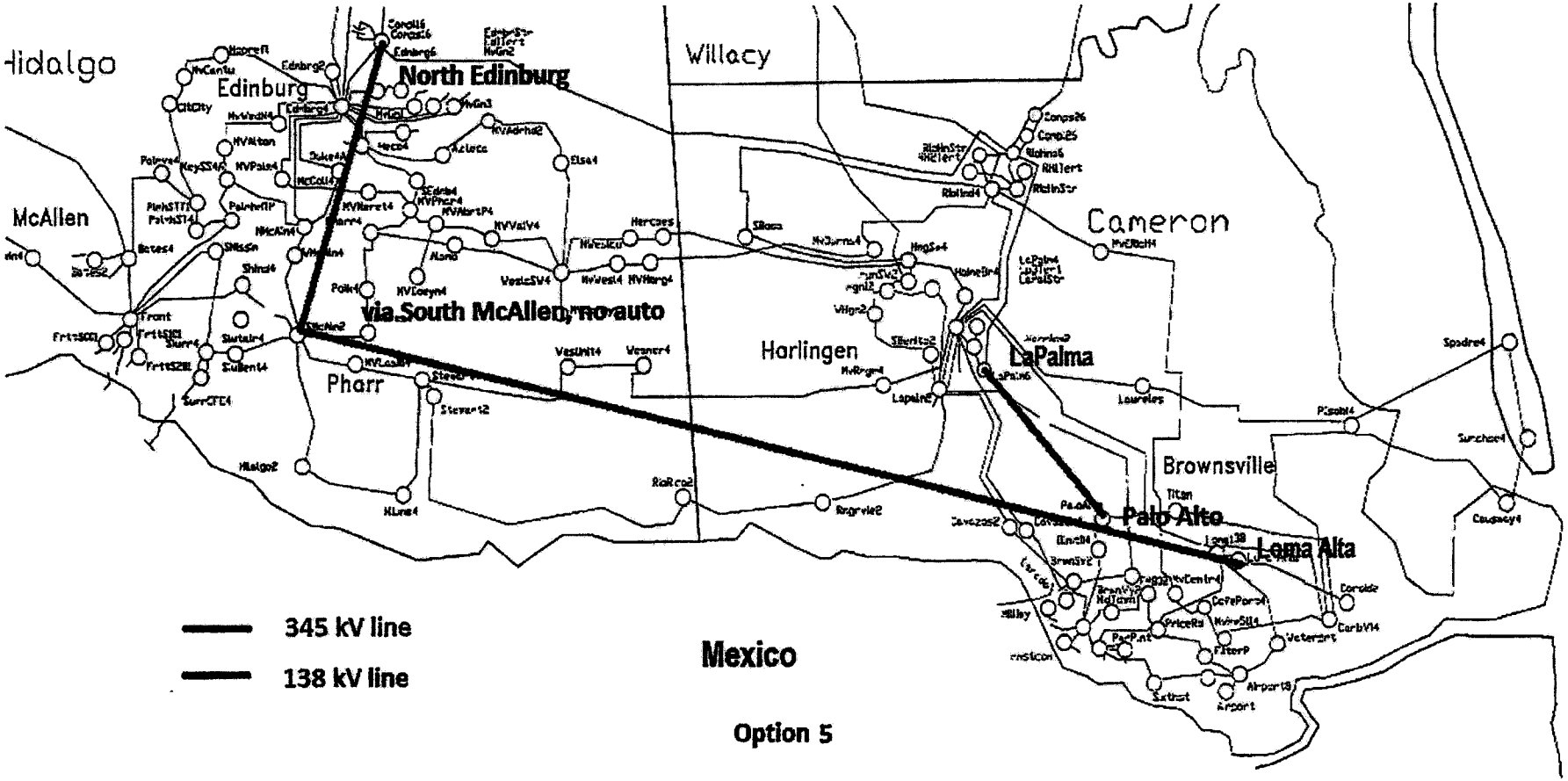
Study Conclusions

- **Transmission improvements are needed to support normal load growth in Brownsville area (without the 250 MW load)**
- **345 kV source from the west side to the east side of the Valley needed to limit N-1-1 load shed exposure to manageable levels**
- **Any Cross Valley 345 kV line should be routed in proximity to South McAllen to account for long-term needs in the west Valley area**
- **Multiple alternatives studied**
  - "Option 5" determined to be best alternative, assuming the industrial load additions in Brownsville:
    - Construct a new La Palma-Palo Alto 138 kV line (~12 miles) on new ROW with a rating of at least 215 MVA
    - Construct a new North Edinburg-Loma Alta 345 kV line (double circuit capable with one circuit in place) routed in proximity to the existing South McAllen Substation (~106.5 miles) on new ROW
    - Construct a new 345kV bus at the Loma Alta station with one 345/138kV autotransformer

  Cost estimate = $274.7M

Option 5

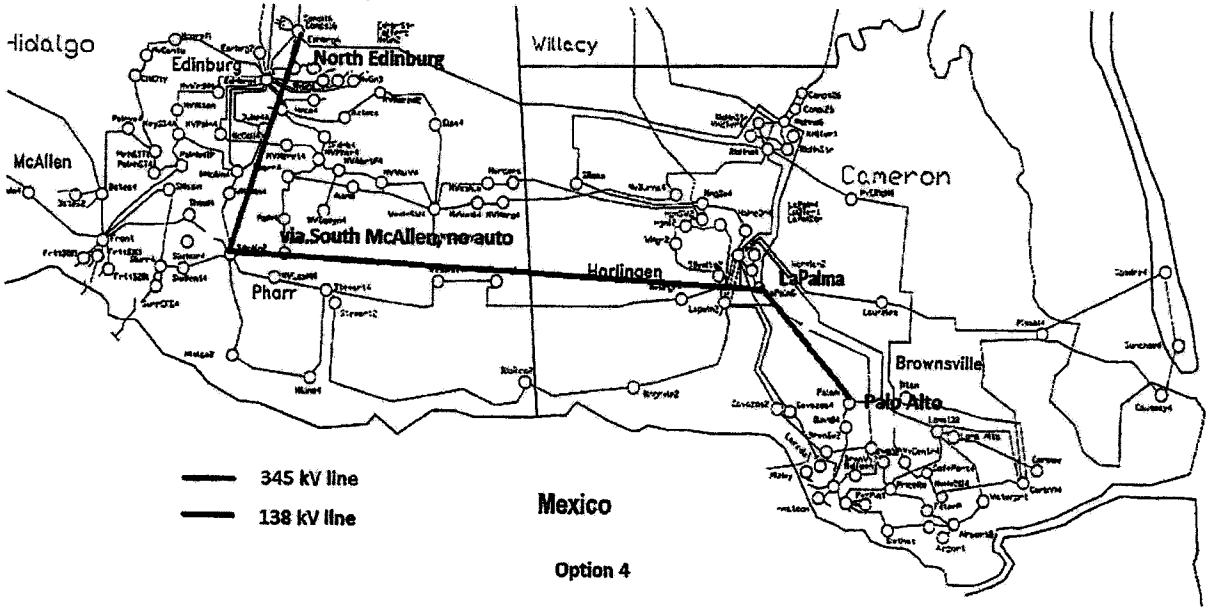


Option 5

Port of Brownsville Industrial Load Additions Sensitivity

- **If Port of Brownsville load additions were not assumed, Option 4 determined to be best option for resolving reliability needs:**
  - Construct a new La Palma-Palo Alto 138 kV line (~12 miles) on new ROW with a rating of at least 215 MVA
  - Construct a new North Edinburg-La Palma 345 kV line (double circuit capable with one circuit in place) routed in proximity to the existing South McAllen Substation(~ 89.9 miles) on new ROW

Cost estimate = $234.8M



Board of Director Endorsement

- **ERCOT will request the ERCOT BOD endorse the following improvements associated with Option 5:**
  - Construct a new La Palma-Palo Alto 138 kV line (~12 miles) on new ROW with a rating of at least 215 MVA
  - Construct a new North Edinburg-Loma Alta 345 kV line (double circuit capable with one circuit in place) routed in proximity to the existing South McAllen Substation (~106.5 miles) on new ROW
  - Construct a new 345kV bus at the Loma Alta station with one 345/138kV autotransformer

  Cost estimate = $274.7M

- **ERCOT will also ask that the BOD deem the North Edinburg-Loma Alta 345 kV line critical to reliability in accordance with PUCT Substantive Rule 25.101 (b)(3)(D)**
  - In order to expedite the construction of the line to reduce the N-1-1 reliability risk

Questions?

ERCOT

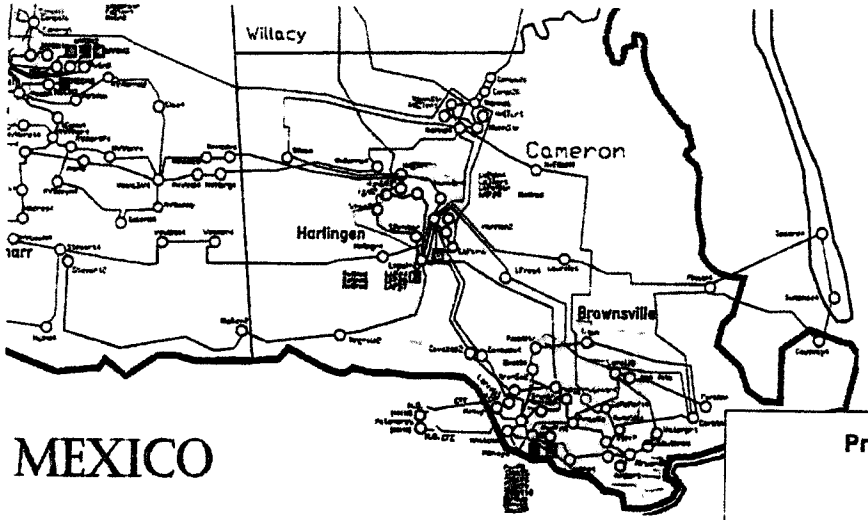
Cross Valley 345 kV Regional Planning Group (RPG) Project

Jeff Billo
Manager, Mid-Term Planning

Board of Directors Meeting

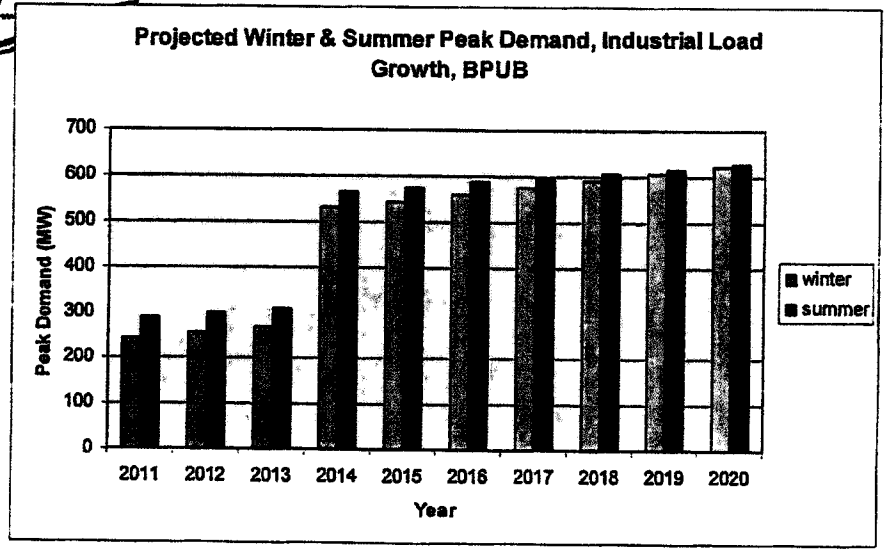
January 17, 2012

Cross Valley Project Background



Brownsville area is connected to ERCOT system via (4) 138 kV lines and is served by the Silas Ray plant (~120 MW)

Brownsville Public Utilities Board (BPUB) projected 250 MW of industrial load additions at the Port of Brownsville in 2014



RPG Review

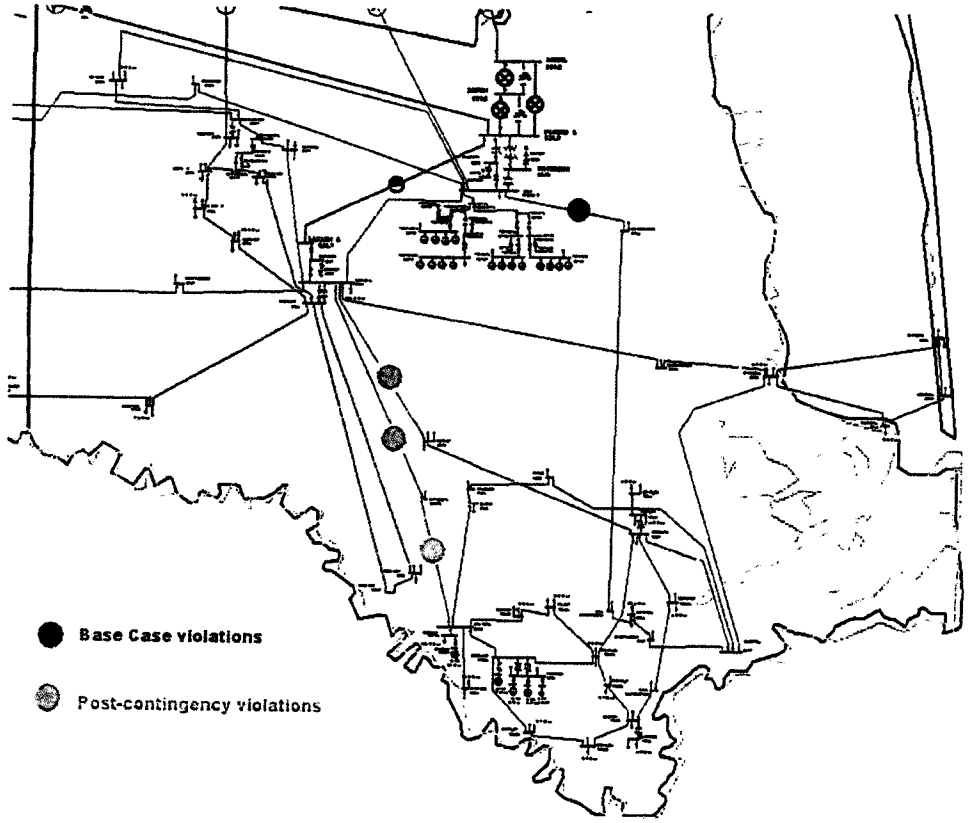
- Sharyland Utilities (SU) and BPUB proposed Cross Valley 345 kV project to address normal load growth in East Valley, Port of Brownsville industrial load additions, and maintenance outage issues

- RPG participants could not come to consensus about appropriateness of including new 250 MW industrial load addition in the study case (modeled at Loma Alta 138 kV substation)

- ERCOT performed Independent Review of project
  - Analysis conducted with and without 250 MW load addition
  - Analysis focused on steady-state reliability needs in 2016
  - Long-term (2020) sensitivity analysis performed

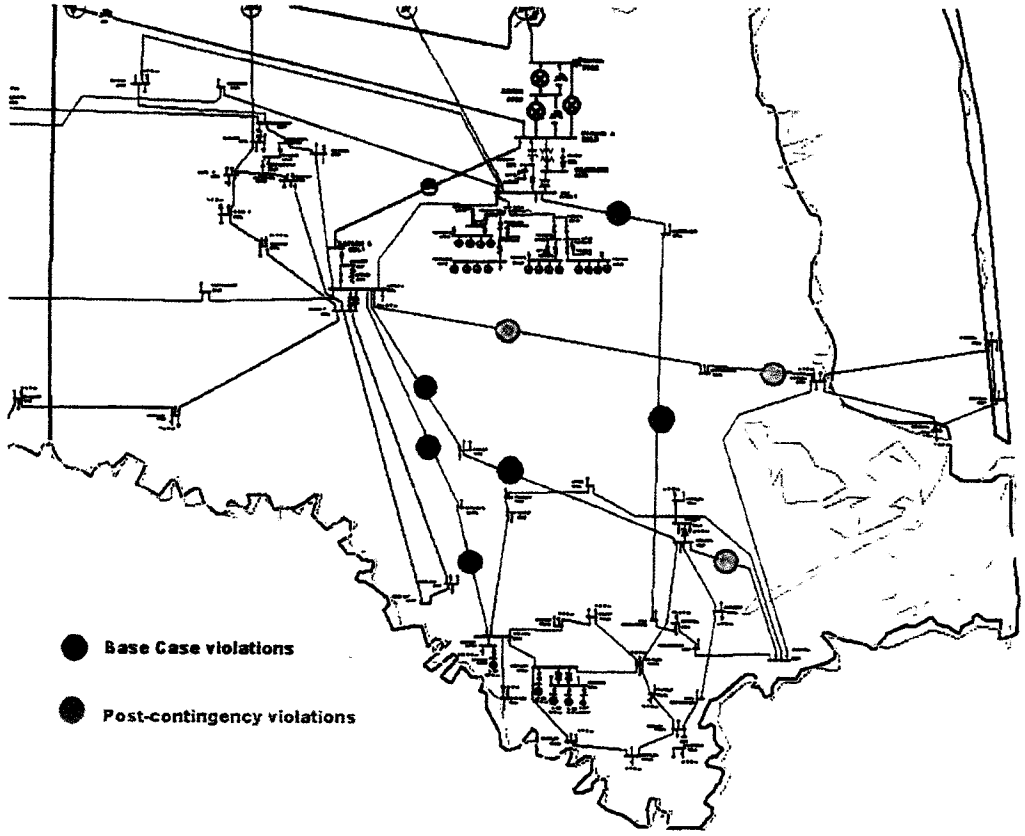
Independent Review Reliability Analysis

- **Without 250 MW load additions there was one N-0 thermal violation and multiple N-1 violations for 2016:**



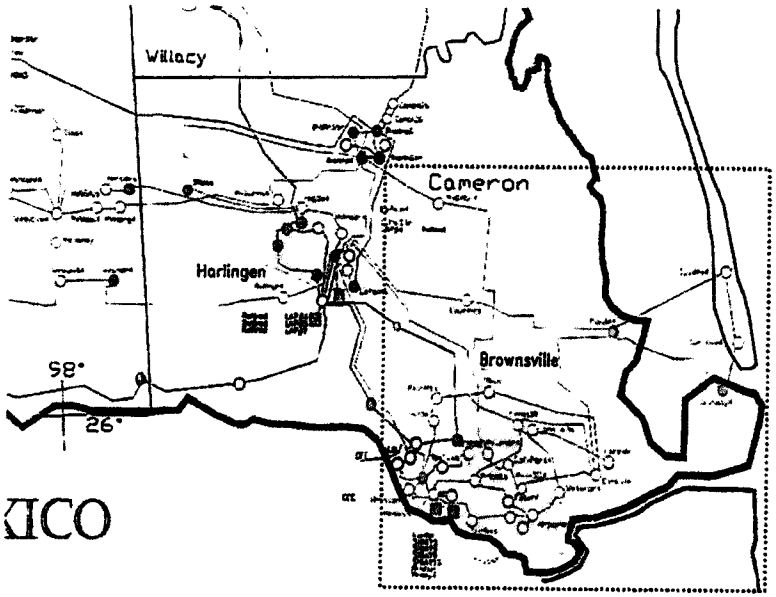
Independent Review Reliability Analysis

- **With 250 MW load additions there were multiple N-0 and N-1 thermal violations for 2016:**



Reliability Analysis: N-1-1

- **Multiple N-1-1 (Category C) contingency overloads**
  - Highest post-contingency overload is 167.2% of emergency rating (12 lines loaded >120%) - without 250 MW load additions



~175 MW would need to be shed following the first contingency

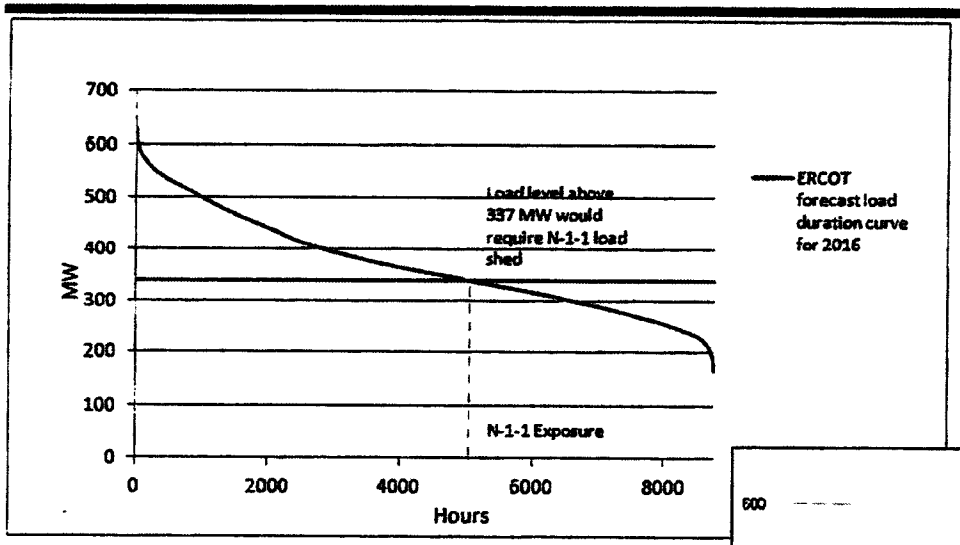
Additional ~190 MW would need to be shed following the second contingency

80% (290 MW) of the 365 MW total load shed needed for N-1-1 would be in the shaded area

2016 peak in this shaded area is 627 MW

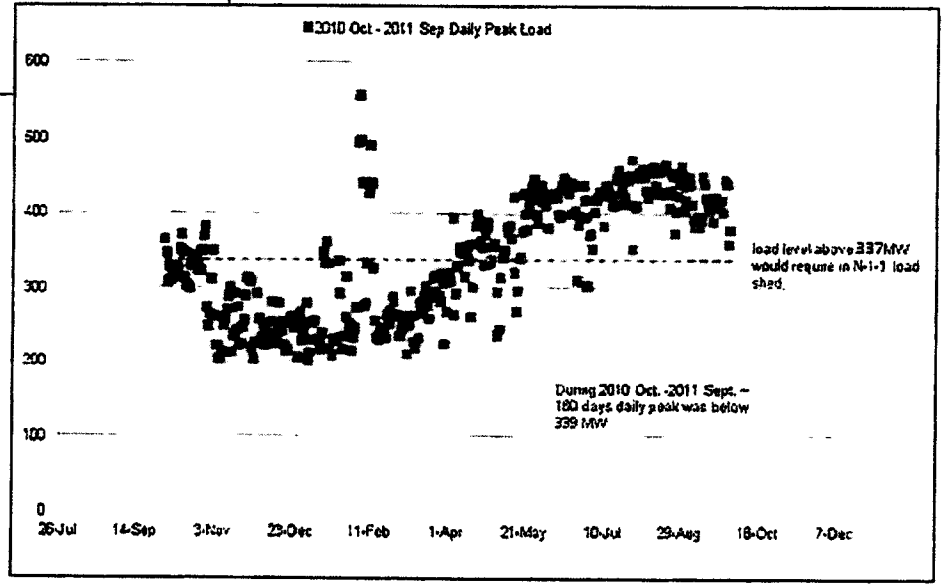
- ❖ Load shed allowed under NERC and ERCOT planning criteria for Category C contingency events, but exposure and extent of load shed is not practical or desirable

N-1-1 Load Shed Exposure



2016 load duration curve for Brownsville area showing N-1-1 load shed threshold

2010-11 actual daily peaks for Brownsville area



Cross Valley 345 kV line needed to reduce N-1-1 load shed risk

Long Term Considerations

- 2020 ERCOT Long Term Study Department of Energy case analyzed to determine long-term reliability needs in Valley
- Results showed multiple west Valley 138 kV line overloads or near overloads under G-1 + N-1 conditions
- A North Edinburg to South McAllen 345 kV line would solve most of these constraints
  - Resolves ~ $95M worth of 138 kV line upgrades
- Conclusion:
  - Any Cross Valley 345 kV line should be routed in proximity to South McAllen to account for long term needs in the west Valley area

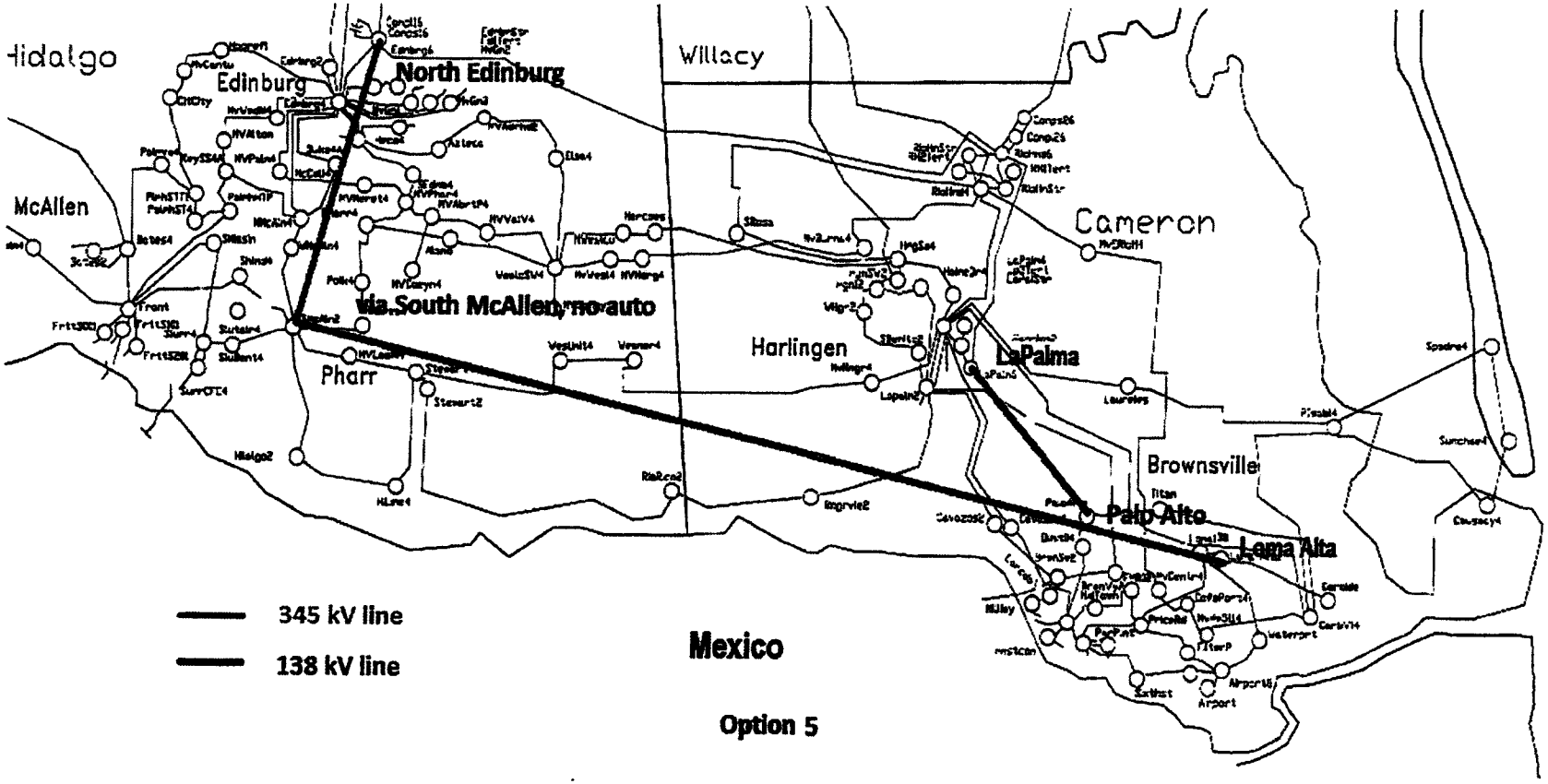
Study Conclusions

- **A Cross Valley 345 kV line, routed in proximity to the South McAllen substation, is needed even without 250 MW load addition in Brownsville**

- **Multiple alternatives studied**
  - "Option 5" determined to be best alternative:
    - Construct a new La Palma-Palo Alto 138 kV line (~12 miles) on new ROW with a rating of at least 215 MVA
    - Construct a new North Edinburg-Loma Alta 345 kV line (double circuit capable with one circuit in place) routed in proximity to the existing South McAllen Substation (~106.5 miles) on new ROW
    - Construct a new 345kV bus at the Loma Alta station with one 345/138kV autotransformer

  Cost estimate = $274.7M

Option 5


Hidalgo
Willacy
Edinburg
North Edinburg
McAllen
Cameron
via South McAllen no-auto
Harlingen
LaPalma
Pharr
Brownsville
Palo Alto
Loma Alta
345 kV line
138 kV line
Mexico
Option 5

Port of Brownsville Industrial Load Additions

- **RPG did not come to consensus about appropriateness of including the 250 MW industrial load additions in the study case**
  - BPUB and Brownsville Economic Development Council (BEDC) indicated that load modeled is representative of previous industrial customer projects that have chosen to locate elsewhere due to lack of electric infrastructure in area
    - Has occurred multiple times according to BEDC
  - Texas Industrial Energy Consumers commented that it would be inappropriate to plan transmission facilities for the addition of "speculative future loads"
- **TDSPs have responsibility for providing forecasts of discrete load addition assumptions in ERCOT planning models**
  - ERCOT performs system-wide forecasts
  - ERCOT has not historically judged the validity of specific load additions
- **250 MW load addition in Port of Brownsville assumed in ERCOT's recommendation**
- **A lower cost option ($234.8M) was identified for the study case that did NOT include the 250 MW load addition**
  - However, this option would not sustain as much long-term load growth in the Brownsville area without additional transmission upgrades
  - This option was not supported by any stakeholder during extensive TAC discussion

TAC Discussion and Recommendation

- **TAC voted to support Option 5 (28 For / 2 Against)**
  - Directed ROS to "review the planning process relative to validating load forecasting inputs of discrete load additions and determine whether process improvements need to be made."

Endorsement

- **ERCOT requests that the ERCOT BOD endorse the following improvements associated with Option 5:**
  - Construct a new La Palma-Palo Alto 138 kV line (~12 miles) on new ROW with a rating of at least 215 MVA
  - Construct a new North Edinburg-Loma Alta 345 kV line (double circuit capable with one circuit in place) routed in proximity to the existing South McAllen Substation (~106.5 miles) on new ROW
  - Construct a new 345kV bus at the Loma Alta station with one 345/138kV autotransformer

  Cost estimate = $274.7M

- **ERCOT also asks that the BOD deem the North Edinburg-Loma Alta 345 kV line critical to reliability in accordance with PUCT Substantive Rule 25.101 (b)(3)(D)**
  - In order to expedite the construction of the line to reduce the N-1-1 reliability risk

PUCT Substantive Rule 25.101 (b)(3)(D)

- ***Projects deemed critical to reliability. Applications for transmission lines which have been formally designated by a PURA §39.151 organization as critical to the reliability of the system shall be considered by the commission on an expedited basis. The commission shall render a decision approving or denying an application for a certificate under this subparagraph within 180 days of the date of filing a complete application for such a certificate unless good cause is shown for extending that period.***

Questions?

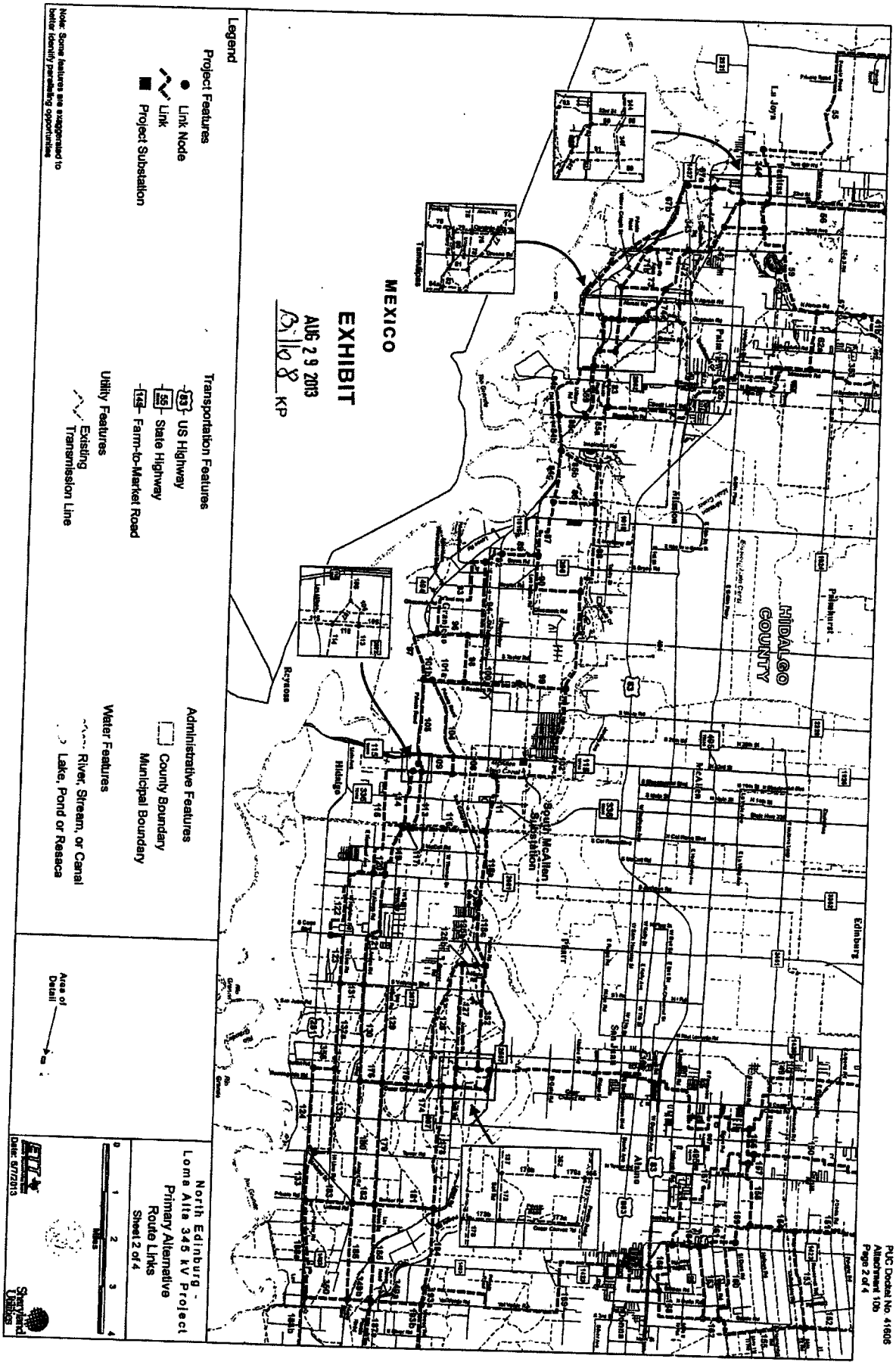
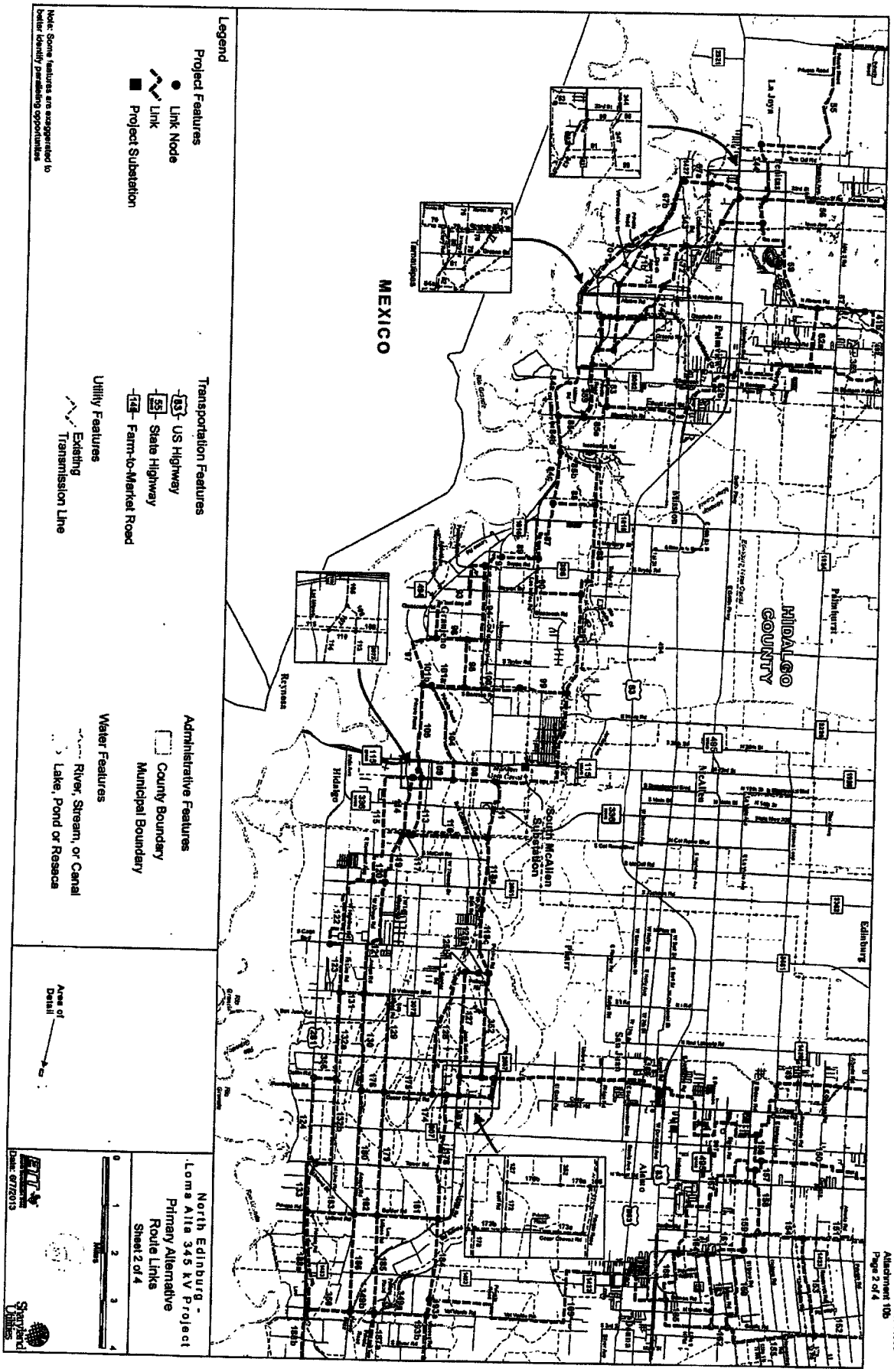
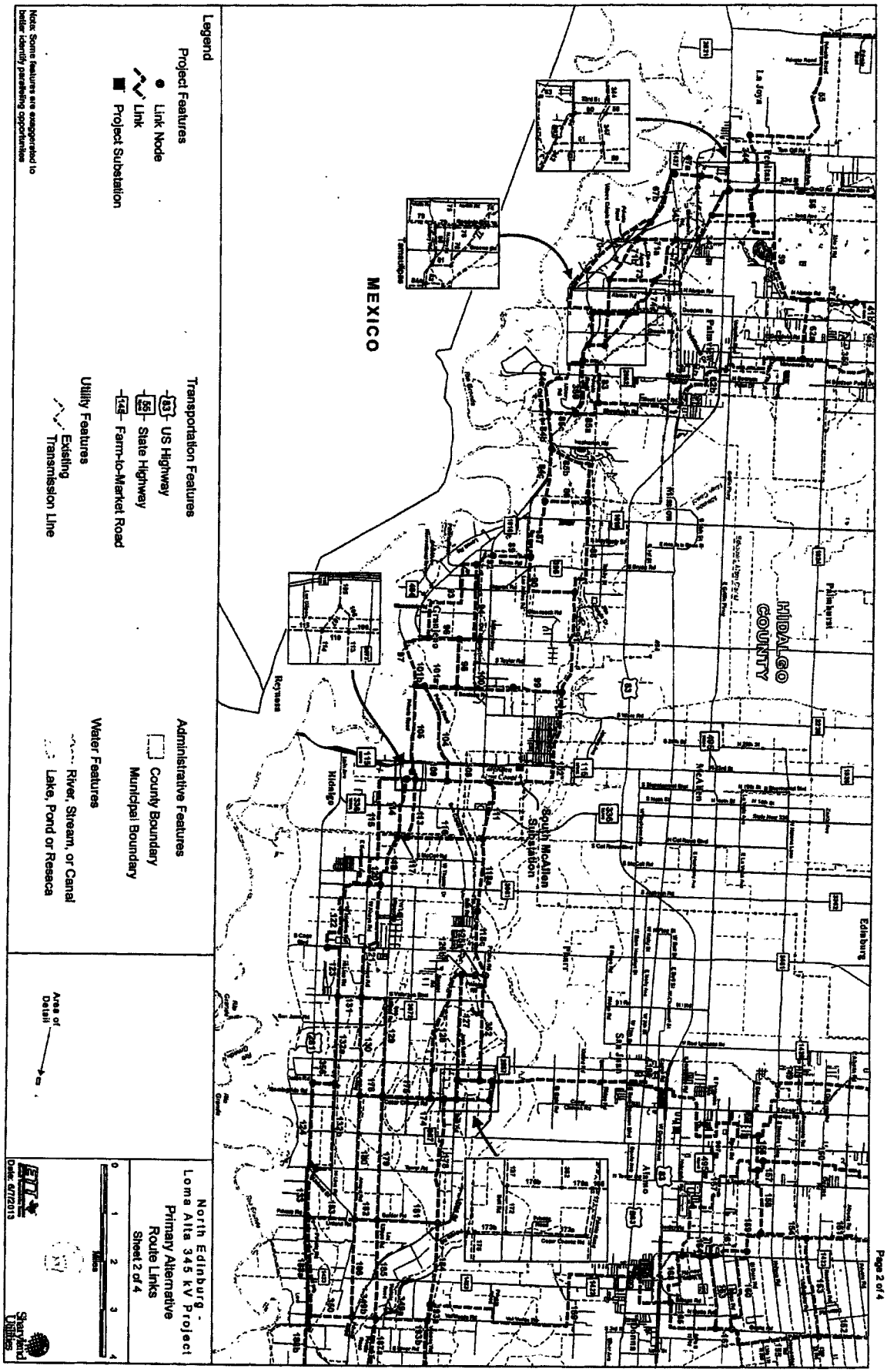


EXHIBIT
AUG 29 2013
Bilo8 KP
MEXICO
HIDALGO COUNTY
Legend
Project Features
Link Node
Link
Project Substation
Transportation Features
US Highway
State Highway
Farm-to-Market Road
Utility Features
Existing
Transmission Line
Administrative Features
County Boundary
Municipal Boundary
Water Features
River, Stream, or Canal
Lake, Pond or Resaca
Area of Detail
North Edinburg - Loma Alta 345 kV Project
Primary Alternative
Route Links
Sheet 2 of 4
Date: 8/7/2013
Miles
PUC Docket No. 41606
Attachment 10b
Page 2 of 4



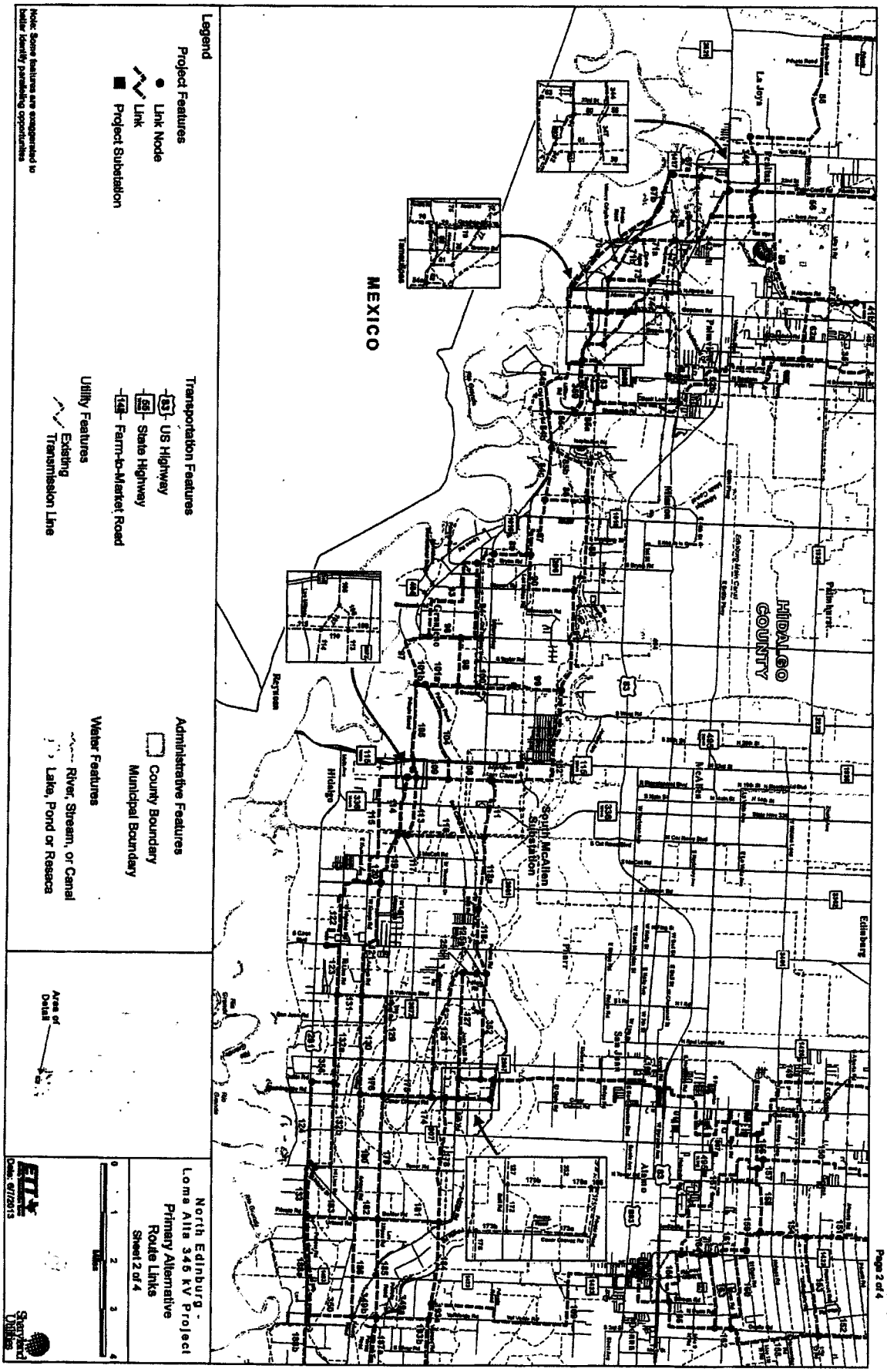
PUCT Docket No. 41606
Attachment 10b
Page 2 of 4

ROUTE 22



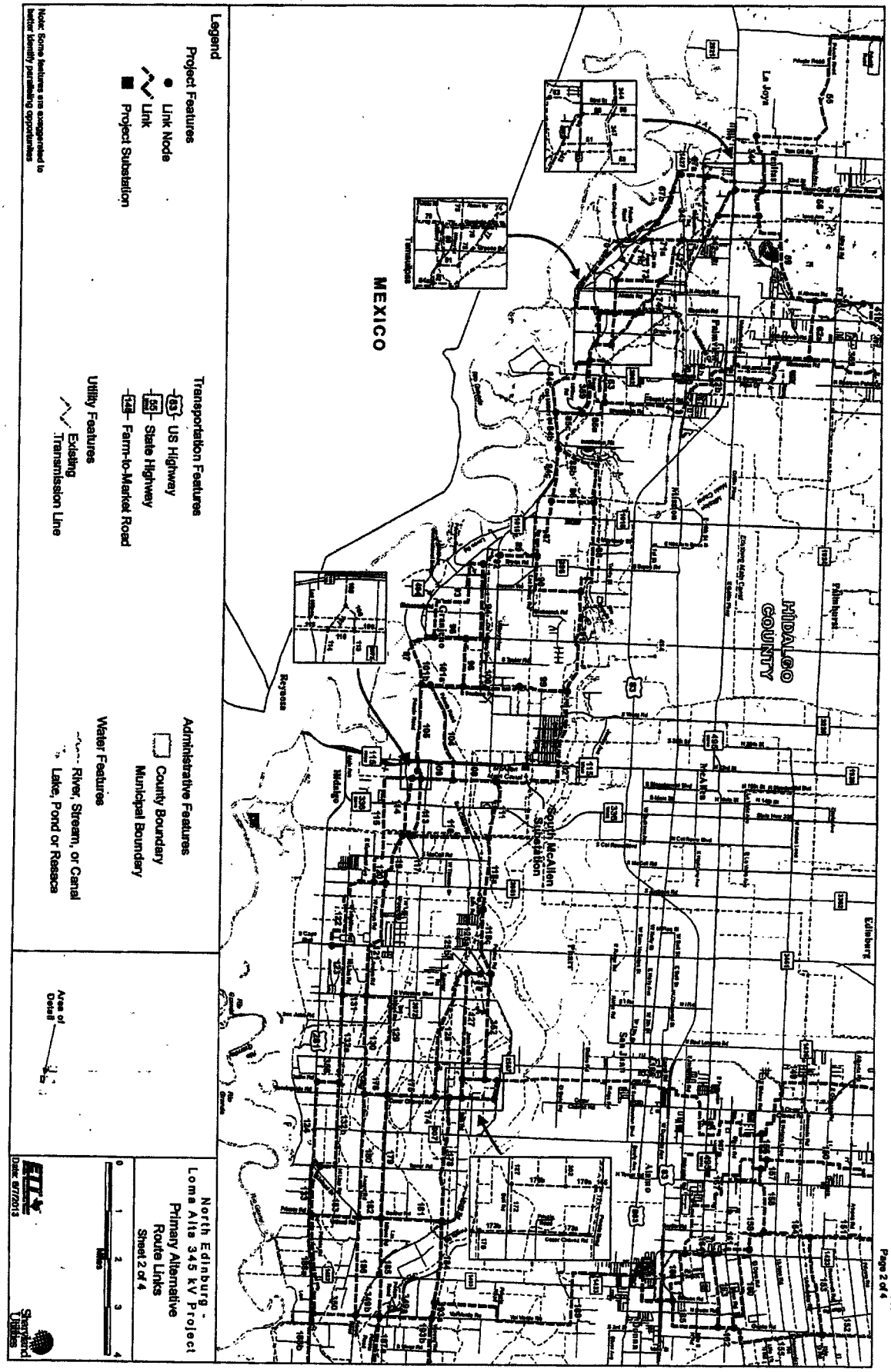
PUC Docket No. 41606
Attachment 10b
Page 2 of 4

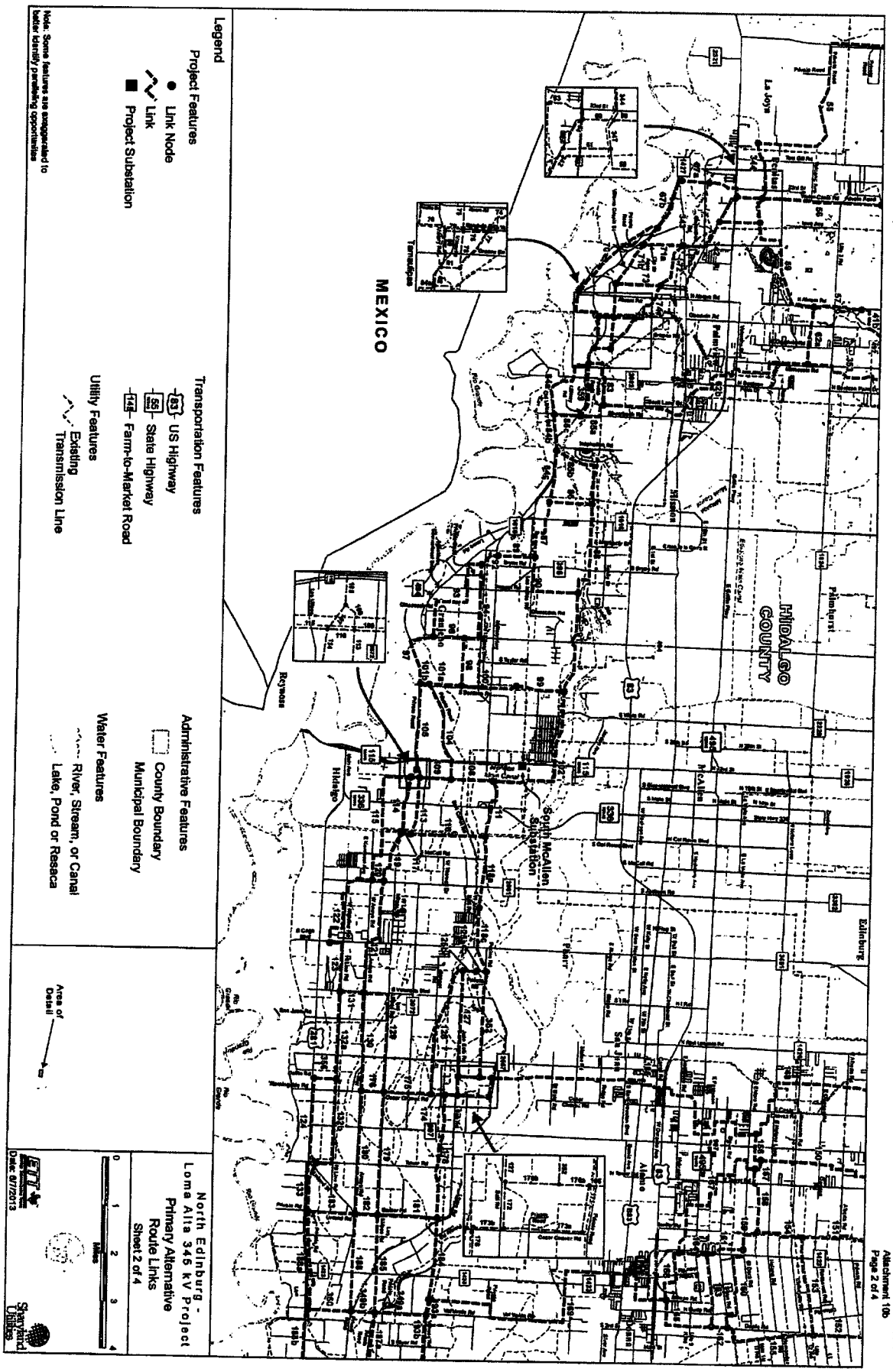
ROUTE 23



PUC Docket No. 41606
Attachment 10b
Page 2 of 4

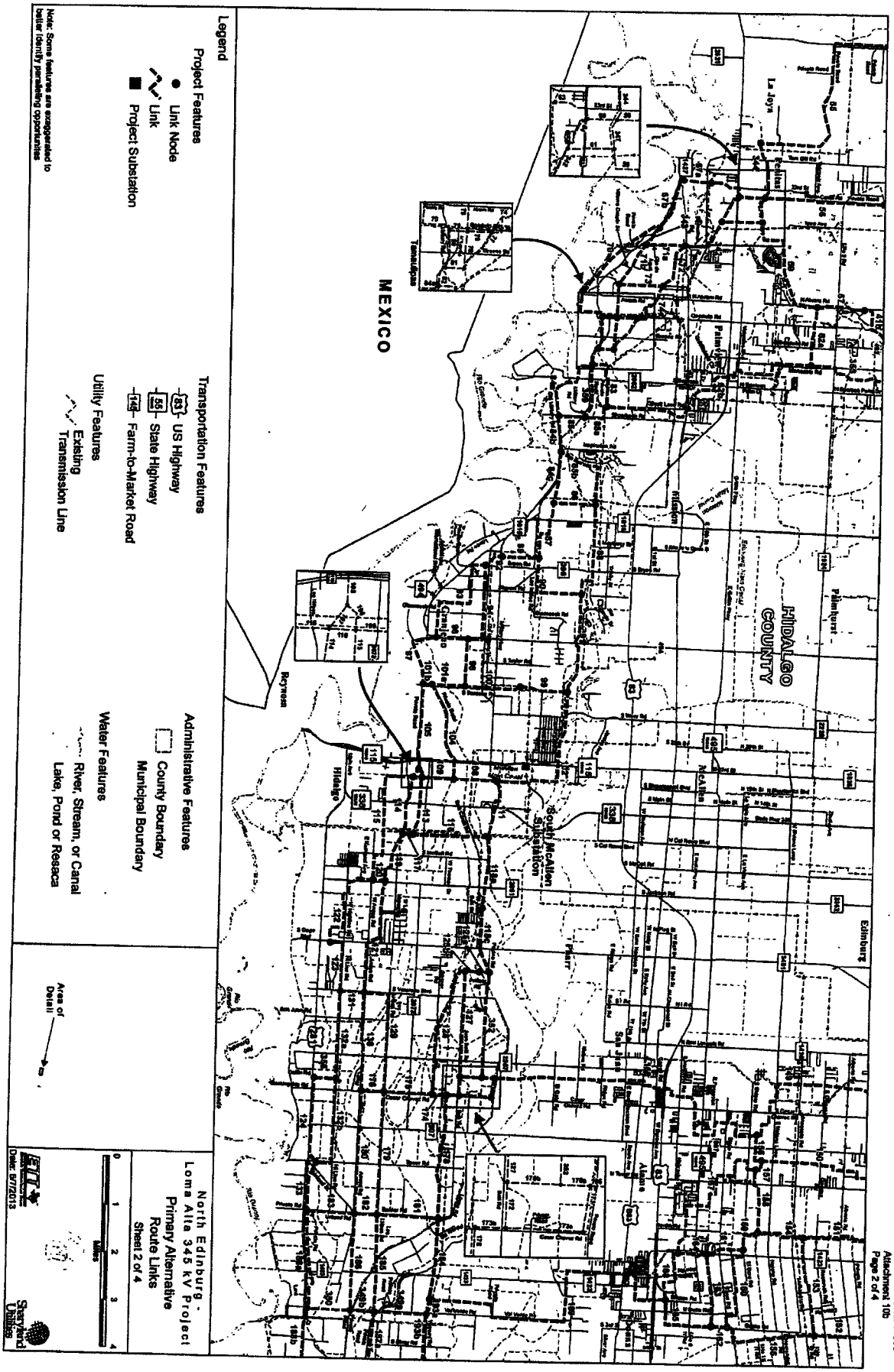
ROUTE 24


MEXICO
HIDALGO COUNTY
Legend
Project Features
Link Node
Link
Project Substation
Transportation Features
US Highway
State Highway
Farm-to-Market Road
Utility Features
Existing Transmission Line
Administrative Features
County Boundary
Municipal Boundary
Water Features
River, Stream, or Canal
Lake, Pond or Reseca
Note: Some features are exaggerated to better identify participating opportunities
Area of Detail
North Edinburg - Loma Alta 345 kV Project
Primary Alternative Route Links
Sheet 2 of 4
Date: 6/7/2013
Sharyland Utilities
ROUTE 25



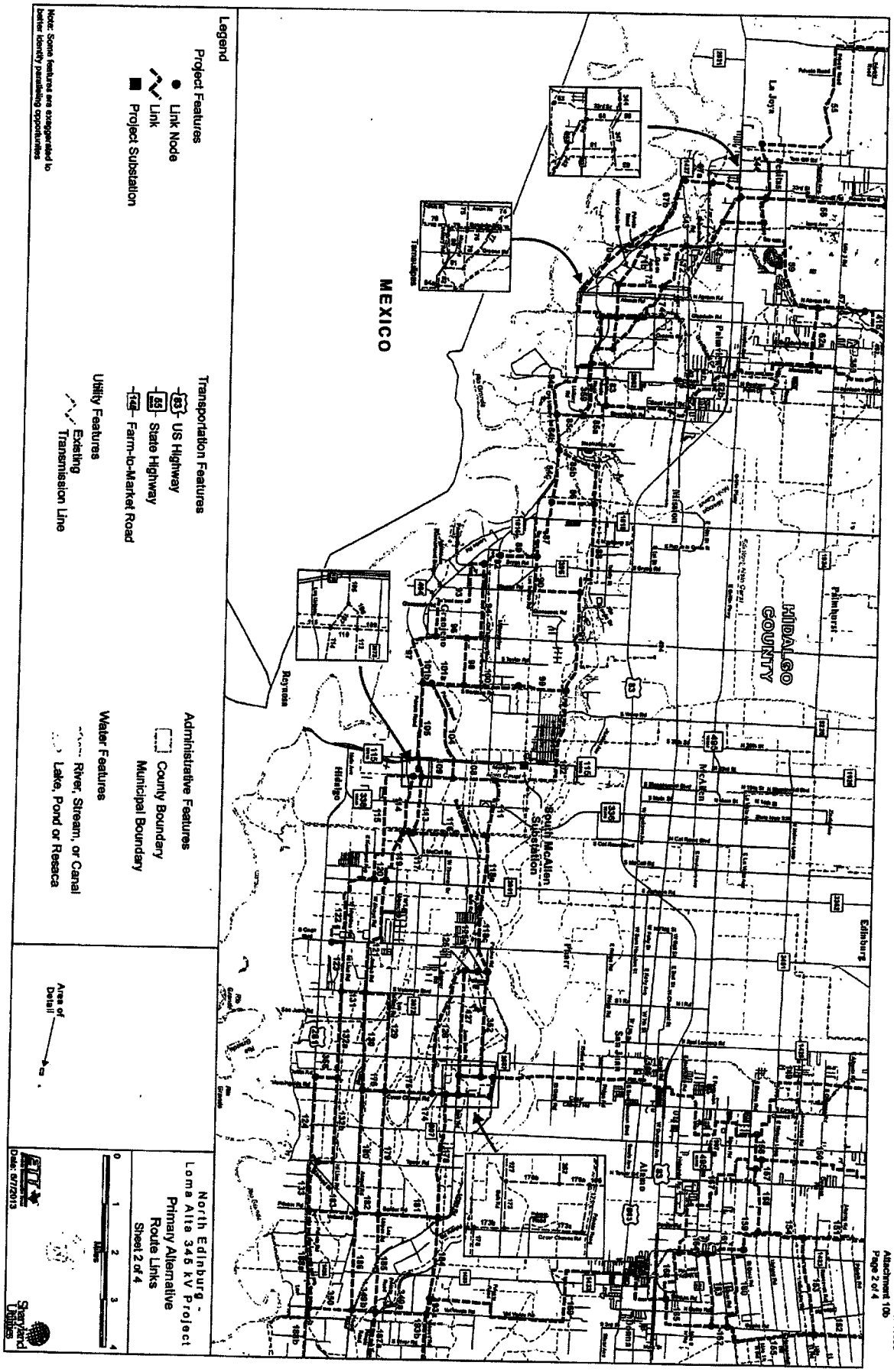
PUC Docket No. 41606
Attachment 10b
Page 2 of 4

ROUTE 26



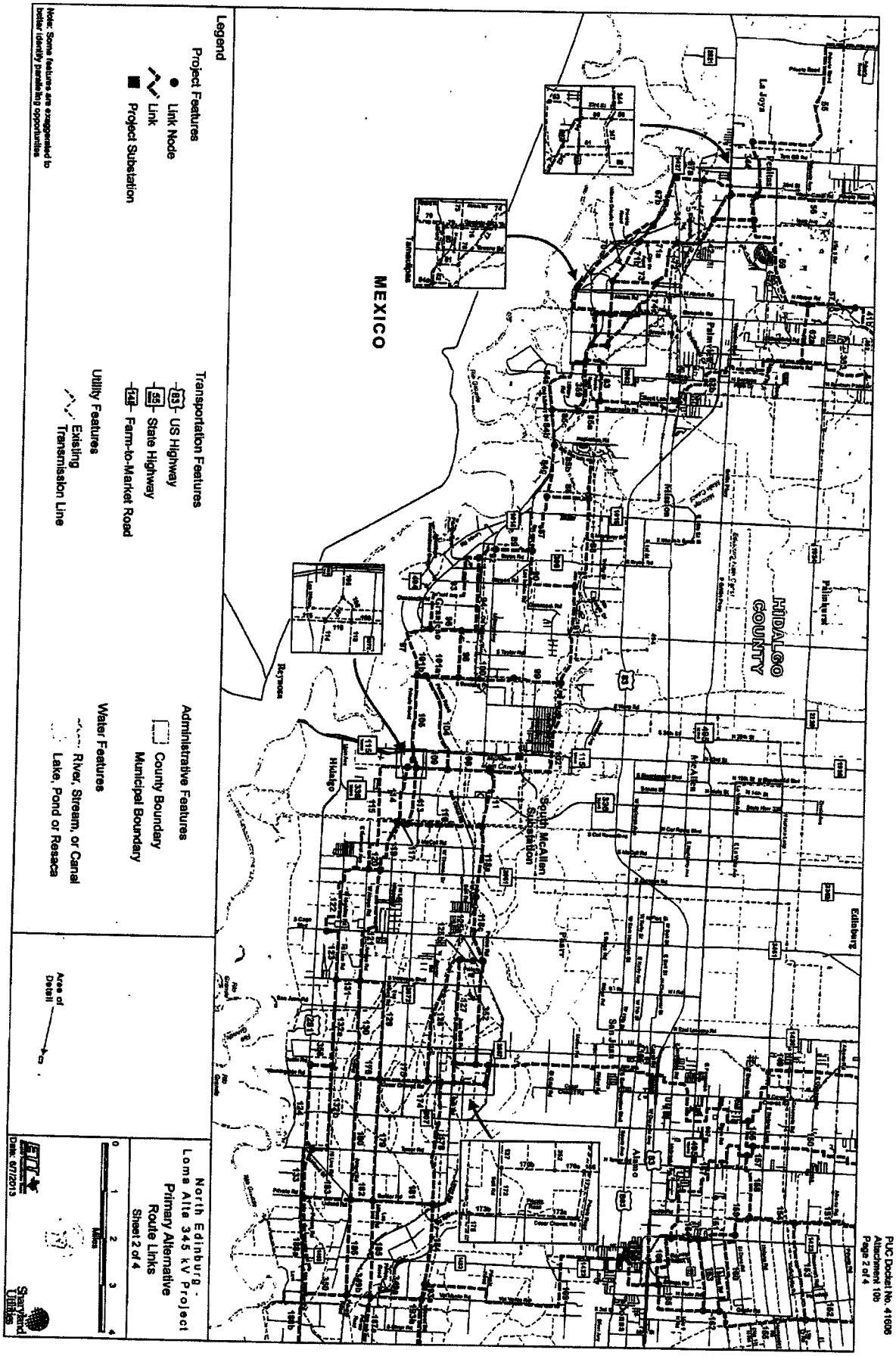
PUC Docket No. 41606
Attachment 10b
Page 2 of 4

ROUTE 27



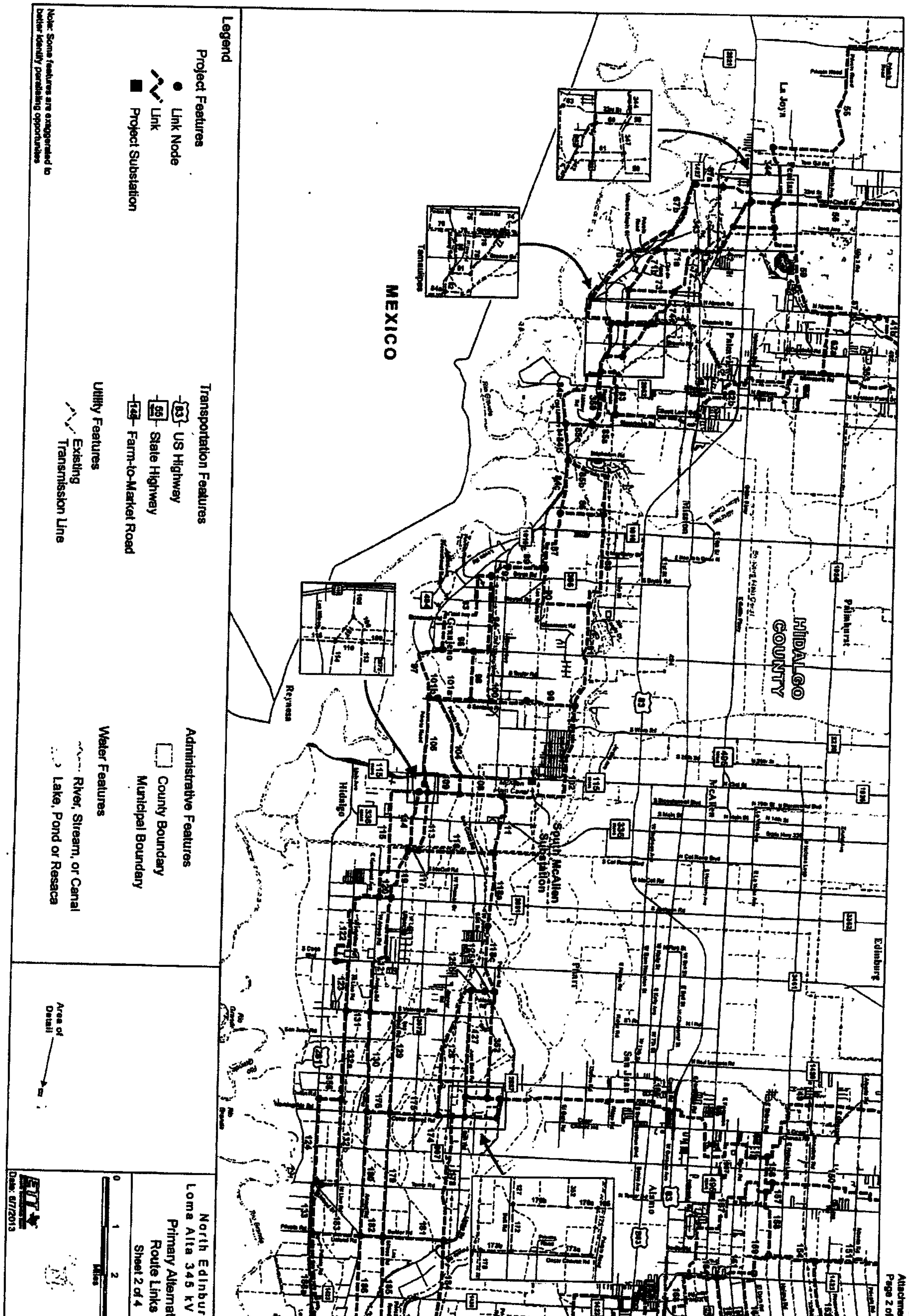
PUC Docket No. 41606
Attachment 10b
Page 2 of 4

ROUTE 28

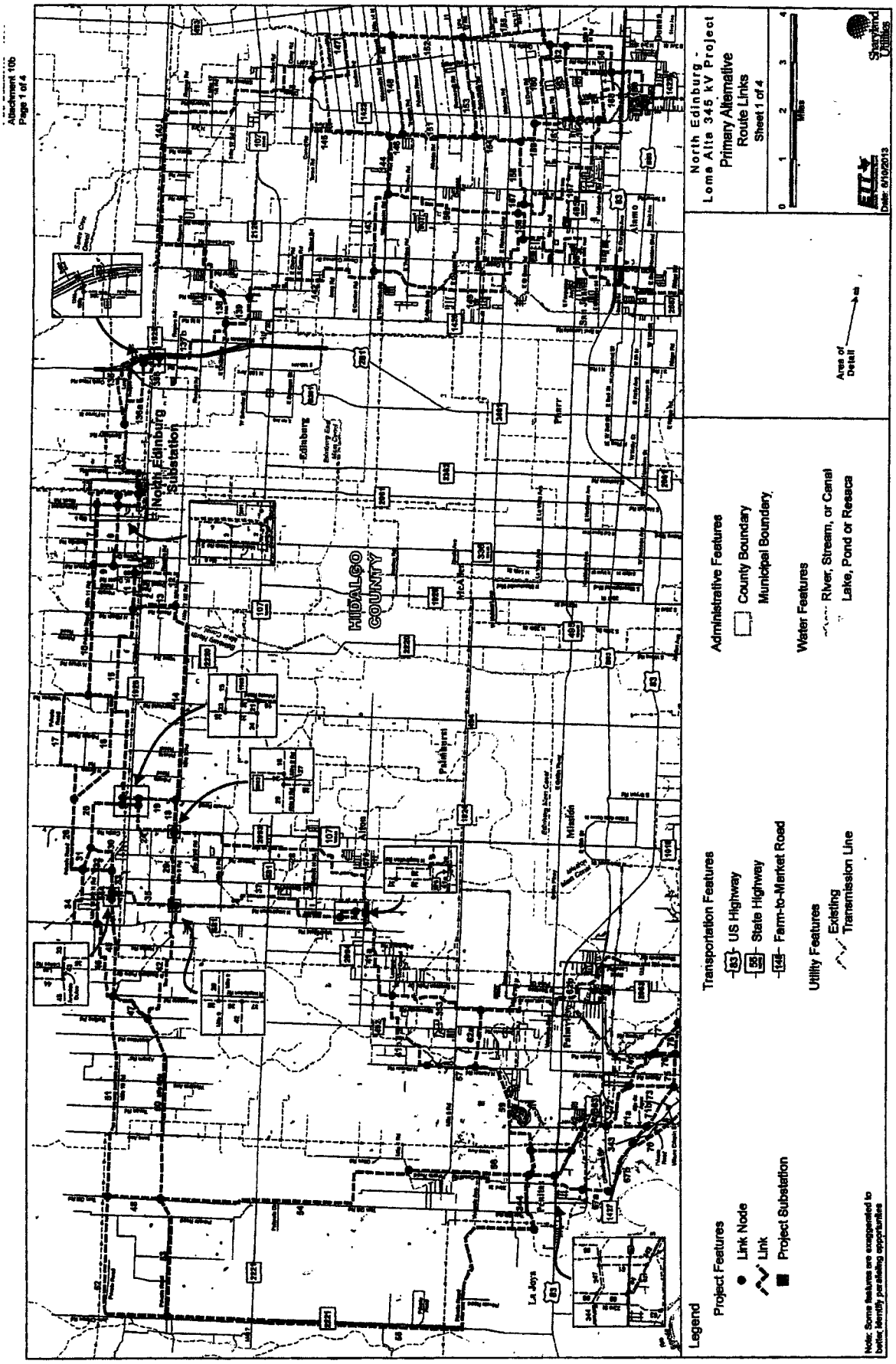


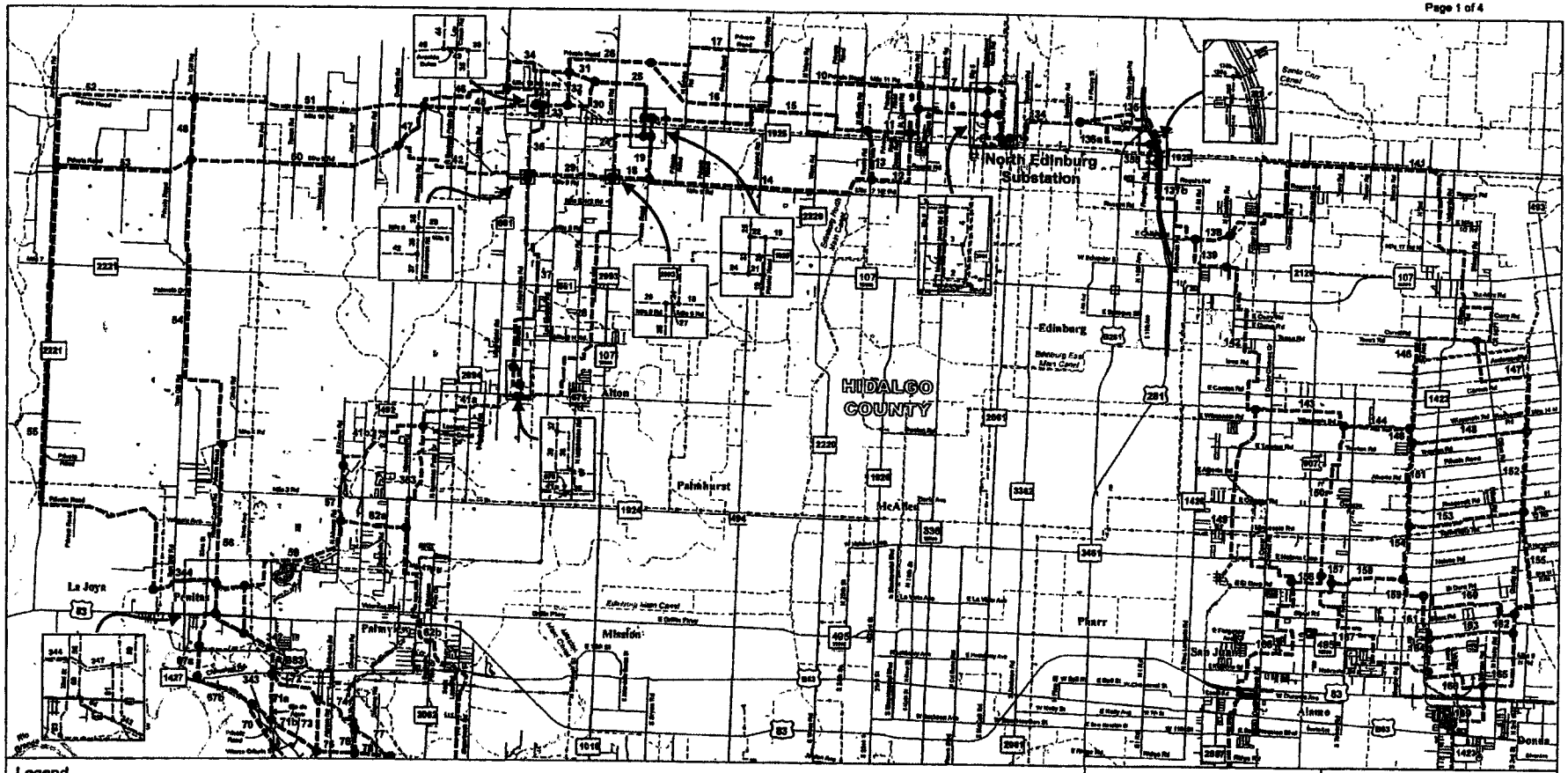
PUC Docket No. 41606
Attachment 10b
Page 2 of 4

ROUTE 29

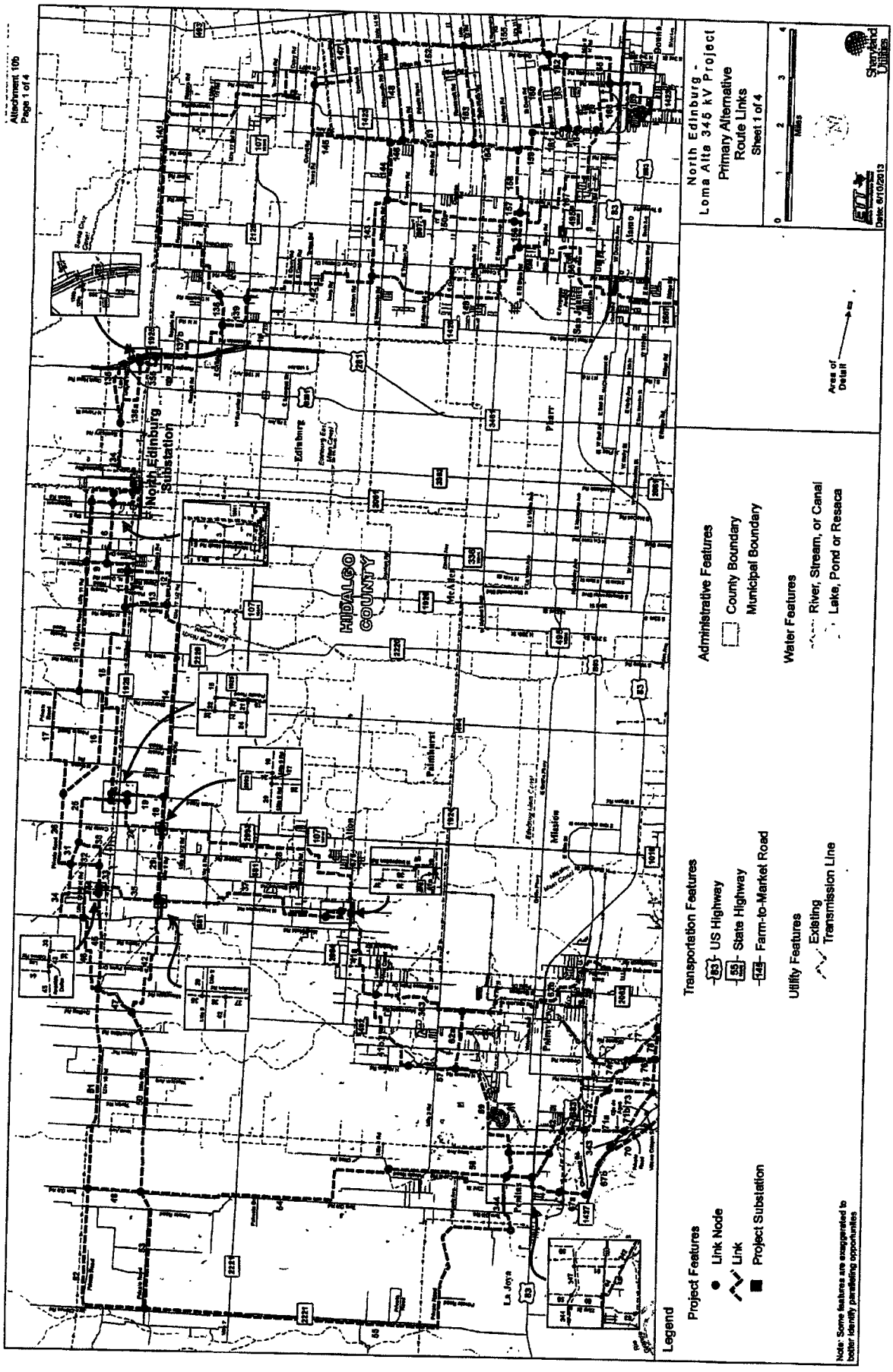

PUC Docket No. 41606
Attachment 10b
Page 2 of 4
Legend
Project Features
Link Node
Link
Project Substation
Transportation Features
US Highway
State Highway
Farm-to-Market Road
Utility Features
Existing Transmission Line
Administrative Features
County Boundary
Municipal Boundary
Water Features
River, Stream, or Canal
Lake, Pond or Resaca
Note: Some features are exaggerated to better identify paralleling opportunities
Area of Detail
North Edinburg - Loma Alta 345 kV Project
Primary Alternative Route Links
Sheet 2 of 4
Miles
Date: 6/7/2013
MEXICO
HIDALGO COUNTY
South McAllen Substation

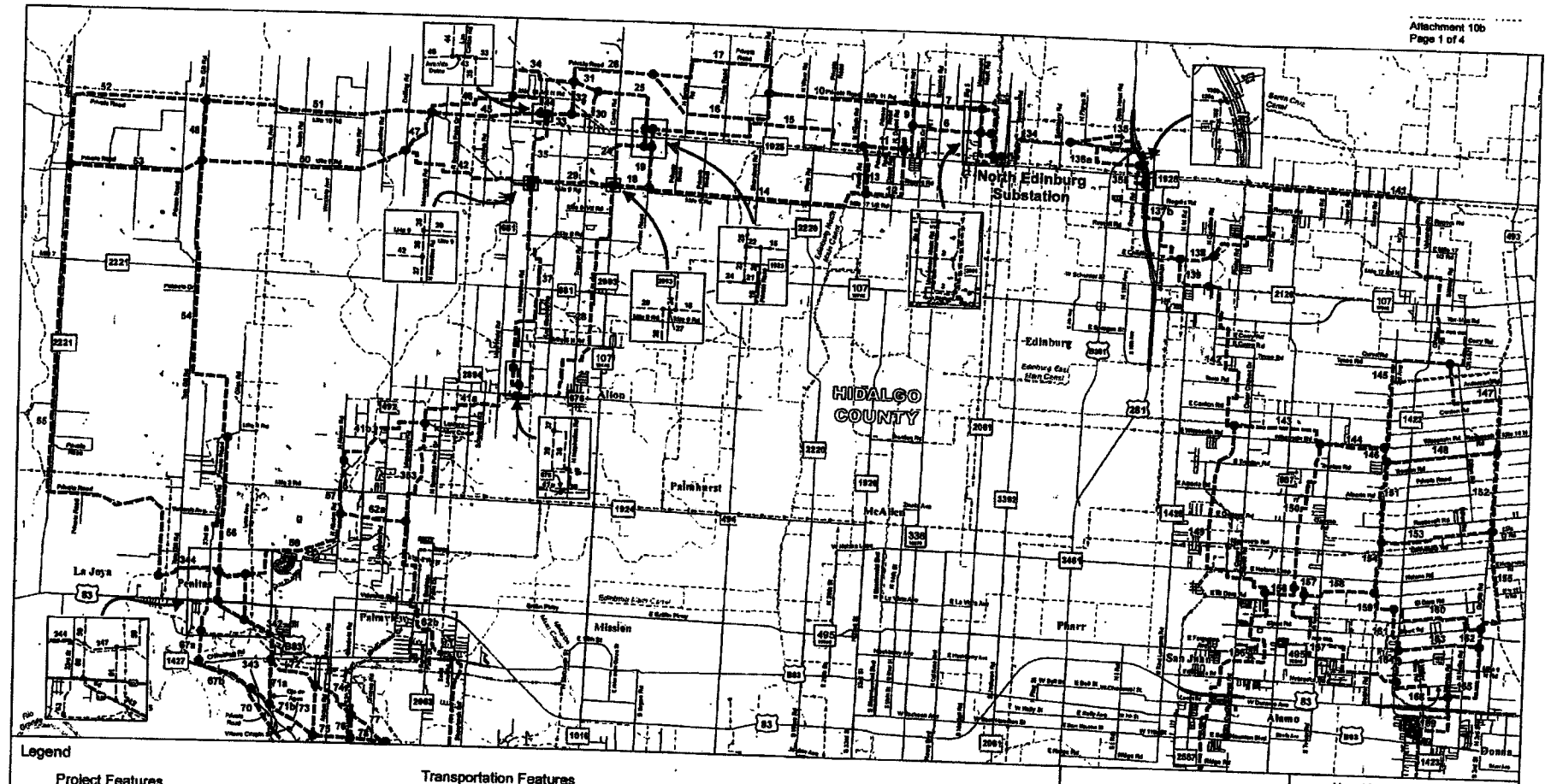
ROUTE 11


Attachment 10b
Page 1 of 4
North Edinburg - Lone Alta 345 kV Project
Primary Alternative Route Links
Sheet 1 of 4
Miles
Date: 6/10/2013
North Edinburg Substation
HIDALGO COUNTY
Edinburg
Pharr
Alton
Mission
Palmhurst
La Joya
Area of Detail
Legend
Project Features
Link Node
Link
Project Substation
Transportation Features
US Highway
State Highway
Farm-to-Market Road
Utility Features
Existing Transmission Line
Administrative Features
County Boundary
Municipal Boundary
Water Features
River, Stream, or Canal
Lake, Pond or Resaca
Note: Some features are exaggerated to better identify paralleling opportunities


North Edinburg Substation
HIDALGO COUNTY
Edinburg
Palmhurst
McAllen
Pharr
Mission
Palmview
La Joya
Peñitas
Alton
Alamo
Donna
Legend
Project Features
Link Node
Link
Project Substation
Transportation Features
US Highway
State Highway
Farm-to-Market Road
Utility Features
Existing Transmission Line
Administrative Features
County Boundary
Municipal Boundary
Water Features
River, Stream, or Canal
Lake, Pond or Resaca
Area of Detail
Note: Some features are exaggerated to better identify paralleling opportunities
North Edinburg - Loma Alta 345 kV Project
Primary Alternative Route Links
Sheet 1 of 4
0 1 2 3 4
Miles
Date: 6/10/2013
Sharyland Utilities

ROUTE 12


ROUTE 13
Attachment 10b
Page 1 of 4
North Edinburg - Loma Alta 345 kV Project
Primary Alternative Route Links
Sheet 1 of 4
Sharyland Utilities
Date: 6/10/2013
Miles
Area of Detail
North Edinburg Substation
HIDALGO COUNTY
Edinburg
Pharr
McAllen
Palmhurst
Mission
Alton
La Joya
Peñitas
Legend
Project Features
Link Node
Link
Project Substation
Transportation Features
US Highway
State Highway
Farm-to-Market Road
Utility Features
Existing Transmission Line
Administrative Features
County Boundary
Municipal Boundary
Water Features
River, Stream, or Canal
Lake, Pond or Resaca
Note: Some features are exaggerated to better identify paralleling opportunities



Legend

Project Features
- Link Node
- Link
- Project Substation

Transportation Features
- US Highway
- State Highway
- Farm-to-Market Road

Utility Features
- Existing Transmission Line

Administrative Features
- County Boundary
- Municipal Boundary

Water Features
- River, Stream, or Canal
- Lake, Pond or Resaca

Note: Some features are exaggerated to better identify paralleling opportunities

Area of Detail

North Edinburg - Loma Alta 345 kV Project
Primary Alternative Route Links
Sheet 1 of 4

0 1 2 3 4 Miles

Date: 5/10/2013

Sharyland Utilities

ROUTE 32

2009 Report on the Capacity, Demand, and Reserves in the ERCOT Region

Summer Summary

Load Forecast:	2009	2010	2011	2012	2013	2014
Total Summer Peak Demand, MW	63,491	64,056	65,494	67,394	69,399	70,837
less LAARs Serving as Responsive Reserve, MW	1,115	1,115	1,115	1,115	1,115	1,115
less LAARs Serving as Non-Spinning Reserve, MW	0	0	0	0	0	0
less BULs, MW	0	0	0	0	0	0
less Energy Efficiency Programs (per HB3693)	110	242	242	242	242	242
Firm Load Forecast, MW	62,266	62,699	64,137	66,037	68,042	69,480

Resources:	2009	2010	2011	2012	2013	2014
Installed Capacity, MW	63,492	61,800	61,800	61,800	61,800	61,800
Capacity from Private Networks, MW	5,313	5,318	5,318	5,318	5,318	5,318
Effective Load-Carrying Capability (ELCC) of Wind Generation, MW	708	708	708	708	708	708
RMR Units to be under Contract, MW	115	0	0	0	0	0
Operational Generation, MW	69,628	67,826	67,826	67,826	67,826	67,826
50% of Non-Synchronous Ties, MW	553	553	553	553	553	553
Switchable Units, MW	2,848	2,848	2,848	2,848	2,848	2,848
Available Mothballed Generation , MW	0	401	479	479	479	479
Planned Units (not wind) with Signed IA and Air Permit, MW	0	3,769	4,389	5,414	7,206	7,206
ELCC of Planned Wind Units with Signed IA, MW	0	76	121	168	211	211
Total Resources, MW	73,029	75,472	76,215	77,287	79,122	79,122
less Switchable Units Unavailable to ERCOT, MW	317	158	0	0	0	0
less Retiring Units, MW	0	0	0	0	0	0
Resources, MW	72,712	75,314	76,215	77,287	79,122	79,122
Reserve Margin (Resources - Firm Load Forecast)/Firm Load Forecast	16.8%	20.1%	18.8%	17.0%	16.3%	13.9%

Other Potential Resources:	553	13,889	23,094	28,794	31,399	33,149
Mothballed Capacity , MW	0	5,478	7,125	7,125	7,125	7,125
50% of Non-Synchronous Ties, MW	553	553	553	553	553	553
Planned Units in Full Interconnection Study Phase, MW	0	7,858	15,417	21,118	23,722	25,463

EXHIBIT
AUG 29 2013
Bill 09 KP
KP

2013 Report on the Capacity, Demand, and Reserves in the ERCOT Region

Summer Summary

Load Forecast:	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Summer Peak Demand, MW	69,807	72,071	74,191	75,409	76,166	76,882	77,608	78,380	79,055	79,651
less LRS Serving as Responsive Reserve, MW	1,222	1,222	1,222	1,222	1,222	1,222	1,222	1,222	1,222	1,222
less LRS Serving as Non-Spinning Reserve, MW	0	0	0	0	0	0	0	0	0	0
less Emergency Response Service	475	523	575	632	696	765	842	926	1019	1121
less Energy Efficiency Programs (per Utilities Code Section 39.905 (b-4))	518	648	781	917	1054	1193	1210	1225	1238	1238
Firm Load Forecast, MW	67,592	69,679	71,613	72,637	73,214	73,702	74,334	75,007	75,576	76,070

Resources:	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Installed Capacity, MW	64,998	64,998	64,998	64,998	64,998	64,998	64,998	64,998	64,998	64,998
Capacity from Private Networks, MW	4,331	4,331	4,331	4,331	4,331	4,331	4,331	4,331	4,331	4,331
Effective Load-Carrying Capability (ELCC) of Wind Generation, MW	920	920	920	920	920	920	920	920	920	920
RMR Units to be under Contract, MW	0	0	0	0	0	0	0	0	0	0
Operational Generation, MW	70,248	70,248	70,248	70,248	70,248	70,248	70,248	70,248	70,248	70,248
50% of Non-Synchronous Ties, MW	628	628	628	628	628	628	628	628	628	628
Switchable Units, MW	2,977	2,977	2,977	2,977	2,977	2,977	2,977	2,977	2,977	2,977
Available Mothballed Generation, MW	618	722	590	430	248	167	167	167	167	167
Planned Units (not wind) with Signed IA and Air Permit, MW	2,927	3,497	4,881	6,261	6,261	6,261	6,261	6,261	6,261	6,261
ELCC of Planned Wind Units with Signed IA, MW	187	389	399	399	399	399	399	399	399	399
Total Resources, MW	77,586	78,462	79,724	80,944	80,760	80,681	80,681	80,681	80,681	80,681
less Switchable Units Unavailable to ERCOT, MW	-317	-317	-317	-317	-317	-317	-317	0	0	0
less Retiring Units, MW	-354	-354	-354	-354	-354	-1,199	-1,199	-1,199	-1,199	-1,199
Resources, MW	76,915	77,791	79,053	80,273	80,089	79,165	79,165	79,482	79,482	79,482
Reserve Margin (Resources - Firm Load Forecast)/Firm Load Forecast	13.8%	11.6%	10.4%	10.5%	9.4%	7.4%	6.5%	6.0%	5.2%	4.5%

2012 Report on the Capacity, Demand, and Reserves in the ERCOT Region

Summer Summary

Load Forecast:	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Summer Peak Demand, MW	67,168	70,067	73,552	76,001	77,596	78,919	79,411	81,382	82,765	84,013
less LRS Serving as Responsive Reserve, MW	886	886	886	886	886	886	886	886	886	886
less LRS Serving as Non-Spinning Reserve, MW	0	0	0	0	0	0	0	0	0	0
less Emergency Response Service	393	432	476	523	575	633	696	766	842	927
less Energy Efficiency Programs (per SB1125)	240	366	496	635	775	917	1080	1206	1355	1506
Firm Load Forecast, MW	65,649	68,403	71,692	73,957	75,360	76,483	76,769	78,524	79,682	80,694

Resources:	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Installed Capacity, MW	65,382	65,382	65,382	65,382	65,382	65,382	64,537	64,537	64,537	64,537
Capacity from Private Networks, MW	4,390	4,390	4,390	4,390	4,390	4,390	4,390	4,390	4,390	4,390
Effective Load-Carrying Capability (ELCC) of Wind Generation, MW	873	873	873	873	873	873	873	873	873	873
RMR Units to be under Contract, MW	0	0	0	0	0	0	0	0	0	0
Operational Generation, MW	70,645	70,645	70,645	70,645	70,645	70,645	69,800	69,800	69,800	69,800
50% of Non-Synchronous Ties, MW	553	553	553	553	553	553	553	553	553	553
Switchable Units, MW	2,962	2,962	2,962	2,962	2,962	2,962	2,962	2,962	2,962	2,962
Available Mothballed Generation , MW	70	90	116	90	63	0	0	0	0	0
Planned Units (not wind) with Signed IA and Air Permit, MW	985	985	2,482	4,642	5,302	6,542	6,542	6,542	6,542	6,542
ELCC of Planned Wind Units with Signed IA, MW	121	172	182	182	182	182	182	182	182	182
Total Resources, MW	75,337	75,407	76,940	79,074	79,708	80,884	80,039	80,039	80,039	80,039
less Switchable Units Unavailable to ERCOT, MW	317	317	317	317	0	0	0	0	0	0
less Retiring Units, MW	0	0	0	0	0	0	0	0	0	0
Resources, MW	75,020	75,090	76,623	78,757	79,708	80,884	80,039	80,039	80,039	80,039
Reserve Margin (Resources - Firm Load Forecast)/Firm Load Forecast	14.3%	9.8%	6.9%	6.5%	5.8%	5.8%	4.3%	1.9%	0.4%	-0.8%

Other Potential Resources:	3,505	5,338	6,141	7,409	7,435	8,348	8,348	8,348	8,348	8,348
Mothballed Capacity , MW	1,910	1,890	1,864	1,890	1,917	1,980	1,980	1,980	1,980	1,980
Remaining 50% of Non-Synchronous Ties, MW	553	553	553	553	553	553	553	553	553	553
Planned Units in Full Interconnection Study Phase, MW	1,042	2,893	3,724	4,965	4,965	5,815	5,815	5,815	5,815	5,815

EXHIBIT MEC-2
Page 1 of 1

——— Existing transmission line
Proposed transmission line

EXHIBIT

AUG 2 9 2013

Billo 10 KP

SOAH DOCKET NO. 473-13-5207
PUC DOCKET NO. 41606

JOINT APPLICATION OF ELECTRIC TRANSMISSION TEXAS, LLC AND SHARYLAND UTILITIES, L.P. TO AMEND THEIR CERTIFICATES OF CONVENIENCE AND NECESSITY FOR THE PROPOSED NORTH EDINBURG TO LOMA ALTA DOUBLE-CIRCUIT 345-KV TRANSMISSION LINE IN HIDALGO AND CAMERON COUNTIES, TEXAS	§	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

ELECTRIC TRANSMISSION TEXAS, LLC AND SHARYLAND UTILITIES, L.P.'S RESPONSE TO RHODES, ML RHODES, LTD., AND RHODES ENTERPRISES, INC.'S FIRST REQUEST FOR INFORMATION

Question No. Rhodes RFI No. 1-14:

Concerning the portion of Preliminary Alternative Routes 20 through 30 that loops west toward the South McAllen Substation and then back east toward Loma Alta substation, please explain why ETT/Sharyland did not consider using a configuration where the westbound and eastbound circuits are placed on common structures in order to avoid the need for both westbound and eastbound right-of-ways.

Response No. Rhodes RFI No. 1-14:

The ERCOT Endorsement Letter recommended the construction of "a new single circuit 345 kV line . . . on double-circuit capable structures[.]" ERCOT Endorsement Letter, Attachment 6 to the Application at 1. Placing the westbound and eastbound circuits on common structures would result in a double circuit 345 kV line with both circuits being used instead of a single circuit line that is double circuit capable, foreclosing the possibility of using the unused circuit for future transmission projects, and resulting in a portion of the project being constructed inconsistent with ERCOT's recommendation. Such configuration could also have an adverse impact on service reliability to the future South McAllen 345 kV/138 kV substation.

Prepared By: Mark Caskey — Title: President, Sharyland Utilities, L.P.
Sponsored By: Mark Caskey — Title: President, Sharyland Utilities, L.P.

EXHIBIT

AUG 29 2013
Bi 10 11 KP

SOAH DOCKET NO. 473-13-5207
PUC DOCKET NO. 41606

JOINT APPLICATION OF ELECTRIC TRANSMISSION TEXAS, LLC AND SHARYLAND UTILITIES, L.P. TO AMEND THEIR CERTIFICATES OF CONVENIENCE AND NECESSITY FOR THE PROPOSED NORTH EDINBURG TO LOMA ALTA DOUBLE-CIRCUIT 345-KV TRANSMISSION LINE IN HIDALGO AND CAMERON COUNTIES, TEXAS	§	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

ELECTRIC TRANSMISSION TEXAS, LLC AND SHARYLAND UTILITIES, L.P.'S RESPONSE TO RHODES, ML RHODES, LTD., AND RHODES ENTERPRISES, INC.'S FIRST REQUEST FOR INFORMATION

Question No. Rhodes RFI No. 1-16:

Please refer to the Direct Testimony of Sharyland witness Mr. Caskey at pages 14 through 16 and to Exhibit MEC-2. Please explain whether or not ETT and Sharyland have confirmed their proposal to route the line within the Figure MEC-2 proximity circle rather than to South McAllen substation is acceptable to ERCOT.

Response to Rhodes RFI No. 1-16:

No. Applicants do not believe it is necessary to confirm with ERCOT that routing the line within the proximity circle shown in Exhibit MEC-2 is acceptable. ERCOT recommended that the project be "routed in proximity to" the South McAllen substation. ERCOT Endorsement Letter, Attachment 6 to the Application at 1; ERCOT Independent Review, Attachment 6 to the Application at 29. ERCOT's recommendation did not include an interconnection to the South McAllen substation, and Joint Applicants therefore believe the phrase "in proximity to" requires only that the line be routed near the South McAllen substation, in expectation of a future potential interconnection to the substation. Please see Mr. Caskey's testimony at pages 23 and 24 for the design criteria used in routing the project in proximity to the South McAllen substation and for an explanation of how the proximity circle meets ERCOT's recommendation.

Prepared By: Mark Caskey — Title: President, Sharyland Utilities, L.P.
Sponsored By: Mark Caskey — Title: President, Sharyland Utilities, L.P.

CHAPTER 25. SUBSTANTIVE RULES APPLICABLE TO ELECTRIC SERVICE PROVIDERS.

Subchapter E. CERTIFICATION, LICENSING AND REGISTRATION.

(2) **New generating unit.** A new electric generating unit constructed, owned, or operated by a bundled electric utility.

(3) **New electric transmission line.** All new electric transmission lines shall be reported to the commission in accordance with §25.83 of this title (relating to Transmission Construction Reports).

(A) Need:

(i) Except as stated below, the following must be met for a transmission line in the Electric Reliability Council of Texas (ERCOT) power region. The applicant must present an economic cost-benefit study that includes an analysis that shows that the levelized ERCOT-wide annual production cost savings attributable to the proposed project are equal to or greater than the first-year annual revenue requirement of the proposed project of which the transmission line is a part. Indirect costs and benefits to the transmission system may be included in the cost-benefit study. The commission shall give great weight to such a study if it is conducted by ERCOT. This requirement for an economic cost-benefit study does not apply to an application filed pursuant to §25.174 of this title (relating to Competitive Renewable Energy Zones) for a transmission line that is intended to serve a competitive renewable energy zone. This requirement also does not apply to an application for a transmission line that is necessary to meet state or federal reliability standards, including: a transmission line needed to interconnect a transmission service customer or end-use customer; or needed due to the requirements of any federal, state, county, or municipal government body or agency for purposes including, but not limited to, highway transportation, airport construction, public safety, or air or water quality.

(ii) For a transmission line not addressed by clause (i) of this subparagraph, the commission shall consider among other factors, the needs of the interconnected transmission systems to support a reliable and adequate network and to facilitate robust wholesale competition. The commission shall give great weight to:

(I) the recommendation of an organization that meets the requirement of PURA §39.151; and/or

(II) written documentation that the transmission line is needed to interconnect a transmission service customer or an end-use customer.

(B) **Routing:** An application for a new transmission line shall address the criteria in PURA §37.056(c) and considering those criteria, engineering constraints, and costs, the line shall be routed to the extent reasonable to moderate the impact on the affected community and landowners unless grid reliability and security dictate otherwise. The following factors shall be considered in the selection of the utility's alternative routes unless a route is agreed to by the utility, the landowners whose property is crossed by the proposed line, and owners of land that contains a habitable structure within 300 feet of the centerline of a transmission project of 230 kV or less, or within 500 feet of the centerline of a transmission project greater than 230 kV, and otherwise conforms to the criteria in PURA §37.056(c):

(i) whether the routes utilize existing compatible rights-of-way, including the use of vacant positions on existing multiple-circuit transmission lines;

(ii) whether the routes parallel existing compatible rights-of-way;

(iii) whether the routes parallel property lines or other natural or cultural features; and

EXHIBIT

AUG 29 2013
Bill 012 KP

CHAPTER 25. SUBSTANTIVE RULES APPLICABLE TO ELECTRIC SERVICE PROVIDERS.

Subchapter E. CERTIFICATION, LICENSING AND REGISTRATION.

(iv) whether the routes conform with the policy of prudent avoidance.

(C) Uncontested transmission lines: An application for a certificate for a transmission line shall be approved administratively within 80 days from the date of filing a complete application if:

(i) no motion to intervene has been filed or the application is uncontested; and

(ii) commission staff has determined that the application is complete and meets all applicable statutory criteria and filing requirements, including, but not limited to, the provision of proper notice of the application.

(D) Projects deemed critical to reliability. Applications for transmission lines which have been formally designated by a PURA §39.151 organization as critical to the reliability of the system shall be considered by the commission on an expedited basis. The commission shall render a decision approving or denying an application for a certificate under this subparagraph within 180 days of the date of filing a complete application for such a certificate unless good cause is shown for extending that period.

(c) **Projects or activities not requiring a certificate.** A certificate, or certificate amendment, is not required for the following:

(1) A contiguous extension of those facilities described in PURA §37.052;

(2) A new electric high voltage switching station, or substation;

(3) The repair or reconstruction of a transmission facility due to emergencies. The repair or reconstruction of a transmission facility due to emergencies shall proceed without delay or prior approval of the commission and shall be reported to the commission in accordance with §25.83 of this title.

(4) The construction or upgrading of distribution facilities within the electric utility's service area.

(5) Routine activities associated with transmission facilities that are conducted by transmission service providers. Nothing contained in the following subparagraphs should be construed as a limitation of the commission's authority as set forth in PURA. Any activity described in the following subparagraphs shall be reported to the commission in accordance with §25.83 of this title. The commission may require additional facts or call a public hearing thereon to determine whether a certificate of convenience and necessity is required. Routine activities are defined as follows:

(A) The modification or extension of an existing transmission line solely to provide service to a substation or metering point provided that:

(i) an extension to a substation or metering point does not exceed one mile; and

(ii) all landowners whose property is crossed by the transmission facilities have given prior written consent.

(B) The rebuilding, replacement, or respacing of structures along an existing route of the transmission line; upgrading to a higher voltage not greater than 230 kV; bundling of conductors or reconductoring of an existing transmission facility, provided that:

(i) no additional right-of-way is required; or

(ii) if additional right-of-way is required, all landowners of property crossed by the electric facilities have given prior written consent.

(C) The installation, on an existing transmission line, of an additional circuit not previously certificated, provided that:

(i) the additional circuit is not greater than 230 kV; and

(ii) all landowners whose property is crossed by the transmission facilities have given prior written consent.

ERCOT Planning Guide

Section 3: Regional Planning

April 1, 2013

---

3 REGIONAL PLANNING

3.1 Communications

3.1.1 Overview of Major Transmission Planning Activities

(1) The process of planning a reliable and efficient transmission system for the ERCOT Region is composed of several types of activities and studies.

(2) The effective date for the Year 6 case is the 2014 Steady State Working Group (SSWG) Data Set B base case release date. Consideration of the Year 6 case in the Regional Transmission Plan is required starting in 2014.

3.1.1.1 Long-Term System Assessment

The Long-Term System Assessment (LTSA) is performed by ERCOT in coordination with the Regional Planning Group (RPG) on a biennial basis (in even-numbered years) and reviewed annually. The study uses scenario analysis techniques to assess the potential needs of the ERCOT System up to 20 years into the future. The role of the LTSA is not to recommend the construction of specific system upgrades, due to the high degree of uncertainty associated with the amount and location of loads and Resources in this timeframe. Instead, the role of the LTSA is to evaluate the system upgrades that are indicated under each of a wide variety of scenarios in order to identify upgrades that are robust across a range of scenarios or might be more economic than the upgrades that would be determined considering only needs of Years 1 to 6 in the Regional Transmission Plan development.

3.1.1.2 Regional Transmission Plan

The Regional Transmission Plan is developed annually by ERCOT, in coordination with the RPG and Transmission Service Providers (TSPs). The Regional Transmission Plan addresses region-wide reliability and economic transmission needs and the planned improvements to meet those needs for the upcoming six years included in the SSWG base cases. These planned improvements include projects previously approved by the ERCOT Board, projects previously reviewed by the RPG, new projects that will be refined at the appropriate time by TSPs in order to complete RPG review, and the local projects currently planned by TSPs. Combined, these projects represent ERCOT's plan addressing the reliability and efficiency of the ERCOT System to meet North American Electric Reliability Corporation (NERC) Reliability Standards, the Protocols, Operating Guides and this Planning Guide. Projects that are included in the Regional Transmission Plan are not considered to have been endorsed by ERCOT until they have undergone the appropriate level of RPG Project Review as outlined in Protocol Section 3.11.4, Regional Planning Group Project Review Process, if required.

3.1.1.3 Regional Planning Group Project Reviews

Except for minor transmission projects that have only localized impacts and projects that are directly associated with the interconnection of new Generation Resources, all transmission projects in the ERCOT Region undergo a formal review by the RPG in accordance with Protocol Section 3.11.4, Regional Planning Group Project Review Process. In addition, ERCOT performs an independent analysis of the need for major transmission projects that are submitted for RPG Project Review. The affirmative result of this review is formal endorsement of the project by ERCOT. This ERCOT project endorsement is intended to support, to the extent applicable, a finding by the Public Utility Commission of Texas (PUCT) that a project is necessary for the service, accommodation, convenience, or safety of the public within the meaning of Public Utility Regulatory Act, TEX. UTIL. CODE ANN. § 37.056 (Vernon 1998 and Supp. 2007) and P.U.C. SUBST. R. 25.101, Certification Criteria.

3.1.1.4 Generation Interconnection Process

This process facilitates the interconnection of new generation units in the ERCOT Region by assessing the transmission upgrades necessary for new generating units to operate reliably. The process to study interconnecting new generation or modifying an existing generation interconnection to the ERCOT Transmission Grid is covered in Section 4, Transmission Planning Criteria. The generation interconnection study process primarily covers the direct connection of generation Facilities to the ERCOT Transmission Grid and directly-related projects. Additional upgrades to the ERCOT Transmission Grid that might be cost-effective as a result of new or modified generation may be initiated by any stakeholder through the RPG Project Review procedure described in Protocol Section 3.11.4, Regional Planning Group Project Review Process, at the appropriate time, subject to the confidentiality provisions in Section 5, Generation Resource Interconnection or Change Request.

3.1.2 Regional Planning Group Project Submission

Transmission projects that are proposed for RPG Review, pursuant to Protocol Section 3.11.4.1, Project Submission, shall be submitted according to the provisions outlined in Section 3.1.2.1, All Projects, through 3.1.2.3, Other Information.

3.1.2.1 All Projects

The submittal of each transmission project (60 kV and above) for RPG Project Review should include the following elements:

(a) The proposed project description including expected cost, feasible alternative(s) considered, transmission topology and Transmission Facility modeling parameter data, and all study cases used to generate results supporting the need for the project in electronic format (powerflow data should be in PTI PSS/E RAWD format). Also, the submission should include accurate maps and one-line

diagrams showing locations of the proposed project and feasible alternatives (AutoCad-compatible format preferred);

(b) Identification of the SSWG base cases or Regional Transmission Plan powerflow cases used as a basis for the study and any associated changes that describe and allow accurate modeling of the proposed project;

(c) Description and data for all changes made to the SSWG base cases or Regional Transmission Plan cases used to identify the need for the project, such as Generation Resource unavailability and area peak Load forecast;

(d) A description of the reliability and/or economic problem that is being solved;

(e) Desired/needed in-service date for the project, and feasible in-service date, if different; and

(f) The phone number and email address of the single point of contact who can respond to ERCOT and RPG participant questions or requests for additional information necessary for stakeholder review.

3.1.2.2 Projects That Are Not Included in the Current Regional Transmission Plan

(1) For projects that are not included in the current Regional Transmission Plan, the following elements should be included in the submission. While it is not necessary, if any of these additional elements are available for projects that are included in the Regional Transmission Plan, they should be included in the submittal of these projects as well.

(a) Analysis of rejected alternatives, including cost estimates, effect upon transfer capability, and other factors considered in the comparison of alternatives with the proposed project;

(b) Assumptions modeled in performance studies such that credible performance deficiencies can be identified through study;

(c) Results of performance analyses that are consistent with system operating practices and procedures; and

(d) Documentation of the process used to identify specific performance deficiencies (reliability and economic).

(2) Both transmission and non-transmission solutions to performance deficiencies may be considered where applicable.

3.1.2.3 Other Information

If there is any other information, not included above, that the submitter believes is relevant to consideration of the need for any submitted project, they should include that information in the project submission.

3.1.3 Project Evaluation

(1) Proposed transmission projects will be evaluated using a variety of tools and techniques to ensure that the system is able to meet applicable reliability criteria in a cost-effective manner. For most proposed projects, several alternatives will be identified to meet the reliability criteria or other performance improvement objectives that the proposed project is designed to meet. The project alternative with the expected lowest cost over the life of the project is generally recommended, subject to consideration of the expected long-term system needs in the area (as identified in the LTSA), and consideration of the relative operational impacts of the alternatives.

(2) In some cases, one alternative may be to dispatch the system in such a way that all reliability requirements are met, even without the proposed project or any transmission alternative, resulting in a less efficient dispatch than what would be required to meet the reliability requirements if the proposed project was in place. Consideration of the merits of this alternative relative to the proposed transmission project is more complex. To facilitate the discussion and consideration of these alternatives, ERCOT has adopted certain definitions and practices, described in paragraph (4) of Protocol Section 3.11.2, Planning Criteria, and Sections 3.1.3.1, Definitions of Reliability-Driven and Economic-Driven Projects, and 3.1.3.2, Reliability-Driven Project Evaluation below.

3.1.3.1 Definitions of Reliability-Driven and Economic-Driven Projects

(1) Proposed transmission projects are categorized for evaluation purposes into two types:

(a) Reliability-driven projects; and

(b) Economic-driven projects.

(2) The differentiation between these two types of projects is based on whether a simultaneously-feasible, security-constrained generating unit commitment and Dispatch is expected to be available for all hours of the planning horizon that can resolve the system reliability issue that the proposed project is intended to resolve. If it is not possible to forecast a dispatch of the generating units such that all reliability criteria are met without the project, and the addition of the project allows the reliability criteria to be met, then the project is classified as a reliability-driven project. If it is possible to simulate a dispatch of the generating units in such a way that all reliability criteria are met without the project, but the project may allow the reliability criteria to be met at a lower total cost, then the project is classified as an economic-driven project.

3.1.3.2 Reliability-Driven Project Evaluation

For reliability-driven projects, the comparison of project costs generally includes only the relative capital costs of the alternatives. In the case of Tier 1 and 2 projects, any differences in expected ERCOT System production costs between the alternatives may be included in the consideration of the relative costs of the alternatives, due to larger potential impacts on losses and congestion of these projects.

3.1.4 Regional Transmission Plan Development Process

The purpose of the Regional Transmission Plan is to provide a coordinated plan for the ERCOT System, in which all planned improvements to the system are documented, and which includes projects that have achieved a level of review that is commensurate with the impact of the projects. The Regional Transmission Plan is updated on an annual basis. While unanticipated changes in Load and generation may require additional projects to be needed that were not included in the current Regional Transmission Plan, or require additional evaluation of projects included in the current Regional Transmission Plan when they are submitted for RPG Project Review, the Regional Transmission Plan provides a reasonable and supportable basis for analyses of the planned ERCOT Transmission Grid.

3.1.4.1 Development of Regional Transmission Plan

(1) The starting base cases for the Regional Transmission Plan development are created by removing all Tier 1, 2 and 3 projects that have not undergone RPG Project Review from the most recent SSWG summer peak base cases to address the planning horizon. The planning process begins with computer modeling studies of the generation and Transmission Facilities and substation Loads under normal conditions in the ERCOT System. Contingency conditions along with changes in Load and generation that might be expected to occur in operation of the ERCOT Transmission Grid are also modeled. To maintain adequate service and minimize interruptions during Outages, model simulations are used to identify adverse results based upon the planning criteria and to examine the effectiveness of various problem-solving alternatives.

(2) The effectiveness of each alternative will be evaluated under a variety of possible operating environments because Loads and operating conditions cannot be predicted with certainty. As a result, repeated simulations under different conditions are often required. In addition, options considered for future installation may affect other alternatives so that several different combinations must be evaluated, thereby multiplying the number of simulations required.

(3) Once feasible alternatives have been identified, the process is continued with a comparison of those alternatives. To determine the most favorable, the short-range and long-range benefits of each must be considered including operating flexibility and compatibility with future plans.

3.1.4.2 Use of Regional Transmission Plan

(1) The Regional Transmission Plan will generally serve as the basis for all subsequent RPG Project Reviews, both of projects included within the Regional Transmission Plan and of other proposed projects. Stakeholders are encouraged to submit, at the start of the Regional Transmission Plan development process, any known transmission projects that are not in the current SSWG base cases and are likely to be submitted within the next year, as work on RPG Project Reviews will be limited while the Regional Transmission Plan is being developed and documented. Projects submitted for RPG Project Review after the Regional Transmission Plan development has begun and which need ERCOT Independent Review may be delayed. Inputs to the Regional Transmission Plan, such as new Generation Resources and updated local transmission projects, may be updated at the time these subsequent studies are performed if ERCOT or stakeholders identify such updates as being needed to appropriately consider the need for the specific project under review. If the project under review is included in the Regional Transmission Plan, and no changes are identified which would affect the need for the proposed project through the 21-day comment period described in Section 3.1.5, Regional Planning Group Comment Process, then the Regional Transmission Plan will serve as the ERCOT Independent Review of the proposed project, if required.

(2) Tier 1, 2, and 3 projects that are included in the Regional Transmission Plan should be submitted for RPG Project Review at an appropriate lead time. Generally, this lead time should be sufficient to allow the review to be completed before the TSP reaches the decision point at which it must initiate the engineering and procurement in order to meet the required in-service date, but not farther in advance than is necessary. In general, these lead times will be three to four months for Tier 3 projects and six to seven months for Tier 1 and 2 projects.

(3) Tier 1, 2 and 3 projects that are included in the Regional Transmission Plan but do not reach this decision point before the development of the next year's Regional Transmission Plan begins will be removed from the case used to develop the Regional Transmission Plan and will be re-evaluated as a part of the development of this subsequent Regional Transmission Plan.

3.1.5 Regional Planning Group Comment Process

Any stakeholder may initiate an RPG project as accordance with Protocol Section 3.11.4.1, Project Submission. The RPG Project Review procedure is designed to review projects in a manner commensurate with the cost and impact to the market and to system reliability of the project, based on the Tier into which the project is grouped. The RPG Project Review procedure for submitted projects in all Tiers consists of the following steps.

(a) ERCOT will provide electronic copies of RPG Project Review submittals to the RPG within seven days of receipt and solicit comments or questions from the RPG;