Petition to Amend the Natural Gas Line Route for the Lodi Energy Center Project (08-AFC-10C)

Submitted to the

California Energy Commission

July 2011

Prepared by

NCPA
NORTHERN CALIFORNIA POWER AGENCY

With Technical Assistance by

CH2MHILL
Sacramento, CA

Contents

Section **Page**

Acronyms and Abbreviations ..... **v**

1 Introduction **1-1**
1.1 Background 1-1
1.2 Description of Proposed Amendment 1-1
1.3 Necessity of Proposed Change 1-2
1.4 Summary of Environmental Impacts 1-2
1.5 Consistency of Amendment with License 1-2

2 Description of Project Changes **2-1**
2.1 Proposed Changes 2-1
2.1.1 Revised Route 2-1
2.1.2 Construction Easements 2-2
2.1.3 Revised Laydown Area 2-2
2.2 Necessity of Proposed Changes 2-2

3 Environmental Analysis of the Project Changes **3-1**
3.1 Subject Matter Unaffected by the Project Changes 3-1
3.2 Air Quality 3-1
3.3 Biological Resources 3-2
3.3.1 Mitigation 3-3
3.4 Soils 3-4
3.4.1 Revised Gas Line Route 3-4

4 Proposed Modifications to the Conditions of Certification **4-1**

5 Potential Effects on the Public and Property Owners **5-1**

6 List of Property Owners **6-1**

7 References **7-1**

Appendixes

A Construction Drawings
B Correspondence with SJCOG
C Soil Loss Calculations
D Property Owners Within 500 Feet of Proposed Gas Line

Tables

1 Estimated Increase in PM Emissions from Proposed Change in Pipeline Route—Daily Construction Emissions (peak month)
2 Estimated Increase in PM Emissions from Proposed Change in Pipeline Route—Total Construction Emissions
3 Comparison of the Permitted Gas Line Route Agricultural Habitat Disturbances to the Proposed Design Changes

Figure

1 Proposed Gas Line Route Location

Acronyms and Abbreviations

AFC	application for certification
BMP	best management practice
BRMIMP	Biological Mitigation and Monitoring Plan
CEC	California Energy Commission
CPM	Compliance Project Manager
HTAC	Habitat Technical Advisory Committee
LEC	Lodi Energy Center
LORS	laws, ordinances, regulations, and standards
MW	megawatt
NCPA	Northern California Power Agency
PG&E	Pacific Gas and Electric
SJCOG	San Joaquin Council of Governments
SJCMSHCOSP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
STIG	steam turbine injected gas turbine
WPCF	Water Pollution Control Facility

SECTION 1

Introduction

1.1 Background

The California Energy Commission (CEC) issued a license for Northern California Power Agency's (NCPA's) Lodi Energy Center (LEC) Project on April 21, 2010. The LEC Project is a nominal 296-megawatt (MW) combined-cycle power plant located in the City of Lodi. The LEC is located on an approximately 4.4-acre parcel adjacent to the City of Lodi's White Slough Water Pollution Control Facility (WPCF) to the east, treatment and holding ponds associated with the WPCF to the north, the existing 49-MW NCPA Combustion Turbine Project #2 (STIG plant[1]) to the west, and the San Joaquin County Mosquito and Vector Control facility to the south. The project site is on land owned and incorporated by the City of Lodi and is approximately 6 miles west of the Lodi city center. Pacific Gas and Electric Company (PG&E) will design, construct, own, operate, and maintain the new gas line that will serve the LEC Project.

The CEC Compliance Project Manager (CPM) issued a letter authorizing the start of construction activities on July 14, 2010. Construction was initiated by the LEC project construction contractor, ARB, Inc., in late August 2010, and work activities are well underway, as reported to the CPM in NCPA's ongoing monthly compliance reports. Construction and commissioning activities are expected to last approximately 2 years. The anticipated commercial operation date for the plant is June 2012.

The purpose of this petition is to request an amendment to the LEC project description to allow for a slight modification to the natural gas route. PG&E is requesting authorization to use a revised gas line route and widened construction easement than what was approved in the CEC Final Decision. As discussed in further detail below, PG&E, in its final design of the gas line, has adjusted the alignment of approximately 2,471 feet of the natural gas line route, shortened the overall length of the gas line route, moved the temporary gas pipe construction laydown area, and increased the width of the construction easement. These design changes were not known when NCPA received the Final Decision for the LEC in April 2010.

1.2 Description of Proposed Amendment

The CEC Final Decision approved the construction of a 2.7-mile-long natural gas line running parallel to the existing PG&E gas line that currently provides fuel to the STIG plant. The purpose of this filing is to request the CEC's approval to amend the LEC project description to (1) slightly modify the alignment of a portion of the approved gas line route; (2) shorten the overall length of the gas line route; (3) move the construction laydown area for the gas line to a new location; and (4) increase the width of the construction easement for

[1] "STIG plant" refers to the NCPA Combustion Turbine Project, which is a steam turbine injected gas turbine (STIG) plant

the gas pipeline. All of these modifications are necessary to support the final design recently completed by PG&E. More detailed information on these proposed changes is provided in Section 2.

1.3 Necessity of Proposed Change

Sections 1769 (a)(1)(B) and 1769 (a)(1)(C) of the CEC Siting Regulations require a discussion of the necessity for the proposed changes to the Project and a discussion of whether this modification is based on information that was known by the petitioner during the certification proceeding.

The need for a revision to the gas line route was not known to NCPA during the CEC licensing process for the LEC Project. Following issuance of the CEC Final Decision and during construction activities at the site, PG&E moved forward with the final design of the gas line. PG&E's engineers recently informed NCPA that the route approved in the Final Decision would need to be revised to more closely parallel the existing gas line due to engineering changes that were discovered during final design of the new pipeline. In addition to the minor reroute, PG&E has indicated that the final design will require a larger (wider) construction easement than was originally approved and a relocated gas pipeline construction laydown area. As a result, NCPA is requesting CEC approval of the gas line modifications identified in this document.

1.4 Summary of Environmental Impacts

Section 1769 (a)(1)(E) of the CEC Siting Regulations requires that an analysis be conducted to address impacts that the proposed revisions may have on the environment and proposed measures to mitigate significant adverse impacts. Section 1769 (a)(1)(F) requires a discussion of the impacts of proposed revisions on the facility's ability to comply with applicable laws, ordinances, regulations, and standards (LORS).

The proposed change referenced in this petition will not result in any additional potential significant impacts beyond those already identified in the original Final Decision. Section 3 discusses the potential impacts of the proposed changes on the environment, as well as the proposed revisions' consistency with LORS.

1.5 Consistency of Amendment with License

Section 1769 (a)(1)(D) of the CEC Siting Regulations requires a discussion of the consistency of each proposed project revision with the assumptions, rationale, findings, or other basis of the Final Decision and whether the revision is based on new information that changes or undermines the bases of the final decision. Also required is an explanation of why the changes should be permitted. As set forth in the following sections, the proposed revisions do not undermine the assumptions, rationale, findings, or other basis of the Final Decision for the Project.

SECTION 2

Description of Project Changes

Consistent with the CEC Siting Regulations Section 1769(a)(1)(A), this section includes a description of the requested project modifications, as well as the necessity for the changes.

2.1 Proposed Changes

As the natural gas provider to the LEC plant, PG&E is responsible for providing the natural gas supply for plant operations. Following approval of the LEC Project by the CEC and in conjunction with construction activities, PG&E's moved forward with final design of the gas line. PG&E's engineers recently informed NCPA that the description of the natural gas route approved in the CEC Final Decision did not follow the existing natural gas route in place and that the route approved in the Final Decision would need to be revised based on engineering changes identified by PG&E's engineering design consultant. PG&E also requested a larger construction easement than was originally permitted in the CEC Final Decision, as well as a relocated laydown area to aid with mobility of construction personnel and equipment. Figure 1 identifies the route approved in the Final Decision, the new proposed route, the original laydown area, and the revised laydown location. Figure 2 identifies the construction easements needed. The following sections describe the proposed changes as requested by PG&E: (1) the revised route (i.e., the shortened existing route); (2) the revised construction easements; and (3) a revised location for the laydown area. Each of these items is discussed more fully below.

2.1.1 Revised Route

As shown in Figure 1, the natural gas line approved in the CEC Final Decision is approximately 2.7 miles and travels in an easterly direction from its origin at the STIG plant. The pipeline route exits the STIG plant, heads east under I-5 to North Thornton Road, then heads south for approximately 0.25 mile. At this point, the line turns due east and follows an un-vegetated irrigation ditch through private agricultural fields before heading north on an unnamed farm road for approximately 300 feet, then turning east across agricultural fields to North Devries Road. At North Devries Road, the gas line heads north to the intersection of North Devries Road and West Armstrong Road. At West Armstrong Road, the gas line turns east to its termination point at PG&E's existing high-pressure natural gas pipeline #108

The revised natural gas line route will tie into the existing natural gas line for the STIG facility at Thornton Road and head east along an existing PG&E easement within an agricultural field for approximately 2,204 feet before turning south on an unnamed farm road for approximately 267 feet. At this point, the natural gas route follows the route previously permitted. Figure 1 identifies the approved route as well as the proposed route. The total length of the revised route is approximately 1.6 miles long, and the new portion of the route that runs between Thornton Road and an unnamed farm road is approximately

2,471 feet long. As noted earlier, the length of the proposed gas line (1.6 miles) is significantly shorter than what was permitted (2.7 miles).

2.1.2 Construction Easements

The CEC Final Decision approved a construction easement width of approximately 35 feet for the natural gas line. For those portions of the revised gas line within agricultural fields (approximately 5,090 feet of the total length), PG&E has requested that the construction easement be increased to 75-feet (45 foot construction easement plus a 30 foot permanent easement), resulting in an overall disturbance of approximately 8.92 acres[2] during construction. The additional width is needed to provide space for pipe, soil piles, and construction vehicle movement. Construction drawings are provided as Appendix A.

In addition, PG&E has requested a triangular shaped permanent easement at the southeastern corner of North Devries Road and West Armstrong Road within a vineyard for to be used as a tie-in point to PG&E Line 108. This easement would be approximately 0.05 acre. This easement will be used as a launcher site for performing internal line inspections of the new gas main.

2.1.3 Revised Laydown Area

The CEC Final Decision approved a 1.1-acre construction laydown area for gas line construction, located at the southwestern corner of Thornton Road and a farm road located approximately 1.8 mile due east of the LEC plant. PG&E has requested the laydown area be relocated to the center of the gas line construction area to allow easy access to workers, and has specifically identified the northwestern corner of North Devries Road just south of the intersection of North Devries and West Armstrong Road, (see Figure 1). The revised location of the laydown area closer to West Armstrong Road will allow the construction easement along West Armstrong Road to be reduced as large equipment can be stored at the laydown area as opposed to being stored adjacent to the trenches. The laydown area would be approximately 0.34 acre, which is significantly smaller than the 1.1 acre area that was approved in the Final Decision.

2.2 Necessity of Proposed Changes

Sections 1769 (a)(1)(B) and 1769 (a)(1)(C) of the CEC Siting Regulations require a discussion of the necessity for the proposed changes to the Project and whether this modification is based on information that was known by the petitioner during the certification proceeding.

During the licensing process, NCPA provided information on the gas pipeline facilities and route based on preliminary information provided by PG&E. The proposed revisions to the gas pipeline as described above in Section 2.1 were identified during PG&E's final design process, which was initiated following the publication of the Final Decision. Hence, NCPA could not have known during the CEC licensing process that this amendment would be needed. NCPA is requesting CEC approval of the modifications to the gas pipeline project description as identified in this document.

[2]As permitted, NCPA originally mitigated through SJCOG for the loss of 3.55 acres of agricultural land for the gas pipeline.

SECTION 3

Environmental Analysis of the Project Changes

NCPA has reviewed the modifications proposed herein to determine whether the changes will result in any environmental impacts that were not originally analyzed by the CEC when it approved the Project in April 2010.

The revised gas line route provides the LEC Project with a safe and viable gas line route for project operations. An analysis of the revised route for each of the environmental areas analyzed in the Final Decision is presented below.

Additionally, the proposed changes discussed in this amendment will not alter the operational impacts that were used as the basis to license the Project during the original proceeding.

3.1 Subject Matter Unaffected by the Project Changes

The following disciplines will not be affected by the proposed changes in this amendment and are not addressed below. As the revised gas line route is shorter than that licensed route, impacts for the following subject areas are assumed to be less than those described in the Final Decision. These subjects include Geologic Resources and Hazards, Hazardous Materials Management, Land Use, Noise and Vibration, Paleontologic Resources, Public Health, Socioeconomics, Traffic and Transportation, Visual Resources, Waste Management, Water Resources, and Worker Safety and Fire Protection. In addition, cultural and paleontological resources surveys conducted for the gas line during the licensing process encompassed the areas that would be temporarily disturbed during construction of the revised gas line route and therefore are not evaluated further.

3.2 Air Quality

The change in the width of natural gas pipeline easement is not expected to have any significant impact on air quality. The route originally set forth in the application for certification (AFC) approved by the CEC would have required about 14,122 feet of new linear construction from the main north-south PG&E gas pipeline to the new gas supply interconnection at the plant site, with a 35-foot easement. The approved route would have resulted in a total disturbed area of about 494,270 square feet. The revised route proposed by PG&E will require about 8,284 feet of new construction with, for a total maximum disturbed area of 621,300 square feet under the proposed new route. This proposed change would reduce the length of the proposed new natural gas pipeline by about 40 percent while increasing the easement width, resulting in a worst-case increase in disturbed area of approximately 26 percent.

The change in pipeline length and easement is not expected to significantly affect the length of the construction period and may actually reduce the number of workers and deliveries required. While there could potentially be an increase in fugitive dust emissions due to the

increase in disturbed area, the potential increase would be minor (see Table 1 and 2). Construction air quality impacts are not expected to exceed those originally analyzed during the CEC licensing process. No LORS will change as a result of the revised route.

TABLE 2
Estimated Increase in PM Emissions from Proposed Change in Pipeline Route—Daily Construction Emissions (peak month)

	Supplement C		Proposed Route*		Net Increase	
	$PM_{2.5}$ lb/day)	**PM_{10} lb/day)**	**$PM_{2.5}$ lb/day)**	**PM_{10} lb/day)**	**$PM_{2.5}$ lb/day)**	**PM_{10} lb/day)**
Construction Equipment	1.46	1.46	1.46	1.46		
Fugitive Dust	0.61	7.28	0.77	9.15		
Subtotal =	**2.08**	**8.74**	**2.23**	**10.62**		
Worker Travel	0.05	0.05	0.05	0.05		
Truck Deliveries	3.11	3.11	3.11	3.11		
Subtotal =	3.16	3.16	3.16	3.16		
Total =	**5.23**	**11.90**	**5.39**	**13.77**	**0.16**	**1.87**

*Assumes a 26% increase in fugitive dust emissions due to increase in disturbed area.

TABLE 2
Estimated Increase in PM Emissions from Proposed Change in Pipeline Route—Total Construction Emissions

	Supplement C		Proposed Route*		Net Increase	
	$PM_{2.5}$ (tons)	**PM_{10} (tons)**	**$PM_{2.5}$ (tons)**	**PM_{10} (tons)**	**$PM_{2.5}$ (tons)**	**PM_{10} (tons)**
Construction Equipment	0.03	0.03	0.03	0.03		
Fugitive Dust	0.01	0.12	0.01	0.16		
Subtotal =	**0.04**	**0.15**	**0.04**	**0.18**		
Worker Travel	0.00	0.00	0.00	0.00		
Truck Deliveries	0.07	0.07	0.07	0.07		
Subtotal =	0.07	0.07	0.07	0.07		
Total =	**0.11**	**0.22**	**0.11**	**0.26**	**0.003**	**0.03**

*Assumes a 26% increase in fugitive dust emissions due to increase in disturbed area.

3.3 Biological Resources

LEC's Designated Biologist, Rick Crowe, performed a reconnaissance survey of the revised gas line alignment on March 20, 2011. The revised gas line route is dominated by row crops such as cultivated grapes (*Vitas* sp.), feed corn (*Zea* sp.), and pasture grasses. Additionally,

some of the revised route will have temporary impacts to existing un-vegetated farm roads. Photos of the route are provided in Appendix B. The agricultural designated habitat within the proposed gas line route and the relocated laydown area provides habitat for common wildlife species such as western meadowlark (*Sturnella neglecta*), savannah sparrow (*Passerculus sandwichensis*), and coyote (*Canis latrans*). This agricultural designated habitat also provides foraging habitat for many raptor species such as northern harrier (*Circus cyaneus*), red-tailed hawk (*Buteo jamaicensis*), and Swainson's hawk (*Buteo swainsoni*).

As a result of the agricultural habitat designation, the revised gas line route, construction easements, and laydown area will result in a total amount of 8.92 acres of disturbance of agricultural habitat. These changes will result in 5.37 acres of additional impacts to agricultural habitat beyond what was originally permitted in the CEC's Final Decision for the LEC Project. This agricultural designated habitat is covered by the San Joaquin County Multi-Species Habitat Conservation & Open Space Plan (SJMSCP). Agricultural habitat is considered Swainson's hawk habitat as well as other upland wildlife habitat. See Table 3 for a comparison of the original permitted gas line acres of disturbance to the proposed gas line design changes.

TABLE 3
Comparison of the Permitted Gas Line Route Agricultural Habitat Disturbances to the Proposed Design Changes

Feature	Final Decision Permitted Annual Agricultural Disturbed Acreage	Proposed Design Annual Agricultural Disturbed Acreage	Difference from Originally Permitted Acreage
Gas Line Route, Permanent Easement, and Laydown Area	3.55	8.92	5.37

3.3.1 Mitigation

As stipulated in the CEC Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), the LEC Biological Monitor will be on site during the construction of the revised gas line route and laydown area, as required. Pre-disturbance surveys will also be conducted prior to beginning any work within the proposed alignment.

Because of the additional agricultural habitat disturbances, and after consultation with the San Joaquin Council of Governments (SJCOG)[3], the LEC Project will need to provide additional mitigation for temporary impacts to the additional 5.37 acres of agricultural habitat/Swainson's hawk. LEC has discussed the revised gas line route with SJCOG (2011, Steve Mayo). Under the SJCMSHCOSP, mitigation must be provided at a 1:1 mitigation ratio for the loss of agricultural lands. The SJCOG representative agreed with the need and quantity of mitigation required and instructed NCPA to submit an amendment requesting approval of the additional for review and approval by the SJCOG governing board. Impacts associated with the additional 5.37 acres of disturbance to agricultural habitat will be mitigated by payment of fees to SJCOG in the amount of

[3] SJCOG is the designated agency for the SJCMSHCOSP.

$71,216.94 (calculated as 5.37 acres x $13,262). NCPA has prepared an application to SJCOG requesting approval of the additional acreage. A copy of the request is provided as Appendix B. Condition of Certification BIO-11 will need to be modified to account for the additional mitigation acreage as described in Section 4.

3.4 Soils

3.4.1 Revised Gas Line Route

The revised gas line lies entirely within soil map unit 149 – Devries sandy loam, drained, 0 to 2 percent slopes. Soil loss by water erosion during construction has been estimated for the gas line using the Revised Universal Soil Loss Equation (RUSLE2). Results and detailed calculations are provided in Appendix C.

With the implementation of appropriate best management practices (BMPs) that will be implemented under the Construction SWPPP, the total projected soil loss with the revised gas line is considered to be a minimal amount and would not constitute a significant impact.

Wind Erosion

Potential fugitive dust resulting from the wind erosion of exposed soil was calculated for the additional access roads using the emission factor in AP-42 (U.S. Environmental Protection Agency, 1995; also in Table 11.9-4 of Bay Area Air Quality Management District, 2005).

Appendix C summarizes the mitigated Total Suspended Particulates predicted to be emitted from the site from grading and the wind erosion of exposed soil. These estimates are conservative because they make use of emission rates for a generalized soil rather than for site-specific soil properties.

With implementation of the appropriate BMPs that will be required for this Project, the additional potential soil impacts are less than significant. Construction of the revised gas line will be consistent with applicable LORS, and any potential soil impacts will be less than significant.

SECTION 4

Proposed Modifications to the Conditions of Certification

Consistent with the requirements of the CEC Siting Regulations Section 1769 (a)(1)(A), this section addresses the proposed modifications to the Project's Conditions of Certification.

A slight modification to the Condition of Certification BIO-11 in the CEC Final Decision for the LEC Project will be required due to additional impacts of 4.97 acres to agricultural lands. The original impacts to agricultural lands were 3.55 acres mitigated at 1:1, which was compensated for through an in-lieu swap and a one-time endowment fee of $16,343.28. LEC is proposing to satisfy the additional mitigation with mitigation funds totaling $71,216.94 (calculated as 5.37 acres x $13,262) paid to SJCOG. Appendix B provides the request provided to SJCOG discussing this approach. The proposed revision to Condition of Certification BIO-11 is presented below.

> **BIO-11** The project owner shall survey for nesting Swainson's hawk as part of the Applicant's proposed pre-construction surveys within one mile of construction activities between March 20 and April 20. If active nests are found, mitigation measures consistent with the *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California* (CDFG, 1994) shall be implemented as approved by the SJCOG (HTAC). In addition, the project owner shall provide habitat compensation for temporary and permanent impacts at a 1:1 mitigation ratio and a one-time endowment fee of ~~$82,255.42~~ **$87,560.22 ($71,216.94 + $16,343.28)** as required by SJMSCP.
>
> **Verification:** All mitigation measures and their implementation methods shall be included in the BRMIMP. Pre-construction Swainson's hawk survey results shall be provided to the CPM within 15 days of completion of surveys. Within 15 days of site or related facilities mobilization, the project owner shall submit written verification to the CPM and the HTAC that the transaction for habitat compensation has occurred. A discussion of the implementation of Swainson's hawk mitigation and impact avoidance measures shall be submitted to the CPM in monthly compliance reports as necessary.

SECTION 5

Potential Effects on the Public and Property Owners

The proposed change described in this amendment will have no effect on the public and property owners beyond what was originally approved by the CEC[4].

Construction activities associated with the revised natural gas line route, easement, and laydown area are temporary in nature and will result in no greater impacts on the public and property owners than those analyzed during project licensing. Therefore, impacts on the public and property owners are expected to be the same as those analyzed during the license proceeding for the Project.

[4] CEC Siting Regulations Section 1769(a)(1)(G) and (I)

SECTION 6

List of Property Owners

The list of property owners within 500 feet of the proposed project gas line provided in the AFC has changed slightly as a result of the revised natural gas line route, easement, and laydown area. An updated list of property owners within 500 feet of the natural gas line route is provided as Appendix D. [5]

[5] CEC Siting Regulations Section 1769(a)(1)(H).

SECTION 7

References

Bay Area Air Quality Management District. 2005. Permit handbook. http://www.baaqmd.gov/pmt/handbook/rev02/permit_handbook.htm. Accessed June 2011.

U.S. Environmental Protection Agency. 1995. U.S. Environmental Protection Agency (EPA). 1995. Compilation of Air Pollutant Emission

Factors AP 42. Volume I: Stationary Point and Area Sources, 5th edition. http://www.epa.gov/ttn/chief/ap42/index.html. Accessed June 2011._____

Mayo, Steve. 2011. Senior Habitat Planner, San Joaquin Council of Governments. Telephone conversation with Rick Crowe, CH2M HILL. June 16.

Figure

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.

N

0 1,000 2,000
Feet

FIGURE 1
PROPOSED NATURAL GAS ROUTE
LODI ENERGY CENTER
LODI, CALIFORNIA

CH2MHILL

\\ZION\SACGIS\PROJ\LODIENERGYCENTER_371322\MAPFILES\PROPOSED_NATURAL_GAS_ROUTE.MXD SSCOPES 7/14/2011 2:33:25 PM

Appendix A
Construction Drawings

T. 3N., R. 6E., M.D.B.&M.
N½ OF NW¼, SEC. 30

DAVILLA LODI FAMILY PTP
APN: 055-180-06
Doc. No.: 1992-98179
(PARCEL 1)

PROPERTY LINE

Existing G/L

PROPOSED G/L

Sh. 1

Match Line

THORNTON

ROAD

30' WIDE PG&E R/W
LD - 2103-06-0214

C/L PG&E R/W
LD 2103-06-0639

C/L PG&E R/W
RELOCATED
LD 2103-06-0707

30' WIDE PG&E R/W
LD - 2103-06-0639

8" L 1616-01

83+99

80+00

45' WORK AREA

40'

40'

ROAD R/W

CITY OF LODI
APN: 055-190-01
Doc. No.: 1989-36048

DAVILLA LODI FAMILY PTP
APN: 055-190-02
Doc. No.: 1992-98179
(PARCEL 2)

LEGEND:

- EXISTING GAS LINE
- C/L EXISTING PG&E GAS EASEMENT
- C/L PROPOSED PG&E GAS LINE
- C/L 30' WIDE PG&E GAS EASEMENT RELOCATED - LD 2103-06-0707

UNLESS OTHERWISE SHOWN ALL COURSES EXTEND TO OR ALONG ALL BOUNDARIES OR LINES

NO.	DATE	DESCRIPTION	SEARCH	SEC	COMPS.	SEC	F. B.	SEC
1	7/11	Added work areas						

REVISIONS

APPROVED BY

PLAT# : 2868 -J7
SUPV. :
DSGN. :
DWN. : PXNE
CHKD. : WRT6
O.K. :
DATE : 04/29/11
SCALES 1" = 100'

NCPA LODI ENERGY CENTER
L-1616-01

PACIFIC GAS AND ELECTRIC COMPANY

SEC 30 | T. 3 N. | R. 6 E.
COUNTY : SAN JOAQUIN
DIVISION : SACRAMENTO
AUTH # : 30698447
SHEET NO. 2 SHEETS 2

SG - 088

REV. 2

T. 3N., R. 6E., M.D.B.&M.
N½ OF NW¼, SEC. 30

DAVILLA LODI FAMILY PTP
APN: 055-180-06
Doc. No.: 1992-98179
(PARCEL 1)

PROPERTY LINE

Existing G/L

PROPOSED G/L

30' WIDE PG&E R/W
LD - 2103-06-0639

C/L PG&E R/W
RELOCATED
LD 2103-06-0707

C/L PG&E R/W
LD 2103-06-0639

C/L PG&E R/W
RELOCATED
LD 2103-06-0707

North East Corner
of PARCEL 2

L1

8" C (L616-01)

75+00

70+00

S 89°57'44" W 2276.10'

S 89°57'44" W 2276.10'

65+00

45' WORK AREA

Point of Beginning

L7

45' WORK AREA

L2

L6

80+00

L3

L4

L5

PROPERTY LINE

Match Line Sh. 2

DAVILLA LODI FAMILY PTP
APN: 055-190-02
Doc. No.: 1992-98179
(PARCEL 2)

LEGEND:

- EXISTING GAS LINE
- C/L EXISTING PG&E GAS EASEMENT
- C/L PROPOSED PG&E GAS LINE
- C/L 30' WIDE PG&E GAS EASEMENT LD 2103-06-0707

LINE TABLE

NO.	BEARING	DIST.
L1	S 0°08'19" W	123.13'
L2	S 0°08'19" W	168.11'
L3	S 88°15'53" E	15.01'
L4	S 0°08'19" W	75.03'
L5	N 88°15'53" W	60.02'
L6	N 0°08'19" E	241.75'
L7	N 89°57'46" E	45.00'

UNLESS OTHERWISE SHOWN ALL COURSES EXTEND TO OR ALONG ALL BOUNDARIES OR LINES

NO.	DATE	DESCRIPTION	SEARCH	SEC	COMPS.	SEC	F. B.	SEC
1	7/11	Added work areas						

REVISIONS

APPROVED BY

PLAT# : 2868 -J7
SUPV. :
DSGN. :
DWN. : PXNE
CHKD. : WRT6
O.K. :
DATE : 04/29/11
SCALES 1" = 100'

NCPA LODI ENERGY CENTER
L-1616-01

PACIFIC GAS AND ELECTRIC COMPANY

SEC 30 | T. 3 N. | R. 6 E.
COUNTY : SAN JOAQUIN
DIVISION : SACRAMENTO
AUTH # : 30698447
SHEET NO. 1 SHEETS 2

SG - 088

REV. 2

T. 3N., R. 6E., M.D.B.&M.
N½ OF NE¼, SEC. 30

REGO RANCH PARTNERSHIP
APN: 055-180-04

C/L PG&E R/W
LD 2103-06-0639

Existing G/L

PROPOSED G/L

30' WIDE PG&E R/W
LD - 2103-06-0638

60+00

8" L 1616-01

55+00

15'

50+00

45' Work Area

Sh. 1

Match Line

DAVILLA LODI FAMILY PTP
APN: 055-190-02
Doc. No.: 1992-98179

PROPERTY LINE

REGO RANCH PARTNERSHIP
APN: 055-190-03
Doc. No.: 2006-161519

LEGEND:
- EXISTING GAS LINE
- C/L EXISTING GAS EASEMENT
- C/L PROPOSED GAS LINE

UNLESS OTHERWISE SHOWN ALL COURSES EXTEND TO OR ALONG ALL BOUNDARIES OR LINES

NO.	DATE	DESCRIPTION	SEARCH	SEC	COMPS.	SEC	F. B.	SEC
1	7/11	Added work areas						

REVISIONS

APPROVED BY

PLAT# : 2868 -J7
SUPV. :
DSGN. :
DWN. : PXNE
CHKD. : WRT6
O.K. :
DATE : 04/29/11
SCALES 1" = 100'

NCPA LODI ENERGY CENTER
L-1616-01

PACIFIC GAS AND ELECTRIC COMPANY

SEC 30 | T. 3 N. | R. 6 E.
COUNTY : SAN JOAQUIN
DIVISION : SACRAMENTO
AUTH # : 30698447
SHEET NO. 2 SHEETS 2

SG - 087

REV. 2

T. 3N., R. 6E., M.D.B.&M.
N½ OF NE¼, SEC. 30

REGO RANCH PARTNERSHIP
APN: 055-180-04

ARMSTRONG RD.

PROPERTY LINE

19 20
5011
30 29

30+00

5'

L1

REGO RANCH PARTNERSHIP
APN: 055-190-03
Doc. No.: 2006-161519
(PARCEL 1)

PROPOSED G/L

Existing G/L

100' X 150' LAYDOWN
TEMPORARY CONSTRUCTION AREA
AREA = 0.34 ACRE
STRIP 2

100'

150'

30' WIDE PG&E R/W
LD - 2103-06-0638

15'

Sh. 2

Match Line

G/L

8" L 1616-01

45+00

40+00

35+00

L2

45' WORK AREA

ROAD

DEVRIES

M & K PHILLIPS FAMILY LP
APN: 055-220-40

ROAD R/W

80'

40'

LINE TABLE		
NO.	BEARING	DIST.
L1	S 8°07'49" W	355.57'
L2	N 88°15'53" W	10.00'±

REGO RANCH PARTNERSHIP
APN: 055-190-03
Doc. No.: 2006-161519
(PARCEL 1)

LEGEND:
- EXISTING PG&E GAS LINE
- C/L EXISTING PG&E GAS EASEMENT
- C/L PROPOSED PG&E GAS LINE

UNLESS OTHERWISE SHOWN ALL COURSES EXTEND TO OR ALONG ALL BOUNDARIES OR LINES

NO.	DATE	DESCRIPTION	SEARCH	SEC	COMPS.	SEC	F. B.	SEC
1	7/11	Added work areas						

REVISIONS

APPROVED BY

PLAT# : 2868 -J7
SUPV. :
DSGN. :
DWN. : PXNE
CHKD. : WRT6
O.K. :
DATE : 04/29/11
SCALES 1" = 100'

NCPA LODI ENERGY CENTER
L-1616-01

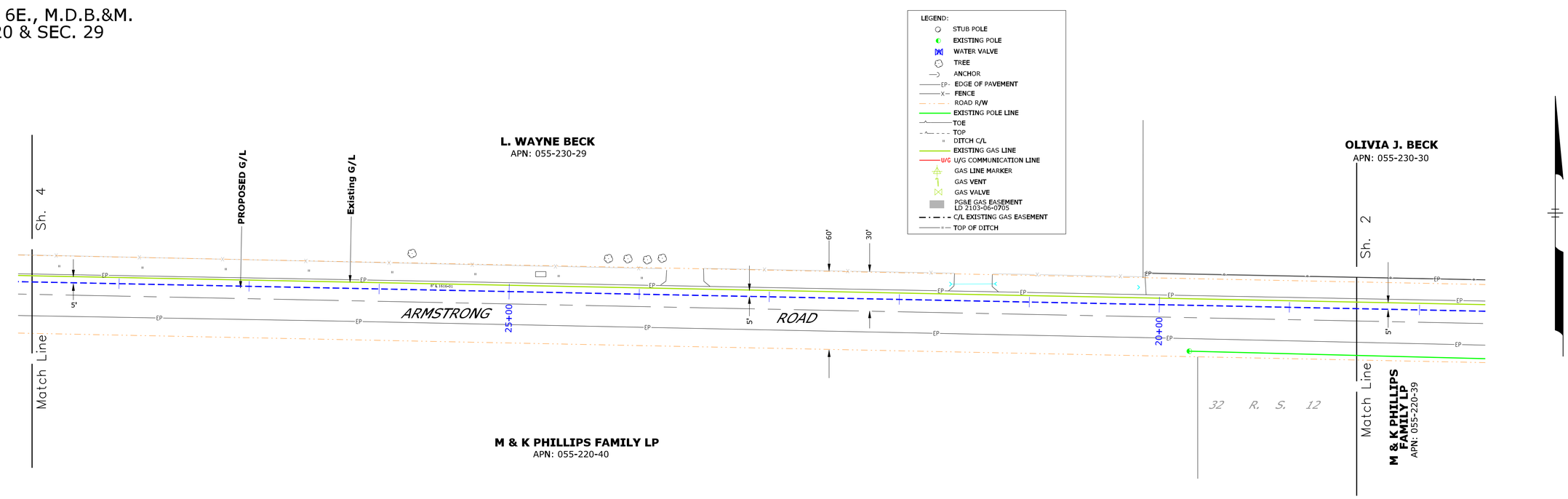
PACIFIC GAS AND ELECTRIC COMPANY

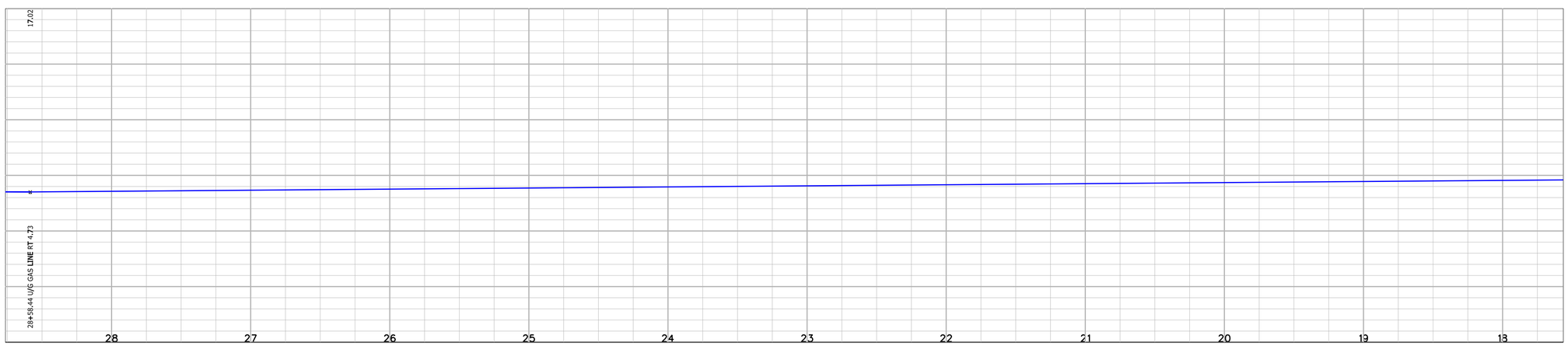
SEC 30 | T. 3 N. | R. 6 E.
COUNTY : SAN JOAQUIN
DIVISION : SACRAMENTO
AUTH # : 30698447
SHEET NO. 1 SHEETS 2

SG - 087

REV. 2

T. 3N., R. 6E., M.D.B.&M.
SEC. 20 & SEC. 29





CONTROL POINTS LIST					
NO.	NORTHING	EASTING	ELEV.	DESCRIPTION	REF. MAP
3002	2219443.399	6311150.168	12.339	BENCHMARK	
3001	2219212.39	6318923.431	19.275	BENCHMARK	
5005	2219263.425	6317745.093	18.271	FD. REBAR	16 P.M. 35
5007	2219233.44	6317745.148	17.607	FD. REBAR	17 P.M. 35
5011	2219290.046	6316419.835	18.144	FD. BRASS DISC.	36 R.S. 187
5004	2219236.819	6319070.477	20.503	FD. R.R. SPIKE	36 R.S. 187
5001	2219183.363	6321721.078	22.24	FD. BRASS DISC.	36 R.S. 187
10005	2219446.518	6311143.784	11.061	FD. MONUMENT	32 R.S. 87

NOTES:

1. Basis of Bearing per Record of Survey filed for Record July 15, 2008, Bk. 36 of Surveys Pg. 187 N 88°50'52" W 5302.84', taken as N 88°50'50" W (CCS 83, ZONE III)
2. Contour Interval is 0.5 foot.
3. Elevations are based upon NAVD88.

DATUM: HORIZONTAL:	NAD83	PROJECTION:	CCS ZONE III
VERTICAL:	NAVD88	UNITS:	US SUR. FT.
REFERENCE DWGS:	JZ157, R.S. 36-187, P.M. 17-13, P.M. 7-163		
SCALES:	1 inch = 40 FEET 1 centimeter =		

NO.	DATE	DESCRIPTION	APPD.

REVISIONS

APPRD BY

AUTHORIZATION 30698447

BY	DED2
DR	PXNE
CH	
O.K.	WRT6
DATE	5/9/11

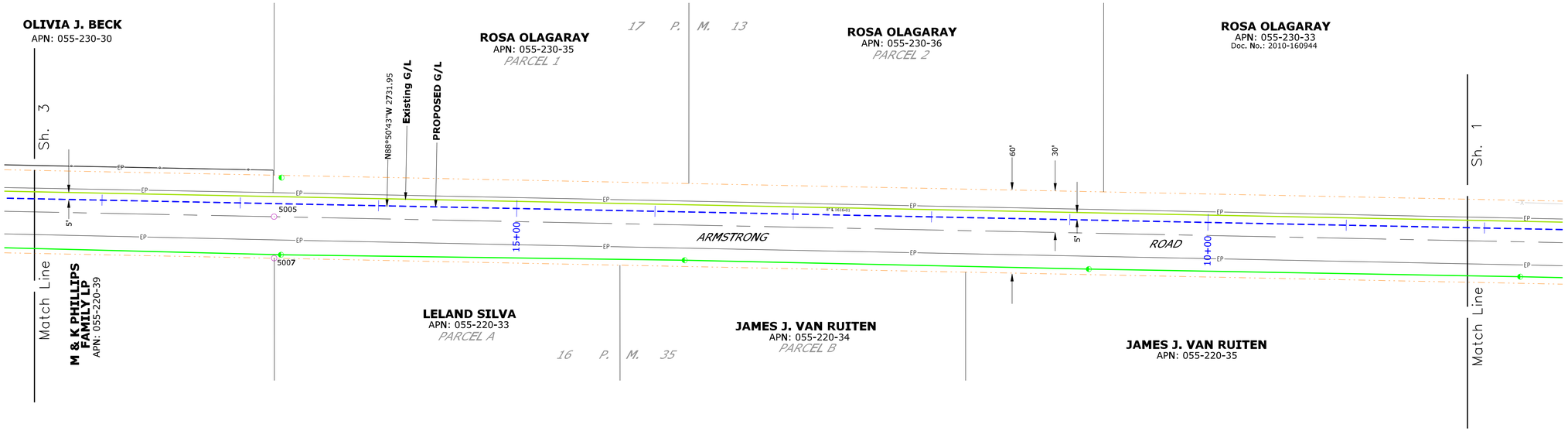
NCPA LODI ENERGY CENTER
L1616-01

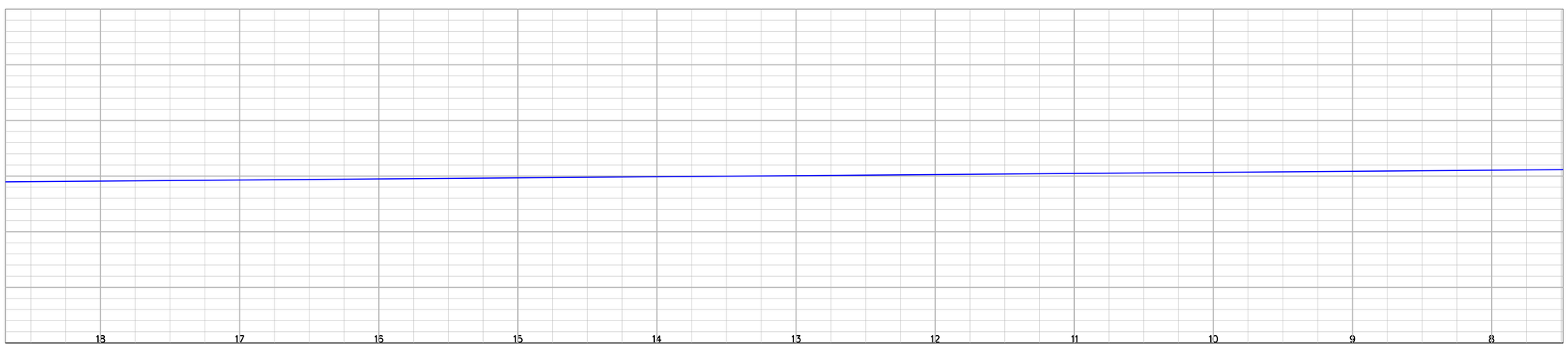
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

PG&E LS & ES

JCN	06-10-087
AREA	SACRAMENTO
COUNTY	SAN JOAQUIN
PROFILE	N/A
SHEET NO.	3 OF 10
DRAWING NUMBER	SS - 201
CHANGE	

T. 3N., R. 6E., M.D.B.&M.
SEC. 20 & SEC. 29





NOTES:

1. Basis of Bearing per Record of Survey filed for Record July 15, 2008, Bk. 36 of Surveys Pg. 187 N 88°50'52" W 5302.84', taken as N 88°50'50" W (CCS 83, ZONE III)
2. Contour Interval is 0.5 foot.
3. Elevations are based upon NAVD88.

CONTROL POINTS LIST

NO.	NORTHING	EASTING	ELEV.	DESCRIPTION	REF. MAP
3002	2219443.399	6311150.168	12.339	BENCHMARK	
3001	2219212.39	6318923.431	19.275	BENCHMARK	
5005	2219263.425	6317745.093	18.271	FD. REBAR	16 P.M. 35
5007	2219233.44	6317745.148	17.607	FD. REBAR	17 P.M. 35
5011	2219290.046	6316419.835	18.144	FD. BRASS DISC.	36 R.S. 187
5004	2219236.819	6319070.477	20.503	FD. R.R. SPIKE	36 R.S. 187
5001	2219183.363	6321721.078	22.24	FD. BRASS DISC.	36 R.S. 187
10005	2219446.518	6311143.784	11.061	FD. MONUMENT	32 R.S. 87

DATUM: HORIZONTAL:	NAD83	PROJECTION:	CCS ZONE III
VERTICAL:	NAVD88	UNITS:	
REFERENCE DWGS:	JZ157, R.S. 36-187, P.M. 17-13, P.M. 7-163		
SCALES:	1 inch = 40 FEET		
	1 centimeter =		

NO.	DATE	DESCRIPTION	APPD.	NO.	DATE	DESCRIPTION	APPD.	NO.	DATE	DESCRIPTION	APPD.

REVISIONS

APPRD BY

AUTHORIZATION
30698447

BY DED2
DR PXNE
CH
O.K. WRT6
DATE 5/9/11

NCPA LODI ENERGY CENTER
L1616-01

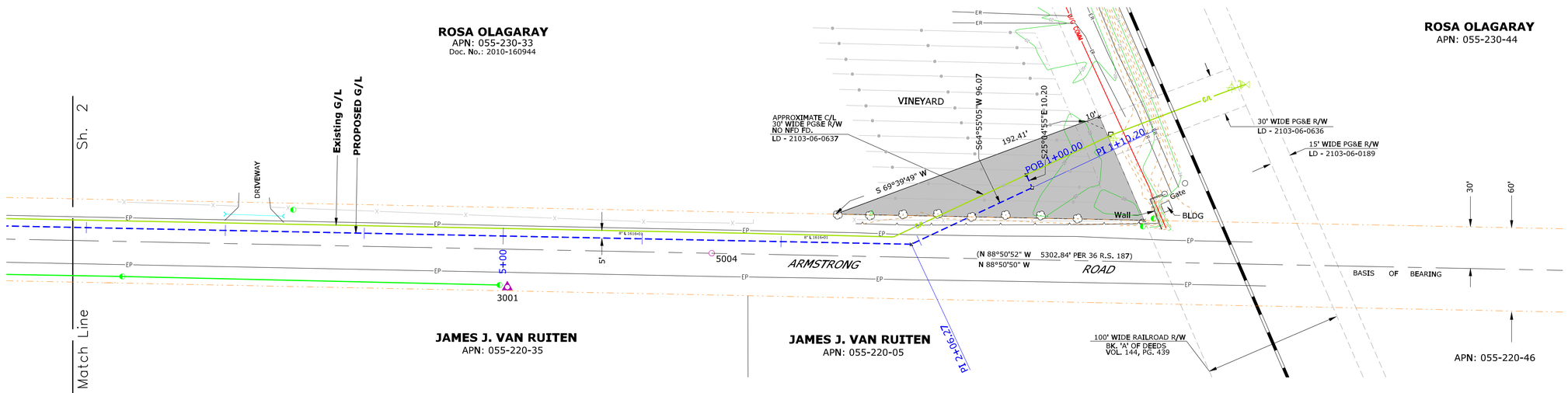
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

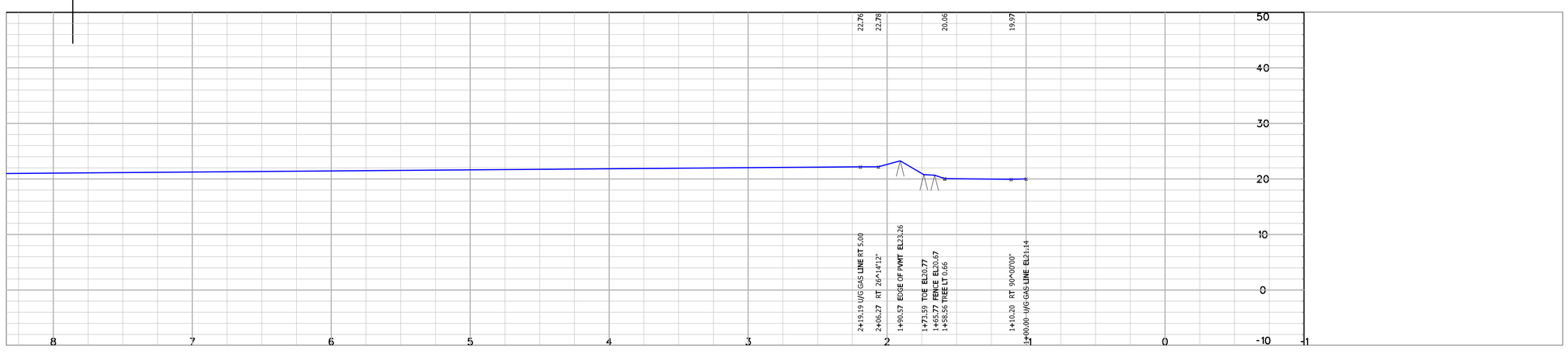
PG&E
LS & ES

JCN 06-10-087
AREA SACRAMENTO
COUNTY SAN JOAQUIN
PROFILE N/A

SHEET NO. 2 OF 10
DRAWING NUMBER SS - 201
CHANGE

T. 3N., R. 6E., M.D.B.&M.
SEC. 20 & SEC. 29





LEGEND:
- STUB POLE
- EXISTING POLE
- WATER VALVE
- TREE
- ANCHOR
- EP EDGE OF PAVEMENT
- X FENCE
- ROAD R/W
- EXISTING POLE LINE
- TOE
- TOP
- DITCH C/L
- EXISTING GAS LINE
- U/G U/G COMMUNICATION LINE
- GAS LINE MARKER
- GAS VENT
- GAS VALVE
- PG&E GAS EASEMENT LD 2103-06-0705
- C/L EXISTING GAS EASEMENT
- TOP OF DITCH

NOTES:

1. Basis of Bearing per Record of Survey filed for Record July 15, 2008, Bk. 36 of Surveys Pg. 187 N 88°50'52" W 5302.84', taken as N 88°50'50" W (CCS 83, ZONE III)
2. Contour Interval is 0.5 foot.
3. Elevations are based upon NAVD88.

CONTROL POINTS LIST

NO.	NORTHING	EASTING	ELEV.	DESCRIPTION	REF. MAP
3002	2219443.399	6311150.168	12.339	BENCHMARK	
3001	2219212.39	6318923.431	19.275	BENCHMARK	
5005	2219263.425	6317745.093	18.271	FD. REBAR	16 P.M. 35
5007	2219233.44	6317745.148	17.607	FD. REBAR	17 P.M. 35
5011	2219290.046	6316419.835	18.144	FD. BRASS DISC.	36 R.S. 187
5004	2219236.819	6319070.477	20.503	FD. R.R. SPIKE	36 R.S. 187
5001	2219183.363	6321721.078	22.24	FD. BRASS DISC.	36 R.S. 187
10005	2219446.518	6311143.784	11.061	FD. MONUMENT	32 R.S. 87

DATUM: HORIZONTAL: NAD83 PROJECTION: CCS ZONE III
VERTICAL: NAVD88 UNITS: US SUR. FT.
REFERENCE DWGS: JZ157, R.S. 36-187, P.M. 17-13, P.M. 7-163
SCALES: 1 inch = 40 FEET; 1 centimeter =

NO.	DATE	DESCRIPTION	APPD.

REVISIONS

APPRD BY

AUTHORIZATION 30698447

BY DED2
DR PXNE
CH
O.K. WRT6
DATE 5/9/11

NCPA LODI ENERGY CENTER
L1616-01

PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

PG&E LS & ES

JCN 06-10-087
AREA SACRAMENTO
COUNTY SAN JOAQUIN
PROFILE N/A
SHEET NO. 1 OF 10
DRAWING NUMBER SS - 201
CHANGE

Appendix B
Correspondence with SJCOG

Lodi Energy Center—Request for Additional Mitigation for the Revised PG&E Natural Gas Pipeline through the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

PREPARED FOR: Steve Mayo, San Joaquin Council of Governments
Anne-Marie Poggio-Castillou, San Joaquin Council of Governments
Mary Dyas, California Energy Commission
Joy Nishida, California Energy Commission

PREPARED BY: Rick Crowe, CH2M HILL

COPIES: Ed Warner, NCPA
Sarah Madams, CH2M HILL
Andrea Greiner, Grenier & Associates, Inc.

DATE: July 15, 2011

Introduction

The Northern California Power Agency (NCPA or project proponent) is constructing an electrical generating plant in the City of Lodi, San Joaquin County, California. The Lodi Energy Center (LEC) will be a natural gas-fired, combined-cycle electrical generating facility rated at a nominal generating capacity of 296 megawatts. The project includes a gas pipeline to be designed, constructed and operated by Pacific Gas and Electric Company (PG&E) to provide a natural gas supply to the plant. On April 21, 2010, the California Energy Commission (CEC) approved and licensed NCPA's LEC Project. The LEC Project received its start of construction approval from the CEC on July 14, 2010. As a result of its final design of the gas pipeline, PG&E has requested some modifications to the gas pipeline alignment and associated laydown area. NCPA has prepared and filed an amendment package with the CEC in July 2011 requesting approval of these changes, including an increase in the amount of temporary work space area acreage for the gas pipeline construction activities. The revisions are discussed in detail below.

The purpose of this memorandum is to provide information for discussion with the San Joaquin Council of Government's (SJCOG's) Habitat Technical Advisory Committee (HTAC) as it relates to any additional mitigation requirements associated with the additional gas pipeline impact areas for the LEC Project.

Proposed Revisions to the Gas Pipeline

Project design changes from PG&E have moved approximately 2,471 feet of the natural gas line route, shortened the overall length of the gas line route, moved the temporary gas pipe construction laydown area, and increased the width of the construction easement through agricultural land.

NCPA is requesting that SJCOG approve an additional 5.37 acres of impacts to agricultural lands to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJCMSHCOSP) as a result of the proposed changes to the gas line route. As shown in Figure 1, these additional areas include a triangle area (0.05 acre) at the tie-in point at the railroad tracks and West Armstrong Road, moving the laydown yard to the field off of North Devries Road (0.34 acre) and widening the construction easement 75 feet wide between North Devries Road and North Thornton Road (8.53 acres). These requested changes result in 8.92 acres of total impacts to agricultural land to facilitate the new gas pipeline installation. NCPA originally mitigated through SJCOG for a loss of 3.55 acres of agricultural land for the gas pipeline through a land swap in lieu of funds. To accommodate the gas pipeline revisions requested by PG&E, NCPA is requesting SJCOG's approval to purchase mitigation credit of an additional 5.37 acres of agricultural land through the SJCMSHCOSP.

The need for a revision to the gas line route was not known to NCPA during the CEC licensing process for the LEC Project. Following issuance of the CEC Final Decision and during construction activities at the site, PG&E moved forward with the final design of the gas line. PG&E's engineers recently informed NCPA that the route approved in the Final Decision would need to be revised to more closely parallel the existing gas line due to engineering changes that were discovered during final design of the new pipeline.

Biological Resources

NCPA's Designated Project Biologist, Rick Crowe, performed a reconnaissance survey of the original gas line alignment on October 28, 2008 and of the new proposed route on March 20, 2011. The additional construction easement will temporarily affect a total of 8.92 acres of agricultural land, an increase of 5.37 acres from the original permitted gas line route.

Biological Setting

The original gas line alignment and the revised gas line alignment are dominated by row crops such as cultivated grapes (*Vitas* sp.), animal feed corn (*Zea* sp.), pasture grasses (animal feed), and existing un-vegetated farm roads. This SJCOG agriculturally designated land provides habitat for common wildlife species such as western meadowlark (S*turnella neglecta*), savannah sparrow (*Passerculus sandwichensis*), and coyote (*Canis latrans*). This habitat also provides foraging opportunities for many raptor species such as northern harrier (*Circus cyaneus*), red-tailed hawk (*Buteo jamaicensis*), and Swainson's hawk (*Buteo swainsoni*). Below are representative photographs of the proposed alignment.

Triangle area at the tie-in point at the railroad tracks and West Armstrong Road, 5/22/11.

Photo of proposed pipe laydown area off of North Devries Road planted in winter wheat, 3/20/11.

Photo of approximate construction easement through agricultural field just west of North Devries Road, 3/20/11

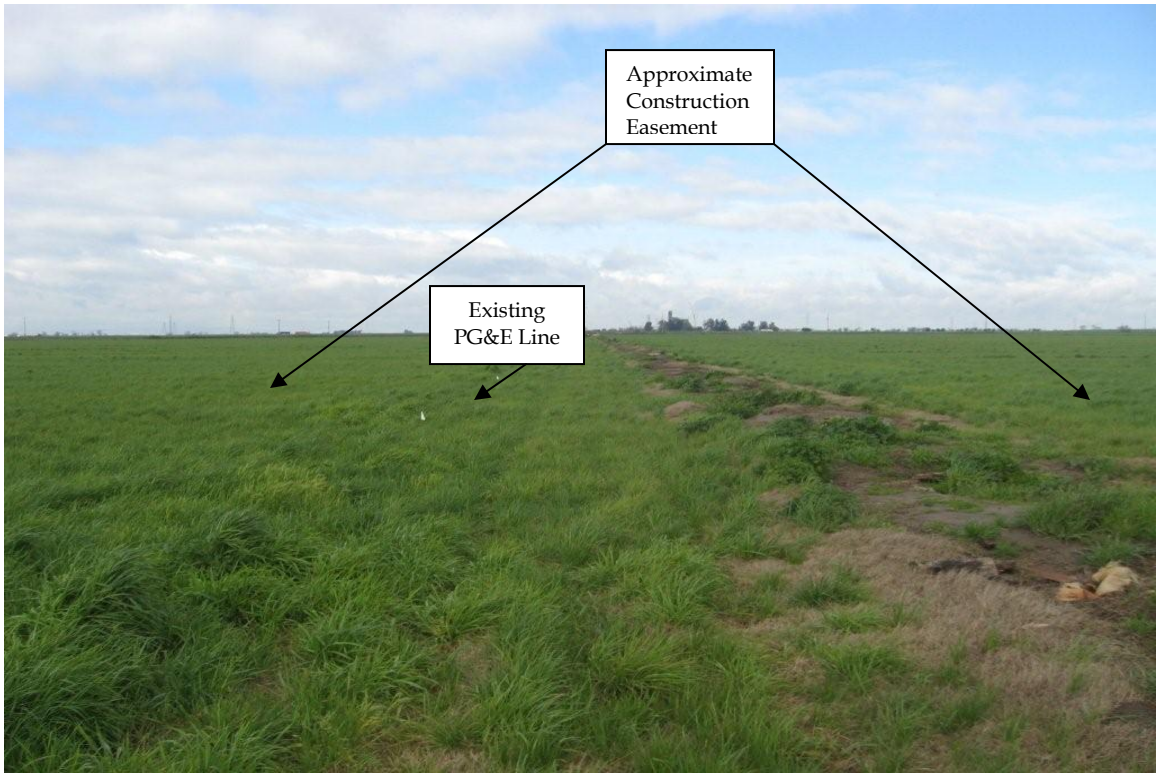


Photo of approximate construction easement through agricultural field just east of North Thornton Road, 3/20/11

Mitigation

Based on discussions with Mr. Steve Mayo, Senior Habitat Planner with SJCOG, mitigation is required for the loss of agricultural land based on the City of Lodi Compensation Map that was developed for parcels in the Lodi area by SJCOG. The mitigation costs for the temporary loss of agricultural land based on the 2011 SJCOG habitat fee structure is $71,216.94. These monies will mitigate for the loss of 5.37 acres of agricultural land at $13,262.00 an acre (Mayo, 2011).If this request is approved by SJCOG, these additional areas will be covered by the CEC's Biological Conditions of Certification, which requires pre-disturbance surveys and on-site monitoring as necessary.

References

Mayo, Steve. 2011. Senior Habitat Planner, San Joaquin Council of Governments. Telephone conversation with Rick Crowe, CH2M HILL. June 16.

Appendix C
Soil Loss Calculations

Revised Table 5.11-3. Estimate of Soil Loss by Water Erosion Using Revised Universal Soil Loss Equation (RUSLE2)

Feature (acreage)[2]	Activity	Duration (months)	Estimates Using Revised Universal Soil Loss Equation[1] Soil Loss (tons) without BMPs	Soil Loss (tons) with BMPs	Soil Loss (tons/yr) No Project
Site (4.4 acres)	Grading	2	0.8	0.010	0.0233
	Construction	22	4.1	0.113	---
Laydown Areas (A through D - 9.8 acres)	Grading	1	0.9	0.011	0.0519
(0 acres exposed; paved or gravelled)	Construction	23	0.0	0.0	---
Gas Supply Pipeline (1.30 acre trench; 9.73 acre construction corridor)	Grading	3	3.92	0.0499	0.0756
	Construction	3	1.82	0.0499	---
Transmission Line Pole (0.0004 acre for pole footprint)	Grading	0	0.00	0.00	0.0000
	Construction	0	0.00	0.00	---
Project Soil Loss Estimates	All activities listed above	20	**11.56**	**0.234**	**0.15**

Notes:

1. Soil losses (tons/acre/year) are estimated using RUSLE2 software available online [http://fargo.nserl.purdue.edu/rusle2_dataweb/].
   -The soil characteristics were estimated using RUSLE2 soil profiles corresponding to the mapped soil unit.
   -Soil loss (R-factors) were estimated using 2-year, 6-hour point precipitation frequency amount for the LEC Project site found at [http://www.nws.noaa.gov/ohd/hdsc/noaaatlas2.htm].
   -Estimates of actual soil losses use the RUSLE2 soil loss times the duration and the affected area. The No Project Alternative estimate does not have a specific duration so loss is given as tons/year.

Other Project Assumptions as follows:
-It is assumed that 100% of the LEC site and laydown areas will be exposed during grading, and approximately 10% of the site will be bare soil during construction.
-It is assumed that grading the site will take 2 months and construction will take 22 months.
-It is assumed that grading for laydown area will take 1 month and the area will be covered (gravelled or paved) immediately thereafter.
-It is assumed that soil loss will be negligible from the laydown areas once it is covered.
-It is assumed that the 14,122-foot gas pipeline will be installed within a 4-ft wide trench and a 75-ft construction corridor along existing roadways.
-It is assumed that the gas pipeline will take 3 months to construct and will take another 3 months before permanent cover is established.
-The water and sewer lines will be completed on-site, so no additional soil losses are estimated for them.
-It is assumed that no new off-site transmission poles are required.

RUSLE2 Assumptions as follows:
100-ft slope length. Estimated soil unit slope is the midpoint of the minimum and maximum of the unit slope class.
Construction soil losses assume the following inputs: Management - Bare ground; Contouring - None, rows up and down hill; Diversion/terracing - None; Strips and Barriers - None.
Grading soil losses assume the following inputs: Management - Bare ground/rough surface; Contouring - None, rows up and down hill; Diversion/terracing - None; Strips and Barriers - None.
Construction with BMP soil losses assume the following inputs: Management - Silt fence; Contouring - Perfect, no row grade; Diversion/terracing - None; Strips and Barriers - 2 fences, 1 at end of RUSLE slope.
No Project soil losses assume the following inputs: Management - Dense grass, not harvested; Contouring - None, rows up and down hill; Diversion/terracing - None; Strips and Barriers - None.

Soil Type	Acreage		Soil Loss Estimates Using RUSLE2 software (tons/ac/year)			
Site		**Slope**	**Grading**	**Construction w/o BMPs**	**Construction with BMPs**	**No Project**
Site	4.40	1.0	1.1	0.51	0.014	0.0053
subtotal			**4.84**	**2.24**	**0.06**	**0.0233**
Laydown Areas (A through D)	9.80	1.0	1.1	0.51	0.014	0.0053
subtotal			**10.78**	**5.00**	**0.137**	**0.0519**
Gas Supply Pipeline	14.26	1.0	1.1	0.51	0.014	0.0053
subtotal			**15.69**	**7.27**	**0.200**	**0.0756**
Transmission Line Pole	0.00	1.0	1.1	0.51	0.014	0.0053
subtotal			**0.00**	**0.00**	**0.00**	**0.00**
Process Water Line	0.00	1.0	1.1	0.51	0.014	0.0053
subtotal			**0.00**	**0.00**	**0.00**	**0.00**
Sewer Line	0.00	1.0	1.1	0.51	0.014	0.0053
subtotal			**0.00**	**0.00**	**0.00**	**0.00**

Assumptions:
Assumes slope is the mid-point of the slope class
100% of project site would be bare soil during grading.
100% of pole holes will be bare soil during grading/excavation.

The No Project soil loss assumes a 'dense grass, not harvested' management scenario.

Revised Table 5.11-4. Estimate of Total Suspended Particulates (TSP) Emitted from Grading and Wind Erosion

Emission Source	Acreage	Duration (months)	Unmitigated TSP (tons)	Mitigated TSP (tons)
Grading Dust:				
Project Site	4.40	2	0.151	0.053
Laydown Areas (A through D)	9.80	1	0.108	0.059
Gas Supply Pipeline	0.76	3	0.359	0.126
Transmission Line Pole Holes	0.000	0.00	0.000	0.000
Wind Blown Dust:				
Project Site	4.40	22	0.307	0.107
Laydown Areas (A through D)	0.00	23	0.000	0.000
Gas Supply Pipeline	14.26	3	1.662	0.582
Transmission Line Pole Holes	0.000	0	0.0000	0.0000
Estimated Total			2.586	0.926

Notes:
All linear feature impacts noted above are for portions outside of the project areas footprints.

Project Assumptions:
Grading for project site will be completed in a 2 month period and construction will extend an additional 18 months.
Grading for laydown will be completed in a 1 month period and the site will be covered (gravelled or paved) immediately.
No new excavation for transmission line pole will be required
Approximately 1/10th of the project site has bare soil exposure during the length of the construction period.
Water and sewer line connections will be on site.
The gas supply line will be 14,122 feet long and installed primarily along roadway rights-of-way in a 4-ft trench with 75-ft construction corridor.

Data Sources:
[a] PM10 Emission Factor Source: Midwest Research Institute, South Coast AQMD Project No. 95040, Level 2 Analysis Procedure, March 1996
[b] PM10 to TSP Conversion Factor Source: Bay Area Air Quality Management District CEQA Guidelines, Assessing the Air Quality Impacts of Projects, December 1999.
SCAQMD CEQA Handbook (1993) Table 11-4 for mitigation efficiency rates (as summarized in Table 8.9-4)

Project: LEC Lodi Project
Dust from Wind Erosion - With and Without Mitigation

Grading		MRI factor of 0.011 tons/acre/month is based on 168 hours per month of construction activity.
PM10 Emission Factor (ton/acre/month)[a]	0.011	Fact Sheet, 4/26/2007.
Project Site		
Duration (months):	2	Assumes 2 months of active grading.
Site Acreage:	4.40	Assumes 100% of site is graded
PM10 Emitted (tons):	0.10	
TSP Emitted (tons)[b]:	**0.151**	assume TSP is 64% PM10
Mitigated TSP Emitted (tons):	**0.053**	Assume 65% reduction in PM10 with watering thrice daily per SCAQMD CEQA Handbook (1993) Table 11-4
Laydown Areas (A through D)		
Duration (months):	1	Assumes one month to grade
Site Acreage:	9.80	Sum of Laydown areas A, B, C, and D
PM10 Emitted (tons):	0.11	
TSP Emitted (tons)[b]:	**0.168**	Assume TSP is 64% PM10
Mitigated TSP Emitted (tons):	**0.059**	Assume 65% reduction in PM10 with watering thrice daily per SCAQMD CEQA Handbook (1993) Table 11-4
Gas Supply Line Trench		
Duration (months):	3.0	Assumes 3 months to construct pipeline
Site Acreage:	0.761	Assumes a 4-ft wide trench
PM10 Emitted (tons):	0.0251	
TSP Emitted (tons)[b]:	**0.0392**	assume TSP is 64% PM10
Mitigated TSP Emitted (tons):	**0.0137**	Assume 65% reduction in PM10 with watering thrice daily per SCAQMD CEQA Handbook (1993) Table 11-4
Transmission Line Pole Hole		
Duration (months):	0.00	Assumes no transmission lines poles needed to connect
Site Acreage:	0.000	
PM10 Emitted (tons):	0.000	
TSP Emitted (tons)[b]:	**0.000**	Assume TSP is 64% PM10
Mitigated TSP Emitted (tons):	**0.000**	Assume 65% reduction in PM10 with watering thrice daily per SCAQMD CEQA Handbook (1993) Table 11-4
Process Water Line Trench		
Duration (months):	0.0	Assumes on-site construction
Site Acreage:	0.000	
PM10 Emitted (tons):	0.000	
TSP Emitted (tons)[b]:	**0.000**	Assume TSP is 64% PM10
Mitigated TSP Emitted (tons):	**0.000**	Assume 65% reduction in PM10 with watering thrice daily per SCAQMD CEQA Handbook (1993) Table 11-4
Sewer Line Trench		
Duration (months):	0.0	Assumes on-site construction
Site Acreage:	0.000	
PM10 Emitted (tons):	0.000	
TSP Emitted (tons)[b]:	**0.000**	Assume TSP is 64% PM10
Mitigated TSP Emitted (tons):	**0.000**	Assume 65% reduction in PM10 with watering thrice daily per SCAQMD CEQA Handbook (1993) Table 11-4
Total Unmitigated TSP Emitted (tons)	**0.359**	
Total Mitigated TSP Emitted (tons)	**0.126**	Assume 65% reduction in PM10 with watering thrice daily per SCAQMD CEQA Handbook (1993) Table 11-4

[a]Emission Factor Source: Midwest Research Institute, South Coast AQMD Project No. 95040, March 1996, Level 2 Analysis Procedure
[b] Conversion Factor Source: Bay Area Air Quality Management District (BAAQMD) BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans. December 1999

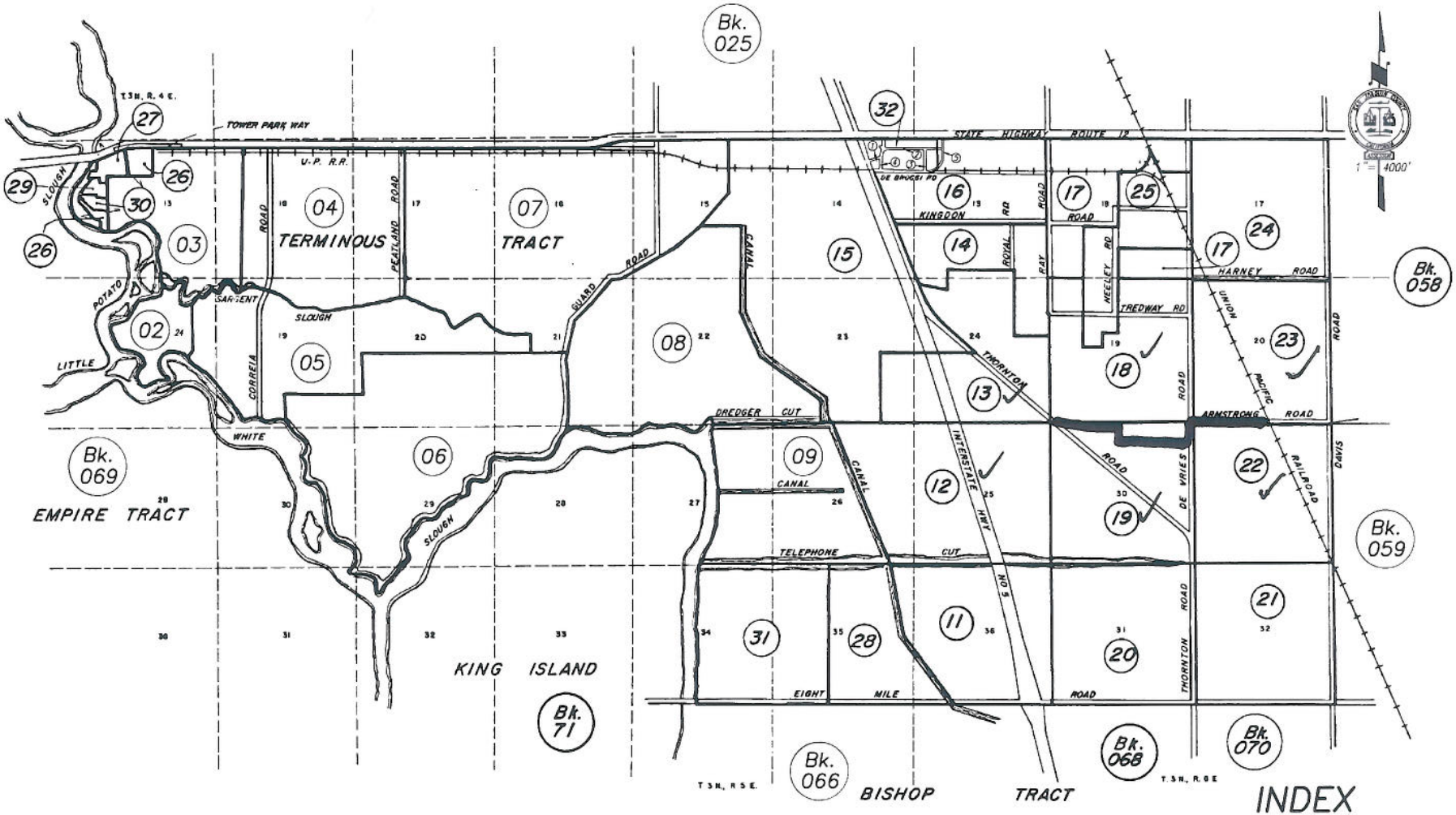
Wind Blown Dust		
TSP Emission Factor (ton/acre/year)	0.38	Emission Factor Source: AP-42, Section 11.9 Western Surface Coal Mining Table 11.9-4, January 1995.
Project Site		
Acres exposed	4.40	
Duration (months)	22	Assumes 22 months of construction for Project site area after grading
TSP Emitted for Site (tons):	**0.307**	Assumes 1/10th of the site is bare soil during 18 month construction period
Mitigated TSP Emitted (tons):	**0.107**	Assume 65% reduction in TSP with watering thrice daily per SCAQMD CEQA Handbook (1993) Table 11-4
Laydown Areas (A through D)		
Acres exposed	0.000	Sum of 4 laydown areas is 8.99 acres but all these areas are covered with gravel or other material after grading
Duration (months)	23	Assume 24 months for construction period (minus 1 month for grading)
TSP Emitted for Site (tons):	**0.000**	
Mitigated TSP Emitted (tons):	**0.000**	Assume 65% reduction in TSP with watering thrice daily per SCAQMD CEQA Handbook (1993) Table 11-4
Gas Supply Line Corridor		
Acres exposed	14.263	Assumes14,121.6-ft pipeline to east of site and construction corridor is 30 feet along side of road
Duration (months)	3	Assumes 3 months after excavating trench that permanent cover (i.e., paving) is established
TSP Emitted for Site (tons):	**1.355**	
Mitigated TSP Emitted (tons):	**0.474**	Assume 65% reduction in TSP with watering thrice daily per SCAQMD CEQA Handbook (1993) Table 11-4
Transmission Line Pole Footprint		
Acres exposed	0.000	Assumes no new poles are needed to connect to existing T-line
Duration (months)	0.0	
TSP Emitted for Site (tons):	**0.000**	
Mitigated TSP Emitted (tons):	**0.000**	Assume 65% reduction in TSP with watering thrice daily per SCAQMD CEQA Handbook (1993) Table 11-4
Process Water Line Corridor		
Acres exposed	0.000	Assumes on-site construction
Duration (months)	0	
TSP Emitted for Site (tons):	**0.000**	
Mitigated TSP Emitted (tons):	**0.000**	Assume 65% reduction in TSP with watering thrice daily per SCAQMD CEQA Handbook (1993) Table 11-4
Sewer Line Corridor		
Acres exposed	0.000	Assumes on-site construction
Duration (months)	0	
TSP Emitted for Site (tons):	**0.000**	
Mitigated TSP Emitted (tons):	**0.000**	Assume 65% reduction in TSP with watering thrice daily per SCAQMD CEQA Handbook (1993) Table 11-4
Total (tons) without mitigation	**1.662**	
Total (tons) with mitigation	**0.582**	Assume 65% reduction in PM10 with watering thrice daily per SCAQMD CEQA Handbook (1993) Table 11-4

Project: LEC- Steve Long input for areas on 5/30/08 - subject to revision; Jenny Krenz-Ruark updated gas line 7/12/2011

OBJECTID	AREASYMBOL	Portion	Shape_Area or Leng	Acres		Acreage_tot	
LEC Site	149- Devries SL	100.0%		3.79		4.40	From Sarah Madams email dated 7/10/08
						0.44	Assumes only 10% of site is bare soil during construction
Laydown Area A	149- Devries SL	100.0%		2.49		2.49	From Mike Haskell email dated 5/508
Laydown Area B	149- Devries SL	100.0%		2.22		2.22	From Mike Haskell email dated 5/508
Laydown Area C	149- Devries SL	100.0%		1.54		1.54	From Mike Haskell email dated 5/508
Laydown Area D	149- Devries SL	100.0%		2.74		2.74	From Mike Haskell email dated 5/508
						9.80	Assumes laydown areas are completely covered (paved or gravelled) during construction. Revised by email from Sarah Madams Aug 27.
Natural gas supply pipeline -trench	149- Devries SL	100.0%	8,284	0.7607		0.76	Edit based on e-mail from Gary Perdew (6/23/2011). Assumes 4 foot wide trench
Natural gas supply pipeline-corridor	149- Devries SL	100.0%	8,284	14.2631		14.26	Edit based on e-mail from Sarah madams (7/12/2011)
						15.02	
					Sum	**25.264**	AssumeS 100% exposed during construction
					Pole Holes	**Construction Corridor**	
Tranmission Line Pole	149- Devries SL		0	0.0000		0.0000	Assumes no 4x4 ft holes are needed off site to connect to existing OH lines
0	**sum**	**0**	**0**	**0.0000**	**0.0000**	**0.0000**	
						0.0000	Assumed pole hole footprint will be unprotected until pole installed
					Trench acres	**Construction Corridor acres**	
Process water supply pipeline	-	0			**0**	**0**	Assumes on-site connection

Appendix D
Property Owners Within 500 Feet of Proposed Gas Line

THIS MAP IS FOR
ASSESSMENT USE ONLY



STREET INDEX

1. CAPITOL AVE.
2. BANNER ST.
3. REPUBLIC WAY
4. STAR STREET
5. FLAG CITY BLVD.

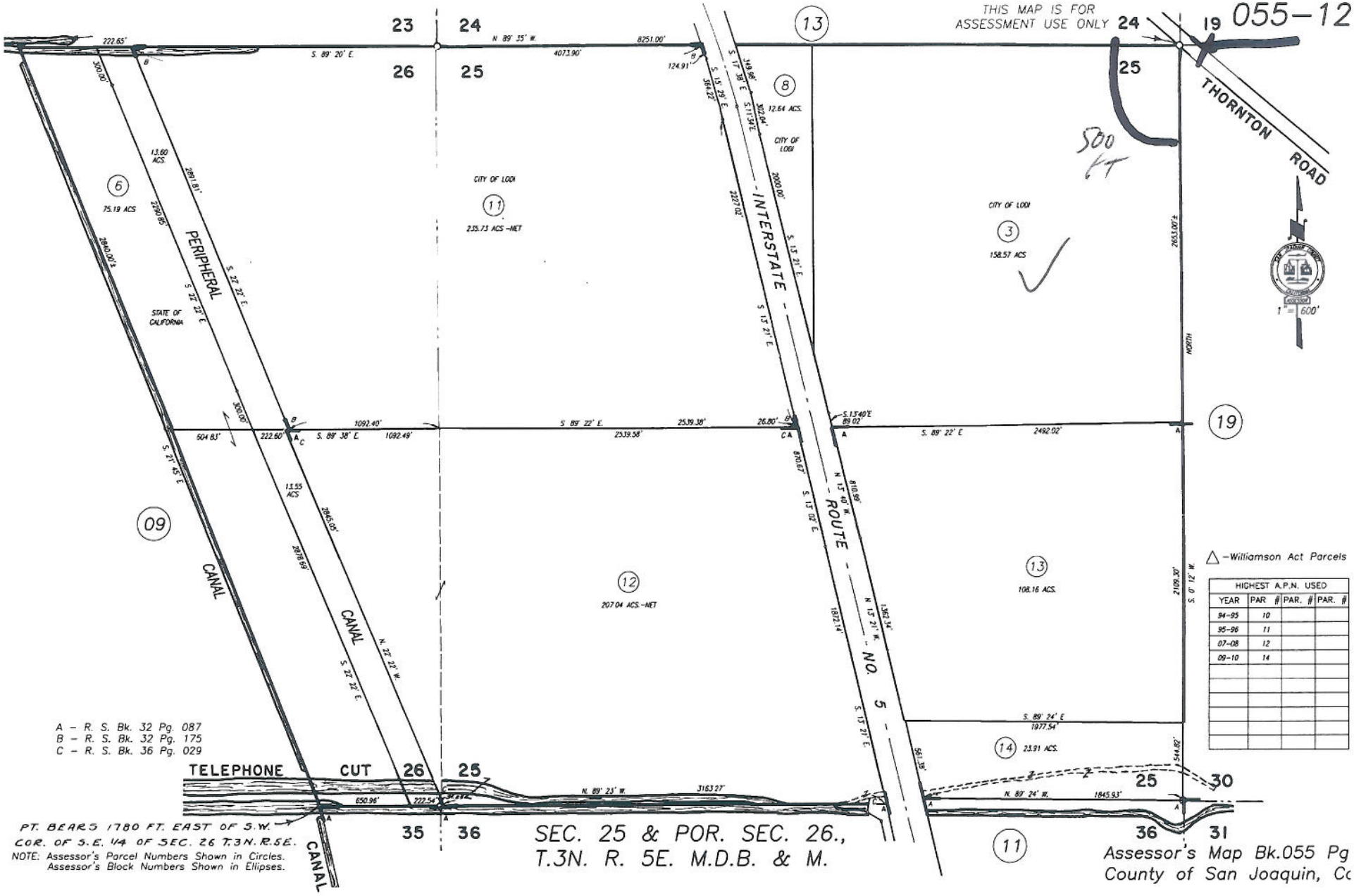
INDEX
BOOK 055

Assessor's Map
County of San Joaquin, Calif.

&

THIS MAP IS FOR ASSESSMENT USE ONLY

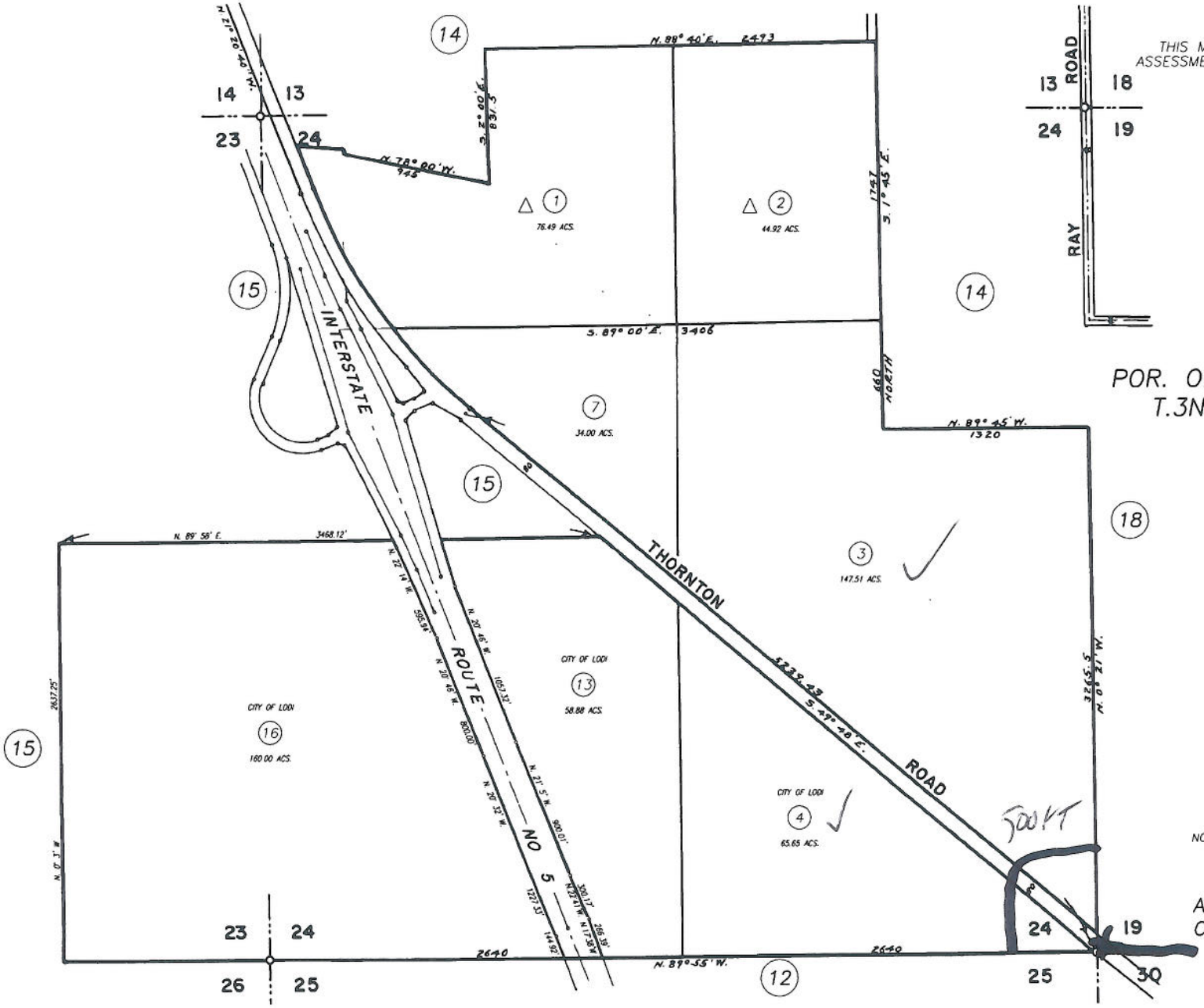
055-12



HIGHEST A.P.N. USED			
YEAR	PAR #	PAR. #	PAR. #
94-95	10		
95-96	11		
07-08	12		
09-10	14		

THIS MAP IS FOR ASSESSMENT USE ONLY

055-13



POR. OF SEC. 13, 23 & 24
T.3N. R.5E., M.D.B.&M.

△ - WILLIAMSON ACT PARCELS

HIGHEST A.P.N. USED			
YEAR	PAR. #	PAR. #	PAR. #
04-05	16		

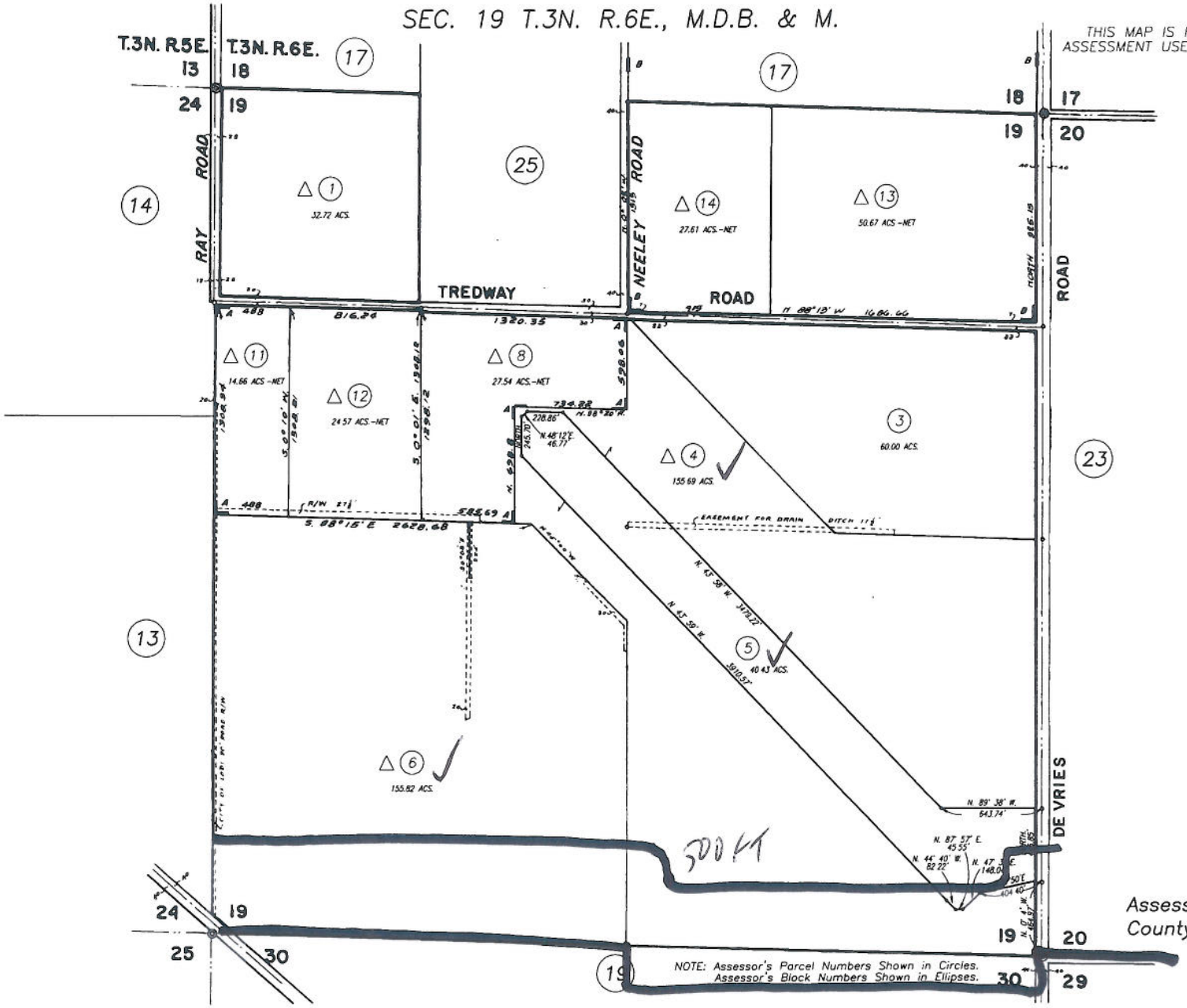
NOTE: Assessor's Parcel Numbers Shown in Circles.
Assessor's Block Numbers Shown in Ellipses.

CITY OF LODI
Assessor's Map Bk.055 Pg.13
County of San Joaquin, Calif.

SEC. 19 T.3N. R.6E., M.D.B. & M.

THIS MAP IS FOR ASSESSMENT USE ONLY

055-18



△ -Williamson Act Parcels

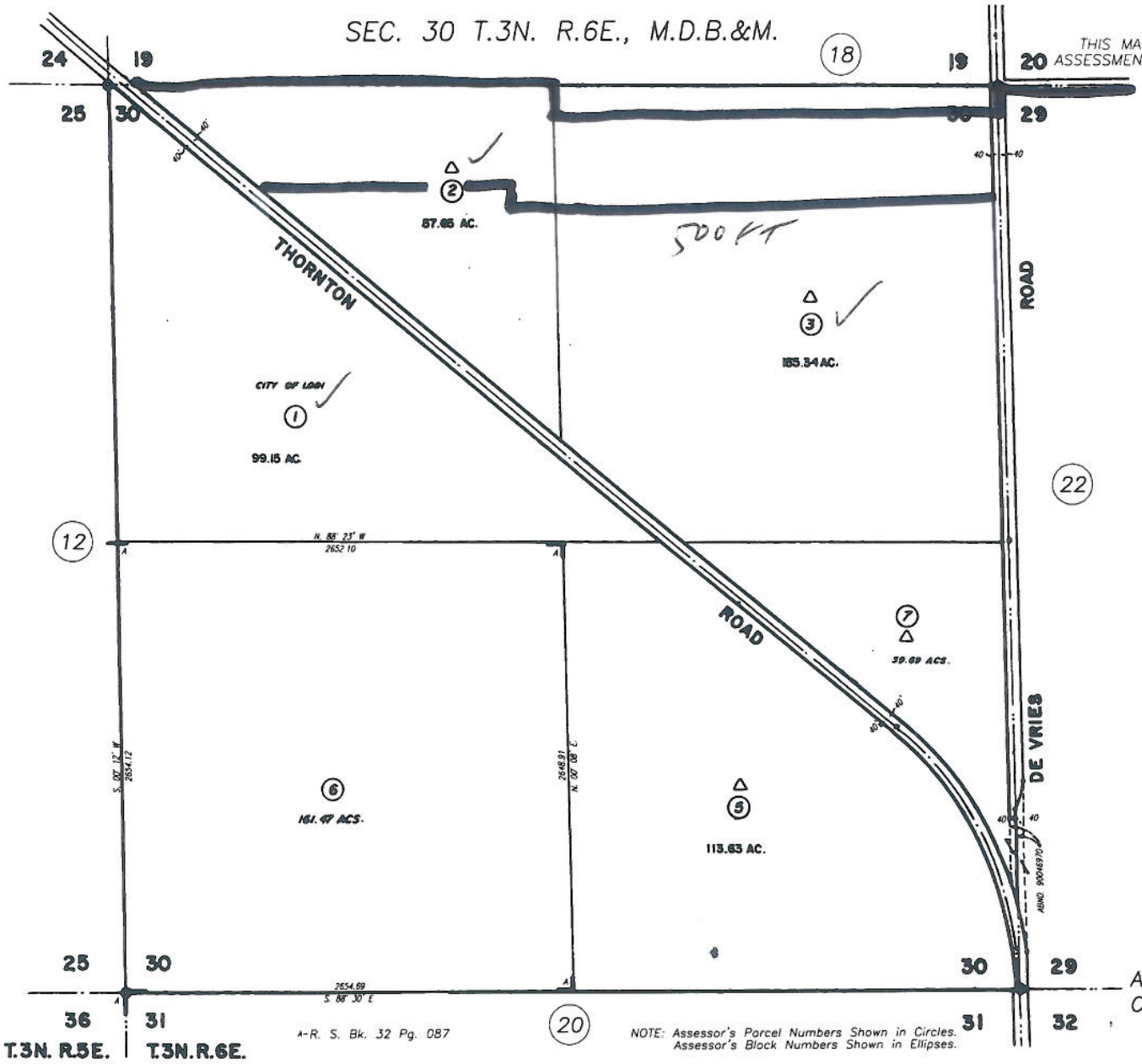
A - P. M. Bk. 07 Pg. 163
B - R. S. Bk. 30 Pg. 193

HIGHEST A.P.N. USED			
YEAR	PAR. #	PAR. #	PAR #
80-81	10		
85-86	12		
90-91	14		

NOTE: Assessor's Parcel Numbers Shown in Circles.
Assessor's Block Numbers Shown in Ellipses.

Assessor's Map Bk.055 Pg.18
County of San Joaquin, Calif.

&



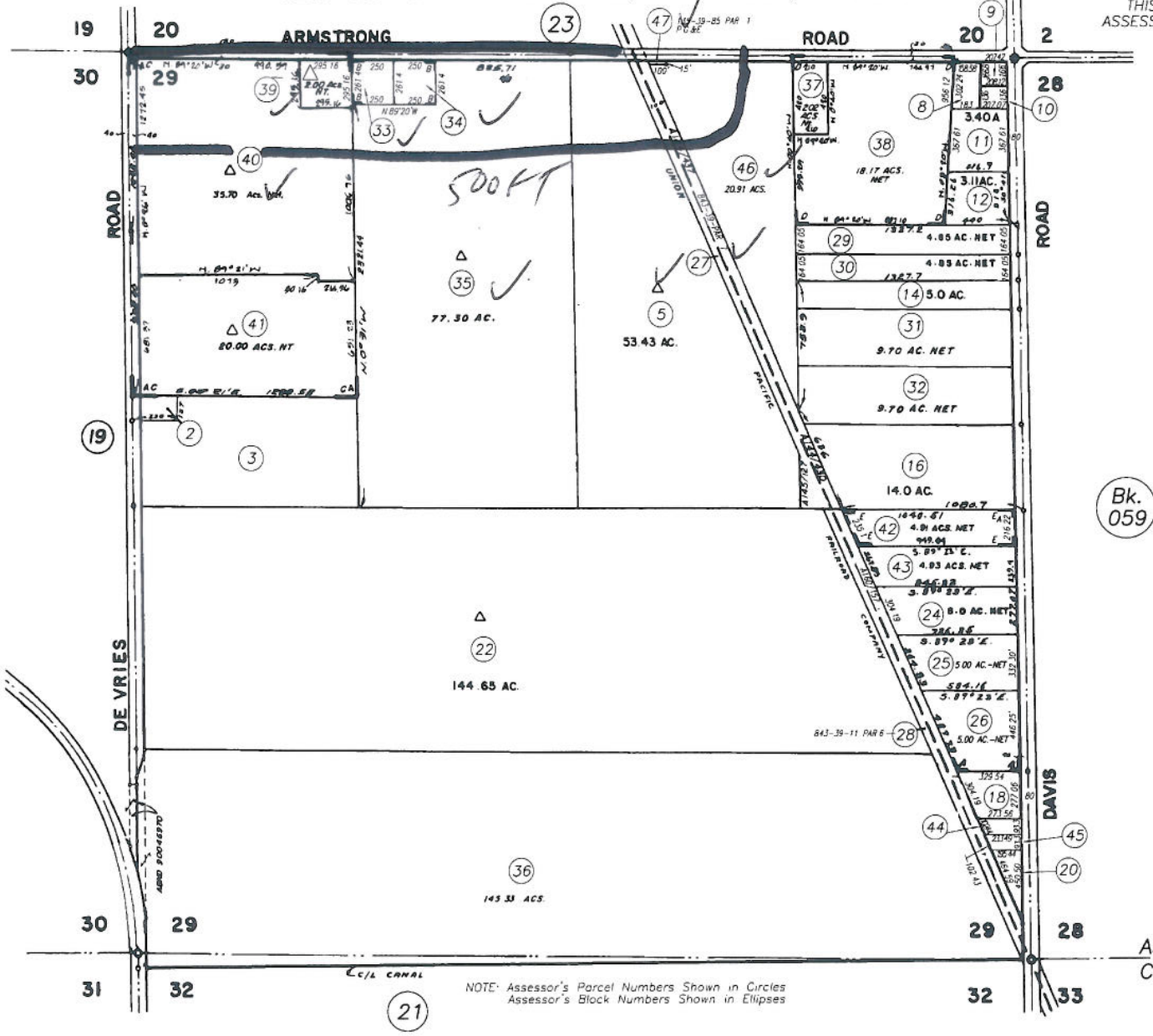
HIGHEST A.P.N. USED			
YEAR	PAR #	PAR. #	PAR. #
89-90	06		
91-92	07		

Assessor's Map Bk.055 Pg.19
County of San Joaquin, Calif.

SEC. 29 & POR. SEC. 32, T.3N.R.6E., M.D.B.&M.

THIS MAP IS FOR ASSESSMENT USE ONLY

055-22



Bk. 059

1" = 600'

A – R.S. Bk. 24 Pg. 030
B – P.M. Bk. 16 Pg. 035
C – R.S. Bk. 32 Pg. 012
D – P.M. Bk. 18 Pg. 165
E – P.M. Bk. 21 Pg. 164

△ – Williamson Act Parcels

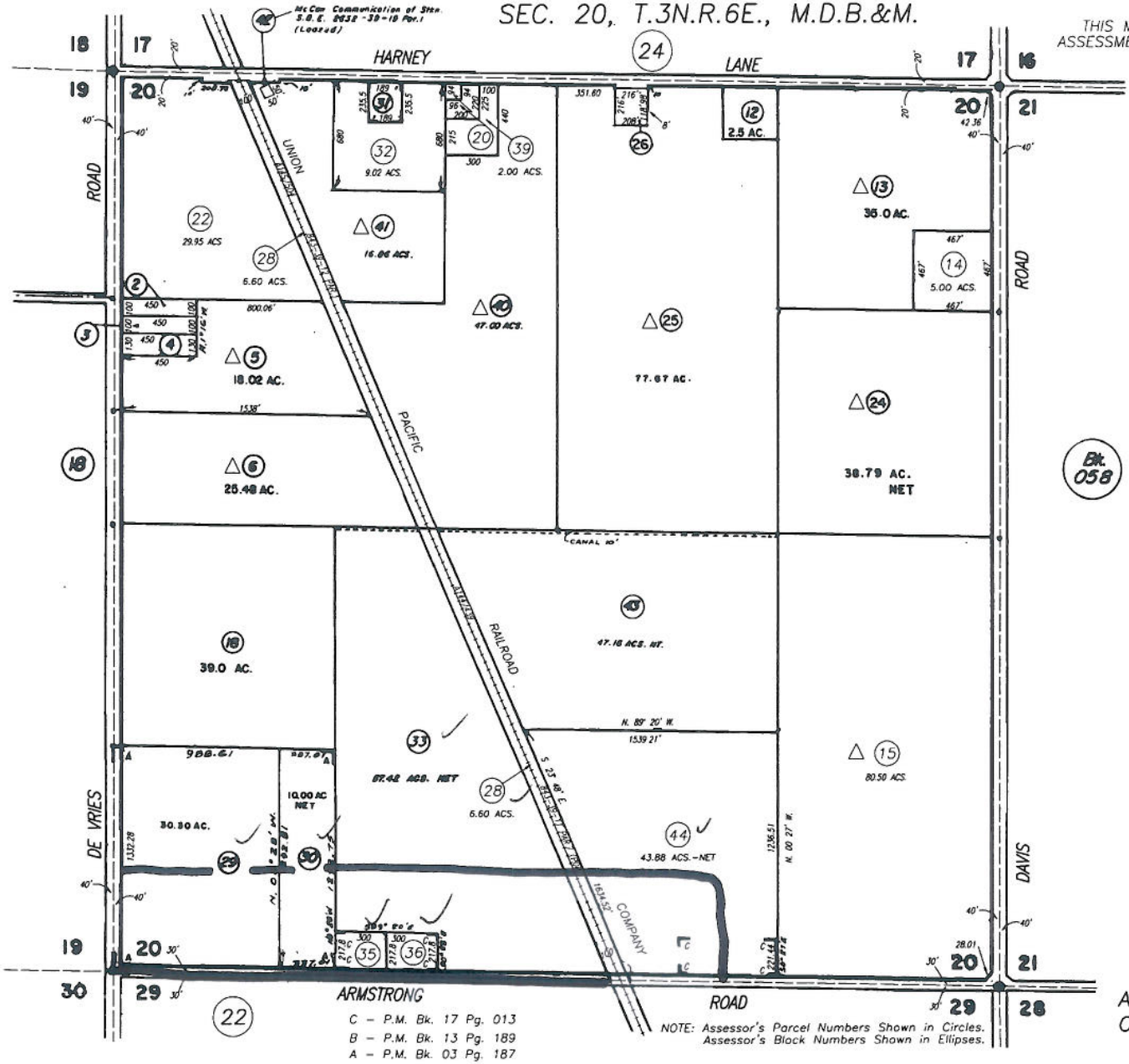
HIGHEST A.P.N. USED			
YEAR	PAR #	PAR #	PAR #
01-02	45		
10-11	47		

Assessor's Map Bk.055 Pg.22
County of San Joaquin, Calif.

SEC. 20, T.3N.R.6E., M.D.B.&M.

THIS MAP IS FOR ASSESSMENT USE ONLY

055-23



△— Williamson Act Parcels

HIGHEST A.P.N. USED			
YEAR	PAR. #	PAR. #	PAR. #
91-92	38		
94-95	40		
95-96	42		
01-02	44		

C – P.M. Bk. 17 Pg. 013
B – P.M. Bk. 13 Pg. 189
A – P.M. Bk. 03 Pg. 187

NOTE: Assessor's Parcel Numbers Shown in Circles.
Assessor's Block Numbers Shown in Ellipses.

Assessor's Map Bk.055 Pg.23
County of San Joaquin, Calif.