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Volume IV, Appendices 1, 4, 6, 9, 10, 12-16
Errata and Revisions

FINAL
ENVIRONMENTAL IMPACT STATEMENT

SUPERCONDUCTING SUPER COLLIDER

Appendices 1, 4, 6, 9, 10, 12-16
Errata and Revisions

December 1988

U.S. Department of Energy

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DEPARTMENT OF ENERGY
WASHINGTON, D.C. 20545
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CONTENTS

INTRODUCTION

This book contains Errata and Revisions for Volume IV, Appendices 1, 4, 6, 9, 10, and 12-16.

Paragraphs are counted from the top of the page, e.g., Par. 1 begins with the first line on the page, whether that line is the actual beginning of a paragraph or not.

Minor changes in tables and figures are described in the Errata and Revisions sheets. Tables and figures that are new or corrected and republished are presented at the end of each appendix section.

ERRATA AND REVISIONS

APPENDIX 1

ENGINEERING DESCRIPTION

1.2 SITE-SPECIFIC ADAPTATIONS

Page 1: Last bulleted item, Line 2, should read: ..., approximately 30 feet above the collider ring....

Page 21: Figure 1.2.2-5, add to the Legend: Details not to scale.

Page 23: Insert at the end of last paragraph: An AT&T fiber optics line currently under construction approximately 7 miles north of the proposed SSC may also be available for connection of the SSC communications line.

Page 26: Figure 1.2.3-1, delete the incorrect reference to the location of Kaneville that appears between proposed E6 and F6 locations on the ring

Page 32: Figures 1.2.3-3, Legend, first item in right column should read: Construct New 1-Lane Paved Road

Page 38: Figure 1.2.4-1, upper peninsula of Michigan was omitted from drawing insert at bottom. While drawing was intended to denote only contiguous area of the state, for comparability with other state maps, upper peninsula was added

Page 40: Par. 7, last two lines should read: and 0.4 mi southeast of the intersection of Wooster Road and Roots Station Road.

Last paragraph, second and last sentence should read: The site is 0.2 mi west of the intersection of Rolf Road and Tuttle Road

Page 41: Par. 9, last line should read: Waterloo Munith Road.

Page 42: Par. 2, last line should read: Waterloo Munith Road.

Par. 3, last line should read: site is on Edgar Road...

Page 46: Par. 5, Line 2 should read: ... Barnes Road and Edgar Road..., Line 6 should read: ... along Edgar Road and Annis Road...

Page 55: Figure 1.2.5-4, change the substation number at the upper center of the ring from No. 1 to No. 2

Page 58: Par. 1, delete the second-to-the last sentence

Page 78: Par. 5, Line 1, delete: , F2, and F4; delete last sentence

NEW AND CORRECTED FIGURES

NEW AND CORRECTED FIGURES

Figure 1.2.1-1

ARIZONA SITE MAP

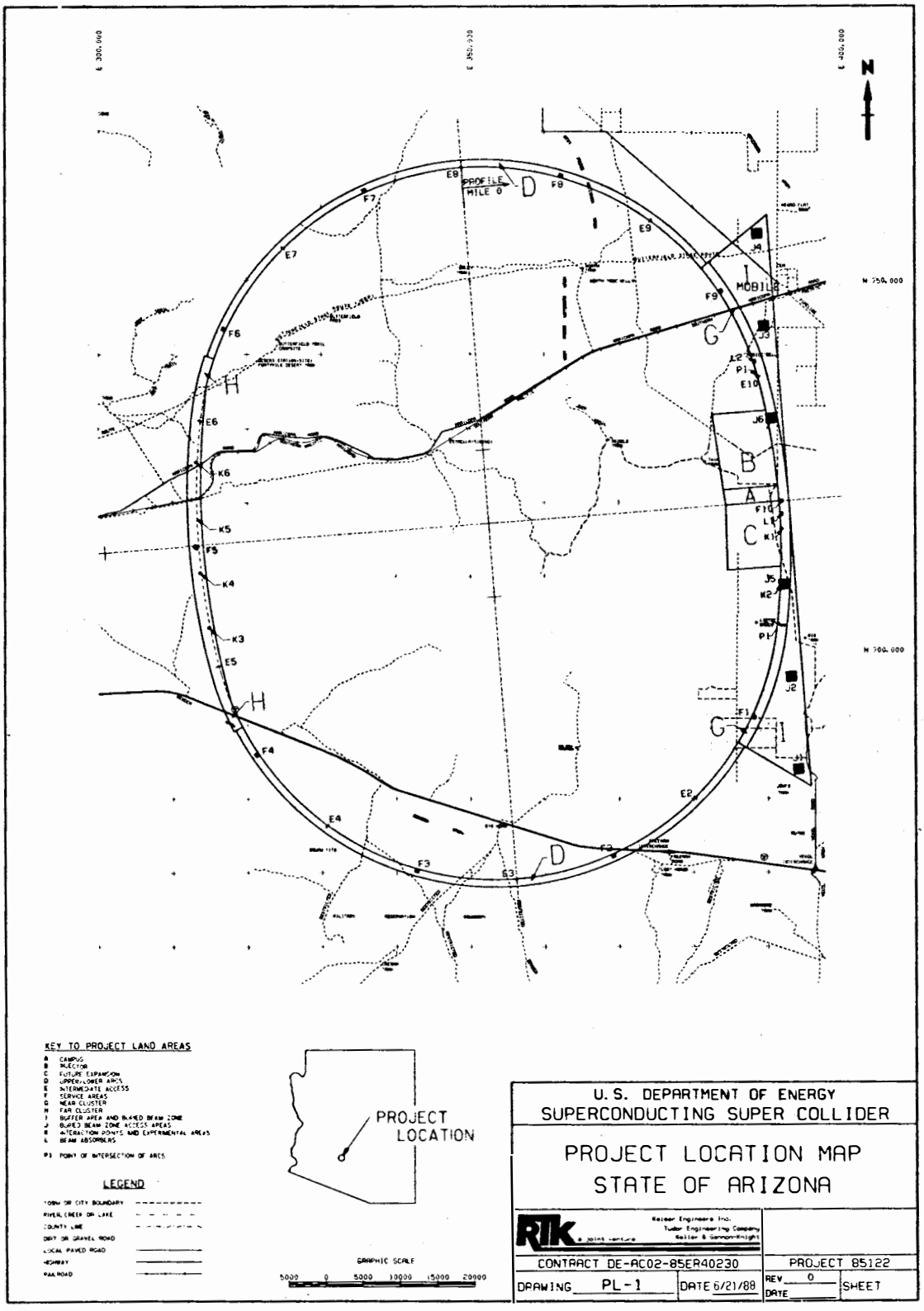


Figure 1.2.4-1

MICHIGAN SITE MAP

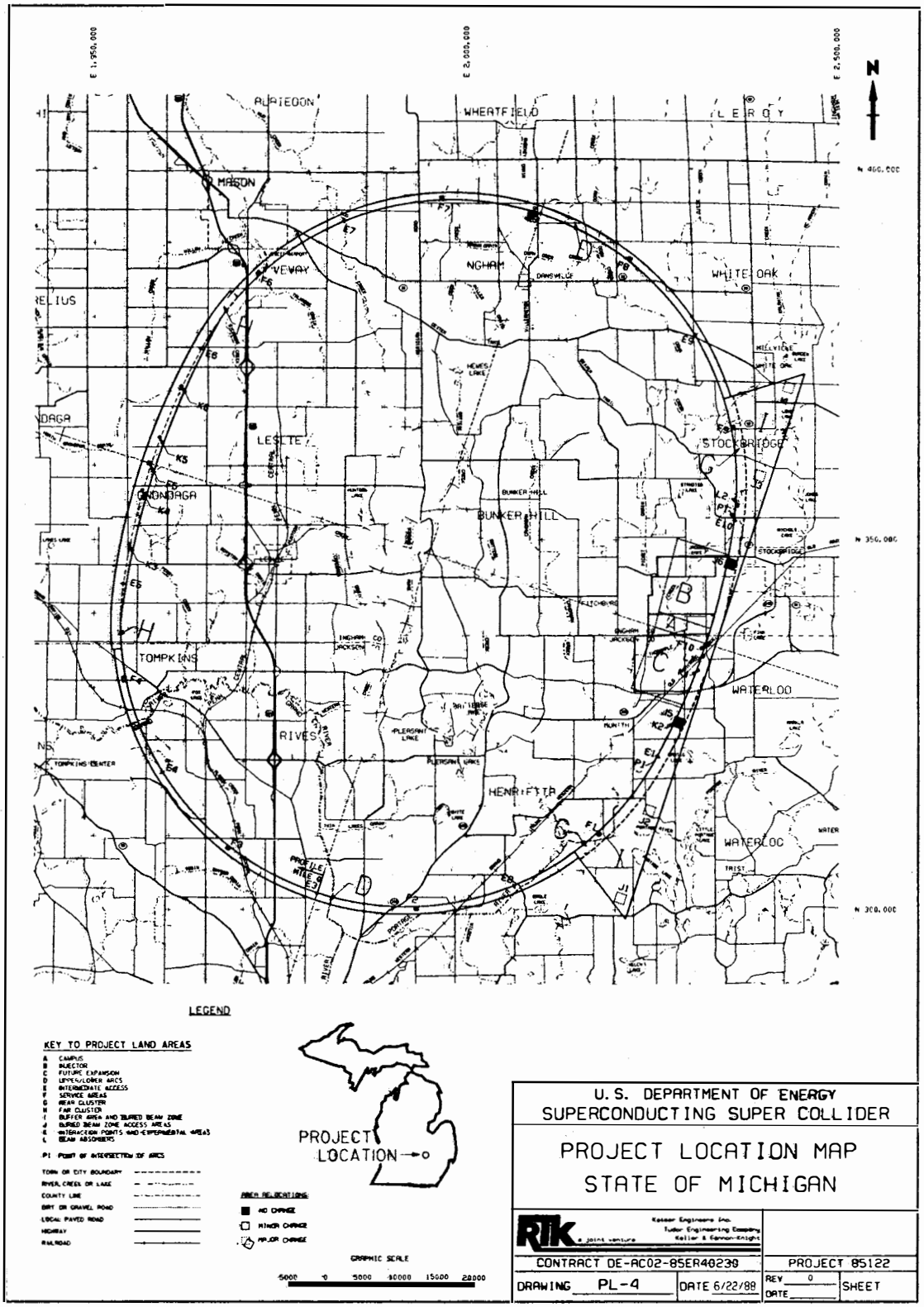
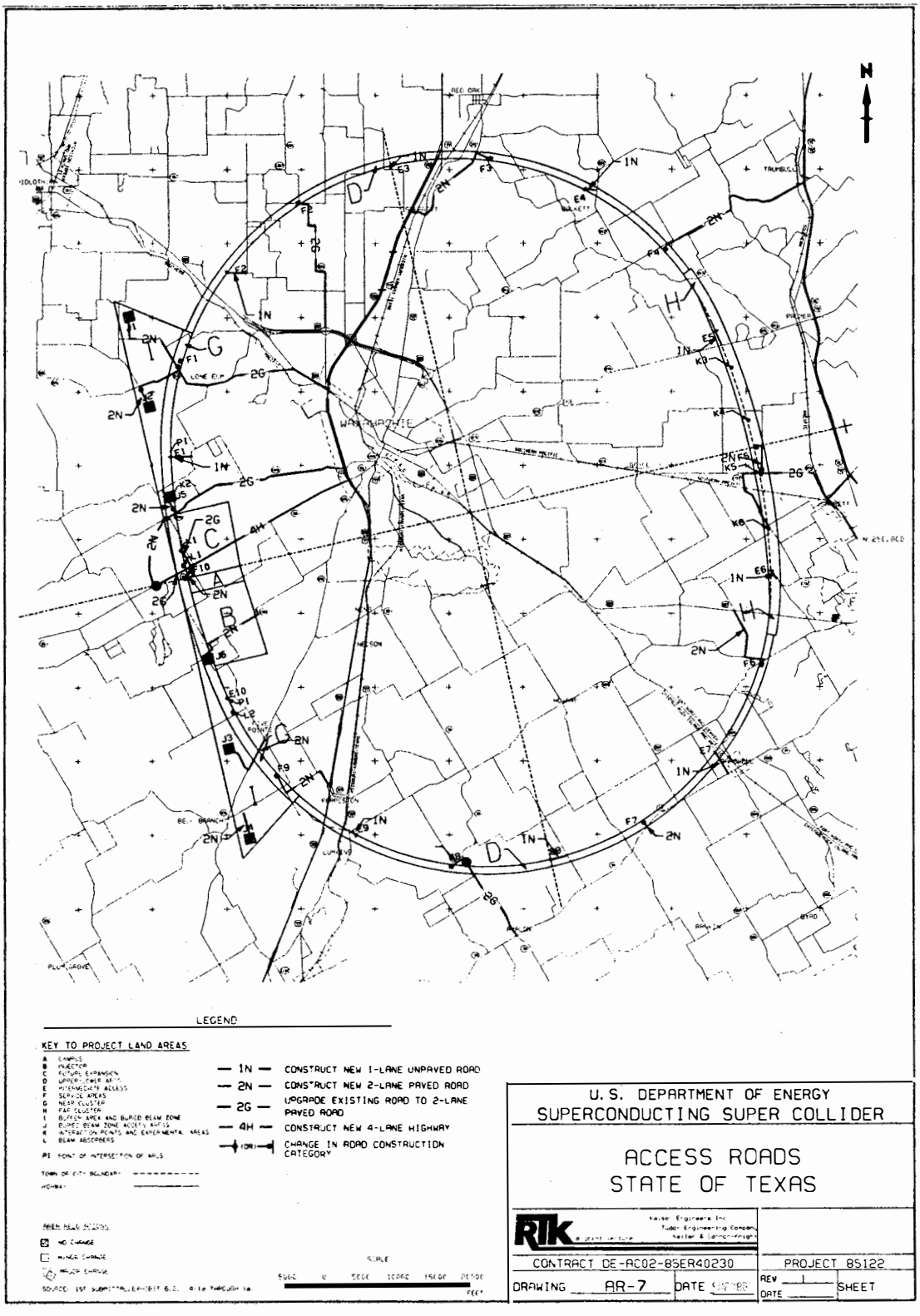


Figure 1.2.7-3

TEXAS SITE ACCESS ROADS



ERRATA AND REVISIONS

APPENDIX 4
LAND ACQUISITION PLANS

LAND ACQUISITION PLANS

Page 13: Par. 1, delete the last sentence and insert the following: In April 1988 the Tennessee Legislature established stratified fee estate with Senate Bill No. 2185. At the same time, House Joint Resolution No. 476 was passed which expresses the intent of the Legislature to authorize up to $100 million of general obligation bonds to acquire land for the SSC (Weinhold 1988).

Page 14: Par. 4, Line 2, reference should read: (Hassell 1988)

Page 16: Table 4-2, Total Number of Relocations should read: AZ=6, CO=23, IL=219, MI=221, NC=180, TN=128, TX=175: delete the last two rows of the table, titled "Residences" and "Businesses"

Page 17: Table 4-3, Total in Texas should read: 285; Electric Transmission for Illinois should read: 0; water for Illinois should read: 6[b]; note b should read: Miscellaneous Utilities under Electric Transmission for Colorado, delete the words: Fee with surface use lease back, insert: (easement); delete footnote d and the reference to it after the Colorado roads entry.

Page 18: Section 4.4.1.3, last sentence should read: A total of six relocations would be required.

Page 19: Section 4.4.2.1, Par. 1, Line 1, replace the number 62,680 with the number 52,520

Section 4.4.2.1, Par. 2, Line 1, the date should read: September 2, 1987

Page 20: Section 4.4.2.3, second sentence should read: A total of 23 relocations are required. Delete the third sentence.

Page 22: Section 4.4.3.3, last sentence should read: A total of 219 relocations will be required.

Section 4.4.3.5, Line 4, insert the word may before the word require.

Page 23: Lines 3 and 4, delete the following: the transmission line and

Page 24: Section 4.4.4.3, last sentence should read: A total of 221 relocations will be required.

Page 26: Section 4.4.5.3, Line 2, should read: A total of 180 relocations would be required.

Page 27: Section 4.4.6.3, last sentence should read: A total of 128 relocations would be required.

Page 29: Section 4.4.7.3, last sentence shoul read: A total of 175 relocations would be required.

REFERENCES: Insert:

Arizona State Legislature Report, Appendix D, submitted May 27, 1988.

Bedford, Marshall, Rutherford, and Williamson County Assessor Maps, submitted April 13, 1988.

Ingham and Jackson County Tax Assessment Maps, Gilbert/ Commonwealth, Inc., submitted July 1988.

State of Illinois Department of Energy and Natural Resources, submitted July 1988.

State of North Carolina Soil Conservation Service orthographic aerial photographs, submitted August 1988.

Tennessee House Bill No. 1966.

Tennessee House Joint Resolution No. 476.

Tennessee Senate Bill No. 2185.
Weinhold, J.F. [Private communication.] Knoxville, TN: Tennessee Technology Foundation, Aug. 9, 1988.

Pages A-1A through A-1D: Arizona Parcel Maps Sources should read: Arizona State Legislature Report, Appendix D, submitted May 27, 1988.

The Illinois parcel maps on pp. A-3C, A-3D, A-3E, A-3F, A-3G, A-3K, and A-3L have been corrected to include the locations of sites E8, E9, F8, F9, L2, J1, J2, J3, and J4.

Page A-1B: Interchange parcel numbers 151 and 153F

Page A-1C: Change parcel number 12A to 2A

Page A-1D: Add parcel number 22B to the parcel east of and adjacent to 22A

Pages A-2A through A-2E: Colorado Parcel Maps Sources should read: Colorado SSC Proposal, vol 6, figs. 6.2-1 and 6.2-2, submitted August 3, 1987.

Page A-2B: Change parcel number 54P7 to 53P7

Page A-2C: Change parcel number 533P1 to 532P1

Add parcel number S2P1 to section adjacent to and west of S1P1

Page A-2E: Change parcel number 533P1 to 532P1

Page A-2E: Change parcel number 524P78 to 524P70

Page A-3C: Change parcel number 22 to 87

Page A-3E: Change parcel number 227 to 225

Change parcel number 229 to 227

Page A-3F: Change parcel number 96 to 95

Page A-3G: Change parcel number 266 to 265

Page A-3K: Change parcel number 413 to 430

Page A-3W: Change parcel number 26 to 25

Page A-3X: Change parcel number 260 to 258

Change parcel number 258 to 257

Page A-4C: Change parcel number 210-001 to 210-002

Change parcel number 111-009 to 111-008

Page A-4F: Change parcel number 334-005 to 434-005

Page A-4G: Change parcel number 326-024 to 322-024

Change parcel number 326-002 to 322-002

Change parcel number 326-025 to 322-025

Change parcel number 127-001 to 327-001

Change parcel number 127-006 to 327-006

Page A-4H: Change parcel number 315-005 to 415-005

Change parcel number 315-006 to 415-006

Page A-4I: Change parcel number 231-001 to 431-002

Page A-4N: Change parcel number I4-12C2A to I4-12C3A

Page A-4P: Add parcel number 401-004 to the parcel adjacent to and north of parcel number 401-006

Change parcel number 301-001 to 304-001

Page A-4R: Change parcel number C30-1A to C30-3A

Page A-4W: Change parcel number 217-001 to 517-001

Change parcel number 35110-002 to 35110-001

Page A-4X: Change parcel number 410-010 to 210-010

Change parcel number 410-008 to 210-008

Change parcel number 410-009 to 210-009

Pages A-5A through A-5Y: North Carolina Parcel Maps Sources should read: State of North Carolina Soil Conservation Service orthographic aerial photographs, submitted August 1988.

Page A-5D: Delete parcel number T1059

Page A-5E: Change parcel number 193? to T671

Page A-5F: Change parcel number T2179 to T2029

Page A-5G: Change parcel number T2218 to T3718

Page A-5H: Change parcel number T2061 to T2051

Page A-5I: Change parcel number T1799 to T1779

Change parcel number T2091 to T2094

Change parcel number T2261 to T2216

Page A-5J: Change parcel number T120? to T1234

Page A-5K: Change parcel number T1111 to T1191

Page A-5L: Change parcel number T840 to T848

Page A-5M: Change parcel number T350 to T356

Change parcel number T383 to T385

Page A-5Q: Change parcel number 896-5E to 896-4

Page A-5R: Change parcel number 63 to 163

Page A-5U: Change parcel number 93-36 to 93-16

Page A-5W: change parcel number 39 to 38

Page A-5X: Change parcel number A-93-21 to A-93-91

Page A-5Y: Interchange parcel numbers 104-17 to 104-4B

Pages A-6A through A-6W: Tennessee Parcel Maps Sources should read: Bedford, Marshall, Rutherford, and Williamson County Assessor Maps, submitted April 13, 1988.

Page A-6C: Change parcel number 66.01 to 63.01

Page A-6D: Change parcel number 14 to 12

Page A-6G: Change parcel number 32 to 34

Page A-6K: Change parcel number 21 to 22

Page A-6O: Change parcel number 26 to 28

Change parcel number 30.01 to 10

Pages A-7A through A-7H: Texas Parcel Maps Sources should read: Texas National Research Laboratory Commission SSC Dallas, vol 6, exhibits 6.2.1.4-1 a through e, submitted September 2, 1988.

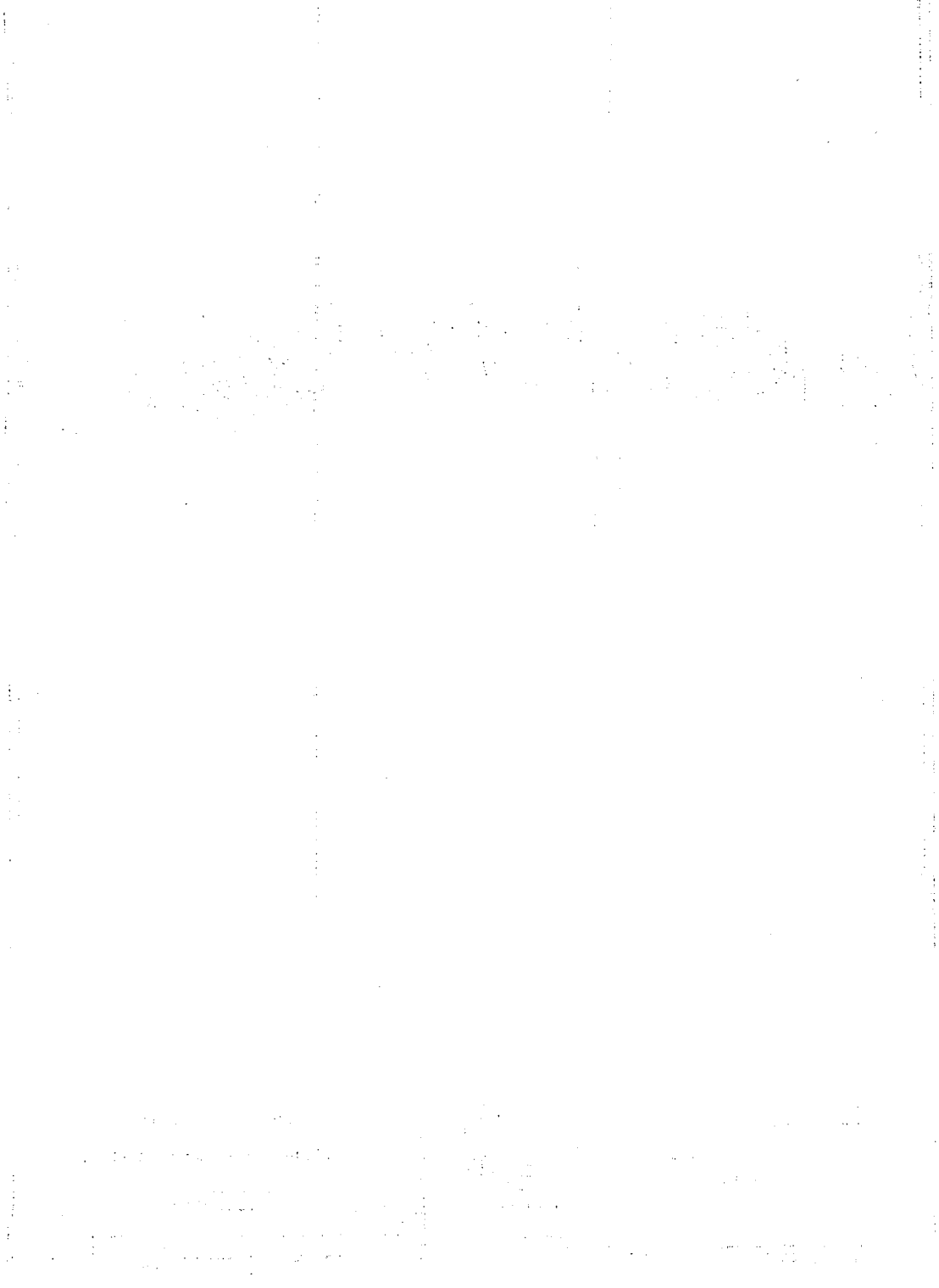
Page A-7C: Change parcel number 414 to 441

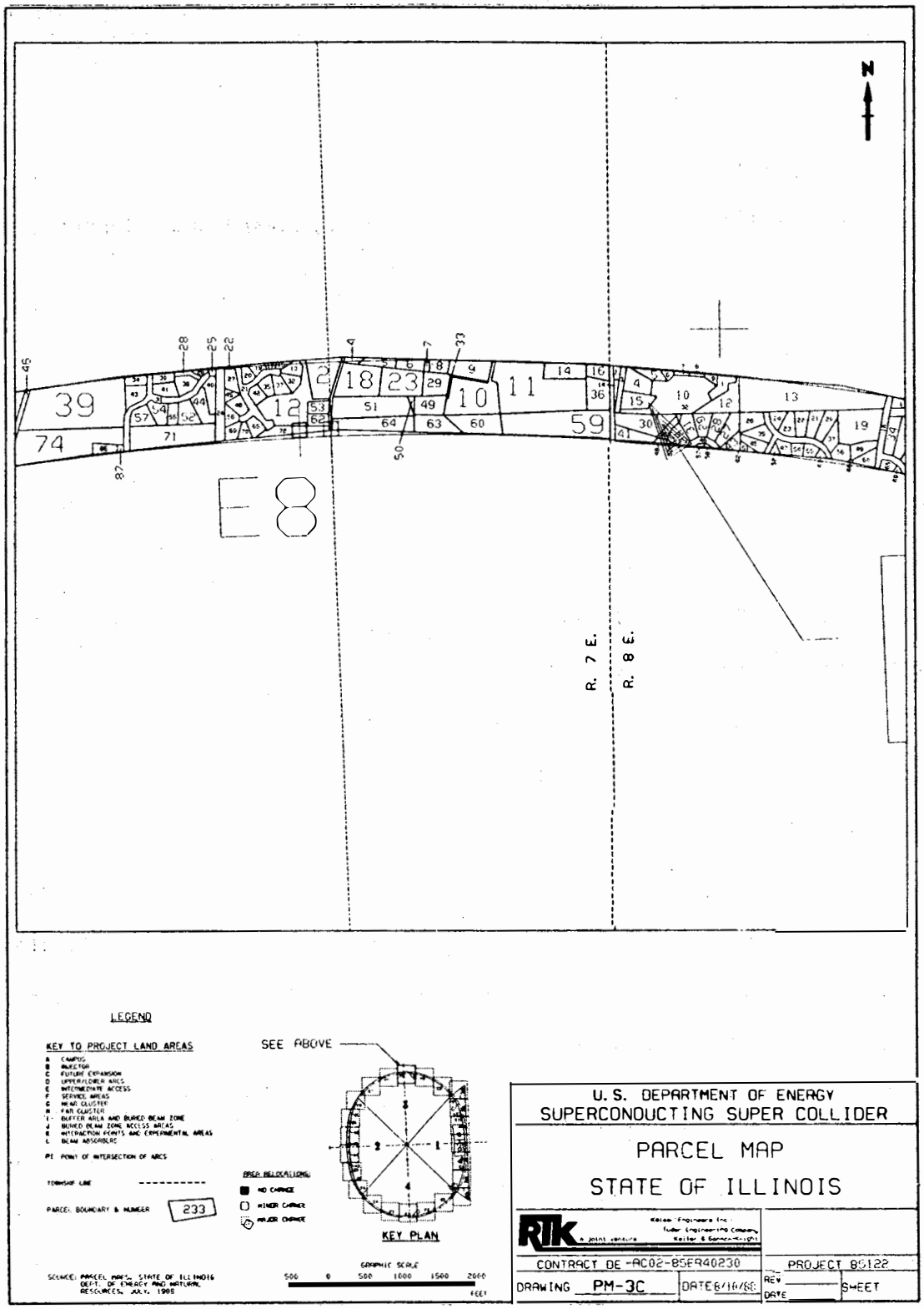
Add parcel number 18 to parcel on north side of number 17

Page A-7D: Change parcel number 142 to 141

NEW AND CORRECTED FIGURES

NEW AND CORRECTED FIGURES





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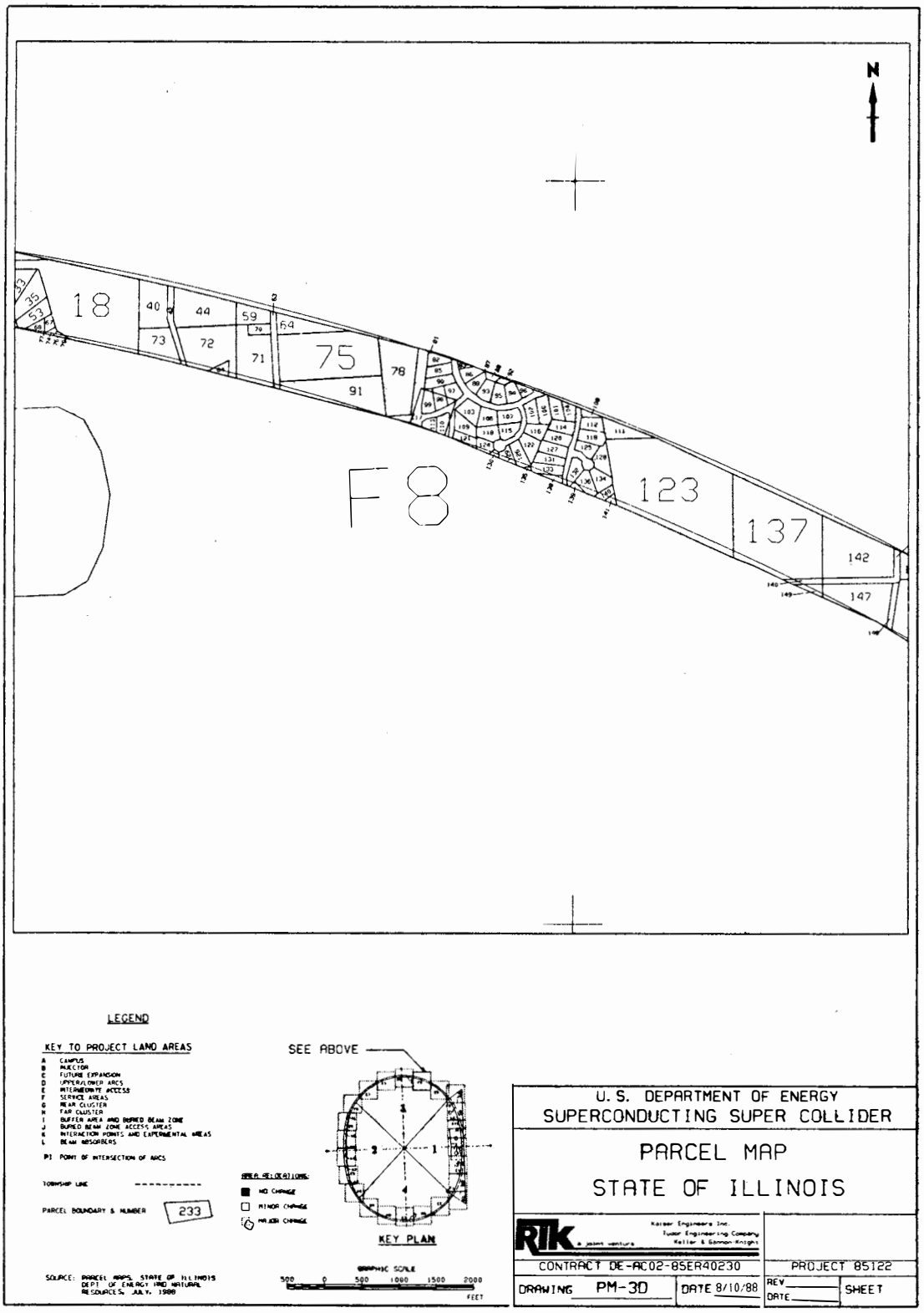
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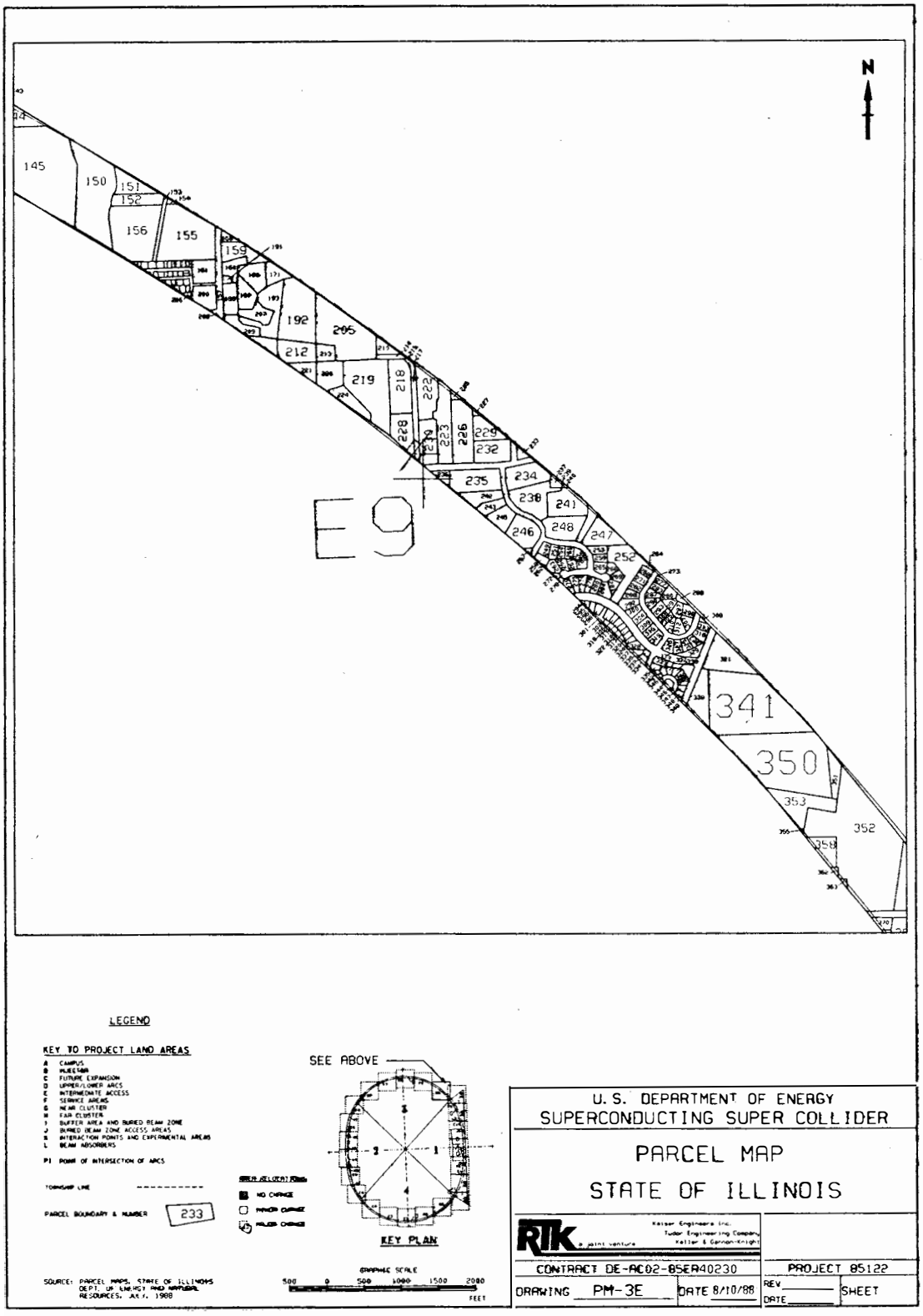

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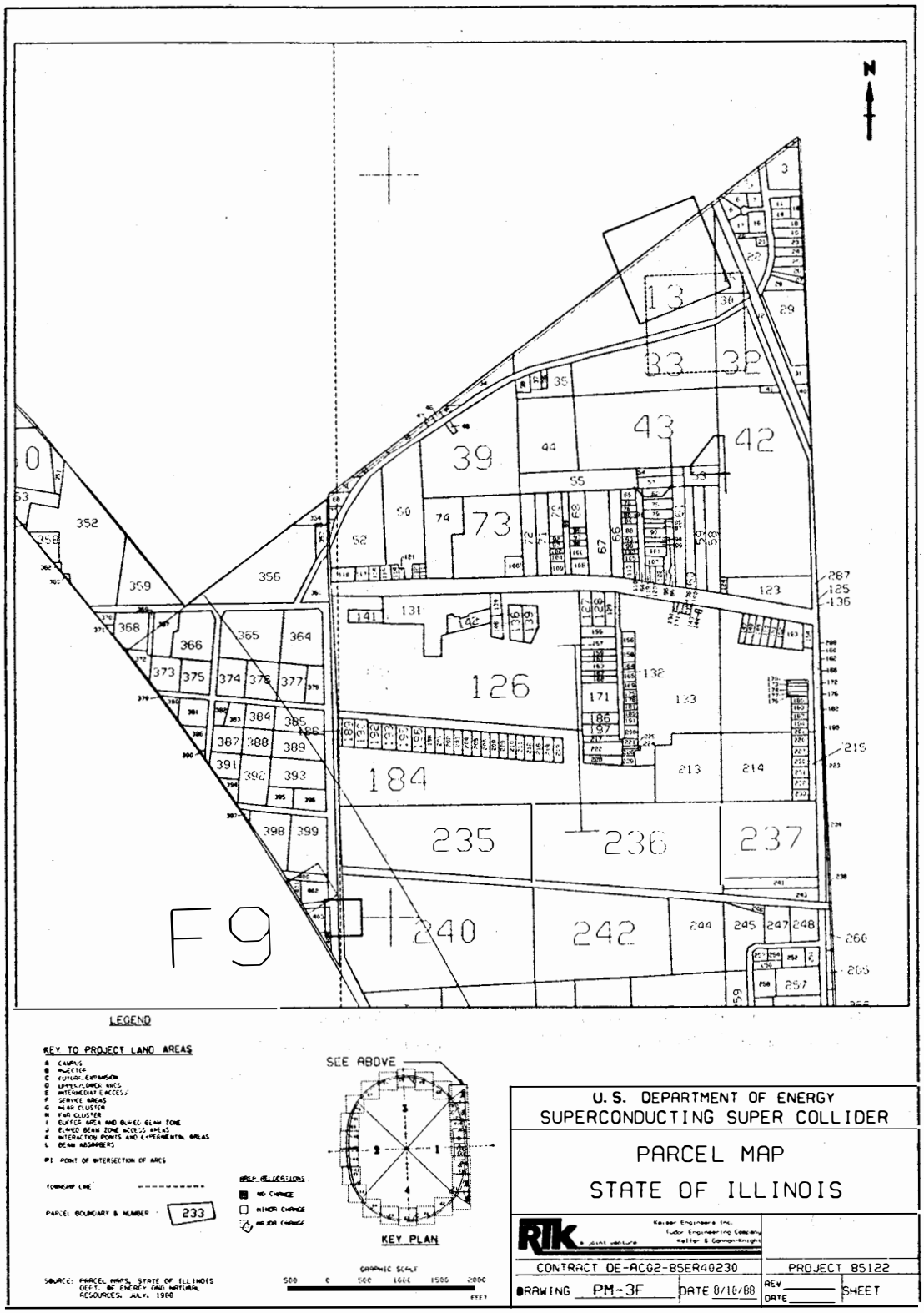
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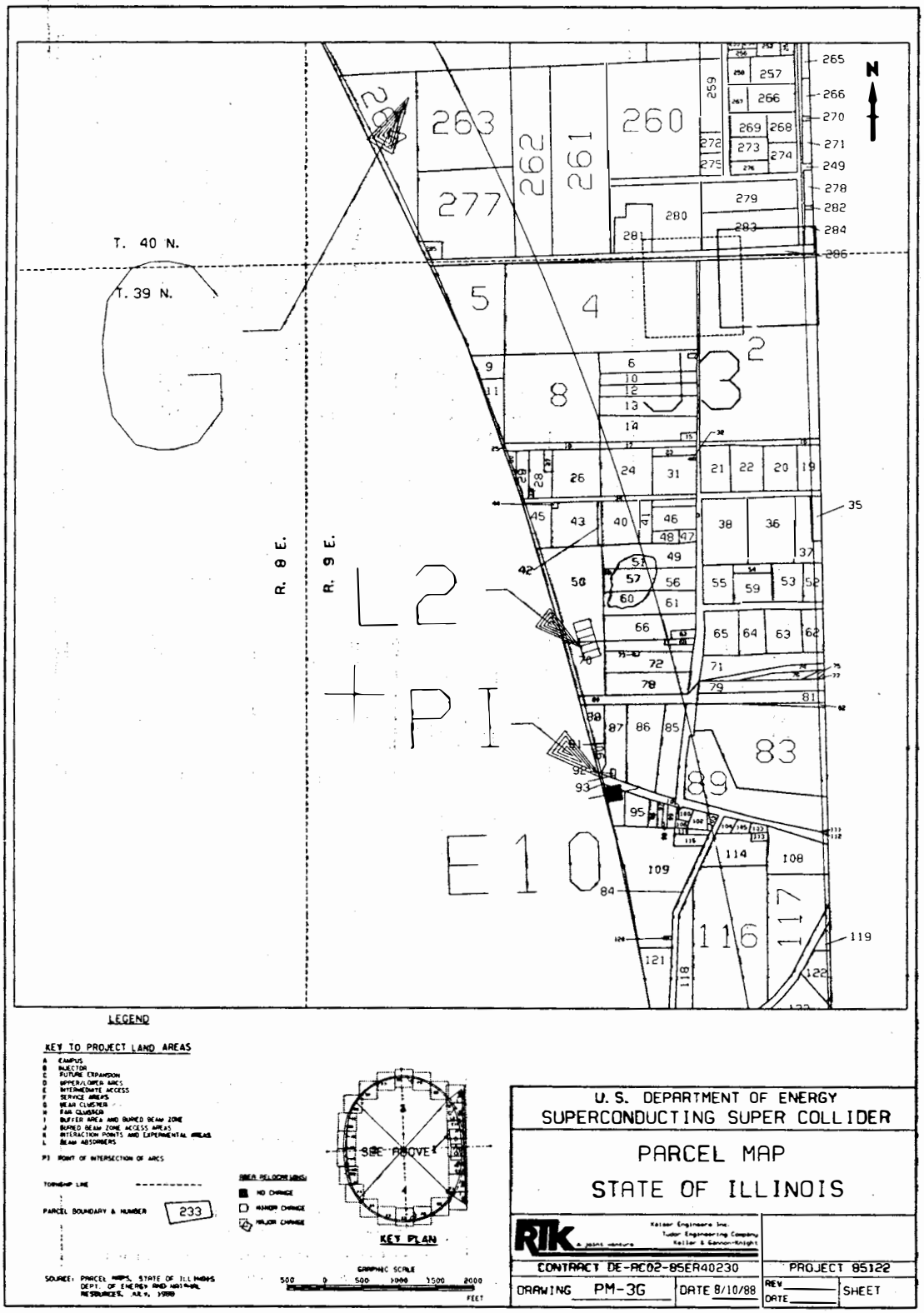
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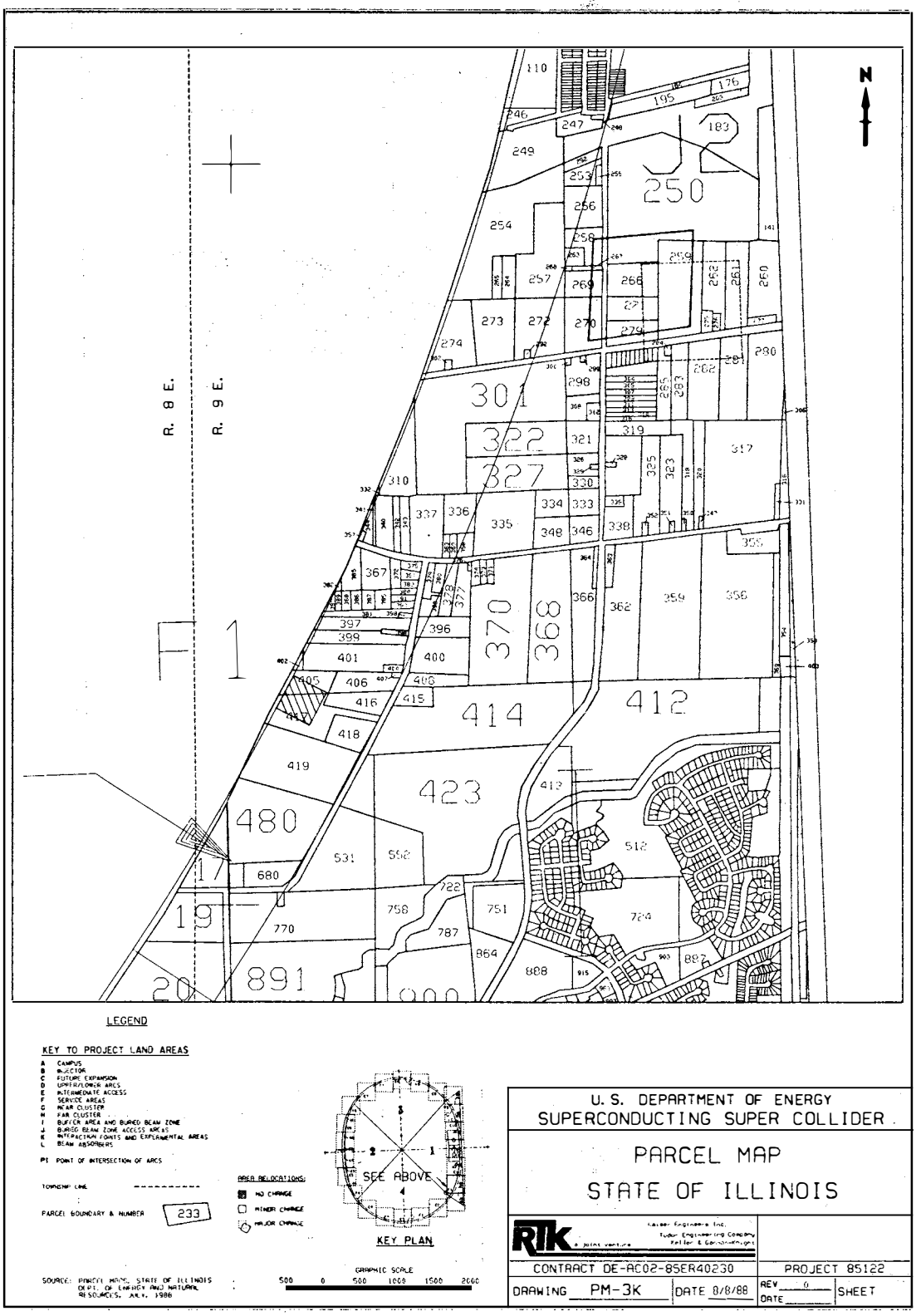
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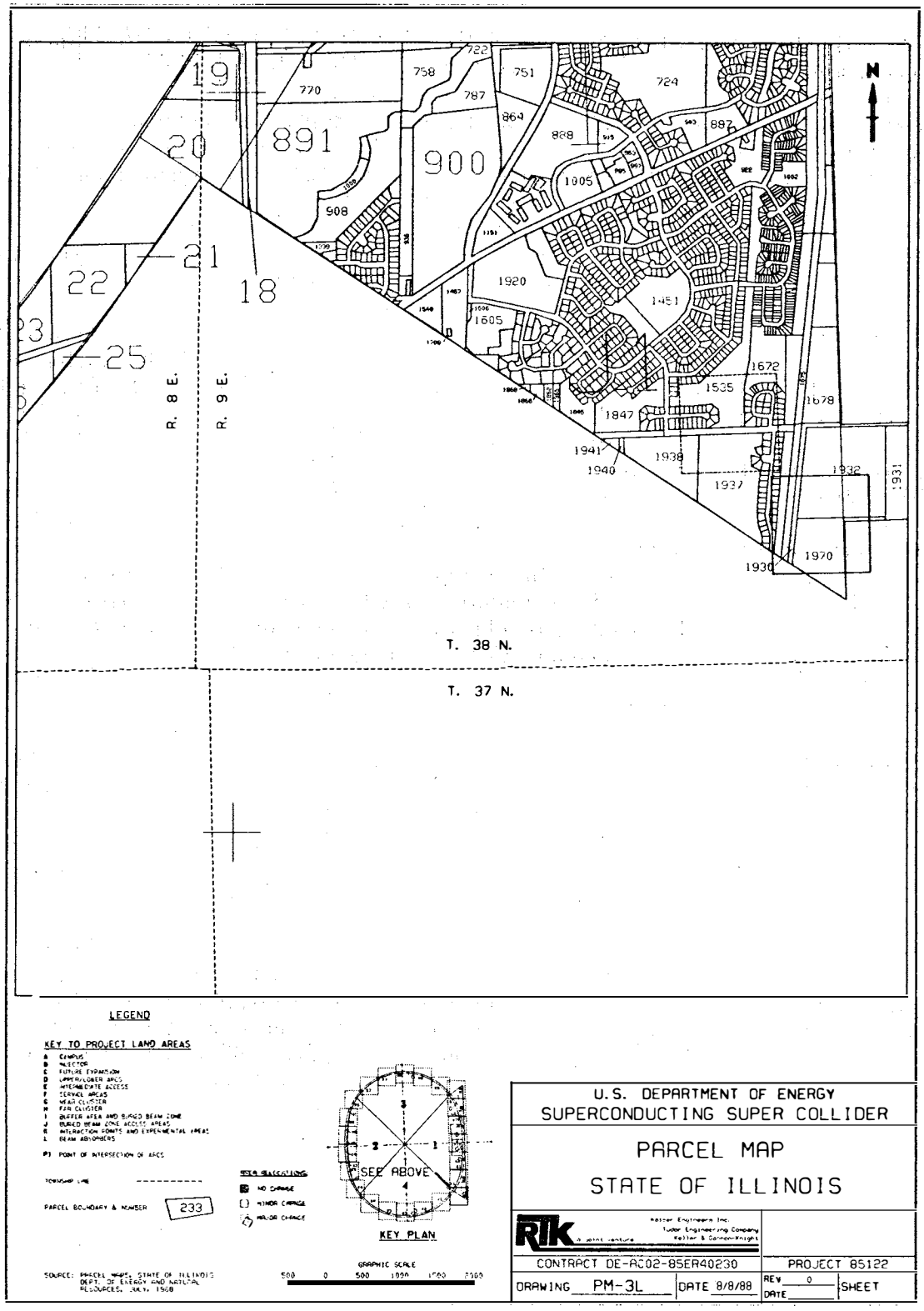
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ERRATA AND REVISIONS

APPENDIX 6

EARTH RESOURCES ASSESSMENTS

EARTH RESOURCES ASSESSMENTS

Page 8: Section 6.3.1.2, Line 1 should read: Up to 2.5 million yd^3...; Lines 3 and 4 should read: ... This will include 1.2 million yd^3 of rock and 1.3 million yd^3 of soil...

Page 13: Beginning with Line 5, text should read: yet undetermined. Approximately 30 wells are known to be currently producing within 1 mi of the ring alignment. However, only 2 to 3 wells are within the 1,000-ft construction zone, (these would be directly affected) and less than 20 wells are within 1/4 mi of the collider alignment (some of these might be affected). Although accurate data ...

Page 14: Par. 2, Line 6, insert the word nontopographic before the word effects

Par. 4, Second-to-last paragraph, after the word sulfides, insert: to negligible levels

Page 17: Section 6.3.4.2, Par. 1, next to last line should read: ... Rock spoils are 69 percent Saginaw...

Section 6.3.4.2, Par. 2, Line 5, reference citation date should read: 1976

Page 19: Par. 2, Line 4, after the word "dry." insert the following: The impact of the SSC will be generally limited to wells currently producing in proximity to the ring. Only 2 to 4 producing wells are located in the 1,000 ft-wide collider construction zone (these would be directly affected), and only about 10 producing wells lie within 1/4 mi of the collider alignment (some of these might be affected). The amount of area surrounding SSC facilities that must be cleared of oil production is as yet undetermined. However, the overall effect on regional reserves is expected to be small. In part, the impact could be mitigated by drilling new, angled wells to intercept the same reserves.

Page 23: Par. 4, Line 3, add the following: However, the booster excavating may intersect one or more caves. Potential impacts to the cave hydrology and ecology are discussed in Volume IV, Appendices 7 and 11.

Par. 5, Line 5, insert new sentence before sentences beginning "The piles...": If the topographic depressions are determined to be sinkholes whose hydrologic integrity may be impacted by changes to the surface drainage, the potential for spoils pile-related impacts will be mitigated by relocating the piles to flat bottomland areas.

ERRATA AND REVISIONS

APPENDIX 9

NOISE/VIBRATION ASSESSMENTS

NOISE AND VIBRATION ASSESSMENTS

Page 1: Par. 1, insert the following after the first sentence: The term "human receptors" is used to identify noise-sensitive locations where people live or work. The locations include residences, schools, churches, and recreational facilities. The term distinguishes between areas that are noise-sensitive because of people as opposed to those that are noise-sensitive because of animals.

Par. 1, Line 7 should read: ... Impacts to wildlife are ...

Par. 3, Line 9 should read: criteria for noise impacts where no laws or regulations are applicable....

Par. 4, Line 3 should read: levels and humans at each of the proposed sites ...

Page 3: Table 9-1 footnote, line 1 should read: The unit of sound is the decibel (dB). The level of sound...

Page 7: Insert the following at the end of the last paragraph:

Other additional mitigation techniques that potentially would be considered during construction planning could include the following:

- Using quieted construction equipment.
- using atmospheric sounding techniques to avoid loud sounds such as blasting when conditions are conducive to atmospheric focussing of sound.
- Providing monetary grants to educational institutions for noise control upgrading of existing classroom structures, or structures proven to be in the planning stage at the time of the SSC request for proposal.
- Providing financial support that allows local governments to enact and enforce laws and regulations that control noise generated at the community level.

Page 17: Par. 3, Line 1 should read: The cleaning, grubbing, and earthwork phases of new ...

Par. 3, Line 4 should read: work envisioned and also on the proximity of residences, schools, churches, and recreational facilities to the road work.

Page 17: (Cont) Par. 5, delete the last sentence and insert: For a source having a sound pressure level of 93 dBA at 50 ft (maximum hour) for example, the noise produced is estimated to reach 51 dBA at 6,400 ft.

Par. 7, Line 3 should read: traffic to residences, schools, churches, and recreational facilities.

Page 23: Par. 1, insert the following before the last sentence:

Other mitigation techniques which potentially would be considered during detail design could include the following:

- o Including state-of-the-art noise control materials and techniques in the design of machinery buildings and equipment enclosures.
- o Requiring contractors responsible for design to use verified and validated sound-emission models to identify equipment that would represent a potential noise impact if not subjected to special quieting techniques.
- o Requiring designers and contractors to specify available quiet machinery and components in conjunction with the results of the modeling described above.
- o Enforcing negative incentives for vendors of service area systems an components, with price penalties for vendors who fail to provide equipment that meets, and continues to meet, DOE system-design requirements for sound emission limits.

Page 26: Par. 2, Line 2 should read: noise impact -- human high annoyance and general environmental

Par. 3, Line 1 should read: The percentage of those who would be highly annoyed ...

Insert the following new paragraph after Par. 3:

It should be noted that high annoyance, as a function of day-night average sound level, was developed from surveys of community reaction to primarily aircraft noise, as well as some traffic and railroad noise in urban areas (U.S. EPA 1982). As such, the degree of high annoyance produced by a given day-night average sound level in rural areas would be expected to be different from the high annoyance produced in urban areas. Therefore, although the percentage of humans highly annoyed by project noise is calculated as a function of distance, the population measure of the noise impact is expressed in terms of numbers of people exposed to a given day-night average sound level.

Page 37: The title of Figure 9-15 should read: RESIDENCES AND SCHOOLS

Page 39: Subheading B should read: Proximity of Residences and Schools to Project Activity and Expected Impacts

Par. 2, Line 1 should read: Residences and a school in the project vicinity are

Par. 2, Line 3 should read: potential for impact on the residences and the school are discussed by project phase

Par. 3, Line 1 should read: The lack of residences within 2,000 ft of the service or

Insert the following new paragraph after Par. 3:

An examination of 1981 aerial photos (1 inch to 5,000 ft scale) supplemented by 1988 site visit information indicated that there are no residences or community facilities within 2,000 ft of the center of a service or intermediate access area. Therefore, it is anticipated that no people will experience an L_{dn} of greater than 60 dBA due to construction at E and F sites.

Par. 4, Lines 1 and 2 should read: The lack of residences within 2,000 ft of the near and far clusters will preclude any humans from being highly annoyed. Impacts on residences in ...

Par. 5, Lines 2 and 3 should read: ... from approximately F10 to E9 in the northeast ...

Par. 5, Line 4 should read: approximately K3 to F5 in the southwest ...

Par. 5, Line 5 should read: annoyed humans in the southwest ...

Par. 5, Line 6 should read: the lack of residences in the southwest ...

Page 40: All paragraphs: Change "human receptors" to "humans"

Par. 1, Line 2 should read: ... due to the lack of residences ...

Insert the following new paragraph after Par. 3:

An examination of 1981 aerial photographs (1 inch to 5,000 ft scale) supplemented by 1988 site visit information indicates that there are no residences within 700 ft of the center of an

Page 40: (Cont) F area. Therefore, it is anticipated that no people will experience an L_{dn} of greater than 55 dBA due to service area operations.

Page 43: The title of Figure 9-18 should read: RESIDENCES

Page 44: All paragraphs: change "human receptors" to "humans"

Insert the following new paragraphs and Table 9-10 (see New and Corrected Tables section) after Par. 1:

An examination of 1984-85 aerial photos (1 inch to 5,000 ft scale) supplemented by 1988 site visit information indicated the following current distribution of houses around E and F areas (see Table 9-10). At an average of 2.57 human occupants per residence in Colorado (U.S. Bureau of the Census 1988), a total of approximately 5 people would experience an L_{dn} of greater than 70 dBA, and a total of 3 people would experience an L_{dn} of between 60 and 70 dBA during construction at E and F areas.

In addition, the aerial photos and U.S.G.S. 7 1/2-minute quadrangles were examined for community facilities expected to experience an L_{dn} of greater than 60 dBA. No schools or churches within 2,000 ft of an E or F area were identified.

Par. 3, Line 1 should read: The small number of humans living close to K2, ...

Par. 4, Line 1 should read: High human annoyance due to road construction ...

Par. 5, Line 5 should read: annoyed on a temporary basis ...

Par. 6, Line 1 should read: High human annoyance should be confined to F3 ...

Insert the following new paragraph after Par. 6:

An examination of 1984-85 aerial photos (1 inch to 5,000 ft scale) supplemented by 1988 site visit information indicated that, at an average of 2.57 human occupants per residence, 3 people live in areas with an expected L_{dn} during operations of between 55 and 60 dBA (areas within 700 ft of the center of a service area).

Page 48: The title of Figure 9-20 should read: RESIDENCES AND SCHOOLS

The location of Kaneville that appears between sites E6 and F6 on the ring should be deleted

Page 49: Par. 1, Line 1 should read: Humans located near F8, E9, F9, E10, E1, F1, E2, F2, E3, F3, E4, F4, F5, E6, F6, E7, F7,

Insert the following new paragraphs after Par. 1:

An examination of aerial photos shot at a scale of 1 inch to 2,000 ft in 1985-88 supplemented by 1988 site visit information indicated the following current distribution of houses around E and F areas (see Table 9-11). At an average of 2.66 human occupants per residence in Illinois (U.S. Bureau of the Census 1988), a total of approximately 114 people would experience an L_{dn} greater than 70 dBA, and a total of approximately 1,218 people would experience an L_{dn} between 60 and 70 dBA during construction at E and F areas.

In addition, the aerial photos and U.S.G.S. 7 1/2-minute quadrangles were examined for community facilities expected to experience an L_{dn} of greater than 60 dBA during construction. Two schools were identified. The first, McAuley School, is located approximately 2,000 ft from E10. Its estimated 28 occupants would experience an L_{dn} of 60 dBA from construction. The second, Indian Prairie School (formerly Eola School), is located approximately 600 ft from E1. Its current 340 occupants (planned to increase to 665) would experience an L_{dn} of between 70 and 75 dBA during construction. Other schools identified within 1 mi of SSC surface construction locations include Kaneland Schools, located 4,000 ft from E6, and St. Charles High School, located 5,000 ft from E9. Neither of these schools or their adjunct facilities would receive an L_{dn} of greater than 60 dBA from SSC surface facilities construction.

Par. 3, Lines 2 and 3 should read: cluster facilities will reduce the potential for noise impact. The small number of people living in residences close to ...

Par. 4, Line 1 should read: High human annoyance due to road upgrade and construction ...

Par. 5, Line 1 should read: Humans living close to spoils haul ...

Page 50: Par. 1, Line 1 should read: Humans located near F8, F9, F1, F3, F5, F6, and F7 ...

Insert the following new paragraph after Par. 1:

An examination of 1985-88 (1 inch to 2,000 ft scale) aerial photos supplemented by 1988 site visit information indicated that, at an average of 2.66 human occupants per residence, 45

Page 50: (Cont) people live in areas with an expected L_{dn} during operations of between 55 and 60 dBA (area within 700 ft of the center of a service area).

Par. 4, Line 1 should read: High human annoyance is not expected due to the small number

Page 53: The title of Figure 9-22 should read: RESIDENCES

Page 54: Par. 1, Line 1 should read: Humans living near E8, F8, E9, F9, E10, F10, F1, E2 ...

Insert the following new paragraphs and Table 9-12 (see New and Corrected Tables section) after Par. 1:

An examination of 1988 aerial photos (1 inch to 660 ft and 1 inch to 330 ft scales) supplemented by 1988 site visit information indicated the following current distribution of houses around E and F areas (see Table 9-12). At an average of 2.70 human occupants per residence in Michigan (U.S. Bureau of the Census 1988), a total of approximately 62 people would experience an L_{dn} of greater than 70 dBA, and a total of approximately 408 people would experience an L_{dn} of between 60 and 70 dBA during construction at E and F areas.

In addition, the aerial photos and U.S.G.S. 7 1/2-minute quadrangles were examined for community facilities expected to experience an L_{dn} of greater than 60 dBA. No schools or churches within 2,000 ft of an E or F area were identified.

Par. 4, Line 1 should read: A small number of humans living within ...

Par. 6, Line 1 should read: High human annoyance due to road construction ...

Par. 7, Line 1 should read: Humans living close to spoils ...

Page 55: Par 1, Line 1 should read: Humans living near ...

Insert the following new paragraph after Par. 1: An examination of 1988 (1 inch to 660 ft and 1 inch to 330 ft scale) aerial photos supplemented by 1988 site visit information indicated that, at an average of 2.70 human occupants per residence, 24 people live in areas with an expected L_{dn} during operations of between 55 and 60 dBA (areas within 700 ft of the center of a service area).

Par. 4, Line 1 should read: High human annoyance is not expected ...

Page 58: The title of Figure 9-24 should read: RESIDENCES

Page 59: Par. 1, Line 1 should read: Humans living near ...

Insert the following new paragraphs and Table 9-13 (see New and Corrected Tables section) after Par. 1:

An examination of 1987 aerial photos (1 inch to 400 ft scale) supplemented by 1988 site visit information indicated the following distribution of houses around E and F areas (see Table 9-13). At an average of 2.62 human occupants per residence in North Carolina (U.S. Bureau of the Census 1988), a total of approximately 136 people would experience an L_{dn} of greater than 70 dBA, and 655 people would experience an L_{dn} of between 60 and 70 dBA during construction at E and F areas.

In addition, the aerial photos and U.S.G.S. 7 1/2-minute quadrangles were examined for community facilities expected to experience an L_{dn} of greater than 60 dBA. Two churches were identified. The first, Vernon Hill Church, located approximately 1,900 ft from F5, would experience an L_{dn} of approximately 60 dBA during construction. This church has an estimated attendance of 50-75 people on Sundays. Population estimates were not obtained for Brookland Church, located approximately 1,000 ft from F3 near Somerset. This church would experience an estimated L_{dn} of between 60 and 70 dBA during construction.

Par. 3, Line 1 should read: Few highly annoyed humans are expected ...

Par. 4, Line 1 should read: High human annoyance due to ...

Par. 5, Line 1 should read: Humans living close to spoils ...

Page 60: Par. 1, Lines 1 and 2 should read: High human annoyance will be experience at residences near F5, F7, F8, F9, F1, F2, F3, and F4

Insert the following new paragraph after Par. 1:

An examination of 1987 (1 inch to 400 ft scale) aerial photo data supplemented by 1988 site visit information indicated that, at an average of 2.62 human occupants per residence, approximately 60 people live in areas with an expected L_{dn} during operations of between 55 and 60 dBA (areas within 700 ft of the center of a service area).

Par. 3, Line 3 should read: located in Research Triangle Park, comparing ...

Page 60: (Cont) Par. 3, next-to-last line should read: ... that the Durham County -- Research Triangle Park regulation ...

Par. 5, Line 1 should read: High human annoyance is not expected ...

Page 62: The title of Figure 9-25 should read: RESIDENCES

Page 64: Par. 1, Line 1 should read: Humans living near F9, E10, F10, E1 ...

Insert the following new paragraphs and Table 9-14 after Par. 1:

An examination of 1988 aerial photos (1 inch to 1,000 ft scale) supplemented by 1988 site visit information indicated the following distribution of houses around E and F areas (see Table 9-14). At an average of 2.63 human occupants per residence in Tennessee (U.S. Bureau of the Census 1988), a total of approximately 55 people would experience an L_{dn} of greater than 70 dBA, and 409 people would experience an L_{dn} of between 60 and 70 dBA during construction at E and F areas.

In addition, the aerial photos, U.S.G.S. 7 1/2-minute quadrangles, and information provided by the Tennessee site proposer group were examined for community facilities expected to experience an L_{dn} of greater than 60 dBA. Five churches and one school were identified. Shady Hill Church is located approximately 2,000 ft from F8. A population estimate for this church was not obtained. This facility would be expected to receive an L_{dn} of 60 dBA during construction. Cherry Grove Baptist Church is located approximately 800 ft from F10. A

population estimate for this church was also not obtained. This facility would be expected to receive an L_{dn} of 70 dBA during construction.

The Church of Christ in College Grove is located approximately 1,800 ft from E8. The church has an estimated Sunday attendance of 100. This facility would experience an L_{dn} of between 60 and 65 dBA during construction. The College Grove United Methodist Church is located approximately 2,000 ft from E8. The church hosts a daycare center with an average daily population of 15-20. Sunday attendance is approximately 85. This facility would experience an L_{dn} of 60 dBA during construction. The College Grove Elementary School is located approximately 1,300 ft from E8. The school has an estimated daily attendance of 203. This facility would experience an L_{dn} of approximately 65 dBA during construction. The Patterson Baptist Church is located approximately 1,800 ft from E9. This church has an estimated Sunday attendance of 35. This facility would experience an L_{dn} of between 60 and 65 dBA during construction.

Page 64: (Cont) Par. 3, Line 1 should read: Highly annoyed humans are expected ...

Par. 4, Line 1 should read: High human annoyance due to road construction ...

Par. 5, Line 1 should read: Humans living close to spoils ...

Par. 6, Line 1 should read: High human annoyance will be limited to ...

Insert the following new paragraph after Par. 6:

An examination of 1988 (1 inch to 1,000 ft scale) aerial photo data supplemented by 1988 site visit information indicated that, at an average of 2.63 human occupants per residence (U.S. Bureau of the Census 1988), approximately 24 people live in areas with an expected L_{dn} during operations of between 55 and 60 dBA (areas within 700 ft of the center of a service area).

Page 66: Par. 4, Line 2 should read: ... one-lane road; 21 mi of new, paved,...

Par. 4, Line 3 should read: ... 23 mi of upgraded, paved, two-lane roads ...

Page 68: The title of Figure 9-28 should read: RESIDENCES AND SCHOOLS

Page 69: Par. 1, Lines 1 and 2 should read: Humans living near F3, E4, F4, E5, E6, F6, E7, F7, E8, F8, E9, F9, E10, F10, F1, E2, and F2 ...
Insert the following new paragraphs and Table 9-15 after Par. 1:

An examination of 1983 aerial photos (1 inch to 5,000 ft scale) supplemented by 1988 site visit information indicated the following distribution of houses around E and F areas (see Table 9-15). At an average of 2.76 human occupants per residence in Texas (U.S. Bureau of the Census 1988), a total of approximately 25 people would experience an L_{dn} of greater than 70 dBA, and 284 people would experience an L_{dn} between 60 and 70 dBA during construction at E and F areas.

In addition, the aerial photos and U.S.G.S. 7 1/2-minute quadrangles were examined for community facilities expected to experience an L_{dn} of greater than 60 dBA. Two churches were identified. The first, Lumkins Church, is located approximately 1,500 ft from E9. The church is currently closed. This church would be expected to receive an L_{dn} of between 60 and 65 dBA during construction. The second, Bethel Church, is

Page 69: (Cont) located approximately 1,100 ft from E10. Its estimated Sunday attendance is 30 people. This facility would be expected to receive an L_{dn} of 65 dBA during construction.

Par. 3, Line 1 should read: Few highly annoyed humans are expected ...

Par. 4, Line 1 should read: High human annoyance due to road ...

Par. 5, Line 1 should read: Humans living close to spoils ...

Par. 6, Lines 1 and 2 should read: High human annoyance will be limited ...

Page 70: Insert the following new paragraph after Par. 1:

An examination of 1983 (1 inch to 5,000 ft scale) aerial photo data supplemented by 1988 site visit information indicated that, at an average of 2.76 human occupants per residence, approximately 19 people live in areas with an expected L_{dn} of between 55 and 60 dBA during operations (areas within 700 ft of the center of a service area).

Par. 3, Line 1 should read: High human annoyance is not expected ...

Page 84: Subsection B.1, add the following after the second para graph: Legislation has been enacted in Illinois to provide for preconstruction inspection of buildings within the sphere of influence, monitoring vibrations attributed to blasting, and providing compensation for any structural damages attributed to blasts.

REFERENCES

Insert the following reference:

U.S. Bureau of the Census. 1988 Statistical Abstract of the United States. Washington, DC: USGPO, 1988.

NEW AND CORRECTED TABLES

NEW TABLES

Table 9-10

ESTIMATED POPULATION DISTRIBUTION
CONSTRUCTION PHASE
E AND F AREAS
ARIZONA SSC SITE

Facility	Number of Houses Receiving: Greater than 70 dBA L_{dn}*	Number of Houses Receiving: Between 60 and 70 dBA L_{dn}**
E1	0	0
F1	0	0
E2	0	0
F2	0	0
E3	0	0
F3	0	0
E4	0	0
F4	0	0
E5	0	0
F5	0	0
E6	0	0
F6	0	0
E7	0	0
F7	0	0
E8	0	0
F8	0	0
E9	0	0
F9	0	0
E10	0	0
F10	0	0
Total	0	0

*Within 630 ft of the center of an E or F Area.
**Within 2,000 ft of the center of an E or F Area.

Table 9-11

ESTIMATED POPULATION DISTRIBUTION
CONSTRUCTION PHASE
E AND F AREAS
COLORADO SSC SITE

Facility	Number of Houses Receiving: Greater than 70 dBA L_{dn}*	Between 60 and 70 dBA L_{dn}**
E1	0	0
F1	0	0
E2	0	0
F2	0	0
E3	1	1
F3	1	0
E4	0	0
F4	0	0
E5	0	0
F5	0	0
E6	0	0
F6	0	0
E7	0	0
F7	0	0
E8	0	0
F8	0	0
E9	0	0
F9	0	0
E10	0	0
F10	0	0
Total	2	1

*Within 630 ft of the center of an E or F Area.
**Within 2,000 ft of the center of an E or F Area.

Table 9-12

**ESTIMATED POPULATION DISTRIBUTION
CONSTRUCTION PHASE
E AND F AREAS
ILLINOIS SSC SITE**

Facility	Number of Houses Receiving: Greater than 70 dBA L_{dn}*	Between 60 and 70 dBA L_{dn}**
E1	2	8
F1	1	12
E2	2	45
F2	0	191
E3	0	1
F3	1	2
E4	0	3
F4	0	8
E5	1	2
F5	0	27
E6	0	5
F6	2	9
E7	3	6
F7	12	38
E8	6	10
F8	1	18
E9	8	66
F9	0	1
E10	4	6
F10	0	0
Total	43	458

*Within 630 ft of the center of an E or F Area.
**Within 2,000 ft of the center of an E or F Area.

Table 9-13

ESTIMATED POPULATION DISTRIBUTION
CONSTRUCTION PHASE
E AND F AREAS
MICHIGAN SSC SITE

Facility	Number of Houses Receiving: Greater than 70 dBA L_{dn}*	Number of Houses Receiving: Between 60 and 70 dBA L_{dn}**
E1	0	0
F1	2	10
E2	0	4
F2	0	21
E3	1	9
F3	1	16
E4	0	12
F4	1	3
E5	0	6
F5	0	2
E6	0	12
F6	0	2
E7	0	5
F7	1	3
E8	4	14
F8	0	4
E9	4	8
F9	2	12
E10	5	7
F10	1	1
Total	23	151

*Within 630 ft of the center of an E or F Area.
**Within 2,000 ft of the center of an E or F Area.

Table 9-14

ESTIMATED POPULATION DISTRIBUTION
CONSTRUCTION PHASE
E AND F AREAS
NORTH CAROLINA SSC SITE

Facility	Number of Houses Receiving: Greater than 70 dBA L_{dn}*	Number of Houses Receiving: Between 60 and 70 dBA L_{dn}**
E1	0	1
F1	1	18
E2	7	18
F2	2	13
E3	0	7
F3	3	27
E4	1	20
F4	10	38
E5	0	15
F5	1	4
E6	4	7
F6	0	7
E7	2	7
F7	4	18
E8	14	20
F8	1	12
E9	1	10
F9	1	8
E10	0	0
F10	0	0
Total	52	250

*Within 630 ft of the center of an E or F Area.
**Within 2,000 ft of the center of an E or F Area.

Table 9-15

ESTIMATED POPULATION DISTRIBUTION
CONSTRUCTION PHASE
E AND F AREAS
TENNESSEE SSC SITE

Facility	Number of Houses Receiving: Greater than 70 dBA L_{dn}*	Number of Houses Receiving: Between 60 and 70 dBA L_{dn}**
E1	0	16
F1	0	3
E2	0	4
F2	3	6
E3	4	6
F3	2	6
E4	0	3
F4	1	3
E5	4	5
F5	0	3
E6	0	1
F6	0	1
E7	0	5
F7	0	0
E8	3	47
F8	0	8
E9	0	14
F9	1	8
E10	1	11
F10	2	6
Total	21	156

*Within 630 ft of the center of an E or F Area.
**Within 2,000 ft of the center of an E or F Area.

Table 9-16

ESTIMATED POPULATION DISTRIBUTION
CONSTRUCTION PHASE
E AND F AREAS
TEXAS SSC SITE

Facility	Number of Houses Receiving: Greater than 70 dBA L_{dn}*	Number of Houses Receiving: Between 60 and 70 dBA L_{dn}**
E1	0	0
F1	0	8
E2	1	5
F2	1	4
E3	0	0
F3	3	4
E4	0	5
F4	0	3
E5	0	5
F5	0	0
E6	0	6
F6	0	3
E7	0	16
F7	0	8
E8	0	0
F8	0	3
E9	0	13
F9	0	3
E10	1	10
F10	3	7
Total	9	103

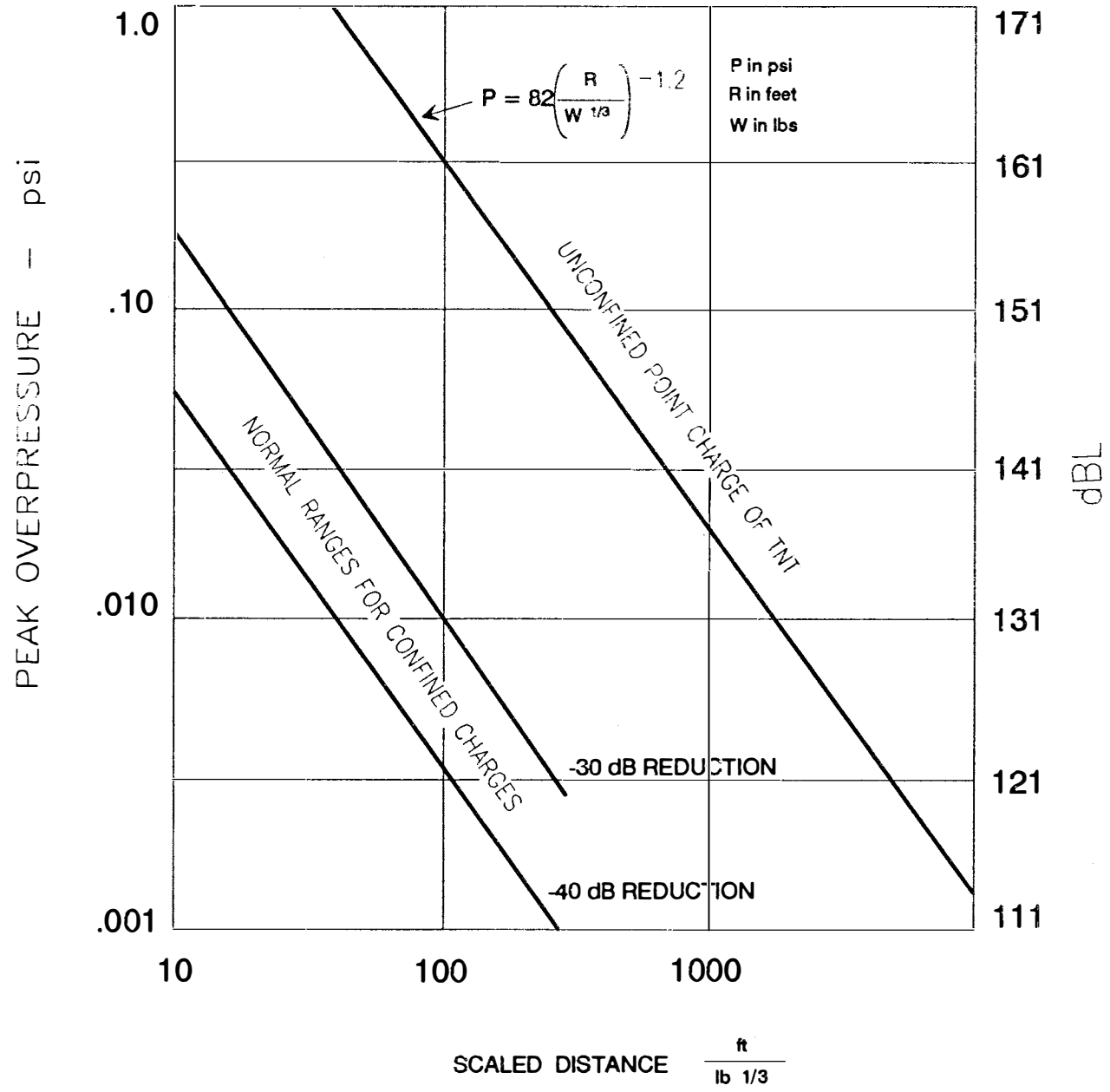
*Within 630 ft of the center of an E or F Area.
**Within 2,000 ft of the center of an E or F Area.

NEW AND CORRECTED FIGURES

NEW AND CORRECTED FIGURES

Figure 9-32

CHARGE-WEIGHT-PER-DELAY VALUES
(ALLOWABLE PEAK OVERPRESSURES)



$dBL = 20 \log \frac{P}{Po}$ where Po is the reference pressure of 0.0002 microbar. The L signifies linear frequency response. dBL values are approximately 2 units higher than the dBA values used in Table 9.1-1.

ERRATA AND REVISIONS

APPENDIX 10

HAZARDOUS SOURCE TERMS AND WASTE DISPOSITION

HAZARDOUS SOURCE TERMS AND WASTE DISPOSITION

10.1 RADIATION AND HAZARDOUS/TOXIC SOURCE TERMS

Page 7: Figure 10.1.2-1, second item in Legend should read: UNCONTROLLED SURFACE AREA WITH CONTROLLED ZONE AT BEAM PLANE

Page 11: Figure 10.1.2-4, Caption should read:

Annual dose equivalent in mrem for a person located radially from the beam centerline at a point approximately 6m (20 ft) downstream from the initial hadron interactions for 2 x 10^{17} protons at 20 TeV ejected into heavy soil (assuming no beam absorber installation in this location for worst-case dose estimation) vs. radius from the line of impact of the beam.

Page 12: Last paragraph, Line 2 should read: ... never experienced a full beam loss with the superconducting magnets in its operation ...

Page 15: Figure 10.1.2-6, title, hadronic is misspelled hardroninc.

Page 16: Par. 2, Line 4, replace .095 km with 0.95 km

Page 18: Figure 10.1.2-8, Caption, Line 1 should read: ... individual positioned at the depth of the beam plane, from muons ...

Line 3 should read: ... downstream from the ...

Page 19: Figure 10.1.2-9, Caption, Line 1 should read: ... equivalent in mrem, for an individual positioned at the depth of the beam plane, from muons ...

Page 20: Par. 2, Line 6 should read: ... region is than 1 mrem at the depth of the beam ....

Par. 4, Line 4, add at the end of the sentence: at the depth of the beam.

Page 21: Figure 10.1.2-10, Caption, Line 1 should read: ... in mrem, for an individual positioned at the depth of the beam plane, from muons ...

Page 22: Figure 10.1.2-11, Caption, Line 1 should read: ... in mrem, for an individual positioned at the depth of the beam plane, from muons ...

Page 23: Figure 10.1.2-12, Caption, Line 1 should read: ... in mrem, for an individual positioned at the depth of the beam plane, from muons ...

Page 27: Par. 4, last line, add reference: (Jackson 1987)

Par. 5, Lines 7 and 8, reference should read: (Van Ginneken 1986); last line, reference should read: (Van Ginneken 1986; Quian 1987)

Page 32: Par. 5, Line 3, reference should read: (Pensko 1980)

Page 35: Par. 3, first listed item should read:

$A = V_{air}Re\text{-}\lambda t$

Page 36: Par. 5, Line 3, carbon-45 should read: calcium-45.

Page 43: Table 10.1.3-2, Soil Dry Range for AZ should read: 1.4-1.9

Table 10.1.3-2, Soil Bulk Range for AZ should read: 1.6-2.2

Page 44: Figure 10.1.3-1, Caption, Line 1 should read: ... an individual continuously located ...

Page 45: Figure 10.1.3-2 abscissa (x-axis) should be labeled: Equivalent Depth (m)

Text under figure should be replaced by:

An annual dose equivalent for an individual continuously located at the surface above the beam absorber at an equivalent depth (density adjusted) of 14 m is 0.001 mrem. An annual dose equivalent at each of the six sites is less than 0.001 mrem because the equivalent depth is greater than 14 m.

Colorado	28 m eq.
Illinois	129 m eq.
Michigan	43 m eq.
North Carolina	26 m eq.
Tennessee	99 m eq.
Texas	24 m eq.

Page 49: Figure 10.1.3-4, abscissa (x-axis) should be labeled: Radius (m)

Page 50: Figure 10.1.3-5 abscissa (x-axis) should be labeled: Equivalent Depth (m)

Page 50: (Cont) Text under figure should be replaced by:

Dose equivalent for an individual located at the surface above the loss point at an equivalent depth (density adjusted) of 12 m is 0.001 mrem. The dose equivalent at each of the three sites is less than 0.001 mrem because the equivalent depth is greater than 12 m.

Illinois	88 m eq.
Michigan	24 m eq.
Tennessee	117 m eq.

For North Carolina the dose equivalent is 0.006 mrem for an equivalent depth of 11 m.

Page 52: Table 10.1.3-4, Surface above loss point mrem for NC should read: 0.006

Page 53: Par. 1, Line 6 should read: plane as determined at the boundary of the controlled zone. Because the muon beam

Page 54: Figure 10.1.3-7, Caption should read: Annual dose equivalent in mrem at the depth of the beam plane as determined at the boundary of the controlled area downstream from the beam absorber.

Page 55: Figure 10.1.3-8, Caption should read: Annual dose equivalent in mrem at the depth of the beam plane as determined at the boundary of the controlled area downstream from the beam absorber.

Page 56: Figure 010.1.3-9, Caption should read: Annual dose equivalent in mrem at the depth of the beam plane as determined at the boundary of the controlled area downstream from the beam absorber.

Page 57: Figure 10.1.3-10, Caption should read: Annual dose equivalent in mrem at the depth of the beam plane as determined at the boundary of the controlled area downstream from the beam absorber.

Page 58: Figure 10.1.3-11, Caption should read: Annual dose equivalent in mrem at the depth of the beam plane as determined at the boundary of the controlled area downstream from the beam absorber.

Page 59: Figure 10.1.3-12, Caption should read: Annual dose equivalent in mrem at the depth of the beam plane as determined at the boundary of the controlled area downstream from the beam absorber.

Page 60: Table 10.1.3-5, first parameter should read: Depth ft (m)

Page 73: Figure 10.1.3-22, text under figure should be replaced by:

An annual dose equivalent from muons produced by beam scraper for an individual continuously located at the boundary of the controlled zone along a tangent from the point of loss with an equivalent distance (density adjusted) of 6.4 km is 0.001 mrem. An annual dose equivalent at each of the two sites is less that 0.001 mrem because the equivalent distance is greater than 6.4 km.

North Carolina	6.7 km eq.
Tennessee	6.5 km eq.

Page 76: Par. 1, last line should read: ... (NRCP 93, 1987).

Page 88: Par. 2, last line, add reference: (DOE Order 5480.1B, Chapter 11). (See also Volume I, Chapter 6, Section 6.3.2 for explanation of status of DOE limits.)

Page 91: Par. 1, second activity should read: ... A(Na-22) = 2.4 x 10^9 pCi (8.9 x 10^7 Bq).

Page 97: Par. 5, last line, reference should read: (Metropolis 1987)

Page 100: Par. 1, last line, add reference: (10 CFR 61; 42 USC 2021b).

Par. 2, last sentence should read: Disposal at a regional compact LLRW waste disposal facility licensed by a State and/or the NRC remains a possible option, except in Michigan, which has passed legislation prohibiting the disposal of SSC-generated LLRW.

Between Pars. 2 and 3, delete the subheading: a. Volume

Last paragraph, second-to-last line, insert the following after the word requirements: and applicable NRC or DOE radiation protection regulations

Page 101: Table 10.1.3-16, Planned Site Location for Illinois should read: Not yet located

Page 104: Table 10.1.3-18, insert additional footnote:

3. Based on potential location in Clark County. (footnote refers to the Illinois entry for Estimated total distance to regional compact)

Page 108: Par. 4, Line 1 should read: With the exception of the Arizona and Texas sites, naturally occurring ...

Page 108 (Cont)

Insert the following paragraph after Par. 4:

The proposed Texas site contains infestations of the imported fire ant, Solenopsis sp., which defends its habitats by attacking anything that disturbs it (TDA 1986). The effects of stings on humans can range from painful blisters to allergic reactions (anaphylactic shock). The extent of the infestation within the proposed SSC footprint has not been determined, but the fire ant is common in the eastern portion of Texas and residents near the proposed site have indicated severe problems with the ants. The severity of the hazard will depend on the density of the fire ant population in those areas of the proposed SSC footprint that will be disturbed by construction and operation activities, and on the effectiveness of any control measures used to combat the fire ant problem. If the SSC is sited in Texas, a soil survey would be needed prior to the start of construction to determine the location and extent of fire ant infestation. Potential control methods could then be evaluated.

10.2 EXCAVATED MATERIAL AND DEWATERING WASTE DISPOSAL

Page 3: First paragraph, second sentence should read: About 288 truckloads per day would be required for a maximum of six TBM contractors operating simultaneously.

Same paragraph, delete third sentence, which begins: However,

Page 4: Table 10.2.3-1, first State Proposed Option, substitute 480 for 450

Page 7: Par. 2, Par. 1, Line 13, first entry should read K6 instead of D6

Page 8: Par. 4, Line 4, reference should read: (Coughlin 1985)

Page 13: Par. 3, add sentence to end of paragraph:

However, more sites are available for use if the need warrants more than the primary four that are currently designated.

Par. 5, Line 2, replace the word would with could; Line 5, replace 290 with 144; replace 6 with 3; Lines 5 and 16, delete parenthetical remark; Line 6, replace 190 with 326; Line 7, replace four shafts with six shafts

Page 14: Insert the following at the beginning of last paragraph:

It is estimated that the water infiltration during tunnel construction at the Illinois site would be 0-10 gal/min/100 ft of tunnel length.

Page 16: Par. 1 should read:

It is estimated that about 19 lined ponds would be about 0.30 acre (about 500,000 gal) each. At shaft location F3, larger ponds (three ponds, each 2 acres), would be required because higher infiltration (up to 700 gal/min compared to 100 gal/min between shafts F1 and E3 and shafts E4 and E10) may occur between tunnel locations E3 and E4. A pond might not be required for the tunnel between F1 and E10 (west side of the campus), which is expected to be dry.

Page 16: (Cont) Insert after Par. 1:

If measurable oil and grease from the boring operations are in the water, a separator would be employed prior to discharge to the retention ponds. Some of the water in these ponds will infiltrate into the ground. After sufficient settling time for the sediments, some water may be used for construction of the project (e.g., dust control) and the rest discharged to surface waters. Additional treatment, such as filtration, may be necessary to minimize water quality impacts on the receiving surface waters.

Par. 3, end of Line 7 should read: ... sulfur in coal (1 to 4 percent ...

Page 17: Table 10.2.3-4, the Dewatering Infiltration Rate should read: <1 to 20 instead of 5-25

Page 18: Par. 2, Line 2 should read: ... (<1 to 20 gal/min/100 ft ...

Par. 2, Line 4, delete: It is is planned that. End of Par. add: The number of ponds would be determined during the detail design. It is estimated that the total area required for holding ponds could be about five acres.

Page 21: Table 10.2.3-6, State-proposed option number 1, Line 2 should read: 14 sites-15 acres; Line 3 should read: ... 3 to 5 acre cleared area (this refers to the 2 sites of 20 to 30 acres only

Page 24: Table 10.2.3-7 (Cont), Current Proposed Disposal Site Status for E8 should read: 3 acres

Page 25: Par. 2, insert the following at beginning of paragraph:

It is estimated that the water infiltration during tunnel construction at the North Carolina site would be 5-15 gal/min/100 ft of tunnel length.

Page 26: Table 10.2.3-8, State-proposed option number 3, replace the number 35 with the number 34

Par. 1, delete last sentence and add: The State has proposed five commercial limestone rock quarries for the disposal of the excavated limestone.

Par. 2, Line 7, replace the number 35 with 34;

Page 26: (Cont) Add to the end of Par. 2:

At each disposal site, the topsoil could be removed and stockpiled on the site and later used to cover the excavated material. The disposal sites could then be revegetated. The excavated materials could be sprayed with water to prevent dusting.

Page 28: Par. 5, Line 1, delete: (1,800,000 yd^3)

Page 29: Table 10.2.3-9, State-proposed option number 4, replace the number 45 with 65

Page 31: Par. 2, Line 2, replace the number 45 with 65

Par. 2, replace Lines 3 and 4 with: ... be required to dispose of marl and low-quality Austin chalk.

10.3 Sewage, Solid Waste, and Cooling Tower Blowdown

Page 1: Par. 1, Lines 1 and 2, Replace Industrial Wastewater with Cooling Tower Blowdown; delete last sentence

Par. 3, Line 2, replace Industrial Wastewater with Cooling Tower Blowdown

Par. 3, Line 5, replace Industrial Wastewater with Cooling Tower Blowdown

Par. 4, Line 1, replace Industrial Wastewater with Cooling Tower Blowdown

Page 2: Par. 5, Line 5, place a period after the acronym (DEQ) and delete the rest of the paragraph; also in Line 5, add the following before the word Arizona: The method of sewage treatment proposed by the State of Arizona is acceptable to the ...

Insert new paragraph between paragraphs 5 and 6: As per ISP Attachment 1, primary, secondary, and tertiary treatment plants would be provided at the main campus.

Page 3: Table 10.3.3-1, first item right column delete operating

Page 4: Par. 3 should read:

For the far cluster area, including experimental areas, service area F5, and the emergency services building, the State has proposed septic tanks and leach fields to dispose of wastewater generated at the remote areas.

Page 5: Table 10.3.3-2, the State-Proposed Alternative for both the Far Cluster and Remote Areas should read: Septic tanks and leach field

Page 7: Delete last paragraph and replace with the following:

For the far cluster, including experimental areas, service for F5, and emergency service building, the State of North Carolina has proposed four options:

Wastewater from area K3: Treatment in a stabilization lagoon with storage, followed by land application through spray irrigation.

Wastewater from areas K4 and K5: Same as option for K3, but with septic tank system treatment followed by a subsurface absorption field.

Page 7: (Cont) Wastewater from area K6: Same as options for K3 and K4 and K5, but with the possibility of package plant treatment followed by surface discharge into a nearby stream.

The cooling tower blowdown (300 gal/min) could be disposed of by using a vacuum compression brine concentrator or by side-stream softening. The method for the treatment of cooling tower blowdown would be selected after the site selection and during the detail design phase. Surface discharge of cooling tower blowdown would not be acceptable to the regulatory agencies.

Page 10: Delete existing text before heading 2. Assumptions

Page 14: Par. 1, Line 3, after has, substitute for remainder of sentence: ... suggested that on-site municipal solid waste landfill would be possible to permit and is an available option

Page 15: Par. 5, Section F, Tennessee, add new last sentence: The State has recommended that waste paper could be source separated and recycled.

Section 10.3.3 heading should read: Cooling Tower Blowdown

Insert the following directly before heading A. Arizona:

As a result of Fermilab experience (Baker 1979) it would not be necessary to use chromates as corrosion inhibitors in SSC cooling systems since effective biodegradable treatments are available (Baker 1987b).

Last line, replace Industrial Wastewater with Cooling Tower Blowdown

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Delete the Reference List, pp. 1-4, and substitute the following Reference List therefor:

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ERRATA AND REVISIONS

APPENDIX 12

HEALTH IMPACTS ASSESSMENTS

HEALTH IMPACTS ASSESSMENTS

Page 2: Par. 2, Line 3, reference should read: (NCRP 93 1987)

Page 3: Table 12.2.1-1 source should read: (NCRP 93 1987)

Page 4: Par. 1, Line 4, reference should read: (National Research Council 1972)

Par. 3, beginning of Line 2, replace the word excepted with the word expected

Page 5: Par. 4, second bullet should read: 40 CFR 141

Page 6: Par. 1, last line, reference should read: (DOE Order 5480.1B, Chapter 11). (See also Volume I, Chapter 6, Section 6.2.3 for explanation of status of DOE limits.)

Page 12: Figure 12.2.3-3, Note 1, Line 2 should read: No residence is assumed in the fee simple area. Note 2, replace the word Plat with the word Plot

Page 13: Figure 12.2.3-4, Note 1, Line 2 should read: No residence is assumed in the fee simple area. Note 2, replace the word Plat with the word Plot

Page 14: Par. 2, Line 6, reference should read: (National Research Council 1972)

Page 15: Table 12.2.3-1, second source should read: Holzworth 1972

Page 17: Table 12.2.3-2 (Cont), add: Source: Sjoreen and Miller 1984

Page 18: Par. 5, last line should read: 4 m x 3 m x 20 m.

Page 19: Table 12.2.3-3, first row, Reference column should read: ICRP 2

Table 12.2.3-3, second row, Reference column should read: Computed

Par. 2, Lines 3 and 4 should read: ... was modeled as being rectangular, 3 m high and 4 m wide in cross section ....

Par. 3, replace the last sentence with: The proposed site in Texas has perched alluvium aquifers within the surface footprint of the ring. These alluvium aquifers, which are a source of shallow wells, are located in floodplains intersecting the footprint. This alluvium is generally separated from the tunnel by rock of a very low hydraulic conductivity. The

Page 19: (Cont) major aquifers of Texas are far below tunnel depth (Thompson 1967; Nordstrom 1982; S.W. Labs 1987; Mason Johnson and Associates 1987).

Page 20: Figure 12.2.3-5 title should read: RADIONUCLIDE GENERATION AND MIGRATION FROM BEAM LOSS

Page 21: Figure 12.2.3-5 (cont.) title should read: RADIONUCLIDE GENERATION AND MIGRATION FROM BEAM LOSS

Figure 12.2.3-5 (cont.), 3) ACTIVATION ZONE text should read: Proton interacts with a nucleus forming a hadronic cascade which is absorbed in a block of soil/rock 4 m x 3 m x 20 m.

Page 22: Figure 12.2.3-5 (cont.) title should read: RADIONUCLIDE GENERATION AND MIGRATION FROM BEAM LOSS

Page 23: Figure 12.2.3-5 (cont.) title should read: RADIONUCLIDE GENERATION AND MIGRATION FROM BEAM LOSS

Page 24: Figure 12.2.3-5 (cont.) title should read: RADIONUCLIDE GENERATION AND MIGRATION FROM BEAM LOSS

Page 25: Figure 12.2.3-5 (cont.) title should read: RADIONUCLIDE GENERATION AND MIGRATION FROM BEAM LOSS

Page 26: Par. 1, next-to-last listed equation element should read: μ = first order decay (instead of M = first order of decay)

Subsection b., Par 1, last line, add reference: (Bouwer 1978)

Page 27: Par. 1, equation for a well in an unconfined aquifer should read:

$$Q = \pi \frac{K(h_2^2 - h_1^2)}{\ln(r_2/r_1)}$$

Par. 3, Line 2 should read: the contaminated soil block (4 m x 3 m = 12 sq. m) ...

Par. 3, next-to-last-last line should read: ... at a radial distance of 160 ft (50 m) (2 m x 50 m x height of ...

Page 28: Par. 2, Line 9 should read: 0.5 pCi/ml for Na-22 and 20 pCi/ml for H-3. Although ...

Page 28: (Cont) Par. 3, delete the first sentence. Paragraph should begin: The methodology used to estimate the annual effective dose equivalent for man-made radionuclides is based ... (delete the word also)

Page 29: Table 12.2.3-4, Michigan Site Data H should read: 60.96 m

Table 12.2.3-4, Tennessee Site Data H should read: 45.72 m

Page 30: Table 12.2.3-4 (Cont), North Carolina Site Data H should read: 54.86 m

Page 31: Par. 6 (Assumption 10), Line 4 should read: block (4 m x 3 m = 12 m^2) .....

Par. 10 (Assumption 13), equation item should read: C_S for Na-22 = 2.4 x 10^9 pCi / (4 m x 3 m x 20 m x 0.193)

Page 32: First line should read: S_S for H-3 = 9.1 x 10^9 pCi / (4 m x 3 m x 20 m x 0.193)

Subsection 2, Par. 1, last two lines should read: EPA standards are 0.5 pCi/ml for Na-22, and 20 pCi/ml for H-3; Par. 2, Line 1 should read: The concentration of tritium (H-3) and sodium (Na-22) in a well ...

Page 34: Table 12.2.3-6, third entry in the NC column should read: 0.48

Page 35: Par. 5, first bullet, last line should read: .... and acceptable would lessen the travel. Correspondingly, the exposure and the risk would be reduced proportionally by the same factor as that for distance.

Page 38: Par. 1, last bulleted item should read:

- Stop time is one hour for every 200 mi, which is equivalent to 3.11 x 10^{-3}h/km.

Page 41: Table 12.3.1-1, Hadrons annual dose eq. for CO should read: <0.001

Page 43: Table 12.3.1-2, last row, second column data entry should read: 10^{-4}

Page 44: Table 12.3.1-3, Row 2, NC column should read: 0.0489; Row 3, AZ column should read: 0.00233 percent

Page 53: Table 12.3.1-12, Row 1, Pb-214 column should read: 1.88 x 10^{-5}

Page 54: Table 12.3.1-13, Row 2, Rn-222 column should read: 0.0325; Row 2, Total column should read: 0.0357

Page 73: Table 12.3.1-32, Row 1 subheading should read: Exposure (WL)

Page 74: Table 12.3.1-33, Row 1 subheading should read: Exposure (WL)

Page 75: Par. 2, delete the last sentence.

Par. 4, Line 4 should read: pCi, and for Na-22, 0.24 pCi....

Par. 5, Line 2 should read: receives the following total annual exposure in an ...

The subsection labeled 3. should be labeled C.; the subsection labeled C. should be labeled D.

Page 76: Table 12.3.1-34, Row 2 subheading should read: Life Loss From All Exposure (/year); Row 4 subheading should read: Life Loss From All Exposure (/year)

Page 77: Table 12.3.1-35, Row 2 subheading should read: Life Loss From All Exposure (/year); Row 4 subheading should read: Life Loss From All Exposure (/year)

Page 80: Table 12.3.1-38 title should read: THE TOTAL ANNUAL EXPOSURE FOR THE PUBLIC IN THE TRANSPORT OF SSC LLRW (IN PERSON - REM PER YEAR)

Page 81: Table 12.3.1-39:

First subheading should read: Ventilated tunnel radon concentration (pCi/l) (V=0.46 ach) ...,

Row 2 data entries should read: AZ: 0.096, CO: 0.11; IL: 0.019; MI: 0.029; NC: 0.022; TN: 0.027; TX: 0.043

Page 82: Par. 2, Line 2 should read: transport vehicle receive the following total annual exposure ....

Table 12.3.1-40 title should read: THE TOTAL ANNUAL EXPOSURE FOR TWO CREWMEN ON A TRANSPORT VEHICLE FOR SHIPPING SSC LLRW - 12 TRIPS (IN PERSON - REM PER YEAR)

Page 83: Par. 2, last line, add reference: (Leathers 1982)

Page 84: Par. 1, last line, add reference: (Leathers 1982)

Insert the following after the first paragraph:

Page 84: (Cont) At the Texas site, construction workers may encounter the imported fire ant, Solenopsis sp. This stinging insect is found throughout the area of the proposed Texas site and could present a health hazard if workers should inadvertently disturb a fire ant colony (mound). Each fire ant can sting a person several times before the person is able to remove the ant. Since hundreds of ants can rush out of a mound and climb onto a person before the individual can evade the ants, it is possible for a person to receive many stings (TDA 1986). A fire ant sting is painful at first, then the affected area reddens, swells into a wheal, and a pustule forms within a day. These pustules may become infected and require medical attention. For most people, the pustule dries up in about a week, but for some the result may be a brown scar that lasts for months. For a very few people who are sensitive to the protein that is in the fire ant venom, a sting can lead to anaphylactic shock. The symptoms of the shock include dizziness, nausea, sweating, swelling of the affected area, headache and shortness of breath. If any of these symptoms occur after a sting, the person must receive immediate medical attention since anaphylactic shock can lead to death (TDA 1986).

It is not possible at this time to project the degree of risk to workers on the SSC project or the number of workers who might be impacted. That would depend on the concentration of fire ants in the SSC work areas, the probability of worker contact with the ants, the mitigative measures that might be used to minimize the fire ant problem and the individual sensitivities of the workers to the fire ant venom.

Page 87: Table 12.4.1-2, Eq. depth for IL should read: 88; note should read: Based on beam loss from upper beam tube positioned at 1A above tunnel centerline and reference soil density of 2.24 g/cm^3

Page 88: Par 3:

Line 1 should read: The concentration of tritium (H-3) or sodium (Na-22) in a well ...

Line 12 should read: movement was assumed parallel to the 20 m length of ...

Line 7 should read: ... Table 12.2.3-5 ....

Line 14 should read: when the groundwater flows perpendicular to the 20 m length ...

Line 11, change 1.25% of 4 mrem... to 12.5% of 4 mrem...

Page 99: Par. 4 should read:

In the transportation of LLRW, the RADTRAN program calculated the total annual expected values of exposure dose in units of person-rem per year and the annual risk factors for the total latent cancer fatalities and the total genetic effects. The risk factor is expressed as a fraction. RADTRAN calculated also the expected annual accidents for all shipments traveling in rural, suburban, and urban areas. The expected annual probability was expressed as a fraction. All the values are shown in Table 12.4.1-3. The uncertainty for the risk factor is approximately one order of magnitude. The correspondence between the exposure dose equivalent and the risk factor is approximately 1 person-rem to one in ten thousand for the risk factor.

REFERENCES

Delete the Reference List, pp. 102-105, and substitute the following Reference List therefor:

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NEW AND CORRECTED TABLES

CORRECTED TABLES

TABLE 12.2.3-5

MAXIUM RADIOACTIVITY IN WELL WATER (50 m AWAY)

	Na-22					H-3				
	CO	IL	MI	MC	TN	CO	IL	MI	NC	TN
Total leachable activity in a 4 m x 3 m x 20 m soils/rocks block (pCi)	2.4×10^9	2.4×10^9	2.4×10^9	2.4×10^9	2.4×10^9	9.1×10^9	9.1×10^9	9.1×10^9	9.1×10^9	9.1×10^9
Conc. of radionuclides in soils/rocks block (pCi/ml)	10.0	10.0	10.0	10.0	10.0	37.92	37.92	37.92	37.92	37.92
Effective porosity (%)	20	8.65	19.3	3	10	20	8.65	19.3	3	10
Conc. of radionuclides in interatitia groundwater of soils/rocks block (pCi/ml)	50	115.6	51.8	333.3	100	189.6	438.3	196.5	1264	379.2
Maximum conc. of radionuclides in groundwater (50 m away) (p[Ci/ml)	11.6	8.1	2.1	85.8	1.4	67.4	121.0	43.6	497.5	50.7
Elapse time for the maximum conc. (year)	-2nd	-5th	-6th	-2nd	-8th	-2nd	-8th	-12th	-2nd	18th
Maximum conc. of radionuclides in well water (50 m away) (pCi/ml)	0.042	0.0051	0.0013	0.060	0.0012	0.24	0.076	0.027	0.35	0.043

*Arizona and Texas were not included in this analysis, for reasons explained in the DEIS, Volume IV, Appendix 12, p. 32.

Table 12.2.3-7

RADIOLOGICAL ASSESSMENTS

FOR THE TRANSPORTATION OF LLRW

Principal Input Parameters to the RADTRAN Program

	AZ	CO	IL	MI	NC	TN	TX
Total distance to DOE facilities, Richland, WA (km)	2830	1980	3190	3570	4540	3730	3270
Estimated total distance to regional compact (km)*	1056	NA	528	NA	480	NA	1120
Percent rural	88	90	88	86	85	87	88
Percent suburban	10	9	10	12	12	11	10
Percent urban	2	1	2	2	3	2	2
Annual Number of Shipments per container type**							
Drum				10			
Box				2			
Annual Number of shipments**				12			
Number of containers per shipment**							
Drum				80			
Box				18			
Transport mode for exclusive use**				Truck			
Transport index** (mrem/hour)							
Drum				0.05			
Box				0.4			

Table 12.2.3-7 (Cont)

RADIOLOGICAL ASSESSMENTS

FOR THE TRANSPORTATION OF LLRW

Principal Input Parameters to the RADTRAN Program

	AZ	CO	IL	MI	NC	TN	TX
Number of crewmen** per trip				2			
Amount of radioactivity (Ci) in a single container**							
Drum				0.01			
Box				0.07			
Principal radionuclide**				NA-22			
Total energy of gamma radiation emitted per distintegration (Mev)**				0.92			
Radioactive half-life** (days)				942			

NA - Not Applicable

*See Appendix 10, Table 10.1.3-16 Status of Regional Compact LLRW Disposal Facilities. Exact locations for the planned disposal facilities are not known.

**Values the same for all sites.

Table 12.4.1-3

TRANSPORTATION OF SSC LLRW
ANNUAL INCIDENT SUMMARY

	AZ	CO	IL	MI	NC	TN	TX
Total annual expected values of exposure dose eqivalent (person-rem per year)	5.79×10^{4}	2.40×10^{-4}	6.52×10^{-4}	7.64×10^{-4}	0.00133	7.80×10^{-4}	6.69×10^{-4}
Expected annual values of radiological risk:							
Total latent cancer fatalities	6.9×10^{-8}	2.9×10^{-8}	7.8×10^{-8}	9.2×10^{-8}	1.6×10^{-7}	9.4×10^{-8}	8.0×10^{-8}
Total genetic effects	9.8×10^{-8}	4.1×10^{-8}	1.1×10^{-7}	1.3×10^{-7}	2.3×10^{-7}	1.3×10^{-7}	1.1×10^{-7}
Expected annual accidents for all shipments:							
Rural							
The least severe	3.22×10^{-4}	2.31×10^{-4}	3.63×10^{-4}	3.97×10^{-4}	4.99×10^{-4}	4.20×10^{-4}	3.72×10^{-4}
The most severe	7.88×10^{-8}	5.64×10^{-8}	8.88×10^{-8}	9.71×10^{-8}	1.22×10^{-7}	1.03×10^{-7}	9.10×10^{-8}
Suburban							
The least severe	6.65×10^{-4}	4.19×10^{-4}	7.49×10^{-4}	0.0010	0.00128	9.64×10^{-4}	7.68×10^{-4}
The most Severe	9.06×10^{-9}	5.71×10^{-9}	1.02×10^{-8}	1.37×10^{-8}	1.74×10^{-8}	1.31×10^{-8}	1.05×10^{-8}
Urban							
The least severe	0.00106	3.69×10^{-4}	0.00119	0.00133	0.00254	0.00139	0.00122
The most severe	1.80×10^{-9}	6.30×10^{-10}	2.03×10^{-9}	2.27×10^{-9}	4.33×10^{-9}	2.37×10^{-9}	2.08×10^{-9}

ERRATA AND REVISIONS

APPENDIX 13

LAND RESOURCES ASSESSMENTS

LAND RESOURCES ASSESSMENTS

Page 16: Insert the following paragraph directly before Subsection D.:

Semi-Primitive, Nonmotorized Recreation Opportunity Class: The Experience Opportunity is defined as follows: Some opportunity for isolation from the sights and sounds of man, but not as important as for primitive opportunities. Opportunity to have high degree of interaction with the natural environment, to have moderate challenge and risk, and to use outdoor skills. The Setting Opportunity is defined as follows: Area is characterized by a predominantly unmodified natural environment of moderate to large size. Concentration of users is low, but there is often evidence of other area users. On-site controls and restrictions may be present, but are subtle. Facilities are provided for the protection of resource values and the safety of users only. Spacing of groups may be formalized to disperse use and limit contacts between groups. Motorized use is not permitted. The Activity Opportunity is defined as follows: camping, hiking, climbing, enjoying scenery or natural features, nature study, photography, spelunking, hunting (big game, small game, upland birds, waterfowl), ski touring and snowshoeing, swimming, diving (skin and scuba), fishing, canoeing, sailing, and river running (nonmotorized craft).

Page 18: Par. 2 should read:

SSC project development will, undoubtedly, create more demand for and pressure on existing recreational and wilderness resources in southwestern Maricopa County. This is of major concern to the Bureau of Land Management, which is the dominant land manager in the area. SSC project development will change recreation opportunities in areas affected by direct and indirect project development. The changes in recreation settings and opportunities will cause a shift in classification of impacted area from the present "Semi-Primitive, Nonmotorized Recreation (Class II ROS)" and "Semi-Primitive, Motorized Recreation (Class III ROS)" opportunity settings to the "Roaded, Natural Recreation (Class IV ROS)" opportunity setting, as a result of applying the BLM Recreation Opportunity Spectrum (ROS) methodology to the SSC project. These shifts in recreation opportunity would represent a one- or two-step change towards "Modern Urban" forms of recreation opportunities. In areas affected by the project ring, structures, and roads, recreation opportunities dependent on unroaded and natural landscapes would decline and be supplanted by vehicle-dependent types of recreation activity. All three BLM Wilderness Study Areas, i.e., North Maricopa Mountains (AZ-020-157), South Maricopa Mountains (AZ-020-163), and Butterfield Stage Memorial (AZ-020-164) will experience impacts as a result of SSC project development. These impacts are discussed briefly below.

Page 18: (Cont) Par. 3, insert the following directly before the last sentence: This indirect loss of wilderness character is estimated as follows: North Maricopa Mountains WSA: 5,650 acres or roughly 7 percent of the subject WSA; South Maricopa Mountains WSA: 2,000 acres or roughly 3 percent of the subject WSA; and Butterfield Stage Memorial WSA: 3,150 acres or roughly 33 percent of the subject WSA.

Last paragraph, delete last sentence, insert the following: SSC project development will traverse three BLM grazing allotments: approximately two-thirds of the northwest and southwest quadrants of the collider arc region will include a portion of the Bighorn Allotment; the remaining one-third of the collider arc region, i.e., along the northeast quadrant and the north half of the southeast quadrant, are located in the Conley Allotment, while the remainder of the southeast quadrant is situated within the Lower Vekol Allotment. The north half of Campus Area A is located within the Conley Allotment, while the southern half of the campus area is situated in the Lower Vekol Allotment. In addition, the Reloat Allotment may be affected by the construction of the expressway spur from Goodyear to Interstate 8, and the South Vekol Allotment may become impacted by groundwater drawndown caused by the pumping of the Vekol Valley well field.

Although no reduction in grazing capacity is expected in these allotments due to the SSC project, construction and other activities associated with a project of this magnitude usually result in inconvenience to grazing operators. This includes occurrences of cut fences, gates left open, livestock loss from road kills, and increased vandalism due to greater accessibility. Also, the fencing of newly constructed roads and facilities can create obstacles in established livestock grazing patterns. For example, single management units may become split into several units, or water sources could become isolated from open range areas.

Page 46: Insert the following between Pars. 1 and 2:

The DOE recognizes that there may be State laws which define prime, unique, and important farmland differently. For the sake of consistency in comparing the seven proposed sites the Federal definition was used to estimate and evaluate acreages; compliance with state law would occur after site selection.

Page 48: Delete Sections C.1 and C.2 and insert the following:

1. Temporal

The impact of removal of important farmlands from agricultural production was assessed by separately calculating acreages permanently and temporarily removed.

The permanently removed important farmland is defined as land occupied by SSC facilities, land covered by roads constructed in conjunction with the SSC project, or SSC-related waste disposal sites.

The temporarily removed important farmland is defined as land that is superficially disturbed during facilities and roads construction and is rehabilitated and returned to the original condition.

2. Spatial

The affected prime and unique farmland was determined for all areas temporarily disturbed during construction and permanently during operation.

Page 49: Insert the following paragraph at the end of Section 13.2.2.3:

Soil maps (Figures 13-1 through 13-21) used for this analysis are included at the end of this appendix. Since the U.S. Department of Agriculture/Soil Conservation Service reported zero acres of farmland in Arizona, there are no soil maps for the proposed Arizona site.

Page 50: Delete all text and insert the following under 13.2.3.1:

There is no prime and important farmland reported by the Soil Conservation Service at the proposed Arizona site.

Delete Table 13-8; new Table 13-8 appears in the New and Corrected Tables section.

Page 52: Delete all text and insert the following under 13.2.3.2:

The Colorado Soil Conservation Service reported no prime farmland and 4,198 acres of important farmland at the proposed site. An estimated 819 acres of important farmland would be permanently converted and 1,129 acres would be temporarily disturbed by the SSC project.

Pages 53-54: Delete Table 13-9; new Table 13-9 appears in the New and Corrected Tables section.

Page 55: Delete all text and insert the following under 13.2.3.3:

The Illinois Soil Conservation Service reported 3,076 acres of prime farmland and 212 acres of important farmland at the proposed site. An estimated 197 acres of prime and important farmland would be permanently converted and 231 acres would be temporarily disturbed by the SSC project. No prime and important farmland would be converted by spoils disposal because use of quarries and recycling is the proposed disposition for these tunnel excavations.

Page 56: Delete Table 13-10; new Table 13-10 appears in the New and Corrected Tables section.

Page 57: Delete all text and insert the following under 13.2.3.4:

The Michigan Soil Conservation Service reported 4,002 acres of prime farmland and 2,658 acres of important farmland at the proposed site. An estimated 341 acres of prime and important farmland would be permanently converted and 576 acres temporarily disturbed by the SSC project.

Pages 58-59: Delete Table 13-11

Page 60: Delete all text and insert the following under 13.2.3.5: The North Carolina Soil Conservation Service reported 4,374 acres of prime farmland and 2,265 acres of important farmland at the proposed site. An estimated 955 acres of prime and important farmland would be permanently converted and 696 acres temporarily disturbed by the SSC project.

Pages 61-62: Delete Table 13-12

Page 63: Delete all text and insert the following under 13.2.3.6:

The Tennessee Soil Conservation Service reported 4,000 acres of prime farmland at the proposed site. Information on important farmland was not provided; an estimate was calculated at 1,839 acres using soil maps available for two-thirds of the counties affected. Based on this rough calculation, an estimated 606 acres of prime and important farmland would be permanently converted and 498 acres temporarily disturbed by the SSC project.

Pages 64-65: Delete Table 13-13

Page 66: Delete all text and insert the following under 13.2.3.7:

The Texas Soil Conservation Service reported 3,389 acres of prime farmland and 1,287 acres of important farmland at the proposed site. An estimated 588 acres of prime and important farmland would be permanently converted and 406 acres temporarily disturbed by the SSC project.

Page 67: Delete Table 13-14

Page 68: Replace Par. 2 with the following:

The U.S. Department of Agriculture/Soil Conversation Service has estimated the prime and important farmland in the fee simple area of each proposed site. They also provided the DOE with estimates of the total prime and important farmland inventories for the counties that would be affected by the SSC project siting.

Insert the following sentence at the beginning of Par. 3: Table 13-10 lists the total prime and important farmland acreage in the counties where the SSC ring would be sited. It compares the prime and important farmland that would be permanently removed from production by the project, and gives the ratio of the removed acreage and the total prime and important inventory in the involved counties.

Page 69: Delete Table 13-15

REFERENCES

Insert:

U.S. Department of Agriculture Farmland Conversion Impact Rating Form AD-1006.

NEW AND CORRECTED TABLES

NEW TABLES

Table 13-8

FARMLAND ACREAGES IN THE FEE SIMPLE AREA

	Prime	Important
Arizona	0	0
Colorado	0	4,198
Illinois	3,076	212
Michigan	4,002	2,658
North Carolina	4,374	2,265
Tennessee	4,000	1,839*
Texas	3,389	1,287

*calculated

Source: U.S. Department of Agriculture Farmland Conversion Impact Rating Form AD-1006.

Table 13-9

SUMMARY OF PERMANENTLY CONVERTED AND TEMPORARILY DISTURBED FARMLANDS IN THE SSC REGION

	Permanently Converted		Temporarily Disturbed	
	Prime	Important	Prime	Important
Arizona	0	0	0	0
Colorado	0	819	0	1,129
Illinois	185	12	217	14
Michigan	205	136	346	230
North Carolina	630	325	459	237
Tennessee	415	191	341	157
Texas	430	158	297	109

Table 13-10

PRIME AND IMPORTANT FARMLAND

	Total Acreage in Involved Counties	Permanently Removed Acreage	Removed/Total
Arizona	0	0	0
Colorado	1,683,600	819	.0005
Illinois	657,755	197	.0003
Michigan	531,900	341	.0006
North Carolina	572,444	955	.001
Tennessee	425,817	606	.0014
Texas	378,607	588	.0015

NEW AND CORRECTED FIGURES

NEW FIGURES

FIGURE 13-1

SOIL MAP 2A - COLORADO

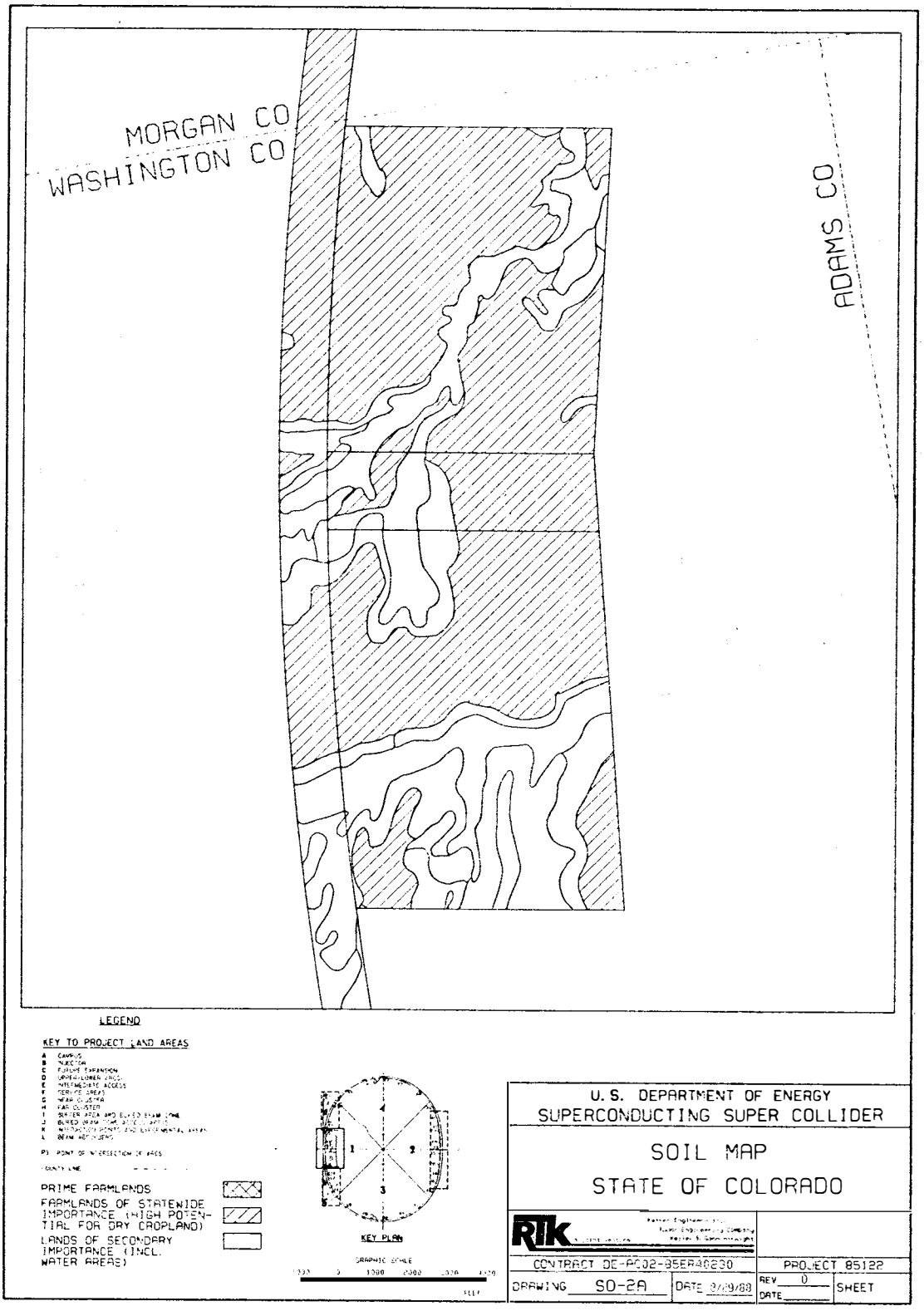


FIGURE 13-2

SOIL MAP 2B - COLORADO

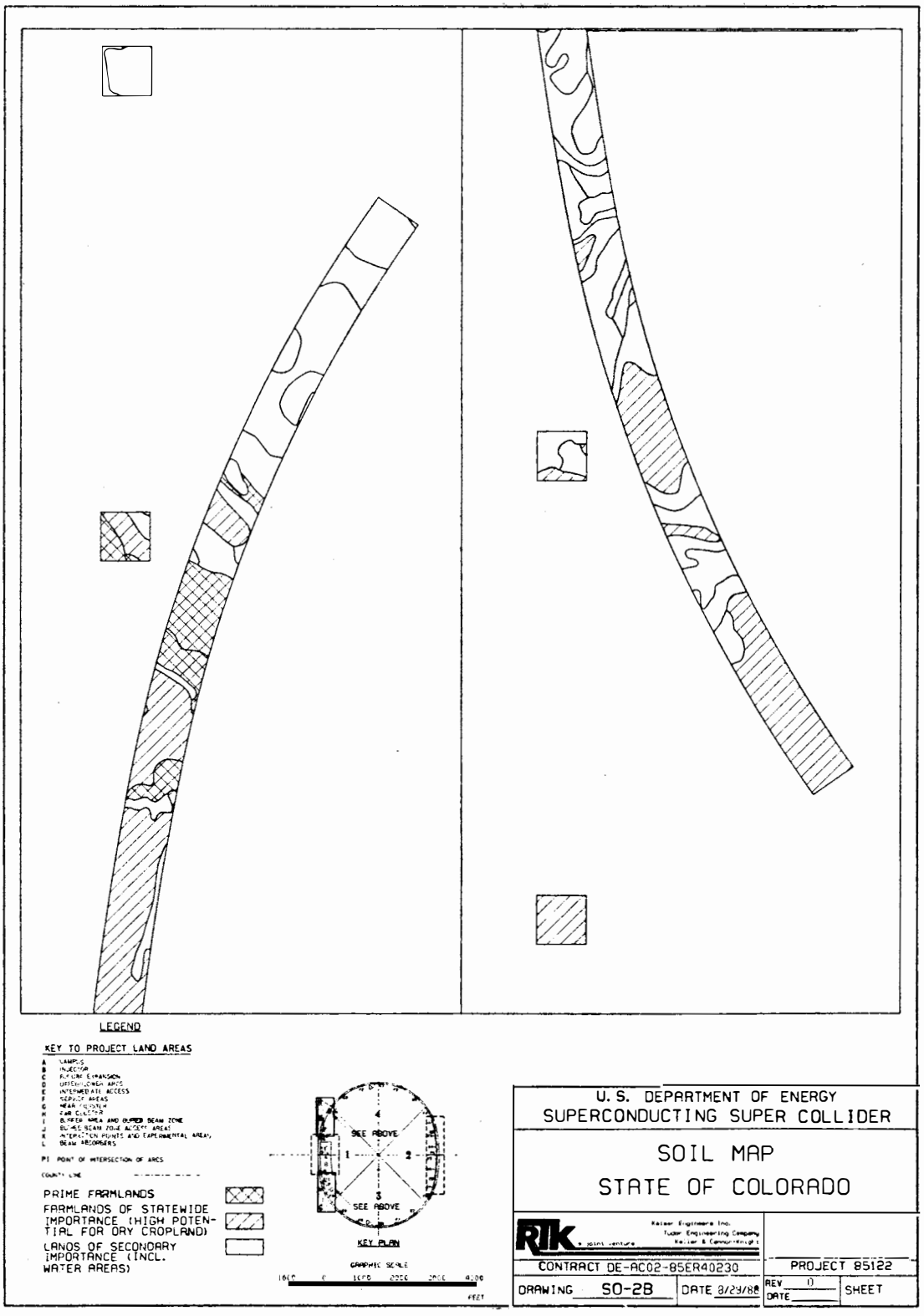


FIGURE 13-3

SOIL MAP 2C - COLORADO

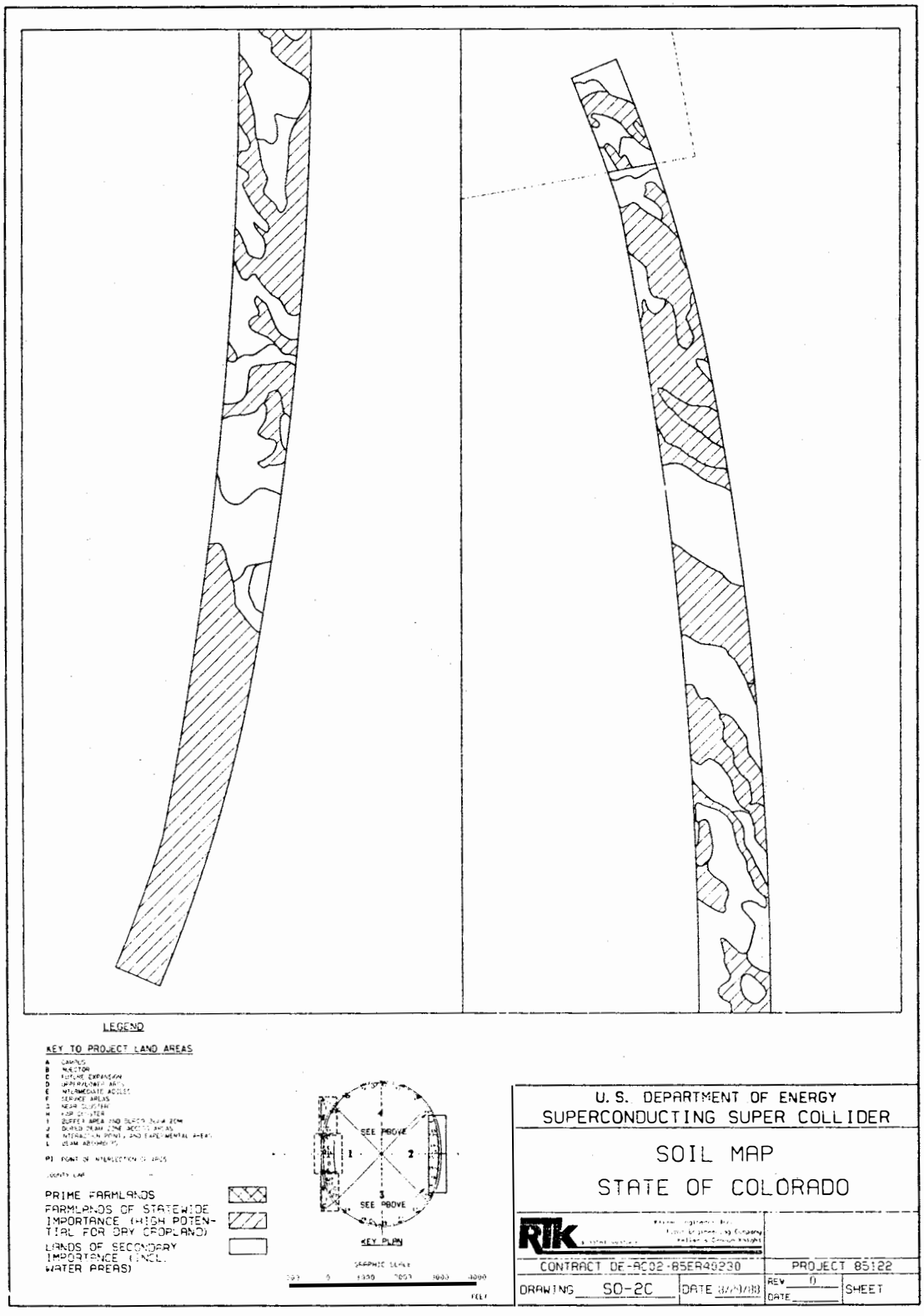


FIGURE 13-4

SOIL MAP 2D - COLORADO

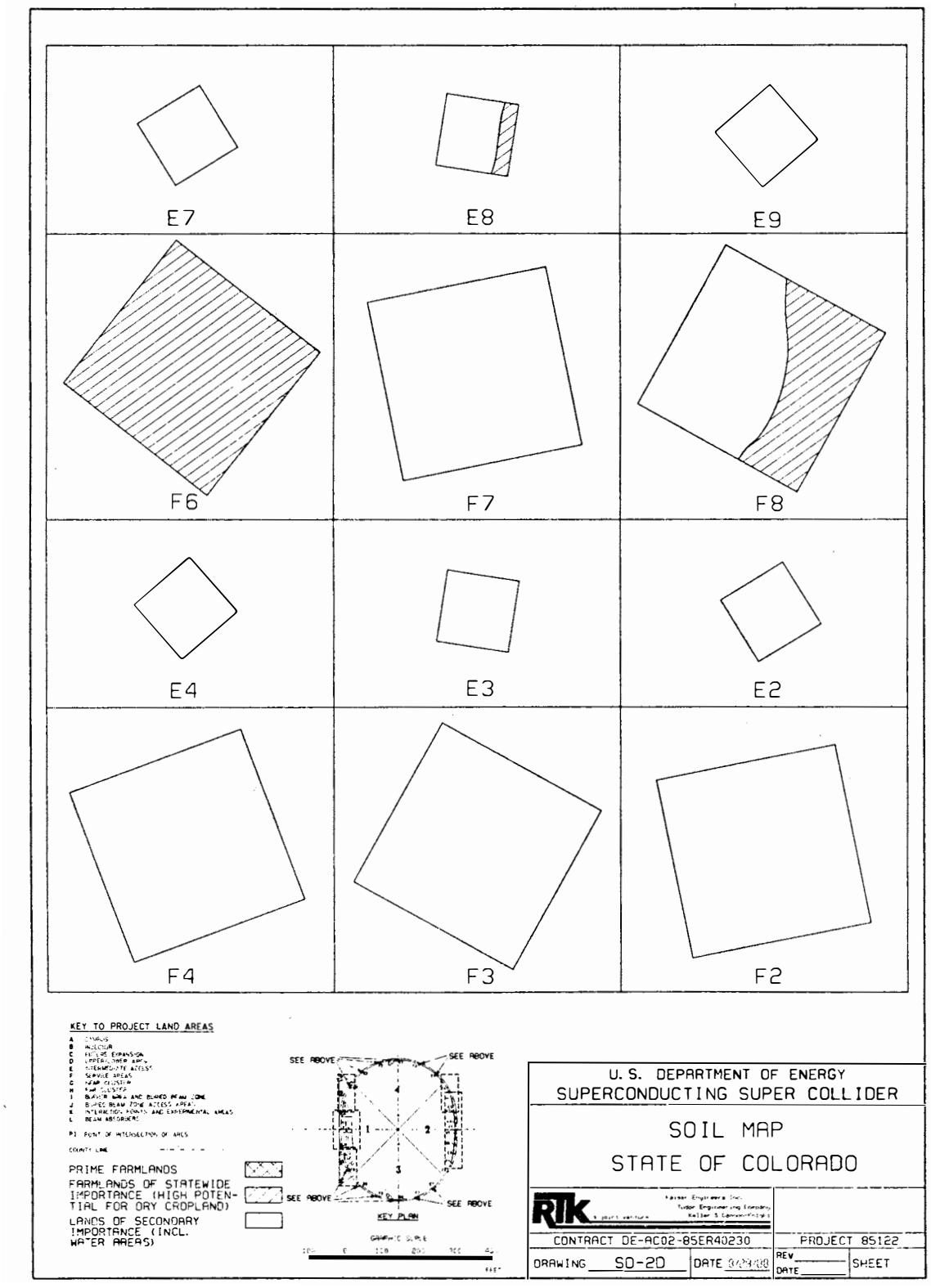


FIGURE 13-5

SOIL MAP 3A - ILLINOIS

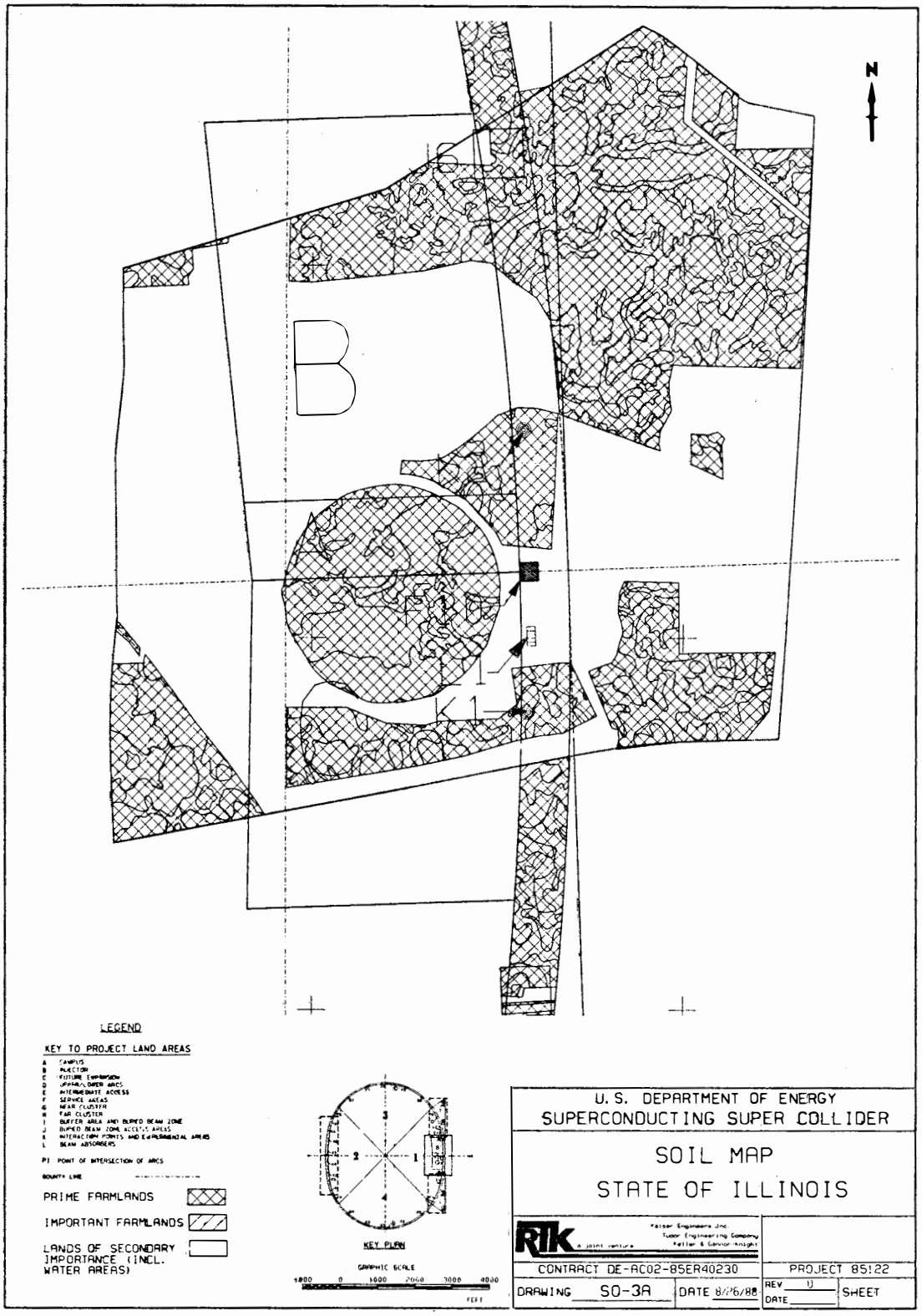


FIGURE 13-6

SOIL MAP 3B - ILLINOIS

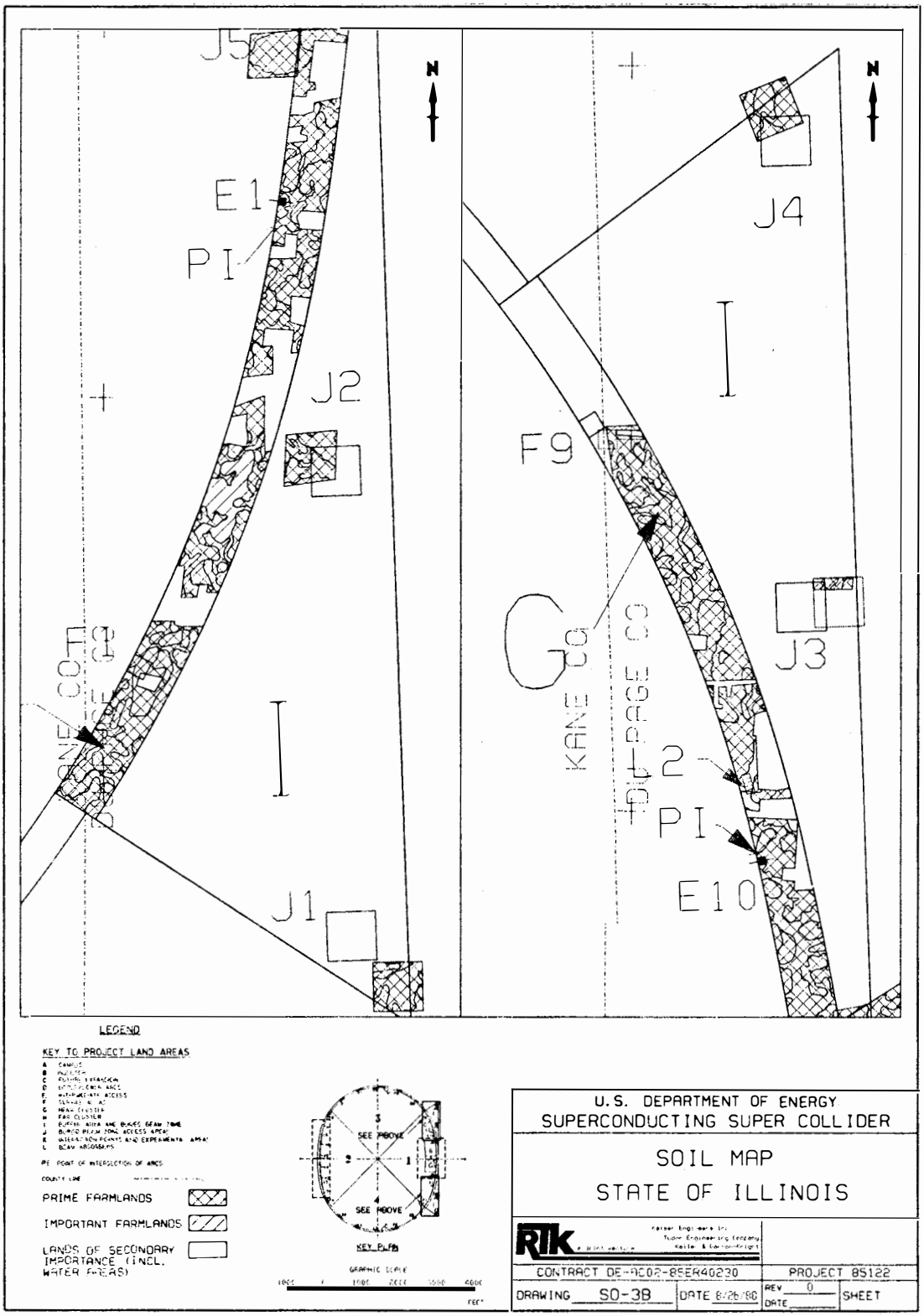


FIGURE 13-7

SOIL MAP 3C - ILLINOIS

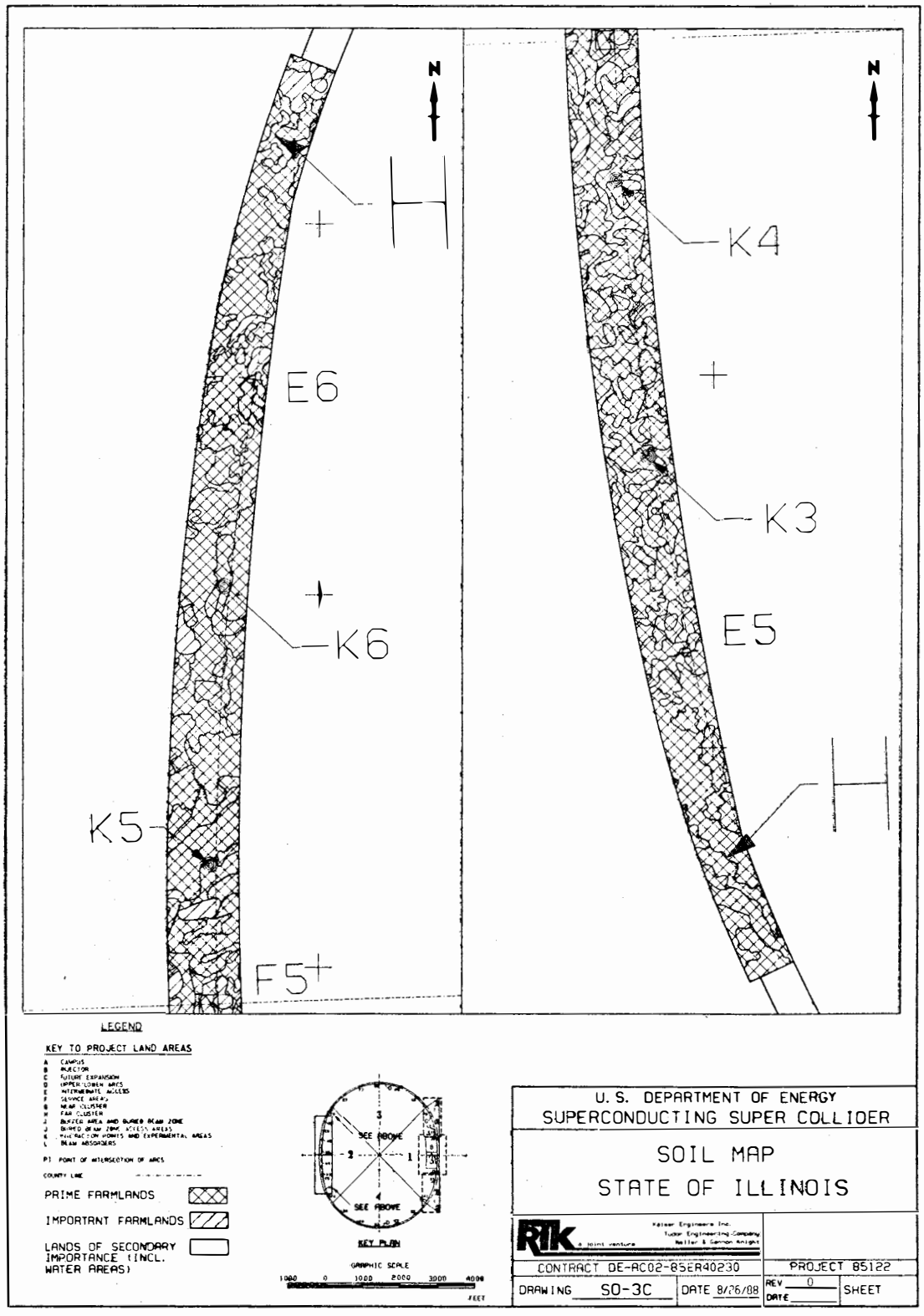


FIGURE 13-8

SOIL MAP 3D - ILLINOIS

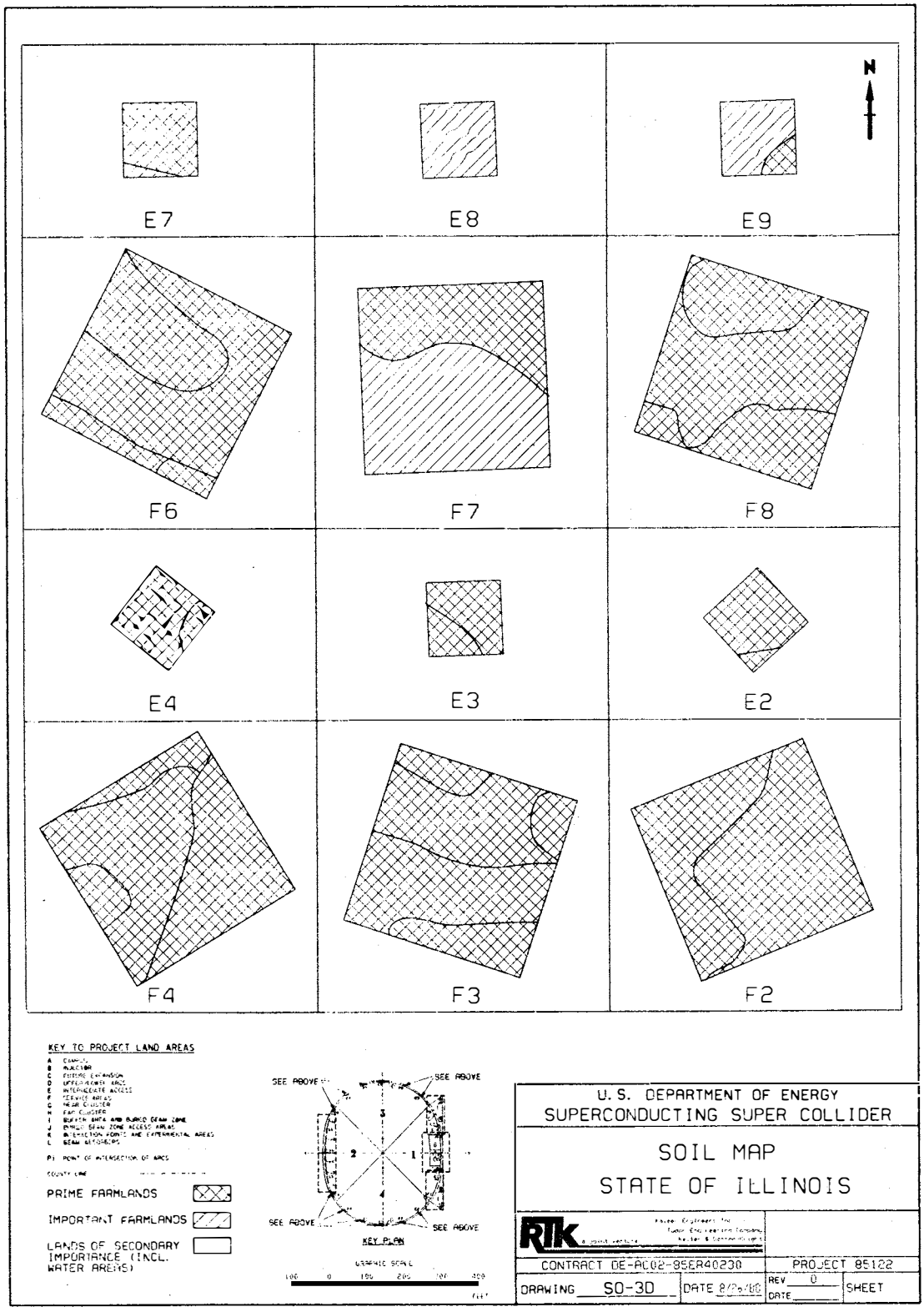


FIGURE 13-9

SOIL MAP 4A - MICHIGAN

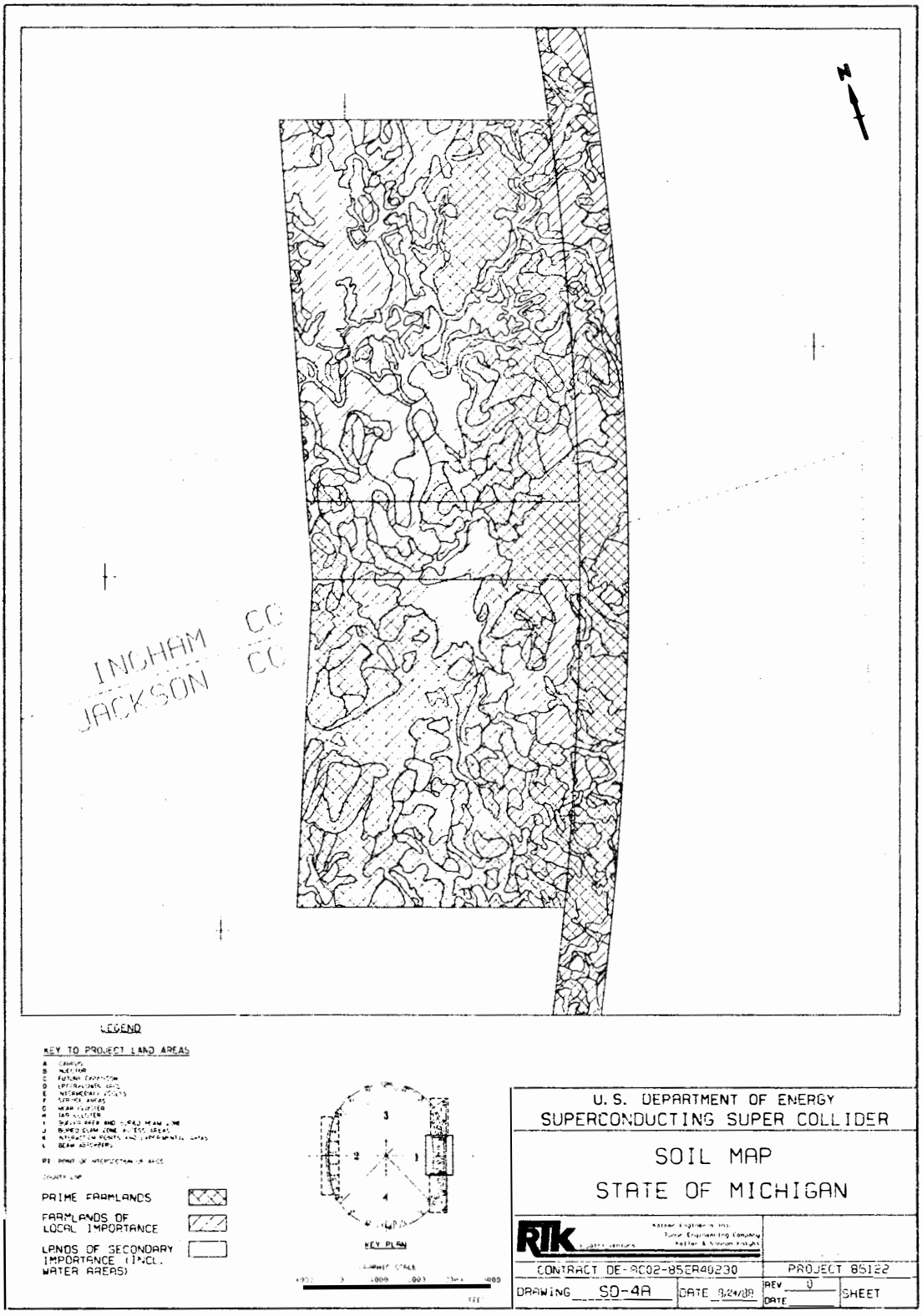


FIGURE 13-10

SOIL MAP 4B - MICHIGAN

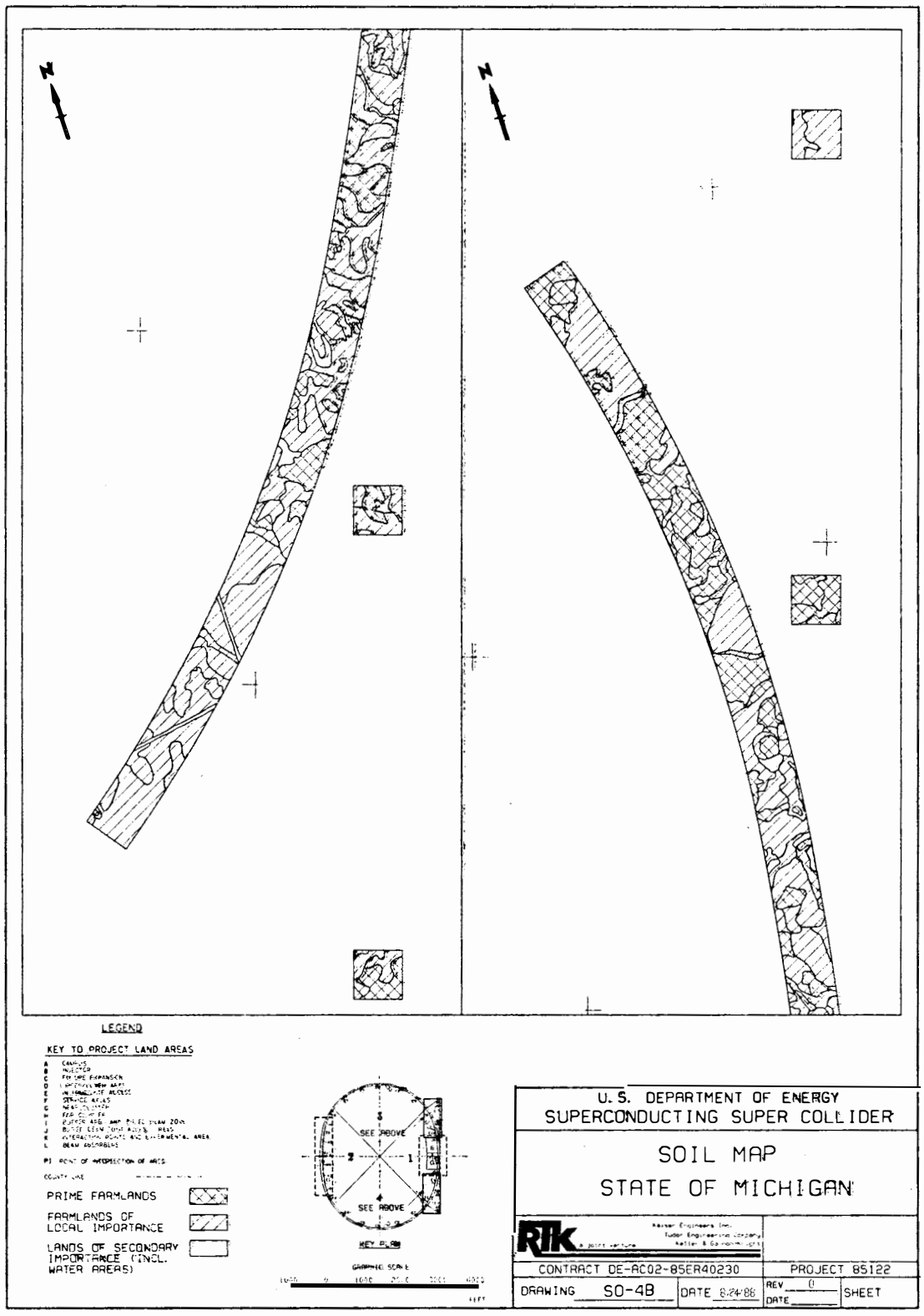


FIGURE 13-11

SOIL MAP 4C - MICHIGAN

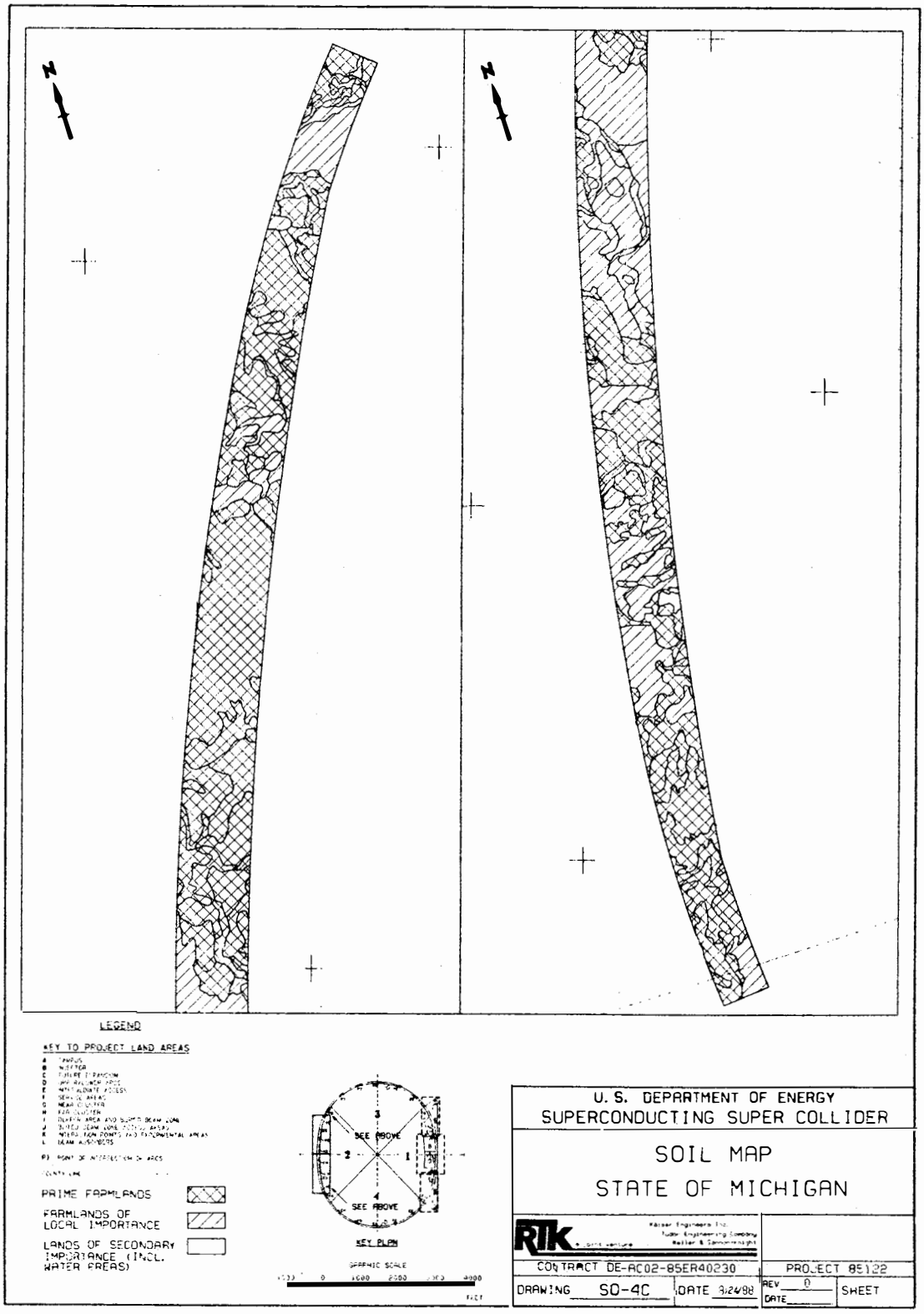


FIGURE 13-12

SOIL MAP 4D - MICHIGAN

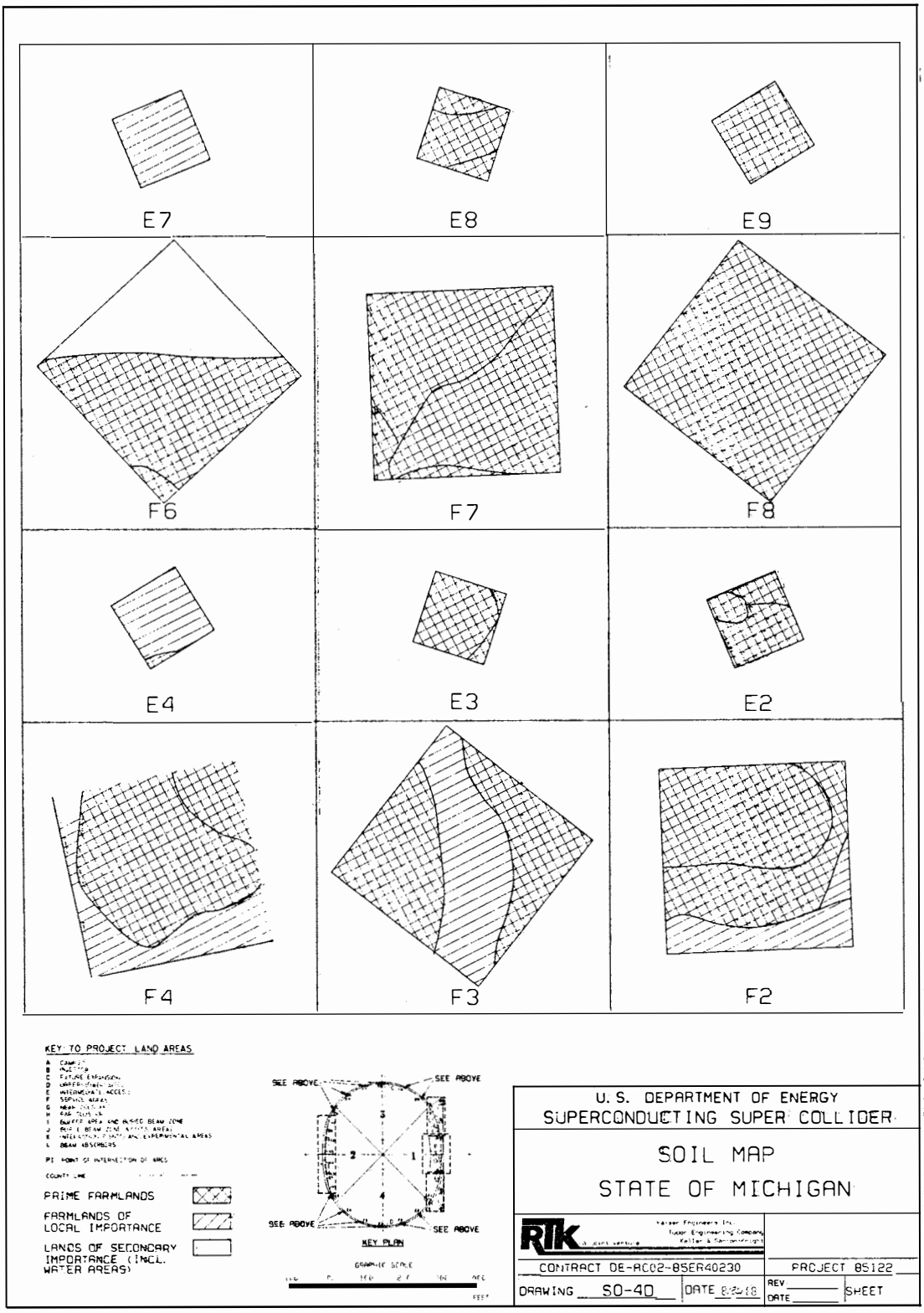


FIGURE 13-13

SOIL MAP 5A - NORTH CAROLINA

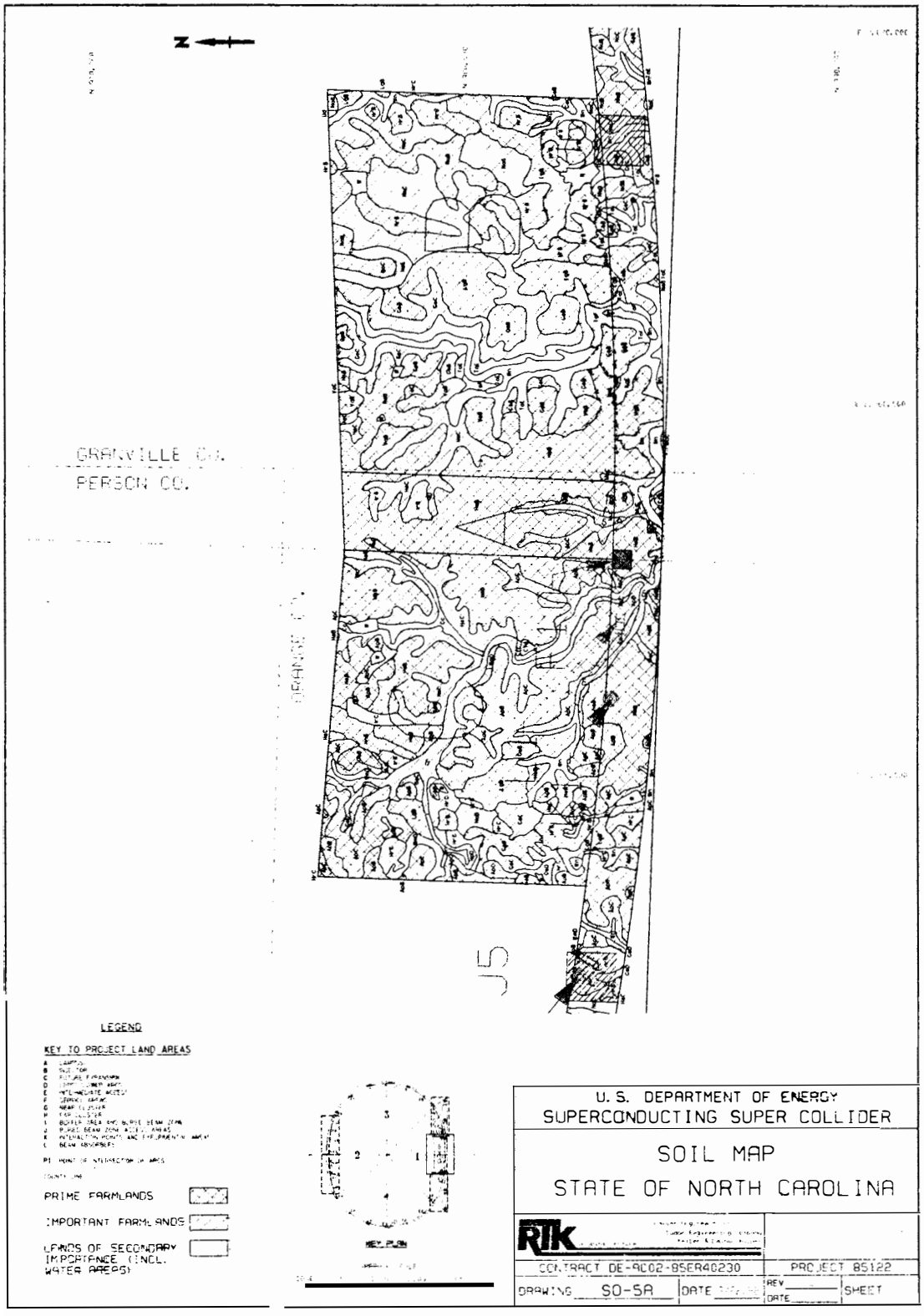


FIGURE 13-14

SOIL MAP 5B - NORTH CAROLINA

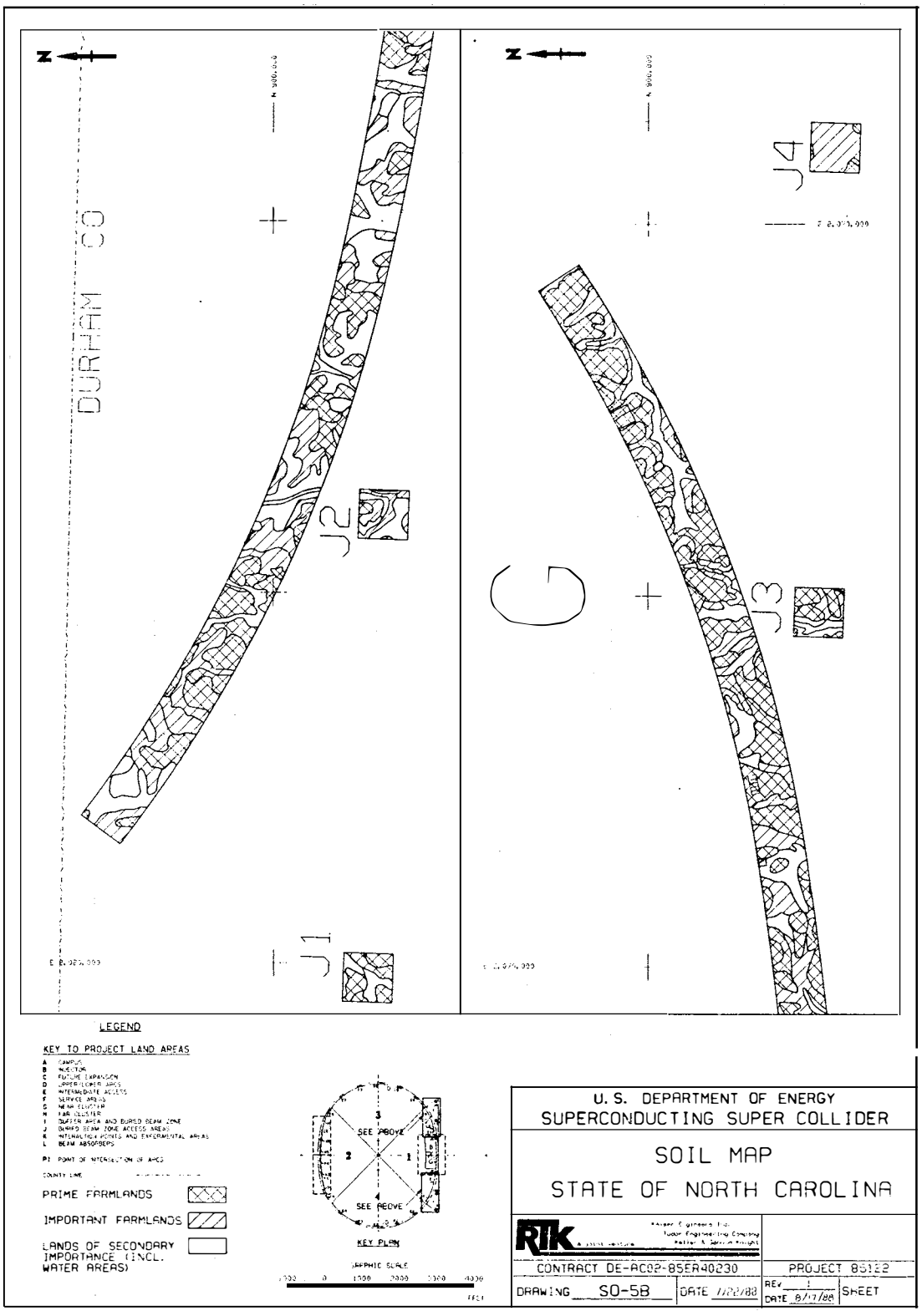


FIGURE 13-15

SOIL MAP 5C - NORTH CAROLINA

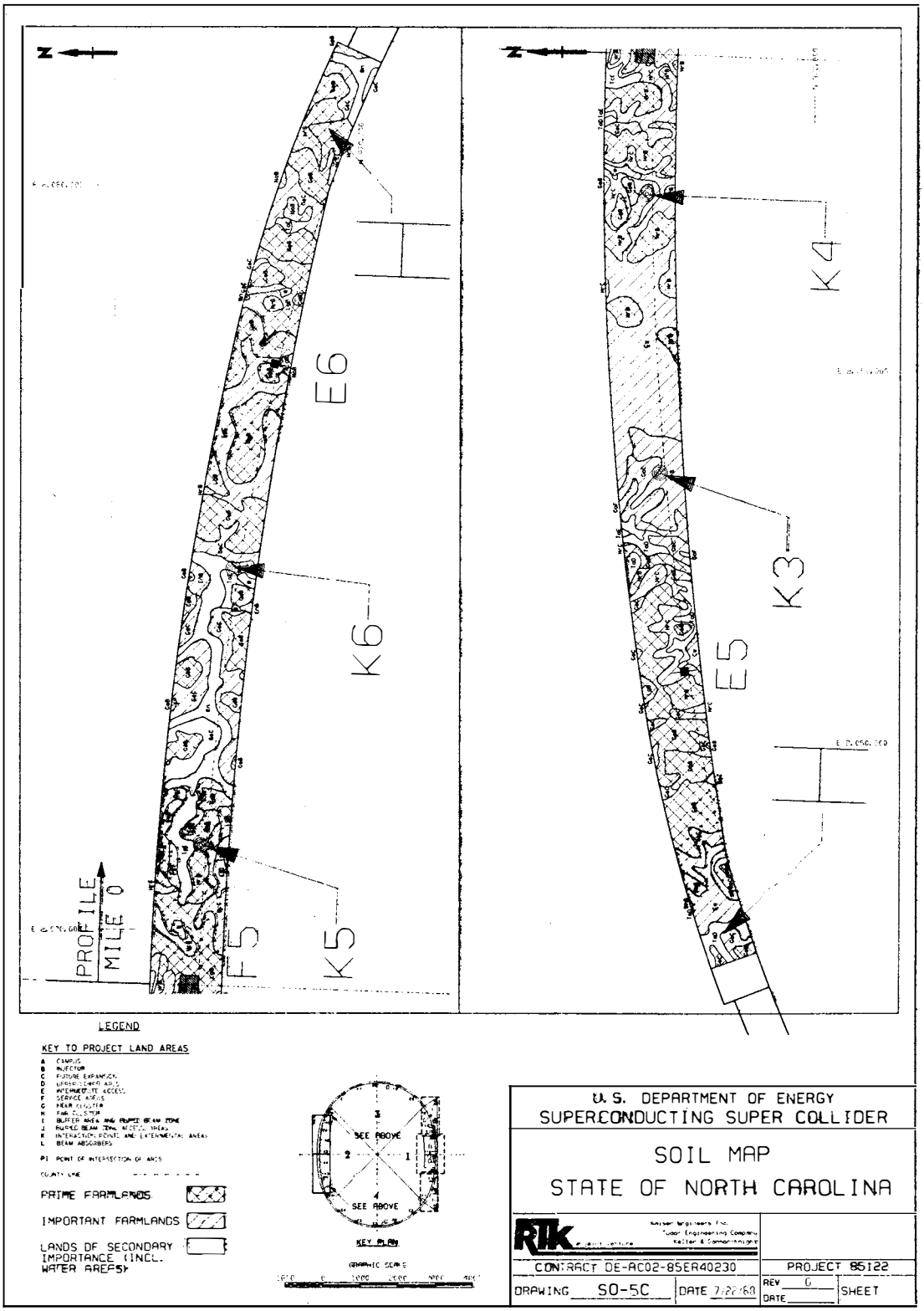


FIGURE 13-16

SOIL MAP 5D - NORTH CAROLINA

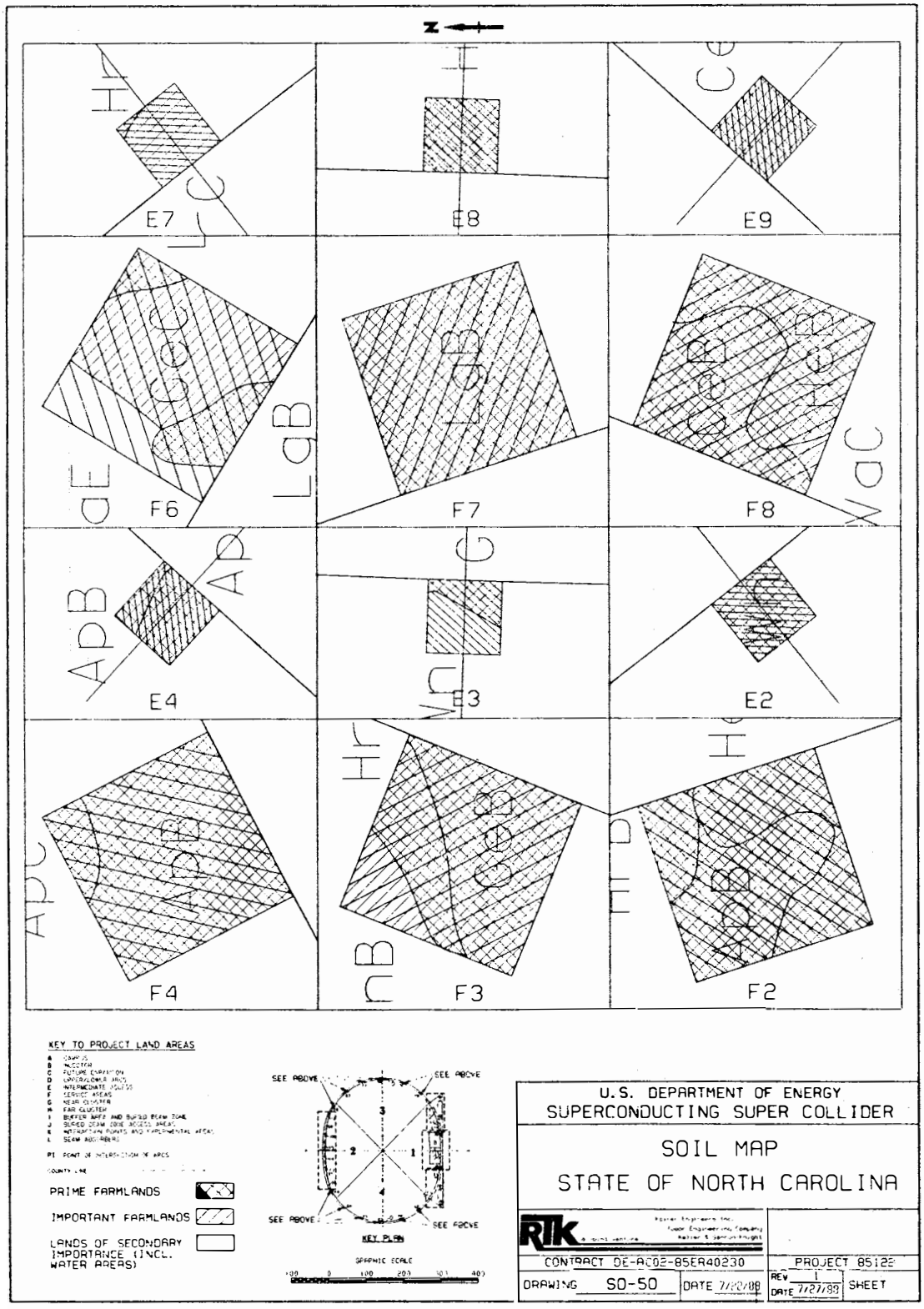


FIGURE 13-17

SOIL MAP 6A - TENNESSEE

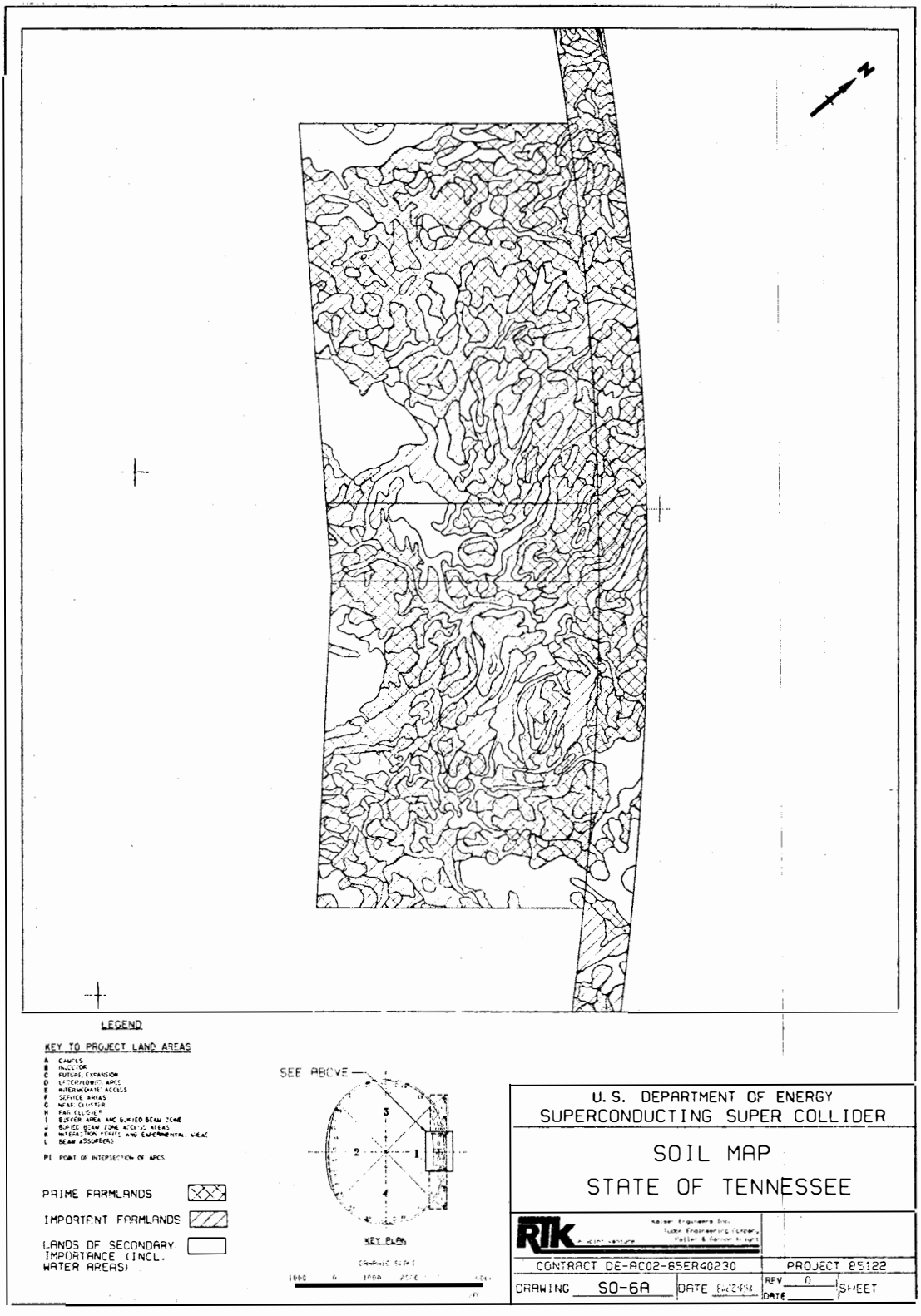


FIGURE 13-18

SOIL MAP 6B - TENNESSEE

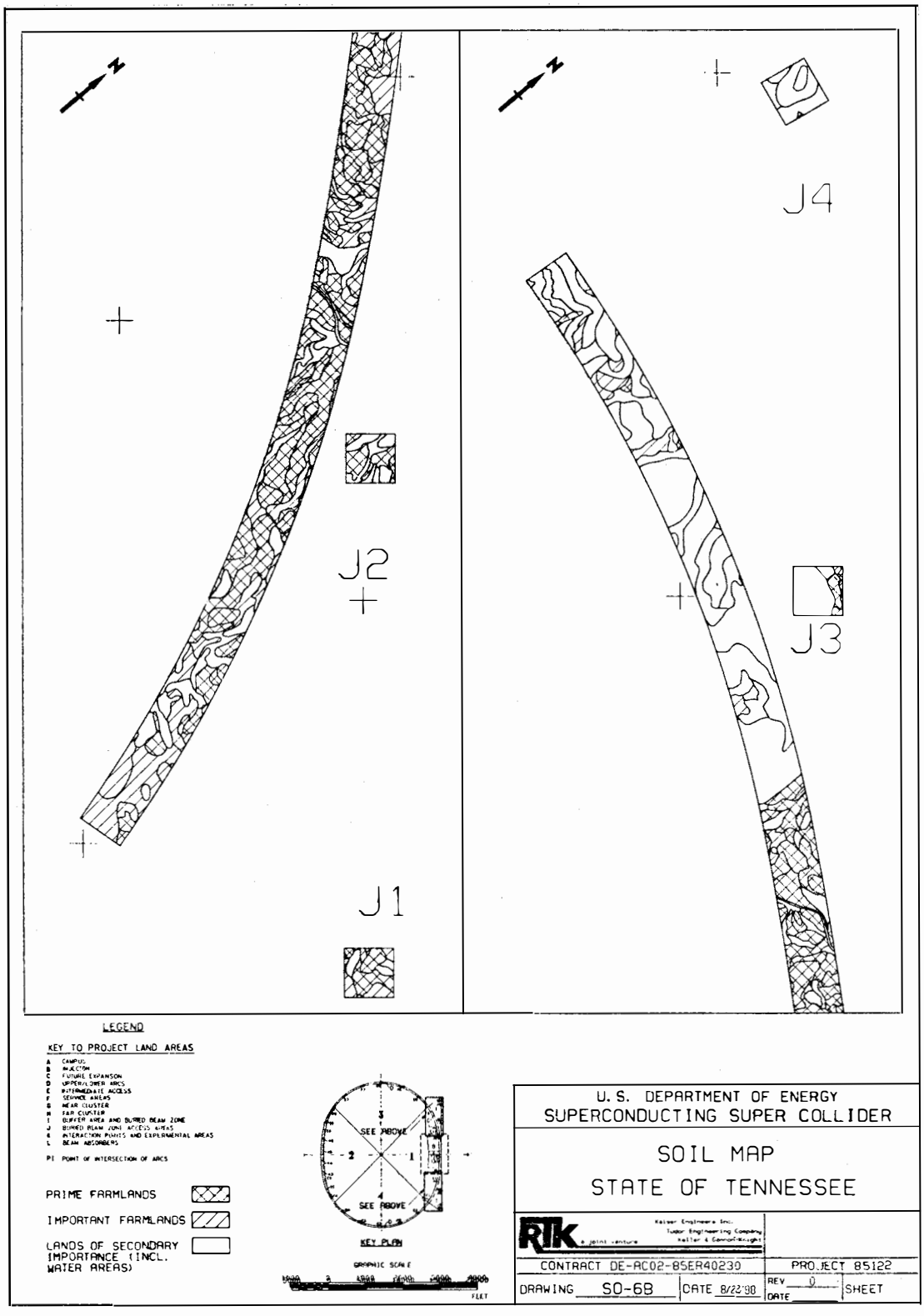


FIGURE 13-19

SOIL MAP 7A - TEXAS

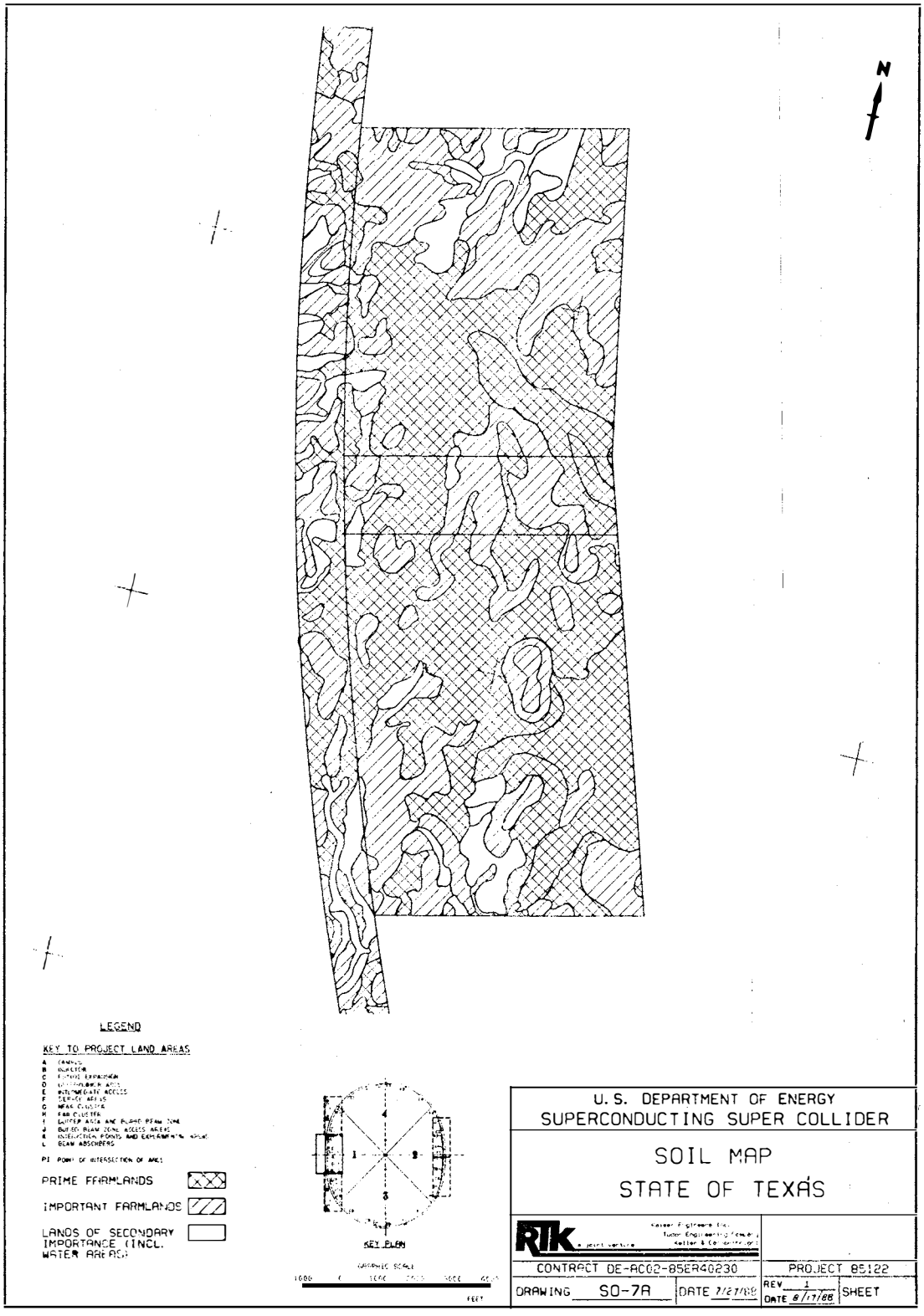


FIGURE 13-20

SOIL MAP 7B - TEXAS

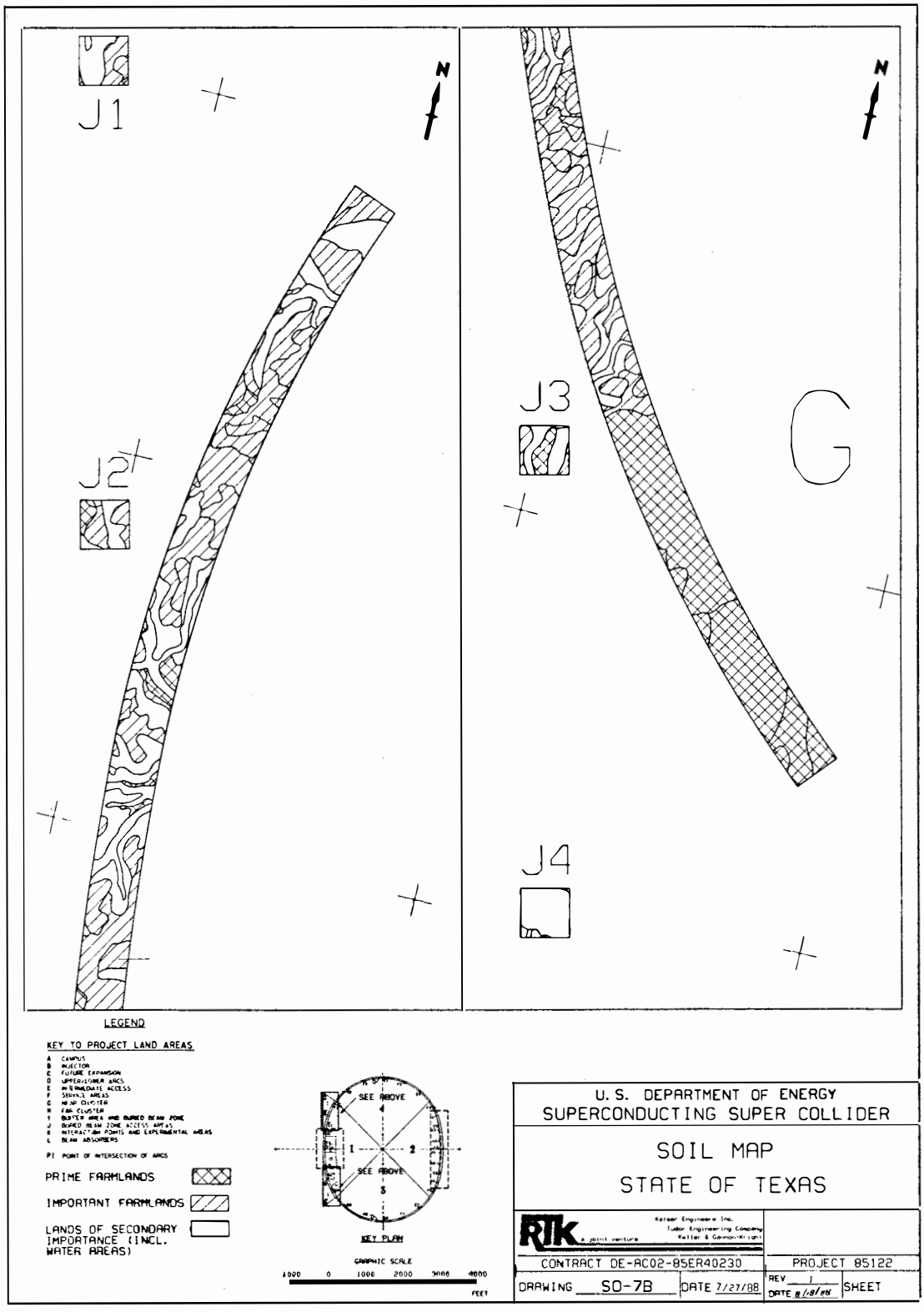
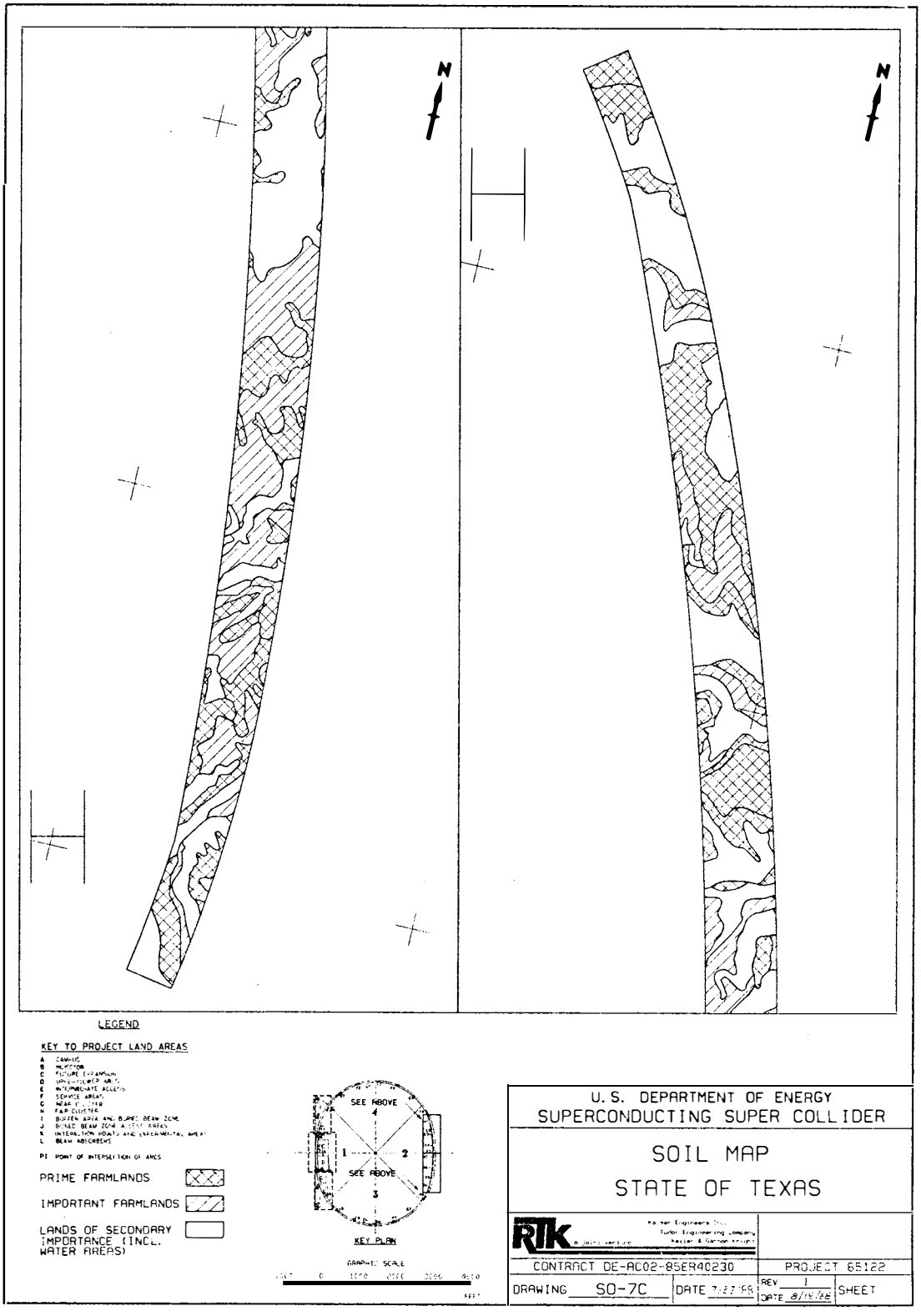


FIGURE 13-21

SOIL MAP 7C - TEXAS



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FEIS Volume IV Appendix 13

ERRATA AND REVISIONS

APPENDIX 14

SOCIOECONOMIC AND INFRASTRUCTURE ASSESSMENTS

SOCIOECONOMIC AND INFRASTRUCTURE ASSESSMENTS

14.1 SOCIOECONOMIC ASSESSMENTS

Throughout: Wherever U.S. Bureau of the Census appears as a reference citation, replace with U.S. Department of Commerce, Bureau of the Census

Wherever Center for Governmental Studies 1987 appears as a reference citation, change to Northern Illinois University

Page 4: Par. 5, Line 4, reference should read: (Northern Illinois University 1987)

Page 9: Par. 2, last line, add the following reference: (U.S. Department of Commerce 1982a, 1987a)

Page 15: Par. 6, Line 3, delete RIMS-II from reference and substitute: U.S. Department of Commerce, Bureau of Economic Analysis 1986

Page 18: Table 14.1.2-6, Arizona data should read: $20,362; $18,488; $9,165; $29,418; $23,254; $30,337; $32,030; $26,443; $13,143; $15,942; $17,264; $22,287

Table 14.1.2-6, Tennessee data should read: $18,897; $5,483; $8,589; $27,049; $19,377; $24,865; $30,009; $24,936; $12,443; $18,000; $17,690; $19,209

Table 14.1.2-6 source should read: U.S. Department of Commerce, Bureau of Economic Analysis 1986

Page 19: First bulleted item, next-to-last line, reference should read: (U.S. Department of the Army, Corps of Engineers 1981)

Third bullet, Line 3 should read: force, and inversely with ...

Fourth bullet, Line 3 should read: ... to in-migrate as an inverse function ...

Page 23: Par. 2, Line 9, delete: last word (tax) and insert: levy sales and use taxes on ...

Third bullet, Line 1 should read: Illinois exempts nonprofit scientific ...

Page 24: Table 14.1.2-7, Public Utilities Rate Tax for both Electric Power and Miscellaneous Utilities in North Carolina should read: 3.22 percent; for Electric Power in Tennessee: N/A [5]

Page 24: (Cont) Table 14.1.2-7, Source [3] should read: Average tax rate on vehicle leasing costs calculated ...; Source [4], insert (except in Illinois) at end of line; Source [5] should read: ... to be supplied by public agencies ...

Table 14.1.2-7, far left column, fifth main heading should read: Indirect Revenue (88 $)

Page 26: Fourth bullet, replace $9.6 with $10.3

Last paragraph, last line should read: data obtained from local and state financial documents.

Page 27: Table 14.1.2-8, first column, third item should read: Personal Property*

At the bottom of same table add: * Average tax rate as a percent of SSC leasing costs.

Same table, last data entry for Maricopa Co., AZ should read: $144.45

Page 28: Table 14.1.2-8, Kendall Co. IL column, under Municipal (1988$) replace all $32.80s with 0.00

Page 29: Table 14.1.2-8, Bedford Co. TN column, fourth and fifth entries should read: 25.0 percent and 2.24 percent

Same table, Marshal Co. TN column, fourth and fifth entries should read: 25.0 percent and 2.20 percent

Same table, Rutherford Co. TN, fourth and fifth entries should read: 25.0 percent and 1.96 percent

Same table, Ellis Co. TX, third and fifth entries should read: $35.8 and $1.09.

Page 30: Delete first sentence. Paragraph begins with: It was assumed ...

Page 31: Last paragraph, Line 1 should read: ... to construct new paved access roads; delete second sentence

Page 43: Last paragraph, Lines 9 and 10, delete: associated with the high scenario ...

Page 46: Par. 3, Line 7, delete: in the high scenario ...

Page 49: Par. 1, Line 11, insert: c directly after 1987

Page 59: Table 14.1.3.2-1, 1996 column, Morgan County, Jobs should read: 1,312

Page 72: Par. 2, Line 4, delete: ... high scenario ...

Last paragraph, beginning of Line 12, replace 1987b with 1987c

Page 75: Par. 3, Line 6, insert: d directly after 1982

Par. 3, Line 6, second reference should read: Federal Home Loan Bank of Topeka 1986

Par. 3, Line 9, replace 1987b with 1987c

Page 78: Par. 1, Line 7, insert: d directly after 1982

Par. 1, Line 9, replace 1987b with 1987c

Par. 1, Line 16, replace 1987a with 1987d

Last paragraph, Line 12, replace 1987b with 1987d

Page 97: Table 14.1.3.3-1, Local Govt Net Impact row for DuPage County should read: ($1.3), ($2.0), ($3.9), $0.8, $1.6, $1.8, $1.5, $1.3, $1.2, $1.5, $1.7, $1.7

Table 14.1.3.3-1, Local Govt Net Impact row for Kane County should read: ($1.7), ($3.7), ($2.3), $2.8, $3.9, $4.1, $3.3, $2.8, $2.6, $3.2, $3.5, $3.6

Table 14.1.3.3-1 Local Govt Net Impact for Kendall County for 1989-1991 should read: $0.0, $0.0, $0.1; for 1996, 1997 should read: $0.0, $0.0

Page 111: Par. 2, Line 7, reference should read: ... 1982b

Par. 2, Line 11, reference should read: ... 1987c

Par. 4, Line 5, reference should read: ... 1982b

Page 114: Par. 1, Line 3, reference should read: ... 1987b

Par. 1, Line 4, delete: associated with the central case

Par. 3, Line 4, reference should read: ... 1982b

Par. 3, Line 9, reference should read: ... 1987c

Page 117: Par. 1, Line 5, reference should read: ... 1982b

Par. 1, Line 9, reference should read: ... 1987c

Page 126: Par. 4, Line 1, should read: ... for nearly $500,000 annually ...

Page 129: Par. 1, Line 2, should read: ... would be positive ...

Par. 3, Line 1, should read: ... county of $40,000 would ...

Par. 6, Line 1, reference should read: (Northern Illinois University 1987)

Page 130: Table 14.1.3.3-17, Direct Tax Revenue row should read: ($0.0) for all years

Table 14.1.3.3-17, Real Property row should read: (0.0) for all years

Table 14.1.3.3-17, Net Fiscal Impact row should read: ($0.0), ($0.0), ($0.1), ($0.1), ($0.1), ($0.1), ($0.1), ($0.0), ($0.0), ($0.1), ($0.1), ($0.1)

Page 134: Table 14.1.3.4-1, Local Govt Net Impact for Ingham County for 1990 should read: ($2.4)

Page 146: Par. 2, Line 6, reference should read: ... 1982e

Par. 2, Line 13, reference should read: ... 1987c

Page 148: Figure 14.1.3.4-5, Clinton County has incorrect fill pattern. See attached.

Page 149: Par. 1, Lines 3 and 4 should read: would reside in Ingham County. Although this single-year impact ...

Par. 2, Line 5, reference should read: ... 1982c

Par. 2, Line 9, reference should read: ... 1987b)

Par. 4, Line 4, reference should read: ... 1982e

Par. 4, Line 8, reference should read: ... 1987b)

Page 152: Par. 2, Line 5, reference should read: ... Commerce 1982e

Par. 2, Line 8, reference should read: ... 1987c)

Par. 2, Line 10, reference should read: ... 1987c)

Par. 4, Line 5, reference should read: ... 1982e)

Page 152: Par. 4, Line 8, reference should read: ... 1982e)
(Cont)

Par 4, Line 13, reference should read: ... 1987c)

Page 169: Table 14.1.3.5-1, Local Govt Net Impact for Durham County for 1991 should read: ($.06), and for 1992 should read: $3.6

Table 14.1.3.5-1, Local Govt Net Impact for Granville County for 1991 should read: ($0.4), and for 1992 should read: $0.4

Table 14.1.3.5-1, Local Govt Net Impact for Person County for 1990 should read: ($0.4), and for 1991 should read: ($0.5)

Page 172: Table 14.1.3.5-2, In-migrant Work Force for 1995 should read: 3,494; 1996: 2,807; 1997: 2,663; 1998: 3,137; 1999: 3,405; 2000: 3,493

Page 182: Par. 2, Line 7, reference should read: 1982f, 1982h

Par. 2, Line 11, reference should read: ... 1987c

Page 186: Par. 2, Line 6, reference should read: ... Commerce 1982f

Par. 2, Line 10, reference should read: 1987c

Par. 4, Line 6, reference should read: ... 1982f

Par. 4, Line 10, reference should read: ... 1987b

Page 206: Table 14.1.3.6-1, Local Govt Net Impact for Bedford County row should read: ($0.3), ($0.5), ($1.1), ($0.6), 0.0, 0.0, 0.0, (0.0), (0.0), 0.0, 0.0, 0.0

Table 14.1.3.6-1, Local Govt Net Impact for Marshall County row should read: ($0.1), ($0.2), ($0.5), ($0.1), (0.0), (0.0), (0.0), (0.0), (0.0), (0.0), (0.0)

Table 14.1.3.6-1, Local Govt Net Impact for Rutherford County row should read: ($1.1), ($1.2), $0.2, $2.3, $2.4, $2.6, $2.1, $1.8, $1.6, $1.9, $2.1, $2.2

Page 221: Par. 1, Line 1, reference should read: ... 1982g

Par. 1, last line, reference should read: ... 1987c

Par. 4, Line 5, reference should read: ... 1982g

Par. 4, Line 9, reference should read: ... 1987b

Page 223: Par. 2, Line 5, reference should read: ... 1982g

Par. 2, Line 8, reference should read: ... 1987c

Par. 4, Line 6, reference should read: Commerce 1982g

Par. 4, last line, reference should read: ... 1987b

Page 234: Par. 4, Lines 2, 3, and 4 should read: ... negative during the first four years of construction (Table 14.1.3.6-15). These losses are expected because real property losses are estimated at approximately $100,000 annually, capital ...

Page 236: Table 14.1.3.6-15, Direct Tax Revenue row should read: ($0.1) for all years

Table 14.1.3.6-15, Real Property row should read: (0.1) for all years

Table 14.1.3.6-15, Net Fiscal Impact row should read: ($0.3), ($0.5), ($1.1), ($0.6), 0.0, 0.0, 0.0, (0.0), (0.0), 0.0, 0.0, 0.0

Page 237: Par. 1, Line 3 should read: SSC (Table 14.1.3.6-16). The losses peak in 1991 at about $500,000, but would be reduced to less than $50,000 annually by 1993. These losses ...

Par. 2, Line 2 should read: ... during the first two years of ...

Page 238: Table 14.1.3.6-16, Direct Tax Revenue row should read: ($0.1) for all years

Table 14.1.3.6-16, Real Property row should read: (0.1) for all years

Table 14.1.3.6-16, Net Fiscal Impact row should read: ($0.1), ($0.2), ($0.5), ($0.1), 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0

Page 239: Table 14.1.3.6-17, Direct Tax Revenue row should read: ($0.1), ($0.1), 0.0, 0.0, 0.0, 0.0, ($0.1), ($0.1), ($0.1), ($0.1), ($0.1), ($0.1)

Table 14.1.3.6-17, Real Property row should read: (0.1) for all years

Table 14.1.3.6-17, Net Fiscal Impact row should read: ($1.1), ($1.2), $0.2, $2.3, $2.4, $2.6, $2.1, $1.8, $1.6, $1.9, $2.1, $2.2

Page 243: Table 14.1.3.7-1, Local Govt Net Impact for Ellis County for 1991 should read: $2.2, and for 1992: $3.8

Page 255: Par. 1, Line 8, reference should read: ... Commerce 1982c

Par. 4, Line 5, reference should read: ... Commerce 1982c

Par. 4, Line 8, reference should read: ... 1987c

Page 263: Par. 1, first sentence should read: The cumulative net fiscal impact to all local government jurisdictions in Ellis County would be negative during the first two years of project activity ...

Direct tax revenue losses would be minimized in 1992, due to personal property tax collections on construction equipment used by SSC contractors. After construction is completed in 1996, however, the net direct revenue impact loss would be $400,000 annually because of the loss of real property tax collections from land that would be transferred from private to Federal ownership.

REFERENCES: All references for Appendix 14 (Sections 14.1 and 14.2) have been corrected and combined as included on the pages "Errata and Revisions--Socioeconomics and Infrastructure Assessments--References," which follow the Infrastructure Assessment errata.

14.2 INFRASTRUCTURE ASSESSMENTS

Page 6: Par. 2, Line 3, reference should read: (Sherman 1988)

Page 24: Table 14.2.1.3, Peak Hour Volume With SSC, first entry should read: 1,100; the last column entry for State Route 71: I-76 to Woodrow should read: C

Page 25: Par. 1, Line 4, after the word "magnitude:" insert the following: State Route 71 from I-76 to Woodrow will experience decrease in level of service from A to C.

Same paragraph, Line 5 should read: Route 71 from Woodrow to Last Chance would experience ...

Page 32: Figure 14.2.1-4, Legend, first item in right column should read: Construct New 1-Lane Paved Road

Page 33: Par. 3 should read:

The road system modifications would include widening of 4 mi of 4-lane road, construction of 2.5 mi of new 2-lane roads, upgrading of 20 mi of existing 2-lane roads, and construction of 1 mi of new 1-lane road.

Page 34: Insert the following paragraph after Par. 5: Mitigations that could potentially be implemented to reduce spoils disposal truck traffic impacts include the following: the use of state highways instead of local roads; direction of traffic away from residential areas and schools; use of traffic controls and speed limits; and the development of off-peak oriented disposal schedules to avoid normal urban congestion.

Page 35: Table 14.2.1-5, replace the fifth Road Segment with the following: I-88 State Route 59 to Dauberman Road

Same table, replace the sixth Road Segment with the following: State Route 56: I-88 to State Route 47

Same table, Existing Conditions/LOS for State Route 47: I-90 to State Route 56 should read: C

Page 36: Table 14.2.1-5 (Cont), last column entry for State Route 59: State Route 56 to I-90 should read: C; sources should read: TRB 1985, Sherman 1988, IDOT 1986, IDOT 1985a, IDOT 1985b

Page 37: Table 14.2.1-6, Existing Conditions/LOS for State Route 47: I-90/State Route 56 should read: C

Page 38: Table 14.2.1-6 (Cont), Source should read: TRB 1985, Sherman 1988, IDOT 1986, IDOT 1985a, IDOT 1985b

Page 49: Table 14.2.1-8, Source should read: TRB 1985, MDOT 1986

Page 56: Par. 3, add at end: In addition, construction of these highways could impact farming operations by blocking access from field to field. Potential mitigation could include construction of underpasses for farm access.

Second-to-last paragraph, last line should read: ...and 2 mi of new 1-lane road

Page 57: Par. 5, delete last 2 sentences and replace with the following: The proposed new roads will not be available in 1992. State Route 1112 in Buttner will experience worst impact with LOS E.

Page 58: Table 14.2.1-9, first entry in the Peak Hour Volume Without SSC column should read: 2,000; first entry in the Peak Hour Volume With SSC column should read: 2,150

Page 69: Par. 2, Line 4, replace I-65 with A41

Last paragraph, Line 3 and Line 5, delete the following words in both places: ... U.S. Route A31 from East State Route 99 to West State Route 99 ...

Page 70: Table 14.2.1-11, sixth entry in Existing Conditions/Volume column should read: 450

Page 71: Table 14.2.1-11 (Cont), third entry in Peak Hour Volume Without SSC column should read: 800; last column, fifth entry should read: A; Source should read: TRB 1985, TDOT 1986b

Page 72: Table 14.2.1-12:

Peak Hour Volume With SSC column, second entry should read: 2,350; ninth entry should read: 300

Existing Conditions/Volume column, sixth entry should read: 450

Entries for I-65: State Route 254 to State Route 96 should be shifted one column to the left

Page 73: Table 14.2.1-12, Source should read: TRB 1985, TDOT 1986b

Page 74: Par. 2, both references should read: (TDOT 1986a)

Page 80: Par. 3, Line 2, should read: ... 22 mi of new 2-lane roads, 23 mi of upgraded 2-lane roads ...

Page 82: Table 14.2.1-13 (Cont), Note number 2, replace 1924 with 1992

Page 83: Par. 5, Line 10, reference citation should read: (TDOT Nov 1986)

Page 87: Par. 2, Line 6, reference citation should read: (Charles Willis & Associates, Inc 1987)

Page 97: Par. 3, Line 11, insert the reference citation (Exeter Associates 1988) after 28 percent

Page 98: Par. 2, insert the reference citation (Exeter Associates 1988) at end of last line

Page 99: Par. 1, delete last sentence

Par. 5 should read: Construction power for structures around the ring could be served by placing temporary pole lines from nearby existing power lines to provide 480-V construction power. The impact would be short term and negligible.

Last paragraph, Line 1, after the acronym (APS), insert the following: ... is part of an ...

Same paragraph, Line 2, replace the word serves with the word serving

Same paragraph, end of last line, add: (North American Electric Reliability Council 1987)

Page 100: End of Par. 2 and Par. 3, add: (APS 1988)

End of Par. 6, Par. 8, and Par. 9, add: (Exeter Associates 1988)

End of Par. 7, add: (North American Electric Reliability Council 1987)

Par. 8, Line 3, replace 4,174 MW with 3,529 MW

Page 101: Add the reference citation (Exeter Associates 1988) in the following places: end of all four paragraphs, and as replacement for the source listed under the table

Page 102: Table 14.2.2-1, insert the following subheading under the title: Under Current Resource Plan Without SSC; insert: Source: Exeter Associates 1988.

Page 103: End of Par. 1, add: (North American Electric Reliability Council 1987)

End of Par. 2, add: (Exeter Associates 1988)

Page 103: (Cont) Par. 6, delete paragraph and replace with the following: The final location of the proposed SSC facility could potentially require the relocation of the APS 69-kV distribution line presently being constructed along the Maricopa-Gila Bend Road. If the relocation is required, interruption of service to existing customers would be short term and negligible.

Delete last paragraph

Page 104: Delete the first paragraph and insert the following:

The WSCC transmission systems are adequate to accommodate anticipated firm and most economy energy transfer schedules during the 10-year period (1987-1996). The WSCC includes systems in 13 states, two Canadian provinces and the northern portion of Baja California, Mexico. An issue expected to be of continuing concern during the next 10 years is the effect of heavy economy transfers on bulk electric power system reliability. Over the last few years, reduced gas and oil prices have allowed utilities to generate energy more economically with local gas- and oil-fired units. It is expected that over the long term, the cost differential between gas/oil-fired generating units and other generating resources will increase, thereby exacerbating this problem. Because of the expected increases in economy energy transfers, portions of the regional transmission systems will be loaded to higher levels for sustained periods of time. This mode of operation will pose greater risks to system reliability due to reduced operating margin. This concern is mainly centered on the Pacific intertie connecting Pacific Northwest hydroelectric generation with California utilities. Operating restrictions (defined by nomograms) have been imposed to limit simultaneous imports to California. These operating restrictions are required to assure that acceptable system performance can be maintained in the event of a disturbance. The Arizona/New Mexico area utilities continue to forecast generating capacity levels which are significantly greater than their minimum capacity margins.

End of Par. 3 and Par. 4, add: (El Paso 1987)

Par. 5, Line 5, replace the words campus area with the words near cluster; Line 6, replace the number 9.3 with the number 9

Page 106: End of Par. 1, add: (Mountain States Telephone and Telegraph Company 1987)

Page 108: Par. 1, delete last sentence

Par. 5 should read: Construction power for structures around the ring could be served by placing temporary pole lines from nearby existing power lines to provide 480-V construction power. The impact would be short term and negligible.

Last Par., Line 3, replace the word would with the words propose to. Line 5, insert the words the proposed between connect and SSC.

Page 109: End of Par. 1, add: (Tri-State 1987)

End of Par. 2, add: (Public Service Company of Colorado 1987, 1983)

End of Par. 3, add: (Morgan County League of Women Voters 1985)

Ends of Par. 6 and Par. 8, add: (Exeter Associates 1988)

Last paragraph, Line 2, replace the number 3,454 with the number 3,249

Page 110: Par. 1, end of line 3, change PSC to PSCo

Add the reference citation (Exeter Associates 1988) in the following places: at the end of all three paragraphs, and as the replacement for the source in the table

Page 111: Add the reference citation (Exeter Associates 1988) in the following places: at the end of Par. 1 and Par. 3, and as the second source in the table

Page 112: Table 14.2.2-2, insert the following subheading under the title: Under Current Resource Plan Without SSC; add: Source: Exeter Associates 1988.

Par. 1, last line should read: ... of the SCC should only require a change in schedule for Pawnee Generating Station Unit 2.

Par. 3, delete the first sentence and replace it with the following: MCREA is a cooperative venture and is a member of the Tri-State Generation and Transmission Association, Inc. MCREA purchases all of its electric energy from Tri-State Generation and Transmission, Inc.

Page 113: Add the reference citation (North American Electric Reliability Council 1987) at the end of Pars. 2, 3, 4, and 5

Page 114: Par. 2, end of last line, add: (Morgan County League of Women Voters 1985)

Add the reference citation (Morris 1987) at the ends of Pars. 3, 5, and 7

Par. 6, end of last line, add: (Public Service Company of Colorado, 1987, 1983)

Par. 8, Line 2, replace the word campus with the words near cluster; Line 3, replace the number 0.9 with the number 4; Line 4, delete the word areas; Line 5, replace the number 12 with the number 17

Page 116: Add the reference citation (Morgan County 1988) at the end of Par. 3

Page 118: Par. 1, delete last sentence

Add the reference citation (Zessin 1988) at the ends of Pars. 3 and 7

Par. 5 should read: Construction power for structures around the ring could be served by placing temporary pole lines from nearby existing power lines to provide 480-V construction power. The impact would be short term and negligible.

Page 119: Add the reference citation (Exeter Associates 1988) in the following places: at the end of Pars. 3, 4, 5, and 6, and as the replacement for the source in the table

Par. 4, Line 4 replace the number 12,110 with the number 11,673

Page 120: Par. 2, delete first sentence and replace with the following: Three nuclear units have been placed in commercial operation and one more nuclear unit is scheduled for commercial operation in 1988 with a total capacity of 4,310 MW (Mid-America Interconnected Network 1988).

Add the reference citation (North American Electric Reliability Council 1987) at the end of Pars. 1 and 2

Add the reference citation (Commonwealth Edison 1988) at the end of Par. 3

Par. 3, first line, first sentence, delete the first word: Since; begin the sentence: With the addition of Braidwood Unit 2 as of August 1988 to the system, ...

Page 120: (Cont) Add the reference citation (Exeter Associates 1988) at the end of Pars. 4 and 5

Delete last paragraph

Page 121: Table 14.2.2-3, insert the following subheading under the title: Under Current Resource Without SSC; Secondary Loads for 1994 should read: 13, for 1995: 11, for 1996: 9, for 1997: 8, for 1998: 10, and 1999: 11.

Same table, add: Source: Exeter Associates 1988

Page 123: At the end of Par. 1 add: (NICOR 1988, White 1988)

Page 124: Par. 6, end of last line, add: (Miller 1988)

Par. 7, end of last line, add: (Illinois Bell Telephone Company 1988)

Page 126: Par. 1, delete last sentence

Second-to-last paragraph, end of last line, add: (Consumers Power Company 1987)

Par. 5 should read: Construction power for structures around the ring could be served by placing temporary pole lines from nearby existing power lines to provide 480-V construction power. The impact would be short term and negligible.

Last paragraph, end of last line, add: (East Central Area Reliability 1987)

Page 127: Add the reference citation (Exeter Associates 1988) in the following places: Par. 3, Line 3, after the word reserves; Pars. 4 and 5, at the end of the last line; as the replacement for the source in the table (should read: Table 3.4-1, (Exeter Associates 1988)

Par. 3, end of last line, add: (East Central Area Reliability 1987)

Par. 3, Lines 4 and 5 should read: gas to new pipelines for the near cluster and experimental areas requiring 2.0 mi of construction work. Service ...; add to end of last sentence: for a construction length of 2.0 mi.

Par. 4, Line 5, replace the number 23,881 with the number 23,431

Page 128: Par. 1, end of last line, add: (East Central Area Reliability 1986)

Pars. 2 and 3, end of last line, add: (Exeter Associates 1988)

Page 129: Table 14.2.2-4, insert the following subheading under the title: Under Current Resource Plan Without SSC; add: Source: (Exeter Associates 1988)

Page 130: Add the reference citation (East Central Area Reliability 1986) in the following places: Par. 1, Line 2, after the word construction; at the end of Par. 2

Add the reference citation (East Central Area Reliability 1987) at the end of Pars. 3 and 4

Par. 7, end of last line, add: (Marvin 1988)

Par. 9, end of last line, add: (Consumers Power Company 1987)

Page 131: Par. 1, Line 3, replace the words campus area with the words near cluster; last line, replace the number 4.5 with the number 3.0

Page 132: Par. 3, Line 2, add the reference citation (Alltell Corporation 1988, Michigan Bell Telephone Company 1988)

Page 134: Par. 1, delete last sentence

Last paragraph, Line 3, add (Exeter Associates 1988) after the acronym SSC; same paragraph, add the reference citations (Duke 1987b, Carolina Power and Light 1987b) at the end of paragraph.

Par. 5 should read: Construction power for structures around the ring could be served by placing temporary pole lines from nearby existing power lines to provide 480-V construction power. The impact would be short term and negligible.

Page 135: Par. 1, end of last line, add: (Duke Power Company 1987a; Duke Power Company 1988; Duke Power Company 1987b)

Par. 2, end of last line, replace reference citation with: (Carolina Power and Light 1987a)

Par. 3, end of last line, add: (Stancil 1988)

Page 135: (Cont) Par. 6, Line 4 should read: ... generating capacity and 9,719 MW ...; Line 6 should read: ... generating capacity of 31,039 MW ...

Add the reference citation (Exeter Associates 1988) in the following places: the end of the last line of Pars. 5, 6, 7, and 8

Page 136: Add the reference citation (Exeter Associates 1988) in the following places: as the replacement for the source in both tables, and at the end of the last paragraph

Page 137: Par. 1, end of last line, add: (Exeter Associates 1988, North American Electric Reliability Council 1987)

Par. 2, end of last line, add: (Exeter Associates 1988)

Page 138: Table 14.2.2-5, insert the following subheading under the table: Under Current Resource Plan without SSC; add: Source: Exeter Associates 1988.

Page 139: Add the reference citation (North American Electric Reliability Council 1987) in the following places: end of Par. 1 and end of Par. 4

Par. 2, end of last line, add: (Stancil 1988)

Par. 3, Line 4, add the reference citation (Exeter Associates 1988) after the word programs

Par. 5, end of last line, add: (Exeter Associates 1988, North American Electric Reliability Council 1987)

Page 140: Add the reference citation (Public Service Company of North Carolina 1988) in the following places: at the end of the last line of Par. 1, Par. 3, and Par. 4

Add the reference citation (Salkowitz 1988) at the end of Par. 2 and in Par. 5, Line 4, after the far cluster

Par. 5, Lines 3 and 4 should read: ... supply gas to the near and far clusters. This would require ...; Last line, replace the number 3 with the number 21

Page 141: Par. 1, last line should read: 2.5 percent during construction and up to 2.2 percent during operations.

Par. 3, Line 3, add the reference citation (Salkowitz 1988) after the word years

Page 142: Par. 2, second to last line should read: ... up to 2.5 percent during construction and up to 2.2 percent....

Page 143: Par. 1, delete last line

Par. 5 should read: Construction power for structures around the ring could be served by placing temporary pole lines from nearby existing power lines to provide 480-V construction power. The impact would be short term and negligible.

Last paragraph, end of last line, add: (Tennessee Valley Authority 1988)

Page 144: Add the reference citation (Exeter Associates 1988) in the following places: at the end of Pars. 3, 4, 5, and 6, and as the source for the table

Par. 4, Line 4, replace 31,239 MW; with 31,039 MW

Page 145: Add the reference citation (Exeter Associates 1988) at the end of Pars. 1, 2, and 4

Par. 3, end of last line, add: (Tipps 1987)

Par. 5, end of last line, add: (North American Electric Reliability Council 1987)

Page 146: Table 14.2.2-6, insert the following subheading under the title: Under Current Resource Plan Without SSC; add: Source: Exeter Associates 1988

Page 147: Par. 4, end of last line, add: (North American Electric Reliability Council 1987)

Last paragraph, end of last line, add: (Price 1988)

Page 148: Par. 1, Line 2, replace the words campus area with the words near cluster; Line 3, replace the number 6 with the number 12; Line 4 should read: ... be constructed to service the far cluster.; last line, replace the number 9 with the number 3

Section b., Par. 1, Line 6, replace 1.0 percent with 1.1 percent; Line 10, replace 4 percent with 4.2 percent; replace 3 percent with 3.6 percent

Page 149: Par. 2, end of last line, add: (Johnson 1988)

Par. 3, end of last line, add: (South Central Bell Telephone Company 1988)

Par. 7, last line, replace 4 percent with 4.2 percent; replace 3 percent with 3.6 percent

Page 151: Par. 1, delete last line

Par. 3, end of last line, add: (McKinney 1988)

Par. 5 should read: Construction power for structures around the ring could be served by placing temporary pole lines from nearby existing power lines to provide 480-V construction power. The impact would be short term and negligible.

Last paragraph, end of last line, add: (Texas Utilities Electric Company 1987)

Page 152: Par. 1, Line 2, after the words Ft. Worth, sentence should end: Midland, Odessa, Wichita Falls, Arlington, Irving, Plano, Waco, Tyler, and Killeen (Texas Utilities Electric Company 1987)

Par. 4, Line 1, systems should read: system; Line 2, replace 2,069 MW with 2,609 MW; replace 83 with 271; Line 3, replace 3,851 with 4,141; Line 4, replace 603 with 937

Par. 5, replace 8,063 MW with 8,326 MW

Par. 6, Line 3, replace 83 with 271; Line 4, replace 603 with 937

Add the reference citation (Exeter Associates 1988) in the following places: at the end of Pars. 4, 5, 6, and 7, and as the source of the table

The table data should read as follows:

Total Available Capacity	19,462	25,504
Peak Hour Firm Demand	16,688	21,363
Reserve Margin	2,774	4,141
Required Reserves (*)	2,503	3,204
Excess Reserves	271	937

*Calculated, based on ERCOT 15 percent minimum required reserve level.

Page 153: Add the reference citation (Exeter Associates 1988) at the end of Pars. 1, 2, 3, and 4

Par. 5, Line 1, replace 17,900 MW with 14,400 MW; Line 3, replace 2,650 MW with 2,199 MW; last line, replace 15,250 MW with 12,500 MW

Add the reference citation (North American Electric Reliability Council 1987) at the end of paragraphs 5, 6, and 7

Page 154: Table 14.2.2-7, insert the following subheading under the title: Under Current Resource Plan Without SSC; last entry in the last column should read: 16.6; source should read: Exeter Associates 1988

Page 155: Add the reference citation (North American Electric Reliability Council 1987) at the end of Pars. 1, 2, and 3

Par. 2, Line 2, replace 10 percent with 4.4 percent

Last paragraph, Line 4, add (Bryan 1987) after the word customers; Line 6, add (Juenger 1987) after the word services

Page 156: Par. 1, Line 1, replace the word ten with the number 11

Add the reference citation (Bryan 1987) in the following places: Par. 1, Line 5, after the word demand, and Par. 3, end of last line

Add the reference citation (Juenger 1987) at the end of Pars. 1 and 2

Par. 4, Lines 3 and 4, replace the words campus area with the words near cluster; Line 6, replace the number 2.5 with the number 7; last line, replace the number 2.7 with the number 5.0

Page 157: Par. 1, second to last line, replace 3 percent with 3.4 percent; replace 2 percent with 2.7 percent

Page 158: Par. 4, second to last line, replace 3 percent with 3.4 percent; replace 2 percent with 2.7 percent

Page 159: Par. 7, delete the first sentence and insert: Pawnee Generating Station Unit II is planned for operation in the late 1990's.

REFERENCES: All references for Appendix 14 (Sections 14.1 and 14.2) have been corrected and combined as included on the following "Errata and Revisions--Socioeconomics and Infrastructure Assessments--References" pages.

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*Indicates references that were omitted from the DEIS.

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NEW AND CORRECTED TABLES

CORRECTED TABLES

Table 14.1.3.7-9

SSC-RELATED CHANGES IN PUBLIC FINANCES
CUMULATIVE TOTAL FOR LOCAL GOVERNMENTS IN ELLIS COUNTY, TEXAS

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All Local Jurisdictions (Mil 88$)												
Direct Tax Revenue	($0.4)	($0.3)	($0.1)	($0.0)	($0.1)	($0.2)	($0.4)	($0.4)	($0.4)	($0.4)	($0.4)	($0.4)
Sales and Use (exempt)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Personal Property (3.28%)	0.0	0.1	0.3	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Real Property ($1.09/$100 Ass'd Val)	($0.4)	($0.4)	($0.4)	($0.4)	($0.4)	($0.4)	($0.4)	($0.4)	($0.4)	($0.4)	($0.4)	($0.4)
Indirect Tax Revenue	$0.5	$2.0	$3.7	$3.9	$3.4	$3.7	$3.2	$2.6	$2.5	$2.9	$3.2	$3.3
County Government	0.1	0.2	0.4	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.4
City of Waxahachia	0.2	0.9	1.6	1.7	1.5	1.7	1.4	1.2	1.1	1.3	1.4	1.5
All Other Government	0.2	0.9	1.6	1.7	1.5	1.6	1.4	1.2	1.1	1.3	1.4	1.4
Indirect Capital Expenditure	(1.0)	(2.1)	(1.7)	(0.4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Fiscal Impact	($0.9)	($0.3)	$1.9	$3.4	$3.3	$3.5	$2.8	$2.3	$2.1	$2.5	$2.8	$2.9

Table 14.2.2-7

TEXAS UTILITIES ELECTRIC COMPANY
RESERVE MARGINS WITH AND WITHOUT SSC

Year	Projected Loads MW	SSC Loads MW	Secondary Loads MW	Planned Resources MW	Planned Reserves w/o SSC MW	Planned Reserves w/SSC MW	Percent Reserves w/o SSC %	Percent Reserves w/SSC %
1987	16,688	0	0	19,452	2,764	2,764	16.6	16.6
1988	17,057	0	0	20,125	3,068	3,068	18.0	18.0
1989	17,504	1	3	20,623	3,119	3,115	17.8	17.8
1990	17,998	2	12	21,688	3,690	3,676	20.5	20.4
1991	18,509	4	22	22,448	3,939	3,913	21.3	21.1
1992	19,110	8	23	22,873	3,763	3,732	19.7	19.5
1993	19,710	16	21	23,531	3,821	3,784	19.4	19.2
1994	20,276	36	22	24,249	3,973	3,915	19.6	19.3
1995	20,854	36	18	24,904	4,050	3,996	19.4	19.1
1996	21,363	200	15	25,504	4,141	3,926	19.4	18.2

Source: Exeter Associates 1988

NEW AND CORRECTED FIGURES

NEW AND CORRECTED FIGURES

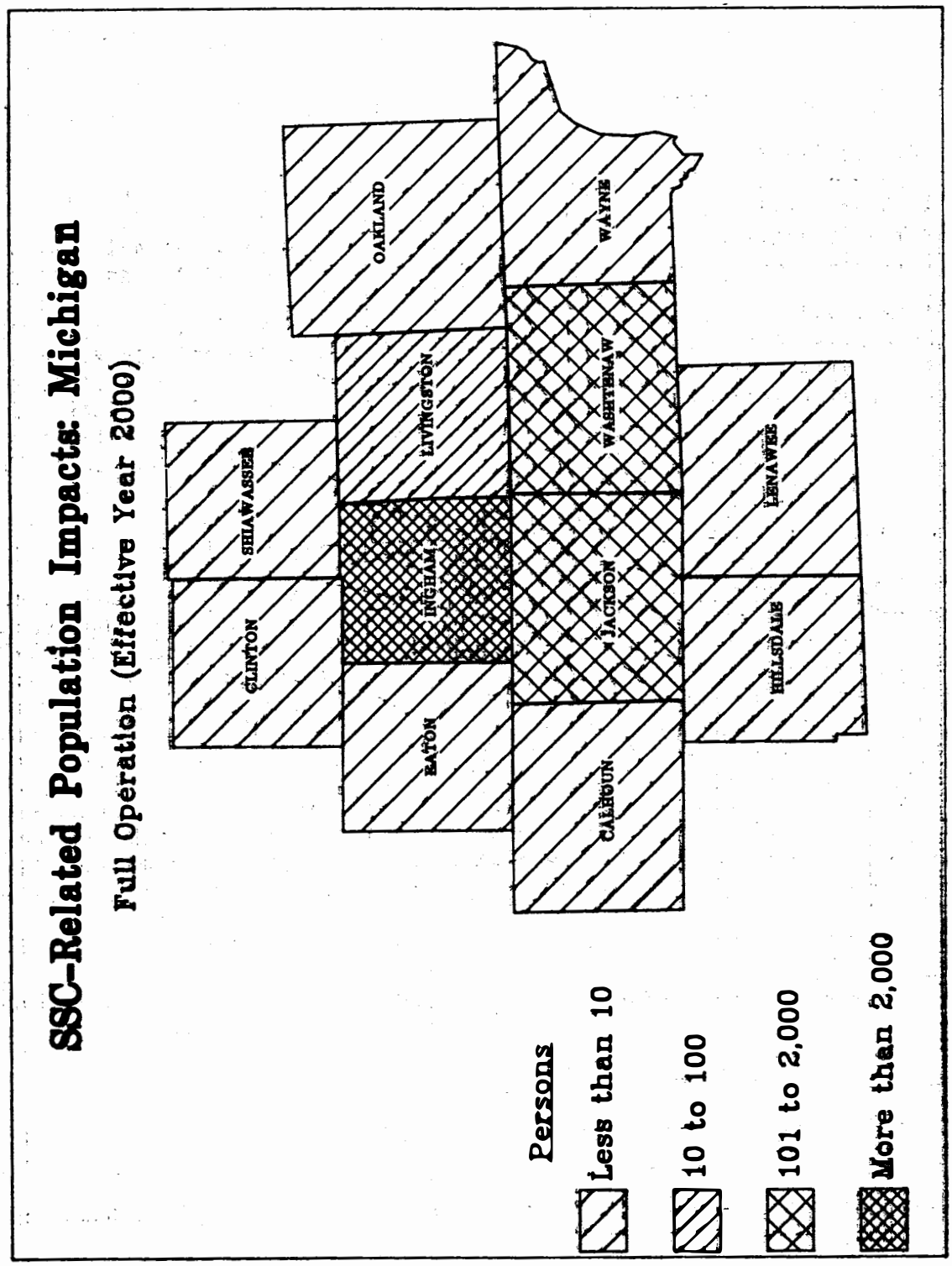
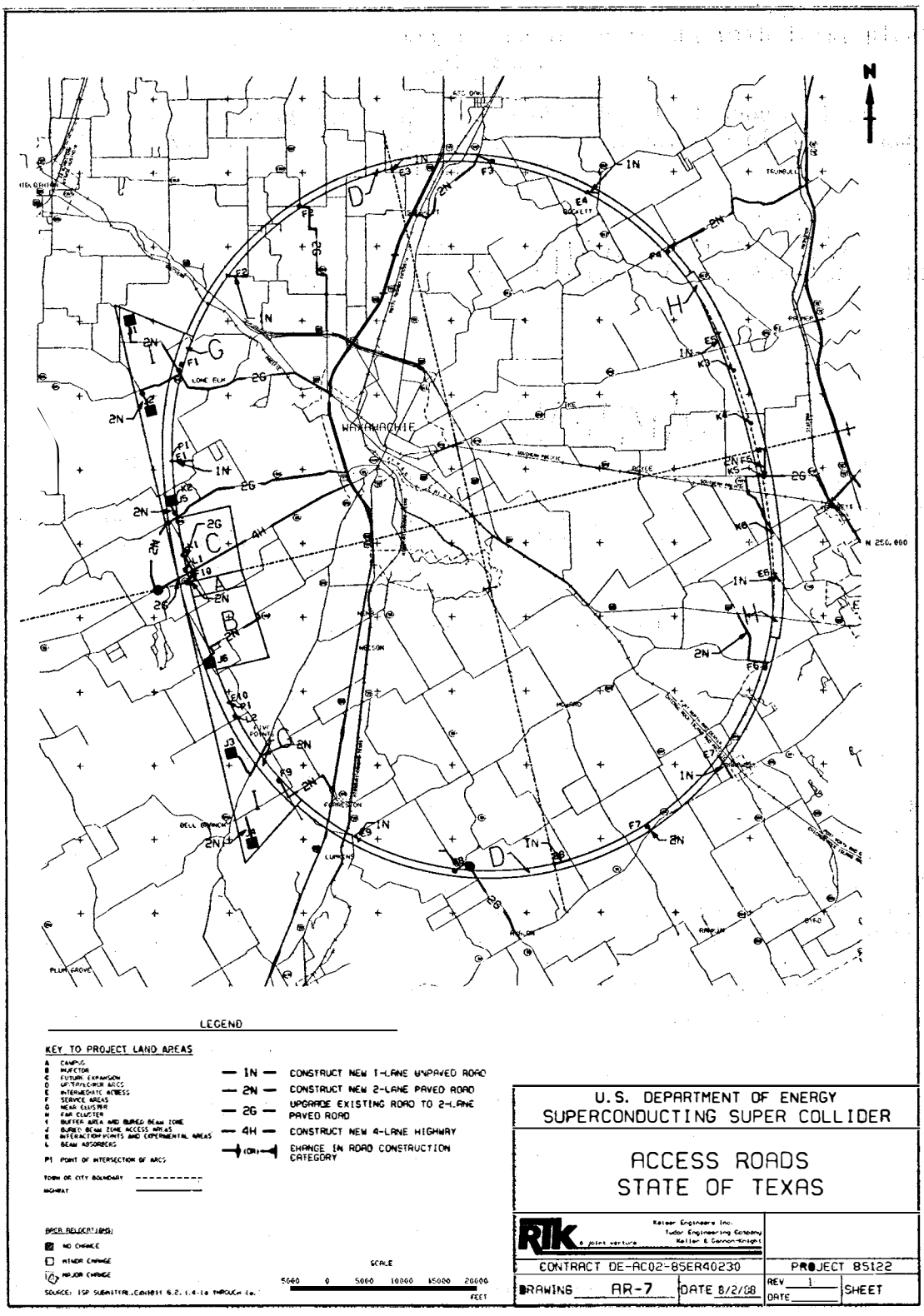


Figure 14.1.3.4-5

Figure 14.2.1-8

SITE ACCESS ROADS PROPOSED BY TEXAS



ERRATA AND REVISIONS

APPENDIX 15

CULTURAL AND PALEONTOLOGICAL RESOURCES

CULTURAL AND PALEONTOLOGICAL RESOURCES

Page 1: Par. 1, Line 2, add after the word potential: adverse

Par. 2, Line 10, sentence should end with: ... the DOE, the SHPO, and the Advisory Council on Historic Preservation.

Par. 3, the first sentence should read: The cultural resource assessments indicate that significant sites exist at each of the proposed SSC sites.

Page 4: Fourth bulleted item, insert a comma after the word historical; last bulleted item should read: Mitigation reports to agencies as necessary. (Second sentence should be deleted.)

Page 5: Subsection B., Par. 1, second and third sentences should read: Disturbances of this kind could occur within areas where facility construction zones are proposed, and within areas of ancillary activities, such as access roads, storage yards, parking areas, assembly areas, and project field offices. These kinds of activities often disturb surface and subsurface elements of historic and archaeological sites. Delete last sentence.

Move Par. 2 of Section 15.1.2.2 to follow Par. 1 of Section 15.1.2.3

Page 6: Par. 1, item 4 should read: the extent of development of predictive studies on resource potential and distribution.

Par. 2, Line 3, insert a period after the word data and delete the rest of that sentence

Par. 5, Line 7, insert the word criteria after the word eligibility and delete the rest of the sentence.

Par. 6, last line, insert a period after the word integrity and delete the rest of the sentence.

Page 7: First three lines should read: ... In locations where avoidance is not feasible because of technical, operational, regulatory, or cost considerations, alternative mitigation measures would be developed based on scientifically sound research programs....

Page 9: Par. 2, replace last sentence with the following: These people are probably the descendants of the Hohokam, but exist in a smaller population and on a different economy.

Page 9: (Cont) Par. 3, Line 5, reference citation should read: (Schackley and Rice 1985)

Last paragraph, Line 3 should read: ... The Juan Bautista de Anza Trail...

Line 5, replace the word eligible with the words under consideration

Page 10: The paragraph that runs from Page 10 to Page 11 should read:

A recent study pertinent to the project area is the Corridor Studies Report: Santa Rosa to Gila Bend 230 kV Transmission Line Project, prepared by Wirth Associates, Inc. in 1982; a Class II sample survey was performed. (U.S. Department of Interior 1982). In 1986, Archaeological Consulting Services surveyed the line in its entirety. Throughout the Maricopa Mountains,...

Page 11: Par. 1, delete the first line and the first three words of the second line

Par. 4, end of Line 1, insert: (the campus areas A, B, and C and the buried beam access areas).

Par. 4, end of first sentence, add: (Montero et al. 1988)

Page 14: Par. 5, Line 6, sentence should end with: ... the DOE, the SHPO, and the Advisory Council of Preservation.

Page 15: Par. 4, delete last sentence

Page 16: Par. 1, Line 3: Move (9500 B.C. - 6000 B.C.) to next line following the word occupation

Page 18: Par. 7, Line 1, replace the name Joyner with names Pearce and Whitacre

Page 21: Par. 3, Line 1, replace the word access with: E-470

Par. 4, Line 5 should read: ... WN-10, is potentially located within the proposed collider ring.

Par. 6, Line 3 should refer to Table 15-3

Page 22: Add to end of Par. 6: A reburial policy negotiated by the State Archaeologist and the Colorado Native American Heritage Council is in place.

Page 23: Par. 1, Line 3, sentence should end with: ... the DOE, the SHPO, and the Advisory Council on Historic Preservation.

Page 23 (Cont): Par. 2, Line 2, delete: in the proposed project area. Add the following: ... on the proposed SSC footprint. However, an archaeological sample survey of the proposed access roads, including proposed corridors linking Denver and Fort Morgan with the proposed SSC site, has been completed.

Page 26: Last paragraph, Line 5, replace the number 65 with: ±5

Page 32: Par. 4, Line 3, sentence should end with: ... the DOE, the SHPO, and the Advisory Council on Historic Preservation.

Page 35: Par. 3, Line 4, replace the number 44 with 37

Page 42: Par. 2, delete last sentence

Par. 3, Line 3, sentence should end with: ... the DOE, the SHPO, and the Advisory Council on Historic Preservation.

Page 45: Last paragraph, beginning of Line 1 should read: Sixty-three historic properties ...; end of Line 3 should read: ... fifteen in Durham County, ...

Page 52: Par. 3, Line 4, add to the end of the reference citation: , Sheffield 1988

Par. 4, Line 3, sentence should end with: ... the DOE, the SHPO, and the Advisory Council on Historic Preservation.

Par. 5, Line 1, insert the word archaeological before the word intensive; insert the following sentence after the first sentence: Extensive historic structures surveys have been undertaken in Granville and Durham Counties.

Page 58: Par. 2, Line 3, sentence should end with: ... the DOE, the SHPO, and the Advisory Council on Historic Preservation.

Page 64: Par. 5, Line 3, sentence should end with: ... the DOE, the SHPO, and the Advisory Council on Historic Preservation.

Page 70: Par. 4, Line 4, replace 1964 with 1963; Last paragraph, Line 1, replace the words flora and fauna with the word fossils

Page 71: Par. 1. Line 2 should read: ... the proposed SSC site revealed traces of upper Cretaceous ...

Par. 3, end of Line 1, vertebrate should read: vertebrae

Par. 6, Lines 2 and 3 should read: ... produced traces of upper Cretaceous fossils, ...

Page 73: Add to the end of Par. 3: The Robein Silt and Peddicord Formation are units generally buried by younger tills and/or outwash. These units frequently contain pollen, mollusks, and potentially, vertebrate remains.

Page 77: Par. 3, Line 5 should read: ... These also contain the remains of mammoth and mastodon megafauna that...

Page 84: Insert the following paragraph after Par. 3:

Mebone Cave is a recently discovered cave located within 2,000 ft of injector area J6 of the proposed Tennessee SSC site. Several bones tentatively identified as elk, horse, and/or deer were located in the entrance chamber. One bone, possibly deer, has been split for removal of marrow (Crawford 1988).

REFERENCES

Page 93: Middleton, M.D. reference should read: Early Paleocene Vertebrates of the Denver Basin, Colorado....

Page 95: Scott 1963 reference, add the word Colorado as last word in title

Insert the following references:

Archaeological Consulting Services: A Cultural Resource Survey of the Proposed Arizona Public Service Company Santa Rosa to Gila Bend 230-kV Transmission Line. Tempe, AZ: ACS, 1986.

Crawford, N. C. Karst Hydrology Investigation in the Vicinity of the Campus - Injector Complex for the Proposed Middle Tennessee Site for the Superconducting Super Collider. Lexington, KY: University of Kentucky, 1988

Dragoo, D. "Some Aspects of Eastern North American Prehistory: A Review, 1975". American Antiquity, 4(1)3-27(1976).

Jennings, J. Ancient North America. New York: W.H. Freeman and Co, 1978.

Montero, L., Bostwick, T., Minnis, P. and Rice, G. An Archaeological Survey of the Maricopa SSC Site, Arizona. [Draft Report.] Tempe, AZ: Arizona State University. Department of Anthropology. Office of Cultural Resource Management, 1988.

Page 95:
(Cont)

REFERENCES (Cont)

Schackley, M.S. and Rice, G.E. Assessment of Historical and Archaeological Resources for the Proposed Maricopa Superconducting Super Collider Site, Central Arizona. Tempe, AZ: Office of Cultural Resource Management, Department of Anthropology, Arizona State University, 1985.

U.S. Department of the Interior. Bureau of Land Management. Santa Rosa to Gila Bend 230 kV Transmission Line Project: Environmental Assessment Report. [Prepared by Wirth Associates, Inc.] Phoenix, AZ: US DOI. BLM, 1982.

NEW AND CORRECTED TABLES

CORRECTED TABLES

Table 15-10
HISTORIC SITES LOCATED IN THE VICINITY OF THE PROPOSED NORTH CAROLINA SSC SITE

Key #	Property Name	National Register Status
Durham County		
1	Bowling Mill	Study list
2	Hardscrabble	National Register
3	Orange Factory	Study list
4	Durham Cty Truss Bridge 28	Determined eligible
5	Tilley Farm	Study list
6	Horton Grove	National Register
*	Bowling Mill	Study list
*	Bowling-Glenn House	Study list
*	Copley-Latta House	Study list
*	Rougemont Village Historic District	Study list
*	Carrington Farm and Cemetery	Study list
*	Quail Roost	Study list
*	Bobbitt-Aiken Farm Complex	Study list
*	Will Chambers House	Study list
*	Hill Forest Log Houses	Study list
Granville County		
1	Adoniram Masonic Lodge	Study list
2	Marcus Royster House	NR Nomination in progress
3	James Blackwell House	NR Nomination in progress
4	Beasley-Blackwell House	Study list
5	Felix O. Bumpass House	Study list
6	Dr. William Thorp House	Study list
7	Oliver Family House	Study list
8	Samuel V. Morton House	Study list
9	Dudley Cunningham House	Study list
10	John Wilkerson House	Study list
11	David Adcock House	NR Nomination in progress
12	Richard Thorp House	Study list
13	Elijah Sherman House	Study list
14	Puckett Family Farm	NR Nomination in progress
15	Cole-Brooks House	Study list
16	White Rock Alliance #586 Building (former)	Study list
17	Henry Hobgood House	Study list
18	Hunt-Pruitt House	Study list
19	Enon Baptist Church	Study list
20	Burnette Family House	Study list
21	Henry W. Jones House	Study list
22	Fielding Knott House	Study list

Table 15-10 (Cont)

HISTORIC SITES LOCATED IN THE VICINITY OF THE PROPOSED NORTH CAROLINA SSC SITE

Key #	Property Name	National Register Status
23	Samuel H. Jones House	Study list
24	Edward N. Clement House	Study list
25	John Webb Plug Tobacco Fact.	Study list
26	Webb-Wren House	Study list
27	Ashabel Brown Kimball House	Study list
28	Sidney Roberts House	Study list
29	Eliza Waters House	Study list
30	David G. Crews House	Study list
31	Bullock-Hopkins House	Study list
32	Hardee-Parrish House	Study list
33	James Meadows House	Study list
34	John Fleming House	Study list
35	Bullock Methodist Church	Study list
36	Obediah Winston House	Study list
37	Mitchell-Mangum-Fuller House	Study list
38	Robert H. Whitfield House	Study list
39	Mt. Energy Masonic Lodge	Study list
Person County		
1	John Bryce Day House	Study list
2	Holloway-Walker-Dollarhite House	National Register
3	Rogers (Lyons / Woodie) House	Study List
4	Roxboro Male Academy	National Register
5	Roxboro Commercial His. Dist.	National Register
6	Person County Courthouse	National Register
7	Woodsdale (Clarksville) Depot	Study list
8	Colonel Stephen Moore House	Study list
9	Noell House	Study list

Note: Key # - Location reference on maps provided to Department of Energy with site proposal information.

*Discussed in Sheffield 1988.

Source: State of North Carolina 1987.
Sheffield 1988.

ERRATA AND REVISIONS

APPENDIX 16

SCENIC AND VISUAL RESOURCES ASSESSMENTS

SCENIC AND VISUAL ASSESSMENTS

Page 4: Second-to-last bulleted item, add to end of last line: and/or are inconsistent with laws, plans, policies, or regulations

Page 5: The title of Table 16-1 should read: Matrix Relating Sensitivity and Magnitude of Scenic and Visual Impacts to Significance

Page 11: Par. 2, Line 3 should read: ... Section 16.2.3.2 ...

Page 12: Delete all text and replace with the following:

- Campus and Injector Areas (Areas A and B). The campus complex is a group of 15 buildings housing laboratories, offices, heavy works buildings, shop buildings, warehouses, and other support facility buildings. The complex would occupy 100 acres of the 350 acres dedicated to it. The injector consists of 30 one-story buildings in 17 clusters about the chain of connected accelerators. Materials of construction for campus and injector buildings are assumed to be identical to those for the service areas; i.e., lightweight steel buildings paneled for insulation. The aggregate of the facilities would appear to be a mix of heavy and light industrial facilities and research park-like structures. No emphasis has been placed on individual structures in the campus and injector areas because these areas are within moderate to highly sensitive public views relative only to points distant from the facilities.

- Sector Service Areas (F1 through F10). Service facilities house the refrigerators, compressors, and power supplies needed to operate the facility. There would be ten service areas spaced equidistantly about the collider ring, centering on tunnel sectors, and one each at the near and far clusters. They have been referenced as F1 through F10. Service facilities would occupy only about half of the 5.7 acres dedicated to each of the ten locations. The balance of the area is assumed to be used for contractors' office space, parking, laydown areas, and construction yards. Site facilities consist primarily of a pump/compressor building and a single structure housing refrigeration facilities, the power supply, and an intermediate access area surrounding the refrigeration shaft. These two buildings combined are over 10,600 ft^2 and two stories high. Also, there is a tank farm for gas and liquid helium, three transformers, two cooling towers, and a parking area. All surface buildings are to be lightweight steel frame buildings

Page 12: (Cont) covered with insulating panels and supported by concrete slab tions. Each site would appear to be a light industrial compound. For security, as well as public health and safety, it is assumed that the compound would be contained within a chain link security fence.

- o Intermediate Access Facilities (E1 through E10). There would be five intermediate access facilities in each of the two arcs, each serving for collider ring ventilation and emergency exit. These are designated as E1 through E10. Each facility would include a one-story surface building and an air cooler. The building would be of the same construction as the service area buildings, but would be much smaller: 31 ft on each side (961 ft^2). Security fencing and parking for several vehicles is assumed. About 1 acre is dedicated to each of the E1 site locations. The building and grounds would occupy less than

Page 13: Replace second bulleted item with the following:

These facilities are to be located approximately 5,900 ft from the abort kicker magnet system/rf acceleration system buildings (there will also be a cooling tower adjacent to each of these small, one-story buildings. In addition, there will be a small cooling tower near each beam absorber. All of these will be within the injection complex and within fee simple lands. Because they will be near the injector and will be in fee simple lands where residents would be relocated, their visual impact was not considered. Compared to the injector facilities, the abort kicker/rf buildings would be insignificant, and with the relocation of residents, potential visual impacts on residential views becomes moot.

Page 14: Par. 3, Line 4 should read: ... (BLM 1987)....

Page 15: Par. 2, Line 1, should read: ... VM Class 2, 3, and 4; highly ...

Page 19: Subheading F, insert F3 after E4

Page 24: Par. 1, Line 2, insert after the words location of E8: Dauberman Road, near the proposed location for F5;

Page 27: Insert the following subsection G and change the published subsections G, H, etc. to H, I, etc.:

G. F5

Summary. VM Class 2 and 4; moderately sensitive travel route; highly sensitive public use area; potentially significant; local scope; impacts on residential views mitigable to a level of insignificance in the short term; impacts on road-based views may be mitigable in the short term.

The service area would be adjacent to Dauberman Road in a field and between two farms. The closest farm is less than 1/8 mi to the north; the other is about 1/3 mi to the south. Views from these farms are considered to be low in sensitivity. However, a subdivision lies to the north and northeast. Twenty-two of the homes in this subdivision would be within the fee simple area of the Far Cluster and families living there would be relocated. The remaining homes closest to the F5 site would be about 1/4 mi to the northwest. The facilities of this site, at the viewing distance involved, would not go unnoticed from the residences. It is assumed that the farms noted would be removed. Such removal would leave F5 more obtrusive than would be predicted than if they were to remain. The F5 facilities would be the only structures between the residences and Dauberman Road to the southwest.

Farms in the vicinity that would remain have structures that are substantially larger than those of the F5 facilities. At the viewing distance involved, and given the open sweep of the available views, F5 would probably be visually subordinate to other features (homes, farms) that are closer. The predicted visual impact would be VM Class 2, which, for the highly sensitive views affected, would be considered significant.

Views from Dauberman Road would also be affected. This road is a primary access to the subdivision noted, although it serves other destinations as well. The turnoff to the subdivision is about 1/4 mile north of F5. Sensitivity for the part of Dauberman Road opposite the F5 site would be moderate, based on the criteria for sensitivity. Views toward F5 would be dominated by the facilities there (VM Class 4). The impact would be significant.

The impacts noted would be important to the residents in the immediate area and, therefore, are judged to be local in scope.

Mitigations. Design measures described in relation to F2 and F7 should be considered during detailed project design. These measures could conceal the facility (landscaped berms,

Page 27: (Cont) muted colors, etc.) The time required for screening to become fully effective would be substantial, relative to views from the residences, given the distance involved. The combination of berms and plantings would have to equal the height of the buildings. Views from the road could be more quickly screened, depending on the set-back from the road for the facility versus that for the planted berms.

Therefore, it is estimated that impacts on views from the residences could not be fully mitigated by screening in fewer than 5 years (long-term impact), while those on views from Dauberman Road may be mitigable in the short-term.

If technically possible, it would be effective to site F5 closer to the existing farm 625 feet to the north and the farm structures left intact. The farm buildings may be sufficient in size to block many residence-based views of F5. In addition, architectural treatment, such as that suggested by the state of Illinois, might provide a barn-like appearance to the two-story structures, reducing the visual contrast of the F5 structures with their agricultural context. This latter measure may be most successful relative to the comparatively distant views from the residential area, rather than those from the road, which invite closer attention. If successful, the impact on residential views may be mitigated upon completion of construction. The success of architectural treatment relative to views from the road can only be assessed during final design.

Page 28: Last paragraph, delete the second, third, fourth, and fifth sentences and replace with the following: The one-story building would be fully in view from these homes, being 500 to 700 ft north of the entrance to the subdivisions. Because it is near the entrance, it could not escape attention. It would be comparatively small but not compatible with the area features. However, at the viewing distance involved from the homes, the facility would be noticeable but subordinate to other features in view (VM Class 2). Those exiting the subdivision and turning north would pass by the facility at close range and it would dominate views from the road (VM Class 4).

Page 30: Par. 4, Lines 4 and 5 should read: ... of being noticeable. Apart from the seven facility sites, for the rest, the rolling terrain is ...

Page 34: Par. 3, Line 2, delete: J1, J3, and J4

Page 35: Par. 1, Line 4, replace the number 66 with 6

Par. 4, last line should read: affected; potentially significant impact of local scope; not mitigable.

Page 41: Par. 2, last line should read: would be potentially significant, but of local importance.

Par. 4, last line should read: impact; regional scope; long term.

Par. 5, last line should read: negligible, of regional scope (State-designated scenic highway), but long term.

Page 43: Par. 3, Line 3, revegetated should read: devegetated

Page 44: Par. 1, end of Line 3, replace the word testing with the word tinting

Page 49: Par. 4, Line 2, replace the word more with the word marl

REFERENCES

Insert the following references:

Hinton, P.J. Architectural Section Engineer, North Carolina Department of Transportation. [Personal Communication] May 6, 1988.

USDI-Bureau of Land Management. Lower Gila South, Resource Management Plan Environmental Impact Statement, Phoenix District, Arizona. Phoenix, AZ: Phoenix District Office, 1987.

U.S. GOVERNMENT PRINTING OFFICE : 1988 - 225-775 (Vol. IV, Appendices 1,4,6,9,10,12-16)

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