisionally Accredited Levee Note" in Notes to Users.

ZONE D AND MILITARY BOUNDARIES COINCIDENT WITH CORPORATE LIMITS

ZONE D

IRONWOOD AVENUE

HAZELNUT AVENUE

GUAVA AVENUE

WISTERIA STREET

ZONE A

DOGWOOD AVENUE

Bolsa Chica Channel

CANDLEBERRY AVENUE

VIOLET STREET

405

LIMIT OF STUDY

Orange County
Unincorporated Areas
060212

LIMIT OF STUDY

BOLSA CHICA CHANNEL

...ional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000 FEET

METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0118J

# FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 118 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| GARDEN GROVE, CITY OF | 060230 | 0118 | J |
| HUNTINGTON BEACH, CITY OF | 060034 | 0118 | J |
| ORANGE COUNTY | 060212 | 0118 | J |
| SEAL BEACH, CITY OF | 060233 | 0118 | J |
| WESTMINSTER, CITY OF | 060237 | 0118 | J |

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
06059C0118J

MAP REVISED
DECEMBER 3, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

tional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000 FEET

METERS

ZONE X

DY0814

City of Seal Beach 060233

ZONE AE (EL 14)

ZONE X

RO DRIVE

ZONE X

Note: This area is shown as being protected from the 1-percent-annual-chance or greater flood hazard by a levee system that has been provisionally accredited. Overtopping or failure of any levee system is possible. For additional information, see the "Provisionally Accredited Levee Note" in the Notes to Users.

LIMIT OF STUDY

reas

FOSTER ROAD

YELLOWTAIL DRIVE

SEAL BEACH BOULEVARD

LAMPSON AVENUE

ZONE AE (EL 14)

Golf Course Retarding Basin

ZONE X

1% ANNUAL CHANCE FLOOD DISCHARGE CONTAINED IN CHANNEL

DY0816

DY0653

405

DY0607

DY0606

DY0654

DY0815

DY0656

DY0652

DY0655

FEDERAL STORM CHANNEL

ZONE D

Orange County Unincorporated Areas 060212

DY0658

DY0657

PANEL 0114J

NATIONAL FLOOD INSURANCE PROGRAM

# FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 114 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| ORANGE COUNTY | 060212 | 0114 | J |
| SEAL BEACH, CITY OF | 060233 | 0114 | J |

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 06059C0114J

MAP REVISED DECEMBER 3, 2009

Federal Emergency Management Agency

FEDERAL STORM CHANNEL

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

6005000 FT

JOINS PANEL 0112

.5"

1% ANNUAL CHANCE FLOOD DISCHARGE CONTAINED IN CHANNEL

ZONE X

CITY OF SEAL BEACH

ORANGE COUNTY

Montecito Storm Channel

COPA DE ORO DRIVE

ZONE X

COLLEGE PARK DRIVE

Orange County
Unincorporated Areas
060212

Note: This area is shown as being protected from the 1-percent-annual-chance or greater flood hazard by a levee system that has been provisionally accredited. Overtopping or failure of any levee system is possible. For additional information, see the "Provisionally Accredited Levee Note" in the Notes to Users.

MARTHA ANN DRIVE

FOSTER ROAD

YELLOWTAIL DRIVE

ZONE X

1% ANNUAL CHANCE FLOOD DISCHARGE CONTAINED IN CHANNEL

1% ANNUAL CHANCE FLOOD DISCHARGE CONTAINED IN CHANNEL

DY0816

Bixby Storm Channel

ZONE A

DY0611

DY0607

DY0606

DY0815

DY0612

405

DY0656

DY0610

City of
Seal Beach
060233

1% ANNUAL CHANCE FLOOD DISCHARGE CONTAINED IN CHANNEL

ZONE X

DY0658

DY0657

MONTECITO STORM CHANNEL

BIXBY STORM CHANNEL

...tional Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

50 0 500 1000 FEET

METERS

PANEL 0114J

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

# FIRM

FLOOD INSURANCE RATE MAP

ORANGE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 114 OF 539

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| ORANGE COUNTY | 060212 | 0114 | J |
| SEAL BEACH, CITY OF | 060233 | 0114 | J |

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
06059C0114J

MAP REVISED
DECEMBER 3, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

# Q2: Treatment BMP Layout Sheets

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 12 | Ora | 22, 405 | R0.7/R2.9<br>20.4/22.3 | | |

05/18/09
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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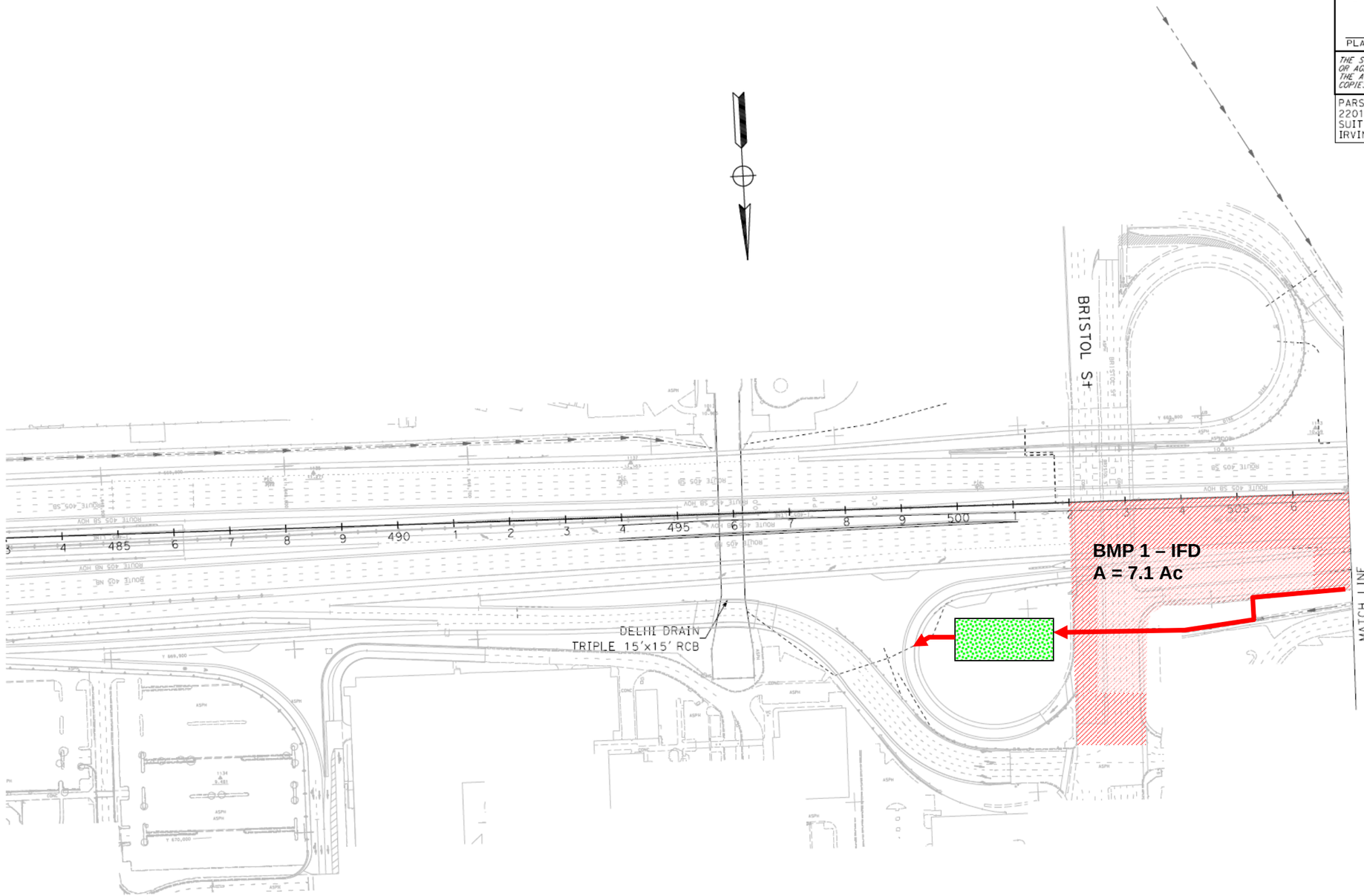


## BMP LAYOUT 1

SCALE 1"=100'

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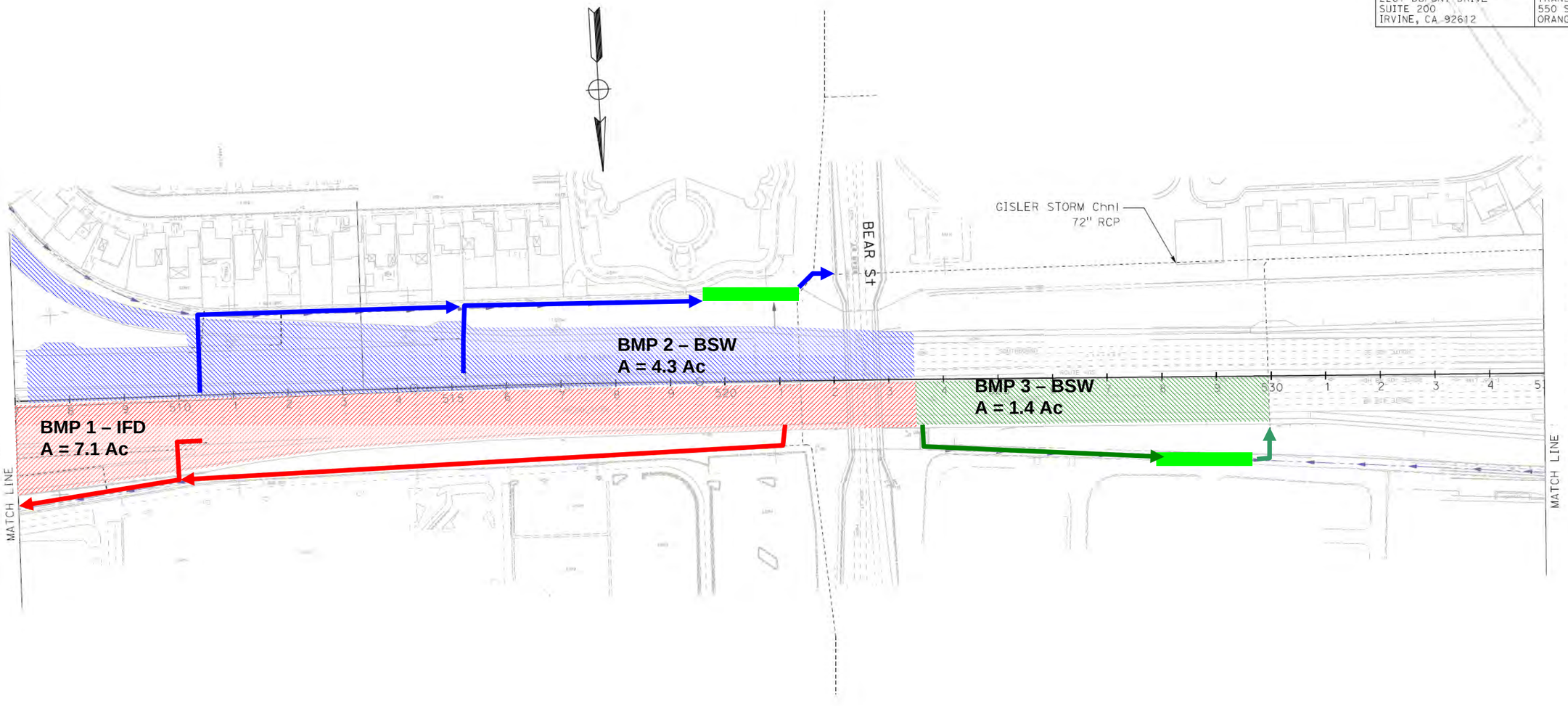


# BMP LAYOUT 2

SCALE 1"=100'

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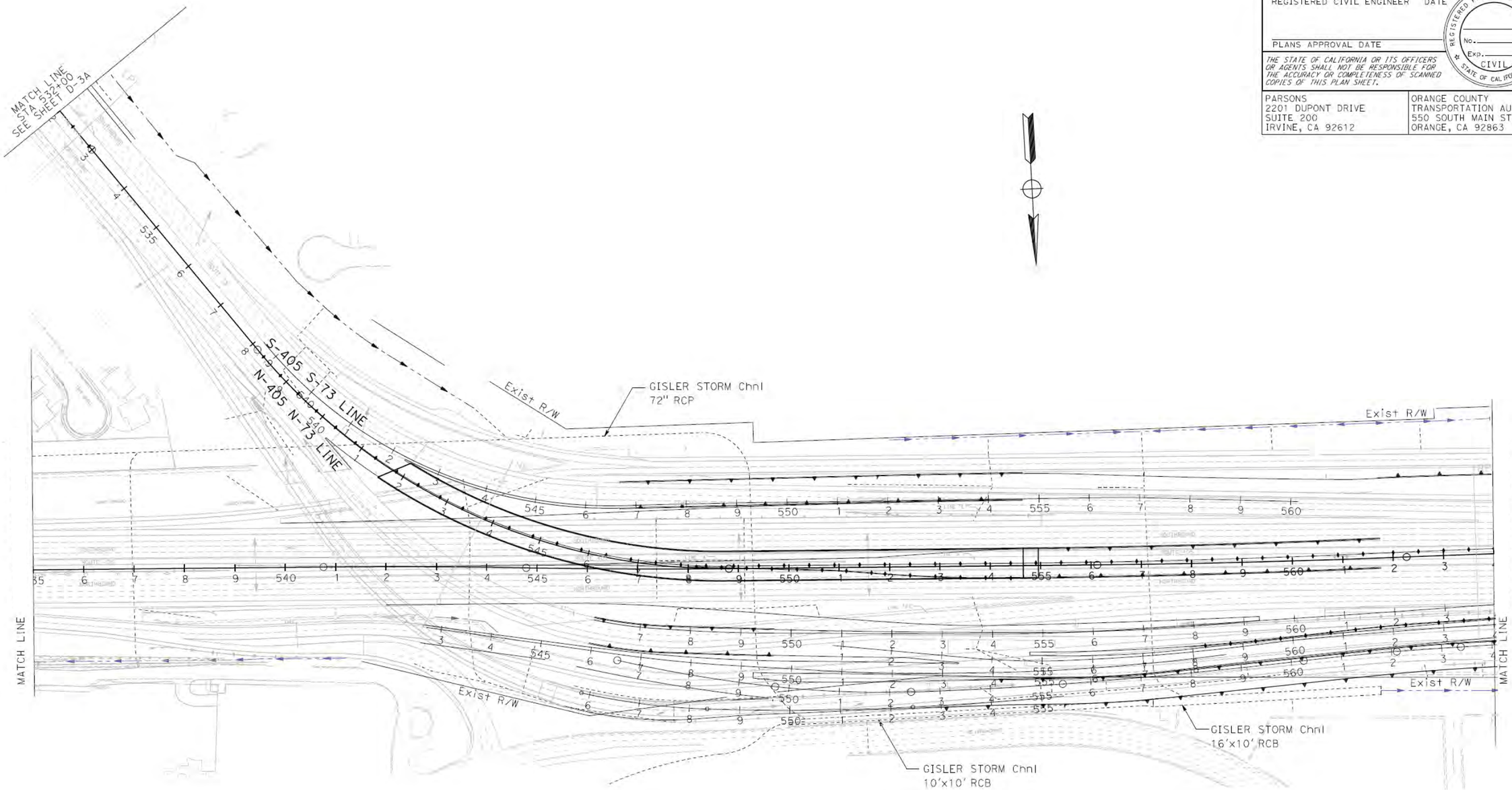


**No BMPs on this sheet**

# BMP LAYOUT 3

SCALE 1"=100'

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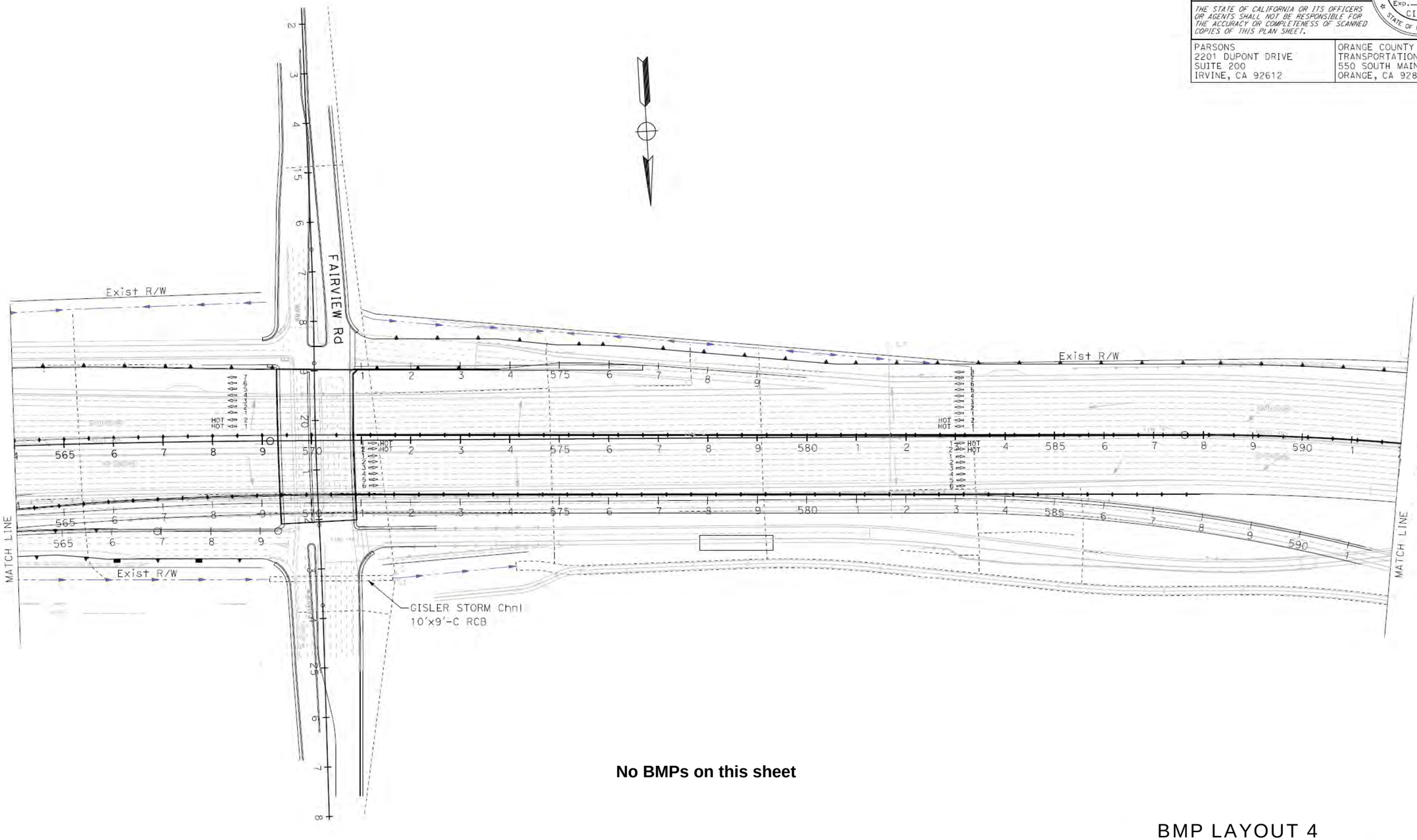


**No BMPs on this sheet**

## BMP LAYOUT 4

SCALE 1"=100'

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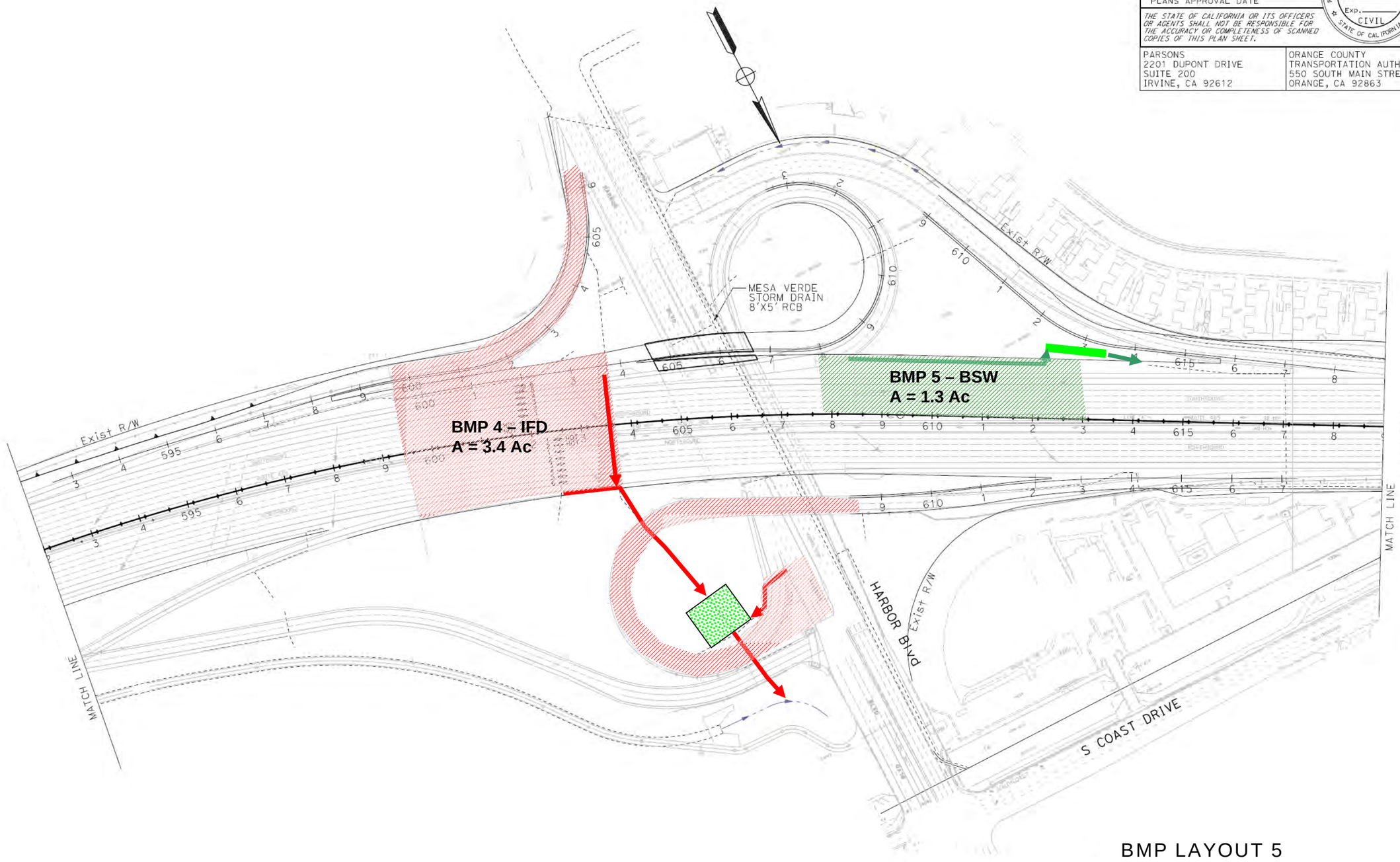


BMP LAYOUT 5

SCALE 1"=100'

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LEGEND:

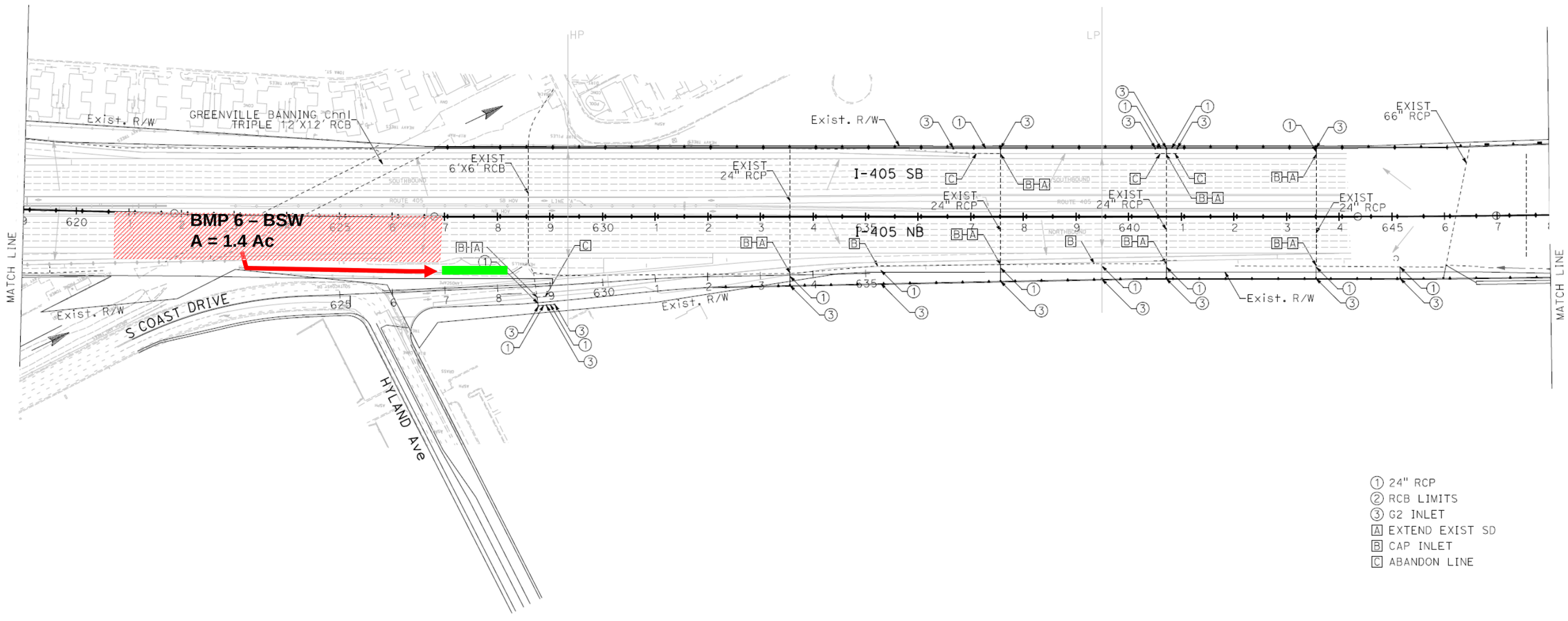
EXISTING DRAINAGE DITCH OR SWALE

EXISTING DRAINAGE SYSTEM SIZE AND TYPE

FLOW DIRECTION

ABBREVIATIONS

| | |
|---|---|
| LP | LOW POINT |
| HP | HIGH POINT |
| HMAOD | HOT MIX ASPHALT OVERSIDE DRAIN |
| HDPPP | HIGH DENSITY POLYPROYLENE PIPE |
| GLD | GRATED LINE DRAIN (WITH PRE-SLOPED INVERT) |




① 24" RCP
② RCB LIMITS
③ G2 INLET
A EXTEND EXIST SD
B CAP INLET
C ABANDON LINE

# BMP LAYOUT 6

SCALE 1"=100'

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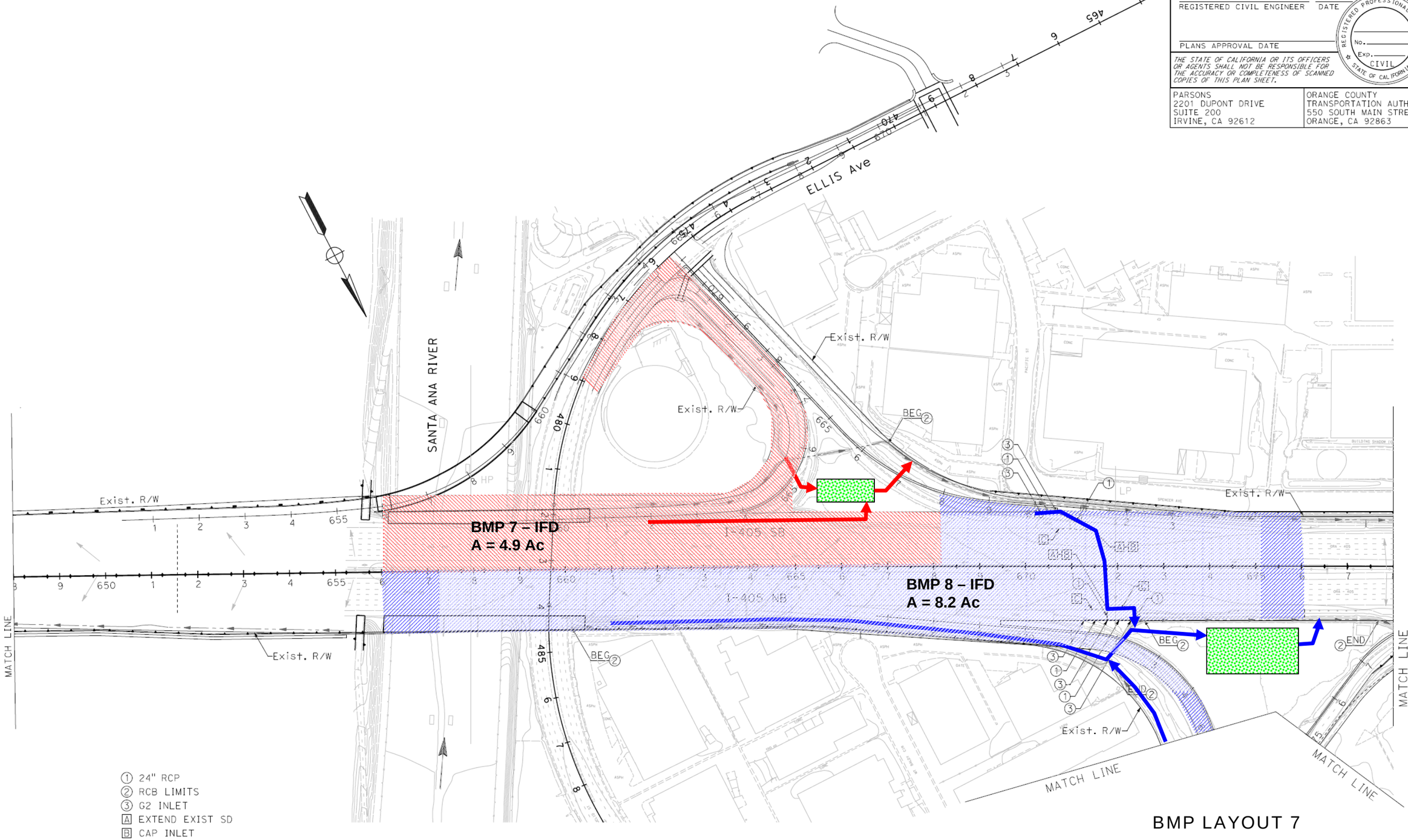


① 24" RCP
② RCB LIMITS
③ G2 INLET
[A] EXTEND EXIST SD
[B] CAP INLET
[C] ABANDON LINE

## BMP LAYOUT 7

SCALE 1"=100'

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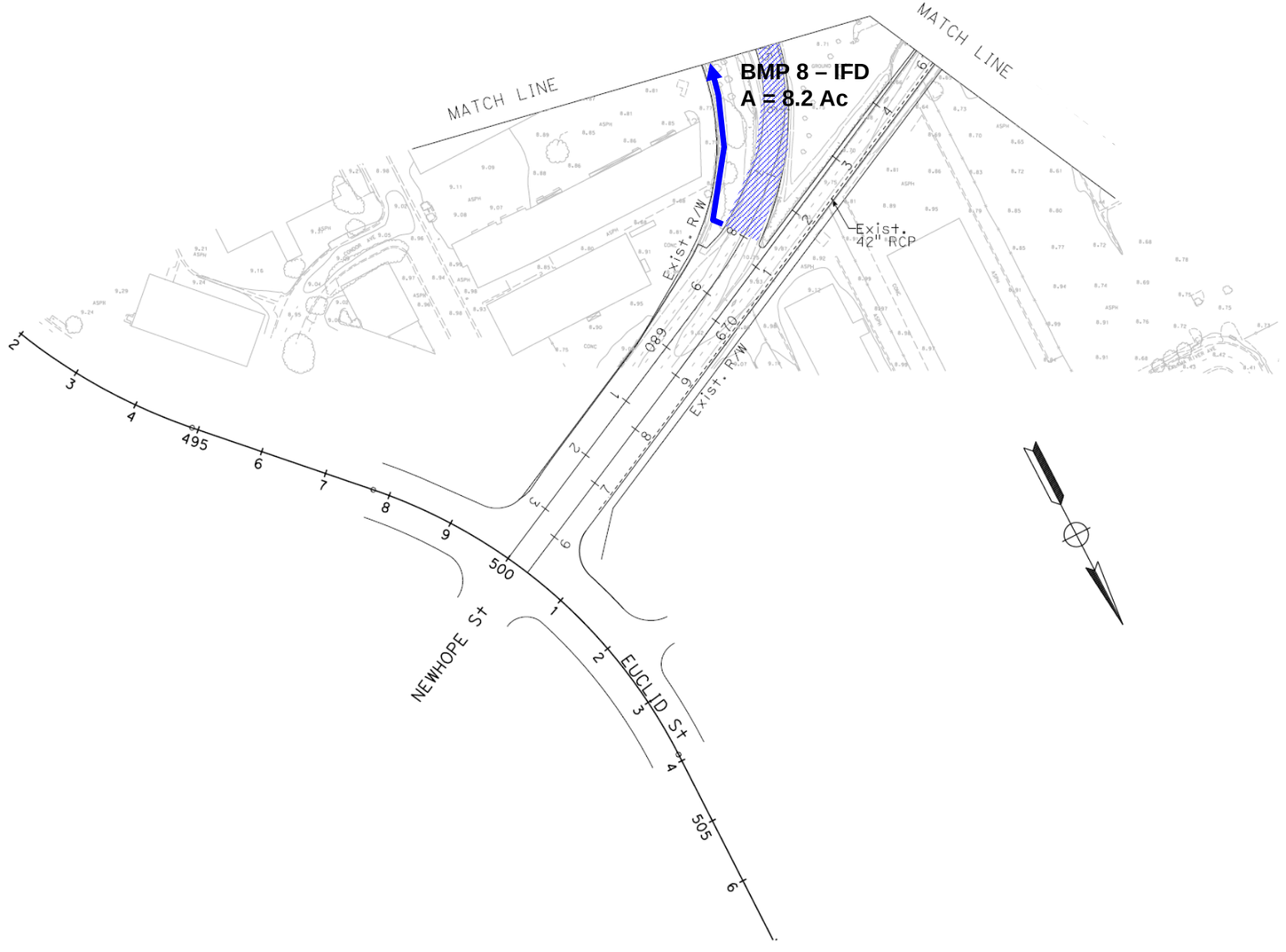


## BMP LAYOUT 8

SCALE 1"=100'

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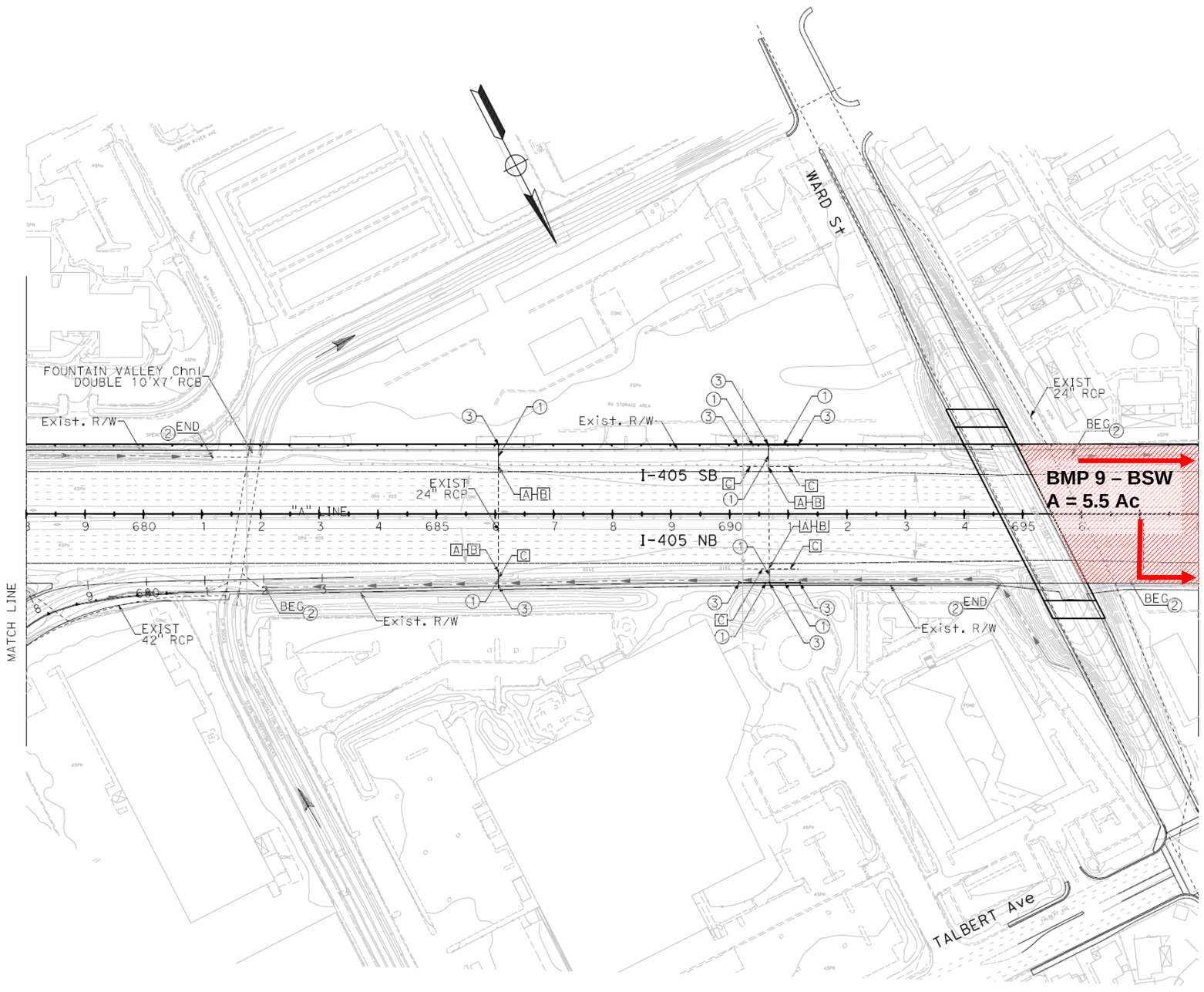


① 24" RCP
② RCB LIMITS
③ G2 INLET
[A] EXTEND EXIST SD
[B] CAP INLET
[C] ABANDON LINE

# BMP LAYOUT 9

SCALE 1"=100'

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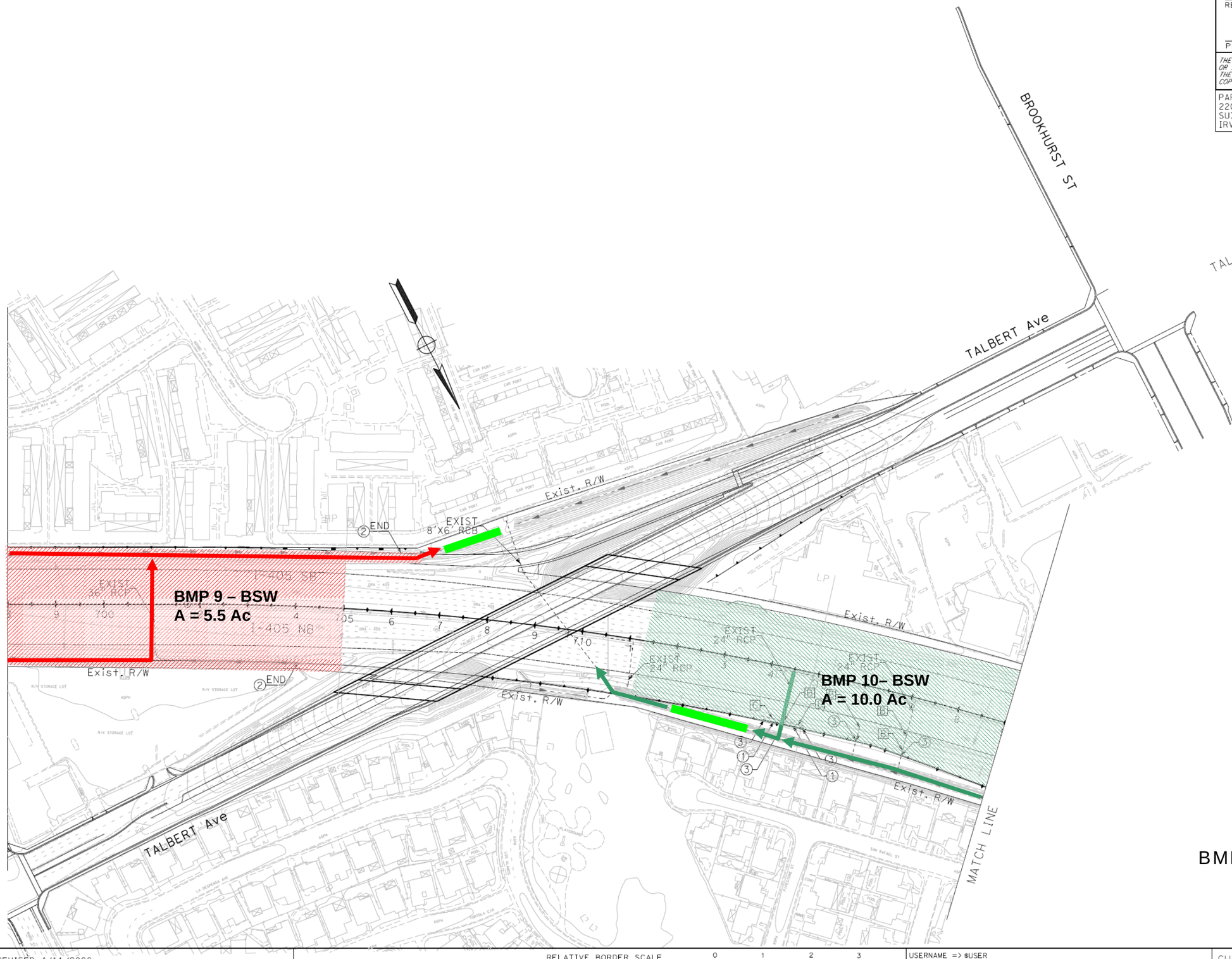


① 24" RCP
② RCB LIMITS
③ G2 INLET
Ⓐ EXTEND EXIST SD
Ⓑ CAP INLET
Ⓒ ABANDON LINE

# BMP LAYOUT 10

SCALE 1"=100'

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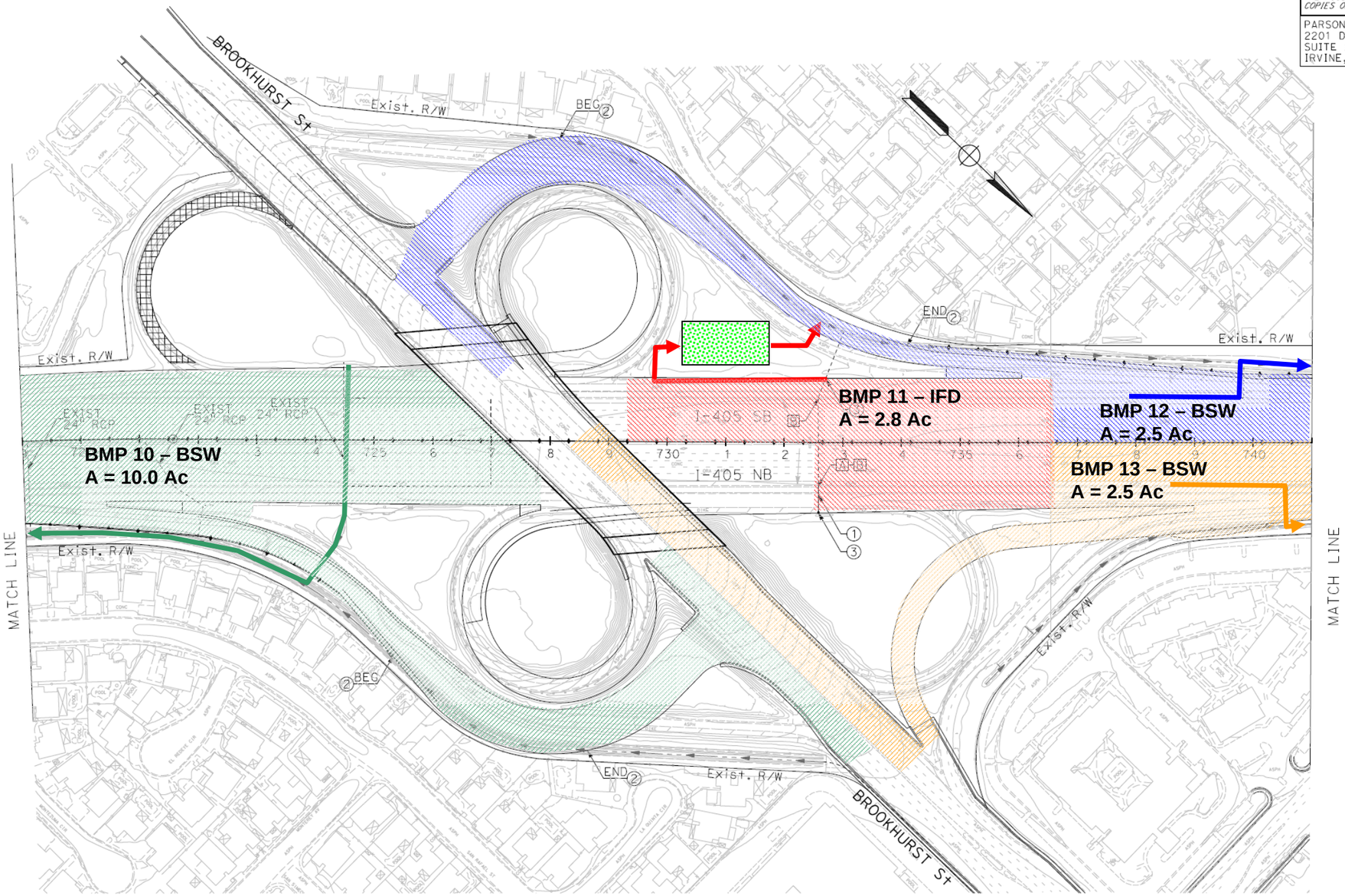


# BMP LAYOUT 11

SCALE 1"=100'

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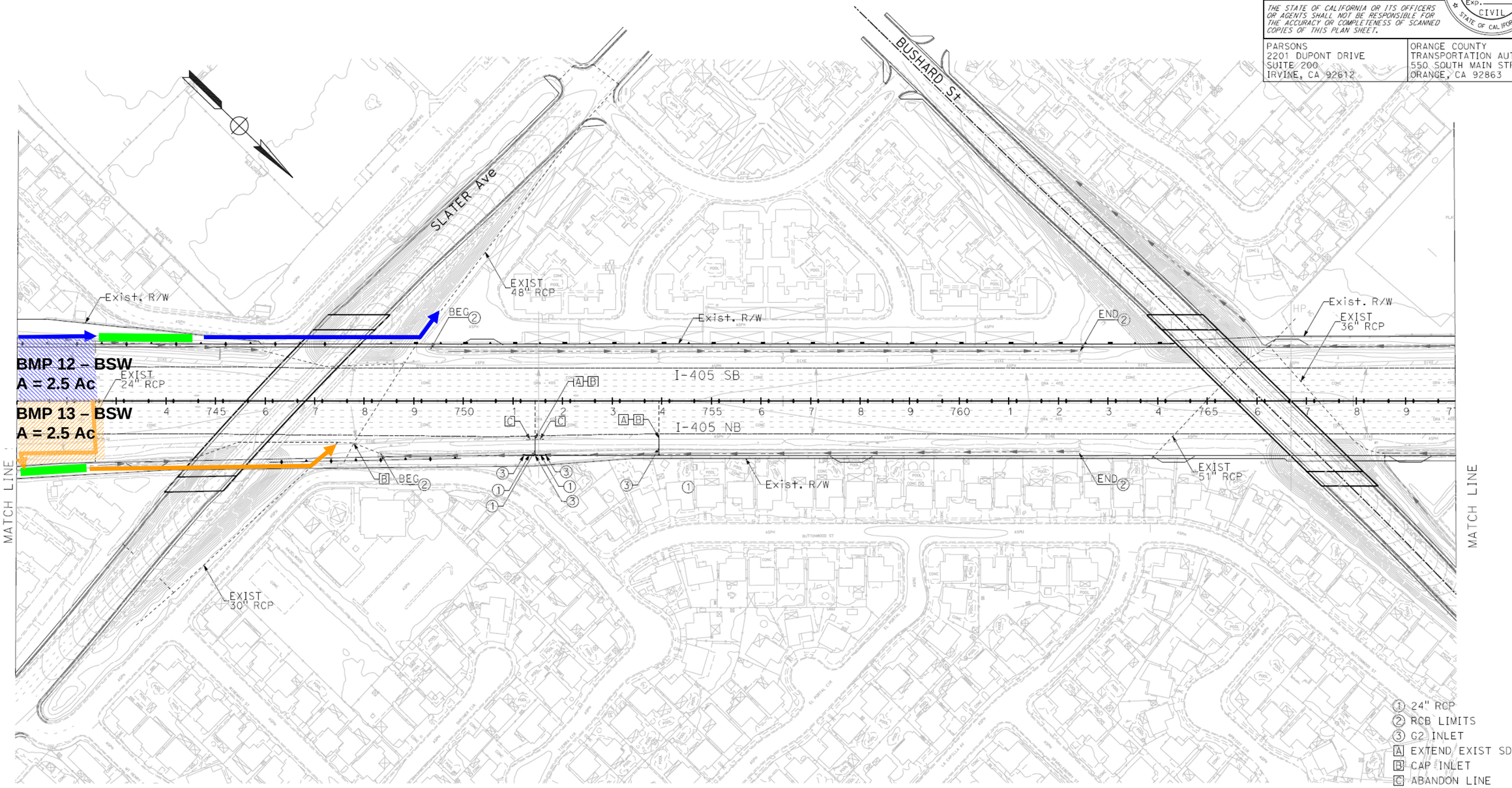


# BMP LAYOUT 12

SCALE 1"=100'

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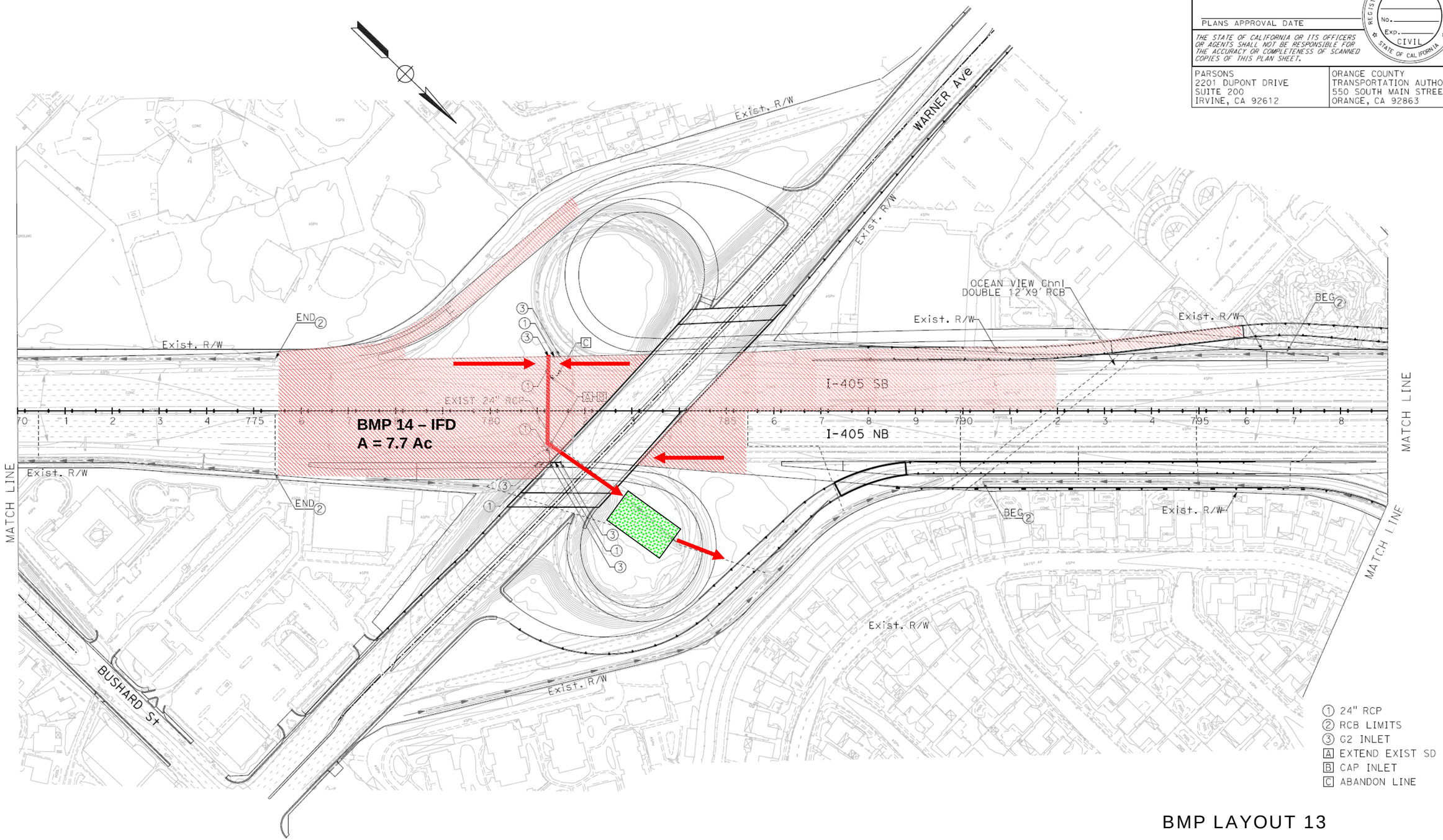


# BMP LAYOUT 13

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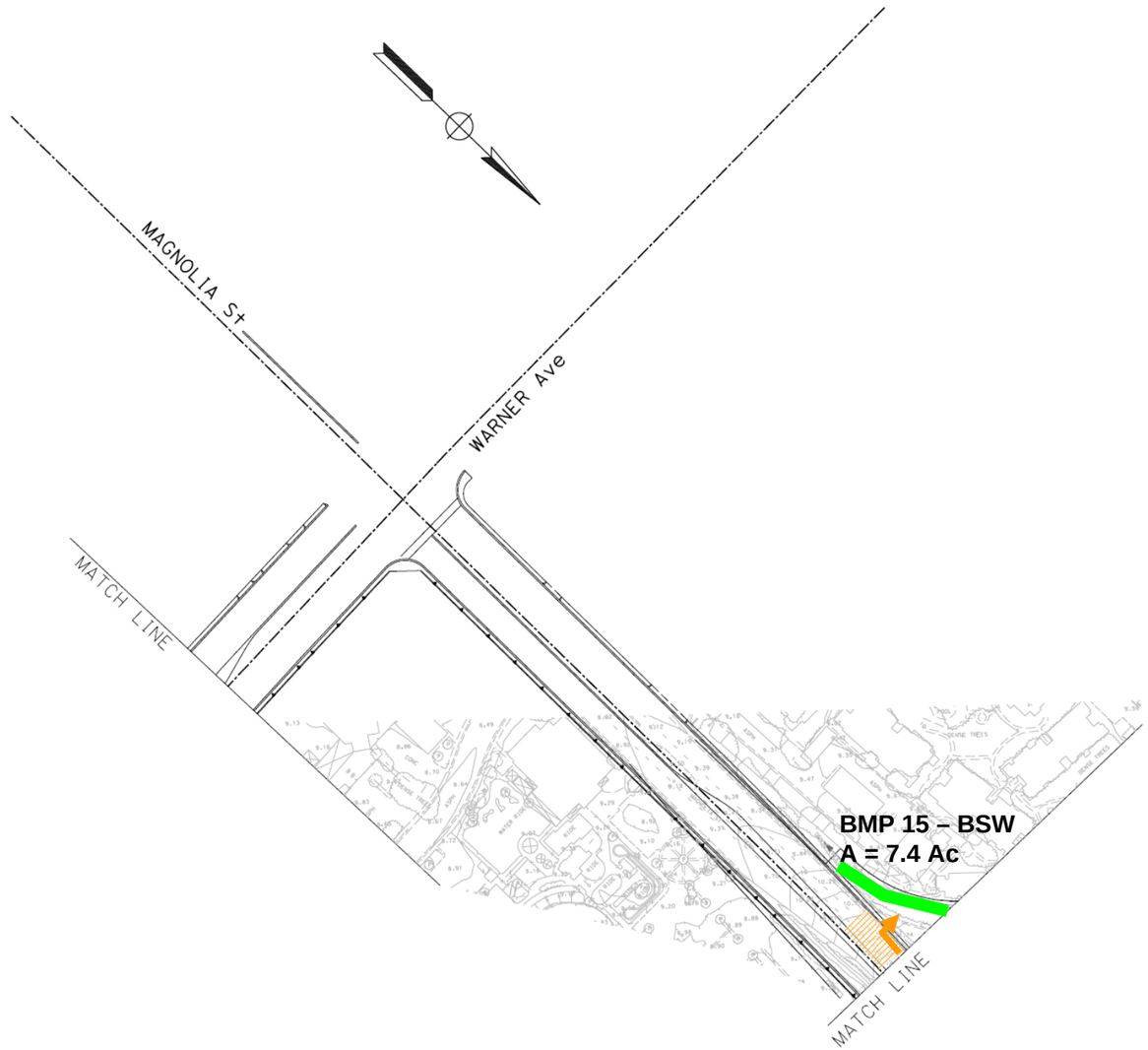


# BMP LAYOUT 14

SCALE 1"=100'

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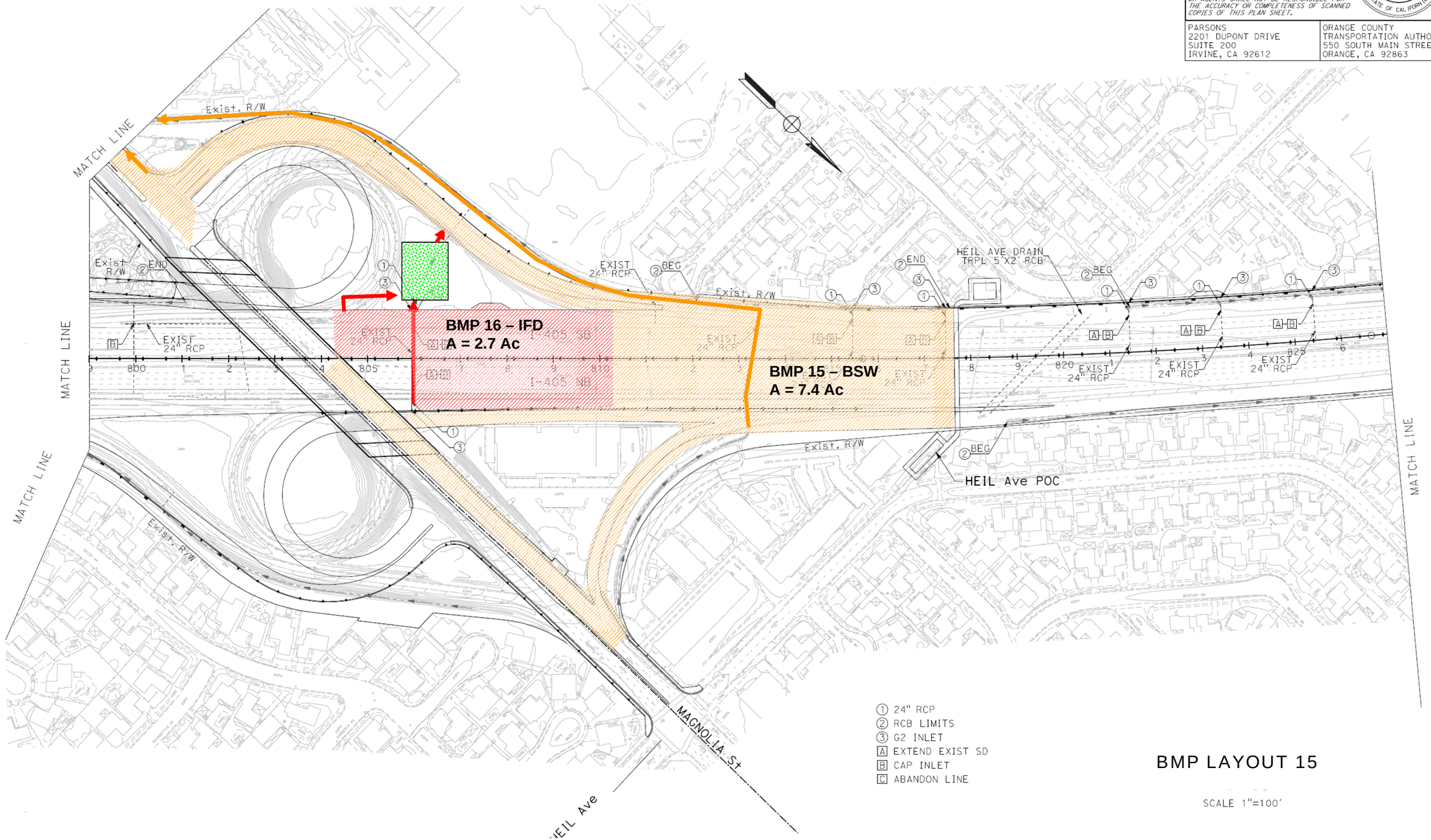


① 24" RCP
② RCB LIMITS
③ G2 INLET
[A] EXTEND EXIST SD
[B] CAP INLET
[C] ABANDON LINE

## BMP LAYOUT 15

SCALE 1"=100'

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => $USER
DGN FILE => $REQUEST

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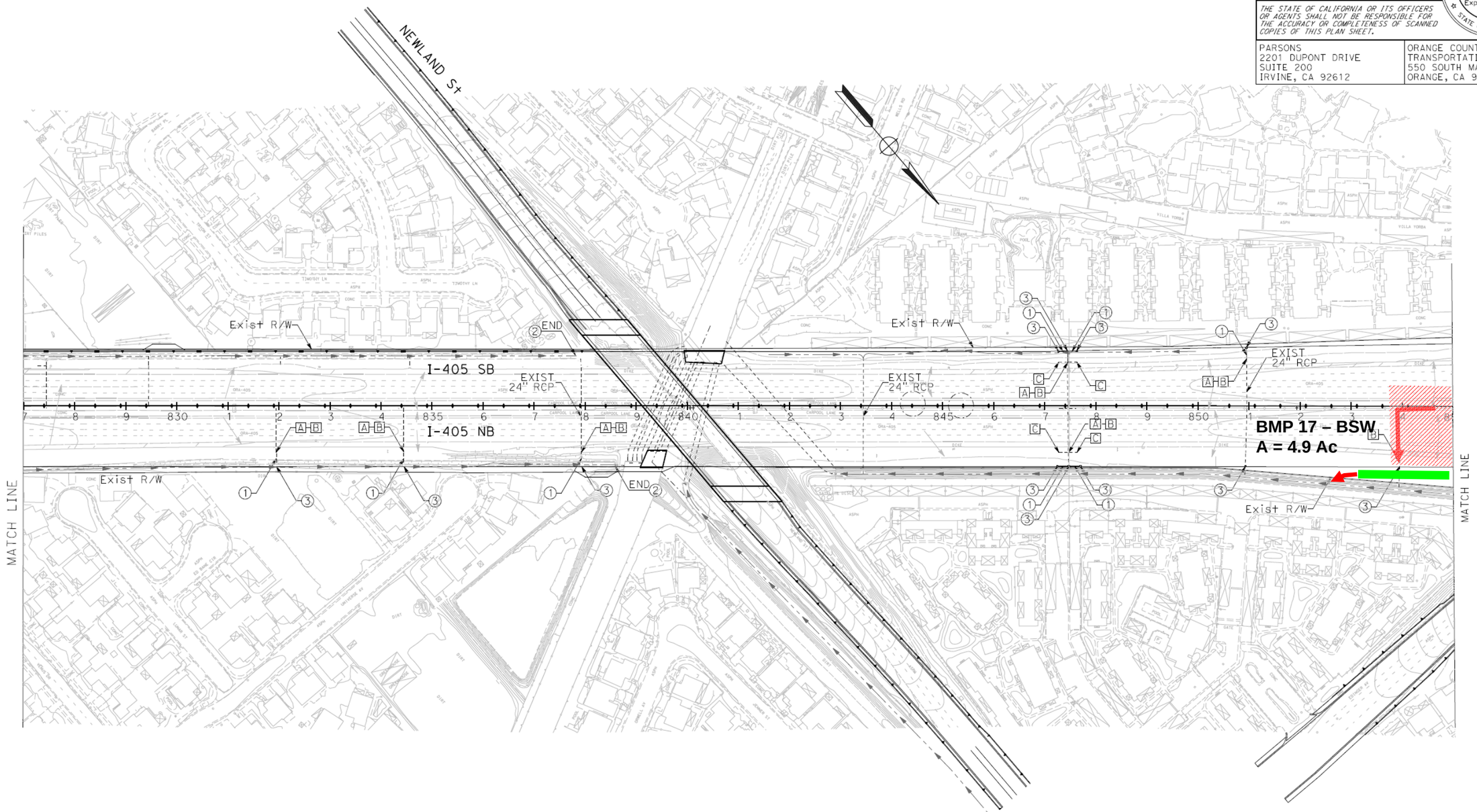


① 24" RCP
② RCB LIMITS
③ G2 INLET
[A] EXTEND EXIST SD
[B] CAP INLET
[C] ABANDON LINE

## BMP LAYOUT 16

SCALE 1"=100'

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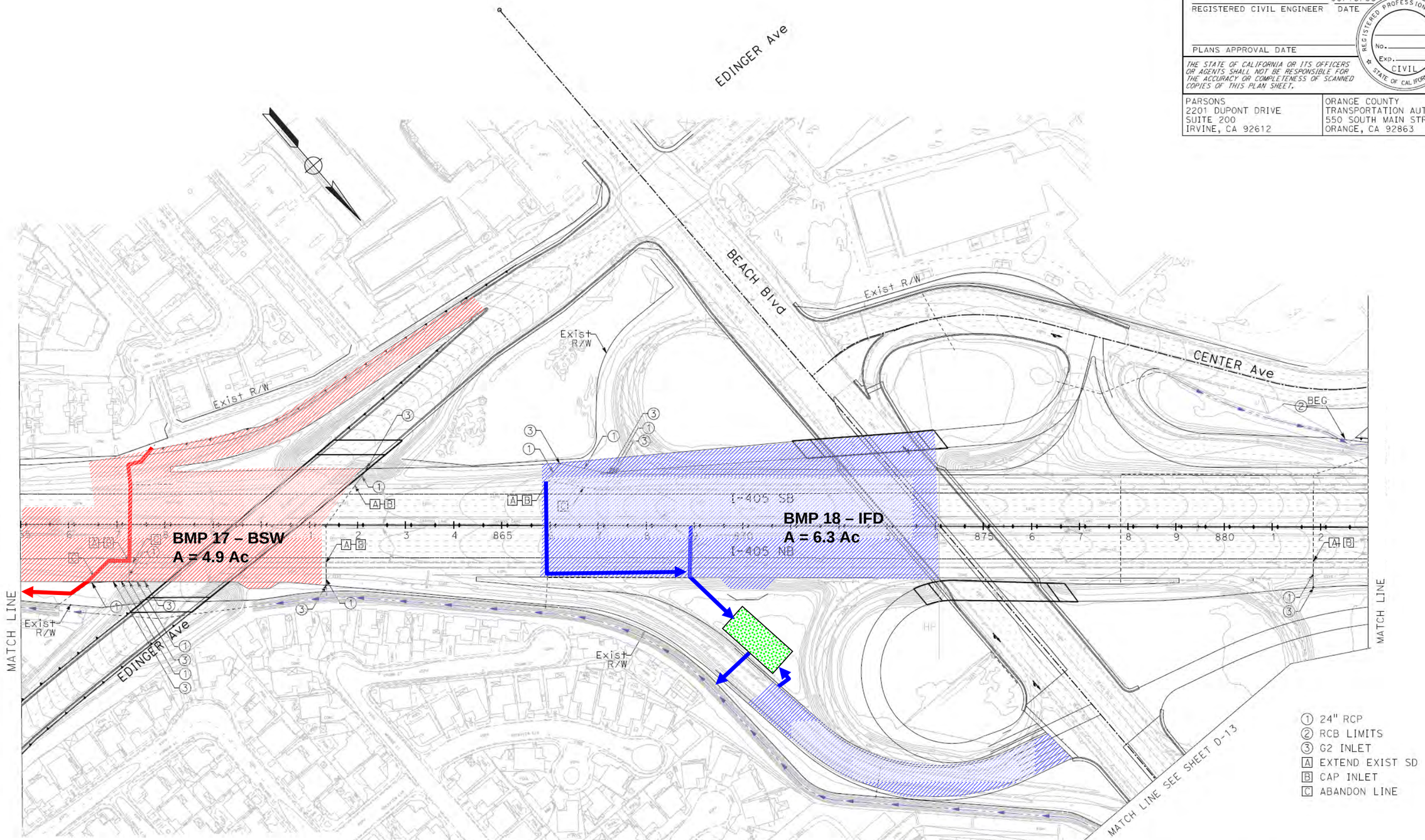


BMP LAYOUT 17

SCALE 1"=100'

LAST REVISION | DATE PLOTTED => $DATE | TIME PLOTTED => $TIME
05-18-09

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => $USER
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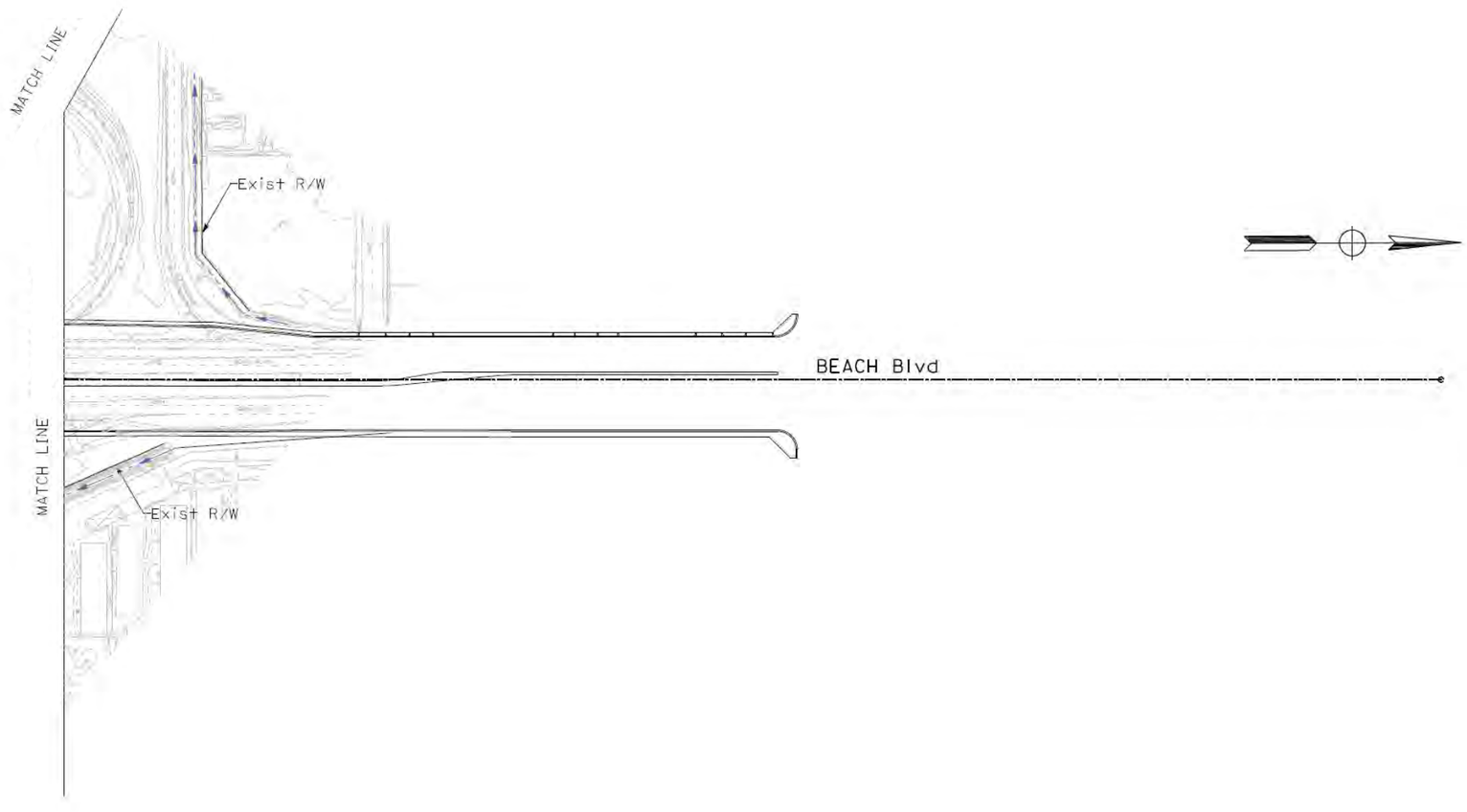


**No BMPs on this sheet**

# BMP LAYOUT 18

SCALE 1"=100'

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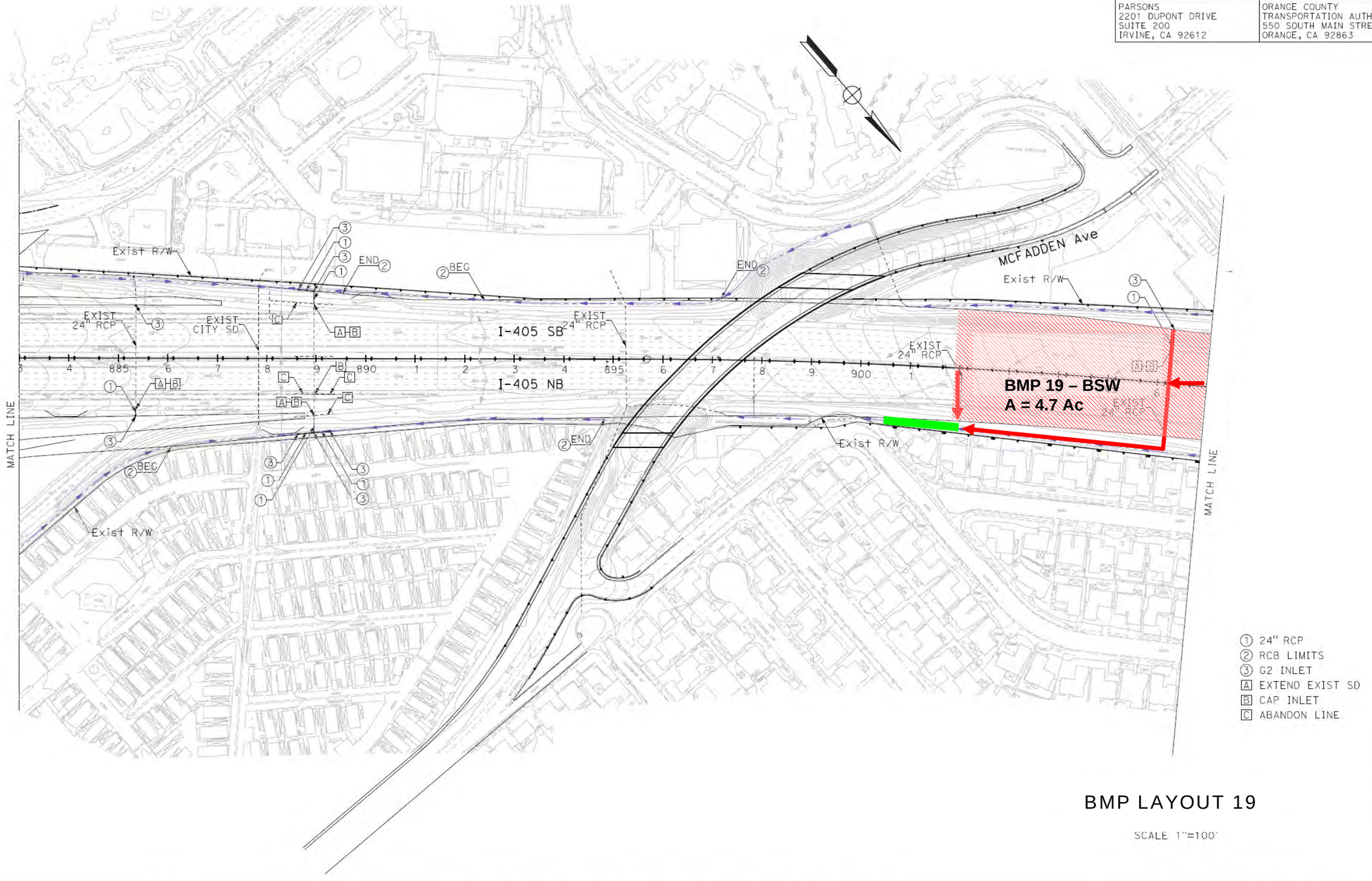


# BMP LAYOUT 19

SCALE 1"=100'

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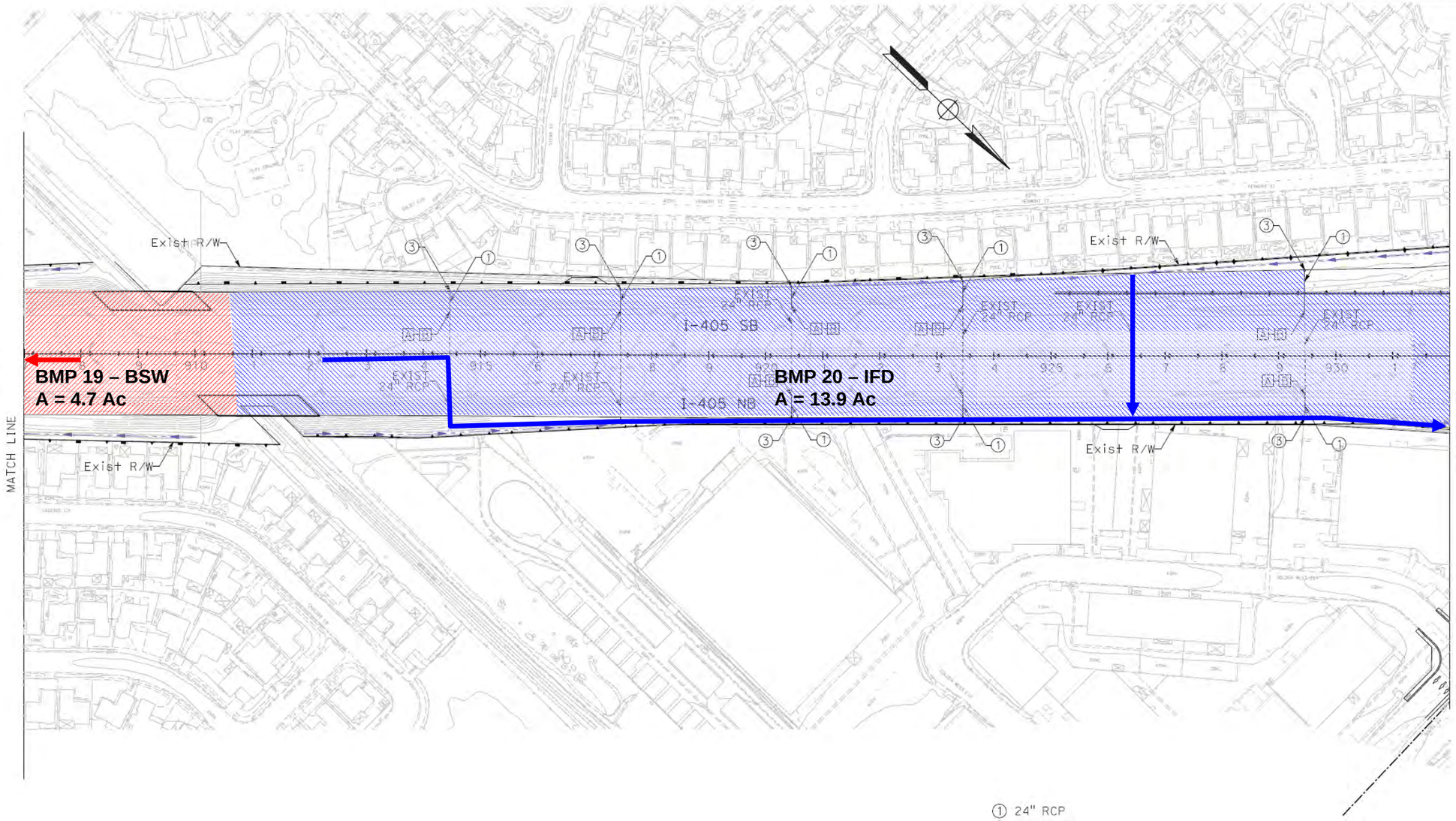


① 24" RCP
② RCB LIMITS
③ G2 INLET
Ⓐ EXTEND EXIST SD
Ⓑ CAP INLET
Ⓒ ABANDON LINE

## BMP LAYOUT 20

SCALE 1"=100'

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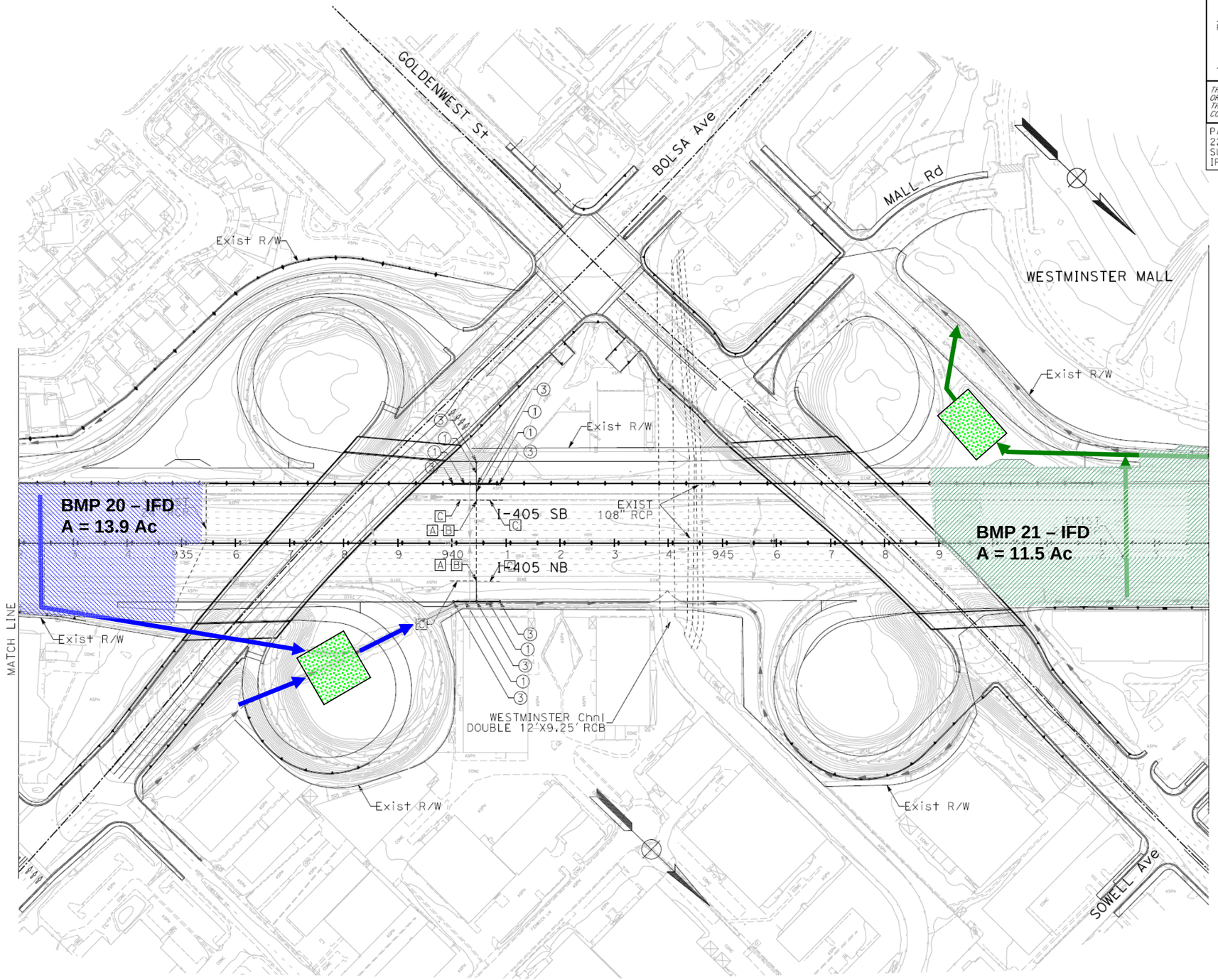


① 24" RCP
② RCB LIMITS
③ G2 INLET
Ⓐ EXTEND EXIST SD
Ⓑ CAP INLET
Ⓒ ABANDON LINE

# BMP LAYOUT 21

SCALE 1"=100'

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① 24" RCP
② RCB LIMITS
③ G2 INLET
[A] EXTEND EXIST SD
[B] CAP INLET
[C] ABANDON LINE

# BMP LAYOUT 22

SCALE 1"=100'

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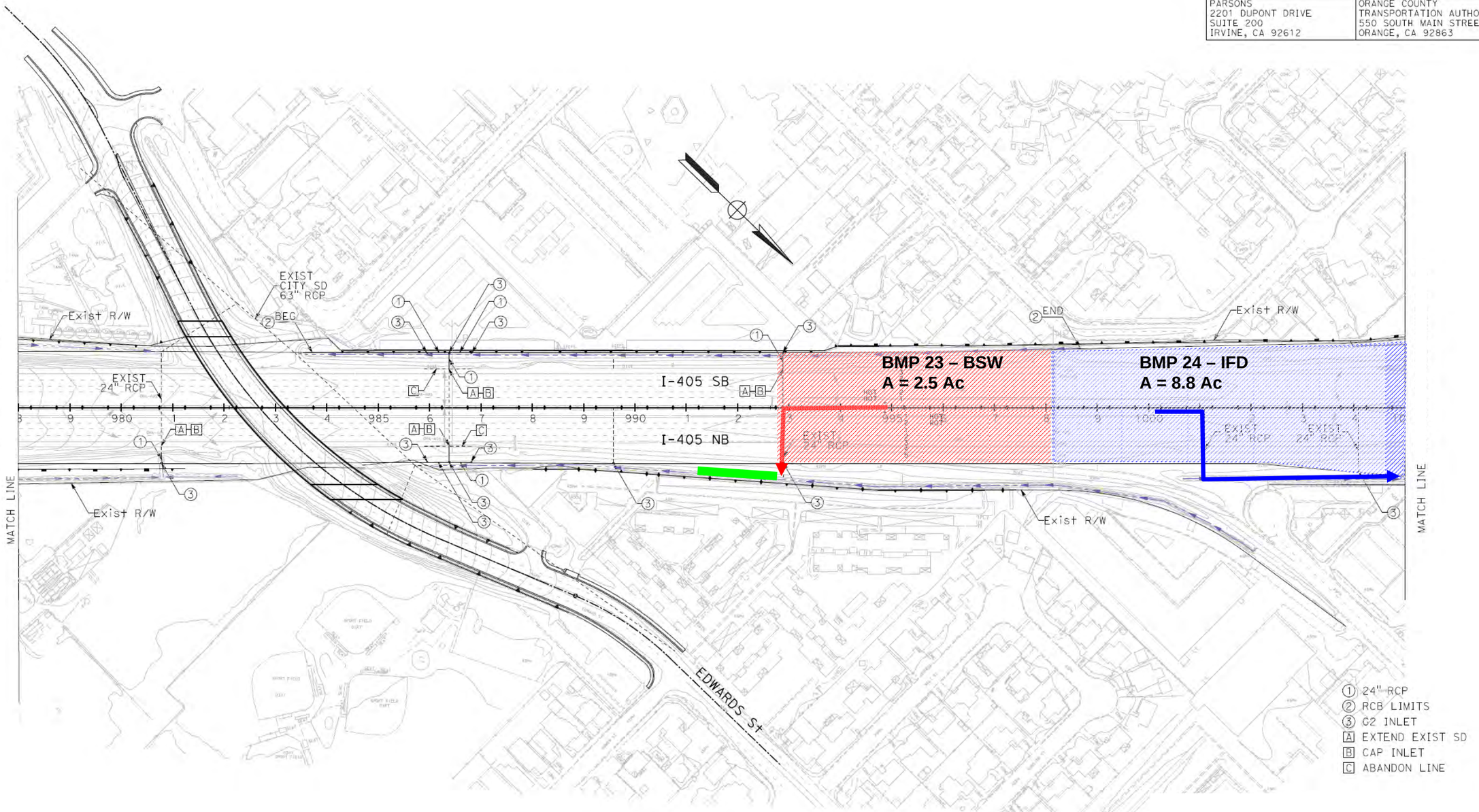


## BMP LAYOUT 23

SCALE 1"=100'

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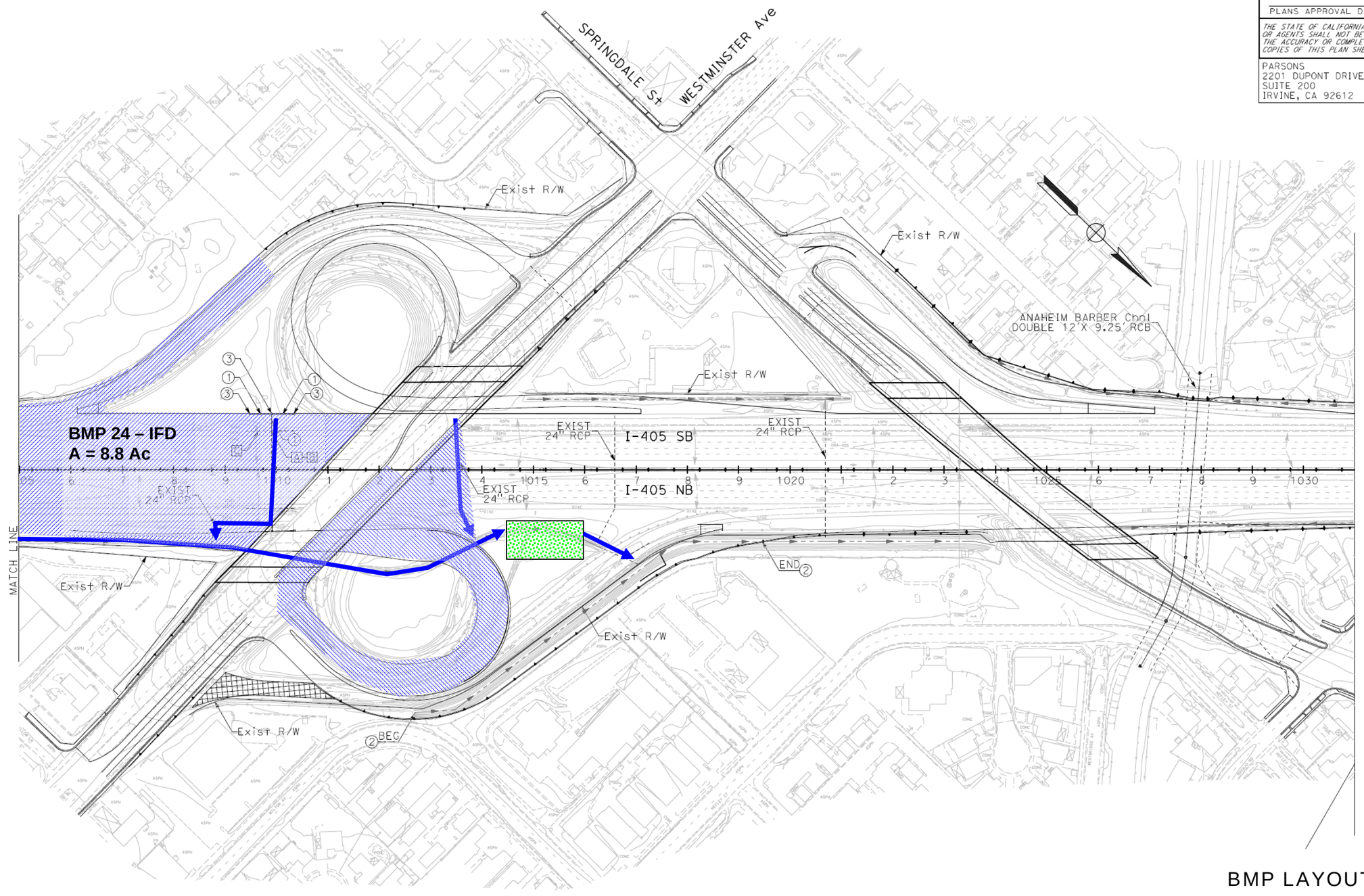


① 24" RCP
② RCB LIMITS
③ G2 INLET
Ⓐ EXTEND EXIST SD
Ⓑ CAP INLET
Ⓒ ABANDON LINE

# BMP LAYOUT 24

SCALE 1"=100'

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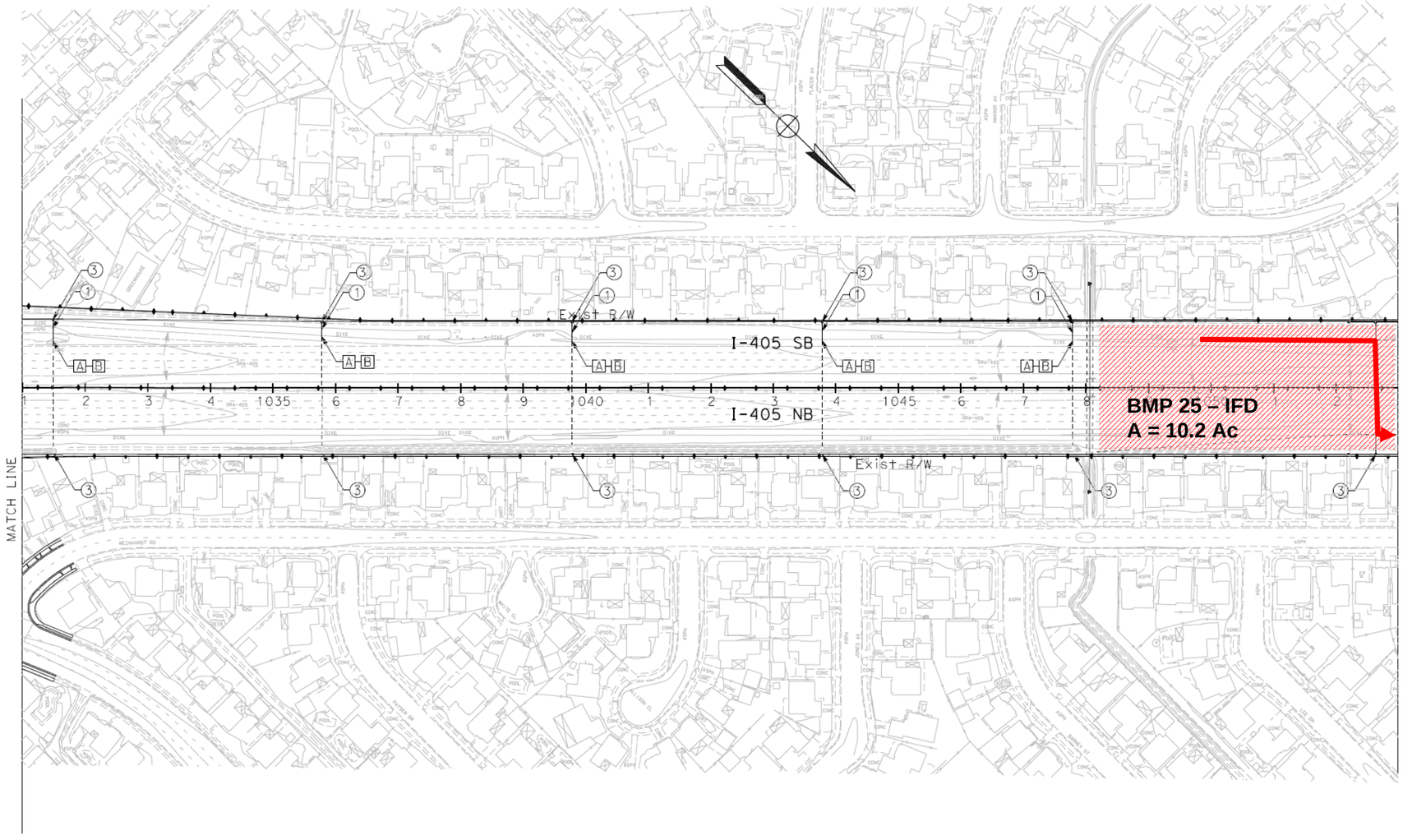


① 24" RCP
② RCB LIMITS
③ G2 INLET
[A] EXTEND EXIST SD
[B] CAP INLET
[C] ABANDON LINE

# BMP LAYOUT 25

SCALE 1"=100'

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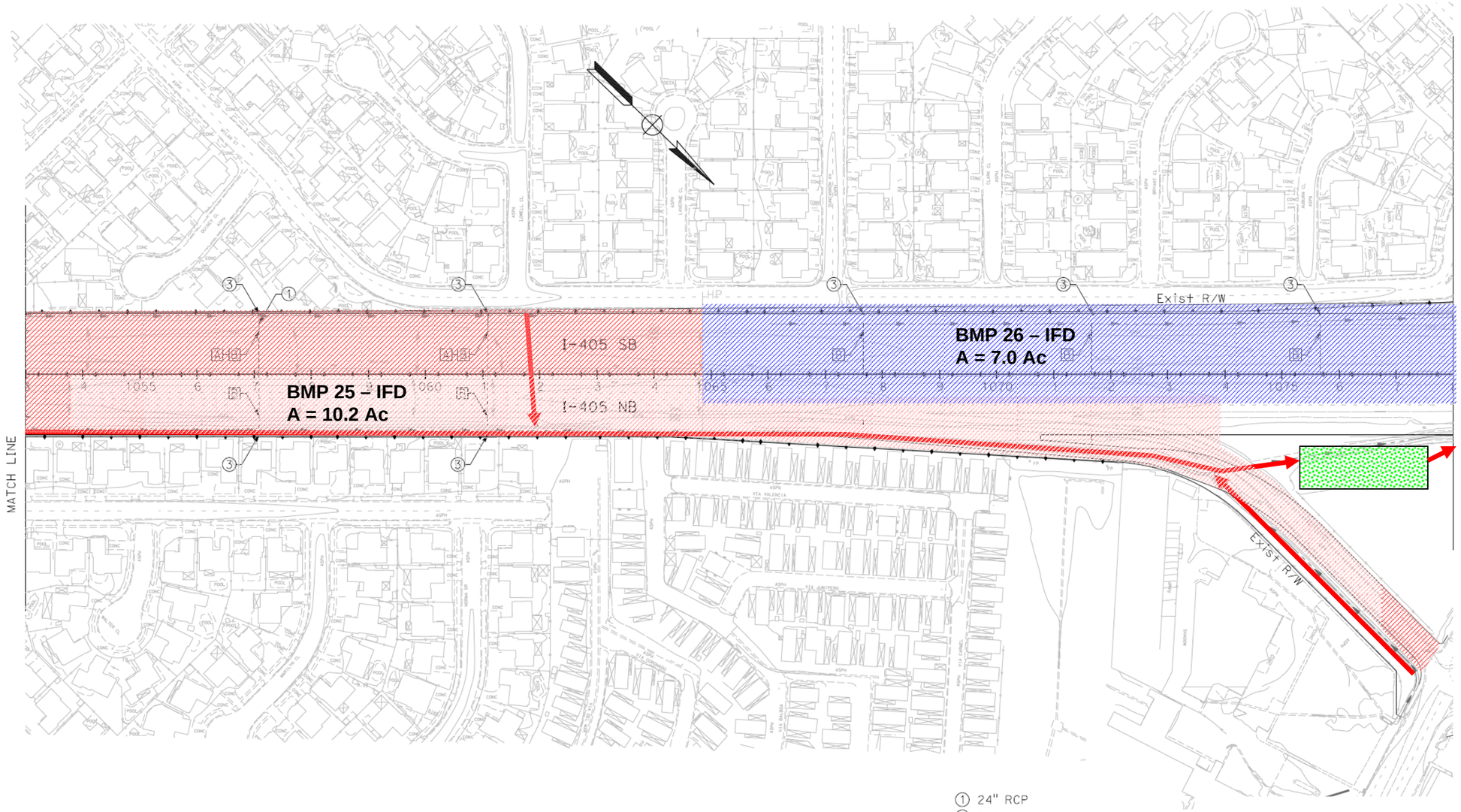


① 24" RCP
② RCB LIMITS
③ G2 INLET
A EXTEND EXIST SD
B CAP INLET
C ABANDON LINE

# BMP LAYOUT 26

SCALE 1"=100'

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DGN FILE => $REQUEST

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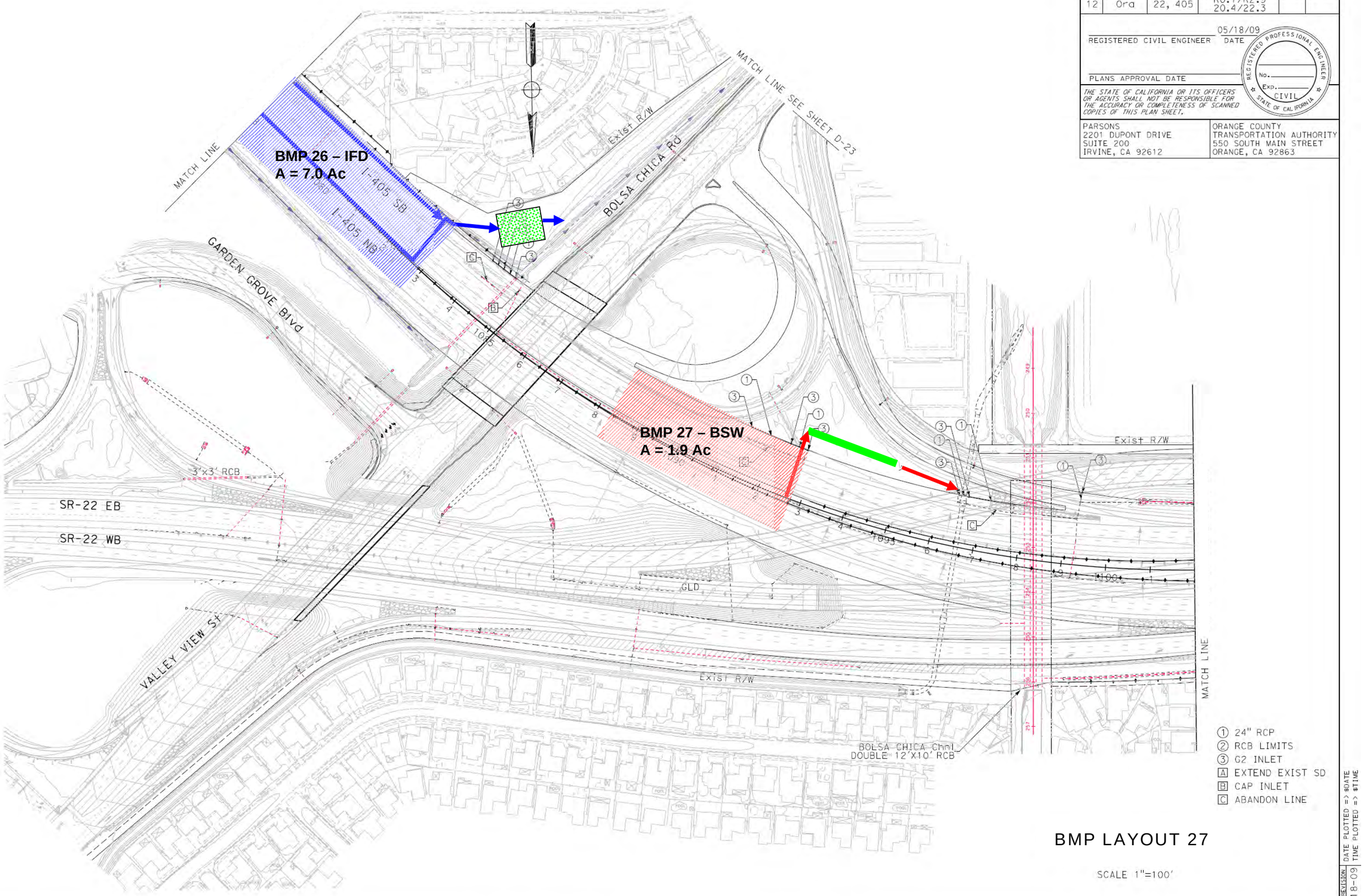


## BMP LAYOUT 27

SCALE 1"=100'

21

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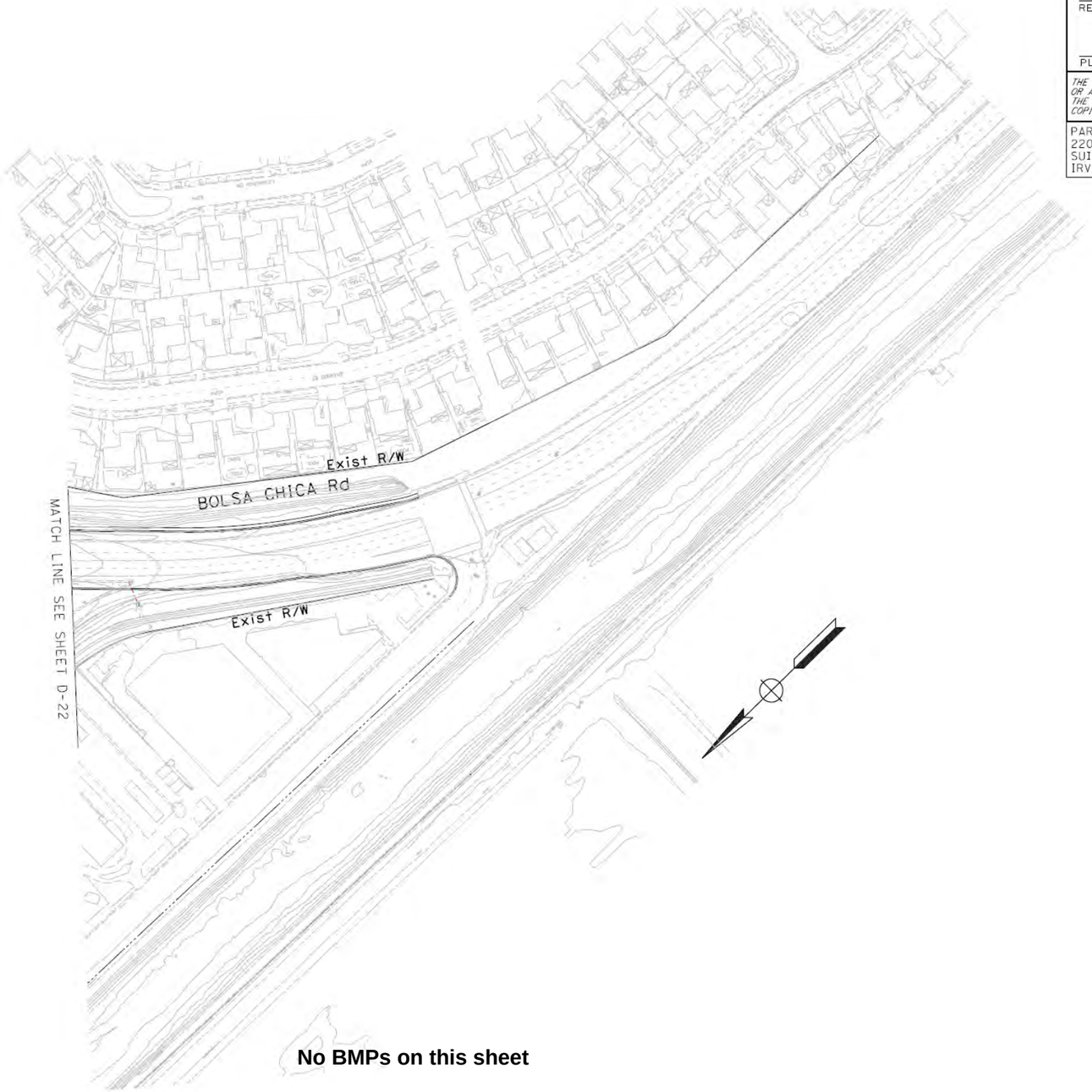


**No BMPs on this sheet**

① 24" RCP
② RCB LIMITS
③ G2 INLET
Ⓐ EXTEND EXIST SD
Ⓑ CAP INLET
Ⓒ ABANDON LINE

# BMP LAYOUT 28

SCALE 1"=100'

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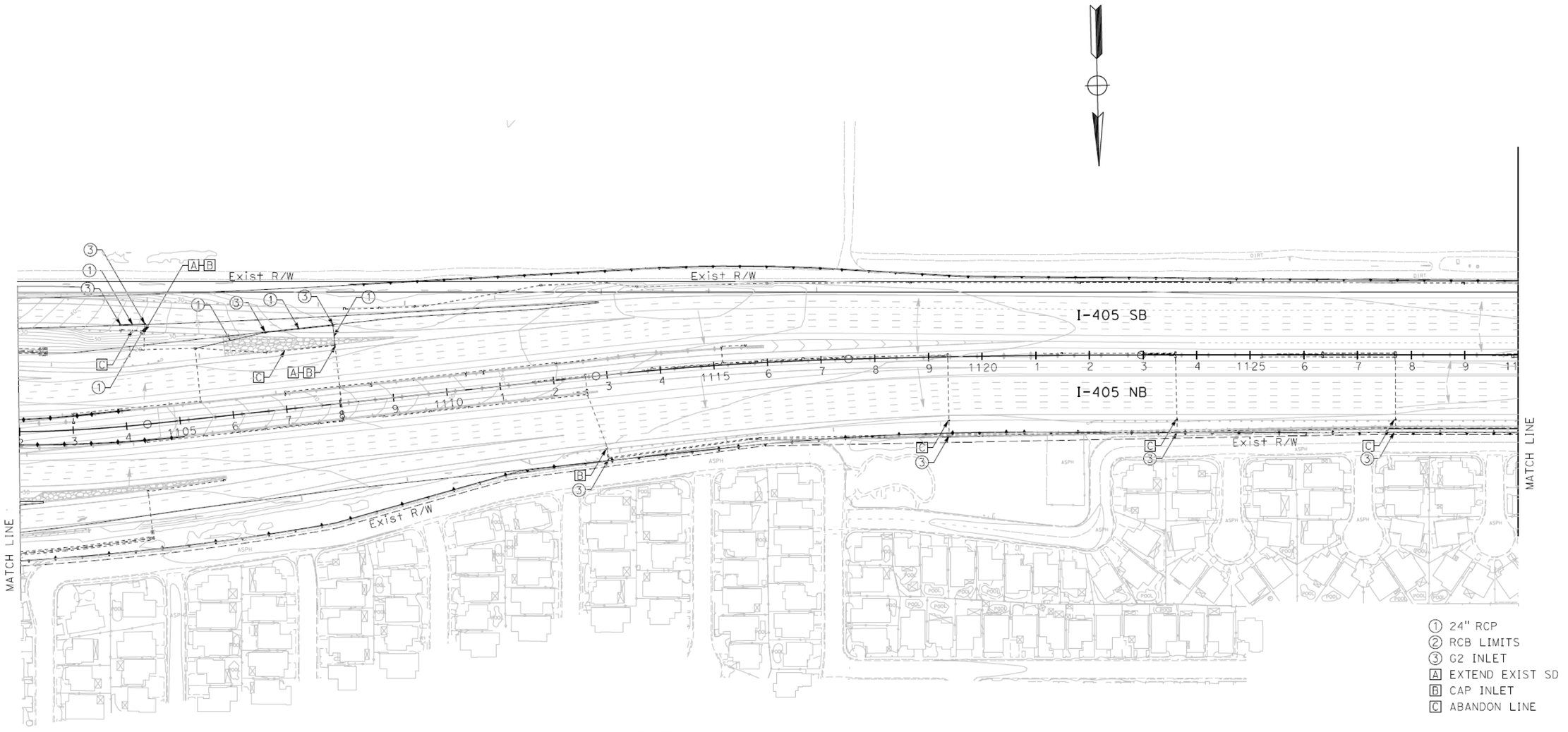


**No BMPs on this sheet**

# BMP LAYOUT 29

SCALE 1"=100'

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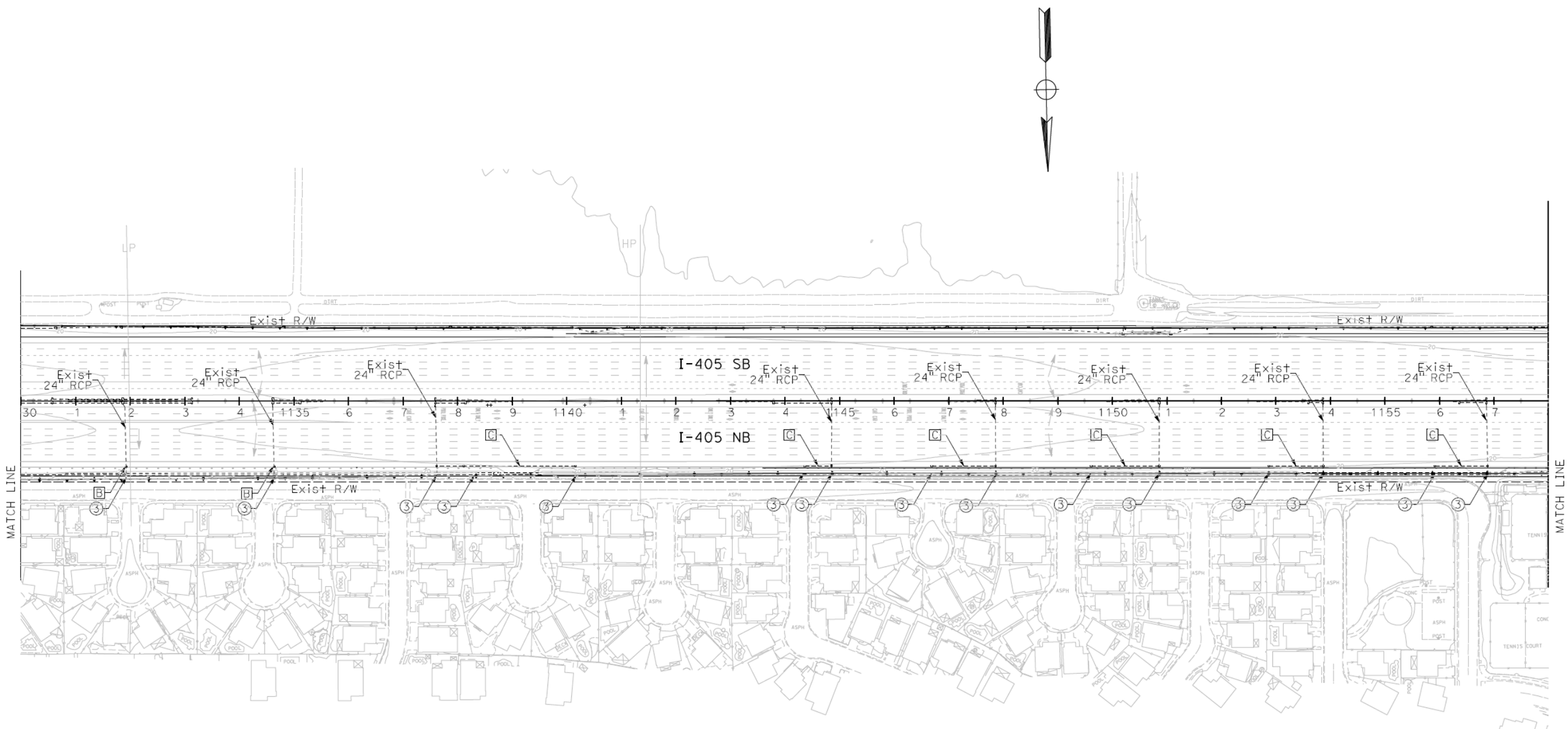


**No BMPs on this sheet**

① 24" RCP
② RCB LIMITS
③ G2 INLET
[A] EXTEND EXIST SD
[B] CAP INLET
[C] ABANDON LINE

# BMP LAYOUT 30

SCALE 1"=100'

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BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => $USER
DGN FILE => $REQUEST

CU 12235

EA 071621

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 12 | Ora | 22, 405 | R0.7/R2.9<br>20.4/22.3 | | |

REGISTERED CIVIL ENGINEER — DATE 05/18/09

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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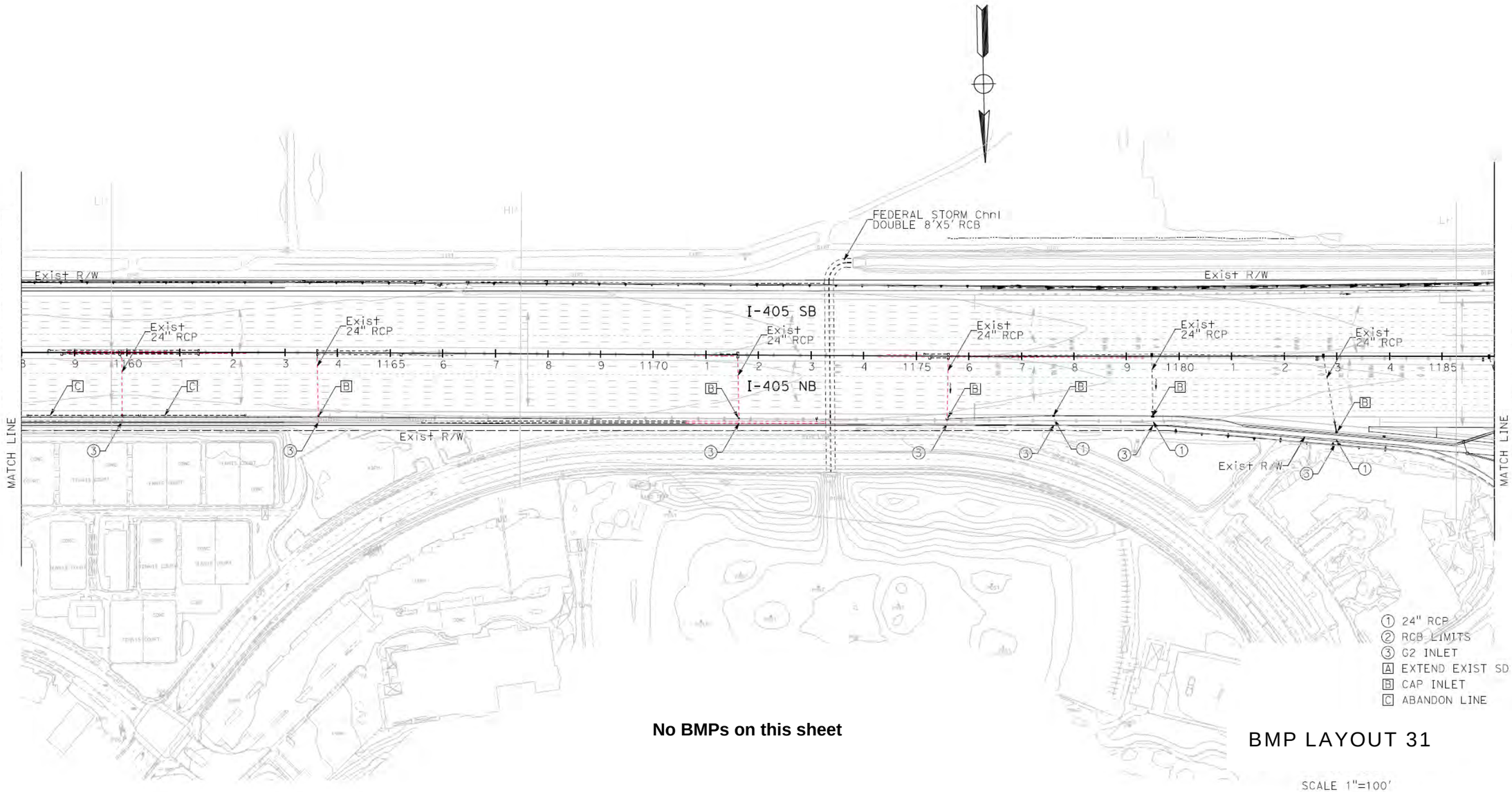
PARSONS
2201 DUPONT DRIVE
SUITE 200
IRVINE, CA 92612

ORANGE COUNTY
TRANSPORTATION AUTHORITY
550 SOUTH MAIN STREET
ORANGE, CA 92863


**No BMPs on this sheet**

# BMP LAYOUT 31

SCALE 1"=100'

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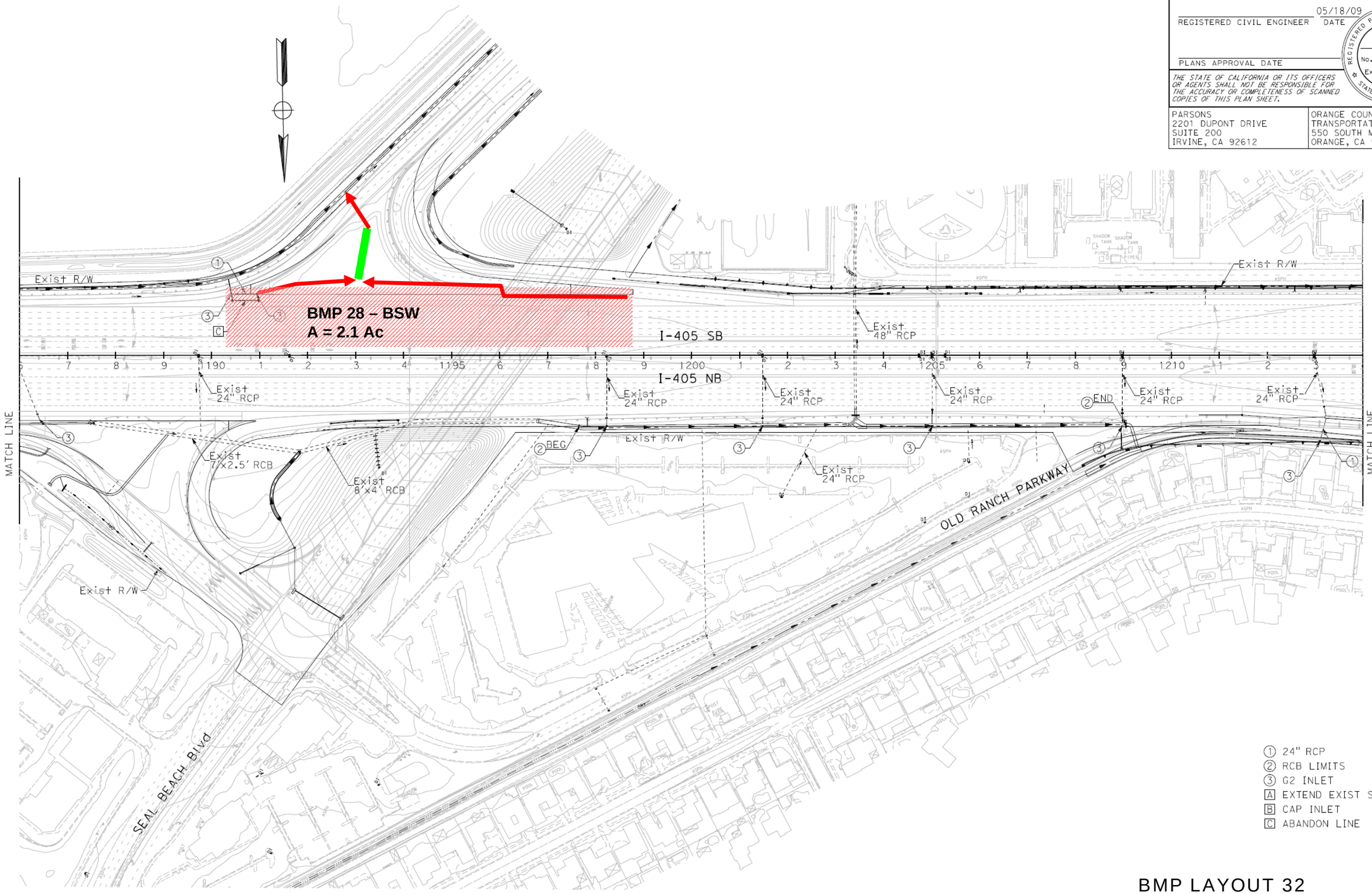


# BMP LAYOUT 32

SCALE 1"=100'

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USERNAME => $USER
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| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 12 | Ora | 22, 405 | R0.7/R2.9 20.4/22.3 | | |

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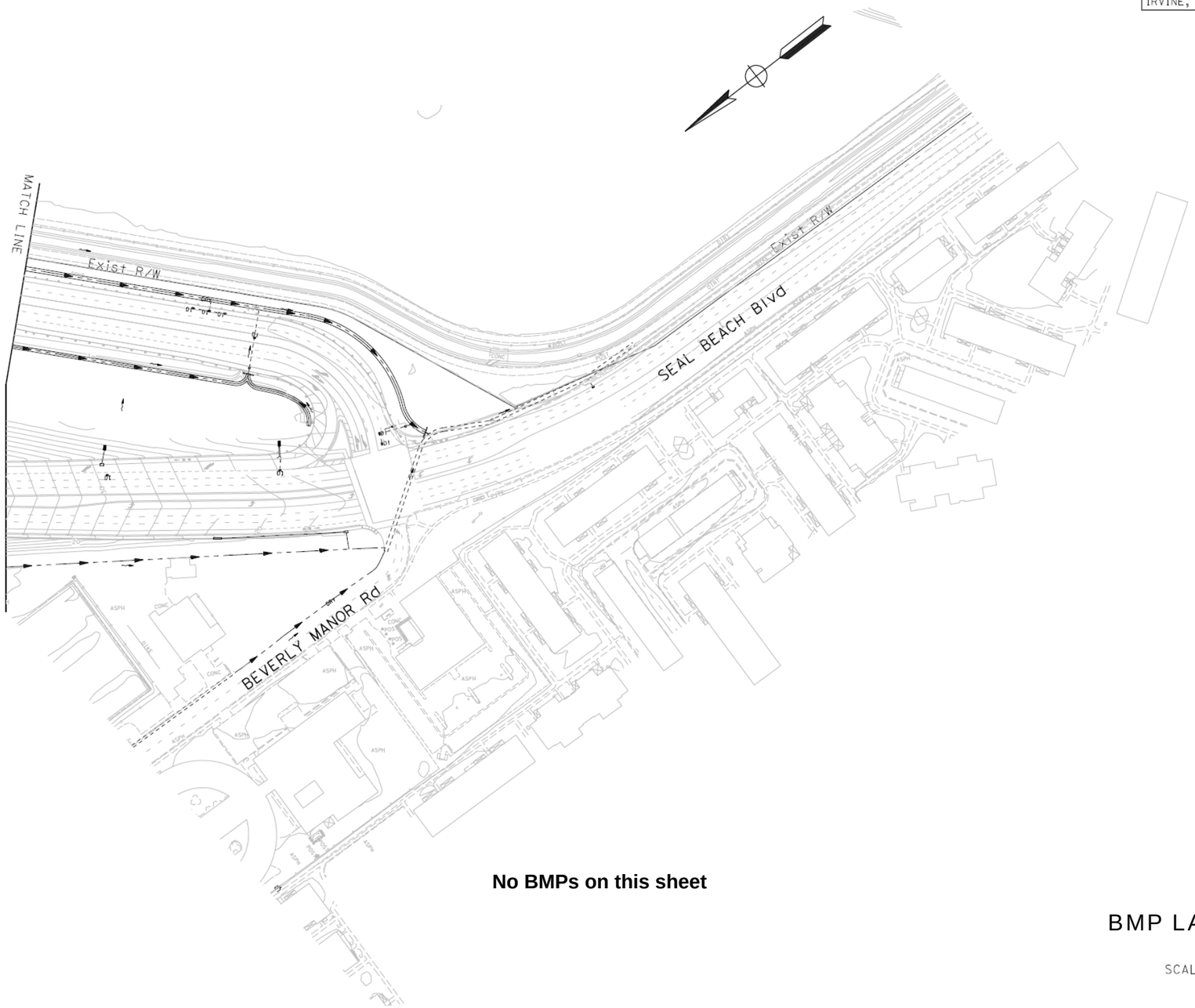


① 24" RCP
② RCB LIMITS
③ G2 INLET
Ⓐ EXTEND EXIST SD
Ⓑ CAP INLET
Ⓒ ABANDON LINE

**No BMPs on this sheet**

# BMP LAYOUT 33

SCALE 1"=100'

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|---|---|---|---|---|---|
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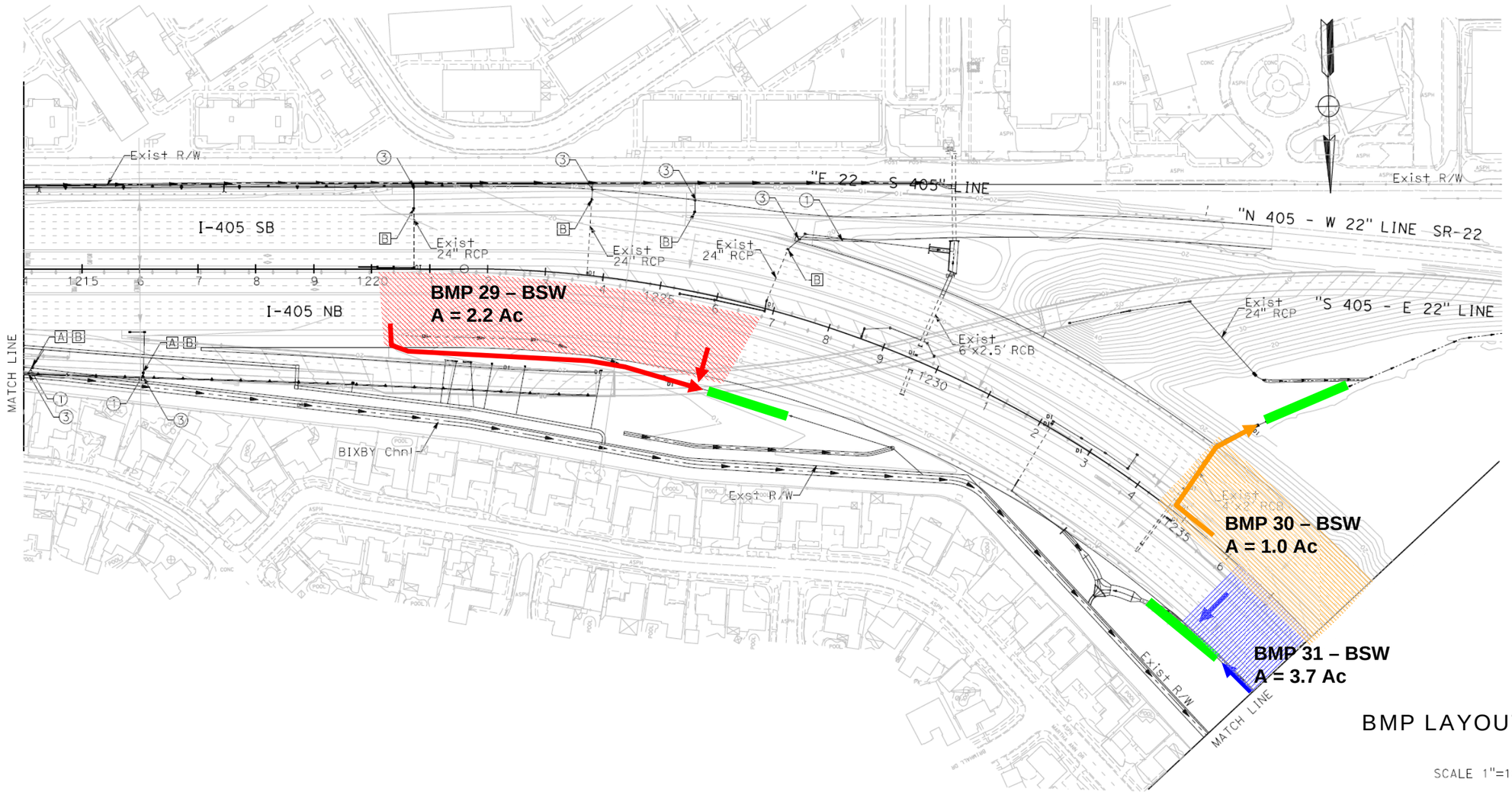


# BMP LAYOUT 34

SCALE 1"=100'

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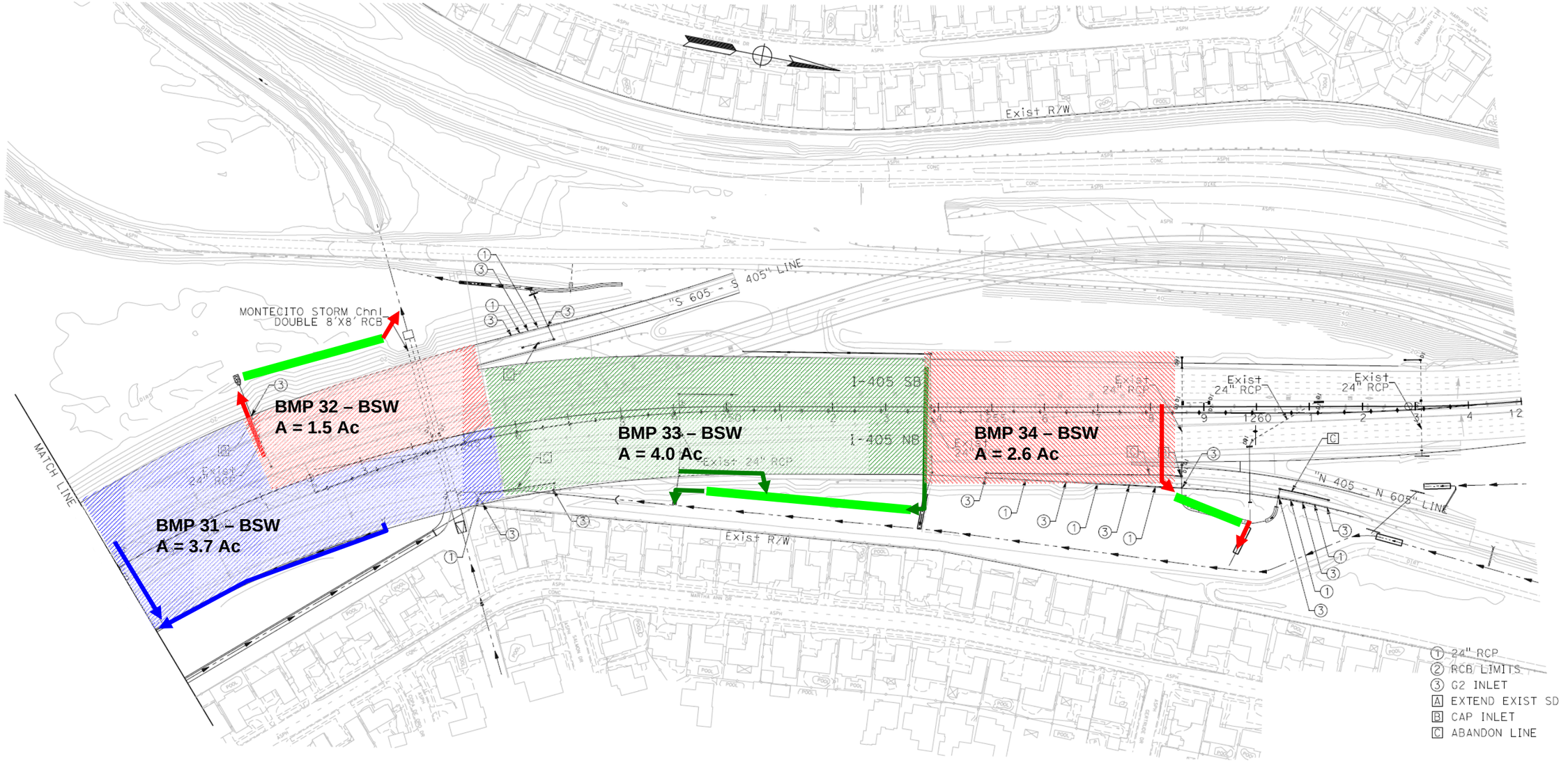


## BMP LAYOUT 35

SCALE 1"=100'

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TIME PLOTTED => $TIME

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USERNAME => $USER
DGN FILE => $REQUEST
CU 12235
EA 071621