FACILITY SCHEDULE NO. 27

1. **Name:** Marshall Ford Substation (LCRA)

2. **Facility Location:** The Marshall Ford Substation is located at 4340 FM 620 North, Austin, Travis County, Texas 78732.

3. **Points of Interconnection:** There are six (6) Points of Interconnection in the Marshall Ford Substation generally described as:

   - where the bridle connectors on the jumper from switch 9073 attaches to the 138 kV transfer bus
   - where the 138 kV operating bus pipe extension bolts to the four hole pad on switch 9069
   - where the bridle connectors on the jumper from switch 9183 attaches to the 138 kV transfer bus
   - where the 138 kV operating bus pipe extension bolts to the four hole pad on switch 9179
   - where the bridle connectors on the jumper from switch 8023 attaches to the 138 kV transfer bus
   - where the 138 kV operating bus pipe extension bolts to the four hole pad on switch 8019

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** No

6. **Delivery Voltage:** 138 kV

7. **Metered Voltage and Location:** N/A

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
   PEC owns:
   - Three (3) 138 kV circuit breakers 8020P, 9180P and 9070 including foundation, jumpers, bridles and jumpers at transfer bus and protective relay packages
   - Three (3) metering current transformers CT-1, CT-2 and CT-3 (internal to breakers 8020P, 9180P and 9170) (this is not billing metering)
   - Nine (9) 138 kV switches 8019, 8021, 8023, 9069, 9071, 9073, 9179, 9181 and 9183
   - Three (3) 138 kV wave traps and tuners WT-1, WT-8 and WT-9
   - Three (3) 138 kV coupling capacitors CC-1, CC-8 and CC-9
   - Control house (24' X 18') and battery

LCRA TSC owns:

The Marshall Ford Substation including, but not limited to, the following items:

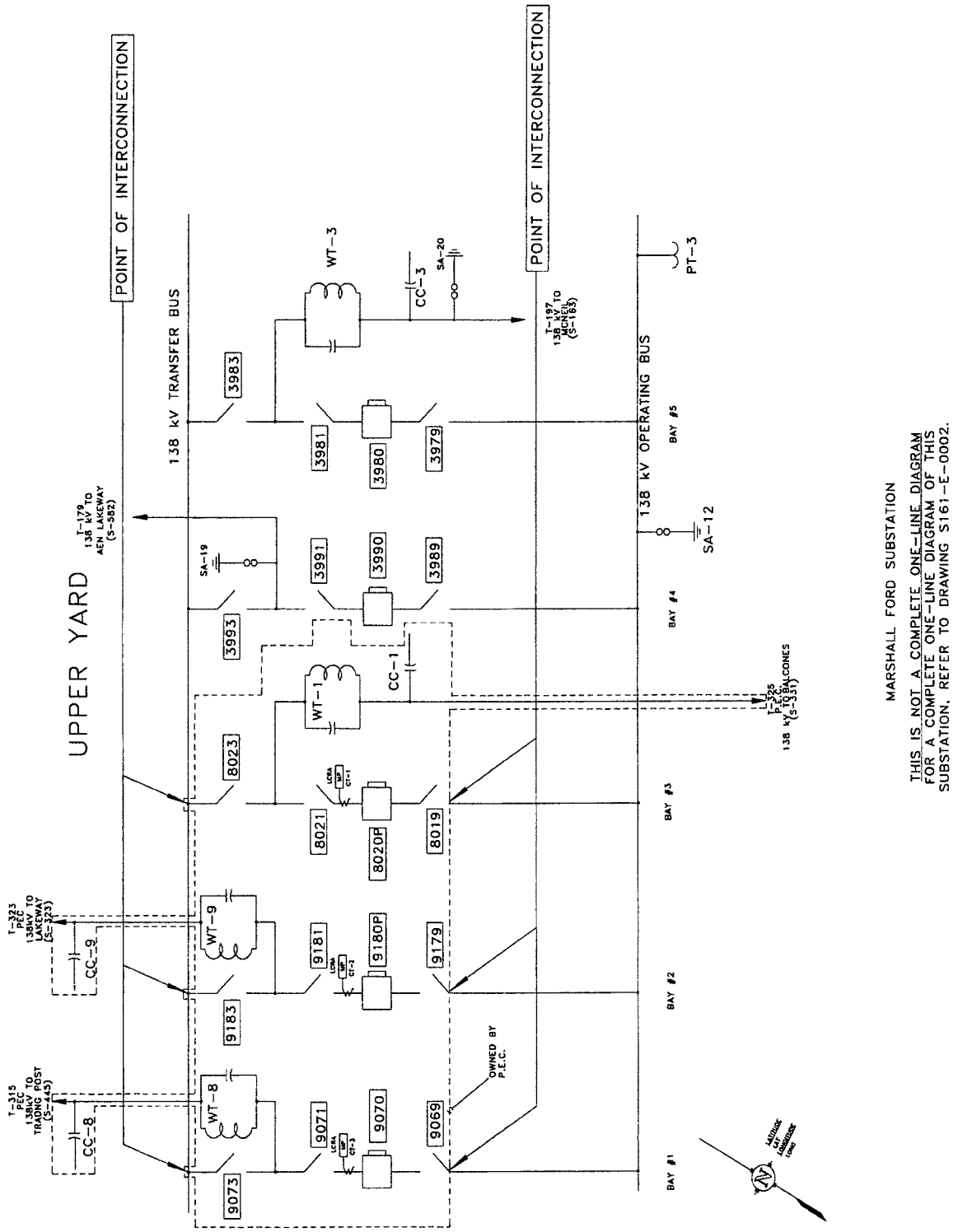
- 138 kV operating and transfer bus including structures, insulators, foundations, pipe bus extensions, bridles and jumpers at operating bus
- Two (2) 138 kV circuit breakers 3980 and 3990 including foundation, jumpers and protective relay packages
- Six (6) 138 kV switches 3979, 3981, 3983, 3989, 3991 and 3993
- Three (3) 138 kV surge arrester SA-12, SA-19 and SA-20
- One (1) 138 kV bus potential transformer PT-3
- One (1) 138 kV wave trap WT-3
- One (1) 138 kV coupling capacitor CC-3
- One (1) upper yard panel 1, bus differential and breaker failure
- Control house (24' X 20') and battery (upper yard)
- Control house and battery (lower yard)

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

MARSHALL FORD ONE-LINE DIAGRAM



MARSHALL FORD SUBSTATION

THIS IS NOT A COMPLETE ONE-LINE DIAGRAM FOR A COMPLETE ONE-LINE DIAGRAM OF THIS SUBSTATION, REFER TO DRAWING S161-E-0002.

FACILITY SCHEDULE NO. 28

1. **Name:** Mc Carty Lane East Substation **(LCRA)**

2. **Facility Location:** The Mc Carty Lane East Substation is located at 1502 E. Mc Carty Ln, San Marcos, Hays County, Texas 78666.

3. **Points of Interconnection:** There are three (3) Points of Interconnection in the Mc Carty Lane East Substation generally described as:

   - where the incoming 138 kV transmission line from Hunter Substation attaches to the dead end insulator.
   - where the top of wave trap WT-7 connects to the vertical bus.
   - where the bottom of wave trap WT-7 connects to the vertical bus.

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** No

6. **Delivery Voltage:** 138 kV

7. **Metered Voltage and Location:** N/A

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
   PEC owns:
   - The following transmission lines comprised of conductors, insulators, and connecting hardware:
     - Mc Carty Lane East to Hunter 138 kV transmission line
   - One (1) wave trap and tuner WT-7

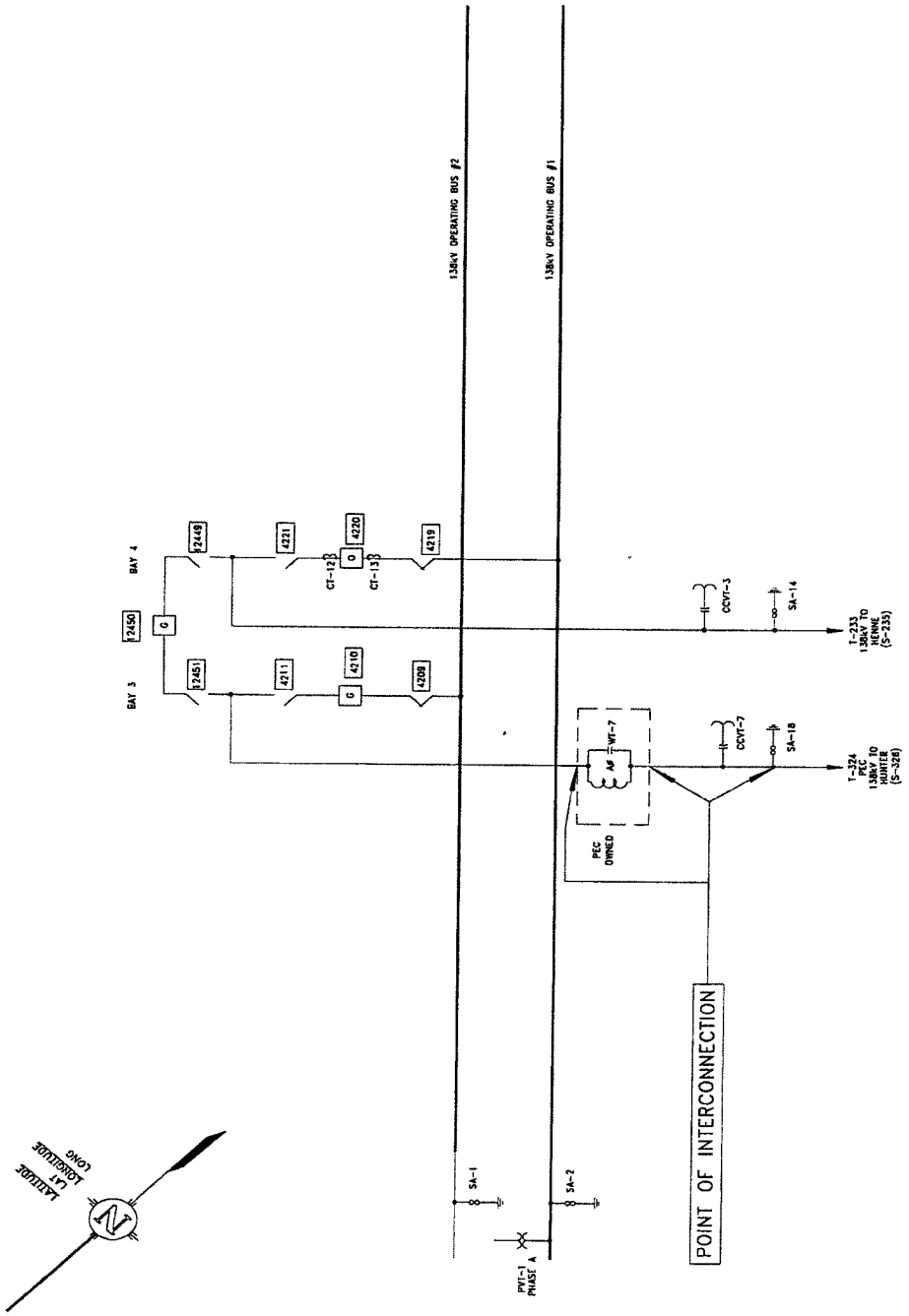
   LCRA TSC owns:
   The McCarty Lane East Substation including, but not limited to, the following items:
   - 138 kV operating bus #1 and #2 including structures, insulators, foundations and jumpers
   - Three (3) 138 kV circuit breakers 4210, 4220 and 12450 including foundation, jumpers and protective relay package
   - Six (6) 138 kV switches 4209, 4211, 4219, 4221, 12449 and 12451
   - Two (2) 138 kV coupling capacitor voltage transformers CCVT-3 and CCVT-7
   - Four (4) 138 kV surge arrester SA-1, SA-2, SA-14 and SA-18
   - One (1) 138 kV bus potential voltage transformer PVT-1
   - Two (2) 138 kV current transformers CT-12 and CT-13
   - Control house and battery
   - Station service (not shown on attached one-line drawing)

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

MCCARTY LANE EAST ONE-LINE DIAGRAM



MCCARTY LANE EAST SUBSTATION

THIS IS NOT A COMPLETE ONE-LINE DIAGRAM
FOR A COMPLETE ONE-LINE DIAGRAM OF THIS
SUBSTATION, REFER TO DRAWING S215-E-0007.

FACILITY SCHEDULE NO. 29

1. **Name:** Miller Creek Substation **(LCRA)**

2. **Facility Location:** The Miller Creek Substation is located at 1040B Yeager Creek Rd., Johnson City, Blanco County, Texas 78636.

3. **Points of Interconnection:** There is one (1) Point of Interconnection in the Miller Creek Substation generally described as:

   - where the incoming 138 kV transmission line from Henly Substation attaches to the dead end insulator.

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** No

6. **Delivery Voltage:** 138 kV

7. **Metered Voltage and Location:** N/A

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
   PEC owns:
   - The following transmission lines comprised of conductors, insulators, and connecting hardware:
     - Miller Creek to Henly 138 kV transmission line

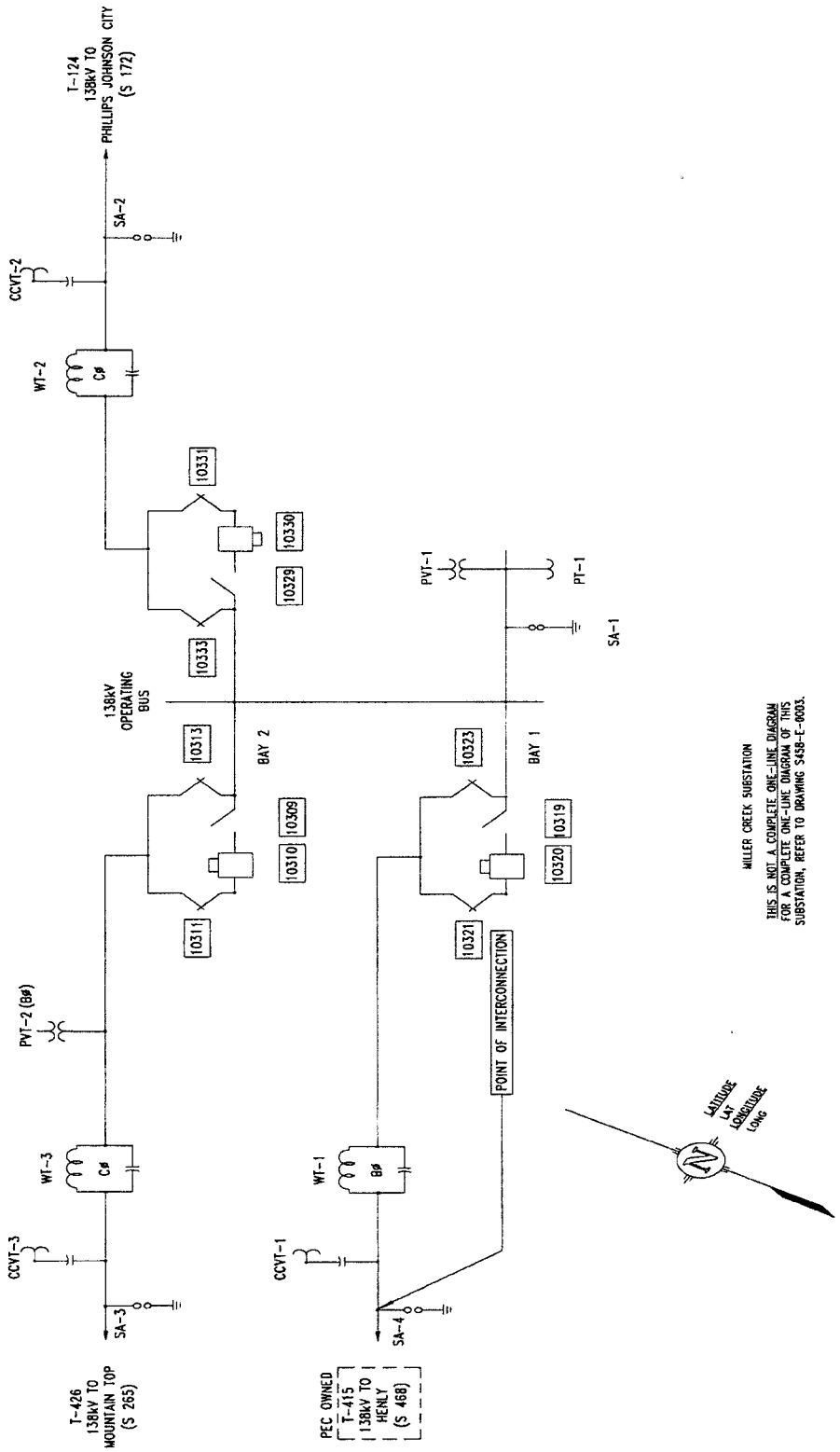
   LCRA TSC owns:
   The Miller Creek Substation including, but not limited to, the following items:
   - 138 kV operating bus including structures, insulators, foundations and jumpers
   - Three (3) 138 kV circuit breakers 10310, 10320 and 10330 including foundations, jumpers and protective relay package
   - Nine (9) 138 kV switches 10311, 10313, 10309, 10321, 10319, 10323, 10333, 10331, 10329
   - Three (3) 138 kV wave traps WT-1, WT-2 and WT-3
   - Three (3) 138 kV coupling capacitor voltage transformers CCVT-1, CCVT-2 and CCVT-3
   - Four (4) 138 kV surge arresters SA-1, SA-2, SA-3 and SA-4
   - Two (2) 138 kV bus potential voltage transformers PVT-1 and PVT-2
   - One (1) 138 kV bus potential transformer PT-1

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

MILLER CREEK ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 30

1. **Name:** Mountain Top Substation **(PEC)**

2. **Facility Location:** The Mountain Top Substation is located at 1079 Mountain Top Rd., Johnson City, Blanco County, Texas 78636.

3. **Points of Interconnection:** There are four (4) Points of Interconnection in the Mountain Top Substation generally described as:

   - where the jumper from the 138 kV operating bus bolts to the 4 hole pad on switch 4879.
   - where the jumper from the 138 kV transfer bus bolts to the 4 hole pad on switch 4883.
   - where the jumper from the 138 kV operating bus bolts to the 4 hole pad on switch 4889.
   - where the jumper from the 138 kV transfer bus bolts to the 4 hole pad on switch 4893.

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** No

6. **Delivery Voltage:** 138 kV

7. **Metered Voltage and Location:** N/A

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
   PEC owns:
   The Mountain Top Substation including, but not limited to, the following items:
   - 138 kV dead-end structures, foundations, insulators and jumpers except those listed as LCRA TSC owned
   - 69 kV dead-end structures, foundations, insulators and jumpers except those listed as LCRA TSC owned
   - 138 kV operating and transfer bus including structures, insulators, foundations and jumpers
   - 69 kV operating and transfer bus including structures, insulators, foundations and jumpers
   - Three (3) 138 kV switches 4869, 4871 and 4873
   - One (1) 138 kV circuit breaker 4870 including foundation, jumpers and protective relay package
   - One (1) metering current transformer CT-1 (PEC CT number, internal to circuit breaker 4870) (this is not billing metering)

- One (1) auto transformer AT-1 with associated surge arresters

- Nine (9) 69 kV switches 1969, 1971, 1973, 1979, 1981, 1983, 1989, 1991 and 1993
- Three (3) 69 kV circuit breakers 1970, 1980 and 1990 including foundations, jumpers and protective relay packages
- One (1) 69 kV surge arrester
- One (1) 69 kV bus potential transformer PT-2
- One (1) 69 kV station service SS-1 with associated fused disconnect switch
- Control house and battery

LCRA TSC owns:

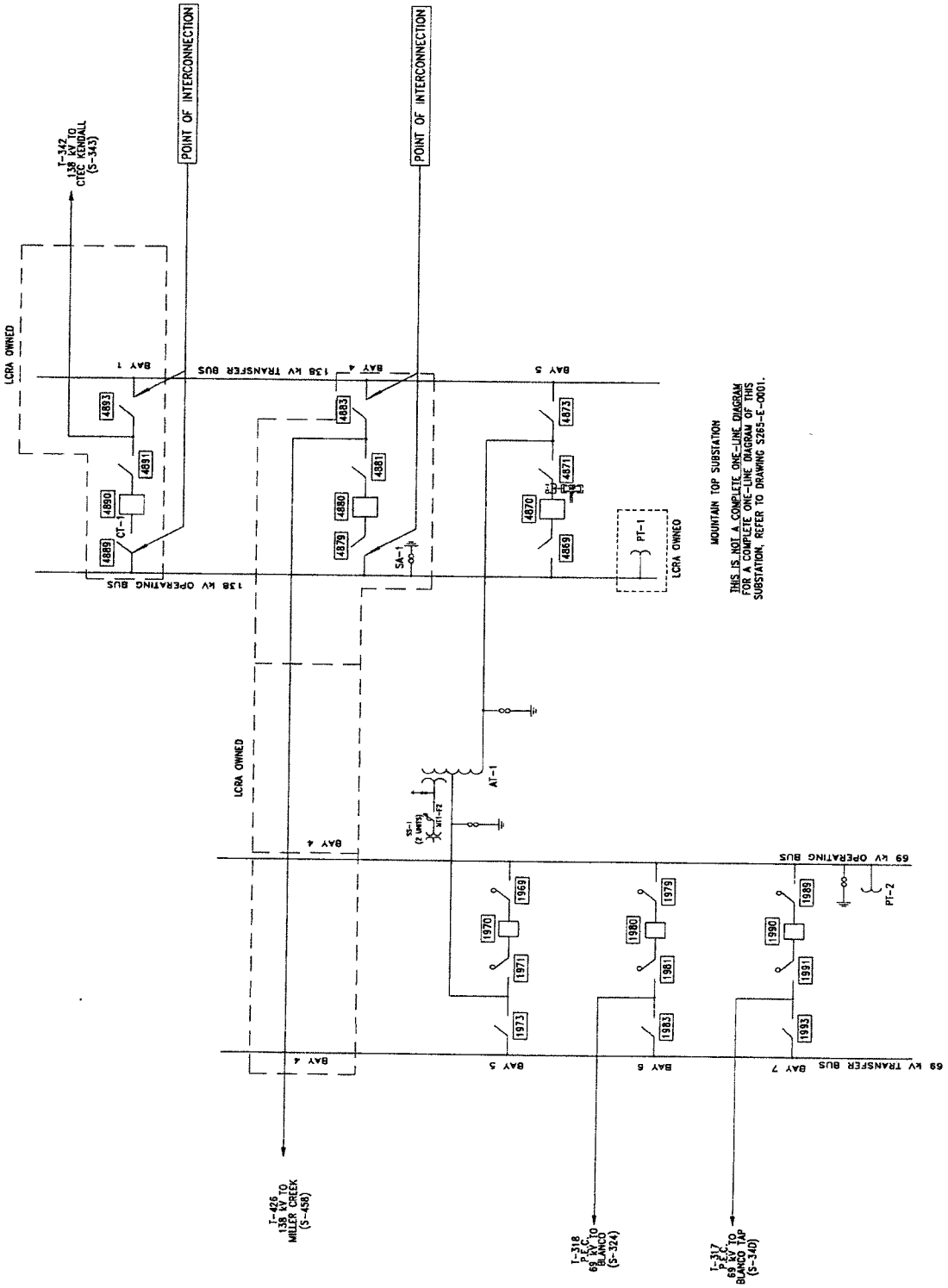
- 138 kV dead-end A frame structures, foundations, insulators and jumpers for the following bays; 138 kV bay #1 and #4, 69 kV bay #4, the bay adjacent to auto transformer AT-1
- Six (6) 138 kV switches 4879, 4881, 4883, 4889, 4891 and 4893
- Two (2) 138 kV circuit breakers 4880 and 4890 including foundations, jumpers and protective relay packages
- One (1) 138 kV surge arrester SA-1
- One (1) 138 kV bus potential transformer PT-1
- One (1) 138 kV current transformer CT-1 (LCRA CT number)

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by LCRA TSC locks in the gate and in the control house doors.

MOUNTAIN TOP ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 31

1. **Name:** Phillips Johnson City Substation **(LCRA/Phillips Petroleum)**

2. **Facility Location:** The Phillips Johnson City Substation is located at 1209 Pedernales Falls Rd., Johnson City, Blanco County, Texas 78636.

3. **Points of Interconnection:** There are six (6) Points of Interconnection in the Phillips Johnson City Substation generally described as:

   - where the incoming distribution line connects to the tubular bus between switches PJ-11 and PJ-13 at breaker PJ-10.
   - where the jumper from breaker PJ-10 connects to the 4 hole pad on switch PJ-09.
   - where the jumper from breaker PJ-10 connects to the 4 hole pad on switch PJ-11.
   - where the incoming distribution line connects to the tubular bus between switches PJ-21 and PJ-23 at breaker PJ-20.
   - where the jumper from breaker PJ-20 connects to the 4 hole pad on switch PJ-19.
   - where the jumper from breaker PJ-20 connects to the 4 hole pad on switch PJ-21.

4. **Transformation Services Provided by LCRA TSC:** Yes

5. **Metering Services Provided by LCRA TSC:** Yes

6. **Delivery Voltage:** 12.5 kV

7. **Metered Voltage and Location:** The metering voltage is 12.5 kV. The metering current transformer is located in the 12.5 kV total bay. The bus potential transformer is located on the 12.5 kV operating bus.

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
   PEC owns:
   - Two (2) distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
   - Two (2) distribution circuit breakers PJ-10 and PJ-20 including foundations, jumpers, protective relay packages and surge arresters

   Phillips Petroleum owns:
   - Substation property
   - Station service SS-2 with fuse F-4 (not shown on one-line)
   - One (1) surge arrester SA-2 (not shown on one-line)
   - One (1) low voltage switch PJ-15 (not shown on one-line)

LCRA TSC owns:

The Phillips Johnson City Substation property is leased from Phillips Petroleum Company by LCRA TSC.

LCRA TSC owns the Phillips Johnson City Substation including, but not limited to, the following items:

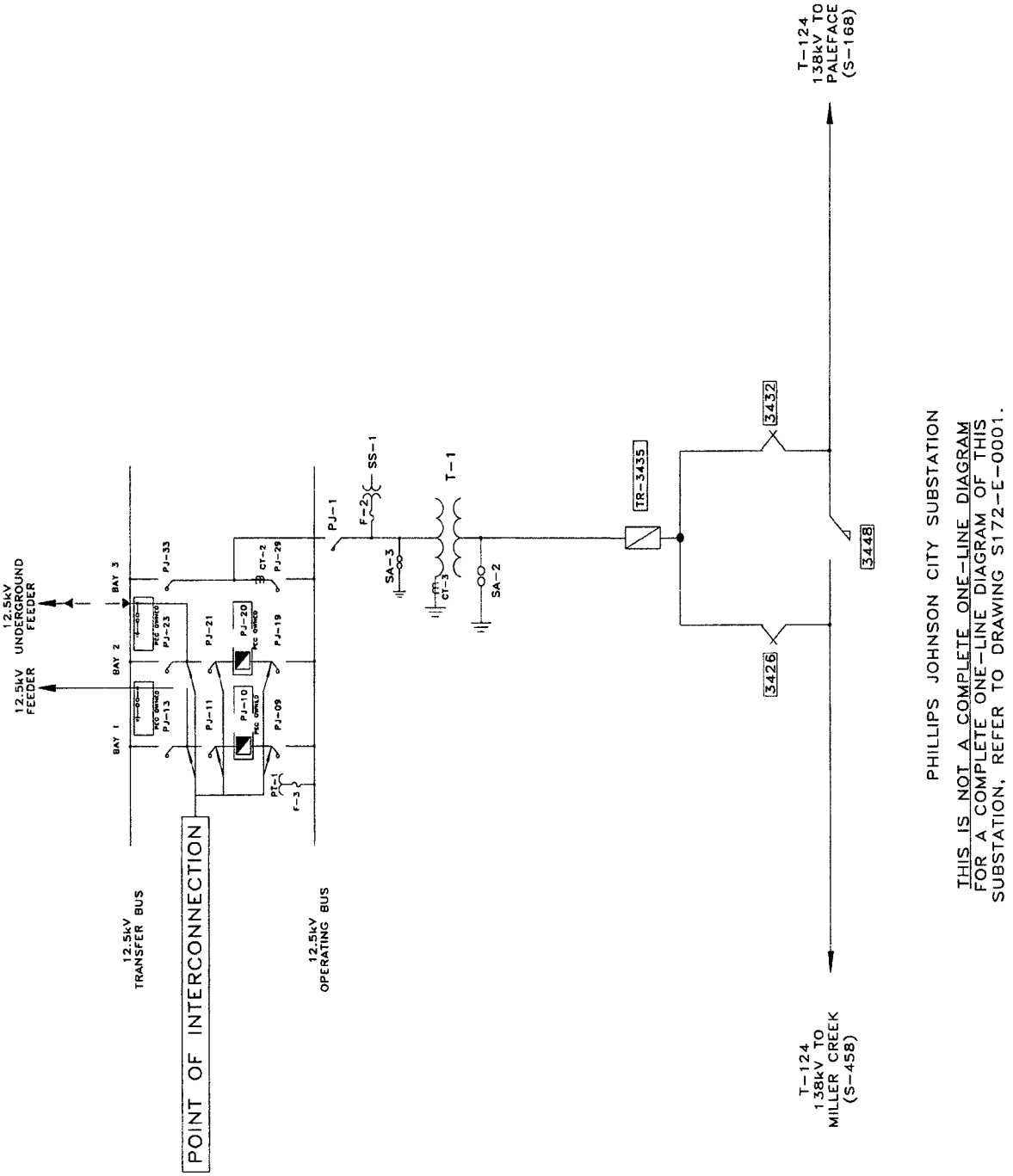
- 138 kV dead-end structures, foundations, insulators and jumpers
- Three (3) 138 kV switches 3426, 3432 and 3448
- One (1) Transrupter TR3435
- One (1) power transformer PWT-1, T-1 with associated surge arresters
- All distribution and total bays including A-frames, trusses, insulators, disconnect switches, 12.5 kV operating and transfer bus, and associated cabling
- One (1) 12.5 kV metering current transformer CT-2
- One (1)single phase neutral current transformer CT-3
- One (1) 12.5 kV bus potential transformer PT-1 with associated fused disconnect switch
- One (1) Station service SS-1 with associated fused disconnect switch
- Control house (12' x 21')

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

PHILLIPS JOHNSON CITY ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 32

1. **Name:** River Oaks Substation (PEC)

2. **Facility Location:** The River Oaks Substation is located at 3723 FM 306, New Braunfels, Comal County, Texas 78132.

3. **Points of Interconnection:** There is one (1) Point of Interconnection in the River Oaks Substation generally described as:

   - where the 138 kV bus expansion connector bolts to the 4 hole pad on switch 9812.

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** Yes

6. **Delivery Voltage:** 138 kV

7. **Metered Voltage and Location:** The metering voltage is 12.5 kV. The metering current transformer is located inside T-1. The bus potential transformer is located on the 12.5 kV operating bus.

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
   PEC owns:
   The River Oaks Substation including, but not limited to, the following items:
   - One (1) 138 kV circuit switcher CS-9815 with associated disconnect switch 9812 and bypass switch 9817
   - One (1) power transformer T-1 with associated surge arresters
   - One (1) metering current transformer CT-1 (internal to T-1)
   - One (1) 12.5 kV transformer bus disconnect switch RK1-5
   - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
   - All distribution circuit breakers including jumpers, protective relay packages and foundations
   - All distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 12.5 kV operating and transfer bus and associated cabling
   - One (1) 12.5 kV bus potential transformer PT-1 with associated fused disconnect switch
   - One (1) modulation transformer MTU-1 with associated surge arrester, fused disconnect switch and OMU unit
   - Control house and battery bank
   - One (1) 12.5 kV station service SS-1 with associated fused disconnect switch

LCRA TSC owns:

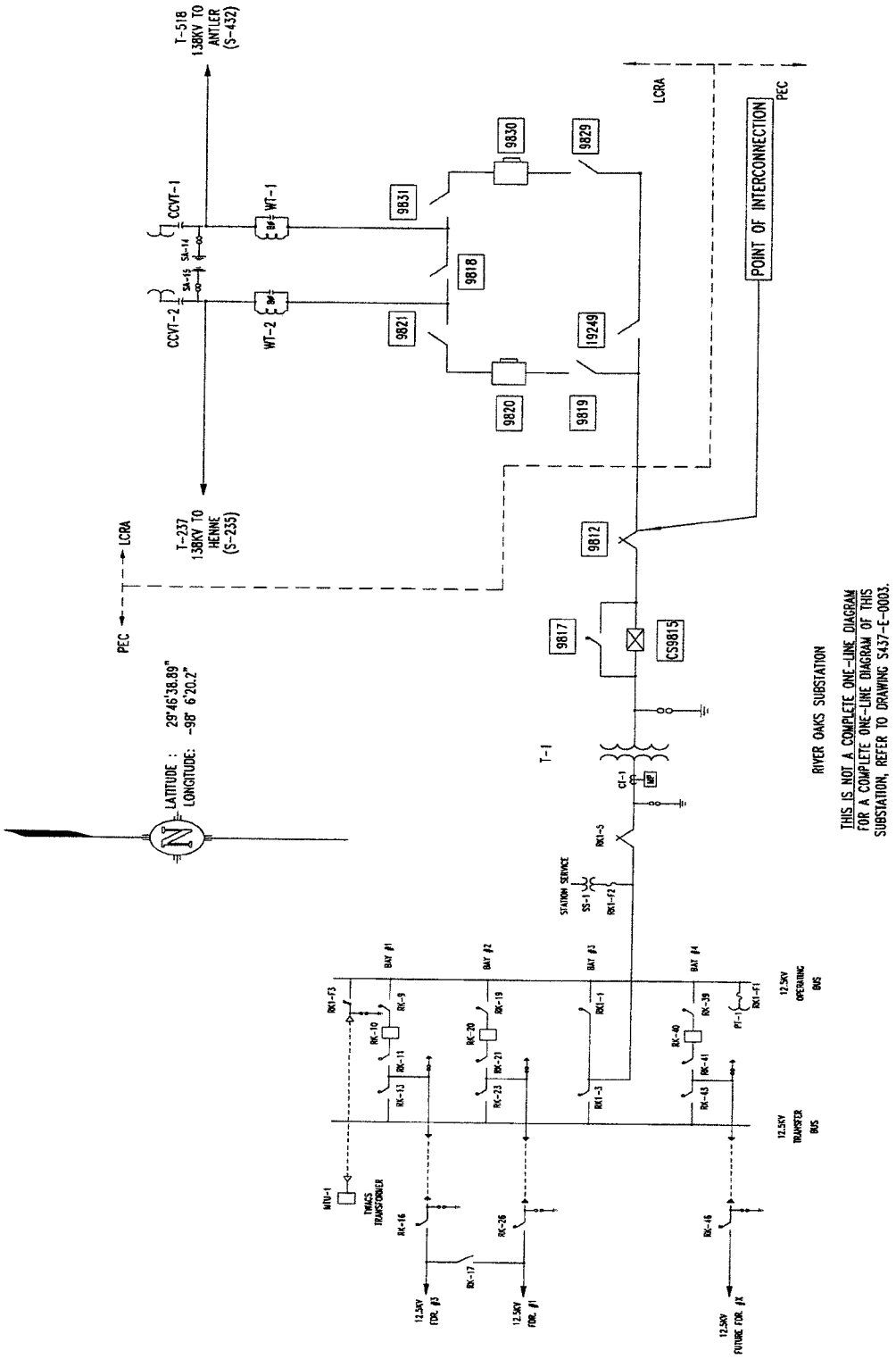
- 138 kV dead-end structures, foundations, insulators and jumpers
- 138 kV operating bus including structures, insulators, foundations and jumpers
- Six (6) 138 kV switches 9818, 9819, 9821, 9829, 9831 and 19249
- Two (2) 138 kV circuit breakers 9820 and 9830 including foundation, jumpers and protective relay packages
- Two (2) 138 kV coupling capacitor voltage transformers CCVT-1 and CCVT-2
- Two (2) 138 kV wave traps and tuners WT-1 and WT-2
- Two (2) 138 kV surge arresters SA-14 and SA-15
- Underfrequency relay panel

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

RIVER OAKS ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 33

1. **Name:** Rohr Substation **(PEC)**

2. **Facility Location:** The Rohr Substation is located at 2011 Technology Way, San Marcos, Hays County, Texas 78666.

3. **Points of Interconnection:** There is one (1) Point of Interconnection in the Rohr Substation generally described as:

   - where the jumper from CS-2255 connects to the tubular bus between switches 2258 and 2256.

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** Yes

6. **Delivery Voltage:** 138 kV

7. **Metered Voltage and Location:** The metering voltage is 24.9 kV. The metering current transformer is located in the T-1 bus. The bus potential transformer is located on the 24.9 kV operating bus.

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
   PEC owns:
   The Rohr Substation including, but not limited to, the following items:
   - One (1) circuit switcher CS-2255 with associated bypass switch 2257
   - One (1) power transformer T-1 with associated surge arresters
   - One (1) metering current transformer CT-1 (internal to T-1)
   - Switchgear house (metal) including breakers, bus potential transformer, station service, 24.9 kV operating bus
   - One (1) 24.9 kV pad mounted transfer switch PMTS-1
   - One (1) 24.9 kV auxiliary station service SS-1 with associated fused disconnect switch
   - One (1) 24.9 kV station service SS-2 with associated fused disconnect switch
   - One (1) modulation transformer MTU-1 with associated surge arrester, fused disconnect switch and OMU unit
   - All distribution circuits including insulators, conductors and hardware

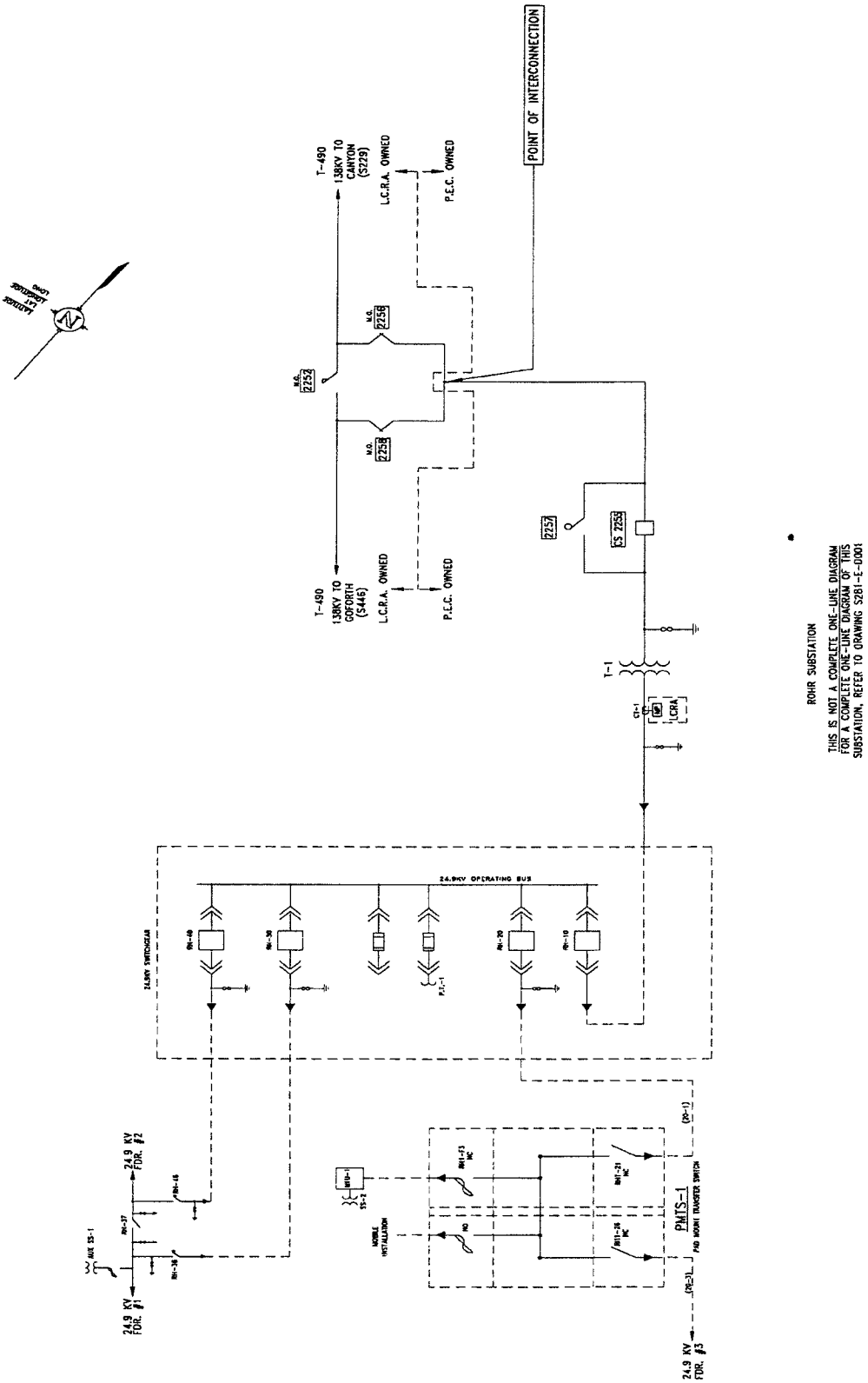
   LCRA TSC owns:
   - 138 kV dead-end structures, foundations, insulators and jumpers
   - Three (3), 138 kV motor operated switches MO-2252, 2256 and MO-2258
   - Control house and battery (21' by 27')

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

ROHR ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 34

1. **Name:** Segovia Substation **(PEC)**

2. **Facility Location:** The Segovia Substation is located at 11525 E. RR 2169, Junction, Kimble County, Texas 76849.

3. **Points of Interconnection:** There is one (1) Point of Interconnection in the Segovia Substation generally described as:

   - where the jumper from the incoming transmission line bolts to switch 1384.

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** Yes

6. **Delivery Voltage:** 69 kV

7. **Metered Voltage and Location:** The metering voltage is 24.9 kV. The metering current transformer is located in the T-1 24.9 kV bus. The bus potential transformer is located on the 24.9 kV operating bus.

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
   PEC owns:
   The Segovia Substation including, but not limited to, the following items:
   - One (1) 69 kV switch 1384
   - One (1) 69 kV power fuse SG1-F3
   - One (1) 69 kV surge arrester SA-1
   - One (1) power transformer T-1 with associated surge arresters
   - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
   - All distribution circuit breakers including jumpers, protective relay packages and foundations
   - All distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 24.9 kV operating and transfer bus, current transformers and associated cabling
   - Three (3) 24.9 kV single phase regulators REG-1 with associated disconnect and bypass switches
   - One (1) modulation transformer MTU-1 with associated surge arrester, fused disconnect switch and OMU unit
   - Control house (southwest corner of yard) and battery
   - One (1) 24.9 kV station service SS-1 with associated fused disconnect switch

LCRA TSC owns:

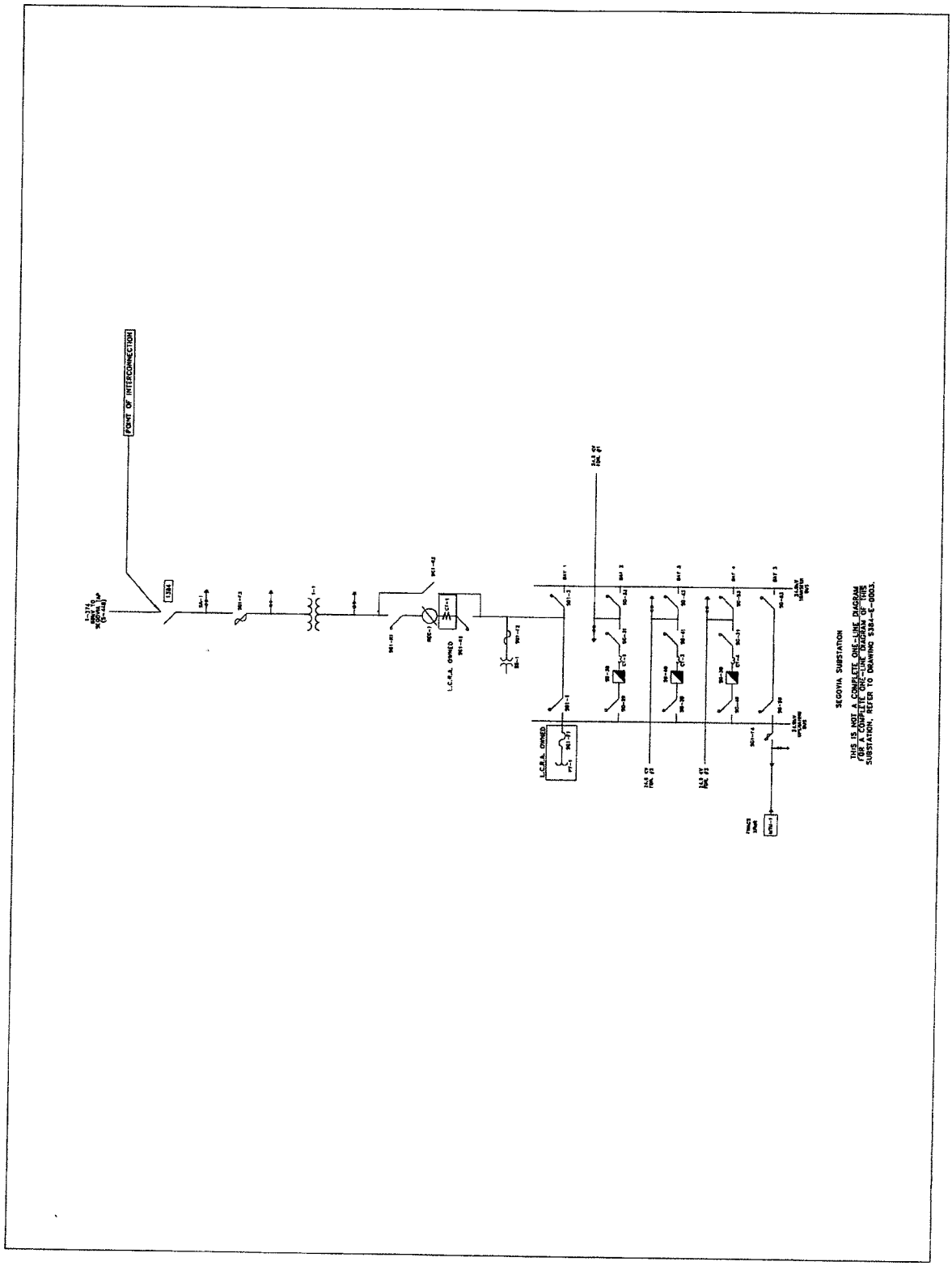
- The following transmission lines comprised of conductors, insulators, and connecting hardware:
    - Segovia to Segovia Tap 69 kV transmission line
- 138 kV dead-end structures, foundations, insulators and jumpers
- One (1) 24.9 kV bus potential transformer PT-1 with associated fused disconnect switch
- One (1) 24.9 kV metering current transformer CT-1
- Control house (center west of yard)

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

SEGOVIA ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 35

1. **Name:** Sherwood Shores Substation **(PEC)**

2. **Facility Location:** The Sherwood Shores Substation is located at 8905 W. FM 1431, Marble Falls, Burnet County, Texas 78654.

3. **Points of Interconnection:** There are two (2) Points of Interconnection in the Sherwood Shores Substation generally described as:

   - where the jumper from the dead end insulator attaches to the 4 hole pad on switch 3237.
   - where the jumper from the dead end insulator attaches to the 4 hole pad on switch 3275.

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** Yes

6. **Delivery Voltage:** 138 kV

7. **Metered Voltage and Location:** The metering voltage is 12.5 kV. The metering current transformers are located in T-1 12.5 kV bus and in T-2 12.5 kV total bay #2-3. The bus potential transformers are located on the 12.5 kV operating buses.

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
   PEC owns:
   The Sherwood Shores Substation including, but not limited to, the following equipment:
   - Two (2) 138 kV circuit switchers CS-3228 and CS-3248
   - Four (4) 138 kV switches 3197, 3272, 3275 and 3237
   - Two (2) power transformers T-1 and T-2 with associated surge arresters
   - One (1) 12.5 kV transformer bus disconnect switch SS1-5
   - Six (6) 12.5 kV single phase regulators REG-1and REG-2 with associated disconnect and bypass switches
   - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
   - All distribution circuit breakers including jumpers, protective relay packages and foundations
   - All distribution and total bays including A-frames, trusses, insulators, disconnect switches, motor operated switch, surge arresters, 12.5 kV operating and transfer bus and associated cabling
   - Two (2) 12.5 kV bus potential transformers PT-1 and PT-2 with associated fused

disconnect switches

- Two (2) modulation transformers MTU-1 and MTU-2 with associated surge arresters, fused disconnect switches and OMU units
- Control house and battery
- Two (2) 12.5 kV station service SS-1 and SS-2 with associated fused disconnect switches

LCRA TSC owns:

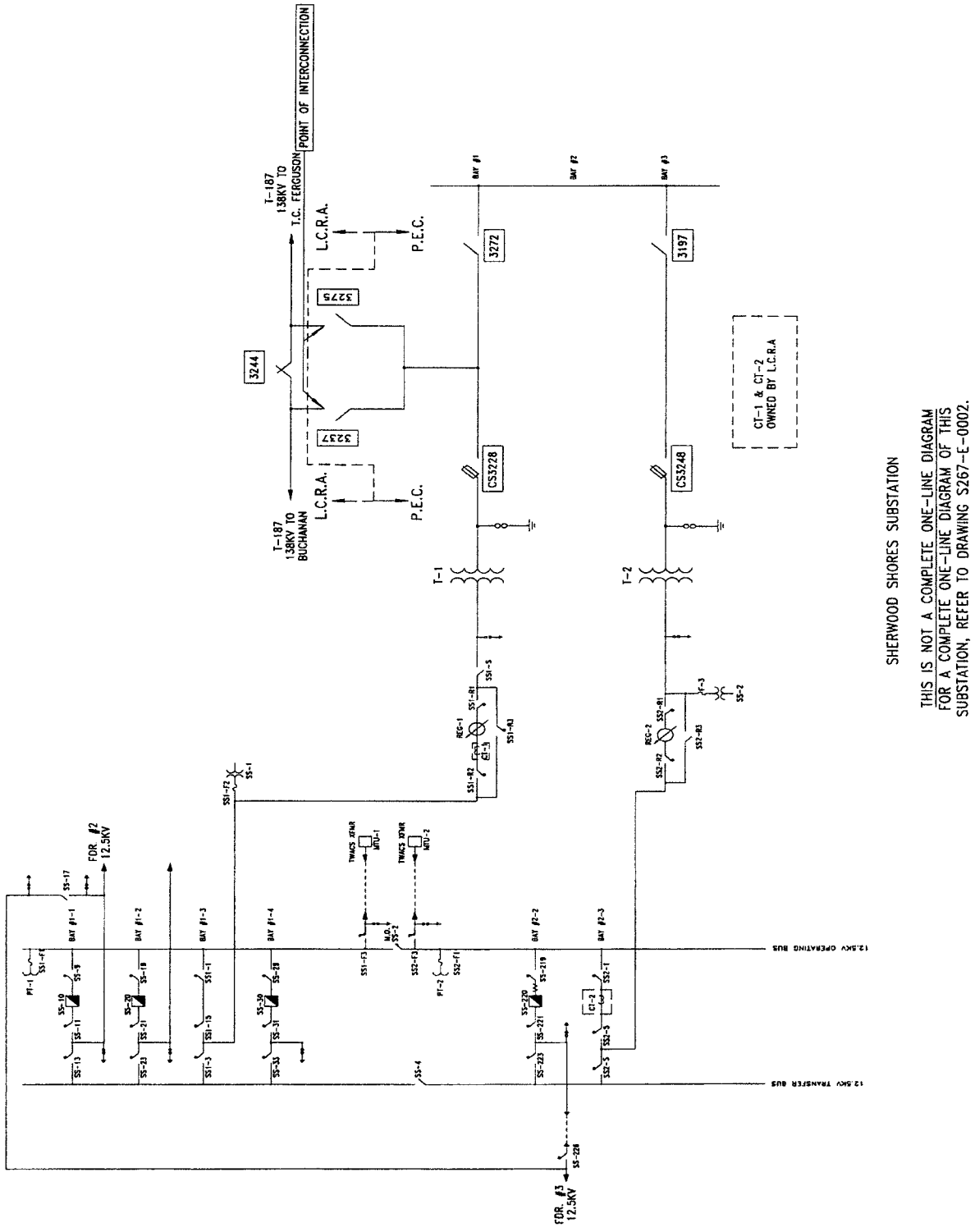
- 138 kV dead-end structures, foundations, insulators and jumpers
- One (1) 138 kV switches 3244 (with interrupter)
- Two (2) metering current transformers CT-1 and CT-2

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

SHERWOOD SHORES ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 36

1. **Name:** Spicewood Substation (PEC)

2. **Facility Location:** The Spicewood Substation is located at 9011 Old Lampasas Trail, Austin, Travis County, Texas 78750.

3. **Points of Interconnection:** There are two (2) Points of Interconnection in the Spicewood Substation generally described as:

   - where the jumper from the 138 kV operating bus bolts to the 4 hole pad on switch 5254.
   - where the jumper from the 138 kV operating bus bolts to the 4 hole pad on switch 5264.

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** Yes

6. **Delivery Voltage:** 138 kV

7. **Metered Voltage and Location:** The metering voltage is 138 kV. The metering current transformers are internal to breakers 5250 and 5260. The bus potential transformer is located on the 138 kV operating bus.

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
   PEC owns:
   The Spicewood Substation including, but not limited to, the following items:
   - Two (2) 138 kV circuit switchers CS-5255 and CS-5265 with associated bypass switches 5257, 5267 and disconnect switches 5254, 5264
   - Two (2) power transformers T-1 and T-2 with associated surge arresters
   - Two (2) transformer bus disconnect switches SW2-5 and SW1-5
   - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
   - All distribution circuit breakers including jumpers, protective relay packages and foundations
   - All distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 12.5 kV operating and transfer bus and associated cabling
   - Two (2) 12.5 kV bus potential transformers PT-1 and PT-2 with fused disconnect switches
   - Two (2) metering current transformers CT-3 and CT-4 (PEC metering)
   - Two (2) modulation transformers MTU-1 and MTU-2 with associated surge

arresters, fused disconnect switches and OMU units
- Two (2) 12.5 kV station service SS-1 and SS-2 with associated fused disconnect switches
- Control house and battery

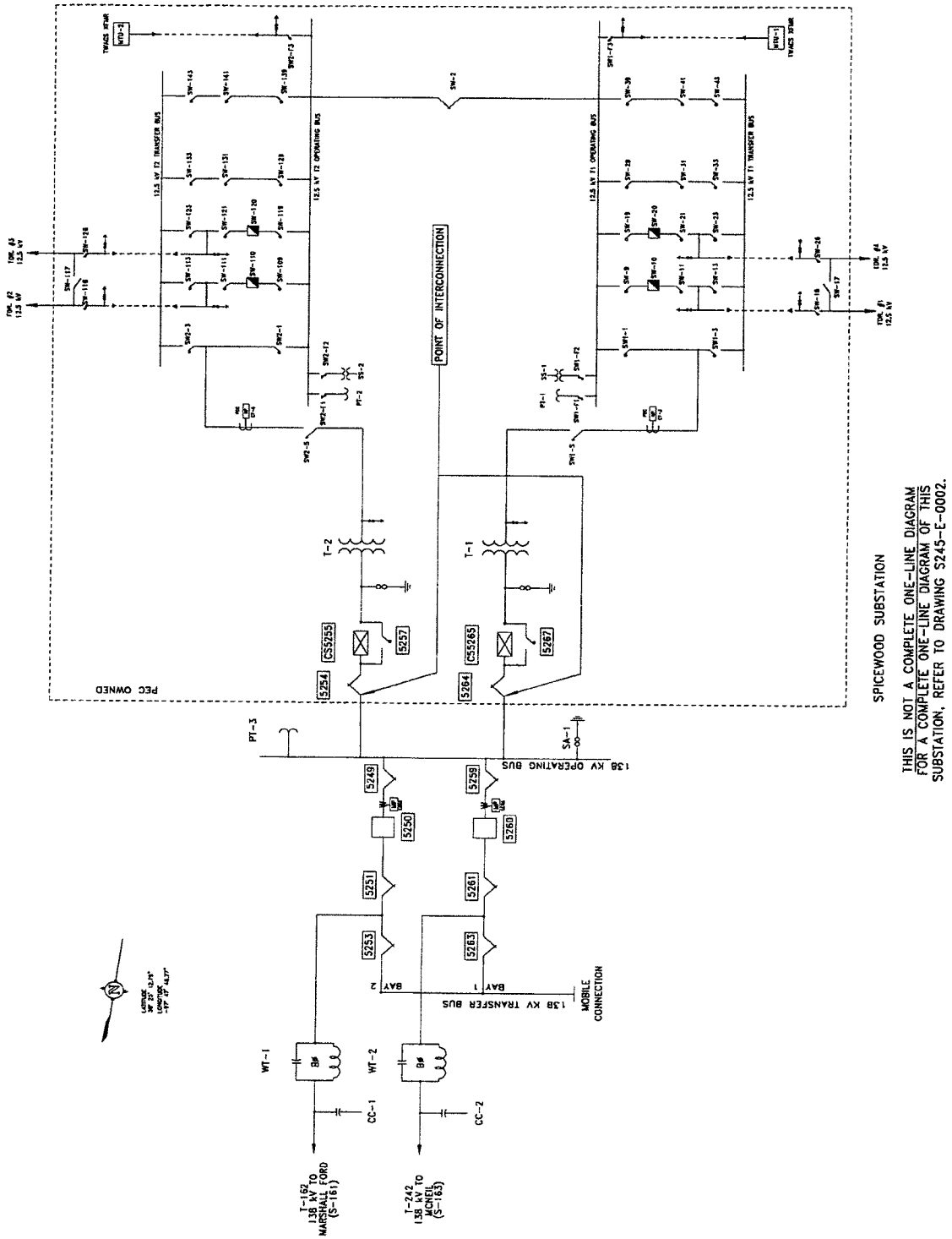
LCRA TSC owns:
- 138 kV dead-end structures, foundations, insulators and jumpers
- Two (2) 138 kV circuit breakers 5250 and 5260 including foundation, jumpers and protective relay packages
- 138 kV operating and transfer bus including structures, insulators, foundations and jumpers
- Six (6) 138 kV switches 5249, 5251, 5253, 5259, 5261 and 5263
- Two (2) 138 kV coupling capacitors CC-1 and CC-2
- Two (2) 138 kV wave trap and tuner WT-1 and WT-2
- One (1) 138 kV surge arrester SA-1
- One (1) 138 kV bus potential transformer PT-3

10. Operational Responsibilities of Each Party: Each Party is responsible for the operation of the equipment it owns.

11. Maintenance Responsibilities of Each Party: Each Party will be fully responsible for the maintenance of the equipment it owns.

12. Other Terms and Conditions: PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

SPICEWOOD ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 37

1. **Name:** Turnersville Substation **(LCRA)**

2. **Facility Location:** The Turnersville Substation is located at 1789 S. Turnersville Rd., Buda, Hays County, Texas 78610.

3. **Points of Interconnection:** There are four (4) Points of Interconnection in the Turnersville Substation generally described as:

   - where the jumper from the 138 kV operating bus bolts to the 4 hole pad on switch 9704.
   - where the jumper from the 138 kV transfer bus bolts to the 4 hole pad on switch 9706.
   - where the jumper from the 138 kV operating bus bolts to the 4 hole pad on switch 9714.
   - where the jumper from the 138 kV transfer bus bolts to the 4 hole pad on switch 9716.

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** Yes

6. **Delivery Voltage:** 138 kV

7. **Metered Voltage and Location:** The metering voltage is 24.9 kV. The metering current transformers are located inside transformers T-1 and T-2. The bus potential transformers are located on the 24.9 kV operating buses.

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
   PEC owns:
   - 138 kV dead-end structure, foundation, insulators and jumpers (2-A-frames and trusses, foundations and insulators in bay #3 and #4)
   - A-frames structures, foundations, insulators and jumpers over transformers T-1 and T-2
   - Two (2) 138 kV circuit switchers CS-9705 and CS-9715 with associated disconnect and bypass switches 9704, 9706, 9707, 9708, 9714, 9716, 9717 and 9718
   - Two (2) power transformers T-1 and T-2 with associated surge arresters
   - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
   - All distribution and total circuit breakers including jumpers, protective relay packages and foundations

- All distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 24.9 kV operating and transfer buses and associated cabling
- Two (2) modulation transformers MTU-1 and MTU-2 with associated surge arresters, fused disconnect switches and OMU units
- Two (2) 24.9 kV bus potential transformers PT-3 and PT-4 with fused disconnect switches
- Two (2) 24.9 kV station service SS-2 and SS-3 with associated fused disconnect switches

LCRA TSC owns:

The Turnersville Substation including, but not limited to, the following items:

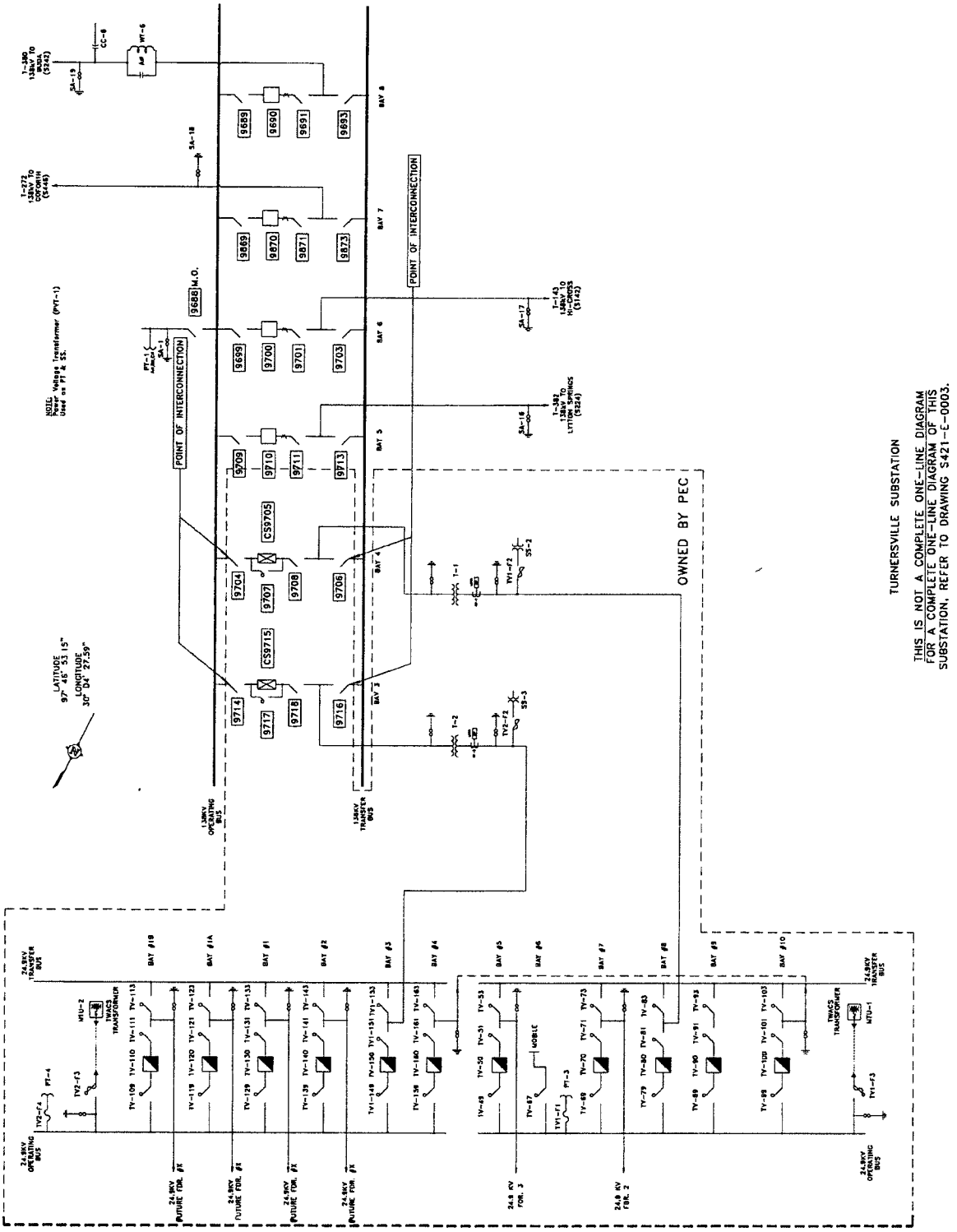
- 138 kV dead-end structures, foundations, insulators and jumpers (except 2-A frames and trusses, foundations and insulators in bay #3 and #4)
- 138 kV operating and transfer bus including structures, insulators, foundations and jumpers
- Four (4) 138 kV circuit breakers 9710, 9700, 9870, and 9690 including foundation, jumpers and protective relay packages
- Twelve (12) 138 kV switches 9709, 9711, 9713, 9699, 9701, 9703, 9869, 9871, 9873, 9689, 9691 and 9693
- One (1) 138 kV motor operated switch MO-9688
- One (1) 138 kV wave trap WT-6
- One (1) 138 kV coupling capacitor CC-6
- One (1) 138 kV bus potential transformer PT-1
- One (1) 138 kV surge arrester SA-1
- Control house and battery

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

TURNERSVILLE ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 38

1. **Name:** Wirtz Substation **(PEC)**

2. **Facility Location:** The Wirtz Substation is located at 3017 Wirtz Dam Rd., Marble Falls, Burnet County, Texas 78654.

3. **Points of Interconnection:** There are six (6) Points of Interconnection in the Wirtz Substation generally described as:

   - where the jumper from the 138 kV operating bus #1 bolts to the 4 hole pad on switch 9169.
   - where the jumper from the 138 kV transfer bus bolts to the 4 hole pad on switch 9173.
   - where the jumper from the 69 kV operating bus bolts to the 4 hole pad on switch 1689.
   - where the jumper from the 69 kV transfer bus bolts to the 4 hole pad on switch 1693.
   - where the jumper from the 138 kV operating bus #1 bolts to the 4 hole pad on switch 4844
   - where the jumper from the 138 kV operating bus #2 bolts to the 4 hole pad on switch 4854

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** Yes

6. **Delivery Voltage:** 69 kV & 138 kV

7. **Metered Voltage and Location:** The metering voltage is 12.5 kV and 69 kV. The metering current transformers are located in the total bay for T-5, inside T-6 and in the 69 kV operating bus between breakers 1690 and 1430. The bus potential transformers are located on 12.5 kV operating bus and the 69 kV operating bus.

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
   PEC owns:
   - 138 kV dead-end structures, foundations, insulators and jumpers for 138 kV bays # 10 and #11
   - One (1) 138 kV circuit breaker 9170 including foundation, jumpers and protective relay package
   - Three (3) 138 kV switches 9169, 9171 and 9173
   - One (1) 138 kV wave trap and tuner WT-8/LT-8
   - One (1) 138 kV coupling capacitor CC-8

- 69 kV operating and transfer bus including structures, insulators, foundations and jumpers
- 69 kV dead-end structures, foundations, insulators and jumpers for 69 kV bays # 9-#15
- Two (2) 69 kV circuit breakers 1430 and 1450 including foundation, jumpers and protective relay packages
- Nine (9) 69 kV switches 1417, 1426, 1429, 1431, 1433, 1435, 1449, 1451 and 1453
- Two (2) 69 kV surge arresters
- One (1) 69 kV bus potential transformer PT-2
- Two (2) 69 kV power fuses WZ3-F3 and WZ4-F3
- Two (2) 138 kV circuit switchers CS-4845 and CS-4855 with associated disconnect switches 4844, 4854 and bypass switches 4847, 4857
- Two (2) power transformers T-3 and T-4 with associated surge arresters
- Two (2) metering current transformers CT-4 and CT-5 (inside transformers T-3 and T-4)
- All T-3 and T-4 distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
- All T-3 and T-4 distribution circuit breakers including jumpers, protective relay packages and foundations
- All T-3 and T-4 distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 12.5 kV operating and transfer bus and associated cabling
- Two (2) 12.5 kV bus potential transformer PT-4 and PT-5 with associated fused disconnect switch
- Two (2) modulation transformers MTU-1 and MTU-2 and associated surge arresters, fused disconnect switch and OMU units
- Two (2) 12.5 kV station service SS-5 and SS-6 with fused disconnect switches
- Control House and battery (24' x 42')

LCRA TSC owns:

The Wirtz Substation including, but not limited to, the following items:

- 138 kV dead-end structures, foundations, insulators and jumpers for 138 kV bays # 1-#6, #8 and #9
- 138 kV operating and transfer bus including structures, insulators, foundations and jumpers
- One (1) 138 kV circuit breaker 4840 including foundation, jumpers and protective relay package
- Three (3) 138 kV switches 4839, 4841 and 4843
- Two (2) 138 kV surge arrester SA-1 and SA-15
- Two (2) 138 kV bus potential transformer PT-1 and PT-6
- One (1) Auto transformer AUT-1, T-1 with associated surge arresters
- 69 kV dead-end structures, foundations, insulators and jumpers for 69 kV bay # 8
- One (1) 69 kV circuit breaker 1690 including foundation, jumpers and protective relay package

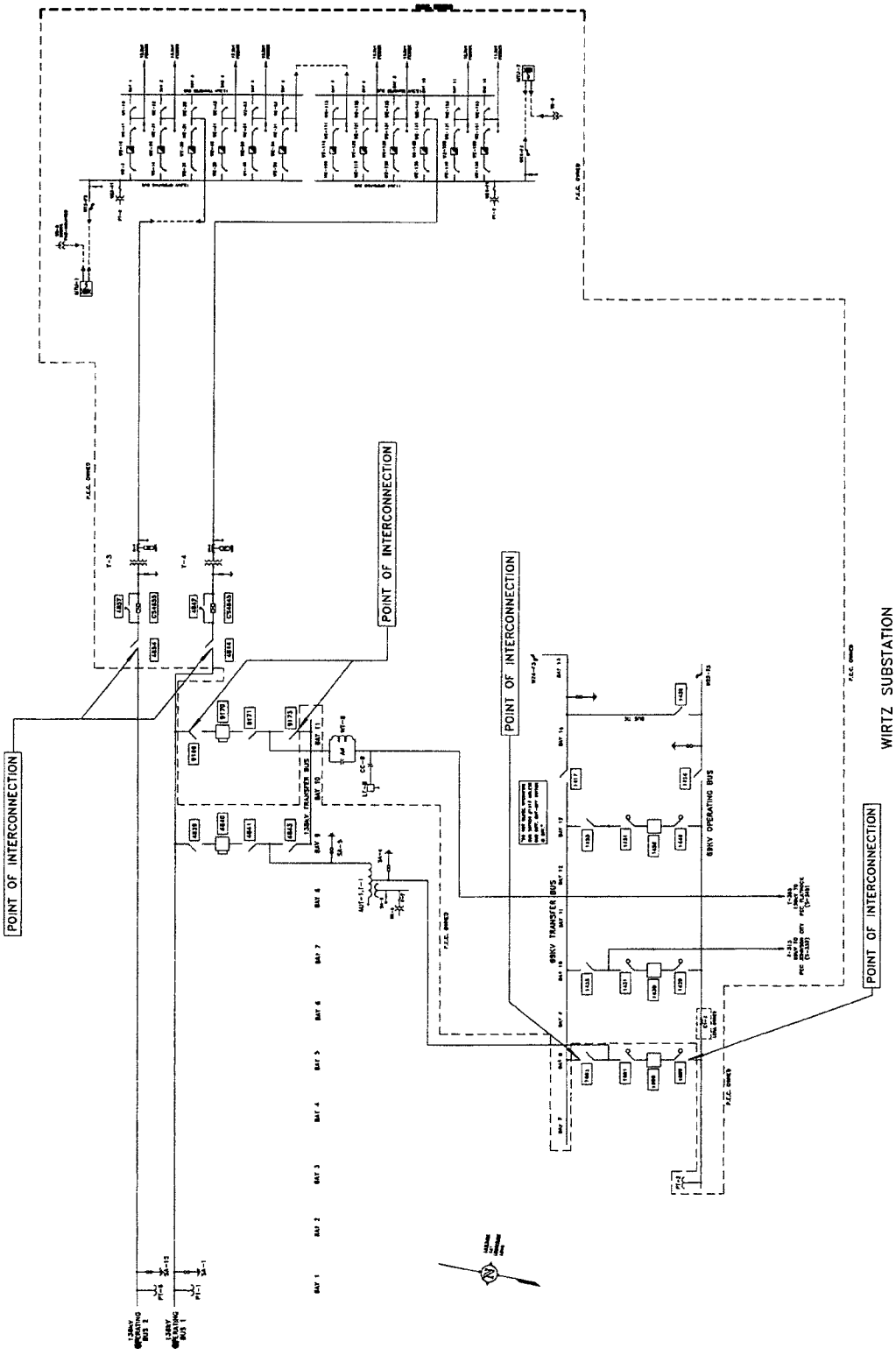
- Three (3) 69 kV switches 1689, 1691 and 1693
- One (1) 69 kV current transformers CT-1
- One (1) station service SS-4 with associated fused disconnect switches
- Two (2) Control houses (24' x 38' and 24' x 51') and batteries

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

WIRTZ ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 39

1. **Name:** Kent Street Substation **(PEC)**

2. **Facility Location:** The Kent Street Substation is located at 300 E. Little Elm Trail, Cedar Park, Williamson County, Texas 77613.

3. **Points of Interconnection:** There is one (1) Point of Interconnection in the Kent Street Substation generally described as:

   - where the 138 kV bus expansion connector bolts to the 4 hole pad on switch 21114.

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** Yes

6. **Delivery Voltage:** 138 kV

7. **Metered Voltage and Location:** The metering voltage is 24.9 kV. The metering current transformer is located inside T-1. The bus potential transformer is located on 24.9 kV operating bus.

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
   PEC owns:
   The Kent Street Substation including, but not limited to, the following items.
   - One (1) 138 kV circuit switcher CS-21115 with associated disconnect switch 21114 and bypass switch 21117
   - One (1) power transformer T-1 with associated surge arresters
   - One (1) metering current transformer CT-1 (internal to transformer T-1)
   - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
   - All distribution circuit breakers including jumpers, protective relay packages and foundations
   - All distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 24.9 kV operating and transfer bus and associated cabling
   - One (1) 24.9 kV bus potential transformer PT-1 with fused disconnect switches
   - One (1) modulation transformer MTU-1 with associated surge arrester, fused disconnect switch and OMU unit
   - One (1) 24.9 kV station service SS-1 with associated fused disconnect switch

LCRA TSC owns:

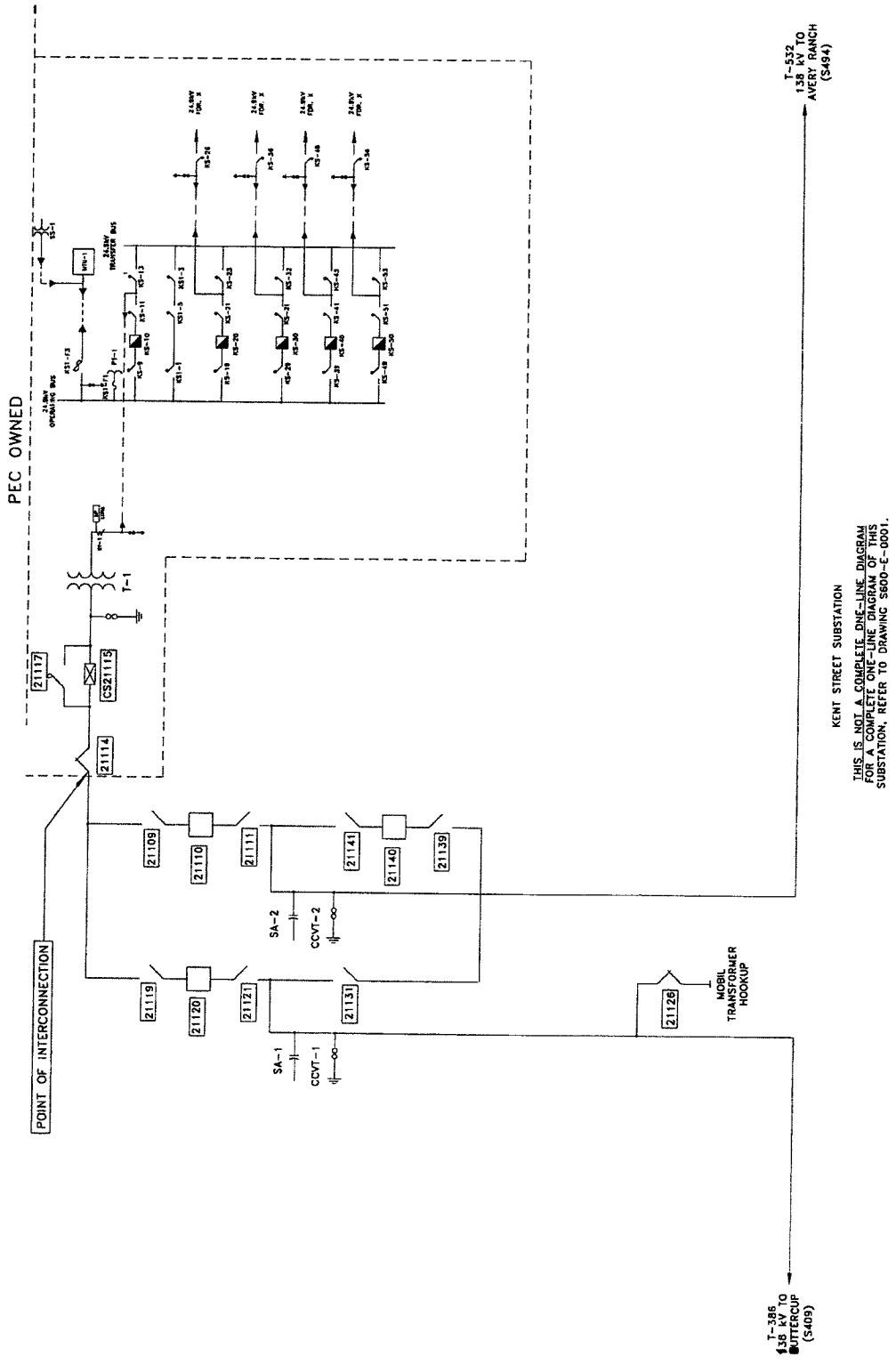
- 138 kV dead-end structures, foundations, insulators and jumpers
- 138 kV ring bus including structures, insulators, foundations and jumpers
- Three (3) 138 kV circuit breakers 21110, 21120 and 21140 including foundation, jumpers and protective relay packages
- Eight (8) 138 kV switches 21109, 21111, 21119, 21121, 21126, 21131, 21139 and 21141
- Two (2) 138 kV coupling capacitor voltage transformers CCVT-1 and CCVT-2
- Two (2) 138 kV surge arresters SA-1 and SA-2
- Substation ground grid
- Substation Fencing
- Control house and battery

10. **Operational Responsibilities of Each Party:** Each Party will be responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

KENT STREET ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 40

1. **Name:** Starcke Substation **(LCRA)**

2. **Facility Location:** The Starcke Substation is located at 1125 Max Starke Dam Road, Marble Falls, Burnet County, TX 78654.

3. **Points of Interconnection:** There are is (1) Point of Interconnection in the Starcke Substation generally described as:

    - where the jumper from switch 21054 bolts to the 4 hole pad on the 138 kV operating bus.

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** Yes

6. **Delivery Voltage:** 138 kV

7. **Metered Voltage and Location:** The metering voltage is 12.5 kV. The metering current transformer is located inside T-1. The bus potential transformer is located on the 12.5 kV operating bus.

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
PEC owns:
    - One (1) 3-pole steel structure on the easement, but outside of the substation fence
    - Two (2) single pole steel structures on the easement, but outside of the substation fence
    - One (1) 138 kV circuit switcher CS-21055 with associated disconnect switch 21054 and bypass switch 21057
    - One (1) power transformer T-1 with associated surge arresters
    - One (1) metering current transformer CT-1 (internal to transformer T-1)
    - One (1) 138 kV switch 21064 including foundation, stand and jumpers
    - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
    - All distribution and total circuit breakers including jumpers, protective relay packages and foundations.
    - All distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 12.5 kV operating and transfer bus and associated cabling
    - One (1) 12.5 kV bus potential transformer PT-1 with associated fused disconnect switches
    - One (1) modulation transformer MTU-1 with associated surge arresters, fused

disconnect switch and OMU unit
- One (1) 12.5 kV station service SS-1

LCRA TSC owns:

The Starcke Substation including, but not limited to, the following items:

- An easement from LCRA for the 5.25 acre tract of land on which the Starcke Substation is located.
- Two (2) 138 kV dead-end structures, foundations, insulators and jumpers
- 138 kV bus including support structures, foundations and jumpers
- Two (2) 138 kV motor operated switches 21051 and 21061 including interrupters, foundation, stand and jumpers
- Two (2) 138 kV switches 21049 and 21059 including foundation, stand and jumpers
- Control house
- Batteries and battery charger

LCRA owns:

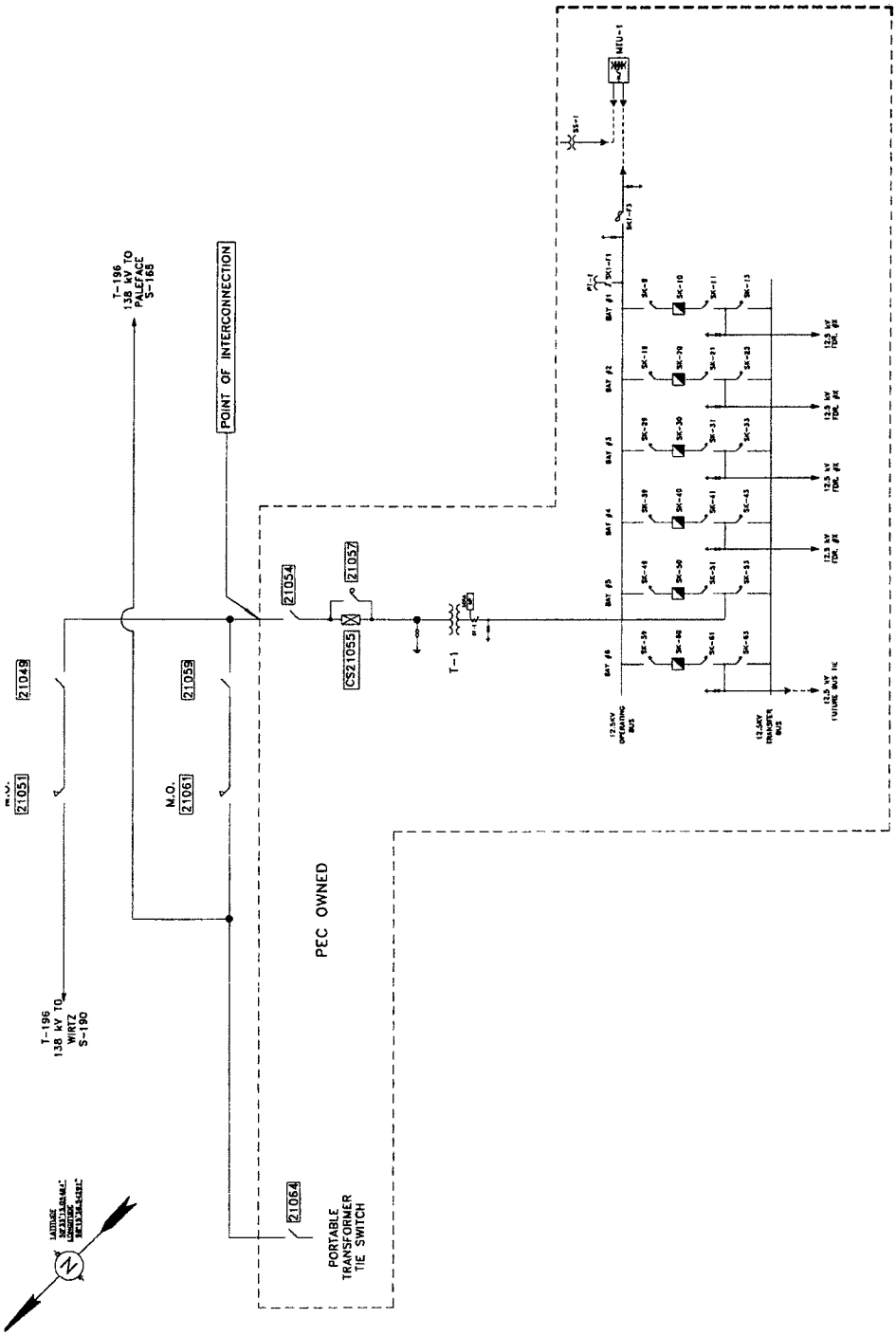
- The 5.25 acre tract of land occupied by the Starcke Substation.

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

STARCKE ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 41

1. **Name:** Dobyville Substation

2. **Facility Location:** The Dobyville Substation is located at 2530 County Road 103, Lampasas, Lampasas County, TX 76550.

3. **Points of Interconnection:** There are is (1) Point of Interconnection in the Dobyville Substation generally described as:

   - where the jumper from switch 21834 bolts to the 4 hole pad on the 138 kV operating bus.

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** Yes

6. **Delivery Voltage:** 138 kV

7. **Metered Voltage and Location:** The metering voltage is 24.9 kV. The metering current transformer is located inside T-1. The bus potential transformer is located on the 24.9 kV operating bus.

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
   PEC owns:
   The Dobyville Substation including, but not limited to, the following items:
   - One (1) 138 kV circuit switcher CS-21835 with associated disconnect switch 21834 and bypass switch 21837
   - One (1) power transformer T-1 with associated surge arresters
   - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
   - All distribution circuit breakers including jumpers, protective relay packages and foundations.
   - All distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 24.9 kV operating and transfer bus and associated cabling
   - One (1) 24.9 kV bus potential transformer PT-1 with associated fused disconnect switch DV1-F1
   - One (1) modulation transformer MTU-1 with associated surge arrester, fused disconnect switch DV1-F3 and OMU unit
   - Two (2) 24.9 kV station service SS-1 and SS-2 (on distribution line) with associated fused disconnect switches
   - Control house (24' X 42')

- Batteries and battery charger

LCRA TSC owns:

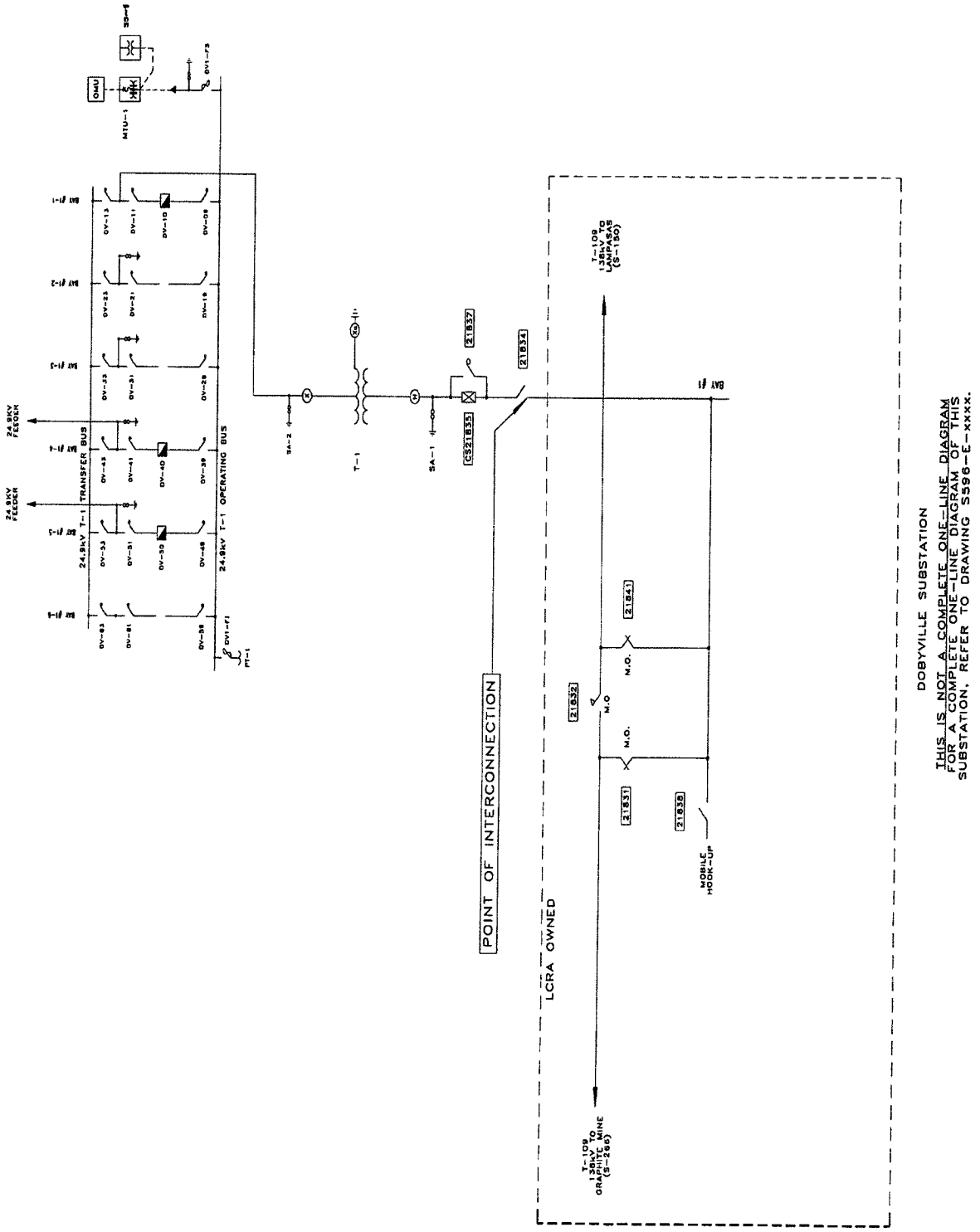
- Two (2) 138 kV dead-end structures, foundations, insulators and jumpers
- 138 kV bus including support structures, foundations and jumpers
- One (1) 138 kV switch for mobile connection 21838
- Three (3) 138 kV motor operated switches MO-21831, MO-21841and MO-832 (including interrupter), foundations, stands and jumpers

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

DOBYVILLE ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 42

1. **Name:** Buckner Boys Ranch Substation

2. **Facility Location:** The Buckner Boys Ranch Substation is located at 391 County Road 134, Burnet, Burnet County, TX 78611

3. **Points of Interconnection:** There are is (1) Point of Interconnection in the Buckner Boys Ranch Substation generally described as:

    - where the jumper from switch 21974 bolts to the four4 hole pad on the 138 kV operating bus.

4. **Transformation Services Provided by LCRA TSC:** No

5. **Metering Services Provided by LCRA TSC:** Yes

6. **Delivery Voltage:** 138 kV

7. **Metered Voltage and Location:** The metering voltage is 12.5 kV. The metering current transformer is located inside T-1. The bus potential transformer is located on the 12.5 kV operating bus.

8. **One Line Diagram Attached:** Yes

9. **Description of Facilities Owned by Each Party:**
PEC owns:
The Buckner Boys Ranch Substation including, but not limited to, the following items:
    - One (1) 138 kV circuit switcher CS-21975 with associated disconnect switch 21974 and bypass switch 21977
    - One (1) power transformer T-1 with associated surge arresters
    - One (1) metering current transformer CT-1 (internal to transformer T-1)
    - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
    - All distribution circuit breakers including jumpers, protective relay packages and foundations.
    - All distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 12.5 kV operating and transfer bus and associated cabling
    - One (1) 24.9 kV bus potential transformer PT-1 with associated fused disconnect switch
    - One (1) 24.9 kV station service SS-1 with associated fused disconnect switch

- Control house (24' X 42')
- Batteries and battery charger

LCRA TSC owns:

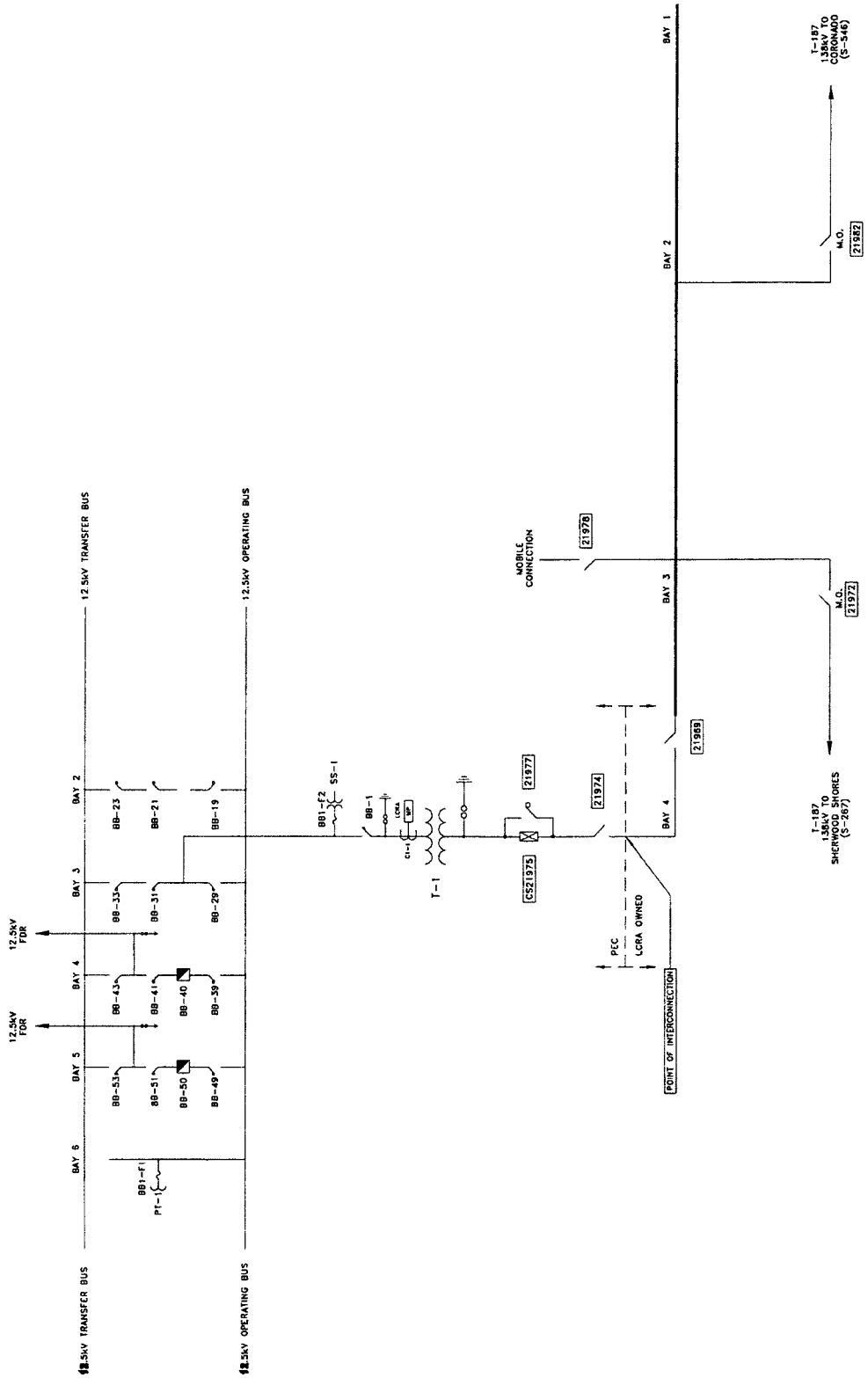
- Two (2) 138 kV dead-end structures, foundations, insulators and jumpers
- 138 kV bus including support structures, foundations and jumpers
- Two (2) 138 kV switches 21969 and 21978
- Two (2) 138 kV motor operated switches MO-21972 and MO-21982 including interrupters, foundation, stand and jumpers

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

12. **Other Terms and Conditions:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate and in; along with control house owner's locks on the control house doors.

BUCKNER BOYS RANCH SUBSTATION



BUCKNER BOYS RANCH SUBSTATION

THIS IS NOT A COMPLETE ONE-LINE DIAGRAM FOR A COMPLETE ONE-LINE DIAGRAM OF THIS SUBSTATION, REFER TO DRAWING S595-E-0001.

METERING LOCATION SCHEDULE

(The purpose of this schedule is only to identify metering equipment ownership at locations where there are no Points of Interconnection)

1. **Balcones Substation (S-331):**
   a. PEC owns the Balcones Substation, the following metering equipment, and all other equipment therein except for the equipment listed as being owned by LCRA TSC.
      - Four (4) metering current transformers CT1, CT-2, CT-5 and CT-6 (internal to transformers T-1, T-2, T-3 and T-4)

   b. LCRA TSC owns:
      - Metering/Underfrequency panel 13 in control house #2
      - Underfrequency panel 1 in control house #1

2. **Bertram Substation (S-339):**
   a. PEC owns the Bertram Substation, the following metering equipment, and all other equipment therein except for the equipment listed as being owned by LCRA TSC.
      - One (1) metering current transformer CT-1 (internal to transformer T-1)

   b. LCRA TSC owns:
      - Metering panel 4

3. **Blanco Substation (S-324)**
   a. PEC owns the Blanco Substation and all equipment therein except for the equipment listed as being owned by LCRA TSC.
   b. LCRA TSC owns:
      - One (1) metering current transformer CT-1
      - Metering panel 15

4. **Blockhouse Substation (S-471)**
   a. PEC owns the Blockhouse Substation, the following metering equipment, and all other equipment therein except for the equipment listed as being owned by LCRA TSC.
      - Two (2) metering current transformers CT-1 and CT-2 (internal to transformers T-1 and T-2)

   b. LCRA TSC owns:
      - Metering panel 26
      - Underfrequency panel 27
      - Supervisory Interface Panel, panel 29
      - RTU panel 30
      - Communications terminal board