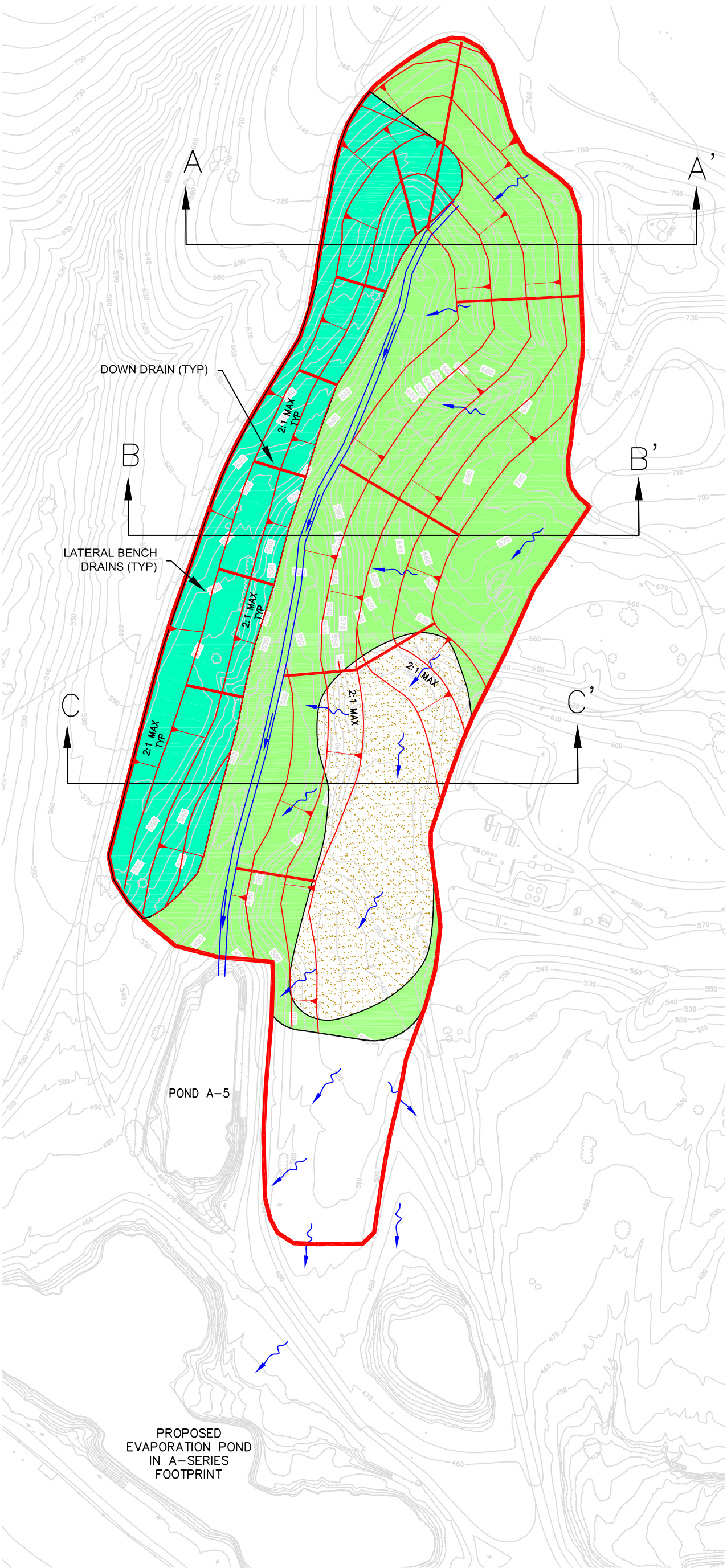


LEGEND:

- RCRA-EQUIVALENT HYBRID CAP (SEE DETAIL A)
- 5' EXCAVATION WITH BACKFILL TO GRADE
- 2' SOIL COVER
- STORMWATER FLOW DIRECTION
- LIMITS OF STUDY AREA (AREA 2)
- SW CONCRETE CHANNEL

NOTES:

1. CAPPED AREA STORMWATER DRAINS TO LINED POND A-5 WHICH WOULD EVENTUALLY BE DISCHARGED OFFSITE TO THE B-DRAINAGE VIA POND 13 THROUGH OR AROUND THE WETLANDS.

N

0 250'

GRAPHIC SCALE

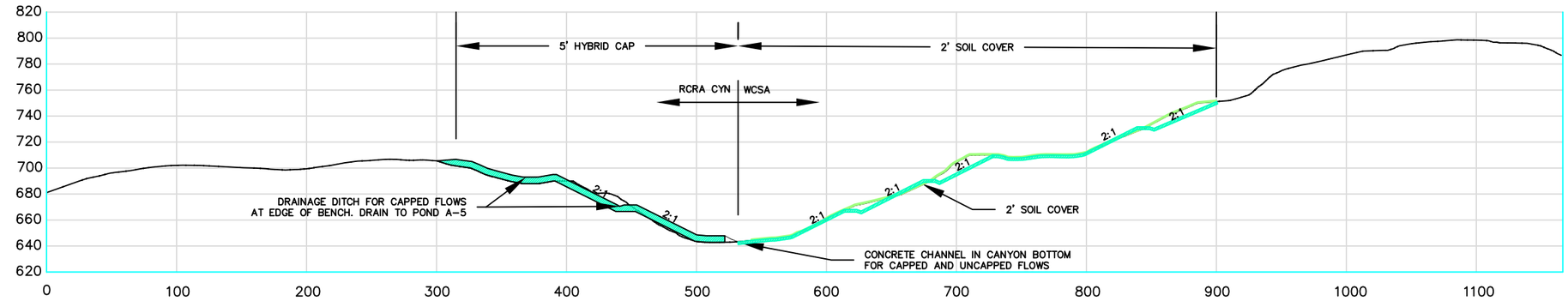
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

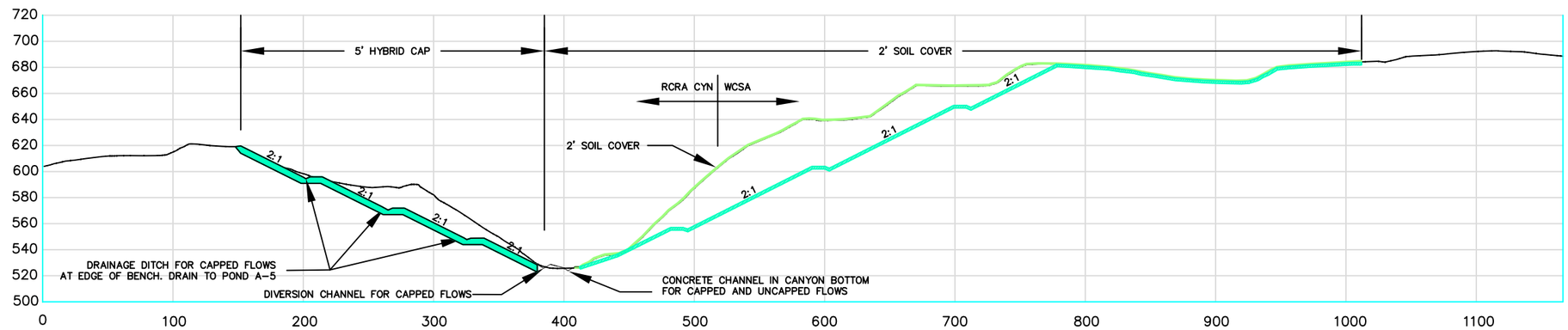
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 6
STORMWATER PLAN

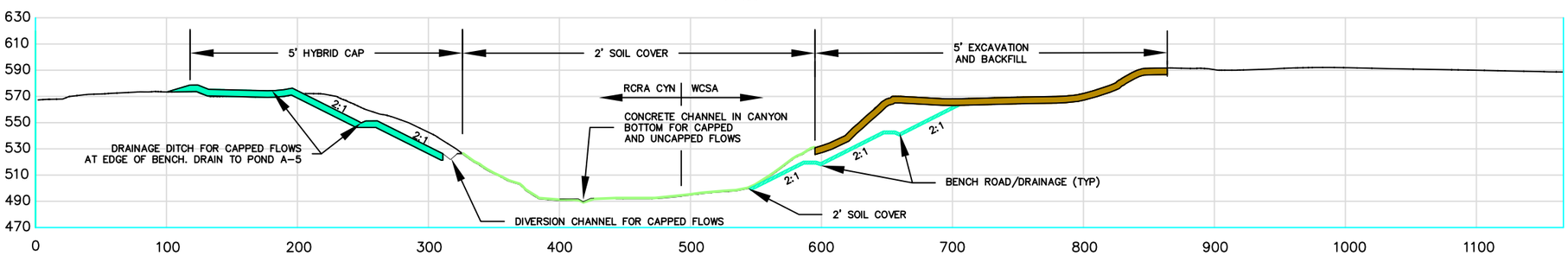
FIGURE 11-9B



SECTION A-A'
1"=100'



SECTION B-B'
1"=100'



SECTION C-C'
1"=100'

PRELIMINARY EARTHWORK SUMMARY

RCRA CANYON CAP AREA = 365,900 SQ FT (8.40 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	400,000
FILL TO LEVELING LAYER =	200,000
NET CUT/FILL (400,000 – 200,000)	200,00 (EXPORT)
CAP SECTION VOLUMES	
2 FT VEGETATIVE LAYER =	27,100

5' EXCAVATION AND BACKFILL

44,700 CY (CUT AND EXPORT TO USE AS FILL FOR PONDS)
5' FILL = 44,700 CY (FILL)

2' SOIL COVER

62,000 CY

0 100'
GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
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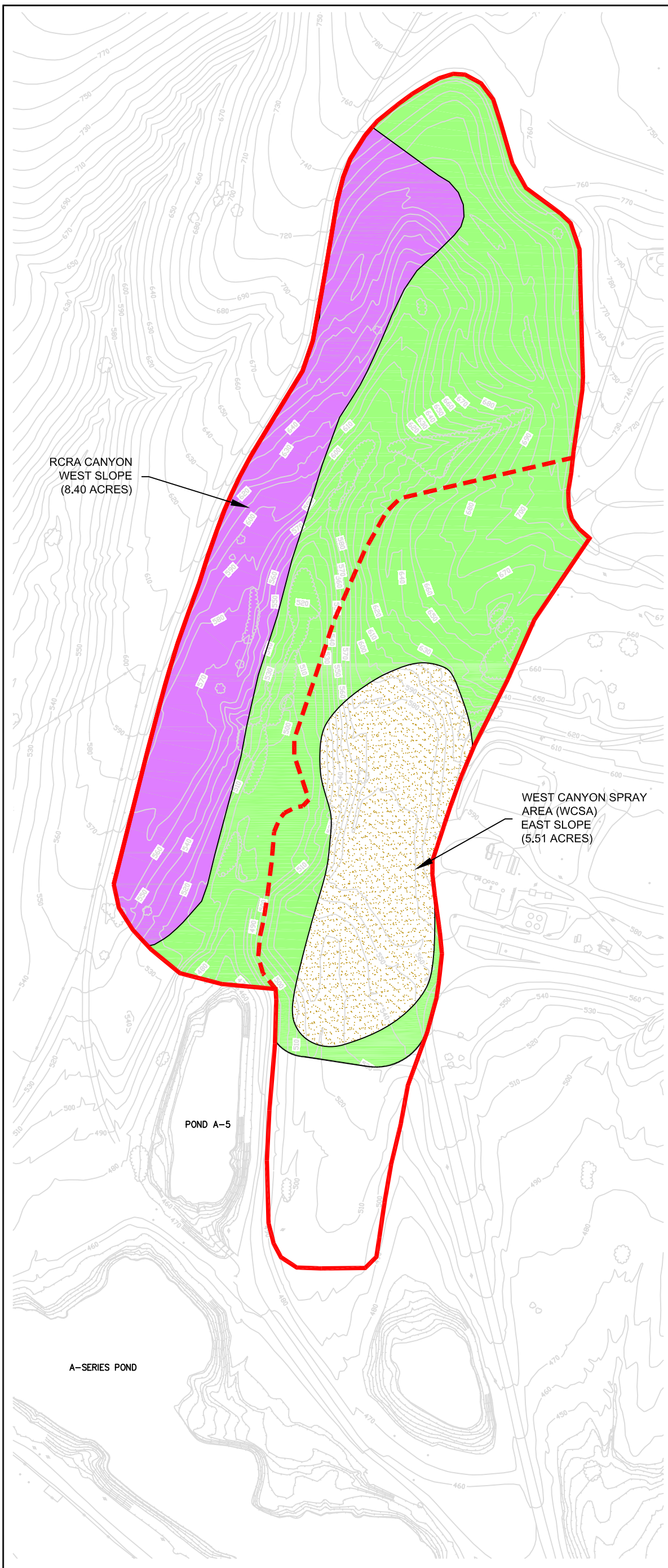
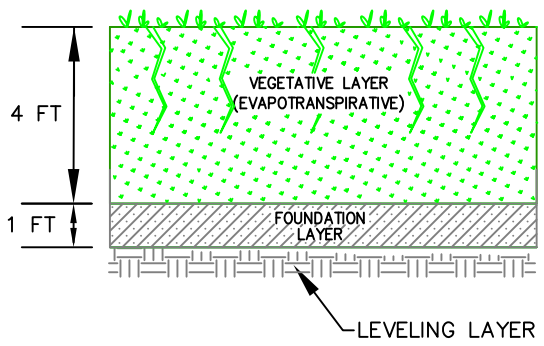
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 6
RCRA-EQUIVALENT HYBRID CAP,
5' EXCAVATION, 2' SOIL COVER, AND GRADING
PLAN

FIGURE 11-9C



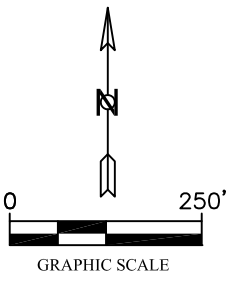


DETAIL A - TYPICAL 5' EVAPOTRANSPIRATIVE CAP SECTION

NOT TO SCALE

LEGEND:

- EVAPOTRANSPIRATIVE CAP 5' (SEE DETAIL A)
- 5' EXCAVATION WITH BACKFILL TO GRADE
- 2' SOIL COVER
- LIMITS OF STUDY AREA 2
- LIMITS OF RCRA CANYON AND WCSA AREAS



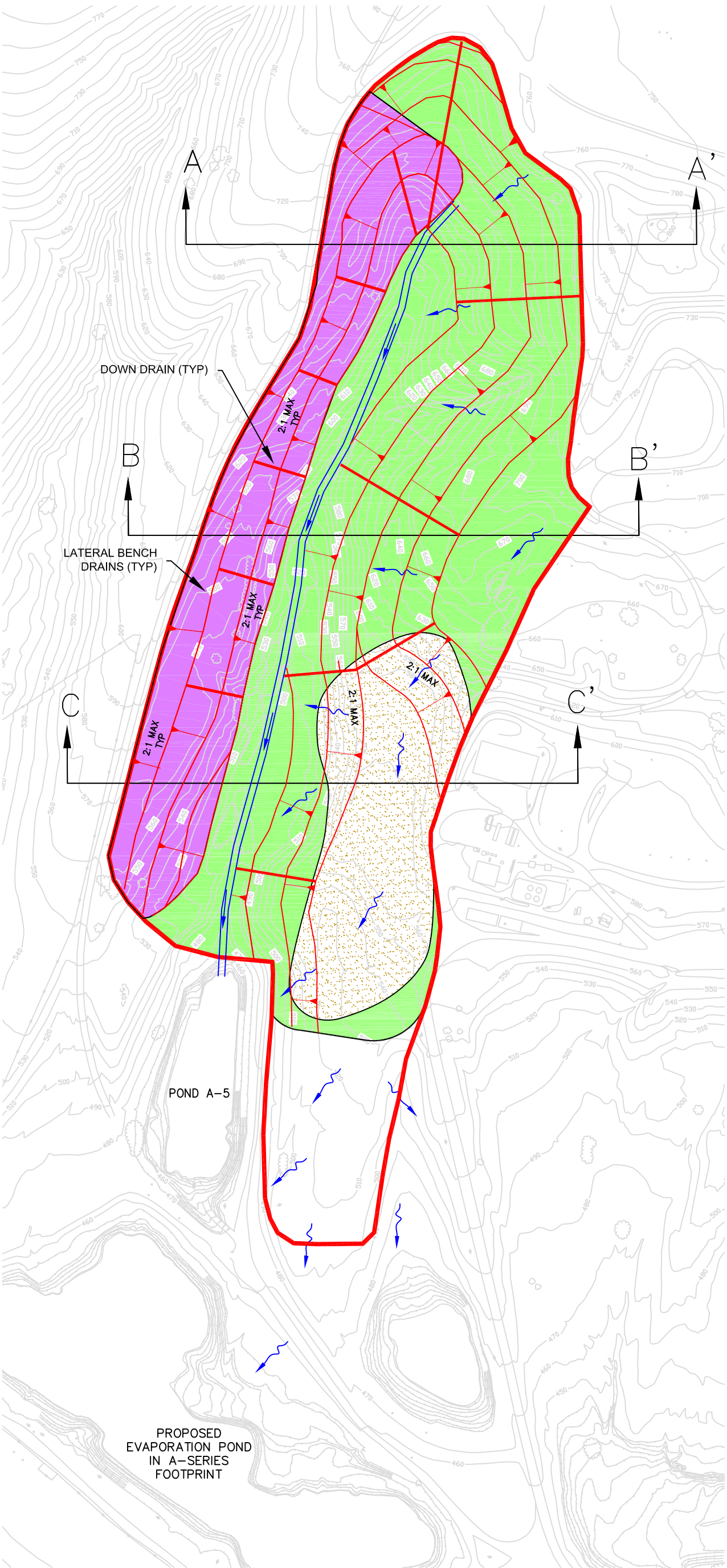
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 7
EVAPOTRANSPIRATIVE CAP (WEST SLOPE RCRA CANYON) (5') + EXCAVATION (PORTION OF WCSA) (5') + CLEAN SOIL COVER (EAST SLOPE, WCSA) (2')

FIGURE 11-10A



LEGEND:

- EVAPOTRANSPIRATIVE CAP
- 5' EXCAVATION WITH BACKFILL TO GRADE
- 2' SOIL COVER
- STORMWATER FLOW DIRECTION
- LIMITS OF STUDY AREA (AREA 2)
- SW CONCRETE CHANNEL

NOTES:

1. CAPPED AREA STORMWATER DRAINS TO LINED POND A-5 WHICH WOULD EVENTUALLY BE DISCHARGED OFFSITE TO THE B-DRAINAGE VIA POND 13 THROUGH OR AROUND THE WETLANDS.

N

0 250'

GRAPHIC SCALE

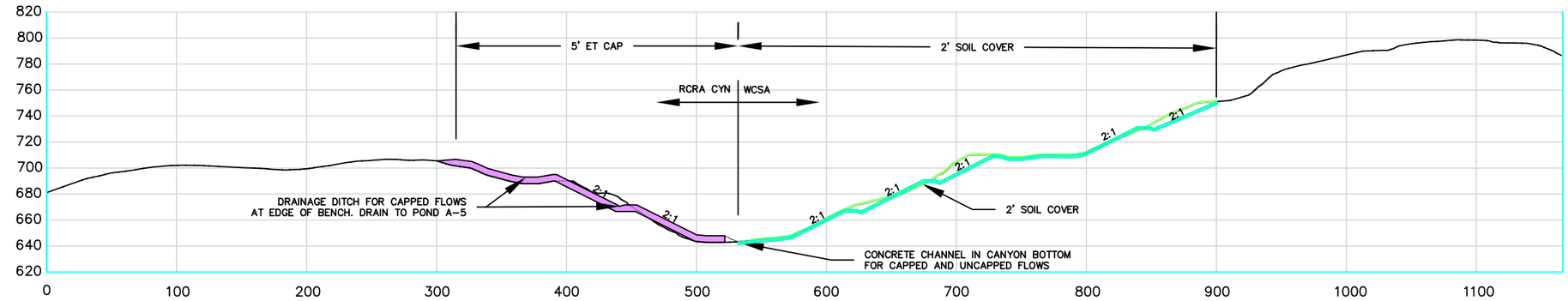
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

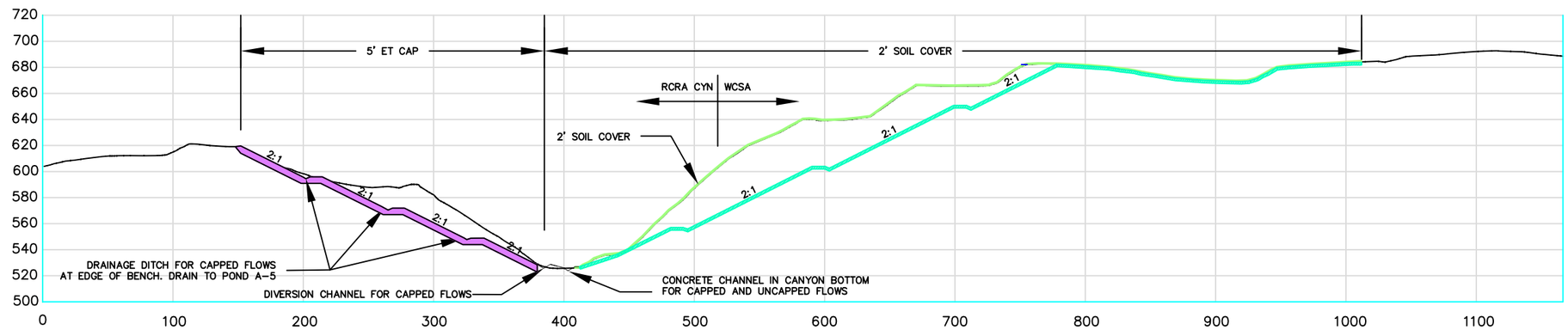
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 7
STORMWATER PLAN

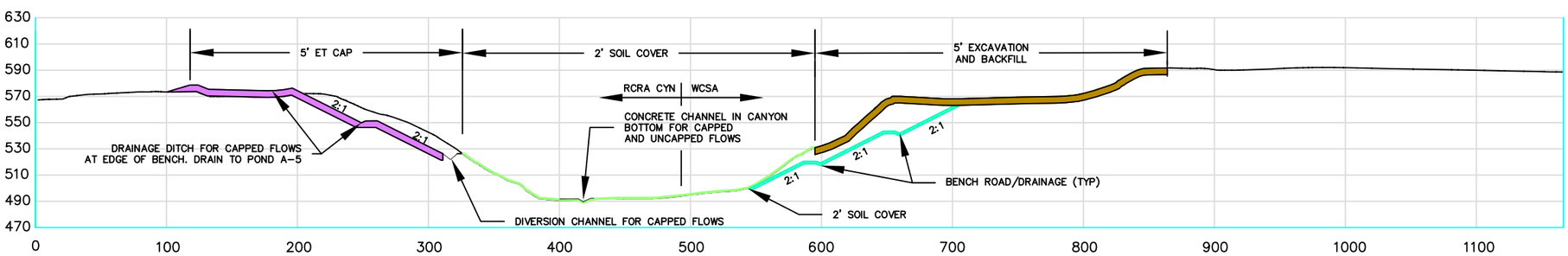
FIGURE 11-10B



SECTION A-A'
1"=100'



SECTION B-B'
1"=100'



SECTION C-C'
1"=100'

PRELIMINARY EARTHWORK SUMMARY

RCRA CANYON CAP AREA = 365,900 SQ FT (8.40 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	400,000
FILL TO LEVELING LAYER =	200,000
NET CUT/FILL (400,000 – 200,000)	200,000 (EXPORT)
CAP SECTION VOLUMES	
4 FT VEGETATIVE LAYER =	54,200
1 FT FOUNDATION LAYER =	13,600

5' EXCAVATION AND BACKFILL

44,700 CY (CUT AND EXPORT TO USE AS FILL FOR PONDS)
5' FILL = 44,700 CY (FILL)

2' SOIL COVER

62,000 CY

0 100'
GRAPHIC SCALE

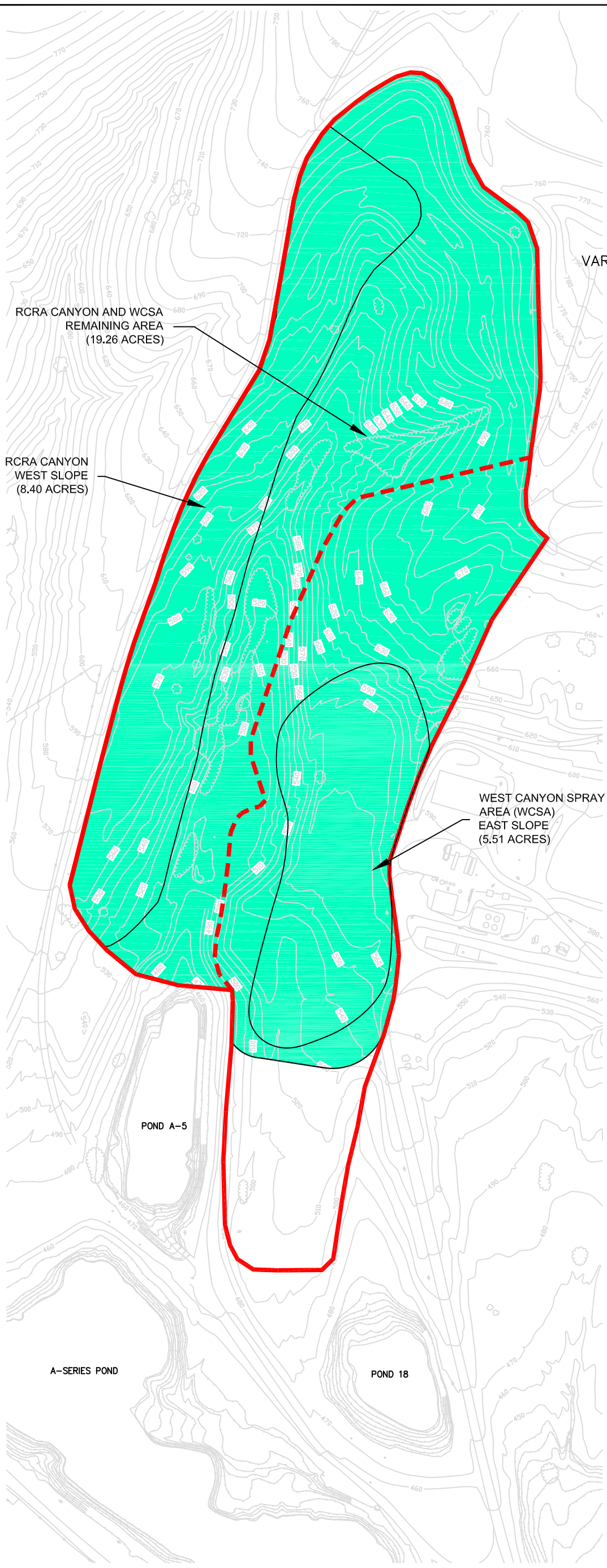
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

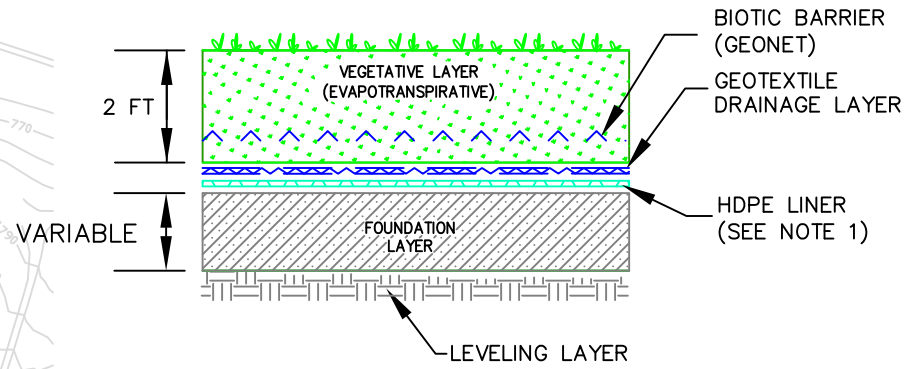
URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 7
EVAPOTRANSPIRATIVE CAP,
5' EXCAVATION, 2' SOIL COVER, AND GRADING
PLAN

FIGURE 11-10C





DETAIL A - TYPICAL RCRA-EQUIVALENT
HYBRID CAP SECTION
NOT TO SCALE

LEGEND:

- RCRA–EQUIVALENT HYBRID CAP (SEE DETAIL A)
- LIMITS OF STUDY AREA 2
- LIMITS OF RCRA CANYON AND WCSA AREAS

NOTES:

1. RCRA–EQUIVALENT HYBRID CAP INCLUDES A 60–MIL HDPE LINER WITH SPIKES ON THE UNDERSIDE TO PROVIDE GREATER STABILITY ON STEEP SLOPES.

N

0 250'

GRAPHIC SCALE

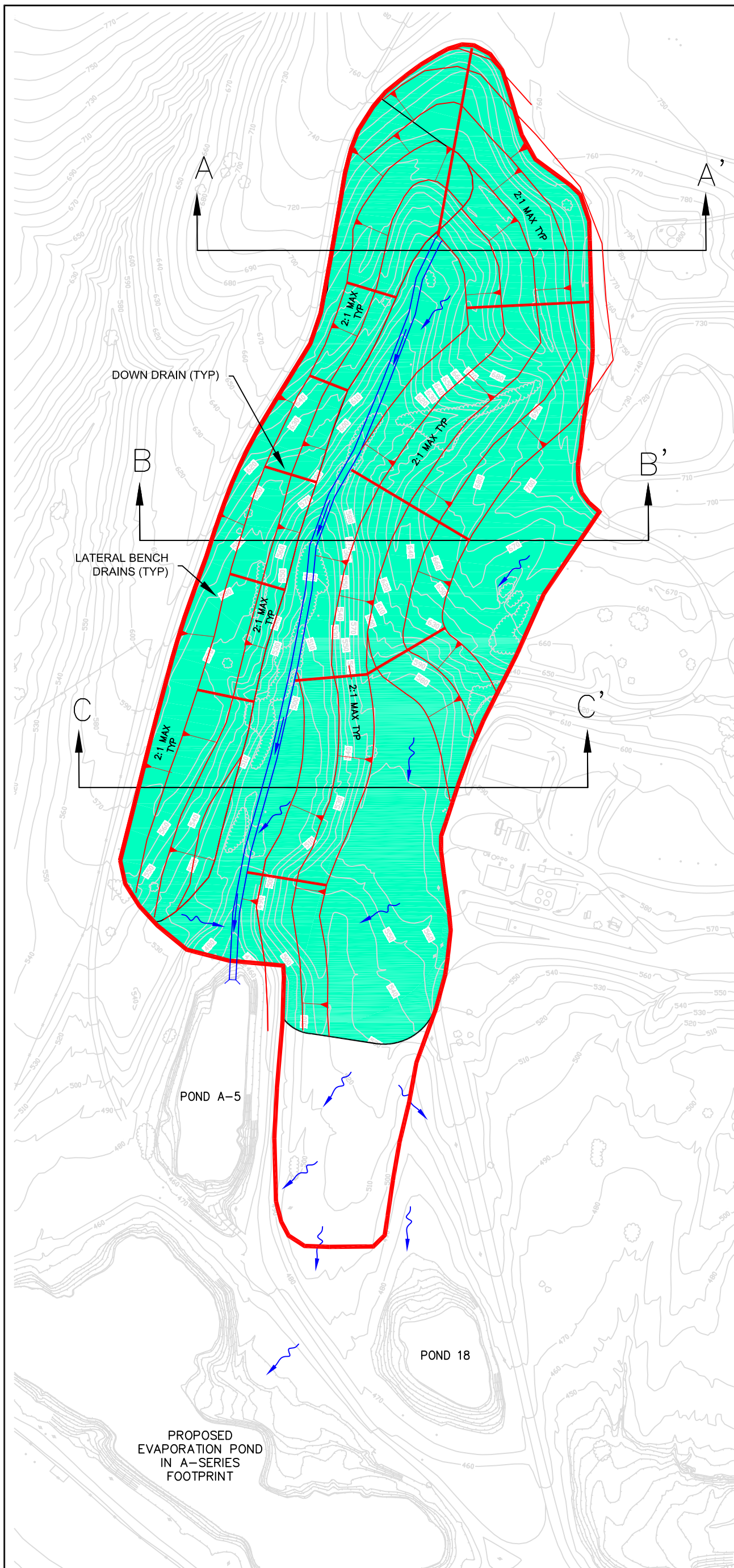
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 8
RCRA-EQUIVALENT HYBRID CAP (RCRA CANYON,WCSA)

FIGURE 11-11A



LEGEND:

- RCRA-EQUIVALENT HYBRID CAP
- STORMWATER FLOW DIRECTION
- LIMITS OF STUDY AREA (AREA 2)
- SW CONCRETE CHANNEL

NOTES:

1. CAPPED AREA STORMWATER DRAINS TO LINED POND A-5 WHICH WOULD EVENTUALLY BE DISCHARGED OFFSITE TO THE B-DRAINAGE VIA POND 13 THROUGH OR AROUND THE WETLANDS.

N

0 250'

GRAPHIC SCALE

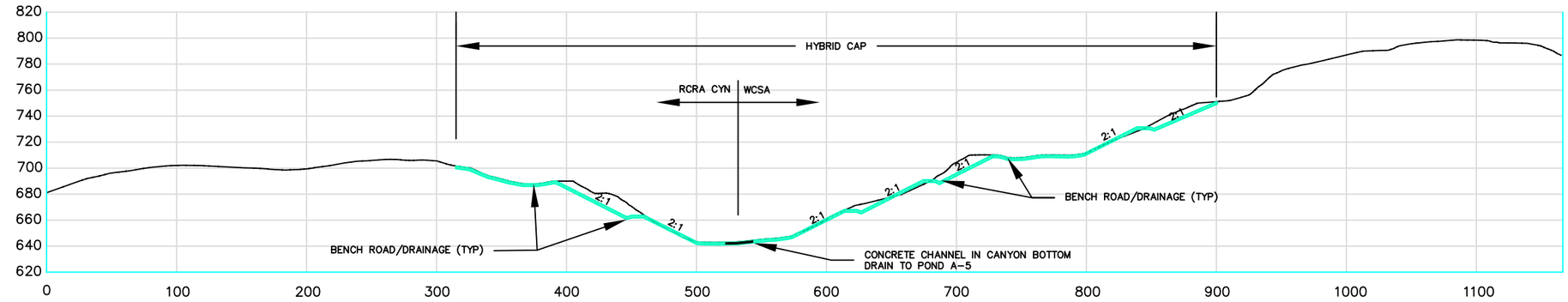
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

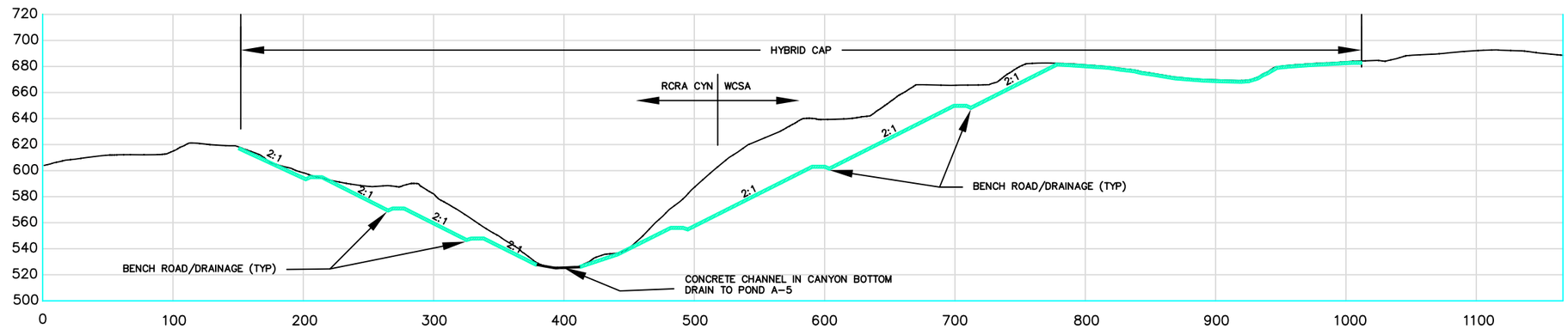
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 8
STORMWATER PLAN

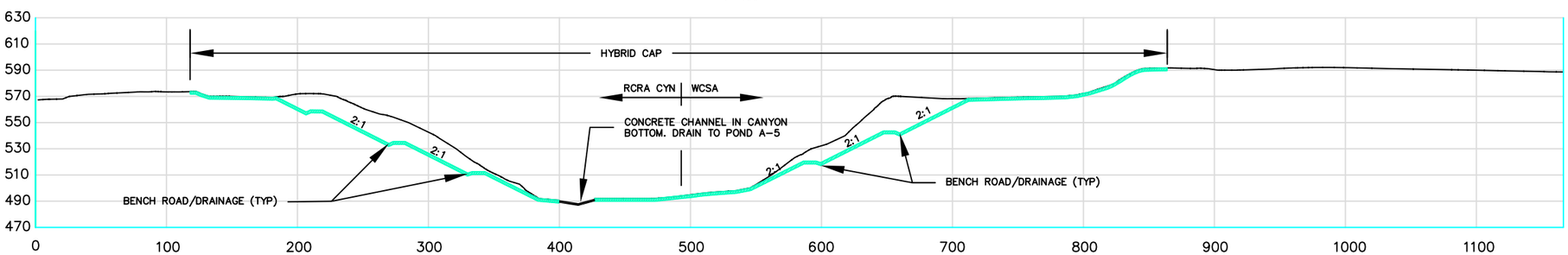
FIGURE 11-11B



SECTION A-A'
1"=100'



SECTION B-B'
1"=100'



SECTION C-C'
1"=100'

PRELIMINARY EARTHWORK SUMMARY

HYBRID CAP AREA = 1,444,700 SQ FT (33.17 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	400,000
FILL TO LEVELING LAYER =	200,000
NET CUT/FILL (400,000 – 200,000)	200,000 (EXPORT)
CAP SECTION VOLUMES	
2 FT VEGETATIVE LAYER =	107,000

0 100'
GRAPHIC SCALE

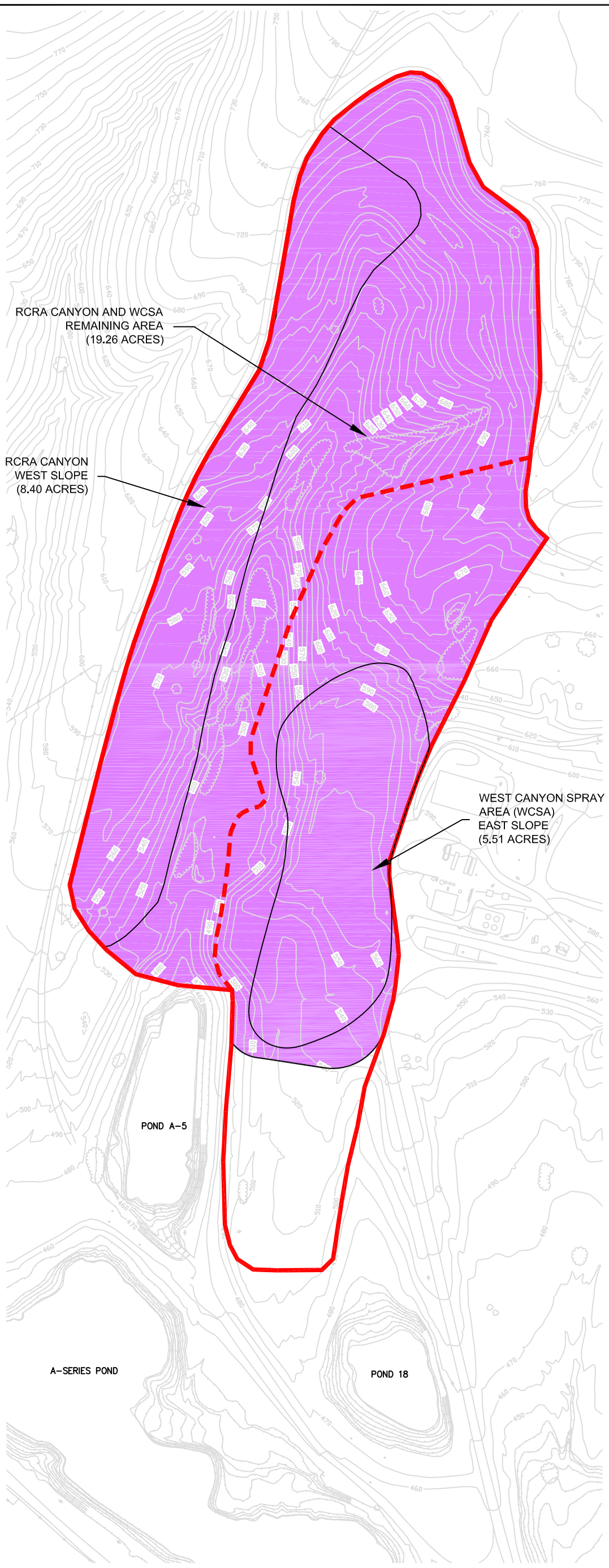
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

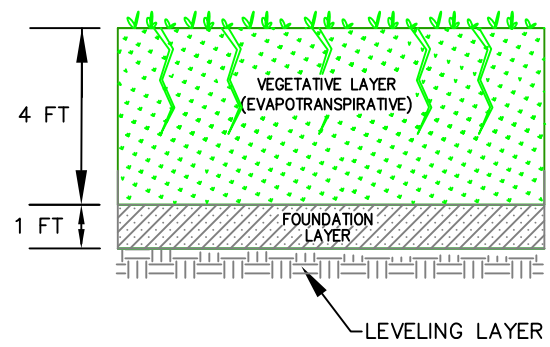
URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 8
RCRA-EQUIVALENT HYBRID CAP,
ENTIRE CANYON

FIGURE 11-11C



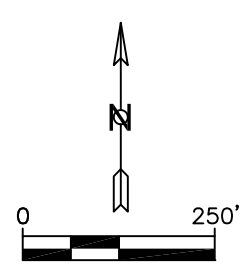


DETAIL A - TYPICAL EVAPOTRANSPIRATIVE CAP SECTION

NOT TO SCALE

LEGEND:

- EVAPOTRANSPIRATIVE CAP (SEE DETAIL A)
- LIMITS OF STUDY AREA 2
- LIMITS OF RCRA CANYON AND WCSA AREAS



GRAPHIC SCALE

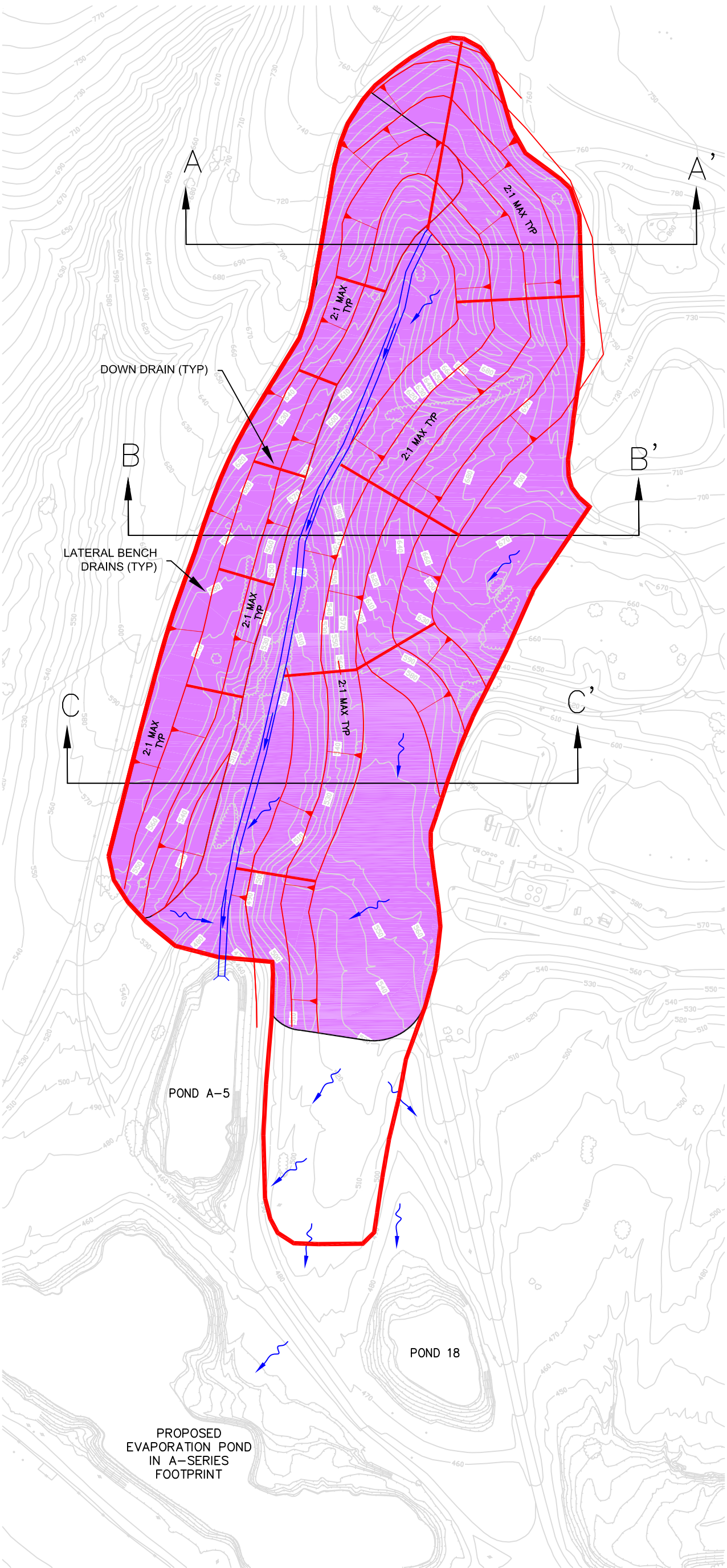
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 9
EVAPOTRANSPIRATIVE CAP (RCRA CANYON,WCSA)

FIGURE 11-12A



LEGEND:

- EVAPOTRANSPIRATIVE CAP
- STORMWATER FLOW DIRECTION
- LIMITS OF STUDY AREA (AREA 2)
- SW CONCRETE CHANNEL

NOTES:

1. CAPPED AREA STORMWATER DRAINS TO LINED POND A-5 WHICH WOULD EVENTUALLY BE DISCHARGED OFFSITE TO THE B-DRAINAGE VIA POND 13 THROUGH OR AROUND THE WETLANDS.

N

0 250'

GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
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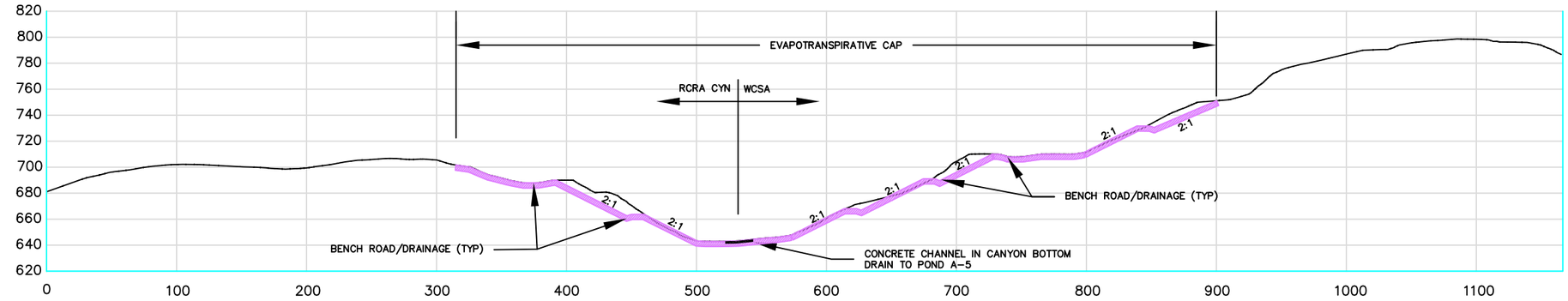
FAX: (805) 964-0259

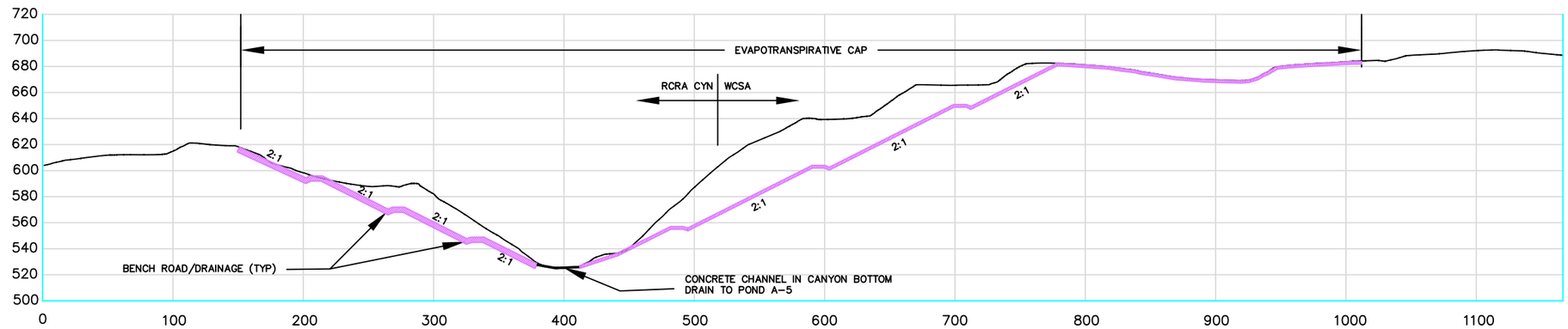
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 9
STORMWATER PLAN

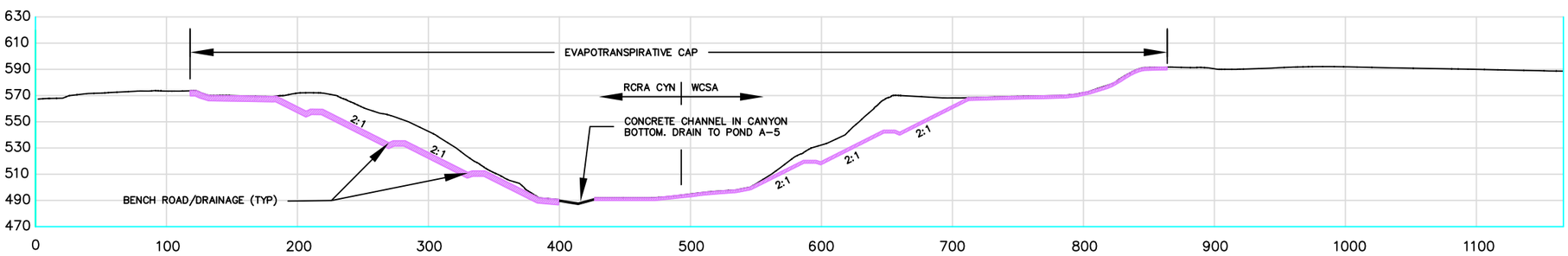
FIGURE 11-12B



SECTION A-A'
1"=100'



SECTION B-B'
1"=100'



SECTION C-C'
1"=100'

PRELIMINARY EARTHWORK SUMMARY

EVAPOTRANSPIRATIVE CAP AREA = 1,444,700 SQ FT
(33.17 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	400,000
FILL TO LEVELING LAYER =	200,000
NET CUT/FILL (400,000 – 200,000)	200,000 (EXPORT)
CAP SECTION VOLUMES	
4 FT VEGETATIVE LAYER =	214,000
1 FT FOUNDATION LAYER =	53,500

0 100'
GRAPHIC SCALE

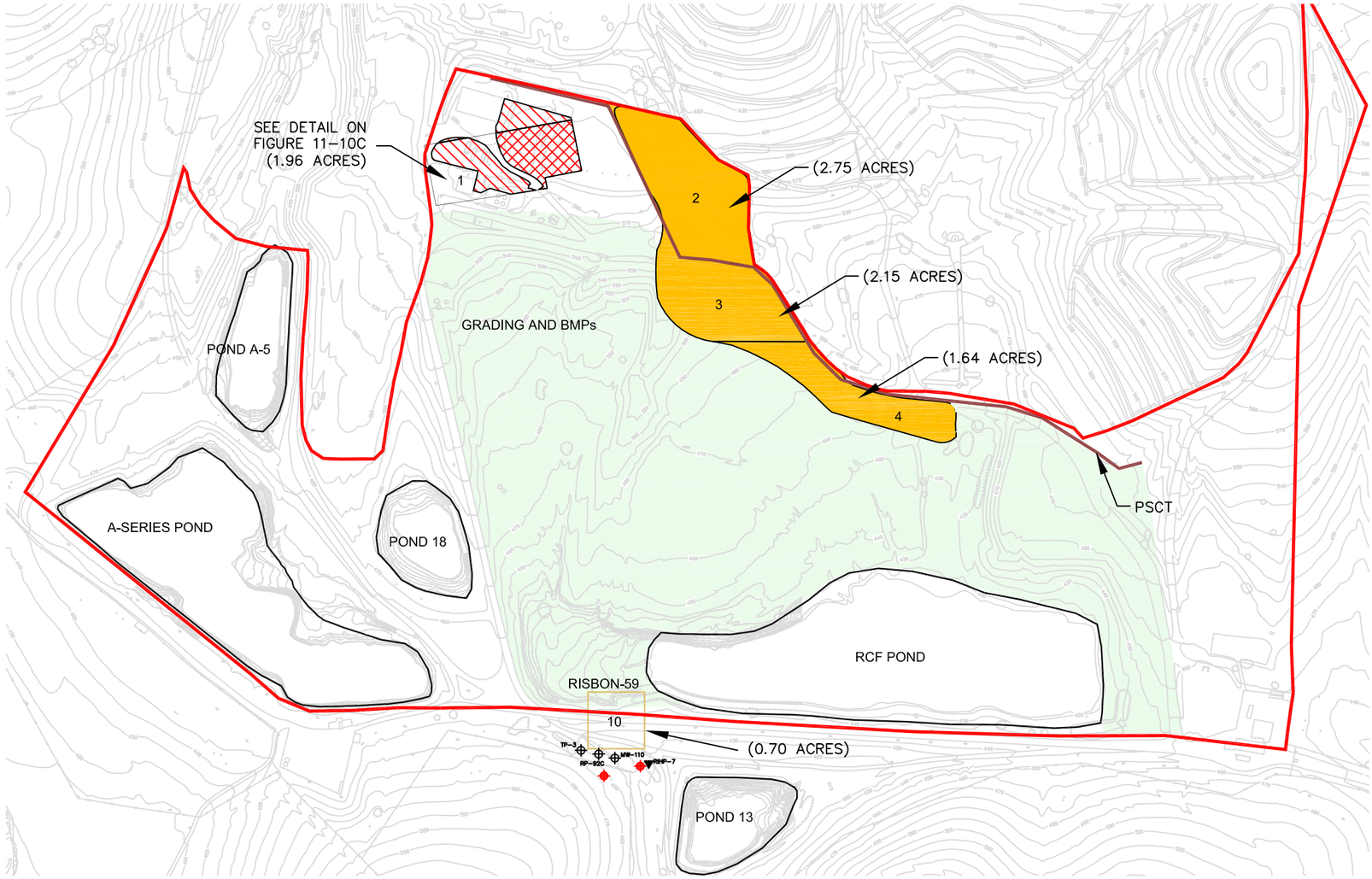
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

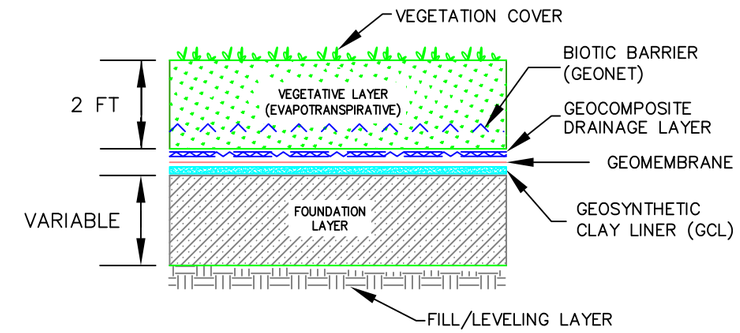
URS
URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 2 - ALTERNATIVE 9
EVAPOTRANSPIRATIVE CAP,
ENTIRE CANYON

FIGURE 11-12C





DETAIL A - TYPICAL RCRA CAP SECTION

NOT TO SCALE

LEGEND:

- LIMITS OF STUDY AREA (AREA 3)
- PERIMETER SOURCE CONTROL TRENCH (PSCT)
- RCRA CAP (SEE DETAIL A)
- EXCAVATION (5'), BACKFILL, AND ASPHALT COVER
- PROPOSED ASPHALT COVER
- EXTENT OF GRADING AND BMPs
- PROPOSED MONITORING WELL (RISBON-59)

NOTES:

1. LEVELING LAYER IS REQUIRED FOR CUT AND FILL OF EXISTING SURFACE SOIL COVER TO PROVIDE SUITABLE BASE.
2. GRADING AND BMPs ARE INCLUDED AS PART OF STORMWATER AND EROSION CONTROLS FOR THE UNCAPPED PORTIONS OF FS AREA 3 LOCATED SOUTH OF THE PSCT AND EAST OF THE ROAD TO THE LTP.

N

0 400'

GRAPHIC SCALE

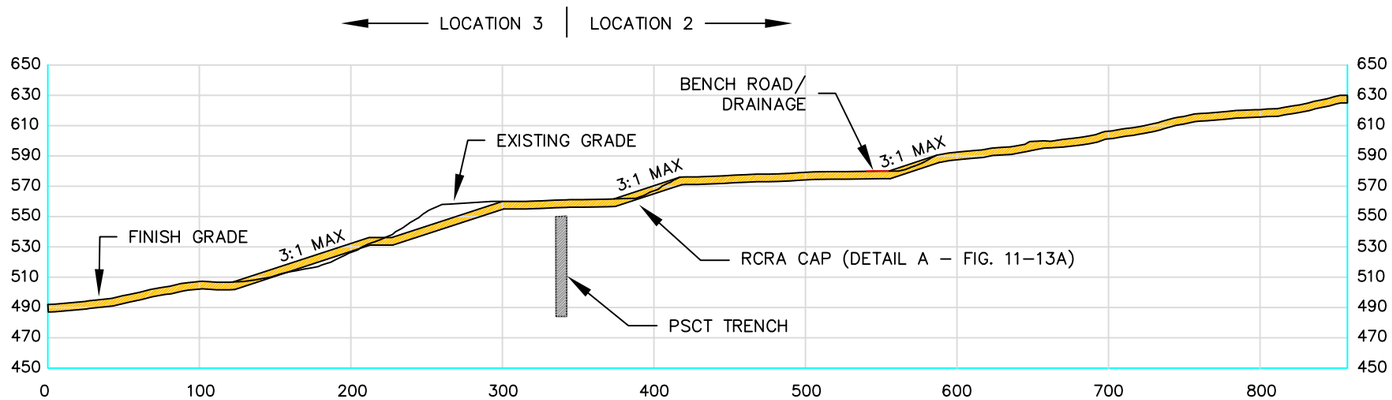
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 3 - ALTERNATIVE 2
RCRA CAP (LOCATIONS 2, 3, 4) + EXCAVATE/ASPHALT CAP (LOCATION 1) (5') + GW MONITORING (LOCATION 10) + GRADING/BMPs (REST OF AREA 3)

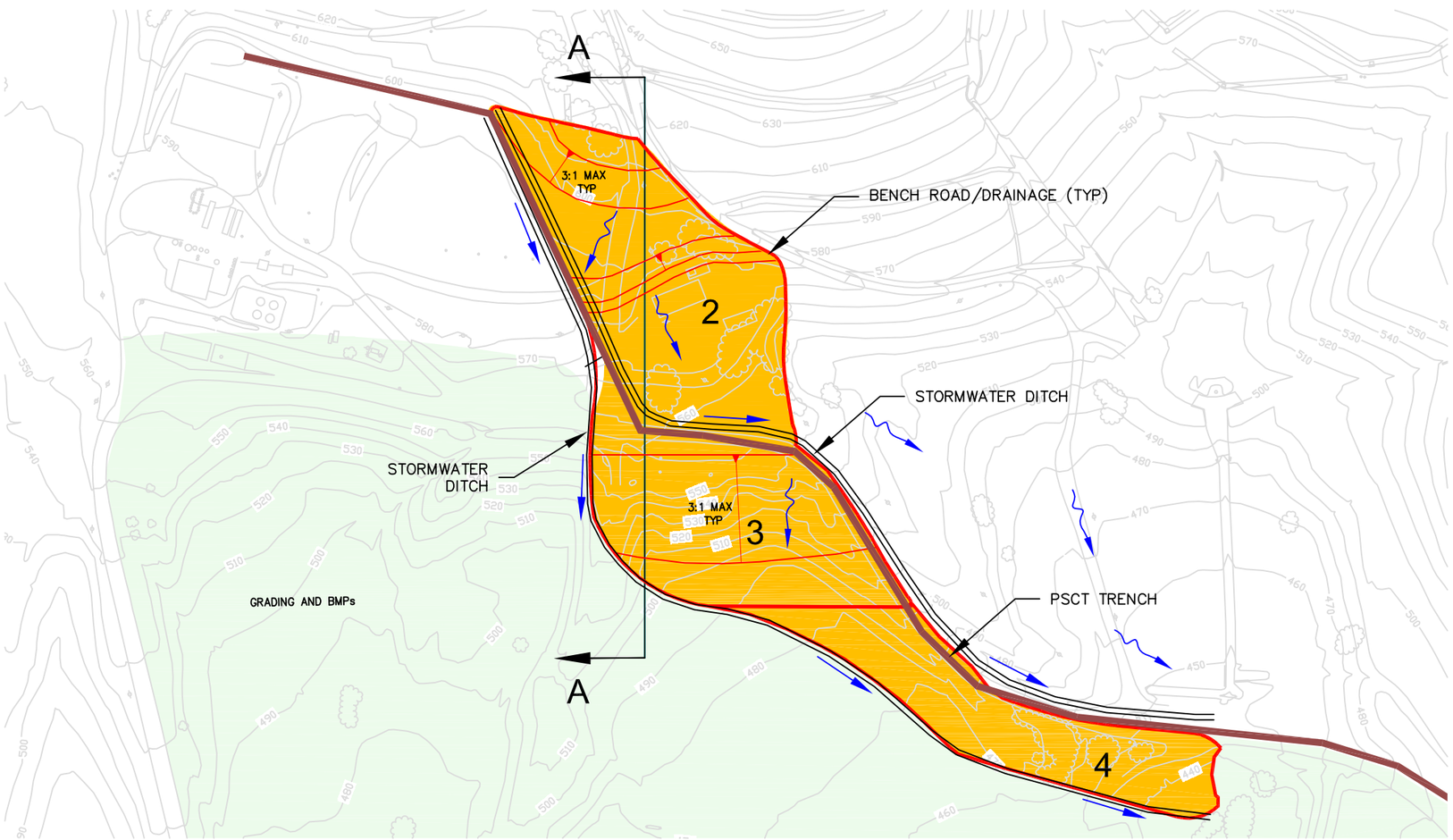
FIGURE 11-13A



SECTION A-A
1"=100'

LEGEND:

- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF
- RCRA CAP
- EXTENT OF GRADING AND BMPs



PRELIMINARY EARTHWORK SUMMARY

RCRA CAP AREA = 275,296 SQ FT (6.61 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	40,800
FILL TO LEVELING LAYER =	60,800
NET CUT/FILL (60,800 – 40,800)	20,000 (IMPORT)
CAP SECTION VOLUMES	
2 FT LOW PERMEABILITY SOIL =	20,400
2 FT VEGETATIVE LAYER =	20,400

NOTES:

1. LOCATION 2 INCLUDES A MAINTENANCE SHED WHICH WOULD BE DEMOLISHED PRIOR TO GRUBBING, LEVELING, AND CAP CONSTRUCTION.
2. THE LOCATIONS OF THE BENCH ROADS ARE TYPICAL. ACTUAL LOCATIONS WILL BE DETERMINED DURING DESIGN.

N

0 200'
GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS
URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

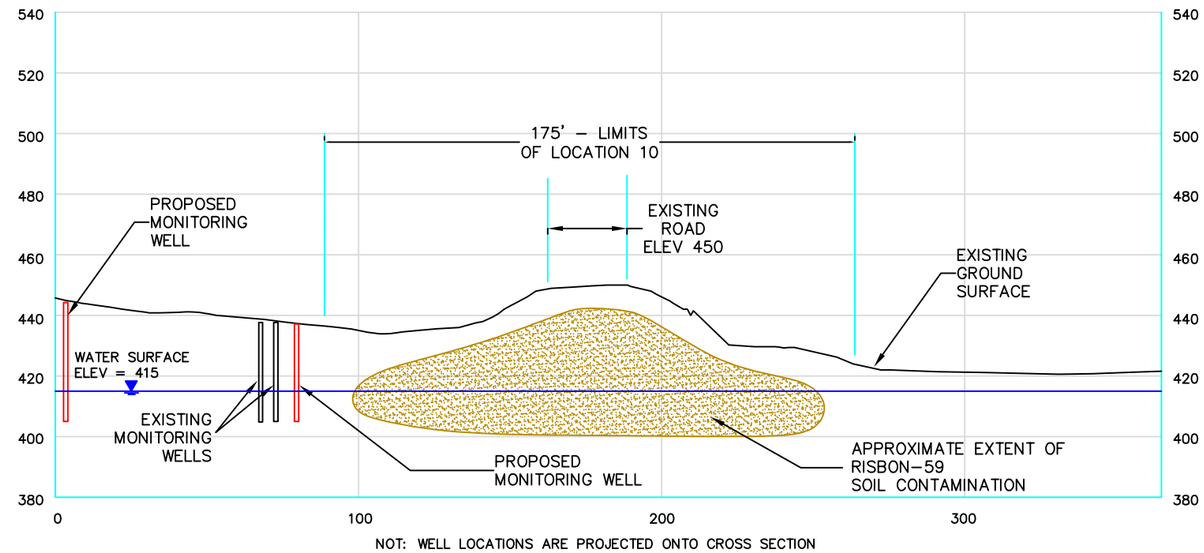
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 3 - ALTERNATIVE 2
RCRA CAP (LOCATIONS 2, 3, 4)
+ GRADING PLAN

FIGURE 11-13B

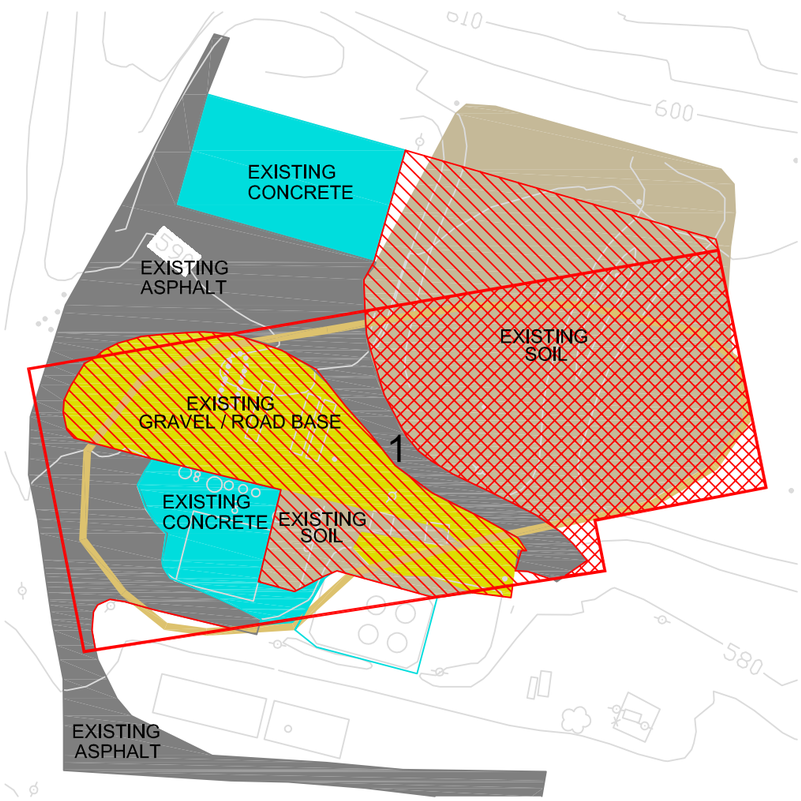
LEGEND:

- EXCAVATION (5'), BACKFILL, AND ASPHALT COVER
- PROPOSED ASPHALT COVER
- EXISTING MONITORING WELL
- EXISTING PIEZOMETER
- PROPOSED MONITORING WELL

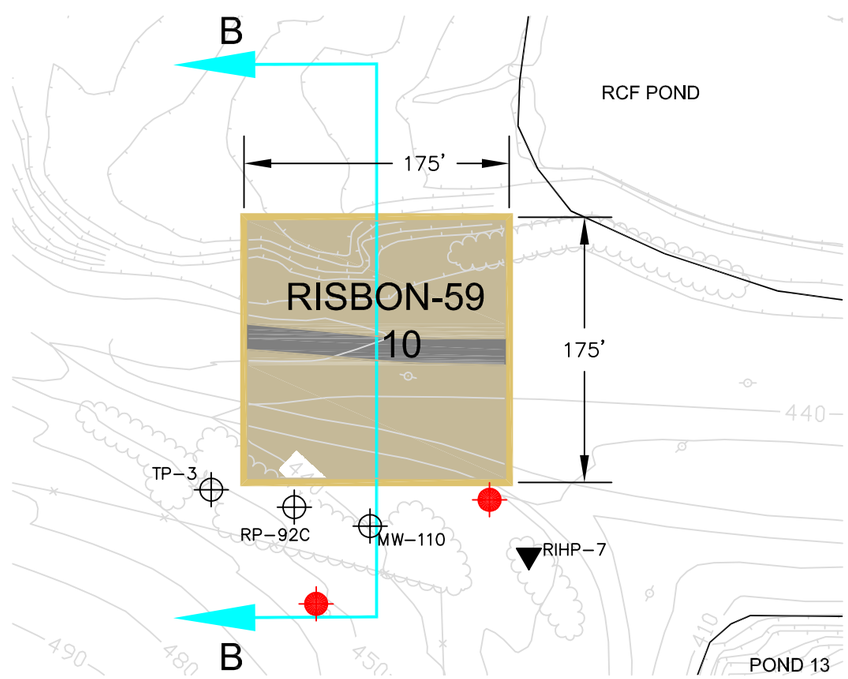


NOT: WELL LOCATIONS ARE PROJECTED ONTO CROSS SECTION

SECTION B-B
1"=50'



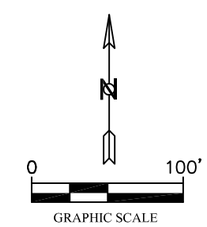
LOCATION 1 (PLAN VIEW)
(EXISTING GROUND SURFACE COVER)



LOCATION 10 (PLAN VIEW)

PRELIMINARY EARTHWORK SUMMARY

EXCAVATION	VOLUMES (CY)
LOCATION 1 (5')	8,000



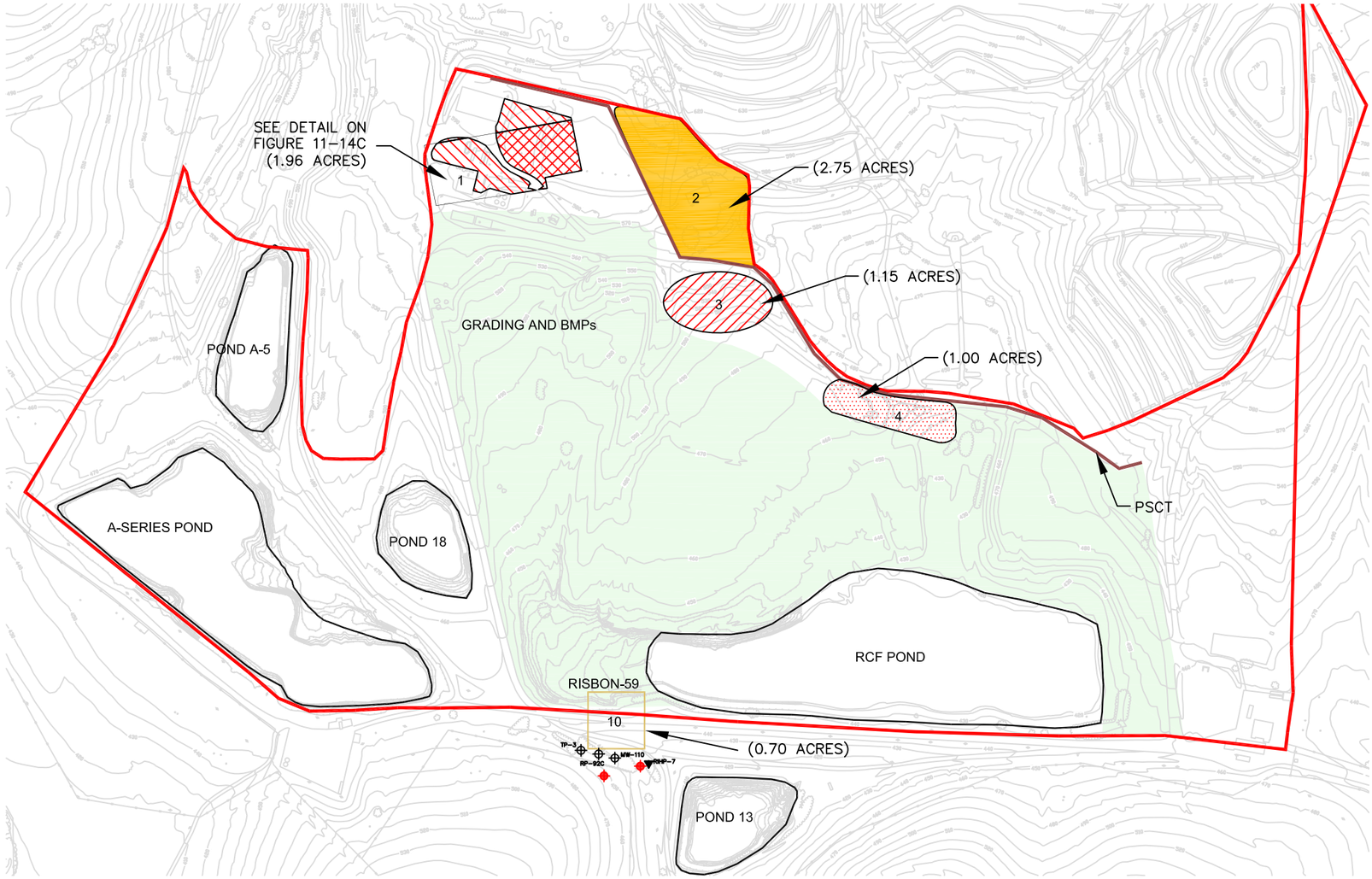
REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

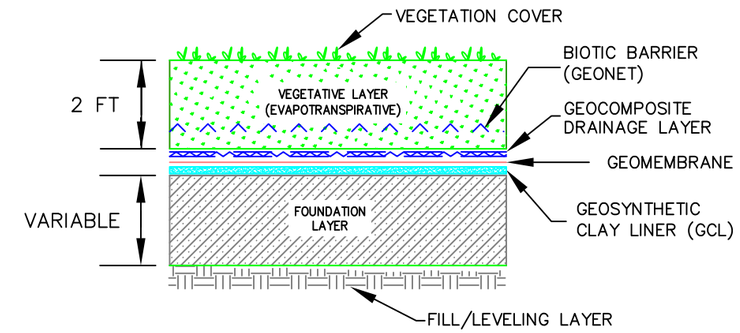
URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 3 - ALTERNATIVE 2
EXCAVATION (5') + ASPHALT COVER (LOCATION 1)
+ GW MONITORING (LOCATION 10)

FIGURE 11-13C





DETAIL A - TYPICAL RCRA
CAP SECTION
NOT TO SCALE

LEGEND:

- LIMITS OF STUDY AREA (AREA 3)
- PERIMETER SOURCE CONTROL TRENCH (PSCT)
- RCRA CAP (SEE DETAIL A)
- EXCAVATION (5'), BACKFILL, AND ASPHALT COVER
- PROPOSED ASPHALT COVER
- EXCAVATION (5') AND BACKFILL
- EXCAVATION (20') AND BACKFILL
- EXTENT OF GRADING AND BMPs
- PROPOSED MONITORING WELL (RISBON-59)

NOTES:

1. LEVELING LAYER IS REQUIRED FOR CUT AND FILL OF EXISTING SURFACE SOIL COVER TO PROVIDE SUITABLE BASE.
2. GRADING AND BMPs ARE INCLUDED AS PART OF STORMWATER AND EROSION CONTROLS FOR THE UNCAPPED PORTIONS OF FS AREA 3 LOCATED SOUTH OF THE PSCT AND EAST OF THE ROAD TO THE LTP.

N

0 400'

GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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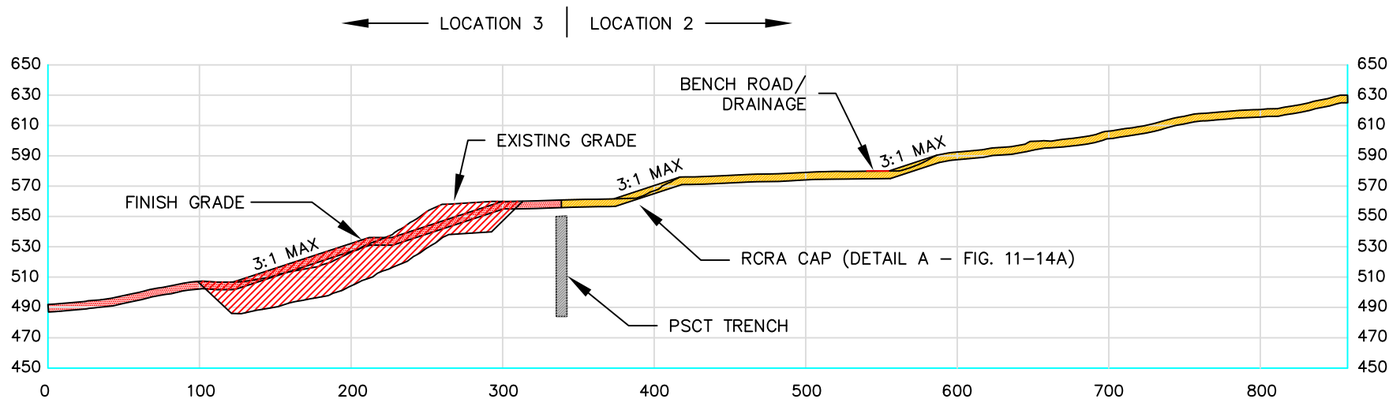
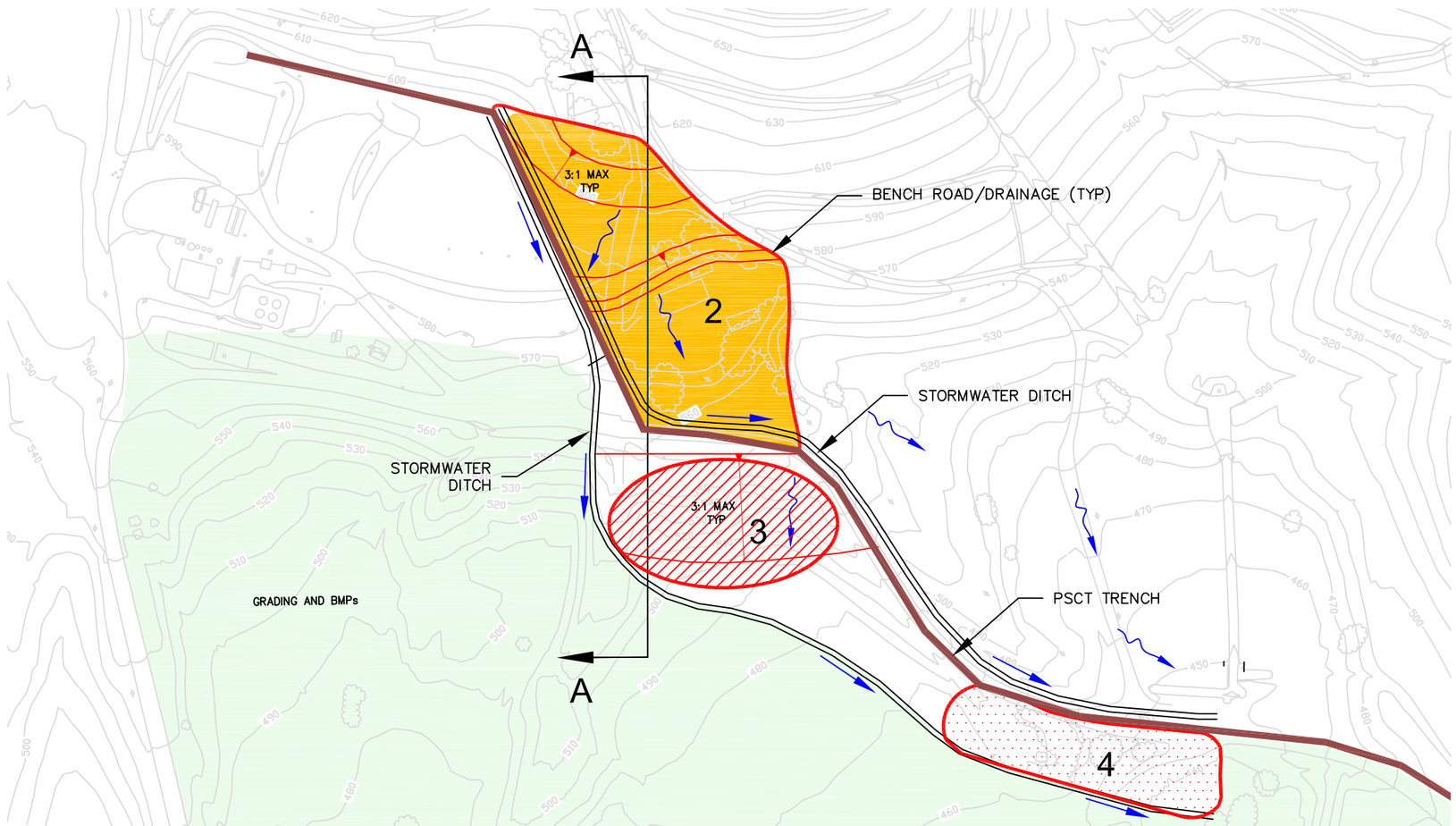
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 3 - ALTERNATIVE 3
RCRA CAP (LOCATIONS 2) + EXCAVATE/PLACE IN PCB LANDFILL (LOCATION 3)(20'); (LOCATION 4)(5') + EXCAVATE/ASPHALT CAP (LOCATION 1) (5') + GW MONITORING (LOCATION 10) + GRADING/BMPs (UNCAPPED AREAS)

FIGURE 11-14A



SECTION A-A
1"=100'



LEGEND:

- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF
- RCRA CAP
- EXTENT OF GRADING AND BMPs
- EXCAVATION (5') AND BACKFILL
- EXCAVATION (20') AND BACKFILL

PRELIMINARY EARTHWORK SUMMARY

RCRA CAP AREA = 119,900 SQ FT (2.75 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	27,000
FILL TO LEVELING LAYER =	37,000
NET CUT/FILL (37,000 – 27,000)	10,000 (IMPORT)
CAP SECTION VOLUMES	
2 FT LOW PERMEABILITY SOIL =	8,900
2 FT VEGETATIVE LAYER =	8,900

EXCAVATION AREA = 93,654 SQ FT (2.15 ACRES)

EXCAVATION	VOLUMES (CY)
LOCATION 3 (20')	37,000
LOCATION 4 (5')	8,000

NOTES:

1. LOCATION 2 INCLUDES A MAINTENANCE SHED WHICH WOULD BE DEMOLISHED PRIOR TO GRUBBING, LEVELING, AND CAP CONSTRUCTION.
2. THE LOCATIONS OF THE BENCH ROADS ARE TYPICAL. ACTUAL LOCATIONS WILL BE DETERMINED DURING DESIGN.

N

0 200'
GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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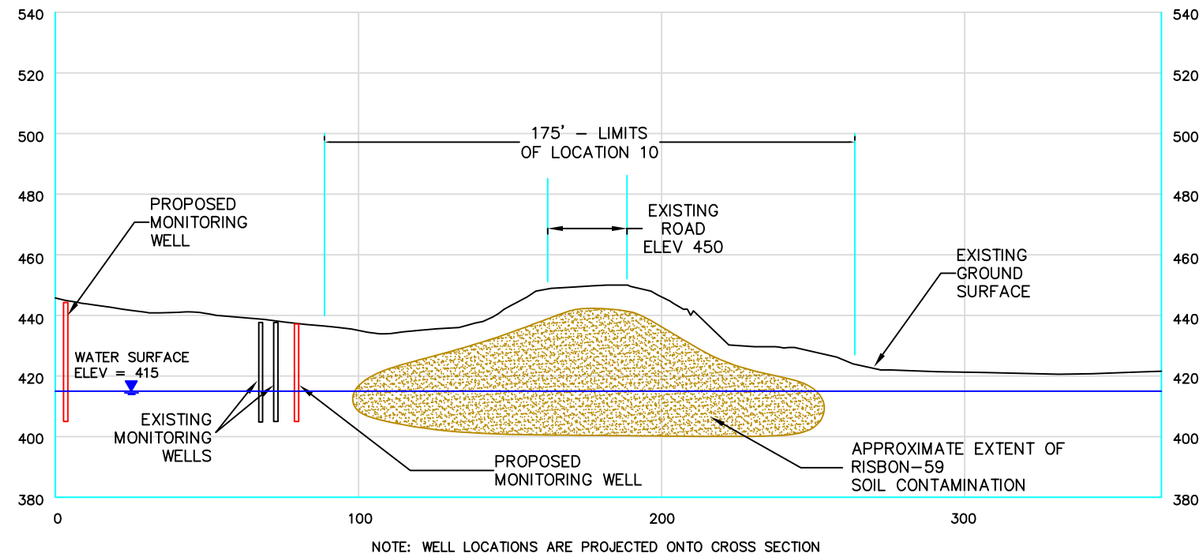
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 3 - ALTERNATIVE 3
RCRA CAP (LOCATIONS 2)
+ EXCAVATE/PLACE IN PCB LANDFILL (LOCATION 3)(20'); (IOCATION 4)(5') + GRADING PLAN

FIGURE 11-14B

LEGEND:

- EXCAVATION (5'), BACKFILL, AND ASPHALT COVER
- PROPOSED ASPHALT COVER
- EXISTING MONITORING WELL
- EXISTING PIEZOMETER
- PROPOSED MONITORING WELL

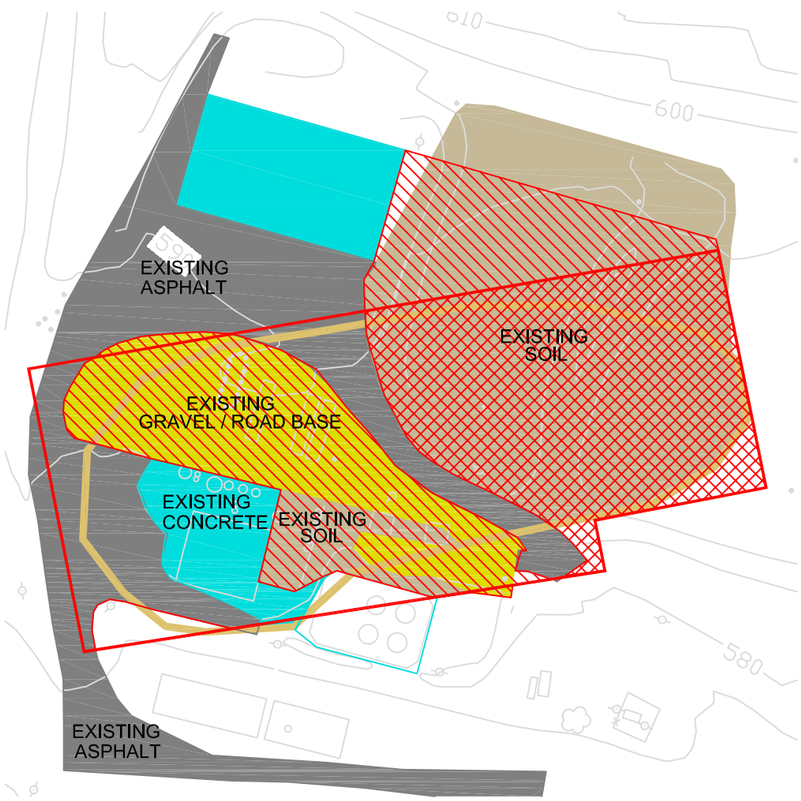


NOTE: WELL LOCATIONS ARE PROJECTED ONTO CROSS SECTION

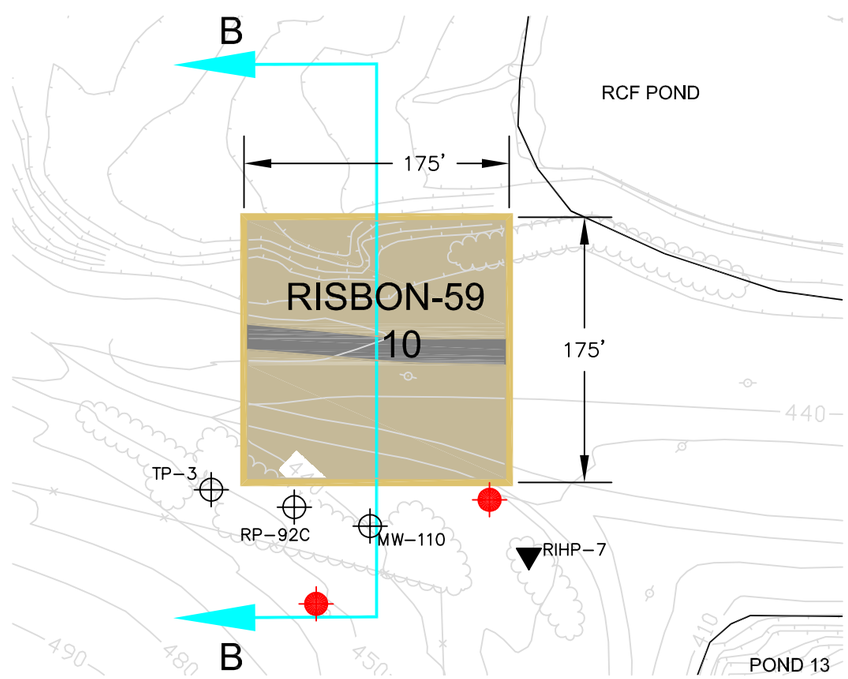
SECTION B-B
1"=50'

PRELIMINARY EARTHWORK SUMMARY

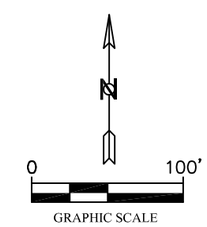
EXCAVATION	VOLUMES (CY)
LOCATION 1 (5')	8,000



LOCATION 1 (PLAN VIEW)
(EXISTING GROUND SURFACE COVER)



LOCATION 10 (PLAN VIEW)



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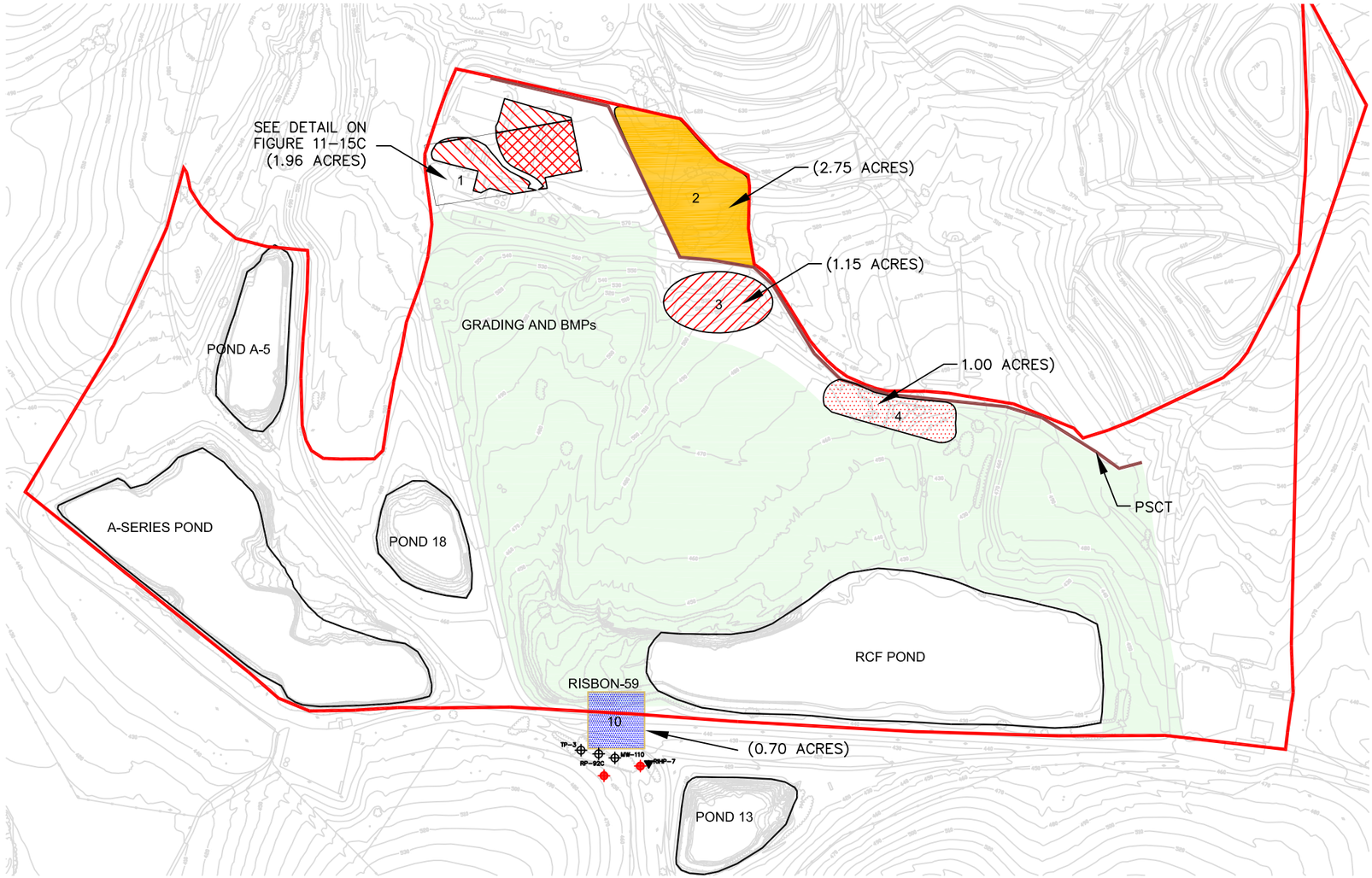
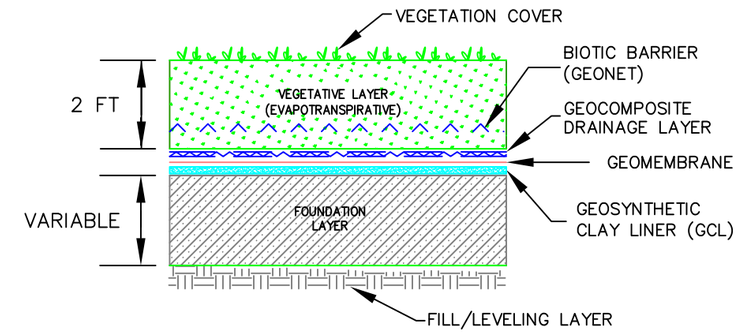
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 3 - ALTERNATIVE 3
EXCAVATION (5') + ASPHALT COVER (LOCATION 1)
+ GW MONITORING (LOCATION 10)

FIGURE 11-14C





DETAIL A - TYPICAL RCRA
CAP SECTION
NOT TO SCALE

LEGEND:

- LIMITS OF STUDY AREA (AREA 3)
- PERIMETER SOURCE CONTROL TRENCH (PSCT)
- RCRA CAP (SEE DETAIL A)
- EXCAVATION (5'), BACKFILL, AND ASPHALT COVER
- PROPOSED ASPHALT COVER
- EXCAVATION (5') AND BACKFILL
- EXCAVATION (20') AND BACKFILL
- EXCAVATION (50') AND BACKFILL
- EXTENT OF GRADING AND BMPs
- PROPOSED MONITORING WELL (RISBON-59)

NOTES:

1. LEVELING LAYER IS REQUIRED FOR CUT AND FILL OF EXISTING SURFACE SOIL COVER TO PROVIDE SUITABLE BASE.
2. GRADING AND BMPs ARE INCLUDED AS PART OF STORMWATER AND EROSION CONTROLS FOR THE UNCAPPED PORTIONS OF FS AREA 3 LOCATED SOUTH OF THE PSCT AND EAST OF THE ROAD TO THE LTP.

N

0 400'

GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
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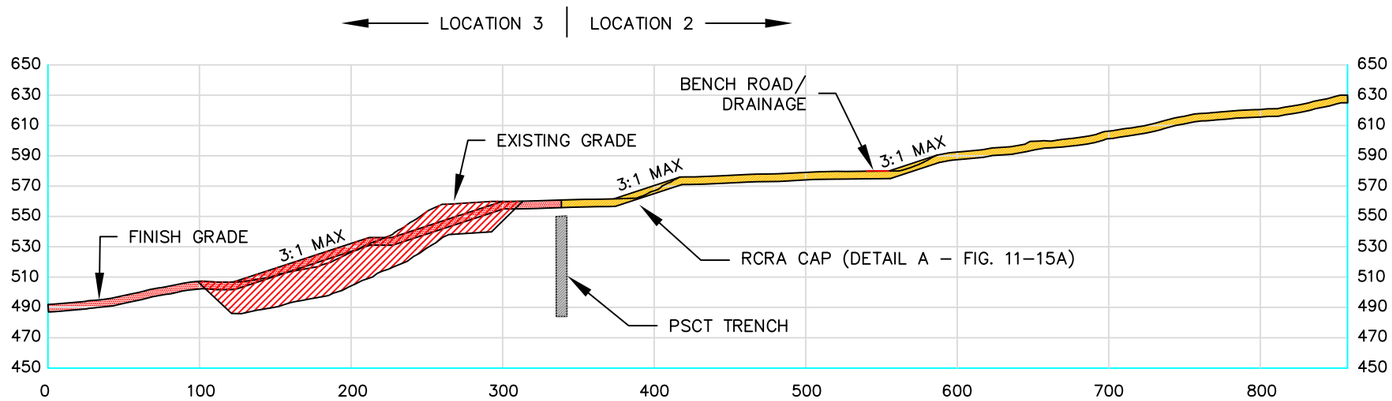
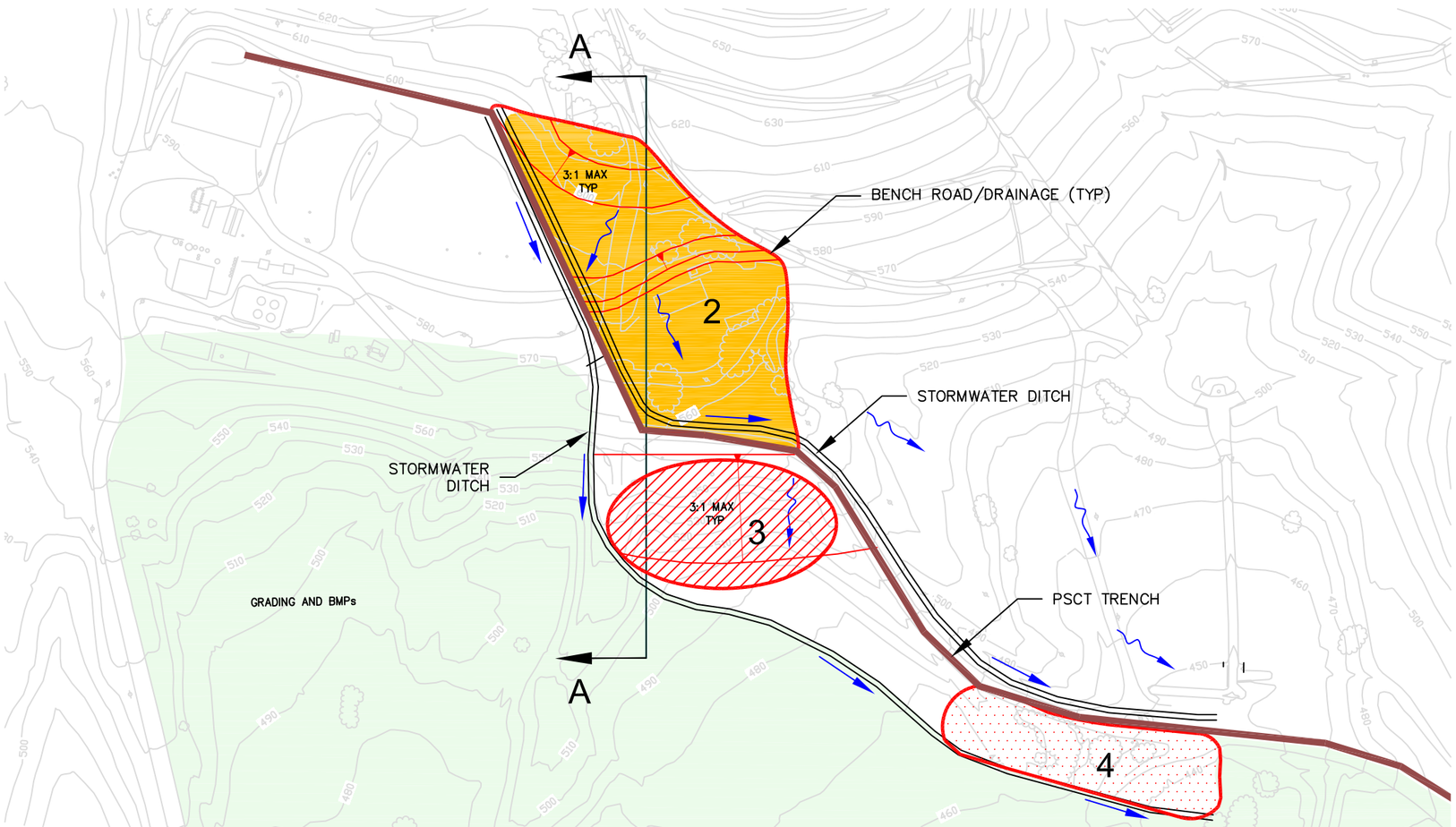
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 3 - ALTERNATIVE 4
RCRA CAP (LOCATIONS 2) + EXCAVATE/PLACE IN PCB LANDFILL (LOCATION 3)(20'); (LOCATION 4)(5'); (LOCATION 10)(50') + EXCAVATE/ASPHALT CAP (LOCATION 1) (5') + GW MONITORING (LOCATION 10) + GRADING/BMPs (UNCAPPED AREAS)

FIGURE 11-15A



SECTION A-A
1"=100'



LEGEND:

- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF
- RCRA CAP
- EXTENT OF GRADING AND BMPs
- EXCAVATION (5') AND BACKFILL
- EXCAVATION (20') AND BACKFILL

PRELIMINARY EARTHWORK SUMMARY

RCRA CAP AREA = 275,296 SQ FT (6.61 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	40,800
FILL TO LEVELING LAYER =	60,800
NET CUT/FILL (60,800 – 40,800)	20,000 (IMPORT)
CAP SECTION VOLUMES	
2 FT LOW PERMEABILITY SOIL =	20,400
2 FT VEGETATIVE LAYER =	20,400

EXCAVATION AREA = 213,444 SQ FT (4.90 ACRES)

EXCAVATION	VOLUMES (CY)
LOCATION 2 (5')	22,000
LOCATION 3 (20')	37,000
LOCATION 4 (5')	8,000

NOTES:

1. LOCATION 2 INCLUDES A MAINTENANCE SHED WHICH WOULD BE DEMOLISHED PRIOR TO GRUBBING, LEVELING, AND CAP CONSTRUCTION.
2. THE LOCATIONS OF THE BENCH ROADS ARE TYPICAL. ACTUAL LOCATIONS WILL BE DETERMINED DURING DESIGN.

N

0 200'
GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

URS CORPORATION
130 ROBIN HILL ROAD, SUITE 100
SANTA BARBARA, CA 93117
PHONE: (805) 964-6010
FAX: (805) 964-0259

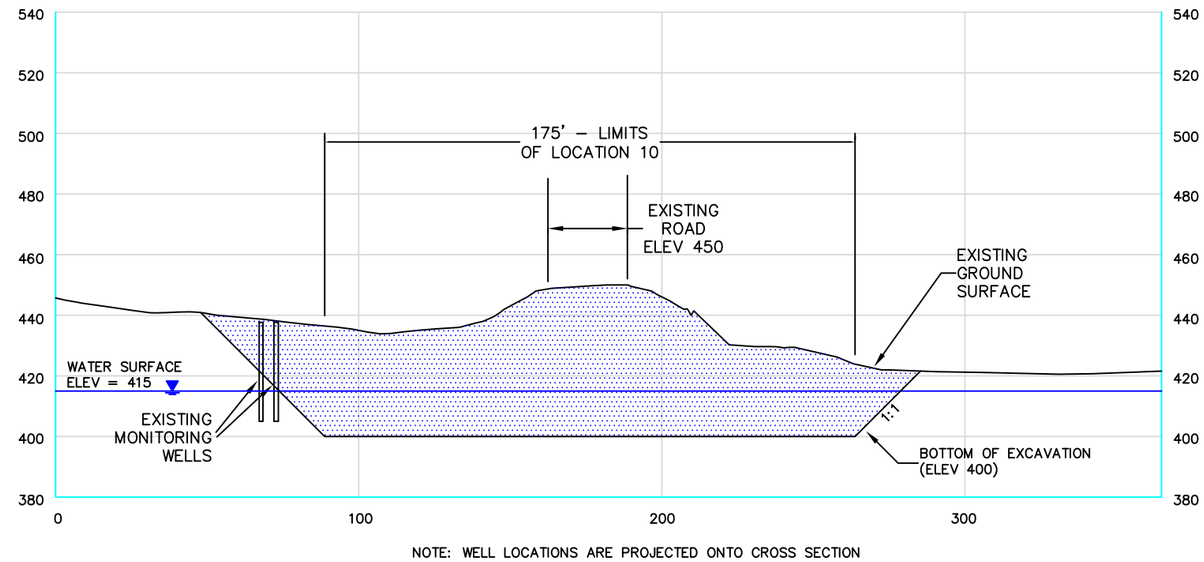
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 3 - ALTERNATIVE 4
RCRA CAP (LOCATIONS 2)
+ EXCAVATE/PLACE IN PCB LANDFILL (LOCATION 3)(20'); (IOCATION 4)(5') + GRADING PLAN

FIGURE 11-15B

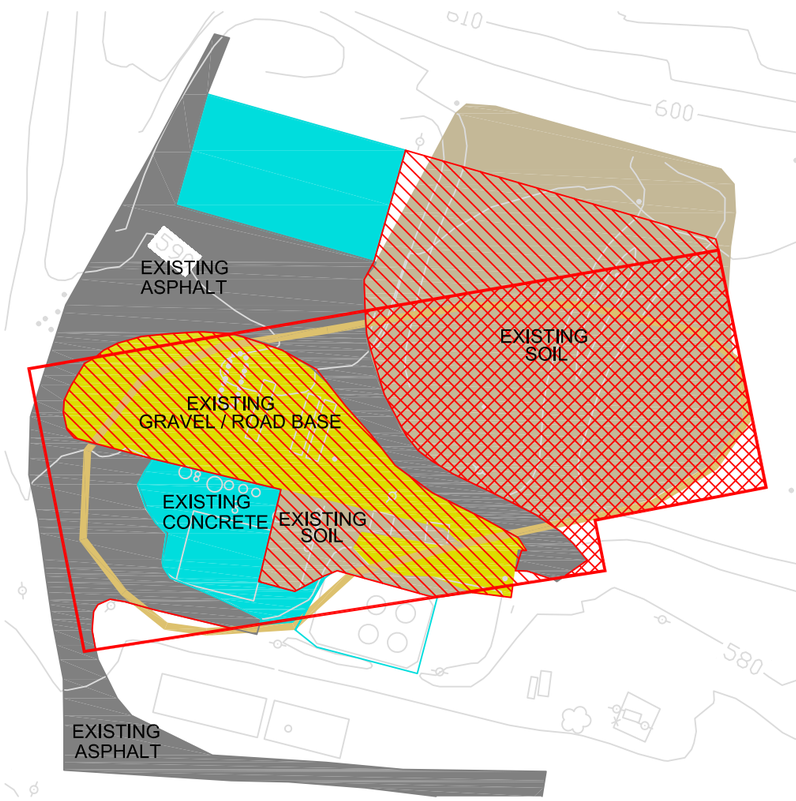
LEGEND:

- EXCAVATION (5'), BACKFILL, AND ASPHALT COVER
- PROPOSED ASPHALT COVER
- EXCAVATION (50') AND BACKFILL
- EXISTING MONITORING WELL
- EXISTING PIEZOMETER
- PROPOSED MONITORING WELL

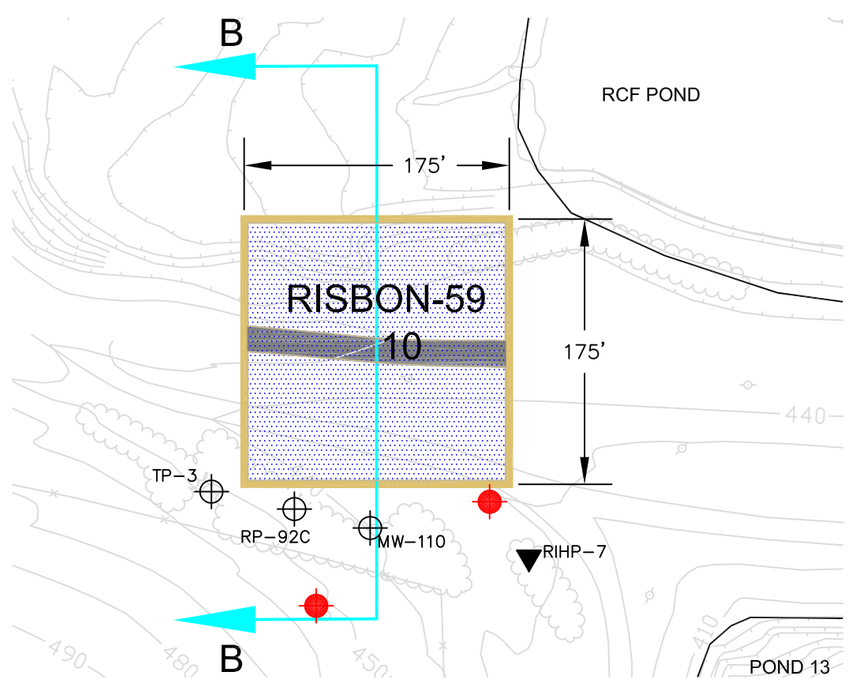


NOTE: WELL LOCATIONS ARE PROJECTED ONTO CROSS SECTION

SECTION B-B
1"=50'



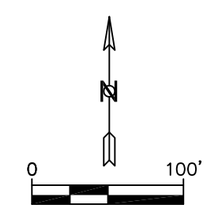
LOCATION 1 (PLAN VIEW)
(EXISTING GROUND SURFACE COVER)



LOCATION 10 (PLAN VIEW)

PRELIMINARY EARTHWORK SUMMARY

EXCAVATION	VOLUMES (CY)
LOCATION 1 (5')	8,000
LOCATION 10 (50')	65,000



REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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130 ROBIN HILL ROAD, SUITE 100
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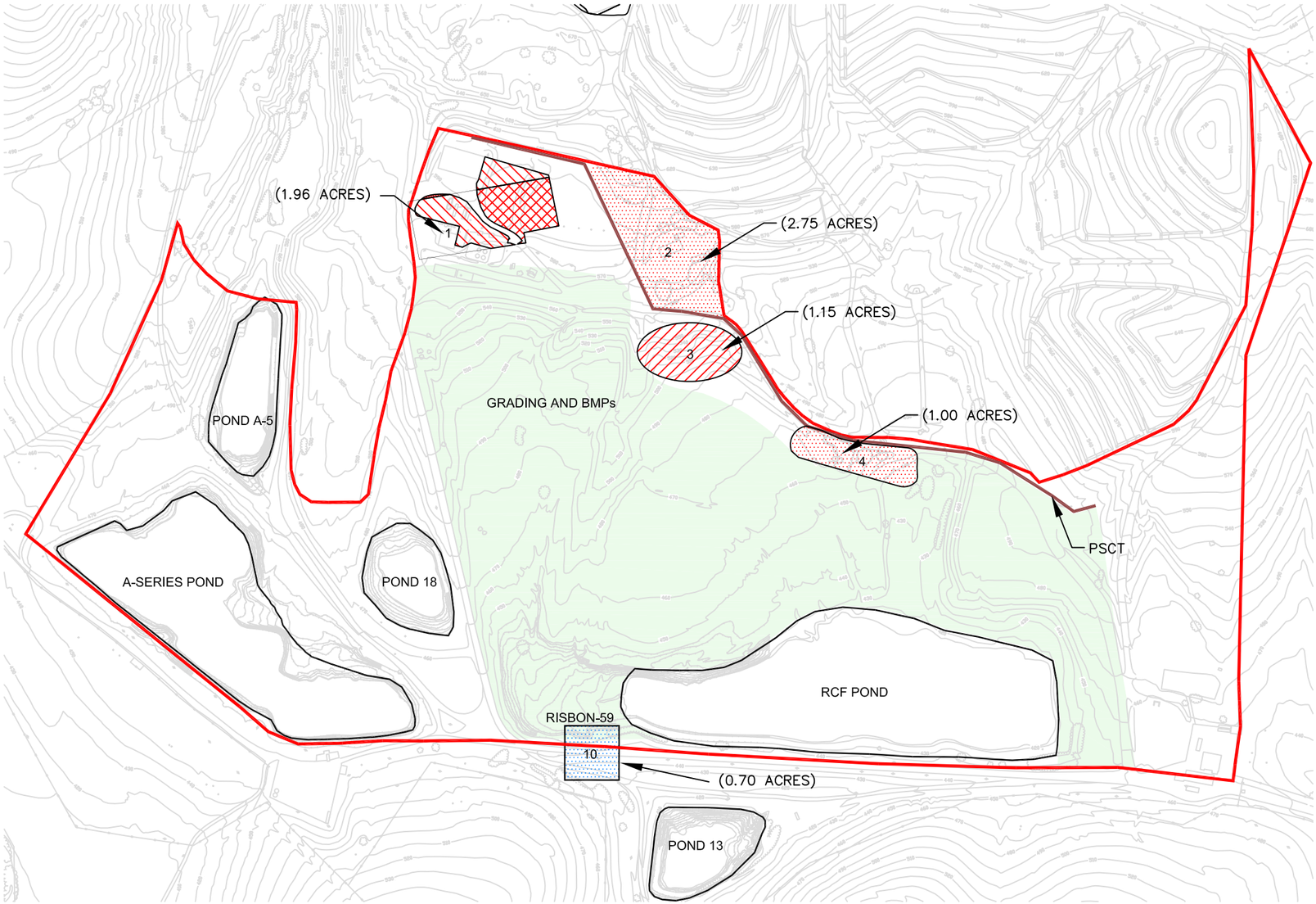
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 3 - ALTERNATIVE 4
EXCAVATION (5') + ASPHALT COVER (LOCATION 1)
+ EXCAVATE/PLACE IN PCB LANDFILL
LOCATION 10)(50')

FIGURE 11-15C



LEGEND:

- LIMITS OF STUDY AREA (AREA 3)
- PERIMETER SOURCE CONTROL TRENCH (PSCT)
- EXCAVATION (5') AND BACKFILL
- EXCAVATION (20') AND BACKFILL
- EXCAVATION (50') AND BACKFILL
- EXCAVATION (5'), BACKFILL, AND ASPHALT COVER
- PROPOSED ASPHALT COVER
- GRADING AND BMPs

N

0 400'

GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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130 ROBIN HILL ROAD, SUITE 100
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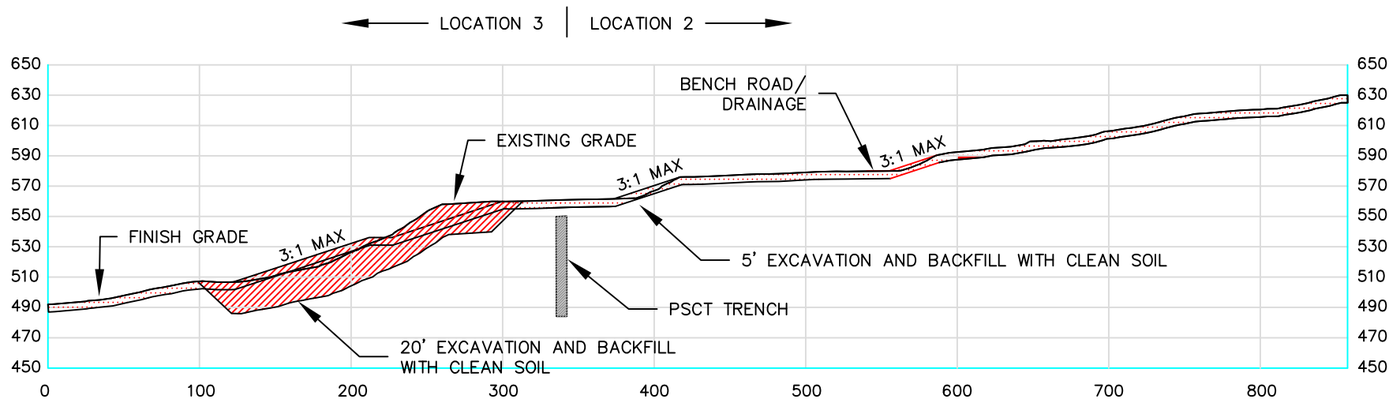
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 3 - ALTERNATIVE 5
EXCAVATE LOCATIONS 1, 2, AND 4 (5')
LOCATION 3 (20'); LOCATION 10 (50') +
GRADING/BMPs (UNCAPPED AREAS)

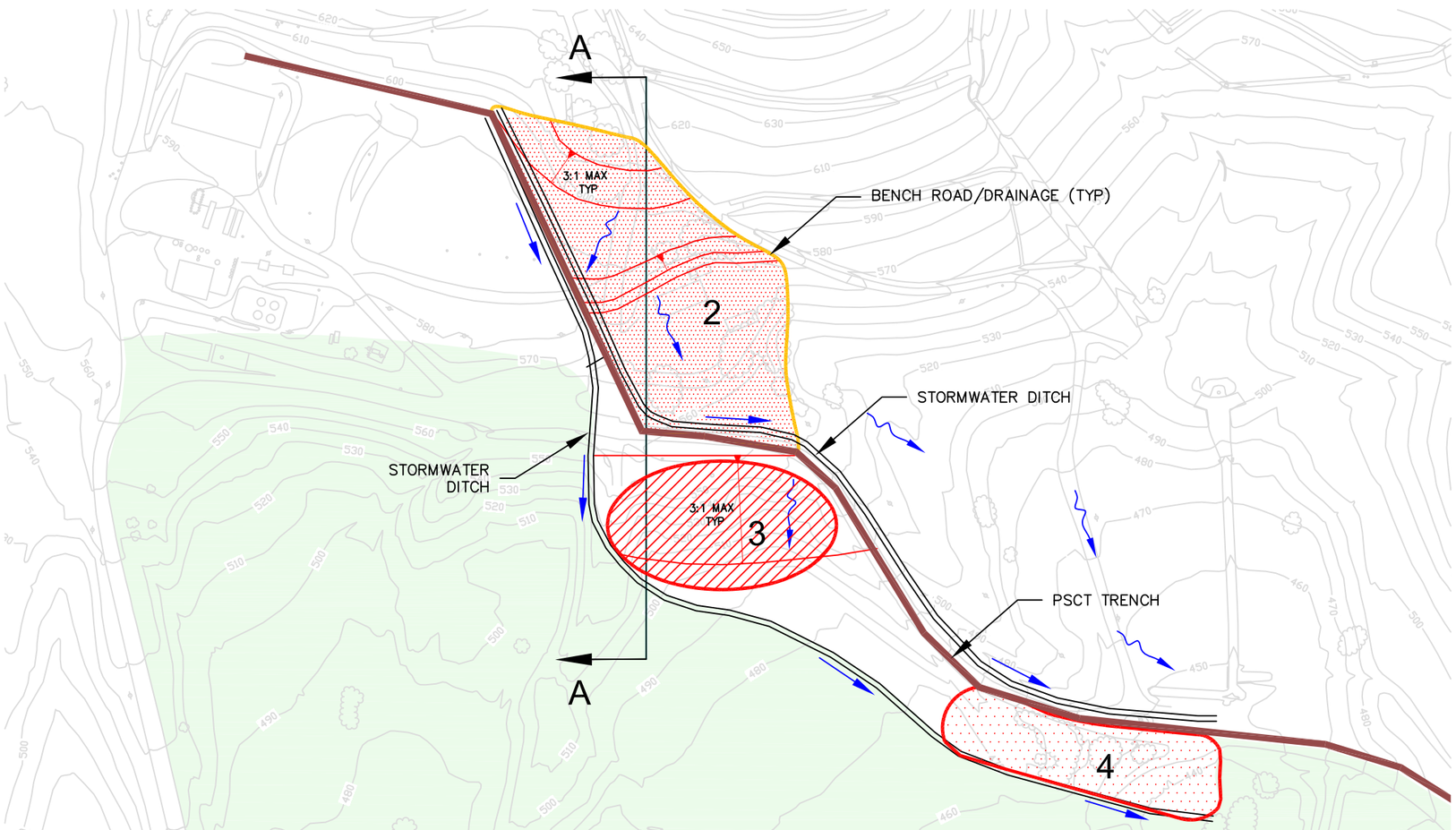
FIGURE 11-16A



SECTION A-A
1"=100'

LEGEND:

- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF
- EXCAVATION (5') AND BACKFILL
- EXCAVATION (20') AND BACKFILL
- GRADING AND BMPs



PRELIMINARY EARTHWORK SUMMARY

EXCAVATION AREA = 213,444 SQ FT (4.90 ACRES)

EXCAVATION	VOLUMES (CY)
LOCATION 2 (5')	22,000
LOCATION 3 (20')	37,000
LOCATION 4 (5')	8,000

NOTES:

1. LOCATION 2 INCLUDES A MAINTENANCE SHED WHICH WOULD BE DEMOLISHED PRIOR TO GRUBBING, LEVELING, AND CAP CONSTRUCTION.
2. THE LOCATIONS OF THE BENCH ROADS ARE TYPICAL. ACTUAL LOCATIONS WILL BE DETERMINED DURING DESIGN.

N

0 200'
GRAPHIC SCALE

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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SANTA BARBARA, CA 93117
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FAX: (805) 964-0259

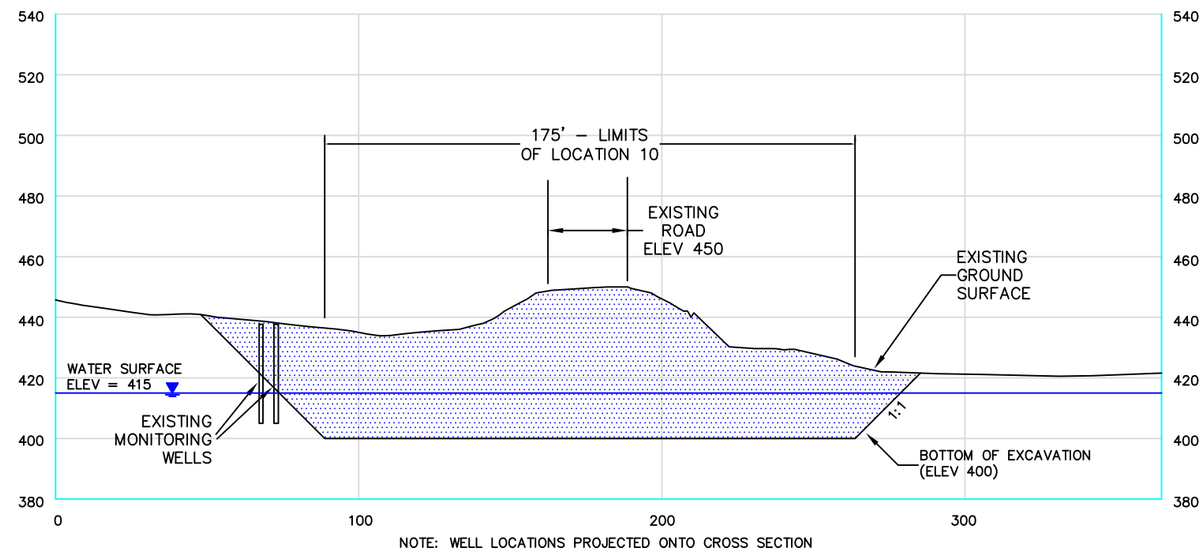
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 3 - ALTERNATIVE 5
EXCAVATION (LOCATIONS 2, 3, 4)
+ GRADING PLAN

FIGURE 11-16B

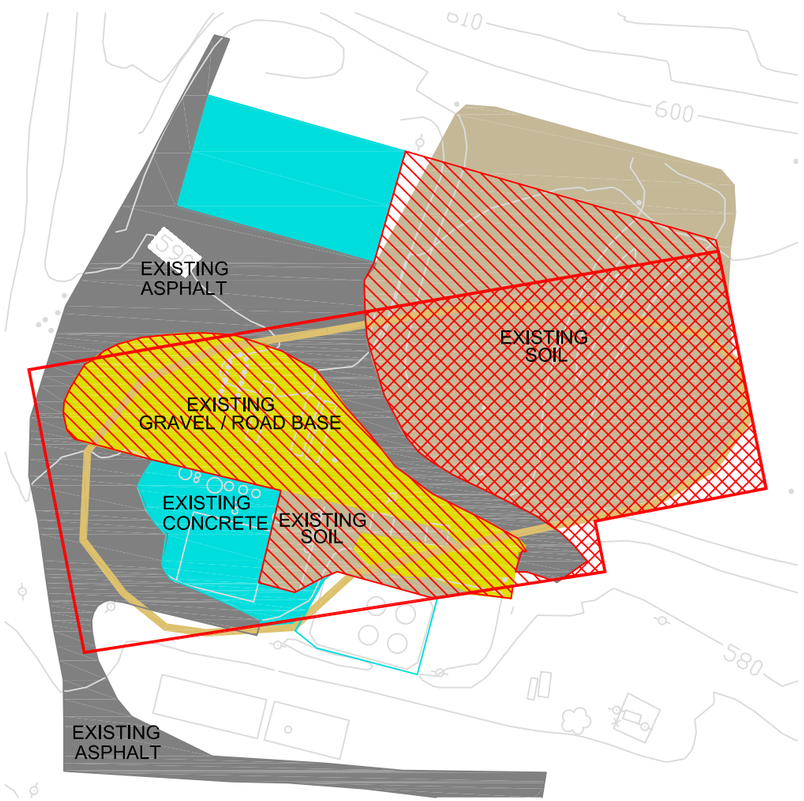
LEGEND:

- EXCAVATION (5'), BACKFILL, AND ASPHALT COVER
- PROPOSED ASPHALT COVER
- EXCAVATION (50') AND BACKFILL
- EXISTING MONITORING WELL
- EXISTING PIEZOMETER

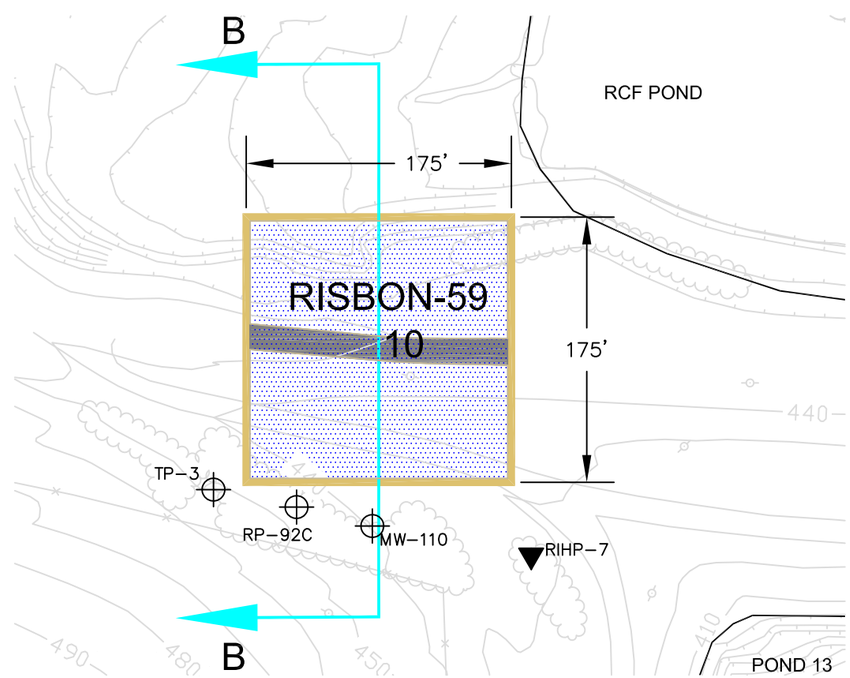


NOTE: WELL LOCATIONS PROJECTED ONTO CROSS SECTION

SECTION B-B
1"=50'



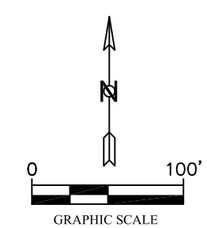
LOCATION 1 (PLAN VIEW)
(EXISTING GROUND SURFACE COVER)



LOCATION 10 (PLAN VIEW)

PRELIMINARY EARTHWORK SUMMARY

EXCAVATION	VOLUMES (CY)
LOCATION 1 (5')	8,000
LOCATION 10 (50')	65,000



REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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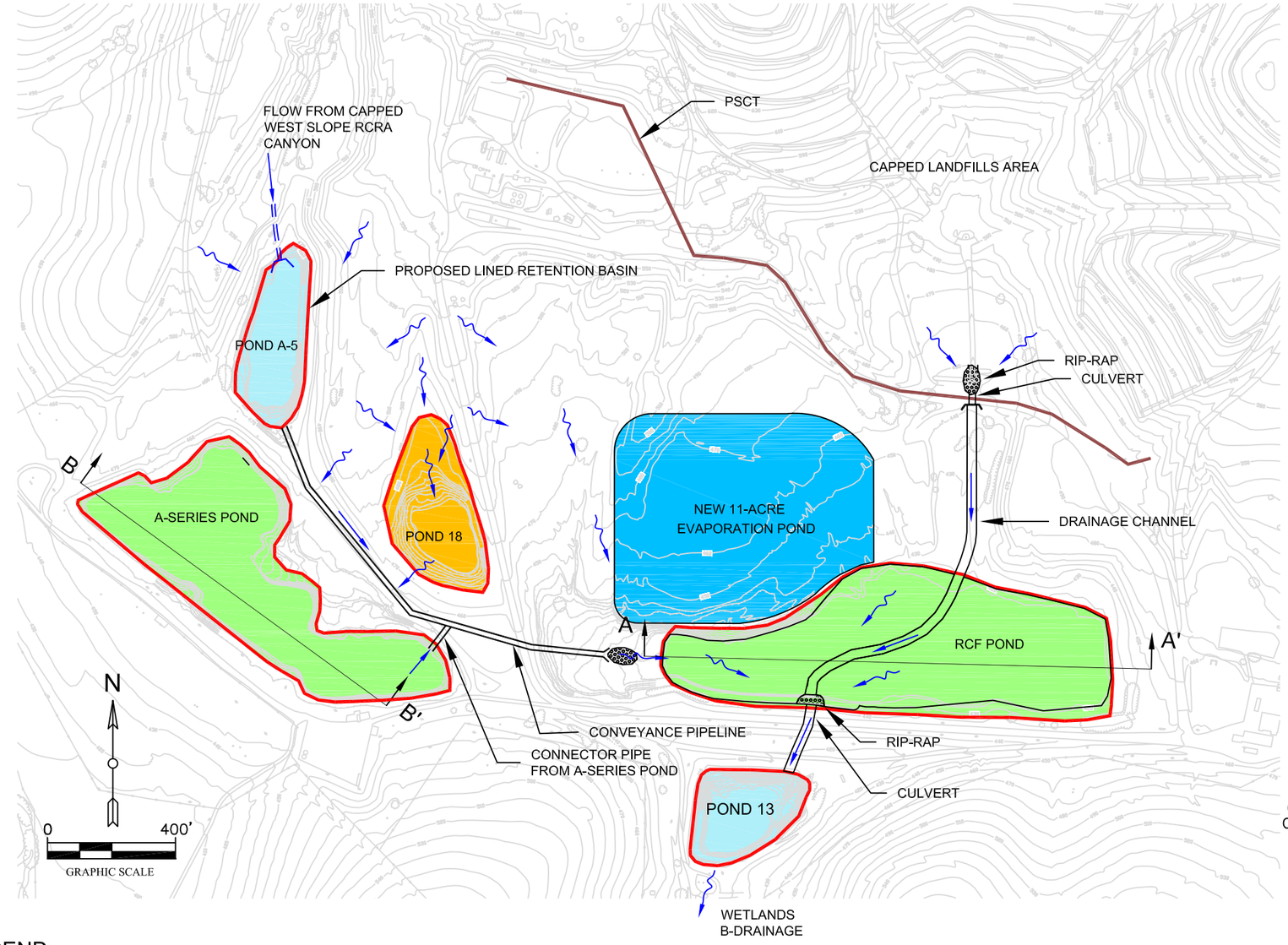
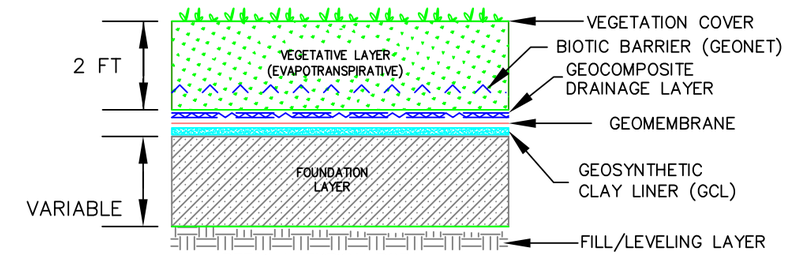
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

FS AREA 3 - ALTERNATIVE 5
EXCAVATE LOCATIONS 1 (5') AND
LOCATION 10 (50')

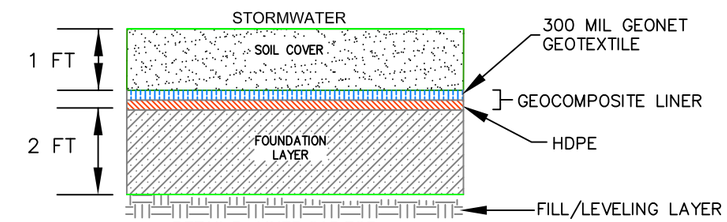
FIGURE 11-16C





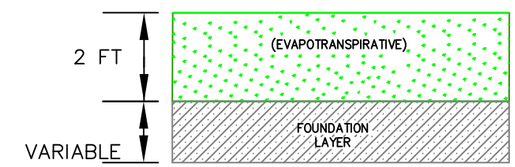
DETAIL A - TYPICAL RCRA CAP SECTION

NOT TO SCALE



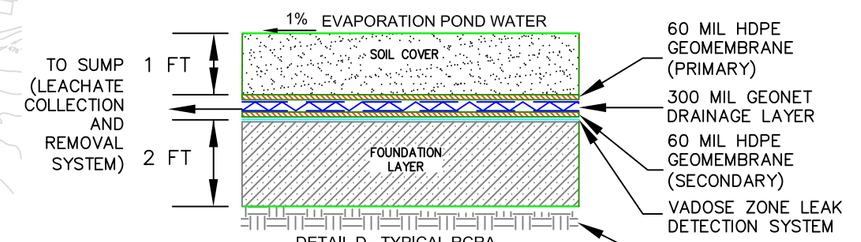
DETAIL B - LINED CAP FOR RETENTION BASIN

NOT TO SCALE



DETAIL C - TYPICAL ECO-CAP - SOIL CAP

NOT TO SCALE



DETAIL D - TYPICAL RCRA EVAPORATION POND SECTION

NOT TO SCALE

LEGEND:

- LIMITS OF STUDY AREA (AREA 4)
- PERIMETER SOURCE CONTROL TRENCH (PSCT)
- RIP-RAP
- NATURAL STORMWATER RUNOFF
- CHANNELED STORMWATER RUNOFF
- RCRA CAP (POND 18) (SEE DETAIL A)
- LINED EVAPORATION POND (NEW 11-ACRE POND) (SEE DETAIL B)
- LINED RETENTION BASIN (POND A-5, POND 13) (SEE DETAIL B)
- ECO-CAP (RCF POND, A-SERIES POND) (SEE DETAIL C)

NOTES:

1. POND 18 WILL BE BACKFILLED USING DIKE MATERIAL AND OTHER BORROW SOIL TO ALLOW STORM WATER RUNOFF TO FLOW OFF THE FOOTPRINT TO THE NEW EVAPORATION POND.
2. POND A-5 WILL BE BACKFILLED WITH MATERIAL FROM THE EXCAVATION OF THE WCSA AND THEN LINED TO CREATE A NEW STORM WATER RETENTION BASIN.
3. POND 13 WILL BE BACKFILLED TO RAISE THE BOTTOM ABOVE THE WATER TABLE AND THEN LINED TO CREATE A RETENTION BASIN BEFORE THE STORMWATER FLOWS INTO THE WETLANDS.
4. THE EVAPORATION POND INCLUDES A LEACHATE COLLECTION AND RECOVERY SYSTEM (LCRS) COMPOSED OF A 300 MIL GEONET DRAINAGE LAYER THAT DRAINS TO A SUMP. THE POND BOTTOM IS SLOPED AT 1% TO COLLECT ANY LEACHATE THAT PENETRATES THE PRIMARY LAYER

REV	DATE	REVISION DESCRIPTION	BY	CHK	APP

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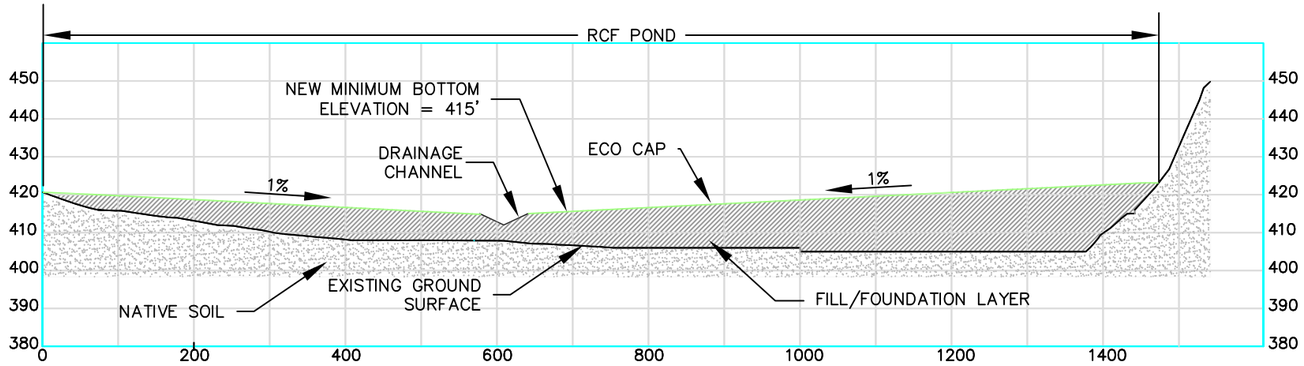
PROJECT: CASMALIA RESOURCES SUPERFUND SITE
FEASIBILITY STUDY

AREA 4 - ALTERNATIVE 2
ECO-CAP (RCF, A-SERIES POND) + RCRA CAP (18) + LINED RETENTION BASIN (A-5, 13) + NEW 11 ACRE EVAPORATION POND

FIGURE 11-17A



SECTION A-A

1"=200' HORIZ; 1"=40' VERT

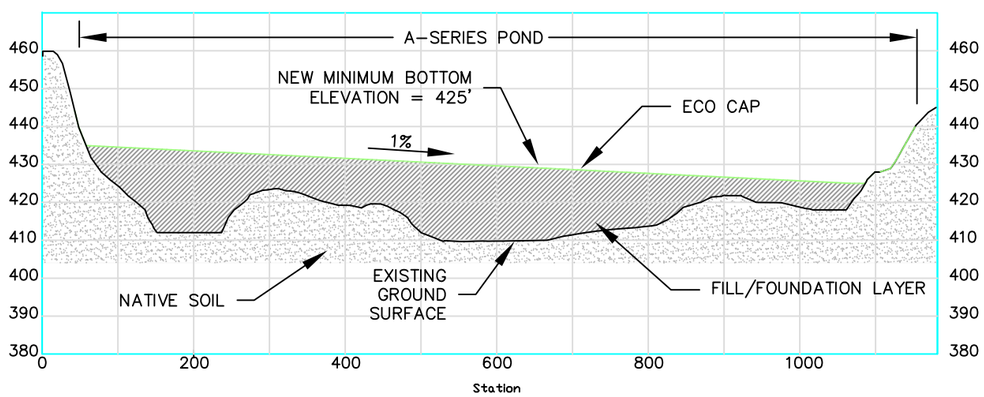
PRELIMINARY EARTHWORK SUMMARY

RCF POND AREA =496,300 SQ FT (11.39 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	0
FILL TO LEVELING LAYER =	95,000
NET CUT/FILL (95,000 – 0)	95,000 (IMPORT)
CAP SECTION VOLUMES	
2 FT VEGETATIVE LAYER =	36,800

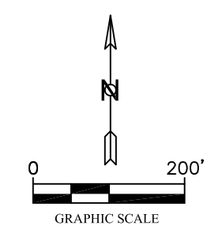
A–SERIES POND AREA =367,900 SQ FT (8.45 ACRES)

GRADING	VOLUMES (CY)
CUT TO LEVELING LAYER =	0
FILL TO LEVELING LAYER =	85,000
NET CUT/FILL (85,000 – 0)	85,000 (IMPORT)
CAP SECTION VOLUMES	
2 FT VEGETATIVE LAYER =	27,300



SECTION B-B

1"=200' HORIZ; 1"=40' VERT



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FS AREA 4 - ALTERNATIVE 2
ECO CAP (A-SERIES POND, RCF POND)
CROSS SECTIONS

FIGURE 11-17B