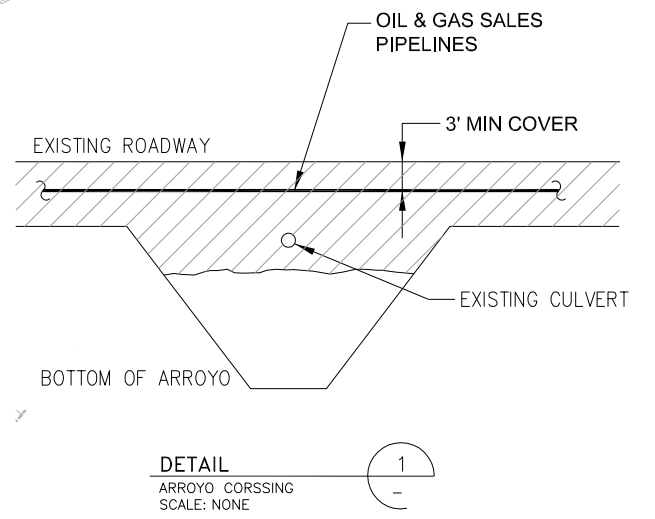
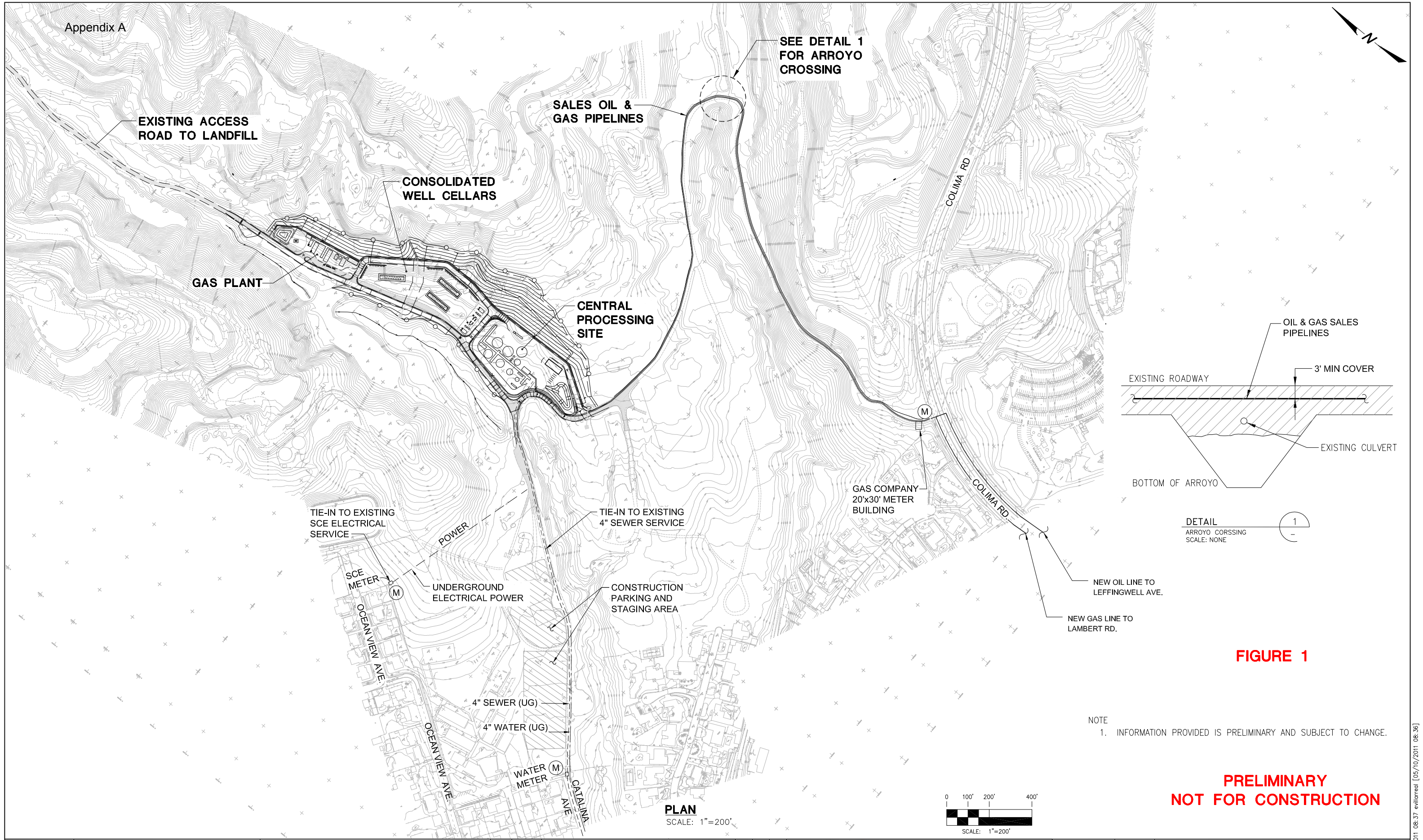


# **Appendix A**

## Project Description Design Data

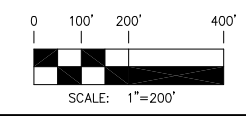




**FIGURE 1**

NOTE  
1. INFORMATION PROVIDED IS PRELIMINARY AND SUBJECT TO CHANGE.

**PRELIMINARY  
NOT FOR CONSTRUCTION**



NUMBER	REFERENCE DRAWINGS



**DCN: 4202-000**

REV. NO.	DATE	REVISED	REV. BY	CHK. BY	APP'D
D	05/10/11	ADDED ARROYO CROSSING DETAIL	ECV		LT
C	05/01/11	REVISED SITE LAYOUT	ECV		LT
B	4/12/11	GENERAL REVISION	ECV		LT
A	4/05/11	ISSUED FOR AMENDED CONDITIONAL USE PERMIT	AB	ECV	LT



104 W. ANAPUMU ST.  
SANTA BARBARA, CA 93101

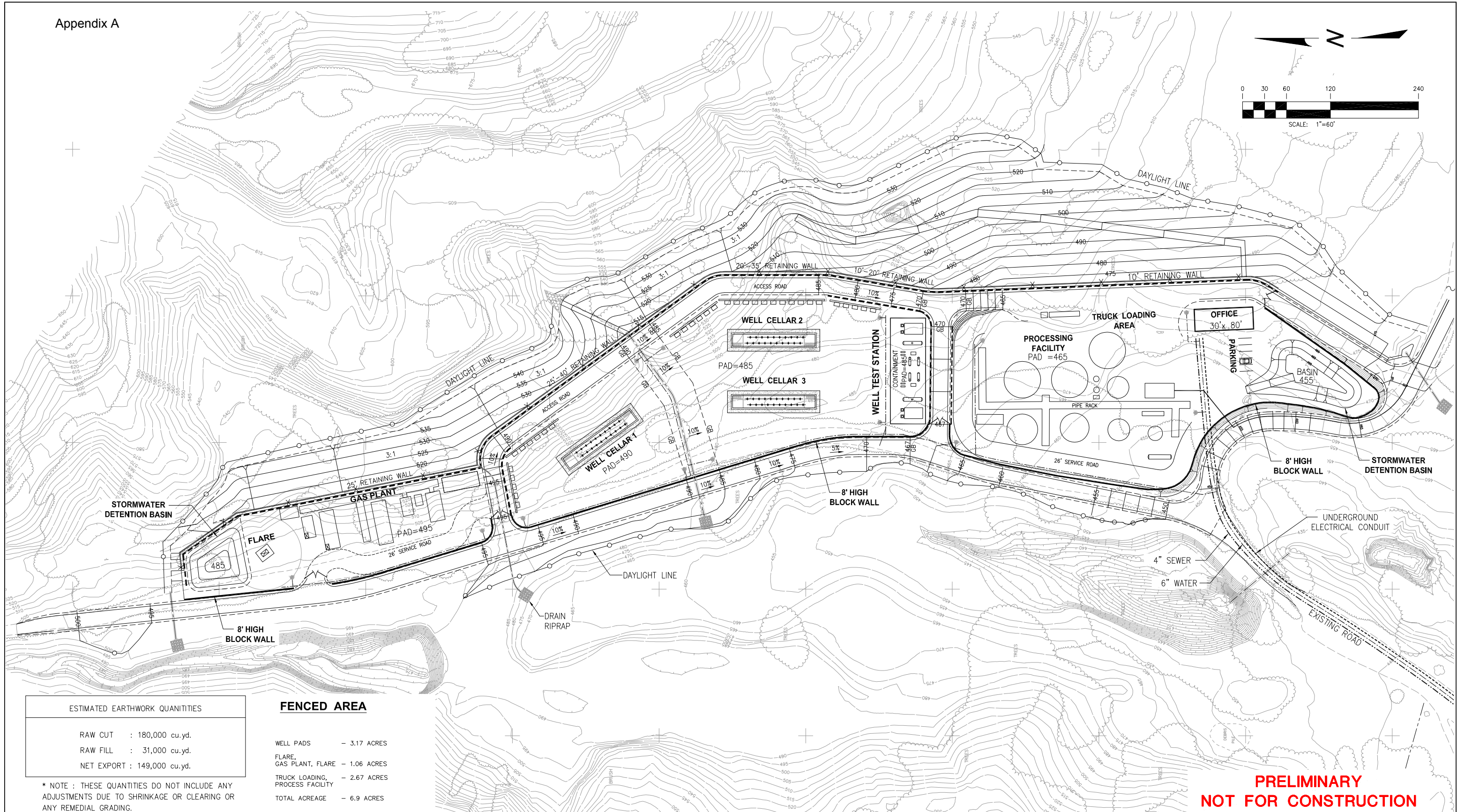
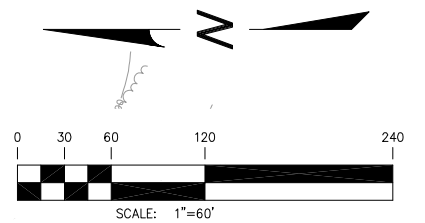
DRAWN BY:	ECV	DATE:	4/20/09
DESIGN:		DATE:	
CHECK:		DATE:	
ENGINEER:		DATE:	
APPROVED:		DATE:	
APPROVED:		DATE:	
APPROVED:		DATE:	

**PRELIMINARY SITE LAYOUT  
AMENDED PROJECT DESCRIPTION  
WHITTIER LEASE DEVELOPMENT  
WHITTIER, CALIFORNIA 90602**

SCALE:	AS NOTED	DWG NO:	4202-000-1030	SHT:	1	REV. NO.:	D
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4202-000-1030a.dwg 05/10/2011 08:37 e:\lrrreal [05/10/2011 08:36]





**ESTIMATED EARTHWORK QUANTITIES**

RAW CUT : 180,000 cu.yd.  
 RAW FILL : 31,000 cu.yd.  
 NET EXPORT : 149,000 cu.yd.

\* NOTE : THESE QUANTITIES DO NOT INCLUDE ANY ADJUSTMENTS DUE TO SHRINKAGE OR CLEARING OR ANY REMEDIAL GRADING.

**FENCED AREA**

WELL PADS - 3.17 ACRES  
 FLARE, GAS PLANT, FLARE - 1.06 ACRES  
 TRUCK LOADING, PROCESS FACILITY - 2.67 ACRES  
 TOTAL ACREAGE - 6.9 ACRES

DISTURBED AND RE-VEGETATED ACREAGE OUTSIDE OF FENCED AREA 5.3± AC (WITH 3:1 MAX SLOPE ALONG EAST EDGE)

**PRELIMINARY  
 NOT FOR CONSTRUCTION**

NUMBER	REFERENCE DRAWINGS



DCN:

REV. NO.	DATE	REVISED	REV. BY	CHK. BY	APP'D
C	05/09/11	REARRANGED LAYOUT PER CITY REQUEST	JS	EV	LT
B	04/12/11	GENERAL REVISION	ECV	LT	LT
A	04/05/11	ISSUED FOR AMENDED CONDITIONAL USE PERMIT	ECV	LT	LT



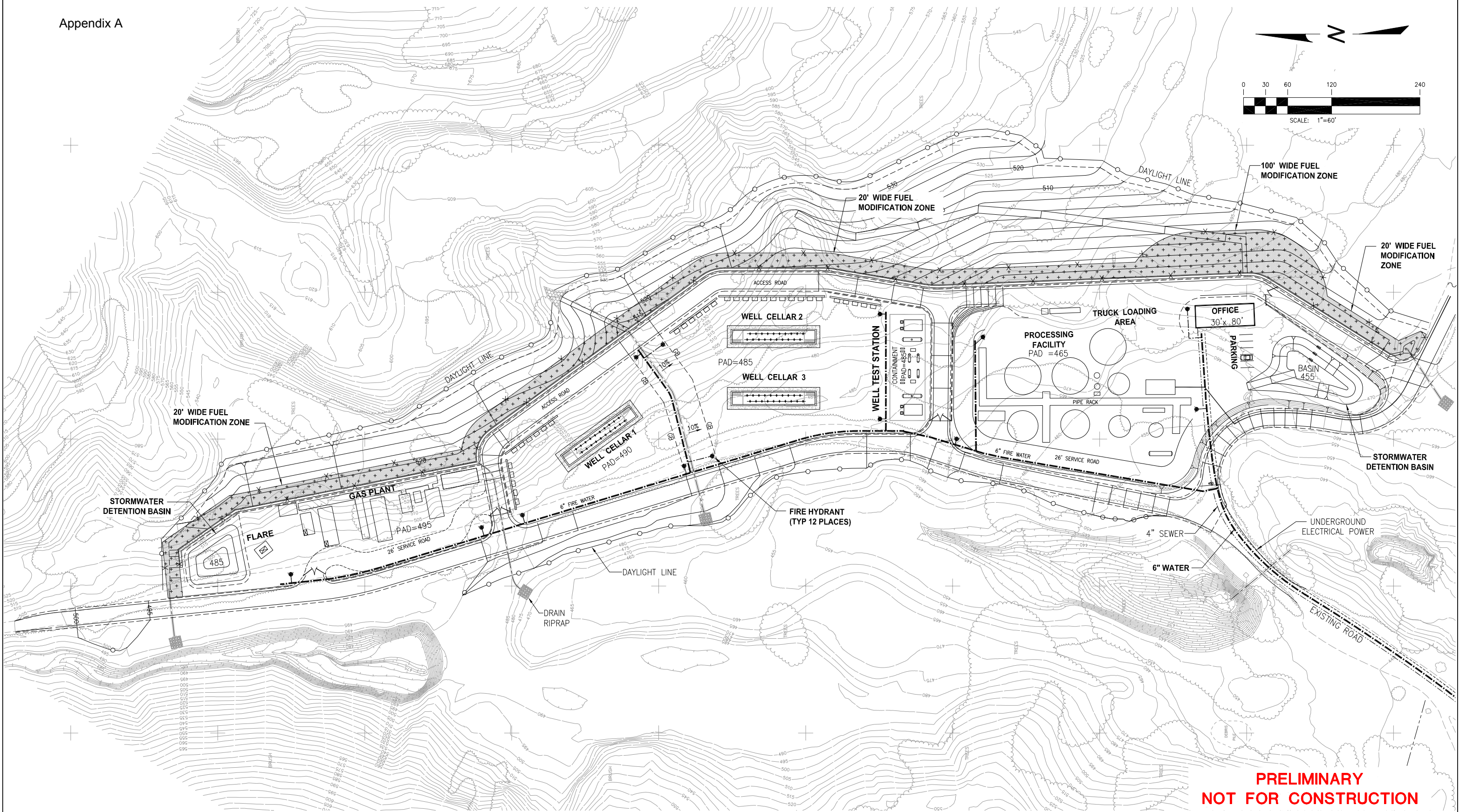
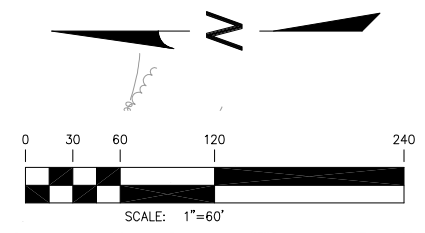
104 W. ANAPUMU ST.  
 SANTA BARBARA, CA 93101

DRAWN BY:	ECV	DATE:	
DESIGN:		DATE:	
CHECK:		DATE:	
ENGINEER:	LT	DATE:	
APPROVED:		DATE:	
APPROVED:		DATE:	
APPROVED:		DATE:	

**SITE PLAN  
 PROJECT DESCRIPTION  
 WHITTIER LEASE DEVELOPMENT  
 WHITTIER, CALIFORNIA 90602**

SCALE:	1=60	DWG NO:	4202-000-1031	SHT:	1	REV. NO.	C
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**PRELIMINARY  
NOT FOR CONSTRUCTION**

NUMBER	REFERENCE DRAWINGS



DCN:

REV. NO.	DATE	REVISED	BY	CHKD. BY	APP'D
A	05/09/11	ISSUED FOR CONDITIONAL USE PERMIT	ECV		LT

A-3



104 W. ANAPUMU ST.  
SANTA BARBARA, CA 93101

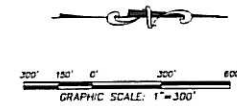
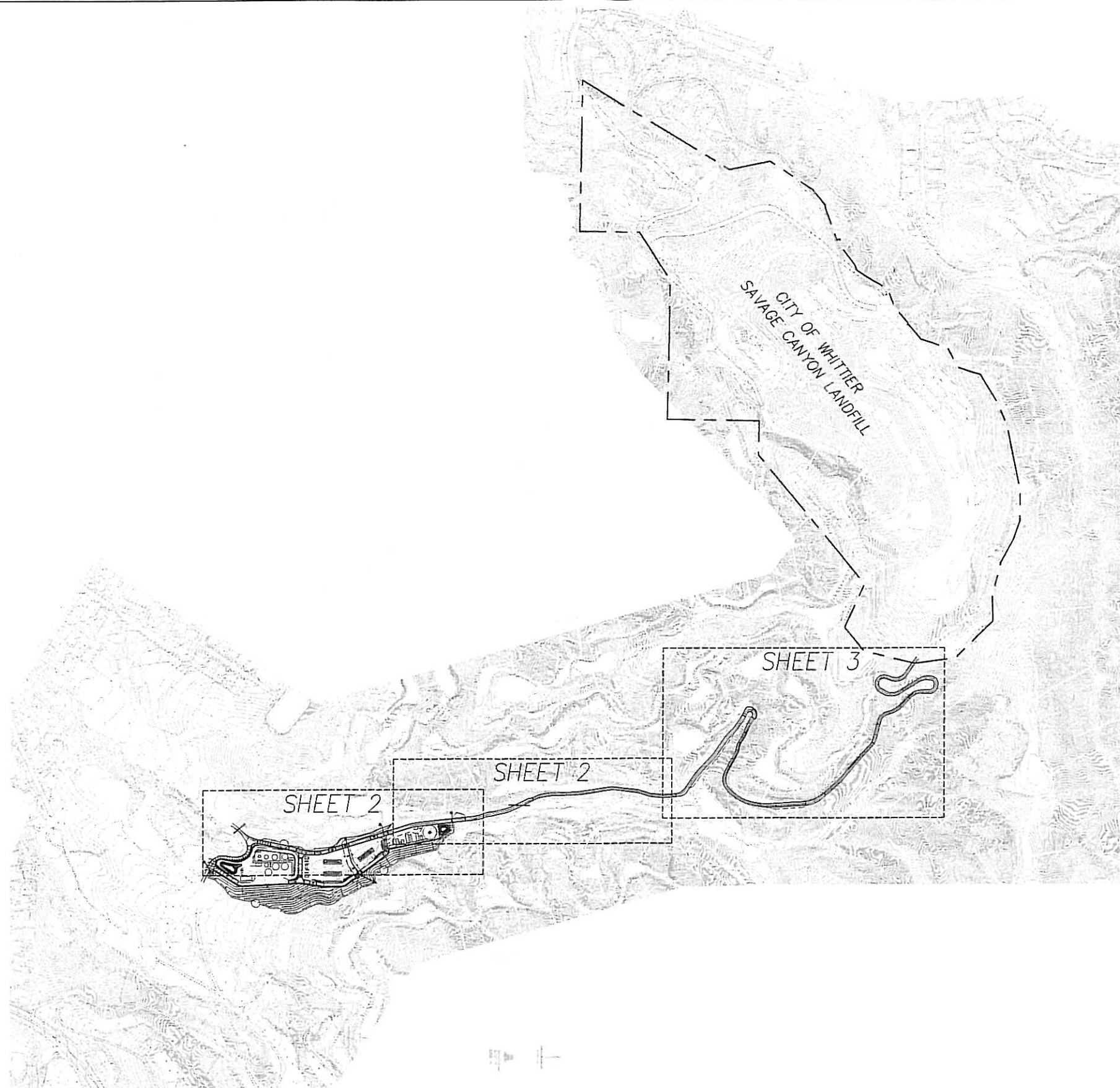
DESIGN	DATE
DESIGN: ECV	
CHECK:	
ENGINEER: LT	
APPROVED:	
APPROVED:	

**SITE PLAN  
FIRE HYDRANT & FUEL MODIFICATION PLAN  
WHITTIER LEASE DEVELOPMENT  
WHITTIER, CALIFORNIA 90602**

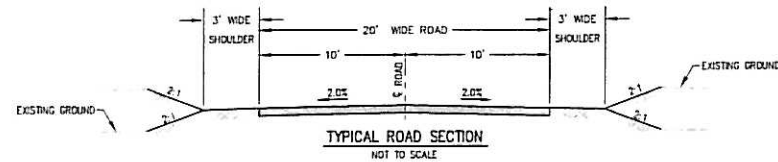
SCALE: 1=60	DWG NO: 4202-000-1050	SHT: 1	REV. NO: A
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Whittier Project EIR





**DRAFT**



CONCEPTUAL DRAWINGS ONLY - NOT FOR CONSTRUCTION

PLOT DATE: 5/05/11

PREPARED BY:  
Adams + Streeter  
CIVIL ENGINEERS INC.  
15 Corporate Park, Irvine, CA 92618  
Ph: (949) 474-2330 Fax: (949) 474-0251

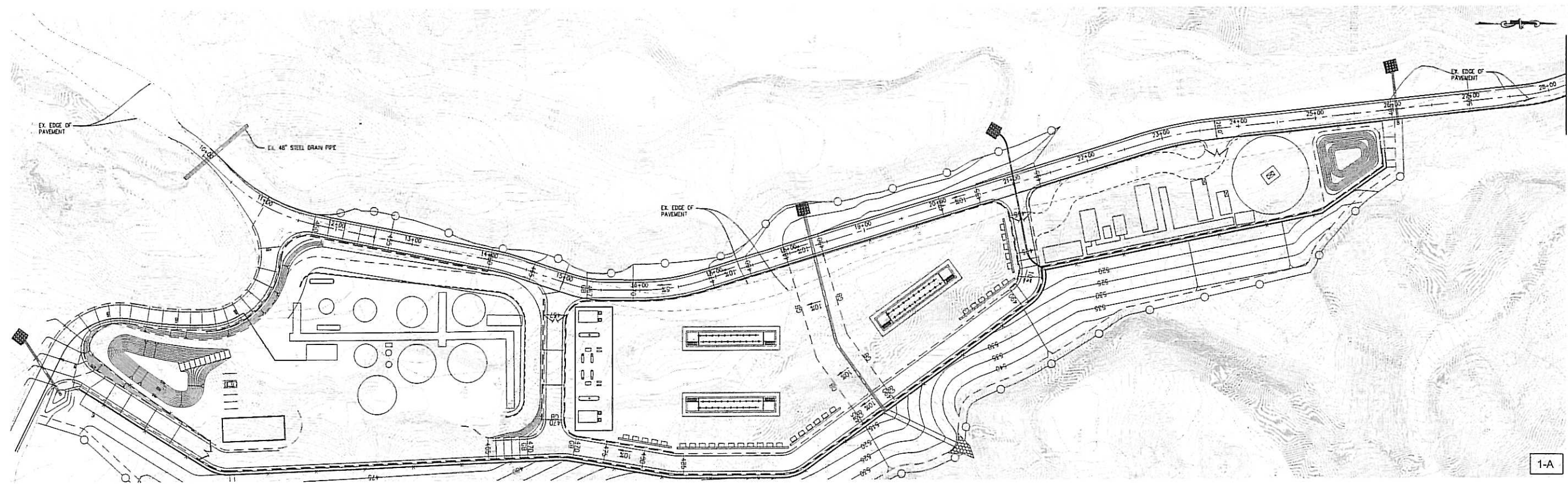
PROCESSES  
UNLIMITED  
17177 PAULSON  
5500 MING AVENUE, SUITE 400  
BAKERSFIELD, CA 93309  
Ph: (805) 396-3770

matrix  
104 WEST ANAPUMU ST., SUITE C  
SANTA BARBARA, CA 93101  
Ph: (805) 884-9000

NORTHERLY ACCESS ROAD STUDY  
MATRIX OIL - WHITTIER

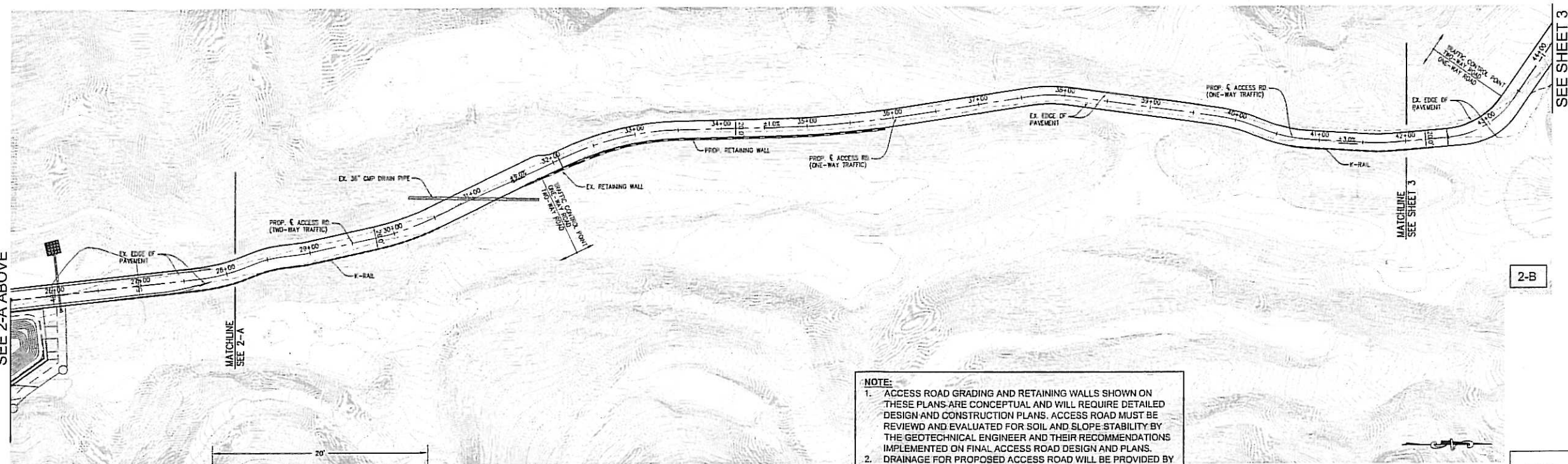
SHEET  
1  
of  
3





SEE 2-B BELOW

1-A



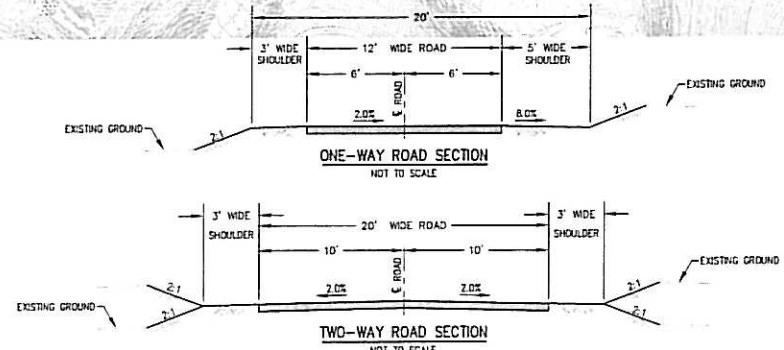
SEE 2-A ABOVE

SEE SHEET 3

2-B

**NOTE:**  
 1. ACCESS ROAD GRADING AND RETAINING WALLS SHOWN ON THESE PLANS ARE CONCEPTUAL AND WILL REQUIRE DETAILED DESIGN AND CONSTRUCTION PLANS. ACCESS ROAD MUST BE REVIEWED AND EVALUATED FOR SOIL AND SLOPE STABILITY BY THE GEOTECHNICAL ENGINEER AND THEIR RECOMMENDATIONS IMPLEMENTED ON FINAL ACCESS ROAD DESIGN AND PLANS.  
 2. DRAINAGE FOR PROPOSED ACCESS ROAD WILL BE PROVIDED BY CONSTRUCTION OF SWALES, CONC. TRENCH DRAINS, CMP INLETS & PIPES, AND RIP-RAP OUTLETS. CONCEPTUAL DRAINAGE DESIGN WILL BE PROVIDED ON A SEPARATE EXHIBIT.  
 3. CONSTRUCTION OF THE ACCESS ROAD WILL REQUIRE ADDITIONAL STABILIZATION PER GEOTECHNICAL ENGINEER RECOMMENDATIONS.

**DRAFT**

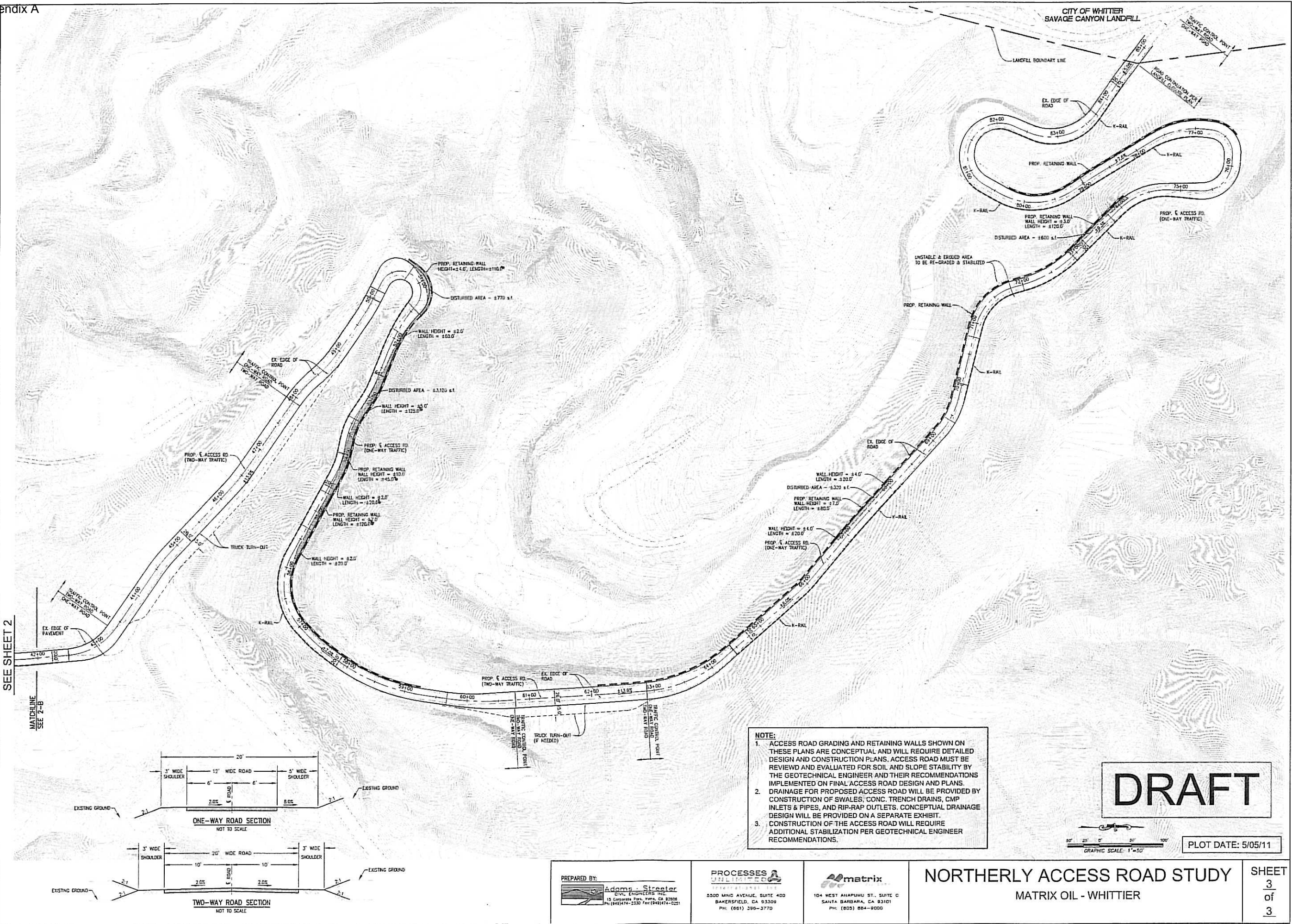


CONSOLIDATED ARRANGEMENT (.DWG FILE RECEIVED 08/05/10)

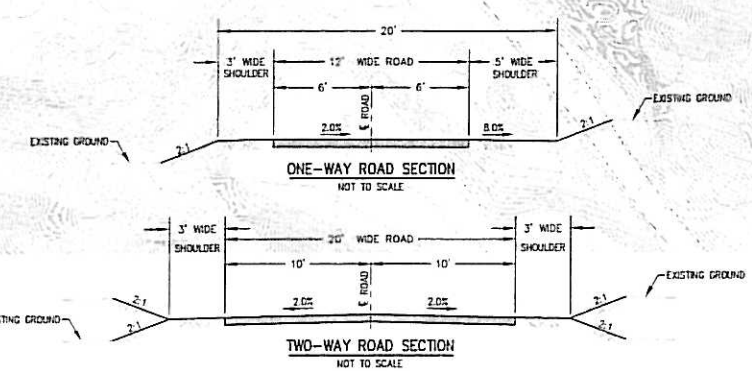
GRAPHIC SCALE: 1"=50'  
 PLOT DATE: 5/05/11

<p>PREPARED BY:   Adams-Streater CIVIL ENGINEERS INC.                  15 Cambridge Park, Park, CA 92308                  Ph: (949)474-2333 Fax: (949)474-0251</p>	<p>PROCESSES UNLIMITED                    5500 MISSION AVENUE, SUITE 400                  BAKERSFIELD, CA 93309                  Ph: (805) 398-3770</p>	<p> matrix                  104 WEST ANAPIMU ST., SUITE C                  SANTA BARBARA, CA 93101                  Ph: (805) 684-9000</p>	<p><b>NORTHERLY ACCESS ROAD STUDY</b>                  MATRIX OIL - WHITTIER                  REVISED ON: 1/18/10</p>	<p>SHEET 2 of 3</p>
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SEE SHEET 2  
MATCHLINE  
SEE 2-B



**NOTE:**

1. ACCESS ROAD GRADING AND RETAINING WALLS SHOWN ON THESE PLANS ARE CONCEPTUAL AND WILL REQUIRE DETAILED DESIGN AND CONSTRUCTION PLANS. ACCESS ROAD MUST BE REVIEWED AND EVALUATED FOR SOIL AND SLOPE STABILITY BY THE GEOTECHNICAL ENGINEER AND THEIR RECOMMENDATIONS IMPLEMENTED ON FINAL ACCESS ROAD DESIGN AND PLANS.
2. DRAINAGE FOR PROPOSED ACCESS ROAD WILL BE PROVIDED BY CONSTRUCTION OF SWALES, CONC. TRENCH DRAINS, CMP INLETS & PIPES, AND RIP-RAP OUTLETS. CONCEPTUAL DRAINAGE DESIGN WILL BE PROVIDED ON A SEPARATE EXHIBIT.
3. CONSTRUCTION OF THE ACCESS ROAD WILL REQUIRE ADDITIONAL STABILIZATION PER GEOTECHNICAL ENGINEER RECOMMENDATIONS.

**DRAFT**



PLOT DATE: 5/05/11

PREPARED BY:  
  
 Adams-Streeter  
 CIVIL ENGINEERS INC.  
 15 Corporate Park, Suite 400  
 Bakersfield, CA 93309  
 PH: (805) 474-2330 Fax: (805) 474-0251

PROCESSES  
  
 UNLIMITED  
 CIVIL ENGINEERS INC.  
 5500 HUNIC AVENUE, SUITE 400  
 BAKERSFIELD, CA 93309  
 PH: (805) 396-3770

matrix  
  
 104 WEST ANAPIMU ST., SUITE C  
 SANTA BARBARA, CA 93101  
 PH: (805) 884-8000

**NORTHERLY ACCESS ROAD STUDY**  
 MATRIX OIL - WHITTIER

SHEET  
 3  
 of  
 3

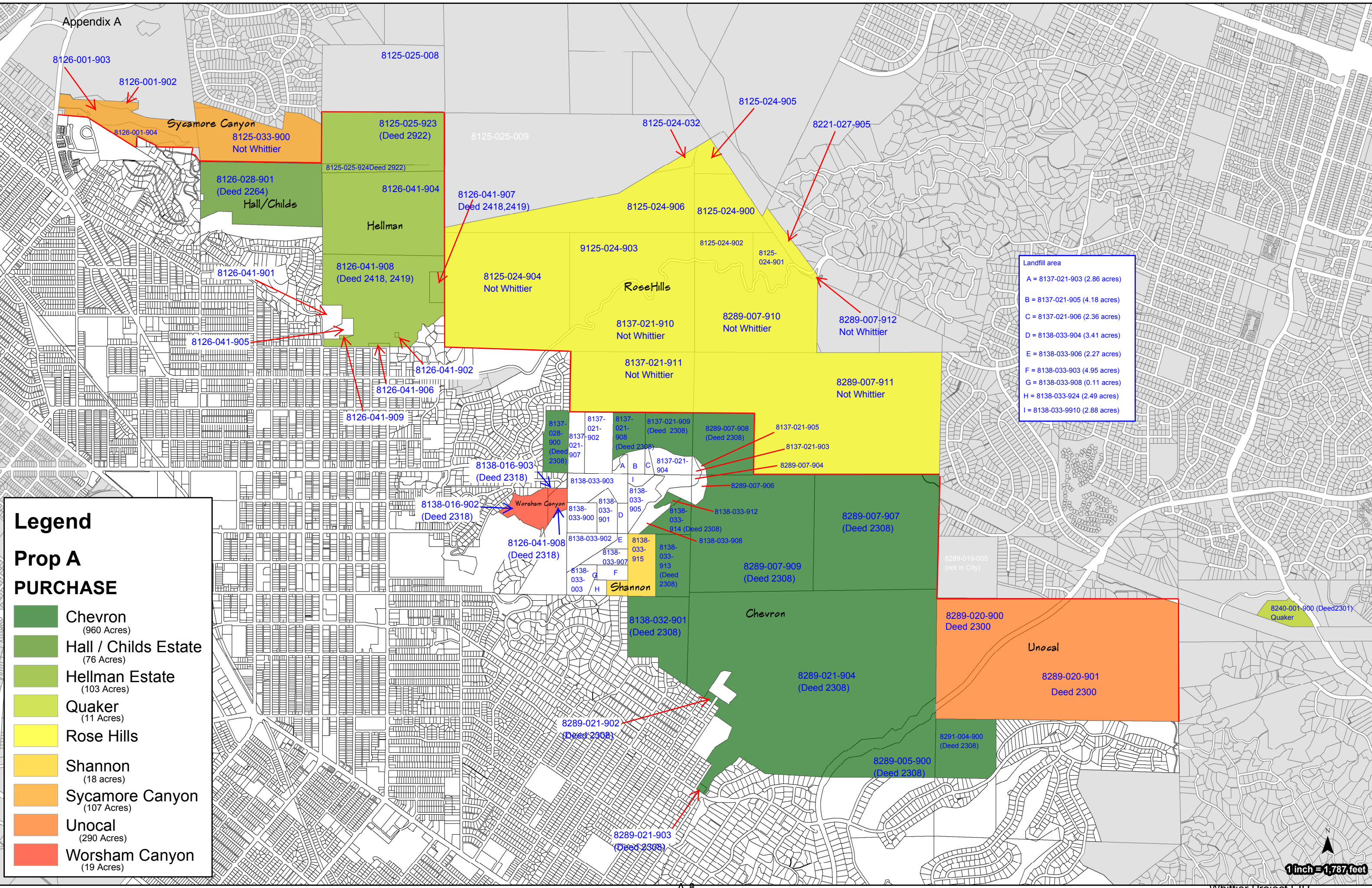


Appendix A

Whittier Off Field Vehicle Trips: Round Trips

Trip	Activity	Type	Number of Trips, total or annual	Number of trips, Peak Day	Notes
<b>Drilling and Testing Phase</b>					
Equipment delivery	Pad clearing	Truck	4	2	Equipment delivery for clearing, delivery and pickup
Personnel	Pad clearing	Autos	200	10	4 wks clearing, weekdays only
Water truck	Pad clearing	Truck	20	1	4 wks weekdays only
Personnel	Utilities construction	Autos	100	5	estimated 1 month for power poles, water, etc
Materials Delivery	Utilities construction	Truck	10	5	estimated
Total			334	23	
Equipment Delivery-one time	Drilling	Truck	55	20	peak day estimated, based on matrix data Tble 2-4
Material Delivery	Drilling	Truck	93	6	peak day estimated, based on matrix data Tble 2-4
Crude and water hauling	Drilling	Truck	209	7	4 crude and 3 water trucks per day peak, total a sum depending on number of wells, total during the 3 month period
Cuttings	Drilling	Truck	165	2	660 yds3 per well
Muds	Drilling	Truck	42	1	1800 bbls per well
Cement	Drilling	Truck	6	1	Matrix table
Vacuum trucks & misc	Drilling	Truck	24	1	assumes 2 per week
Personnel	Drilling	Autos	1,800	20	2 shifts
Total			2,394	40	Peak day based on one-time equipment delivery and personnel
Personnel	Testing	Autos/PU	600	5	4 months, 7 days per week, one shift
Crude and water hauling	Testing	Truck	840	7	4 crude, 3 water. Assumes 42% water cut (7200 bpd water during peak production of 10kbpd)
Total			1,440	12	
<b>Construction Phase</b>					
Equipment delivery	Access road construction	Truck	24	12	based on equipment list table 2-7. Would be used for pad grading also
Asphalt/base delivery	Access road construction	Truck	8	4	Matrix table
Soil export	Access road construction	Truck	88	4	Based on 1054 yds3 export, 12 yds3 per truck, over 1 month
Personnel	Access road construction	Auto	1,200	10	over 3 months
Total			1,320	30	
Soil Export	Pad Grading	Truck	9,313	78	Matrix PD, over 6 months, weekdays only
Personnel	Pad Grading	Auto	600	5	over 6 months, estimated
Mulch material	Pad Grading	Truck	10	1	estimated, if have to haul offsite
Total			9,923	84	
Concrete	Facility Construction	Truck	40	5	Matrix table, total of 40 trips
Concrete residue	Facility Construction	Truck	5	1	estimated
Wastes hauling	Facility Construction	Truck	8	1	10 tons per truck, 80 tons generated during contr (Matrix)
Materials Delivery	Facility Construction	Truck	100	5	based on equipment list table 2-12 + 15%
Equipment Delivery	Facility Construction	Truck	50	5	count of table 2.7
Contr Equipment Daily	Facility Construction	Truck	4,680	9	from table 2.7
Misc Construction Equipment	Facility Construction	Truck	25	1	estimated, portatoilets, etc
Vacuum Trucks	Facility Construction	Truck	52	1	estimated weekly
Personnel	Facility Construction	Autos	20,800	40	Matrix info
Equipment refueling	All	Truck	520	1	Estimated one per day
Total			26,280	69	
Pipeline hauling	Pipelines	Truck	6	1	calculated based on pipe length and density and 40,000 lbs per truck
Equipment Delivery	Pipelines	Truck	12	4	estimated
Soils remove/deliver	Pipelines	Truck	1,447	8	assumes worst case all soils hauled away, 6' deep trench, over 180 days
Personnel	Pipelines	Autos	2,700	15	9 months of construction
Total			4,165	28	Peak day based on pad grading only
<b>Operations and Maintenance Phase</b>					
Day shift		Autos	7,280	20	per Matrix
Night Shift		Autos	728	2	per Matrix
Odorant & misc deliveries		Truck	52	1	assumed weekly
Workovers		Truck	52	1	weekly as per Matrix
Wastes, solid		Truck	52	1	assumed weekly
Wastes, sand/particles		Truck	24	1	assumed twice per month
Misc trucks		Truck	520	2	assumed 2 per weekday
Total			8,708	28	





**Legend**

**Prop A PURCHASE**

- Chevron (960 Acres)
- Hall / Childs Estate (76 Acres)
- Hellman Estate (103 Acres)
- Quaker (11 Acres)
- Rose Hills
- Shannon (18 acres)
- Sycamore Canyon (107 Acres)
- Unocal (290 Acres)
- Worsham Canyon (19 Acres)

**Landfill area**

- A = 8137-021-903 (2.86 acres)
- B = 8137-021-905 (4.18 acres)
- C = 8137-021-906 (2.36 acres)
- D = 8138-033-904 (3.41 acres)
- E = 8138-033-906 (2.27 acres)
- F = 8138-033-903 (4.95 acres)
- G = 8138-033-908 (0.11 acres)
- H = 8138-033-924 (2.49 acres)
- I = 8138-033-9910 (2.88 acres)



Whittier/Puente Hills Property Purchased with Proposition A Funds  
Based on List of 1992 Proposition A Projects from Controller's

AINs Listed on map are current. Where possible they have been compared with earlier APNs listed on deeds.

Current AIN	Old APN
Chevron (Mountains Recreation...) (Deed 2308)	
8291-004-900	8291-004-010
8138-032-901	8138-032-004
8289-021-904	8289-021-001
8289-021-902	8289-021-002
8289-021-903	8289-021-003
8291-005-900	8291-005-002
8137-021-908	8137-021-012
8137-021-909	8137-021-013
8137-028-900	8137-028-002
8138-033-913	8138-033-014
8138-033-914	8138-033-032
8289-007-908	8289-007-013
8289-007-907	8289-007-010
8289-007-909	8289-007-014
Chevron (Deed 2257)	
8138-033-914	8138-033-030
Hall/Childs (Deed 2264)	
8126-028-901	8126-028-002
Hellman (Deeds 28,08,1891, 2418, 2419, 2922)	
8125-025-923	Not sure of old APNs
8125-025-924	
8126-041-909	
8126-041-907	
8126-041-908	
Quaker (Deed 2301)	
8240-001-900	8240-001-007
Rose Hills	
Shannon/YMCA (City Deed 2333)	
8138-033-915	8138-033-015
8138-033-916	8138-033-025
Sycamore Canyon (No deed; Not in City)	
Unocal (Deed 2300)	
8289-020-900	8291-020-001
8291-003-901	8291-003-006
Worsham Canyon (Deed 2318); Not sure which AIN lines up with which APN	
8138-016-900	8138-016-013
8138-016-901	8138-016-014
8138-016-902	8138-016-005
8138-016-903	