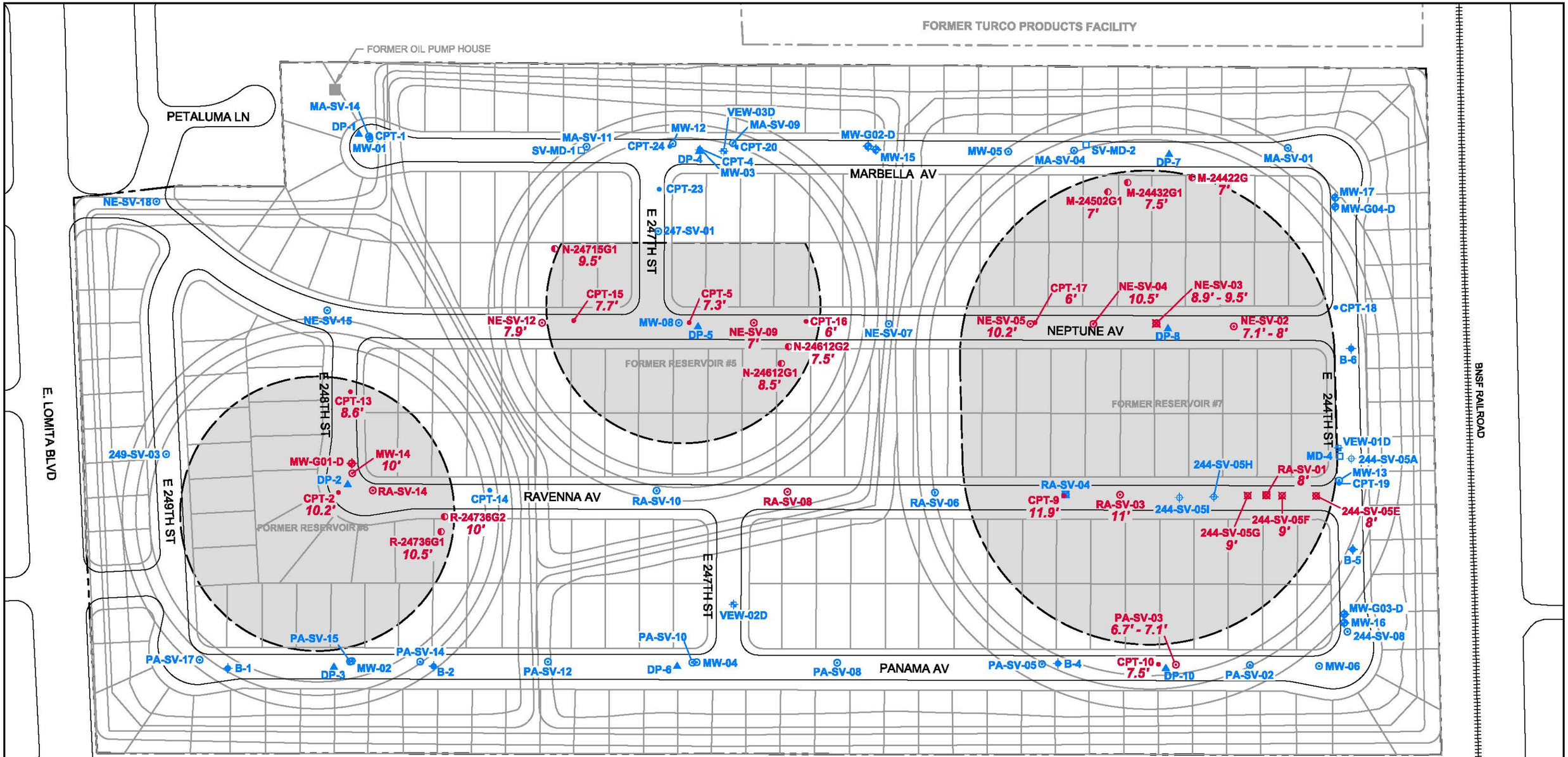


EXPLANATION

- LOCATION OF GROUNDWATER MONITORING WELL
- LOCATION OF CPT/UVOST SOUNDING
- LOCATION OF 10-FT BGS SOIL VAPOR PROBE
- LOCATION OF 15-FT AND 20-FT BGS SOIL VAPOR PROBE
- LOCATION OF DIRECT-PUSH BORING
- LOCATION OF MULTI-DEPTH SOIL VAPOR PROBE
- APPROXIMATE LOCATION OF PILOT TEST GEOTECHNICAL BORING
- LOCATION OF SVE EXTRACTION WELL
- ADVANCED TO ≥10' BGS WITHOUT REFUSAL NOTED ON BORING LOGS OR IN FIELD NOTES
- REFUSAL AT ≤10' BGS NOTED ON BORING LOGS OR IN FIELD NOTES WITH DEPTH OF REFUSAL NOTED
- APPROXIMATE PROPERTY LINE
- ESTIMATED EXTENT OF RESIDUAL CONCRETE RESERVOIR SLABS

N

0 70 140

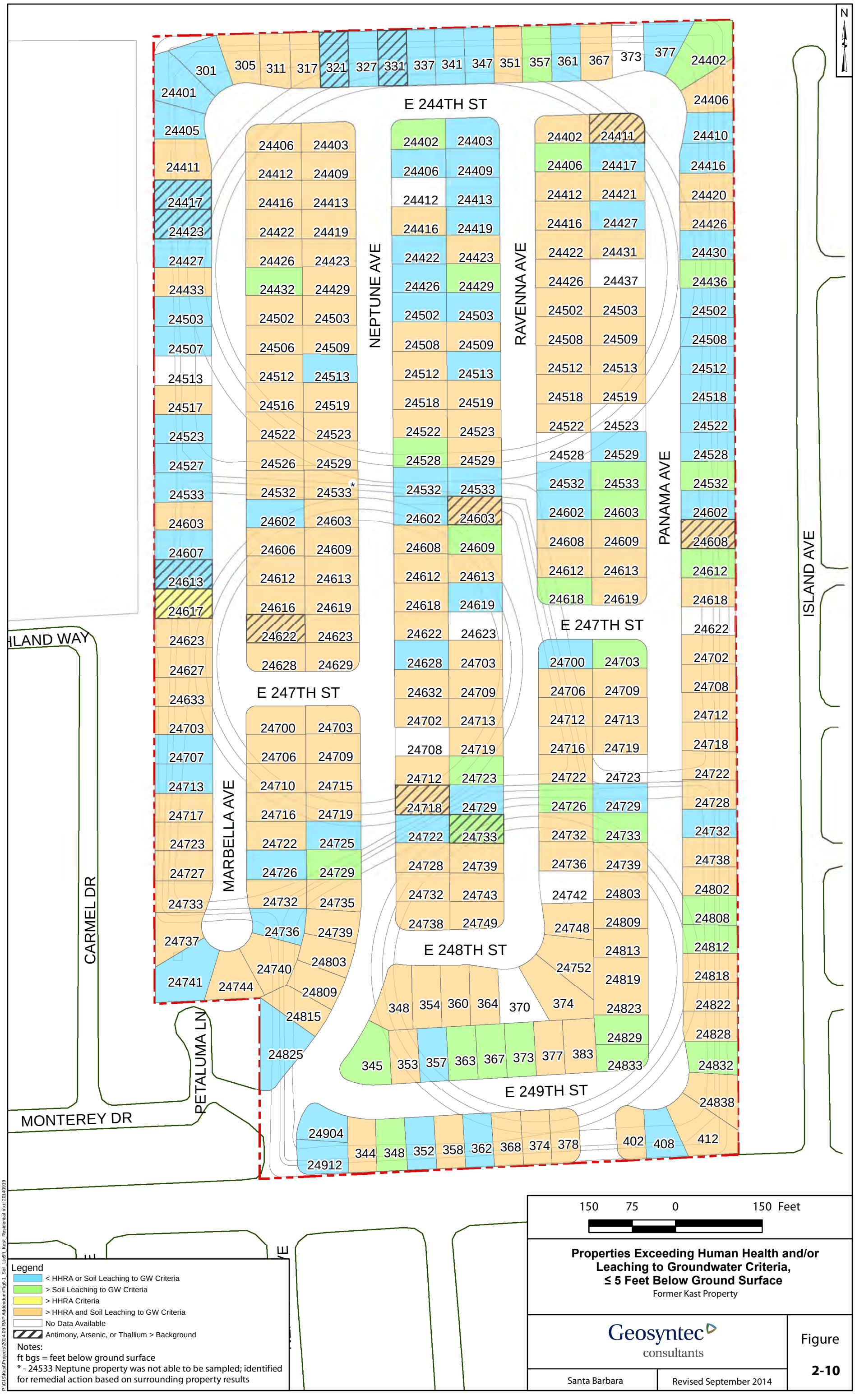
SCALE IN FEET

URS

ESTIMATED EXTENT OF RESIDUAL CONCRETE RESERVOIR SLABS SHOWING BORING REFUSAL IN SOIL BORINGS, MONITORING WELLS AND SOIL VAPOR PROBES INSTALLED IN STREETS

Proj. No.: 49194119	Date: JUNE 2014
Project: FORMER KAST PROPERTY	Figure: 2-9

G:\1 Shell Products - Former Kast Property\CADD\Boring Refusal\Figure 3-21 EstResidConcSlabsBorRefslMap SB MW SVP in Streets.dwg , File date: 6/29/2014 3:50 PM, Print date: 6/29/2014 3:51 PM by: Sevilla, Vincent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NEPTUNE AVE
RAVENNA AVE
PANAMA AVE
ISLAND AVE
E 247TH ST
MARBELLA AVE
E 248TH ST
E 249TH ST
HLAND WAY
CARMEL DR
PETALUMA LN
MONTEREY DR
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24752
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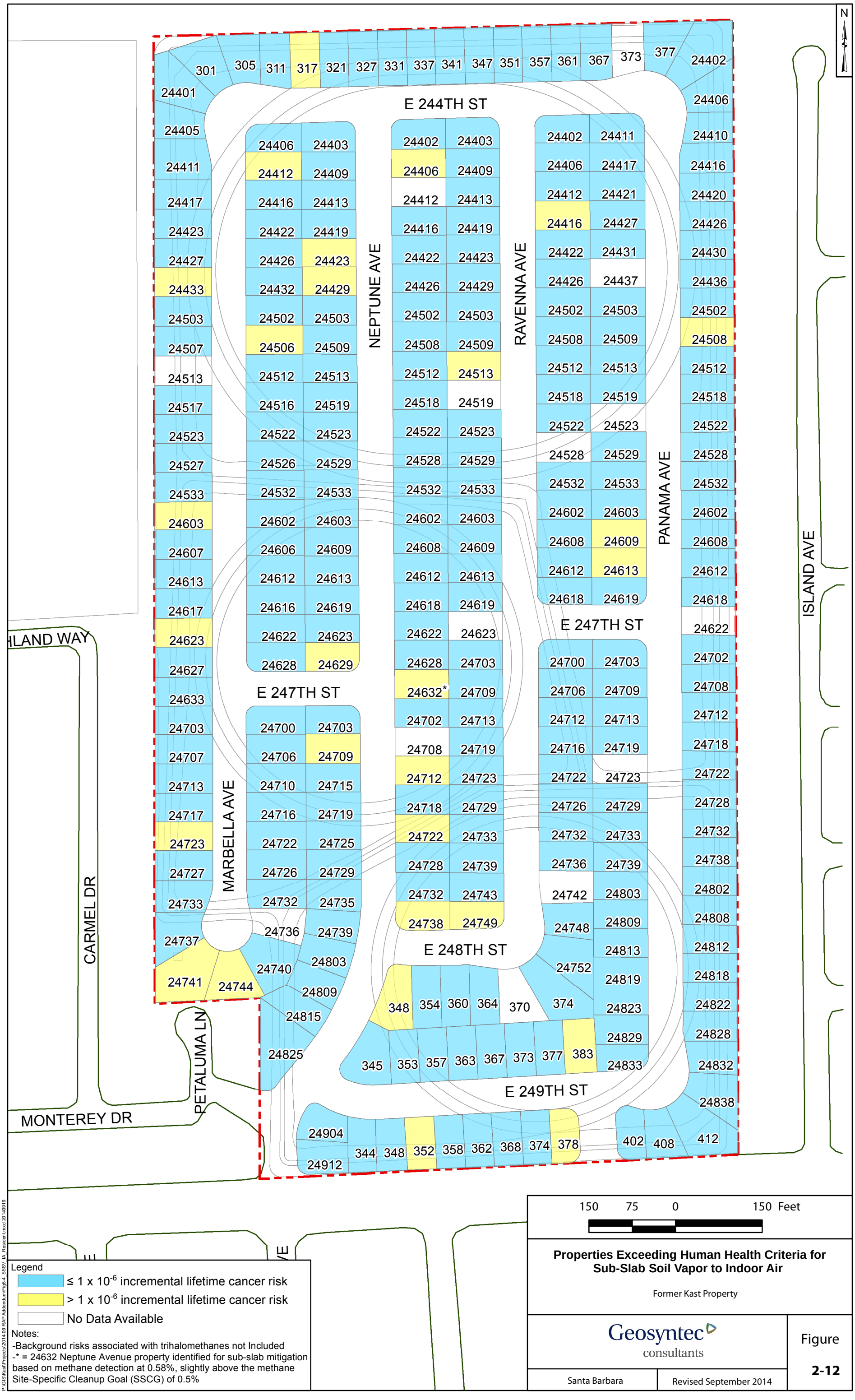
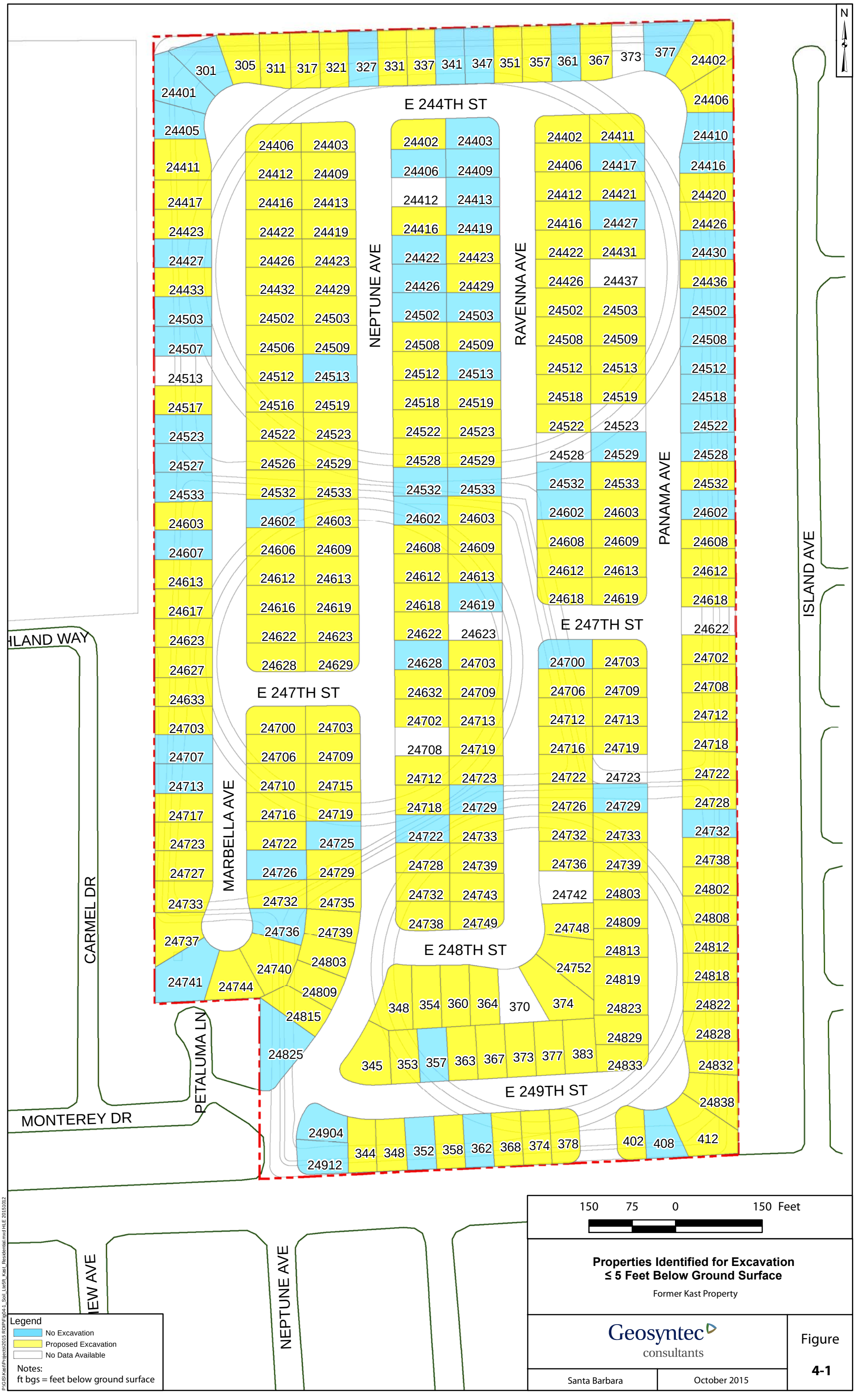
24829
24833
Legend
< HHRA or Soil Leaching to GW Criteria
> Soil Leaching to GW Criteria
> HHRA Criteria
> HHRA and Soil Leaching to GW Criteria
No Data Available
Antimony, Arsenic, or Thallium > Background
Notes:
ft bgs = feet below ground surface
* - 24533 Neptune property was not able to be sampled; identified for remedial action based on surrounding property results
150 75 0 150 Feet
Properties Exceeding Human Health and/or Leaching to Groundwater Criteria, ≤ 5 Feet Below Ground Surface
Former Kast Property
Geosyntec consultants
Santa Barbara
Revised September 2014
Figure 2-10
P:\GIS\KastProjects\2014-09 RAP Addendum\Fig6-1_Soil_Lt6ft_Kast_Residential.mxd 20140919

N
E 244TH ST
E 247TH ST
E 248TH ST
E 249TH ST
NEPTUNE AVE
RAVENNA AVE
PANAMA AVE
ISLAND AVE
MARBELLA AVE
CARMEL DR
PETALUMA LN
MONTEREY DR
HLAND WAY
150 75 0 150 Feet
Legend
< HHRA or Soil Leaching to GW Criteria
> Soil Leaching to GW Criteria
> HHRA Criteria
> HHRA and Soil Leaching to GW Criteria
No Data Available
Antimony, Arsenic, or Thallium > Background
Notes:
ft bgs = feet below ground surface
* - 24533 Neptune property was not able to be sampled; identified for remedial action based on surrounding property results
Properties Exceeding Human Health and/or Leaching to Groundwater Criteria,
> 5 Feet and ≤ 10 Feet Below Ground Surface
Former Kast Property
Geosyntec consultants
Santa Barbara
Revised September 2014
Figure
2-11
P:\GIS\KastProjects\2014-09 RAP Addendum\Fig6-2_Soil_5to10ft_Kast_Residential.mxd 20140919


N
E 244TH ST
NEPTUNE AVE
RAVENNA AVE
PANAMA AVE
ISLAND AVE
E 247TH ST
MARBELLA AVE
E 248TH ST
E 249TH ST
PETALUMA LN
CARMEL DR
MONTEREY DR
HLAND WAY
301 305 311 317 321 327 331 337 341 347 351 357 361 367 373 377
24401 24402 24405 24406 24410 24411 24416 24417 24420 24423 24426 24427 24430 24433 24436 24437 24502 24503 24507 24508 24513 24512 24517 24518 24523 24522 24527 24528 24533 24532 24603 24602 24607 24608 24613 24612 24617 24618 24623 24622 24627 24628 24633 24632* 24703 24702 24707 24708 24713 24712 24717 24718 24723 24722 24727 24728 24733 24732 24737 24738 24741 24744 24803 24740 24809 24815 24812 24818 24822 24825 24828 24832 24838 24904 24912 344 348 352 354 358 360 362 364 368 370 374 378 345 353 357 363 367 373 377 383 348 402 408 412
24403 24406 24409 24412 24413 24416 24419 24422 24423 24426 24429 24432 24502 24503 24506 24509 24512 24513 24516 24519 24522 24523 24526 24529 24532 24533 24602 24603 24606 24609 24612 24613 24616 24619 24622 24623 24628 24629 24700 24703 24706 24709 24710 24715 24716 24719 24722 24725 24726 24729 24732 24735 24736 24739 24740 24803 24744 24809 24815 24825
24402 24403 24406 24409 24412 24413 24416 24419 24422 24423 24426 24429 24502 24503 24508 24509 24512 24513 24518 24519 24522 24523 24528 24529 24532 24533 24602 24603 24608 24609 24612 24613 24618 24619 24622 24623 24628 24703 24632* 24709 24702 24713 24708 24719 24712 24723 24718 24729 24722 24733 24728 24739 24732 24743 24738 24749 24752 24748 24813 24819 24823 24829 24833 24904 24912 344 348 352 358 362 368 374 378
24402 24411 24406 24417 24412 24421 24416 24427 24422 24431 24426 24437 24502 24503 24508 24509 24512 24513 24518 24519 24522 24523 24528 24529 24532 24533 24602 24603 24608 24609 24612 24613 24618 24619 24700 24703 24706 24709 24712 24713 24716 24719 24722 24723 24726 24729 24732 24733 24736 24739 24742 24803 24748 24809 24813 24819 24823 24829 24833 402 408
24402 24410 24406 24416 24410 24420 24414 24426 24418 24430 24422 24436 24426 24502 24430 24508 24434 24512 24438 24518 24442 24522 24446 24528 24450 24532 24454 24602 24458 24608 24462 24612 24466 24618 24470 24622 24474 24702 24478 24708 24482 24712 24486 24718 24490 24722 24494 24728 24498 24732 24502 24738 24506 24742 24510 24748 24514 24752 24518 24818 24522 24822 24526 24828 24530 24832 24534 24838 412
150 75 0 150 Feet
Properties Exceeding Human Health Criteria for Sub-Slab Soil Vapor to Indoor Air
Former Kast Property
Legend
≤ 1 x 10-6 incremental lifetime cancer risk
> 1 x 10-6 incremental lifetime cancer risk
No Data Available
Notes:
-Background risks associated with trihalomethanes not Included
-* = 24632 Neptune Avenue property identified for sub-slab mitigation based on methane detection at 0.58%, slightly above the methane Site-Specific Cleanup Goal (SSCG) of 0.5%
Geosyntec consultants
Santa Barbara
Revised September 2014
Figure 2-12
P:\GIS\Kast\Projects\2014-09 RAP Addendum\Fig6-4_SSSV_IA_Resident.mxd 20140919


N
E 244TH ST
NEPTUNE AVE
RAVENNA AVE
PANAMA AVE
ISLAND AVE
E 247TH ST
MARBELLA AVE
E 248TH ST
E 249TH ST
PETALUMA LN
CARMEL DR
MONTEREY DR
HLAND WAY
IEW AVE
Legend
No Excavation
Proposed Excavation
No Data Available
Notes:
ft bgs = feet below ground surface
150 75 0 150 Feet
Properties Identified for Excavation
≤ 5 Feet Below Ground Surface
Former Kast Property
Geosyntec consultants
Santa Barbara
October 2015
Figure
4-1
P:\GIS\Kast\Projects\2015 RD\P\Fig04-1_Soil_Lte5ft_Kast_Residential.mxd HLE 20151012

N

E 244TH ST

E 247TH ST

E 247TH ST

E 248TH ST

E 249TH ST

NEPTUNE AVE

RAVENNA AVE

PANAMA AVE

MARBELLA AVE

ISLAND AVE

PETALUMA LN

CARMEL DR

HLAND WAY

MONTEREY DR

NEPTUNE AVE

AYVIEW AVE

150 75 0 150 Feet

Legend

Targeted Excavation Area

Site Boundary

Properties Identified for Targeted Excavation
> 5 and ≤ 10 Feet Below Ground Surface

Former Kast Property

Geosyntec consultants

Santa Barbara

Revised September 2014

Figure

4-2

P:\GIS\Kast\Projects\2014-09 RAP Addendum\2014-09 RAP ES\FigES-2_Targeted_Excavation_Area_gt5and10ft.mxd 20140925

Figure 5-1 - RAP IMPLEMENTATION TEAM ORG CHART

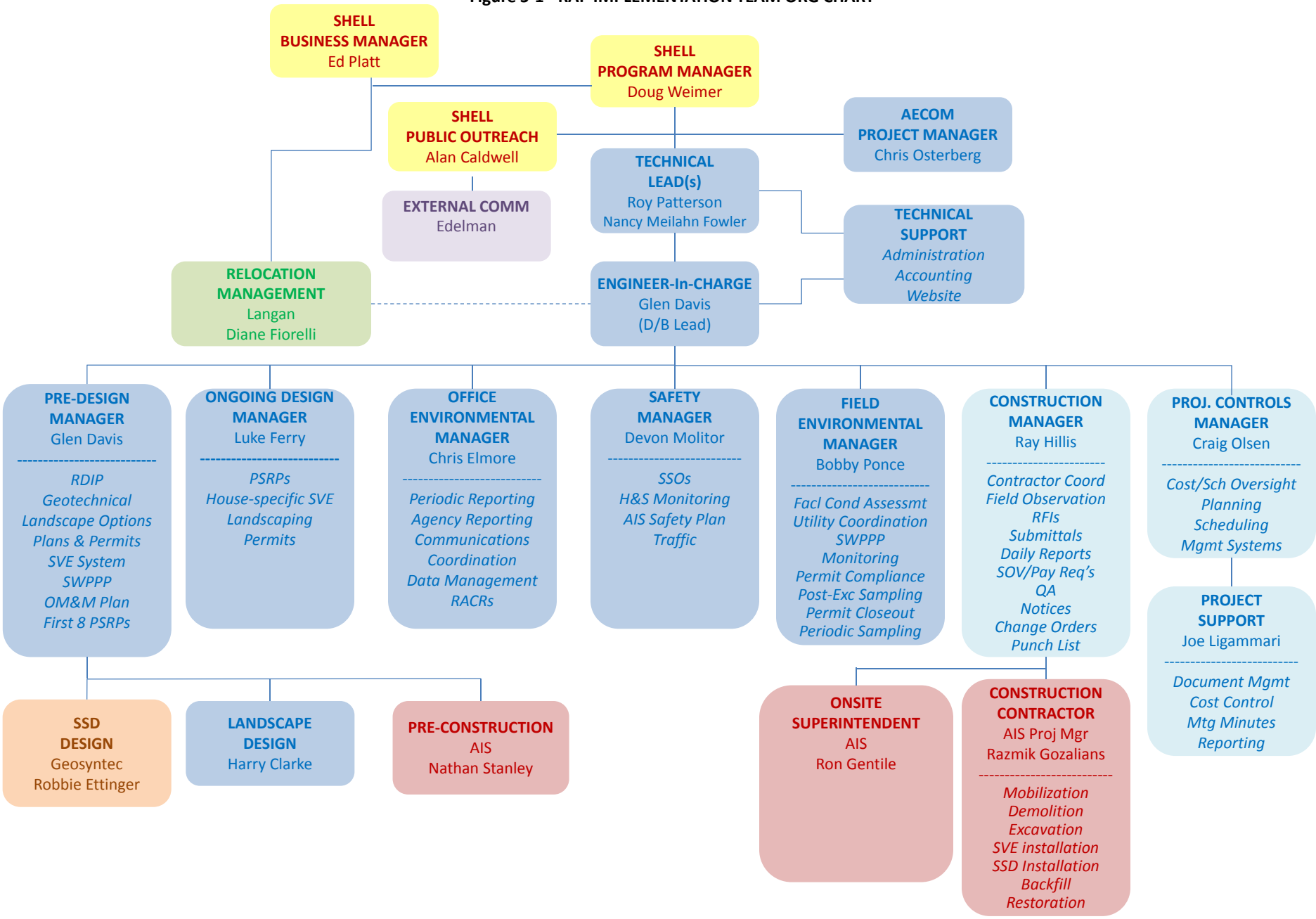
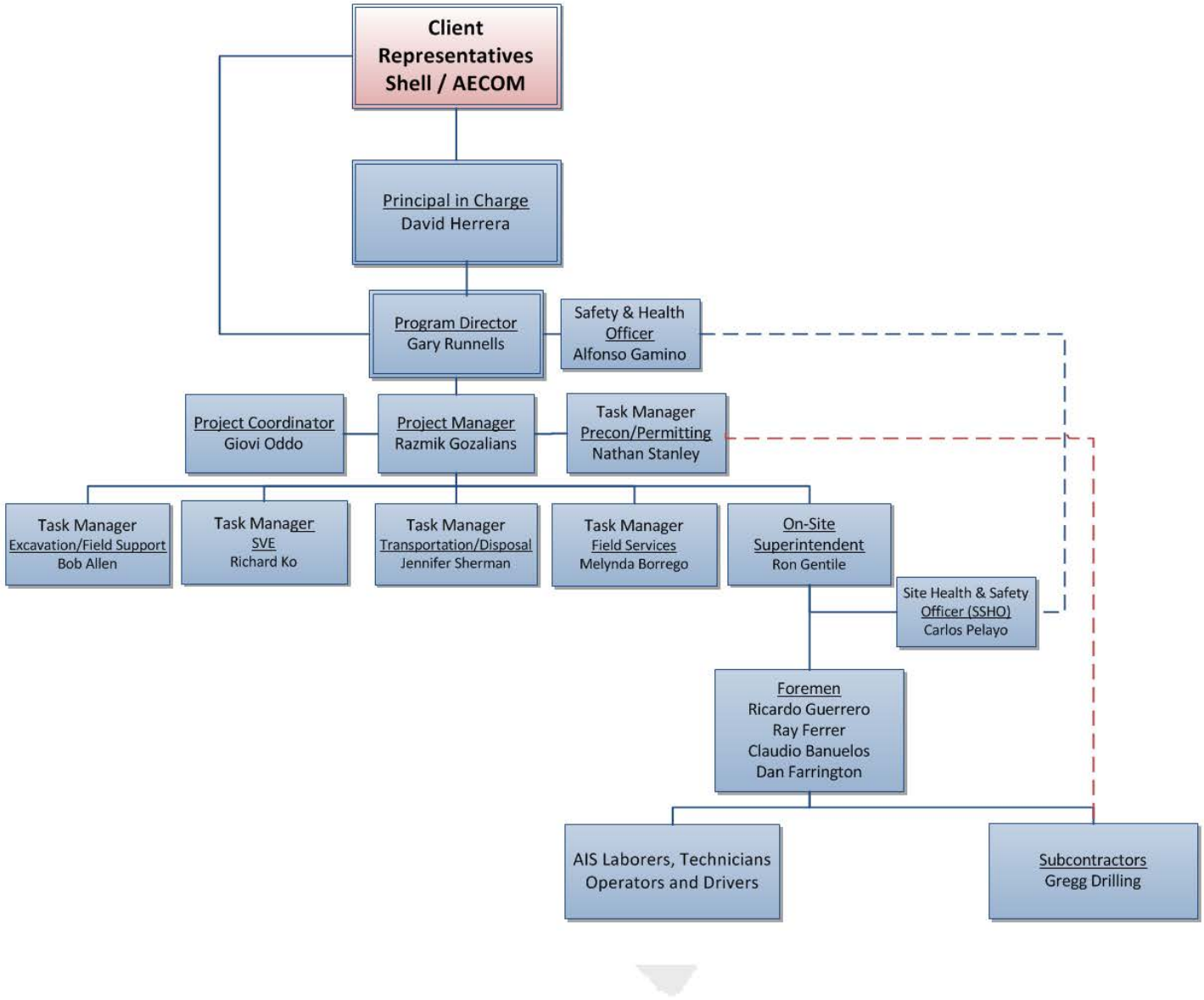


Figure 5-2
American Integrated Services, Inc.
RAP Implementation Organization Chart

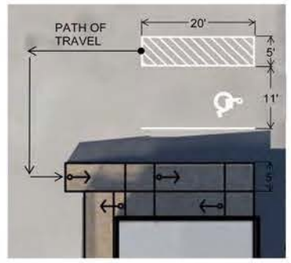


3" CMB (CRUSHED MISCELLANEOUS BASE)

NATIVE SOIL

05 | ACCESS ROAD SECTION

SCALE: N.T.S.



04 | ADA PATH OF TRAVEL

SCALE: N.T.S.

EQUIPMENT LIST:

- (4) MINI EXCAVATORS
- (3) SKID STEERS
- (3) WATER TRAILERS
- (2) 2,000 GALLON WATER TRUCKS
- (2) 185 CFM AIR COMPRESSORS
- (1) SKID LOADER
- (1) 410 BACKHOE
- (1) EXTENDED REACH FORKLIFT
- (1) SMALL STREET SWEEPER
- (2) EQUIPMENT TRAILERS
- (1) 40 YARD LOCKABLE STORAGE CONTAINER
- (3) PORTABLE TOILETS / WASH STATIONS ON TRAILERS
- (5) DRUMS EACH OF ODEX, RUSMAR FOAM, AND BIOSOLVE
- PVC PIPE
- SOIL
- CEMENT
- MISCELLANEOUS CONSTRUCTION MATERIAL

LEGEND:

- TEMP CHAIN LINK FENCE
- LOT LINE
- EQUIPMENT AND MATERIAL LAYDOWN BOUNDARY
- CRUSHED MISCELLANEOUS BASE (CMB)
- SLOPE OF GRADE

CONCEPTUAL

03 | SITE PLAN

SCALE: 1"=40'

0 40' 80'

AECOM

SHELL - FORMER KAST PROPERTY	FIGURE
LAYDOWN YARD	8-1

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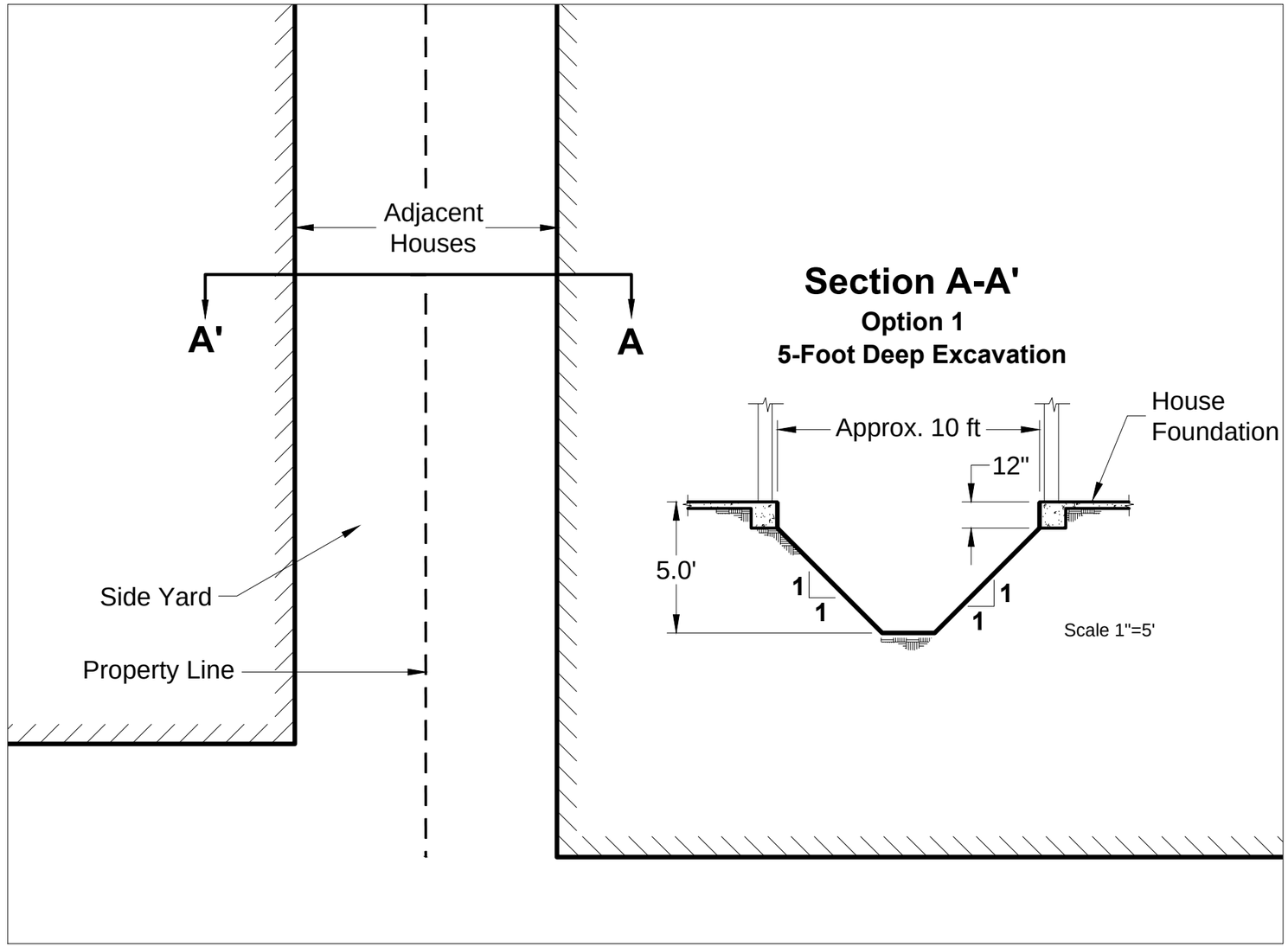
Filename: C:\USERS\DAN_STOICA\DESKTOP\KAST_DETAILS2.DWG



Note
1. Slopes indicated are maximum allowed.
2. Continuous monitoring of building settlement is required. Refer to Section 6.3

FORMER KAST PROPERTY

SHELL OIL PRODUCTS US
Project No.: 60422689 Date: 2015-09

SIDE YARD EXCAVATION

AECOM

FIGURE 9-1

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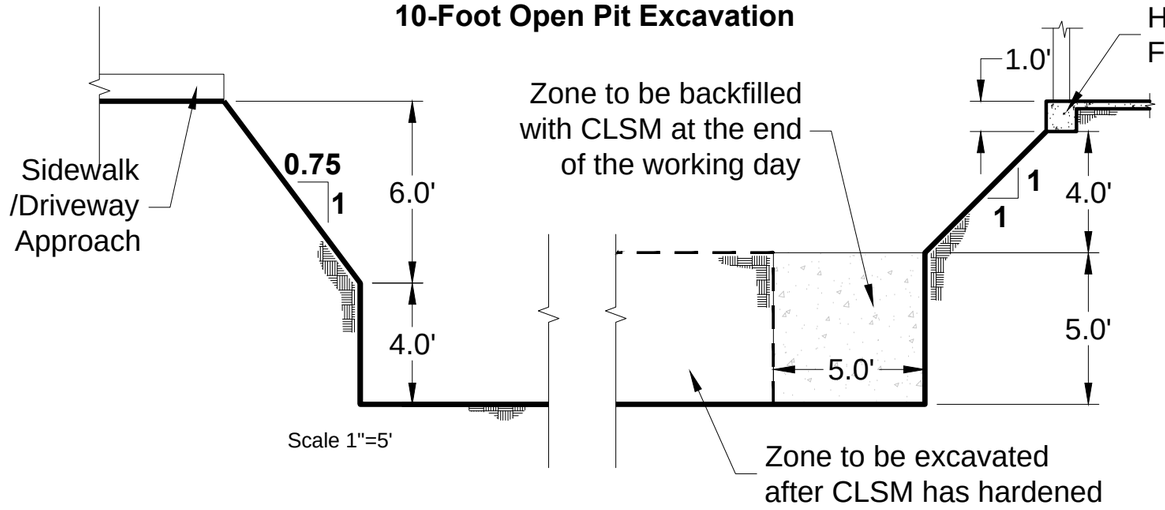
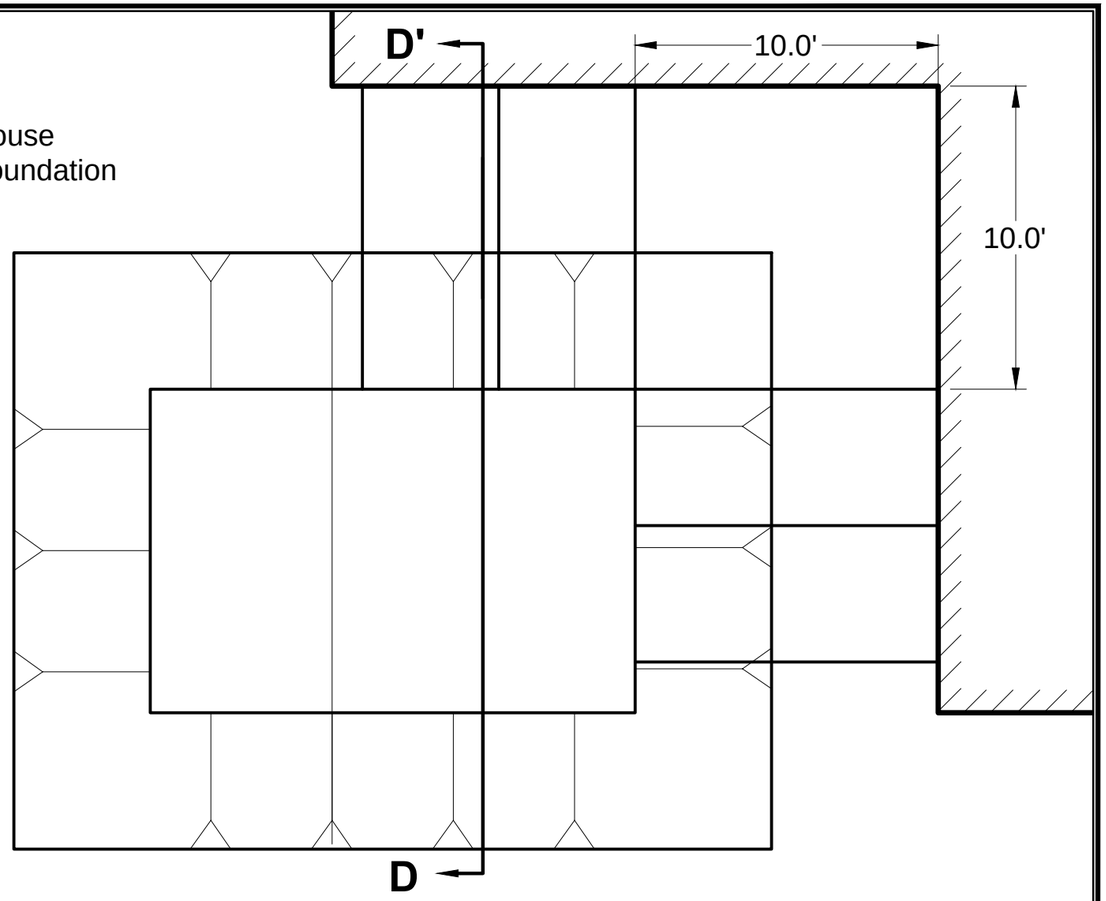
Filename: C:\USERS\DAN_STOICA\DESKTOP\KAST_DETAILS2.DWG

Section D-D'

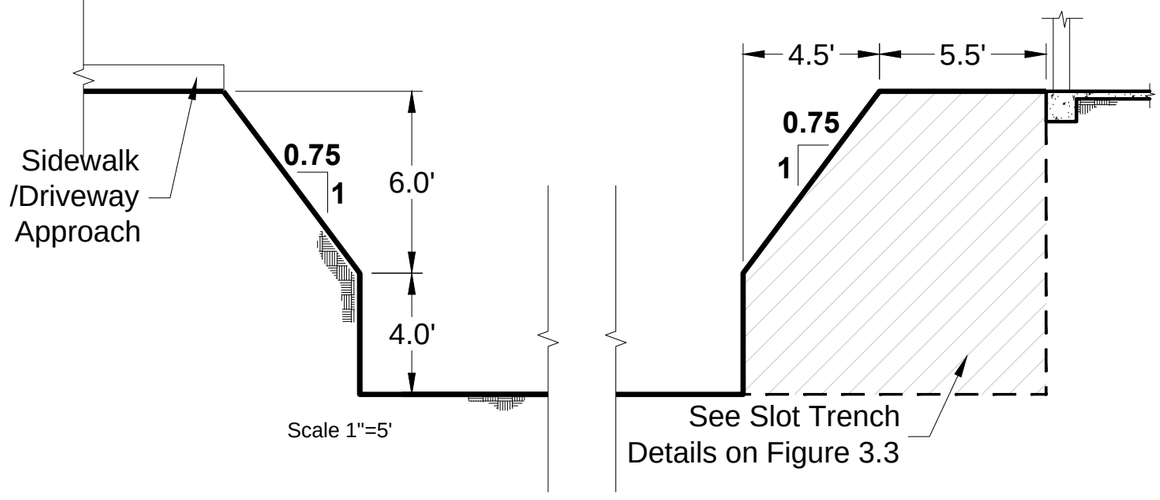
Option 1
10-Foot Open Pit Excavation

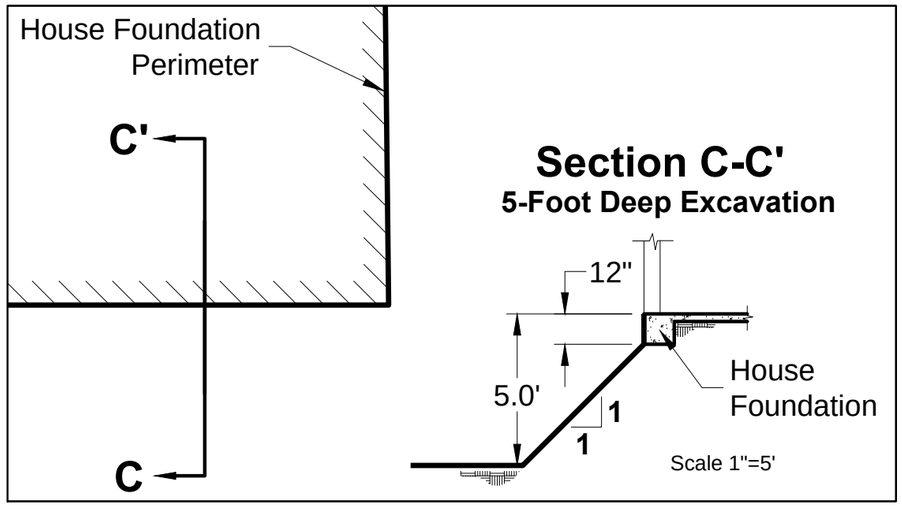




Section D-D'

Option □
10-Foot Excavation Open Pit/Slot Trench Com□ination





Section C-C'

5-Foot Deep Excavation

FORMER KAST PROPERTY

SHELL OIL PRODUCTS US
Project No.: 60422689 Date: 2015-09

FRONT/BACKYARD EXCAVATIONS - OPEN PIT AND SLOT TRENC□/OPEN PIT COMBINATION

AECOM

FIGURE 9-2

Last saved by: DAN_STOICA(2015-10-13) Last Plotted: 2015-10-13
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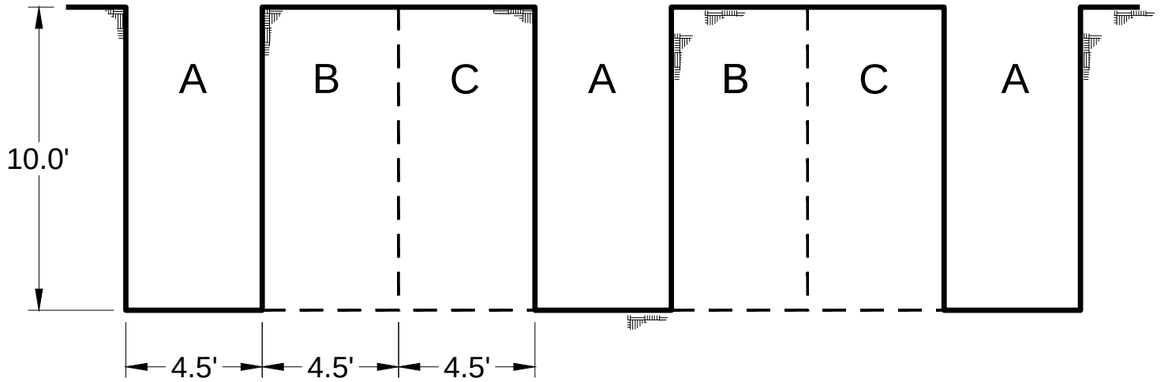
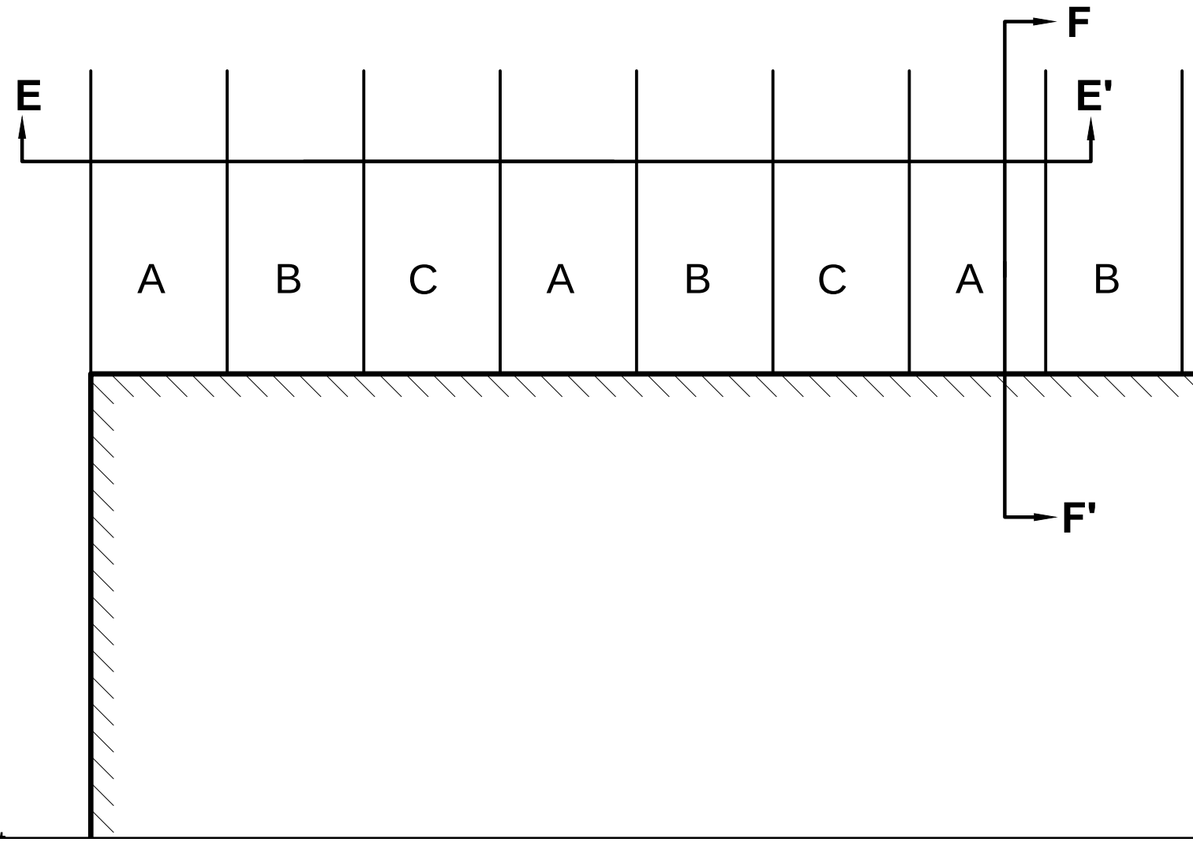
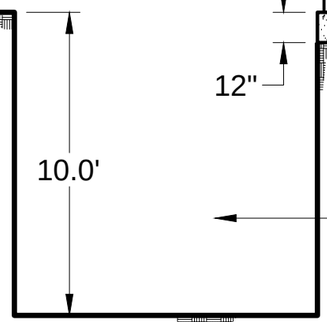
Section E-E'

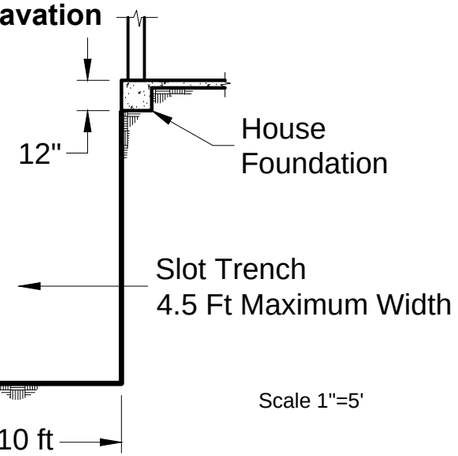




Section F-F'

Slot Trenching
10-Foot Excavation





Scale 1"=5'

FORMER KAST PROPERTY

SHELL OIL PRODUCTS US
Project No.: 60422689 Date: 2015-09

FRONT/BACKYARD EXCAVATIONS - SLOT TRENC□ING

AECOM

FIGURE 9-3

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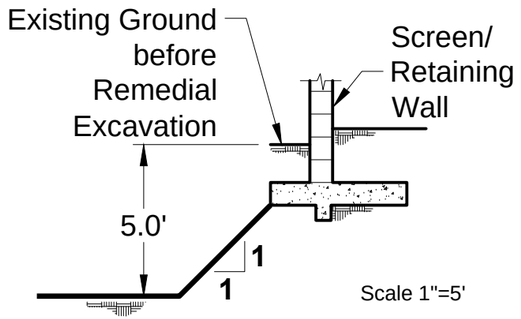
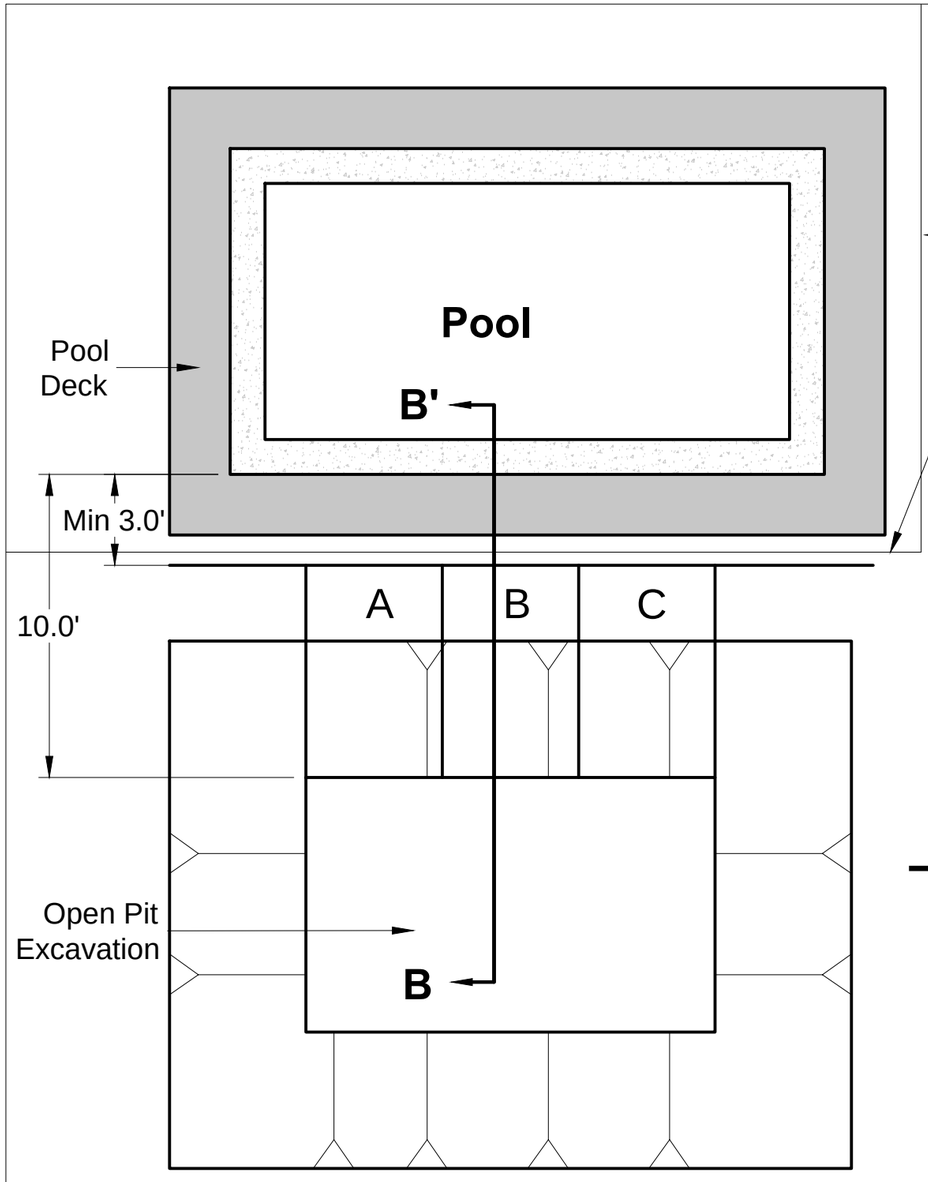
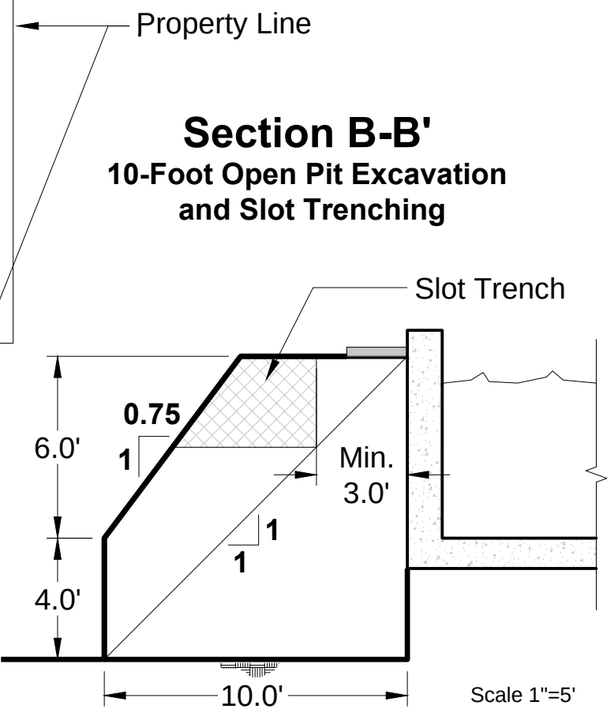
5-Foot Deep Excavation

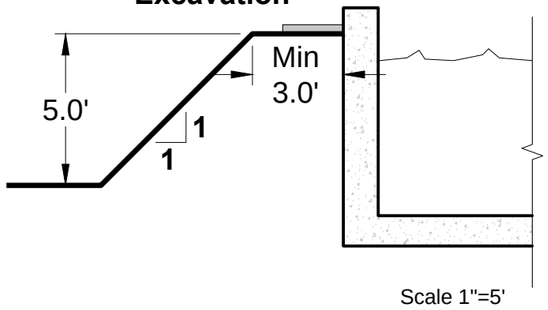






No more

5-Foot Open Pit Excavation



Excavation Adjacent to a Pool Lot

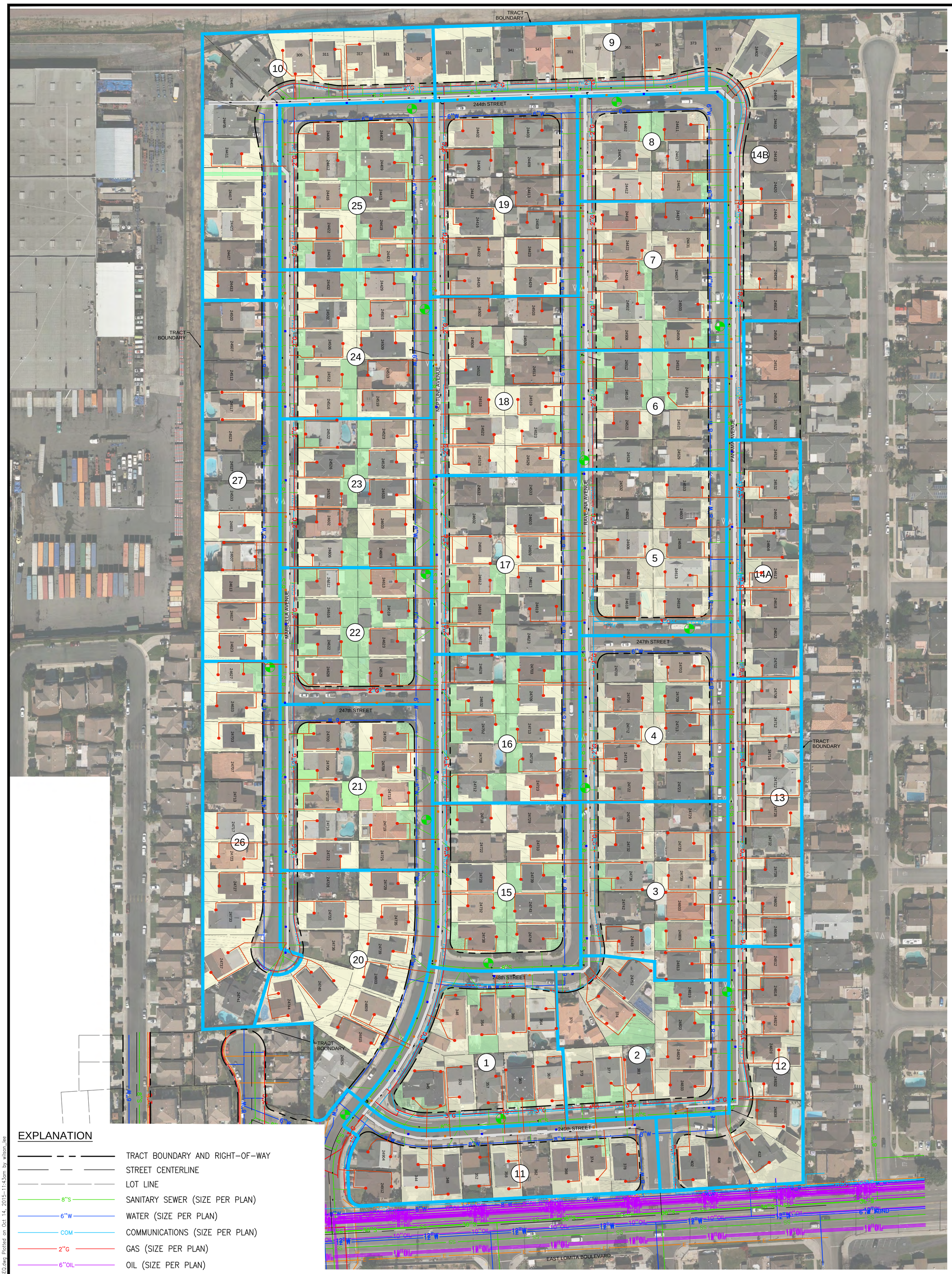
FORMER KAST PROPERTY

SHELL OIL PRODUCTS US
Project No.: 60422689 Date: 2015-09

EXCAVATIONS ADJACENT TO POOLS AND SCREEN/RETAINING WALLS

AECOM

FIGURE 9-4



EXPLANATION

- TRACT BOUNDARY AND RIGHT-OF-WAY
- STREET CENTERLINE
- LOT LINE
- 8"S — SANITARY SEWER (SIZE PER PLAN)
- 6"W — WATER (SIZE PER PLAN)
- COM — COMMUNICATIONS (SIZE PER PLAN)
- 2"G — GAS (SIZE PER PLAN)
- 6"OIL — OIL (SIZE PER PLAN)
- SD — STORM DRAIN

- SHALLOW STREET WELL, 50' RADIUS OF INFLUENCE, NO. OF WELLS = 65
- TRIPLE-NESTED STREET WELL, 50' RADIUS OF INFLUENCE (SHALLOW), NO. OF WELLS = 63
- RESIDENTIAL WELL, 25' RADIUS OF INFLUENCE, NO. OF WELLS = 473
- SOIL VAPOR PROBE

- PROPOSED 5' EXCAVATION
- PROPOSED TARGETED 10' EXCAVATION
- (1) CONSTRUCTION SEQUENCE NUMBER
- CONSTRUCTION SEQUENCE LIMIT LINE

TOTAL NO. OF LOTS = 281
TOTAL NO. OF CLUSTERS = 27
AVERAGE NO. OF LOTS EXCAVATED /CLUSTER = 7

NOTES:
1. NOT ALL LOTS WITHIN EACH PHASE ARE EXCAVATED.
2. MAX. DEPTH OF EXCAVATION ON SIDE YARDS IS 5'

N

0 40' 80' 160'
0 1" 2"

G:\1 Shell Products – Former Kast Property\RAP Implementation\CADD\101_Figures\FIG 9-5_REMD CLUSTERS and IMPLM SEQ.dwg Plotted on Oct 14, 2015–11:43am by wilson_lee

AECOM

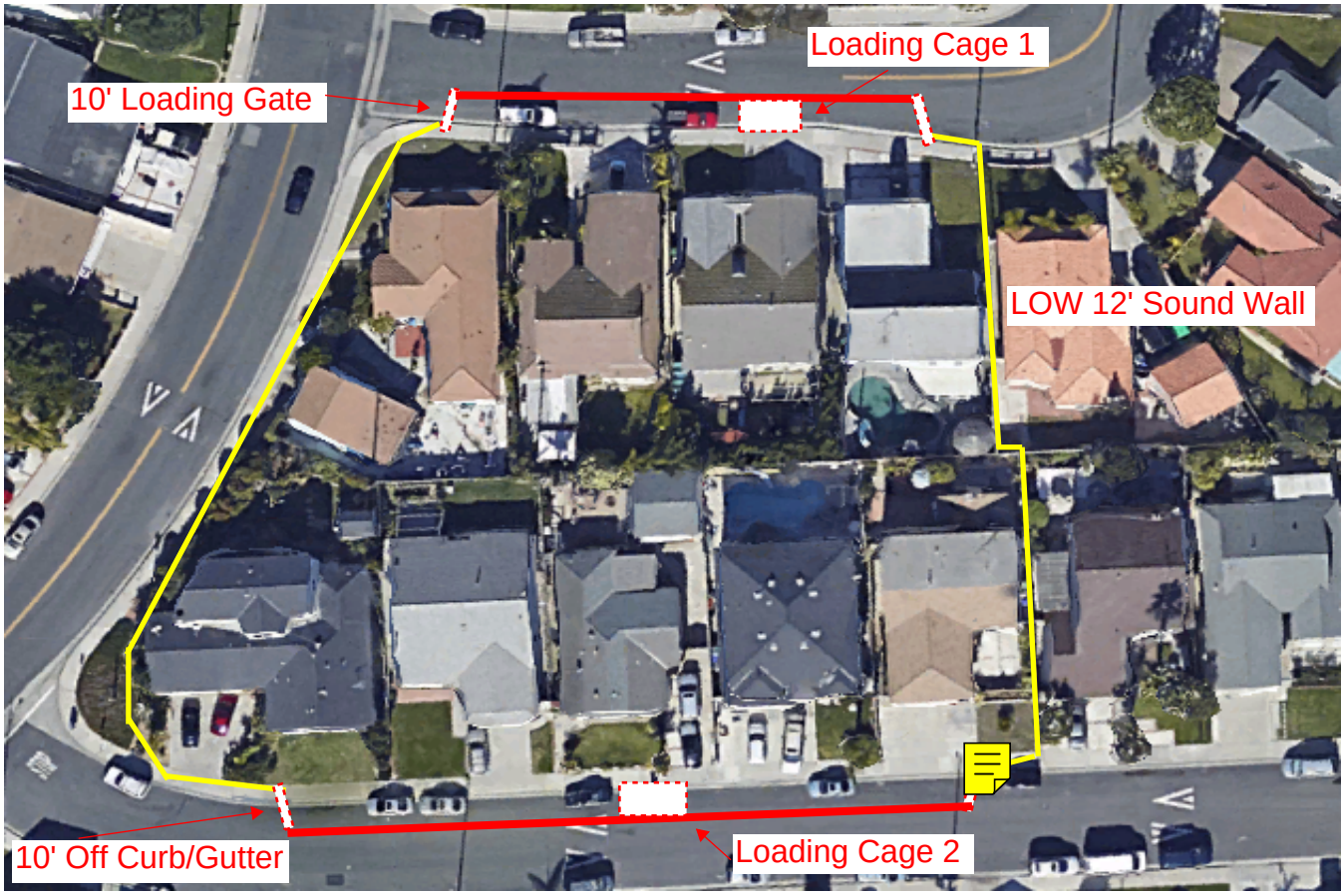
SHELL - FORMER KAST PROPERTY

REMEDIATION CLUSTERS AND IMPLEMENTATION SEQUENCE

FIGURE

9-5

Typical Exclusion Zone and Sound Attenuation Barrier Configuration



Legend		
Block Boundary	1. Houses	9
	2. Pools	2
	3. Power Poles	2
Loading Area	4. Obstructions	2
	5. Hardscape (CY)	173
	6. Softscape (CY)	94
	7. Excavation (CY)	4,194

Figure 9-6

TRACT BOUNDARY

TRACT BOUNDARY

244th STREET

247th STREET

248th STREET

249th STREET

MARBELLA AVENUE

NEPTUNE AVENUE

RAVENNA AVENUE

PANAMA AVENUE

TRACT BOUNDARY

TRACT BOUNDARY

EXPLANATION

TRACT BOUNDARY

RIGHT–OF–WAY

LOT LINE

SHALLOW STREET WELL, 50' RADIUS OF INFLUENCE, NO. OF WELLS = 65

TRIPLE–NESTED STREET WELL SHALLOW, 50' RADIUS OF INFLUENCE (SHALLOW), NO. OF WELLS = 63

RESIDENTIAL WELL, 25' RADIUS OF INFLUENCE, NO. OF WELLS = 473

N

0 40' 80' 160'

0 1" 2"

AECOM

SHELL - FORMER KAST PROPERTY

WELL FIELD LAYOUT SHALLOW COMPLETION SVE/BIOVENTING WELLS

FIGURE

10-1

G:\1 Shell Products – Former Kast Property\RAP Implementation\CADD\101_Figures\FIG 10-1_XXX.dwg Plotted on Oct 14, 2015–5:00pm by wilson_lee

TRACT BOUNDARY

TRACT BOUNDARY

TRACT BOUNDARY

TRACT BOUNDARY

244th STREET

247th STREET

247th STREET

248th STREET

249th STREET

NEPTUNE AVENUE

MARBELLA AVENUE

RAVENNA AVENUE

PANAMA AVENUE

EXPLANATION

TRACT BOUNDARY

RIGHT–OF–WAY

LOT LINE

TRIPLE–NESTED STREET WELL, 125' RADIUS (BLUE) OF INFLUENCE (INTERMEDIATE) AND 116' RADIUS (MAGENTA) OF INFLUENCE (DEEP)

NO. OF WELLS = 63

N

0 40' 80' 160'

0 1" 2"

AECOM

SHELL - FORMER KAST PROPERTY

WELL FIELD LAYOUT
INTERMEDIATE AND DEEP COMPLETION
SVE/BIOVENTING WELLS

FIGURE

10-2

G:\1 Shell Products – Former Kast Property\RAP Implementation\CADD\101_Figures\FIG 10-2_XXX.dwg Plotted on Oct 14, 2015–4:57pm by wilson_lee

TRACT BOUNDARY

TRACT BOUNDARY

244th STREET

247th STREET

248th STREET

249th STREET

MARBELLA AVENUE

NEPTUNE AVENUE

RAVENNA AVENUE

PANAMA AVENUE

TRACT BOUNDARY

TRACT BOUNDARY

EXPLANATION

TRACT BOUNDARY

RIGHT-OF-WAY

LOT LINE

APPROXIMATE LOCATION OF MULTI-DEPTH SOIL VAPOR PROBES

N

0 40' 80' 160'

0 1" 2"

AECOM

SHELL - FORMER KAST PROPERTY

LOCATIONS OF MULTI-LEVEL SOIL VAPOR PROBE AND GEOPROBE BORINGS FOR SVE/BIOVENTING PERFORMANCE EVALUATION

FIGURE

10-3

G:\1 Shell Products - Former Kast Property\RAP Implementation\CADD\101_Figures\FIG 10-3_XXX.dwg Plotted on Oct 14, 2015-4:58pm by wilson_lee

N

E 244TH ST

NEPTUNE AVE

RAVENNA AVE

PANAMA AVE

ISLAND AVE

E 247TH ST

MARBELLA AVE

E 248TH ST

E 249TH ST

PETALUMA LN

CARMEL DR

MONTEREY DR

HLAND WAY

YVIEW AVE

EPTUNE AVE

301 305 311 317 321 327 331 337 341 347 351 357 361 367 373 377

24401 24405 24411 24417 24423 24427 24433 24503 24507 24513 24517 24523 24527 24533 24603 24607 24613 24617 24623 24627 24633 24703 24707 24713 24717 24723 24727 24733 24737 24741 24744

24406 24403 24412 24409 24416 24413 24422 24419 24426 24423 24432 24429 24502 24503 24506 24509 24512 24513 24516 24519 24522 24523 24526 24529 24532 24533 24602 24603 24606 24609 24612 24613 24616 24619 24622 24623 24628 24629

24700 24703 24706 24709 24710 24715 24716 24719 24722 24725 24726 24729 24732 24735 24736 24739 24740 24803 24809 24815 24825

24402 24403 24406 24409 24412 24413 24416 24419 24422 24423 24426 24429 24502 24503 24508 24509 24512 24513 24518 24519 24522 24523 24528 24529 24532 24533 24602 24603 24608 24609 24612 24613 24618 24619 24622 24623 24628 24703 24632* 24709 24702 24713 24708 24719 24712 24723 24718 24729 24722 24733 24728 24739 24732 24743 24738 24749

348 354 360 364 370 374

345 353 357 363 367 373 377 383

24904 344 348 352 358 362 368 374 378 24912

24402 24411 24406 24417 24412 24421 24416 24427 24422 24431 24426 24437 24502 24503 24508 24509 24512 24513 24518 24519 24522 24523 24528 24529 24532 24533 24602 24603 24608 24609 24612 24613 24618 24619

24700 24703 24706 24709 24712 24713 24716 24719 24722 24723 24726 24729 24732 24733 24736 24739 24742 24803 24748 24809 24813 24752 24819 24823 24829 24833

402 408 412

24402 24406 24410 24416 24420 24426 24430 24436 24502 24508 24512 24518 24522 24528 24532 24602 24608 24612 24618 24622 24702 24708 24712 24718 24722 24728 24732 24738 24802 24808 24812 24818 24822 24828 24832 24838

150 75 0 150 Feet

Legend

Sub-slab Mitigation

Sub-slab Mitigation Offered to Homeowners

Properties Identified for Sub-Slab Mitigation

Former Kast Property

Geosyntec consultants

Santa Barbara | October 2015

Figure 11-1

R:\Vapor Intrusion Solutions\SB0700\GIS\Mxd\Fig11-1_SSSV_IA_Resident.mxd 20151012

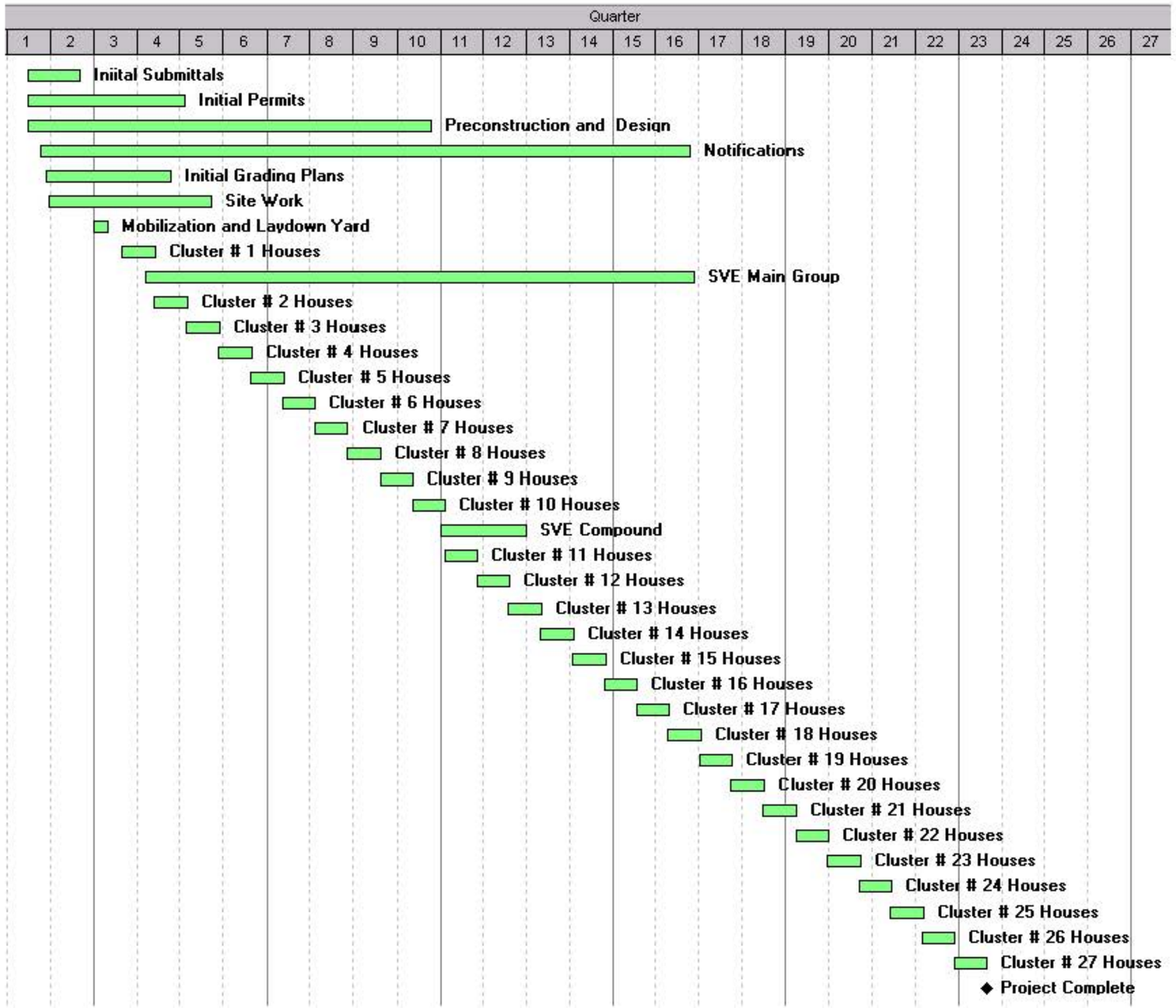



Figure 16-1
TENTATIVE SCHEDULE FOR RAP IMPLEMENTATION