

APPENDIX I

Evacuation Sensitivity Studies

APPENDIX I: EVACUATION SENSITIVITY STUDIES

Trip Generation

A sensitivity study was performed to determine whether changes in the estimated trip generation time have an effect on the Evacuation Time Estimates (ETE) for the entire EPZ. The case considered was Scenario 1, Region 3; a summer, midweek, midday, good weather evacuation of the entire EPZ. Table I-1 presents the results of this study.

Table I-1. Evacuation Time Estimates for Trip Generation Sensitivity Study			
Trip Generation Period	Evacuation Region		
	2-Mile Region (R01)	5-Mile Region (R02)	Entire EPZ (R03)
3 Hours	2:50	3:10	3:20
4 Hours (Base)	3:50	4:10	4:20
5 Hours	4:40	5:00	5:10

The results confirm the importance of accurately estimating the trip generation times. The ETE closely mirror the values for the time the last evacuation trip is generated. The results indicate that programs to educate the public and encourage them toward faster responses for a radiological emergency can reduce evacuation time.

Shadow Evacuation

A sensitivity study was conducted to determine the effect on ETE of changes in the percentage of people who decide to relocate from the Shadow Region. The movement of people in the Shadow Region has the potential to impede vehicles evacuating from an Evacuation Region within the EPZ. The case considered was Scenario 1, Region 3; a summer, midweek, midday, good weather evacuation of the entire EPZ.

The ETE for all regions remain unchanged as the percentage of people who decide to relocate from areas within the Shadow Region increases from 15% to 60% (Table I-2), showing the insensitivity of the 100th percentile ETE to shadow evacuation. The analysis indicates an increase in congestion with increasing percentage shadow evacuation; however, this congestion does not prolong the ETE. In addition, although congestion outside the EPZ persists longer in the case of 60% shadow evacuation, this congestion does not delay those evacuating from within the EPZ. There are a total of 18,578 people (10,844 vehicles) within the Shadow Region.

Table I-2. Evacuation Time Estimates for Shadow Sensitivity Study					
Shadow Data			Evacuation Region		
Percent Shadow Evacuation	Number of Evacuating Shadow Residents	Number of Evacuating Shadow Resident Vehicles	2-Mile Region (R01)	5-Mile Region (R02)	Entire EPZ (R03)
15	2,787	1,627	3:50	4:10	4:20
30 (Base)	5,573	3,253	3:50	4:10	4:20
60	11,147	6,506	3:50	4:10	4:20

Squaw Creek Park

Squaw Creek Park (SCP) is a 475-acre facility located north of the Comanche Peak Nuclear Power Plant on the northern shoreline of Squaw Creek Reservoir (see Figure I-1). This facility is owned and operated by Luminant Power. Squaw Creek Reservoir is a 3,200-acre lake that was once open to the public for fishing. The park and reservoir were closed to the public after September 11, 2001 for security purposes. Luminant is developing plans to reopen the park and reservoir for fishing and other activities on a limited basis to employees, charitable events, and eventually to the public. When the park and reservoir are re-opened, public access will be restricted to daylight hours only. This sensitivity study explores the effect on ETE of re-opening the SCP.

Based on discussions with Luminant Power, there will be at most 100 boats on the reservoir at any given time. It is assumed that there are 2 people per boat and that each boat represents 2 evacuating vehicles (vehicle plus boat trailer). It is further assumed that an additional 50 vehicles will be present for people engaged in other activities at SCP (e.g., picnicking). It is assumed that people engaged in these activities will travel to the park as a family; thus, the average household size of 2.21 persons obtained from the telephone survey (see Figure F-1) will be used. Finally, it is conservatively assumed that all people visiting SCP are non-EPZ residents. Therefore, there are 311 transients visiting the park in 150 vehicles.

The following data and assumptions were used to compute the trip generation histogram for vehicles at SCP shown in Table I-3:

- There are 5 boat ramps at SCP. Therefore, 5 boats can be loaded onto trailers in a single “wave”.
- Assume a single “wave” of boat loading takes 10 minutes.
- Assume no boats are loaded for the first 15 minutes after the advisory to evacuate (ATE) as boats will have to travel back to the ramps from wherever they are on the reservoir.
- Assume 75% of those people at SCP who are not using boats are mobilized in the first 15 minutes after the ATE.
- Assume the remaining 25% of those people at SCP who are not using boats are mobilized between 15 and 30 minutes after the ATE.

Vehicles evacuating from SCP travel eastbound on Coates Road to State Highway 144. As shown in Figure K-9, Coates Road was not modeled entirely from SCP to State Highway 144. Links and nodes have been added to the analysis network as shown in Figure I-1 to model Coates Road and those vehicles evacuating SCP for the purposes of completing this sensitivity study. Coates Road was modeled as a single lane eastbound with a free speed of 30 mph and a capacity of 1500 vehicles per hour.

The case considered is Scenario 3, Region 3; a summer, weekend, mid-day, good weather evacuation for the entire EPZ. Table I-4 presents the results of this study. The ETE is not affected by the additional transient vehicles present at SCP.

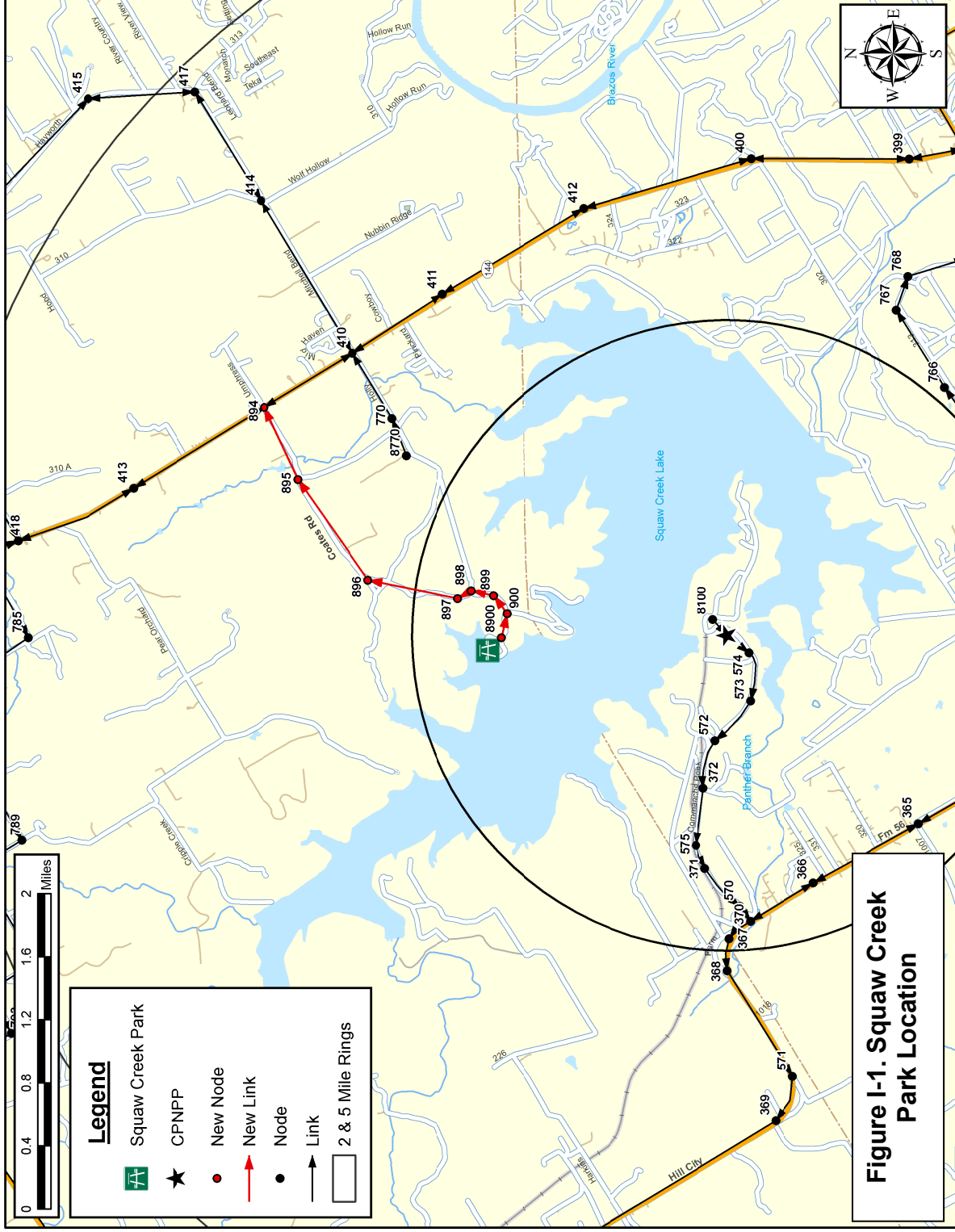


Table I-3. Trip Generation for SCP Transients					
Time Period	Duration	Picnic Vehicles	Boat Vehicles	Total	Percentage of SCP Transient Trips Generated
1	15	38	0	38	15
2	15	12	15	27	11
3	30	0	30	30	12
4	30	0	30	30	12
5	30	0	30	30	12
6	30	0	30	30	12
7	30	0	30	30	12
8	60	0	35	35	14
9	600	0	0	0	0
TOTAL:		50	200	250	100

Table I-4. Evacuation Time Estimates for the Squaw Creek Park Sensitivity Study					
Scenario	Total Evacuating Vehicles	Transient Vehicles	Evacuation Region (R03)		
			90th Percentile	95th Percentile	100th Percentile
Scenario 3 (Base)	31,498	5,362	2:00	2:10	4:00
Scenario 3 (SCP)	31,748	5,612	2:00	2:10	4:00

APPENDIX J

Evacuation Time Estimates for All Evacuation Regions and Scenarios
And
Evacuation Time Graphs for Region R03, for all Scenarios

APPENDIX J: EVACUATION TIME ESTIMATES FOR
ALL EVACUATION REGIONS AND SCENARIOS
AND
EVACUATION TIME GRAPHS FOR REGION R03, FOR ALL SCENARIOS

This appendix presents the ETE Results for all 63 Regions and all 13 Scenarios (Tables J-1A through J-1D).

Plots of Evacuating Vehicles vs. Elapsed Time leaving the 2-mile and 5-mile circular areas around CPNPP and the entire EPZ, for Region R03, for all 13 scenarios, are presented. Each plot has points indicating the evacuation times corresponding to the 50th, 90th, and 95th percentiles of evacuated population.

J.1 Guidance on Using ETE Tables

Tables J-1A through J-1D present the ETE values for all 63 Evacuation Regions and all 13 Evacuation Scenarios. They are organized as follows:

Table	Contents
J-1A	ETE represents the elapsed time required for 50 percent of the population within a Region, to evacuate from that Region.
J-1B	ETE represents the elapsed time required for 90 percent of the population within a Region, to evacuate from that Region.
J-1C	ETE represents the elapsed time required for 95 percent of the population within a Region, to evacuate from that Region.
J-1D	ETE represents the elapsed time required for 100 percent of the population within a Region, to evacuate from that Region.

The user first determines the percentile of population for which the ETE is sought. The applicable value of ETE within the chosen Table may then be identified using the following procedure:

1. Identify the applicable **Scenario**:
 - The Season
 - Summer (schools not in session)
 - Winter (also Autumn and Spring)
 - The Day of Week
 - Midweek (work-day)

- Weekend, Holiday
- The Time of Day
 - Midday (work and commuting hours)
 - Evening
- Weather Condition
 - Good Weather
 - Rain
- Special Event (if any)
 - Event at the Amphitheatre
 - New Plant Construction
 - Fourth of July Celebration in Granbury

While these Scenarios are designed, in aggregate, to represent conditions throughout the year, some further clarification is warranted:

- The conditions of a summer evening (either midweek or weekend) and rain are not explicitly identified in Tables J-1A through J-1D. For these conditions, Scenario (4) applies.
- The conditions of a winter evening (either midweek or weekend) and rain are not explicitly identified in Tables J-1A through J-1D. For these conditions, Scenario (9) applies.
- The seasons are defined as follows:
 - Summer implies that public schools are not in session.
 - Winter, Spring and Autumn imply that public schools are in session.
- Time of Day: Midday implies the time over which most commuters are at work.

2. With the Scenario (and column in the Table) identified, now identify the **Evacuation Region**:

- Determine the projected azimuth direction of the plume (coincident with the wind direction). This direction is expressed in terms of compass orientation: *towards* N, NNE, NE...
- Determine the distance that the Evacuation Region will extend from the CPNPP. The applicable distances and their associated candidate Regions are given below:
 - 2 Miles (Region R01)
 - 5 Miles (Regions R02, R04 through R17, and R34 through R47)
 - to EPZ Boundary (Regions R03, R18 through R33, and R48 through R63)
- Enter Table J-2 and identify the applicable candidate Region based on the wind direction and on the distance that the selected Region extends from CPNPP. Select the Evacuation Region identifier in that row from the first column of the Table.

3. Determine the **ETE for the Scenario** identified in Step 1 and the Region identified in Step 2, as follows:
- The columns of Table J-1 are labeled with the Scenario numbers. Identify the proper column in the selected Table using the Scenario number determined in Step 1.
 - Identify the row in this table that provides ETE values for the Region identified in Step 2.
 - The unique data cell defined by the column and row so determined contains the desired value of ETE expressed in Hours:Minutes.

Example

It is desired to identify the ETE for the following conditions:

- Sunday, August 10th at 4:00 AM.
- It is raining.
- Wind direction is *toward* the northeast (NE).
- Wind speed and plume extent, are such that the distance to be evacuated is judged to be 10 miles (to EPZ boundary) with a width of 5 sectors (112.5 degrees).
- The desired ETE is that value needed to evacuate 95 percent of the population from within the impacted Region.

Table J-1C is applicable because the 95th-percentile population is desired. Proceed as follows:

1. Identify the Scenario as summer, weekend, evening and raining. Entering Table J-1C, it is seen that there is no match for these descriptors. However, the clarification given above assigns this combination of circumstances to Scenario 4.
2. Enter Table J-2 and locate the group entitled “2-Mile Ring and Downwind to EPZ Boundary (5 Sector Groups)”. Under “Wind Direction Toward:”, identify the NE (northeast) azimuth and read REGION R50 in the first column of that row.
3. Enter Table J-1C to locate the data cell containing the value of ETE for Scenario 4 and Region R50. This data cell is in column (4) and in the row for Region R50; it contains the ETE value of **2:20**.

Table J-1A. Time to Clear the Indicated Area of 50 Percent of The Affected Population (page 1 of 2)															
	Summer		Summer		Summer		Winter		Winter		Winter		Summer	Summer	Summer
	Midweek		Weekend		Midweek Weekend		Midweek		Weekend		Midweek Weekend		Weekend	Midweek	Weekend
Scenario:	(1)	(2)	(3)	(4)	(5)	Scenario:	(6)	(7)	(8)	(9)	(10)	Scenario:	(11)	(12)	(13)
Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday	Midday	Midday
	Good Weather	Rain	Good Weather	Rain	Good Weather		Good Weather	Rain	Good Weather	Rain	Good Weather		Event in Amphitheatre	New Plant Construction	Granbury 4 th of July
Entire 2-Mile Region, 5-Mile Region, and EPZ															
R01 2-mile ring	0:45	0:45	0:45	0:45	0:45	R01 2-mile ring	0:45	0:45	0:45	0:45	0:45	R01 2-mile ring	0:45	1:10	0:45
R02 5-mile ring	1:00	1:00	0:55	1:00	0:55	R02 5-mile ring	1:00	1:00	0:55	0:55	0:55	R02 5-mile ring	1:05	1:10	0:55
R03 Entire EPZ	1:10	1:15	1:05	1:10	1:05	R03 Entire EPZ	1:10	1:15	1:05	1:10	1:05	R03 Entire EPZ	1:10	1:20	1:25
2-Mile Ring and Downwind to 5 Miles (3 sector groups)															
R04 N	0:55	0:55	0:55	0:55	0:55	R04 N	0:55	0:55	0:55	0:55	0:55	R04 N	0:55	1:10	0:55
R05 NNE	0:55	0:55	0:50	0:55	0:55	R05 NNE	0:55	0:55	0:50	0:55	0:55	R05 NNE	0:50	1:10	0:50
R06 NE	0:55	0:55	0:50	0:55	0:50	R06 NE	0:55	0:55	0:50	0:55	0:55	R06 NE	0:55	1:05	0:50
R07 ENE	0:55	0:55	0:50	0:50	0:50	R07 ENE	0:55	0:55	0:50	0:50	0:50	R07 ENE	0:55	1:05	0:50
R08 E	0:50	0:50	0:50	0:50	0:50	R08 E	0:50	0:55	0:50	0:50	0:50	R08 E	0:55	1:05	0:50
R09 ESE	0:55	1:00	0:55	1:00	0:55	R09 ESE	0:55	0:55	0:55	0:55	0:50	R09 ESE	1:05	1:10	0:55
R10 SE	0:55	1:00	0:55	1:00	0:55	R10 SE	0:55	0:55	0:55	0:55	0:50	R10 SE	1:05	1:10	0:55
R11 SSE, S	0:55	0:55	0:55	0:55	0:50	R11 SSE, S	0:50	0:50	0:50	0:50	0:50	R11 SSE, S	1:00	1:05	0:55
R12 SSW	0:55	0:55	0:55	0:55	0:50	R12 SSW	0:50	0:50	0:50	0:50	0:50	R12 SSW	1:00	1:05	0:55
R13 SW	0:50	0:50	0:50	0:50	0:50	R13 SW	0:50	0:50	0:50	0:50	0:50	R13 SW	0:50	1:10	0:50
R14 WSW	0:55	0:55	0:50	0:55	0:50	R14 WSW	0:55	0:55	0:50	0:55	0:55	R14 WSW	0:50	1:10	0:50
R15 W	0:55	0:55	0:55	0:55	0:55	R15 W	0:55	0:55	0:55	0:55	0:55	R15 W	0:55	1:10	0:55
R16 WNW	0:55	0:55	0:55	0:55	0:55	R16 WNW	0:55	0:55	0:55	0:55	0:55	R16 WNW	0:55	1:10	0:55
R17 NW, NNW	0:55	0:55	0:55	0:55	0:55	R17 NW, NNW	0:55	0:55	0:55	0:55	0:55	R17 NW, NNW	0:55	1:10	0:55
2-Mile Ring and Downwind to EPZ Boundary (3 sector groups)															
R18 N	1:10	1:15	1:05	1:10	1:05	R18 N	1:10	1:15	1:05	1:10	1:05	R18 N	1:05	1:15	1:30
R19 NNE	1:10	1:10	1:05	1:05	1:05	R19 NNE	1:10	1:10	1:05	1:05	1:05	R19 NNE	1:05	1:15	1:25
R20 NE	1:05	1:05	1:00	1:00	1:00	R20 NE	1:05	1:05	1:00	1:00	1:00	R20 NE	1:00	1:10	1:05
R21 ENE	1:00	1:00	0:55	0:55	0:55	R21 ENE	1:00	1:00	0:55	0:55	0:55	R21 ENE	0:55	1:05	0:55
R22 E	1:00	1:00	0:55	0:55	0:55	R22 E	1:00	1:00	0:55	0:55	0:55	R22 E	0:55	1:05	0:55
R23 ESE	1:00	1:00	1:00	1:00	0:55	R23 ESE	1:00	1:00	0:55	1:00	0:55	R23 ESE	1:05	1:10	1:00
R24 SE	1:00	1:00	1:00	1:00	0:55	R24 SE	1:00	1:00	0:55	1:00	0:55	R24 SE	1:05	1:10	1:00
R25 SSE	1:05	1:05	1:00	1:05	1:00	R25 SSE	1:00	1:05	1:00	1:00	0:55	R25 SSE	1:05	1:15	1:00
R26 S	1:00	1:05	1:00	1:05	0:55	R26 S	0:55	1:00	0:55	1:00	0:50	R26 S	1:05	1:15	1:00
R27 SSW	1:00	1:00	1:00	1:00	0:55	R27 SSW	0:55	1:00	0:55	1:00	0:50	R27 SSW	1:05	1:10	1:00
R28 SW	0:55	1:00	0:55	0:55	0:55	R28 SW	0:55	1:00	0:55	0:55	0:55	R28 SW	0:55	1:15	0:55
R29 WSW	1:00	1:00	0:55	0:55	0:55	R29 WSW	1:00	1:00	0:55	0:55	0:55	R29 WSW	0:55	1:15	0:55
R30 W	1:05	1:05	1:00	1:00	1:00	R30 W	1:05	1:05	1:00	1:00	1:00	R30 W	1:00	1:15	1:05
R31 WNW	1:05	1:05	1:00	1:00	1:00	R31 WNW	1:05	1:05	1:00	1:00	1:00	R31 WNW	1:00	1:15	1:05
R32 NW	1:05	1:05	1:00	1:00	1:00	R32 NW	1:05	1:05	1:00	1:00	1:00	R32 NW	1:00	1:15	1:05
R33 NNW	1:10	1:15	1:05	1:10	1:05	R33 NNW	1:10	1:15	1:05	1:10	1:05	R33 NNW	1:05	1:15	1:35

Table J-1A. Time to Clear the Indicated Area of 50 Percent of The Affected Population (page 2 of 2)																	
	Summer		Summer		Summer		Winter		Winter		Winter		Summer		Summer		Summer
	Midweek		Weekend		Midweek Weekend		Midweek		Weekend		Midweek Weekend		Weekend		Midweek		Weekend
Scenario:	(1)	(2)	(3)	(4)	(5)	Scenario:	(6)	(7)	(8)	(9)	(10)	Scenario:	(11)	(12)	(13)		
Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday		Midday	Midday	
	Good Weather	Rain	Good Weather	Rain	Good Weather		Good Weather	Rain	Good Weather	Rain	Good Weather		Event in Amphitheatre	New Plant Construction	Granbury 4 th of July		
2-Mile Ring and Downwind to 5 Miles (5 sector groups)																	
R34 N	1:00	1:00	0:55	0:55	0:55	R34 N	1:00	1:00	0:55	0:55	0:55	R34 N	0:55	1:10		0:55	
R35 NNE	0:55	1:00	0:55	0:55	0:55	R35 NNE	0:55	1:00	0:55	0:55	0:55	R35 NNE	0:55	1:10		0:55	
R36 NE	0:55	0:55	0:50	0:55	0:50	R36 NE	0:55	0:55	0:50	0:55	0:55	R36 NE	0:55	1:05		0:50	
R37 ENE	0:55	0:55	0:55	0:55	0:50	R37 ENE	0:55	0:55	0:50	0:55	0:50	R37 ENE	0:55	1:05		0:55	
R38 E	0:55	1:00	0:55	1:00	0:55	R38 E	0:55	0:55	0:55	0:55	0:50	R38 E	1:05	1:10		0:55	
R39 ESE	0:55	0:55	0:55	1:00	0:55	R39 ESE	0:55	0:55	0:50	0:55	0:50	R39 ESE	1:05	1:10		0:55	
R40 SE	0:55	0:55	0:55	1:00	0:55	R40 SE	0:55	0:55	0:50	0:55	0:50	R40 SE	1:05	1:10		0:55	
R41 SSE, S	0:55	0:55	0:50	0:55	0:50	R41 SSE, S	0:50	0:55	0:50	0:50	0:50	R41 SSE, S	1:00	1:05		0:50	
R42 SSW	0:55	0:55	0:55	0:55	0:50	R42 SSW	0:55	0:55	0:50	0:50	0:50	R42 SSW	1:00	1:05		0:55	
R43 SW	0:55	0:55	0:55	0:55	0:50	R43 SW	0:55	0:55	0:50	0:55	0:50	R43 SW	1:00	1:05		0:55	
R44 WSW	0:55	0:55	0:50	0:55	0:50	R44 WSW	0:55	0:55	0:50	0:55	0:55	R44 WSW	0:50	1:10		0:50	
R45 W	1:00	1:00	0:55	0:55	0:55	R45 W	1:00	1:00	0:55	0:55	0:55	R45 W	0:55	1:15		0:55	
R46 WNW	1:00	1:00	0:55	0:55	0:55	R46 WNW	1:00	1:00	0:55	0:55	0:55	R46 WNW	0:55	1:15		0:55	
R47 NW, NNW	0:55	1:00	0:55	0:55	0:55	R47 NW, NNW	0:55	1:00	0:55	0:55	0:55	R47 NW, NNW	0:55	1:10		0:55	
2-Mile Ring and Downwind to EPZ Boundary (5 sector groups)																	
R48 N	1:10	1:15	1:05	1:10	1:05	R48 N	1:10	1:15	1:05	1:10	1:05	R48 N	1:05	1:15		1:30	
R49 NNE	1:05	1:10	1:05	1:05	1:05	R49 NNE	1:10	1:10	1:05	1:05	1:05	R49 NNE	1:05	1:15		1:25	
R50 NE	1:05	1:10	1:00	1:05	1:00	R50 NE	1:05	1:10	1:00	1:05	1:00	R50 NE	1:05	1:15		1:20	
R51 ENE	1:05	1:05	1:00	1:00	1:00	R51 ENE	1:05	1:05	1:00	1:00	1:00	R51 ENE	1:00	1:10		1:05	
R52 E	1:00	1:05	1:00	1:00	0:55	R52 E	1:00	1:00	0:55	1:00	0:55	R52 E	1:00	1:10		1:00	
R53 ESE	1:00	1:05	1:00	1:00	0:55	R53 ESE	1:00	1:00	0:55	1:00	0:55	R53 ESE	1:00	1:10		1:00	
R54 SE	1:05	1:05	1:00	1:05	1:00	R54 SE	1:00	1:05	1:00	1:00	0:55	R54 SE	1:05	1:15		1:00	
R55 SSE	1:05	1:05	1:00	1:05	1:00	R55 SSE	1:00	1:05	1:00	1:00	0:55	R55 SSE	1:05	1:15		1:00	
R56 S	1:00	1:05	1:00	1:05	0:55	R56 S	1:00	1:00	0:55	1:00	0:55	R56 S	1:10	1:15		1:00	
R57 SSW	1:00	1:05	1:00	1:05	0:55	R57 SSW	1:00	1:00	0:55	1:00	0:55	R57 SSW	1:05	1:15		1:00	
R58 SW	1:00	1:05	1:00	1:00	0:55	R58 SW	1:00	1:00	0:55	1:00	0:55	R58 SW	1:05	1:15		1:00	
R59 WSW	1:00	1:05	1:00	1:00	0:55	R59 WSW	1:00	1:05	0:55	1:00	0:55	R59 WSW	1:00	1:15		1:00	
R60 W	1:05	1:05	1:00	1:00	1:00	R60 W	1:05	1:05	1:00	1:00	1:00	R60 W	1:00	1:15		1:00	
R61 WNW	1:05	1:05	1:00	1:00	1:00	R61 WNW	1:05	1:10	1:00	1:00	1:00	R61 WNW	1:00	1:15		1:05	
R62 NW	1:10	1:15	1:05	1:10	1:05	R62 NW	1:10	1:15	1:05	1:10	1:05	R62 NW	1:05	1:20		1:35	
R63 NNW	1:10	1:15	1:05	1:10	1:05	R63 NNW	1:10	1:15	1:05	1:10	1:05	R63 NNW	1:05	1:15		1:30	

Table J-1B. Time to Clear the Indicated Area of 90 Percent of The Affected Population (page 1 of 2)

	Summer		Summer		Summer		Winter		Winter		Winter		Summer	Summer	Summer
	Midweek		Weekend		Midweek Weekend		Midweek		Weekend		Midweek Weekend		Weekend	Midweek	Weekend
Scenario:	(1)	(2)	(3) (4)		(5)	Scenario:	(6)	(7)	(8)	(9)	(10)	Scenario:	(11)	(12)	(13)
Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday	Midday	Midday
	Good Weather	Rain	Good Weather	Rain	Good Weather		Good Weather	Rain	Good Weather	Rain	Good Weather		Event in Amphitheatre	New Plant Construction	Granbury 4 th of July
Entire 2-Mile Region, 5-Mile Region, and EPZ															
R01 2-mile ring	1:25	1:25	1:20	1:20	1:25	R01 2-mile ring	1:25	1:25	1:20	1:20	1:25	R01 2-mile ring	1:20	2:05	1:20
R02 5-mile ring	1:50	1:50	1:40	1:50	1:35	R02 5-mile ring	1:50	1:50	1:35	1:40	1:30	R02 5-mile ring	2:20	2:10	1:40
R03 Entire EPZ	2:10	2:15	2:00	2:05	1:55	R03 Entire EPZ	2:10	2:20	1:55	2:00	1:55	R03 Entire EPZ	2:10	2:25	2:50
2-Mile Ring and Downwind to 5 Miles (3 sector groups)															
R04 N	1:50	1:50	1:30	1:35	1:35	R04 N	1:50	1:50	1:30	1:35	1:35	R04 N	1:30	2:05	1:30
R05 NNE	1:50	1:50	1:30	1:30	1:30	R05 NNE	1:50	1:50	1:30	1:30	1:30	R05 NNE	1:30	2:05	1:30
R06 NE	1:50	1:50	1:30	1:30	1:30	R06 NE	1:50	1:50	1:30	1:30	1:30	R06 NE	1:35	2:05	1:30
R07 ENE	1:40	1:40	1:30	1:30	1:30	R07 ENE	1:40	1:40	1:30	1:30	1:30	R07 ENE	1:35	2:05	1:30
R08 E	1:40	1:40	1:30	1:30	1:30	R08 E	1:40	1:40	1:30	1:30	1:30	R08 E	1:35	2:05	1:30
R09 ESE	1:45	1:50	1:45	1:50	1:35	R09 ESE	1:40	1:40	1:35	1:40	1:30	R09 ESE	2:20	2:05	1:45
R10 SE	1:45	1:50	1:40	1:50	1:35	R10 SE	1:40	1:40	1:35	1:40	1:30	R10 SE	2:20	2:05	1:40
R11 SSE, S	1:40	1:40	1:35	1:40	1:30	R11 SSE, S	1:40	1:40	1:25	1:30	1:25	R11 SSE, S	2:20	2:05	1:35
R12 SSW	1:40	1:40	1:35	1:40	1:30	R12 SSW	1:40	1:40	1:25	1:30	1:25	R12 SSW	2:20	2:05	1:35
R13 SW	1:30	1:30	1:25	1:25	1:25	R13 SW	1:30	1:30	1:25	1:25	1:25	R13 SW	1:25	2:10	1:25
R14 WSW	1:40	1:40	1:30	1:30	1:30	R14 WSW	1:40	1:40	1:30	1:30	1:30	R14 WSW	1:30	2:10	1:30
R15 W	1:40	1:40	1:30	1:30	1:30	R15 W	1:40	1:40	1:30	1:30	1:30	R15 W	1:30	2:10	1:30
R16 WNW	1:40	1:40	1:30	1:30	1:30	R16 WNW	1:40	1:40	1:30	1:30	1:30	R16 WNW	1:30	2:10	1:30
R17 NW, NNW	1:40	1:40	1:30	1:30	1:30	R17 NW, NNW	1:40	1:40	1:30	1:30	1:30	R17 NW, NNW	1:30	2:05	1:30
2-Mile Ring and Downwind to EPZ Boundary (3 sector groups)															
R18 N	2:10	2:20	1:55	2:00	1:55	R18 N	2:20	2:20	1:55	2:00	1:55	R18 N	1:55	2:15	3:00
R19 NNE	2:10	2:20	1:55	2:00	1:55	R19 NNE	2:10	2:20	1:55	2:00	1:55	R19 NNE	1:55	2:15	2:50
R20 NE	2:10	2:10	1:50	1:55	1:50	R20 NE	2:10	2:10	1:50	1:55	1:50	R20 NE	1:50	2:10	2:10
R21 ENE	2:00	2:00	1:35	1:35	1:35	R21 ENE	2:00	2:00	1:35	1:40	1:35	R21 ENE	1:40	2:05	1:35
R22 E	2:00	2:00	1:35	1:35	1:35	R22 E	2:00	2:00	1:35	1:35	1:35	R22 E	1:40	2:05	1:35
R23 ESE	1:50	1:55	1:45	1:50	1:40	R23 ESE	1:50	1:50	1:35	1:40	1:35	R23 ESE	2:20	2:10	1:45
R24 SE	1:50	1:55	1:45	1:50	1:40	R24 SE	1:50	1:50	1:35	1:40	1:35	R24 SE	2:20	2:10	1:45
R25 SSE	1:50	1:55	1:45	1:55	1:35	R25 SSE	1:50	1:50	1:35	1:45	1:35	R25 SSE	2:20	2:15	1:45
R26 S	1:45	1:55	1:45	1:55	1:35	R26 S	1:50	1:50	1:35	1:40	1:30	R26 S	2:10	2:15	1:45
R27 SSW	1:45	1:50	1:45	1:50	1:35	R27 SSW	1:45	1:50	1:35	1:40	1:30	R27 SSW	2:20	2:20	1:45
R28 SW	1:40	1:40	1:35	1:35	1:30	R28 SW	1:40	1:45	1:30	1:35	1:30	R28 SW	1:35	2:15	1:35
R29 WSW	1:50	1:50	1:35	1:35	1:35	R29 WSW	1:50	1:50	1:35	1:35	1:35	R29 WSW	1:35	2:15	1:35
R30 W	2:00	2:10	1:40	1:40	1:40	R30 W	2:10	2:10	1:40	1:40	1:40	R30 W	1:40	2:10	1:55
R31 WNW	2:10	2:10	1:40	1:40	1:40	R31 WNW	2:10	2:10	1:40	1:40	1:40	R31 WNW	1:40	2:15	2:00
R32 NW	2:10	2:10	1:40	1:40	1:40	R32 NW	2:10	2:10	1:40	1:40	1:40	R32 NW	1:40	2:15	2:00
R33 NNW	2:10	2:20	1:55	2:05	2:00	R33 NNW	2:10	2:20	1:55	2:05	2:00	R33 NNW	1:55	2:15	3:00

Table J-1B. Time to Clear the Indicated Area of 90 Percent of The Affected Population (page 2 of 2)																	
	Summer		Summer		Summer		Winter		Winter		Winter		Summer		Summer		Summer
	Midweek		Weekend		Midweek Weekend		Midweek		Weekend		Midweek Weekend		Weekend		Midweek		Weekend
Scenario:	(1)	(2)	(3)	(4)	(5)	Scenario:	(6)	(7)	(8)	(9)	(10)	Scenario:	(11)	(12)	(13)		
Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday		Midday		Midday
	Good Weather	Rain	Good Weather	Rain	Good Weather		Good Weather	Rain	Good Weather	Rain	Good Weather		Event in Amphitheatre	New Plant Construction		Granbury 4 th of July	
2-Mile Ring and Downwind to 5 Miles (5 sector groups)																	
R34 N	1:50	1:50	1:35	1:35	1:35	R34 N	1:50	1:50	1:35	1:35	1:35	R34 N	1:35	2:05	1:35		
R35 NNE	1:50	1:50	1:30	1:35	1:35	R35 NNE	1:50	1:50	1:30	1:35	1:35	R35 NNE	1:35	2:05	1:30		
R36 NE	1:50	1:50	1:30	1:30	1:30	R36 NE	1:50	1:50	1:30	1:30	1:30	R36 NE	1:35	2:05	1:30		
R37 ENE	1:40	1:50	1:35	1:35	1:30	R37 ENE	1:50	1:50	1:30	1:30	1:30	R37 ENE	1:40	2:05	1:35		
R38 E	1:45	1:50	1:45	1:50	1:35	R38 E	1:40	1:40	1:35	1:40	1:30	R38 E	2:20	2:05	1:45		
R39 ESE	1:45	1:50	1:40	1:50	1:35	R39 ESE	1:40	1:40	1:35	1:40	1:30	R39 ESE	2:20	2:05	1:40		
R40 SE	1:40	1:50	1:40	1:45	1:35	R40 SE	1:40	1:40	1:30	1:40	1:30	R40 SE	2:20	2:05	1:40		
R41 SSE, S	1:40	1:40	1:35	1:40	1:30	R41 SSE, S	1:40	1:40	1:25	1:30	1:25	R41 SSE, S	2:20	2:05	1:35		
R42 SSW	1:40	1:40	1:35	1:40	1:30	R42 SSW	1:40	1:40	1:30	1:30	1:30	R42 SSW	2:20	2:05	1:35		
R43 SW	1:40	1:45	1:35	1:40	1:30	R43 SW	1:40	1:40	1:30	1:30	1:30	R43 SW	2:10	2:05	1:35		
R44 WSW	1:40	1:40	1:30	1:30	1:30	R44 WSW	1:40	1:40	1:30	1:30	1:30	R44 WSW	1:30	2:10	1:30		
R45 W	1:50	1:50	1:35	1:35	1:35	R45 W	1:50	1:50	1:35	1:35	1:35	R45 W	1:35	2:10	1:35		
R46 WNW	1:50	1:50	1:35	1:35	1:35	R46 WNW	1:50	1:50	1:35	1:35	1:35	R46 WNW	1:35	2:10	1:35		
R47 NW, NNW	1:50	1:50	1:30	1:35	1:35	R47 NW, NNW	1:50	1:50	1:30	1:35	1:35	R47 NW, NNW	1:30	2:05	1:30		
2-Mile Ring and Downwind to EPZ Boundary (5 sector groups)																	
R48 N	2:20	2:20	2:00	2:05	1:55	R48 N	2:20	2:20	2:00	2:05	1:55	R48 N	2:00	2:20	3:00		
R49 NNE	2:10	2:20	1:55	2:00	1:55	R49 NNE	2:10	2:20	1:55	2:00	1:55	R49 NNE	1:55	2:15	3:00		
R50 NE	2:10	2:10	1:50	2:00	1:50	R50 NE	2:10	2:15	1:50	2:00	1:50	R50 NE	1:50	2:15	2:50		
R51 ENE	2:10	2:10	1:50	2:00	1:50	R51 ENE	2:10	2:10	1:50	2:00	1:50	R51 ENE	1:50	2:10	2:10		
R52 E	2:00	2:00	1:45	1:50	1:40	R52 E	2:00	2:00	1:40	1:40	1:35	R52 E	2:10	2:10	1:45		
R53 ESE	2:00	2:00	1:45	1:50	1:40	R53 ESE	2:00	2:00	1:40	1:40	1:35	R53 ESE	2:10	2:10	1:45		
R54 SE	1:55	2:00	1:50	2:00	1:40	R54 SE	1:50	1:55	1:40	1:45	1:35	R54 SE	2:20	2:15	1:50		
R55 SSE	1:55	2:00	1:50	2:00	1:40	R55 SSE	1:50	1:50	1:40	1:45	1:35	R55 SSE	2:20	2:15	1:50		
R56 S	1:50	1:55	1:45	1:55	1:35	R56 S	1:50	1:50	1:35	1:45	1:30	R56 S	2:25	2:15	1:45		
R57 SSW	1:50	1:55	1:45	1:55	1:35	R57 SSW	1:50	1:50	1:35	1:40	1:30	R57 SSW	2:10	2:20	1:45		
R58 SW	1:50	1:55	1:45	1:50	1:35	R58 SW	1:50	1:50	1:35	1:40	1:30	R58 SW	2:10	2:20	1:45		
R59 WSW	2:00	2:00	1:40	1:40	1:40	R59 WSW	2:00	2:00	1:40	1:40	1:40	R59 WSW	1:40	2:15	1:50		
R60 W	2:00	2:00	1:40	1:40	1:40	R60 W	2:00	2:00	1:40	1:40	1:40	R60 W	1:40	2:15	1:55		
R61 WNW	2:10	2:10	1:40	1:40	1:40	R61 WNW	2:10	2:10	1:40	1:40	1:40	R61 WNW	1:40	2:15	2:00		
R62 NW	2:10	2:20	2:00	2:05	2:00	R62 NW	2:20	2:20	2:00	2:05	2:00	R62 NW	2:00	2:20	3:00		
R63 NNW	2:20	2:20	2:00	2:05	1:55	R63 NNW	2:20	2:20	2:00	2:05	1:55	R63 NNW	2:00	2:20	3:00		

Table J-1C. Time to Clear the Indicated Area of 95 Percent of The Affected Population (page 1 of 2)																
	Summer		Summer		Summer		Winter		Winter		Winter		Summer		Summer	Summer
	Midweek		Weekend		Midweek Weekend		Midweek		Weekend		Midweek Weekend		Weekend		Midweek	Weekend
Scenario:	(1)	(2)	(3)	(4)	(5)	Scenario:	(6)	(7)	(8)	(9)	(10)	Scenario:	(11)	(12)	(13)	
Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday		Midday	Midday
	Good Weather	Rain	Good Weather	Rain	Good Weather		Good Weather	Rain	Good Weather	Rain	Good Weather		Event in Amphitheatre	New Plant Construction	Granbury 4 th of July	
Entire 2-Mile Region, 5-Mile Region, and EPZ																
R01 2-mile ring	1:40	1:40	1:30	1:30	1:30	R01 2-mile ring	1:40	1:40	1:30	1:30	1:30	R01 2-mile ring	1:30	2:15		1:30
R02 5-mile ring	2:20	2:20	2:10	2:10	2:00	R02 5-mile ring	2:20	2:20	1:50	1:50	1:50	R02 5-mile ring	2:40	2:20		1:50
R03 Entire EPZ	2:50	2:50	2:10	2:20	2:10	R03 Entire EPZ	2:40	2:40	2:10	2:20	2:10	R03 Entire EPZ	2:30	2:40		3:10
2-Mile Ring and Downwind to 5 Miles (3 sector groups)																
R04 N	2:20	2:20	1:50	1:50	2:00	R04 N	2:20	2:20	1:50	1:50	2:00	R04 N	1:50	2:15		1:50
R05 NNE	2:20	2:20	1:50	1:50	1:50	R05 NNE	2:20	2:20	1:50	1:50	1:50	R05 NNE	1:50	2:15		1:50
R06 NE	2:10	2:10	1:50	1:50	1:50	R06 NE	2:10	2:10	1:50	1:50	1:50	R06 NE	1:45	2:15		1:50
R07 ENE	2:10	2:10	1:40	1:50	1:50	R07 ENE	2:10	2:10	1:50	1:50	1:50	R07 ENE	1:45	2:15		1:40
R08 E	2:00	2:00	1:40	1:40	1:50	R08 E	2:00	2:00	1:40	1:40	1:50	R08 E	1:45	2:15		1:40
R09 ESE	2:00	2:00	1:55	2:00	1:45	R09 ESE	2:10	2:10	1:40	1:50	1:50	R09 ESE	2:50	2:15		1:55
R10 SE	2:00	2:00	1:50	2:00	1:40	R10 SE	2:10	2:10	1:40	1:50	1:50	R10 SE	2:50	2:15		1:50
R11 SSE, S	1:50	2:00	1:45	1:50	1:40	R11 SSE, S	2:00	2:00	1:40	1:40	1:40	R11 SSE, S	2:40	2:15		1:45
R12 SSW	2:00	2:00	1:45	1:50	1:40	R12 SSW	2:00	2:00	1:40	1:40	1:40	R12 SSW	2:40	2:15		1:45
R13 SW	1:50	2:00	1:40	1:40	1:40	R13 SW	1:50	2:00	1:40	1:40	1:40	R13 SW	1:40	2:15		1:40
R14 WSW	2:10	2:10	1:40	1:40	1:50	R14 WSW	2:10	2:10	1:40	1:40	1:50	R14 WSW	1:40	2:20		1:40
R15 W	2:10	2:10	1:40	1:40	1:50	R15 W	2:10	2:10	1:40	1:40	1:50	R15 W	1:40	2:15		1:40
R16 WNW	2:10	2:10	1:40	1:40	1:50	R16 WNW	2:10	2:10	1:40	1:40	1:50	R16 WNW	1:40	2:15		1:40
R17 NW, NNW	2:10	2:10	1:40	1:40	1:50	R17 NW, NNW	2:10	2:10	1:40	1:40	1:50	R17 NW, NNW	1:40	2:15		1:40
2-Mile Ring and Downwind to EPZ Boundary (3 sector groups)																
R18 N	2:50	2:50	2:10	2:20	2:10	R18 N	2:50	2:50	2:10	2:20	2:10	R18 N	2:10	2:40		3:15
R19 NNE	2:50	2:50	2:10	2:20	2:10	R19 NNE	2:50	2:50	2:10	2:20	2:10	R19 NNE	2:10	2:40		3:10
R20 NE	2:40	2:40	2:10	2:10	2:10	R20 NE	2:40	2:40	2:10	2:10	2:10	R20 NE	2:10	2:30		2:20
R21 ENE	2:30	2:30	1:50	1:50	2:00	R21 ENE	2:30	2:30	1:50	2:00	2:00	R21 ENE	1:50	2:20		1:50
R22 E	2:30	2:30	1:50	1:50	2:00	R22 E	2:30	2:30	1:50	1:50	2:00	R22 E	1:50	2:20		1:50
R23 ESE	2:10	2:10	2:00	2:10	1:50	R23 ESE	2:10	2:10	1:50	1:55	1:50	R23 ESE	2:40	2:20		2:00
R24 SE	2:10	2:10	2:00	2:10	1:50	R24 SE	2:10	2:20	1:50	1:55	1:50	R24 SE	2:40	2:20		2:00
R25 SSE	2:10	2:10	1:55	2:05	1:50	R25 SSE	2:10	2:10	1:50	1:55	1:50	R25 SSE	2:40	2:30		1:55
R26 S	2:10	2:10	1:55	2:00	1:50	R26 S	2:10	2:10	1:50	1:50	1:50	R26 S	2:40	2:30		1:55
R27 SSW	2:00	2:05	1:50	2:00	1:50	R27 SSW	2:10	2:10	1:50	1:50	1:50	R27 SSW	2:40	2:40		1:50
R28 SW	2:00	2:00	1:40	1:45	1:40	R28 SW	2:00	2:00	1:40	1:40	1:40	R28 SW	1:40	2:25		1:40
R29 WSW	2:10	2:10	1:50	1:50	1:50	R29 WSW	2:20	2:20	1:50	1:50	1:50	R29 WSW	1:50	2:25		1:50
R30 W	2:40	2:40	2:00	2:00	2:10	R30 W	2:40	2:40	2:00	2:00	2:10	R30 W	2:00	2:25		2:10
R31 WNW	2:40	2:40	2:00	2:00	2:10	R31 WNW	2:40	2:40	2:00	2:00	2:10	R31 WNW	2:00	2:25		2:10
R32 NW	2:40	2:40	2:10	2:10	2:10	R32 NW	2:40	2:50	2:10	2:10	2:10	R32 NW	2:10	2:30		2:15
R33 NNW	2:40	2:50	2:10	2:20	2:10	R33 NNW	2:50	2:50	2:10	2:20	2:10	R33 NNW	2:10	2:40		3:20

Table J-1C. Time to Clear the Indicated Area of 95 Percent of The Affected Population (page 2 of 2)															
	Summer		Summer		Summer		Winter		Winter		Winter		Summer	Summer	Summer
	Midweek		Weekend		Midweek Weekend		Midweek		Weekend		Midweek Weekend		Weekend	Midweek	Weekend
Scenario:	(1)	(2)	(3)	(4)	(5)	Scenario:	(6)	(7)	(8)	(9)	(10)	Scenario:	(11)	(12)	(13)
Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday	Midday	Midday
	Good Weather	Rain	Good Weather	Rain	Good Weather		Good Weather	Rain	Good Weather	Rain	Good Weather		Event in Amphitheatre	New Plant Construction	Granbury 4 th of July
2-Mile Ring and Downwind to 5 Miles (5 sector groups)															
R34 N	2:20	2:20	1:50	1:50	2:00	R34 N	2:20	2:20	1:50	1:50	2:00	R34 N	1:50	2:15	1:50
R35 NNE	2:20	2:20	1:50	1:50	1:50	R35 NNE	2:20	2:20	1:50	1:50	1:50	R35 NNE	1:50	2:15	1:50
R36 NE	2:10	2:10	1:50	1:50	1:50	R36 NE	2:10	2:20	1:50	1:50	1:50	R36 NE	1:45	2:15	1:50
R37 ENE	2:10	2:10	1:40	1:50	1:50	R37 ENE	2:20	2:20	1:40	1:50	1:50	R37 ENE	2:10	2:20	1:40
R38 E	2:00	2:00	1:55	2:00	1:50	R38 E	2:10	2:10	1:40	1:50	1:50	R38 E	2:50	2:15	1:55
R39 ESE	2:00	2:00	1:50	2:00	1:45	R39 ESE	2:10	2:10	1:40	1:50	1:40	R39 ESE	2:40	2:15	1:50
R40 SE	2:00	2:00	1:50	1:55	1:40	R40 SE	2:00	2:00	1:40	1:50	1:40	R40 SE	2:50	2:15	1:50
R41 SSE, S	2:00	2:00	1:45	1:50	1:40	R41 SSE, S	2:00	2:00	1:40	1:40	1:40	R41 SSE, S	2:40	2:15	1:45
R42 SSW	2:00	2:00	1:50	1:50	1:40	R42 SSW	2:00	2:10	1:40	1:40	1:40	R42 SSW	2:40	2:20	1:50
R43 SW	2:10	2:10	1:50	1:50	1:40	R43 SW	2:10	2:10	1:40	1:40	1:50	R43 SW	2:40	2:20	1:50
R44 WSW	2:10	2:10	1:40	1:40	1:50	R44 WSW	2:10	2:10	1:40	1:40	1:50	R44 WSW	1:40	2:20	1:40
R45 W	2:20	2:20	1:50	1:50	2:00	R45 W	2:20	2:20	1:50	1:50	2:00	R45 W	1:50	2:20	1:50
R46 WNW	2:20	2:20	1:50	1:50	2:00	R46 WNW	2:20	2:20	1:50	1:50	2:00	R46 WNW	1:50	2:20	1:50
R47 NW, NNW	2:20	2:20	1:50	1:50	2:00	R47 NW, NNW	2:20	2:20	1:50	1:50	2:00	R47 NW, NNW	1:50	2:15	1:50
2-Mile Ring and Downwind to EPZ Boundary (5 sector groups)															
R48 N	2:50	2:50	2:10	2:20	2:10	R48 N	2:50	2:50	2:10	2:20	2:10	R48 N	2:10	2:40	3:20
R49 NNE	2:40	2:40	2:10	2:20	2:10	R49 NNE	2:40	2:50	2:10	2:20	2:10	R49 NNE	2:10	2:40	3:20
R50 NE	2:40	2:40	2:10	2:20	2:10	R50 NE	2:40	2:40	2:10	2:20	2:10	R50 NE	2:10	2:30	3:10
R51 ENE	2:40	2:40	2:10	2:20	2:10	R51 ENE	2:40	2:40	2:10	2:20	2:10	R51 ENE	2:10	2:30	2:30
R52 E	2:30	2:30	2:00	2:10	1:50	R52 E	2:30	2:30	1:50	1:55	1:50	R52 E	2:40	2:20	2:00
R53 ESE	2:20	2:20	2:00	2:00	1:50	R53 ESE	2:30	2:30	1:50	1:55	1:50	R53 ESE	2:40	2:20	2:00
R54 SE	2:10	2:10	2:00	2:10	1:50	R54 SE	2:20	2:20	1:50	1:55	1:50	R54 SE	2:40	2:30	2:00
R55 SSE	2:10	2:10	2:00	2:10	1:50	R55 SSE	2:20	2:20	1:50	1:55	1:50	R55 SSE	2:40	2:30	2:00
R56 S	2:00	2:10	1:55	2:05	1:50	R56 S	2:10	2:10	1:50	1:50	1:50	R56 S	2:50	2:30	1:55
R57 SSW	2:10	2:10	1:55	2:00	1:50	R57 SSW	2:20	2:20	1:50	1:50	1:50	R57 SSW	2:40	2:35	1:55
R58 SW	2:10	2:20	1:50	2:00	1:50	R58 SW	2:20	2:20	1:50	1:50	1:50	R58 SW	2:40	2:40	1:50
R59 WSW	2:30	2:30	1:50	2:00	2:00	R59 WSW	2:30	2:30	2:00	2:00	2:00	R59 WSW	1:50	2:30	2:05
R60 W	2:30	2:30	2:00	2:00	2:00	R60 W	2:30	2:30	2:00	2:00	2:00	R60 W	2:00	2:25	2:10
R61 WNW	2:40	2:40	2:00	2:10	2:10	R61 WNW	2:40	2:40	2:00	2:10	2:10	R61 WNW	2:00	2:30	2:10
R62 NW	2:50	2:50	2:10	2:20	2:10	R62 NW	2:50	2:50	2:10	2:20	2:10	R62 NW	2:10	2:40	3:20
R63 NNW	2:50	2:50	2:10	2:20	2:10	R63 NNW	2:50	2:50	2:10	2:20	2:10	R63 NNW	2:10	2:40	3:20

Table J-1D. Time to Clear the Indicated Area of 100 Percent of The Affected Population (page 1 of 2)																
	Summer		Summer		Summer		Winter		Winter		Winter		Summer		Summer	Summer
	Midweek		Weekend		Midweek Weekend		Midweek		Weekend		Midweek Weekend		Weekend	Midweek	Weekend	
Scenario:	(1)	(2)	(3)	(4)	(5)	Scenario:	(6)	(7)	(8)	(9)	(10)	Scenario:	(11)	(12)	(13)	
Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday	Midday	Midday	
	Good Weather	Rain	Good Weather	Rain	Good Weather		Good Weather	Rain	Good Weather	Rain	Good Weather		Event in Amphitheatre	New Plant Construction	Granbury 4 th of July	
Entire 2-Mile Region, 5-Mile Region, and EPZ																
R01 2-mile ring	3:50	3:50	2:50	3:00	3:00	R01 2-mile ring	3:50	3:50	2:50	2:50	3:00	R01 2-mile ring	2:50	3:50	2:50	
R02 5-mile ring	4:10	4:10	3:10	3:10	3:10	R02 5-mile ring	4:10	4:10	3:10	3:10	3:10	R02 5-mile ring	3:10	4:10	3:10	
R03 Entire EPZ	4:20	4:20	4:00	4:00	4:00	R03 Entire EPZ	4:20	4:20	4:00	4:00	4:00	R03 Entire EPZ	4:00	4:20	4:00	
2-Mile Ring and Downwind to 5 Miles (3 sector groups)																
R04 N	4:10	4:10	3:10	3:10	3:00	R04 N	4:00	4:10	3:10	3:10	3:10	R04 N	3:10	4:10	3:10	
R05 NNE	4:00	4:10	3:00	3:00	3:10	R05 NNE	4:00	4:10	3:00	3:10	3:00	R05 NNE	3:00	4:00	3:00	
R06 NE	4:00	4:00	3:00	3:00	3:10	R06 NE	4:00	4:10	3:10	3:10	3:10	R06 NE	3:00	4:00	3:00	
R07 ENE	4:00	4:00	3:00	3:00	3:00	R07 ENE	4:00	4:00	3:00	3:00	3:00	R07 ENE	3:00	4:00	3:00	
R08 E	4:00	4:00	3:00	3:00	3:00	R08 E	4:00	4:00	3:00	3:00	3:00	R08 E	3:00	4:00	3:00	
R09 ESE	4:00	4:00	3:00	3:00	3:00	R09 ESE	4:00	4:00	3:00	3:00	3:00	R09 ESE	3:00	4:00	3:00	
R10 SE	4:00	4:00	3:00	3:00	3:00	R10 SE	4:00	4:00	3:00	3:00	3:00	R10 SE	3:00	4:00	3:00	
R11 SSE, S	4:00	4:00	3:00	3:00	3:00	R11 SSE, S	4:00	4:00	2:50	3:00	3:00	R11 SSE, S	3:00	4:00	3:00	
R12 SSW	4:00	4:00	3:00	3:00	3:00	R12 SSW	4:00	4:00	2:50	3:00	3:00	R12 SSW	3:00	4:00	3:00	
R13 SW	4:00	4:00	3:00	3:10	3:00	R13 SW	4:00	4:00	3:10	3:10	3:00	R13 SW	3:00	4:00	3:00	
R14 WSW	4:10	4:10	3:10	3:10	3:10	R14 WSW	4:00	4:10	3:10	3:10	3:10	R14 WSW	3:10	4:10	3:10	
R15 W	4:10	4:10	3:10	3:10	3:10	R15 W	4:00	4:10	3:10	3:10	3:10	R15 W	3:10	4:10	3:10	
R16 WNW	4:10	4:10	3:10	3:10	3:10	R16 WNW	4:00	4:10	3:10	3:10	3:10	R16 WNW	3:10	4:10	3:10	
R17 NW, NNW	4:10	4:10	3:10	3:10	3:10	R17 NW, NNW	4:00	4:10	3:10	3:10	3:10	R17 NW, NNW	3:10	4:10	3:10	
2-Mile Ring and Downwind to EPZ Boundary (3 sector groups)																
R18 N	4:10	4:20	4:00	4:00	4:00	R18 N	4:10	4:10	4:00	4:00	4:00	R18 N	4:00	4:10	4:00	
R19 NNE	4:10	4:10	4:00	4:00	3:50	R19 NNE	4:10	4:10	4:00	4:00	4:00	R19 NNE	4:00	4:10	4:00	
R20 NE	4:10	4:10	3:50	4:00	3:50	R20 NE	4:10	4:10	3:50	4:00	4:00	R20 NE	3:50	4:10	3:50	
R21 ENE	4:00	4:00	3:40	3:40	3:40	R21 ENE	4:00	4:00	3:40	3:40	3:40	R21 ENE	3:40	4:00	3:40	
R22 E	4:00	4:00	3:40	3:40	3:40	R22 E	4:00	4:00	3:40	3:40	3:40	R22 E	3:40	4:00	3:40	
R23 ESE	4:00	4:00	3:00	3:00	3:00	R23 ESE	4:00	4:00	3:00	3:10	3:00	R23 ESE	3:00	4:00	3:00	
R24 SE	4:00	4:00	3:00	3:00	3:00	R24 SE	4:00	4:00	3:00	3:10	3:00	R24 SE	3:00	4:00	3:00	
R25 SSE	4:00	4:00	3:00	3:10	3:00	R25 SSE	4:10	4:10	3:10	3:10	3:10	R25 SSE	3:10	4:00	3:00	
R26 S	4:00	4:00	3:00	3:10	3:00	R26 S	4:00	4:00	3:00	3:00	3:10	R26 S	3:00	4:00	3:00	
R27 SSW	4:00	4:00	3:10	3:10	3:00	R27 SSW	4:00	4:10	3:00	3:00	3:00	R27 SSW	3:00	4:00	3:10	
R28 SW	4:00	4:10	3:10	3:10	3:10	R28 SW	4:10	4:10	3:10	3:10	3:10	R28 SW	3:10	4:00	3:10	
R29 WSW	4:10	4:10	3:10	3:10	3:10	R29 WSW	4:10	4:10	3:10	3:10	3:10	R29 WSW	3:10	4:10	3:10	
R30 W	4:10	4:10	3:50	3:50	4:00	R30 W	4:10	4:10	3:50	3:50	3:50	R30 W	3:50	4:10	3:50	
R31 WNW	4:20	4:20	3:50	3:50	4:00	R31 WNW	4:10	4:20	3:50	4:00	4:00	R31 WNW	3:50	4:20	3:50	
R32 NW	4:20	4:20	3:50	3:50	3:50	R32 NW	4:20	4:20	3:50	4:00	3:50	R32 NW	3:50	4:20	3:50	
R33 NNW	4:10	4:20	4:00	4:00	4:00	R33 NNW	4:10	4:20	4:00	4:00	4:00	R33 NNW	4:00	4:20	4:00	

Table J-1D. Time to Clear the Indicated Area of 100 Percent of The Affected Population (page 2 of 2)

	Summer		Summer		Summer		Winter		Winter		Winter		Summer	Summer	Summer
	Midweek		Weekend		Midweek Weekend		Midweek		Weekend		Midweek Weekend		Weekend	Midweek	Weekend
Scenario:	(1)	(2)	(3)	(4)	(5)	Scenario:	(6)	(7)	(8)	(9)	(10)	Scenario:	(11)	(12)	(13)
Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday		Midday		Evening	Region Wind Toward:	Midday	Midday	Midday
	Good Weather	Rain	Good Weather	Rain	Good Weather		Good Weather	Rain	Good Weather	Rain	Good Weather		Event in Amphitheatre	New Plant Construction	Granbury 4 th of July
2-Mile Ring and Downwind to 5 Miles (5 sector groups)															
R34 N	4:10	4:10	3:10	3:10	3:10	R34 N	4:00	4:10	3:10	3:10	3:10	R34 N	3:10	4:10	3:10
R35 NNE	4:10	4:10	3:10	3:10	3:10	R35 NNE	4:10	4:10	3:10	3:10	3:10	R35 NNE	3:10	4:10	3:10
R36 NE	4:00	4:00	3:00	3:00	3:10	R36 NE	4:00	4:10	3:10	3:00	3:10	R36 NE	3:00	4:00	3:00
R37 ENE	4:00	4:00	3:00	3:00	3:00	R37 ENE	4:00	4:00	3:00	3:00	3:00	R37 ENE	3:10	4:00	3:00
R38 E	4:00	4:00	3:00	3:00	3:00	R38 E	4:00	4:00	3:00	3:00	3:00	R38 E	3:10	4:00	3:00
R39 ESE	4:00	4:00	3:00	3:00	3:00	R39 ESE	4:00	4:00	3:00	3:00	3:00	R39 ESE	3:10	4:00	3:00
R40 SE	4:00	4:00	3:00	3:00	3:00	R40 SE	4:00	4:00	3:00	3:00	3:00	R40 SE	3:10	4:00	3:00
R41 SSE, S	4:00	4:00	3:00	3:00	3:00	R41 SSE, S	4:00	4:00	3:00	3:00	3:00	R41 SSE, S	3:10	4:00	3:00
R42 SSW	4:00	4:00	3:00	3:00	3:00	R42 SSW	4:00	4:00	3:00	3:00	3:00	R42 SSW	3:10	4:00	3:00
R43 SW	4:00	4:00	3:10	3:00	3:10	R43 SW	4:00	4:00	3:10	3:10	3:10	R43 SW	3:10	4:00	3:10
R44 WSW	4:10	4:10	3:10	3:10	3:10	R44 WSW	4:00	4:10	3:10	3:10	3:10	R44 WSW	3:10	4:10	3:10
R45 W	4:10	4:10	3:10	3:10	3:10	R45 W	4:10	4:10	3:10	3:10	3:10	R45 W	3:10	4:10	3:10
R46 WNW	4:10	4:10	3:10	3:10	3:10	R46 WNW	4:10	4:10	3:10	3:10	3:10	R46 WNW	3:10	4:10	3:10
R47 NW, NNW	4:10	4:10	3:10	3:10	3:10	R47 NW, NNW	4:10	4:10	3:10	3:10	3:10	R47 NW, NNW	3:10	4:10	3:10
2-Mile Ring and Downwind to EPZ Boundary (5 sector groups)															
R48 N	4:10	4:20	4:00	4:00	4:00	R48 N	4:20	4:20	4:00	4:00	4:00	R48 N	4:00	4:10	4:00
R49 NNE	4:10	4:20	4:00	4:00	4:00	R49 NNE	4:10	4:20	4:00	4:00	4:00	R49 NNE	4:00	4:10	4:00
R50 NE	4:10	4:10	4:00	4:00	4:00	R50 NE	4:10	4:10	3:50	4:00	4:00	R50 NE	4:00	4:10	4:00
R51 ENE	4:10	4:10	3:50	4:00	3:50	R51 ENE	4:10	4:10	3:50	4:00	4:00	R51 ENE	3:50	4:10	3:50
R52 E	4:10	4:10	3:40	3:40	3:40	R52 E	4:00	4:10	3:40	3:40	3:40	R52 E	3:40	4:10	3:40
R53 ESE	4:10	4:10	3:40	3:40	3:40	R53 ESE	4:00	4:00	3:40	3:40	3:40	R53 ESE	3:40	4:10	3:40
R54 SE	4:00	4:10	3:00	3:10	3:00	R54 SE	4:00	4:10	3:00	3:10	3:00	R54 SE	3:20	4:00	3:10
R55 SSE	4:00	4:00	3:00	3:10	3:00	R55 SSE	4:10	4:10	3:00	3:10	3:10	R55 SSE	3:20	4:00	3:00
R56 S	4:00	4:00	3:10	3:10	3:10	R56 S	4:10	4:00	3:00	3:10	3:10	R56 S	3:20	4:00	3:10
R57 SSW	4:00	4:10	3:10	3:10	3:10	R57 SSW	4:10	4:10	3:10	3:10	3:10	R57 SSW	3:20	4:00	3:10
R58 SW	4:10	4:10	3:10	3:10	3:10	R58 SW	4:10	4:10	3:10	3:10	3:10	R58 SW	3:20	4:10	3:10
R59 WSW	4:10	4:10	3:50	3:50	3:50	R59 WSW	4:10	4:10	3:50	3:50	3:50	R59 WSW	3:50	4:10	3:50
R60 W	4:20	4:20	3:50	3:50	4:00	R60 W	4:10	4:20	3:50	4:00	3:50	R60 W	3:50	4:20	3:50
R61 WNW	4:20	4:20	3:50	4:00	4:00	R61 WNW	4:20	4:20	3:50	3:50	4:00	R61 WNW	3:50	4:20	3:50
R62 NW	4:10	4:20	4:00	4:00	4:00	R62 NW	4:20	4:20	4:00	4:00	4:00	R62 NW	4:00	4:10	4:00
R63 NNW	4:20	4:20	4:00	4:00	4:00	R63 NNW	4:20	4:20	4:00	4:00	4:00	R63 NNW	4:00	4:20	4:00

Table J-2. Description of Evacuation Regions (Page 1 of 2)

			ZONE																														
Region	Central Sector	Description	CP	1A	1B	1C	1D	2A	2B	2C	2D	2E	2F	2G	2H	2J	3A	3B	3C	3D	3E	3F	4A	4B	4C	4D	4E	4F	4G	4H	GLEN ROSE	GRANBURY	TOLAR
R01	-	2 mile ring																															
R02	-	5-mile ring																															
R03	-	Full EPZ																															
Evacuate 2 mile ring and 5 miles downwind (3 Sector Groups)																																	
			ZONE																														
Region	Central Sector	Wind Direction Toward:	CP	1A	1B	1C	1D	2A	2B	2C	2D	2E	2F	2G	2H	2J	3A	3B	3C	3D	3E	3F	4A	4B	4C	4D	4E	4F	4G	4H	GLEN ROSE	GRANBURY	TOLAR
R04	A	N																															
R05	B	NNE																															
R06	C	NE																															
R07	D	ENE																															
R08	E	E																															
R09	F	ESE																															
R10	G	SE																															
R11	H, J	SSE, S																															
R12	K	SSW																															
R13	L	SW																															
R14	M	WSW																															
R15	N	W																															
R16	P	WNW																															
R17	Q, R	NW, NNW																															
Evacuate 2 mile ring and downwind to EPZ Boundary (3 Sector Groups)																																	
			ZONE																														
Region	Central Sector	Wind Direction Toward:	CP	1A	1B	1C	1D	2A	2B	2C	2D	2E	2F	2G	2H	2J	3A	3B	3C	3D	3E	3F	4A	4B	4C	4D	4E	4F	4G	4H	GLEN ROSE	GRANBURY	TOLAR
R18	A	N																															
R19	B	NNE																															
R20	C	NE																															
R21	D	ENE																															
R22	E	E																															
R23	F	ESE																															
R24	G	SE																															
R25	H	SSE																															
R26	J	S																															
R27	K	SSW																															
R28	L	SW																															
R29	M	WSW																															
R30	N	W																															
R31	P	WNW																															
R32	Q	NW																															
R33	R	NNW																															

Table J-2. Description of Evacuation Regions (Page 2 of 2)																																	
Evacuate 2 mile ring and 5 miles downwind (5 Sector Groups)																																	
ZONE																																	
Region	Central Sector	Wind Direction Toward:	CP	1A	1B	1C	1D	2A	2B	2C	2D	2E	2F	2G	2H	2J	3A	3B	3C	3D	3E	3F	4A	4B	4C	4D	4E	4F	4G	4H	GLEN ROSE	GRANBURY	TOLAR
R34	A	N																															
R35	B	NNE																															
R36	C,D	NE, ENE																															
R37	E	E																															
R38	F	ESE																															
R39	G	SE																															
R40	H	SSE																															
R41	J	S																															
R42	K	SSW																															
R43	L	SW																															
R44	M, N	WSW, W																															
R45	P	WNW																															
R46	Q	NW																															
R47	R	NNW																															

Evacuate 2 mile ring and downwind to EPZ Boundary (5 Sector Groups)																																	
ZONE																																	
Region	Central Sector	Wind Direction Toward:	CP	1A	1B	1C	1D	2A	2B	2C	2D	2E	2F	2G	2H	2J	3A	3B	3C	3D	3E	3F	4A	4B	4C	4D	4E	4F	4G	4H	GLEN ROSE	GRANBURY	TOLAR
R48	A	N																															
R49	B	NNE																															
R50	C	NE																															
R51	D	ENE																															
R52	E	E																															
R53	F	ESE																															
R54	G	SE																															
R55	H	SSE																															
R56	J	S																															
R57	K	SSW																															
R58	L	SW																															
R59	M	WSW																															
R60	N	W																															
R61	P	WNW																															
R62	Q	NW																															
R63	R	NNW																															

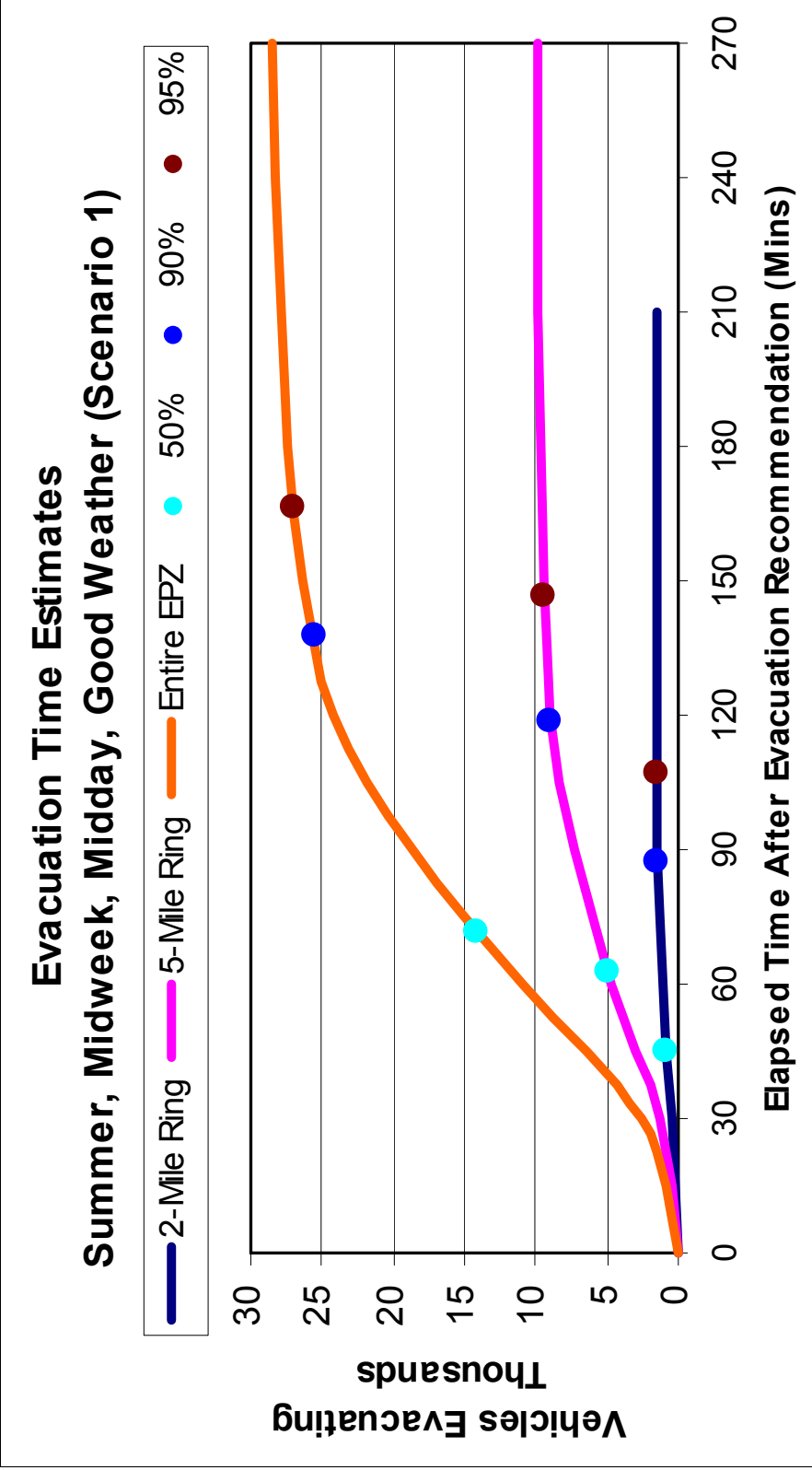


Figure J-1. Evacuation Time Estimates
Scenario 1, Region R03 (Entire EPZ)

Evacuation Time Estimates Summer, Midweek, Midday, Rain (Scenario 2)

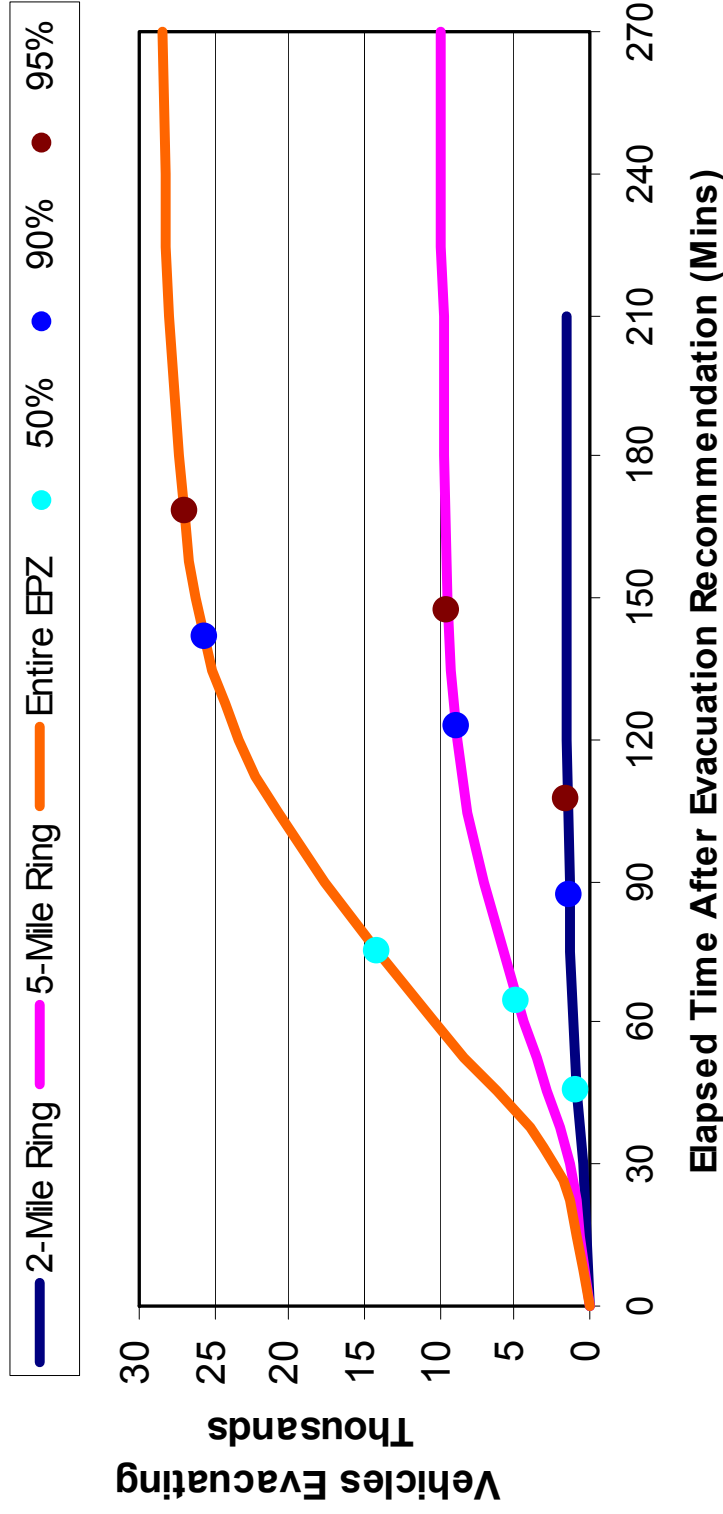


Figure J-2. Evacuation Time Estimates
Scenario 2, Region R03 (Entire EPZ)

Evacuation Time Estimates Summer, Weekend, Midday, Good Weather (Scenario 3)

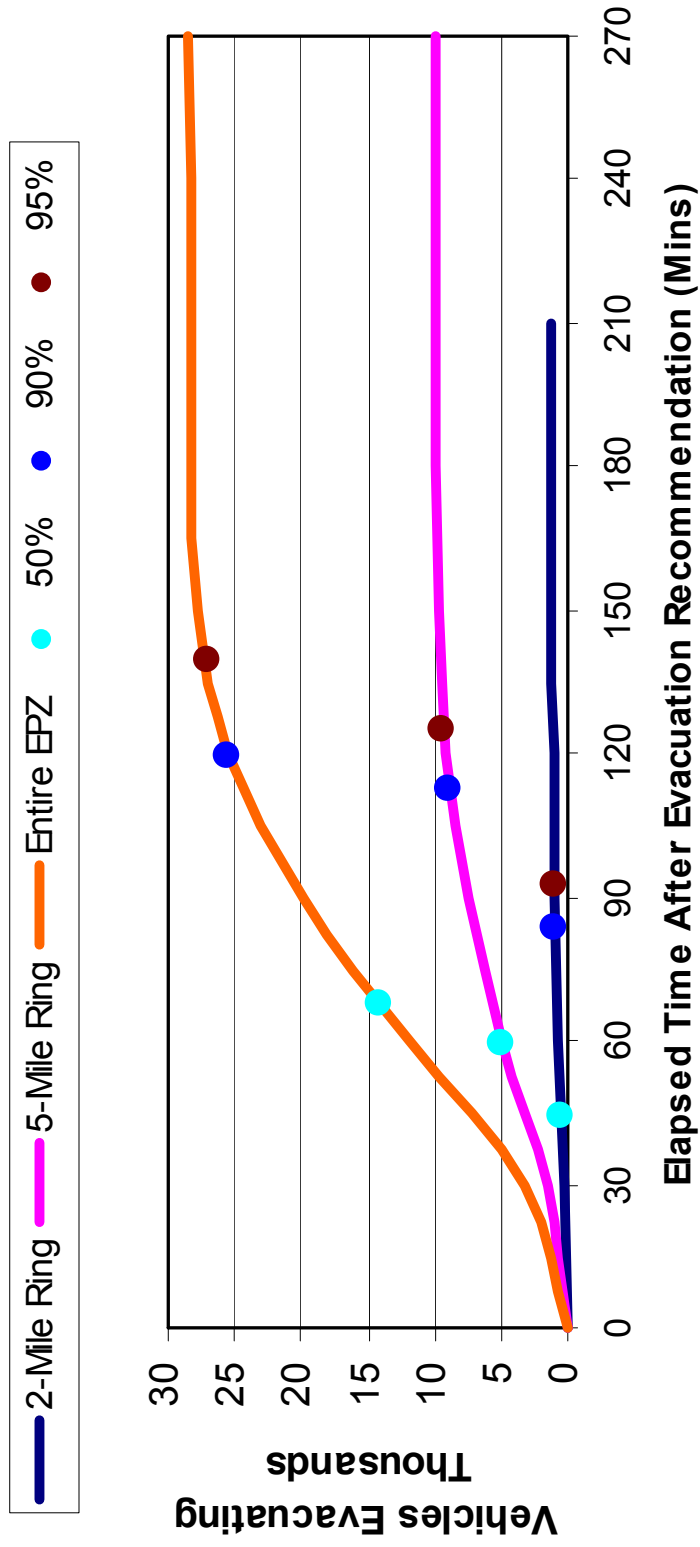


Figure J-3. Evacuation Time Estimates
 Scenario 3, Region R03 (Entire EPZ)

Evacuation Time Estimates Summer, Weekend, Midday, Rain (Scenario 4)

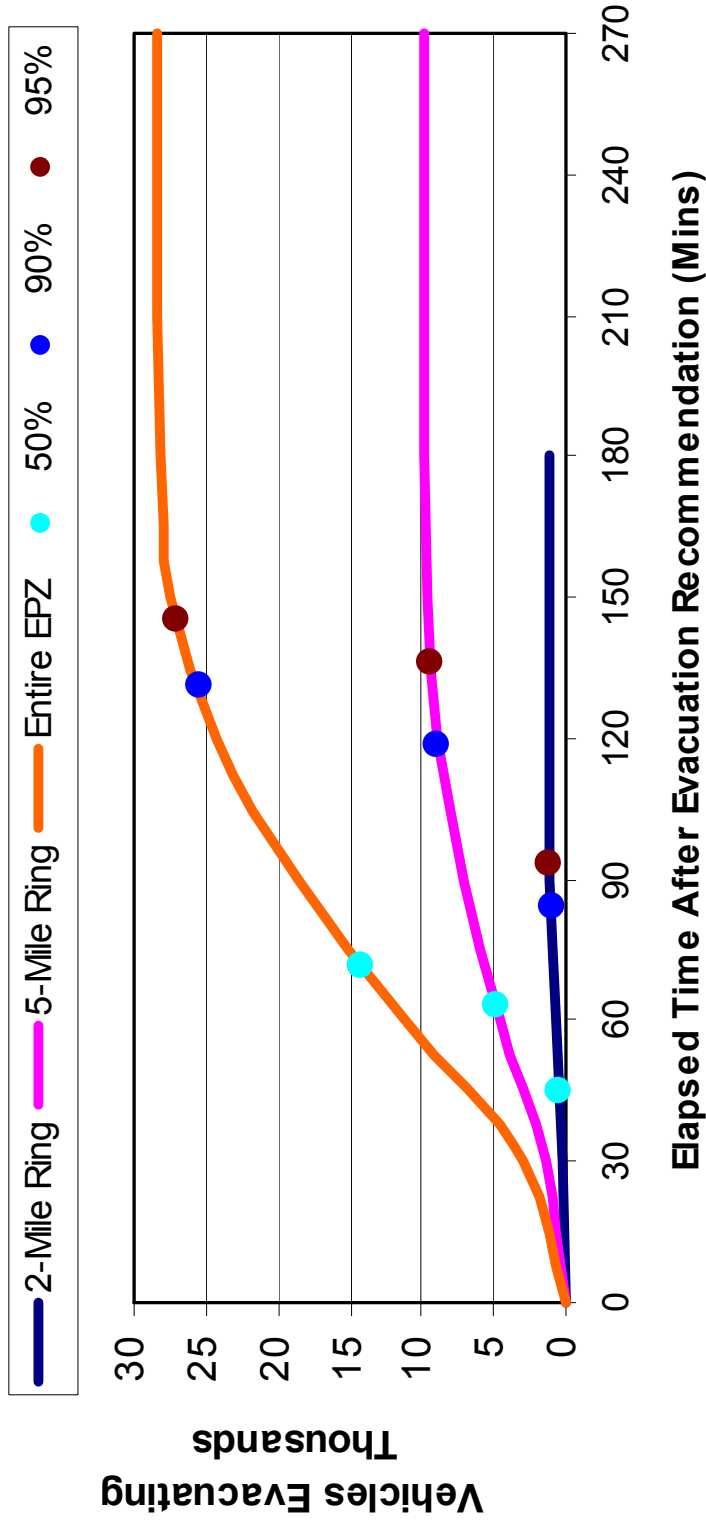


Figure J-4. Evacuation Time Estimates
Scenario 4, Region R03 (Entire EPZ)

Evacuation Time Estimates Summer, Evening, Good Weather (Scenario 5)

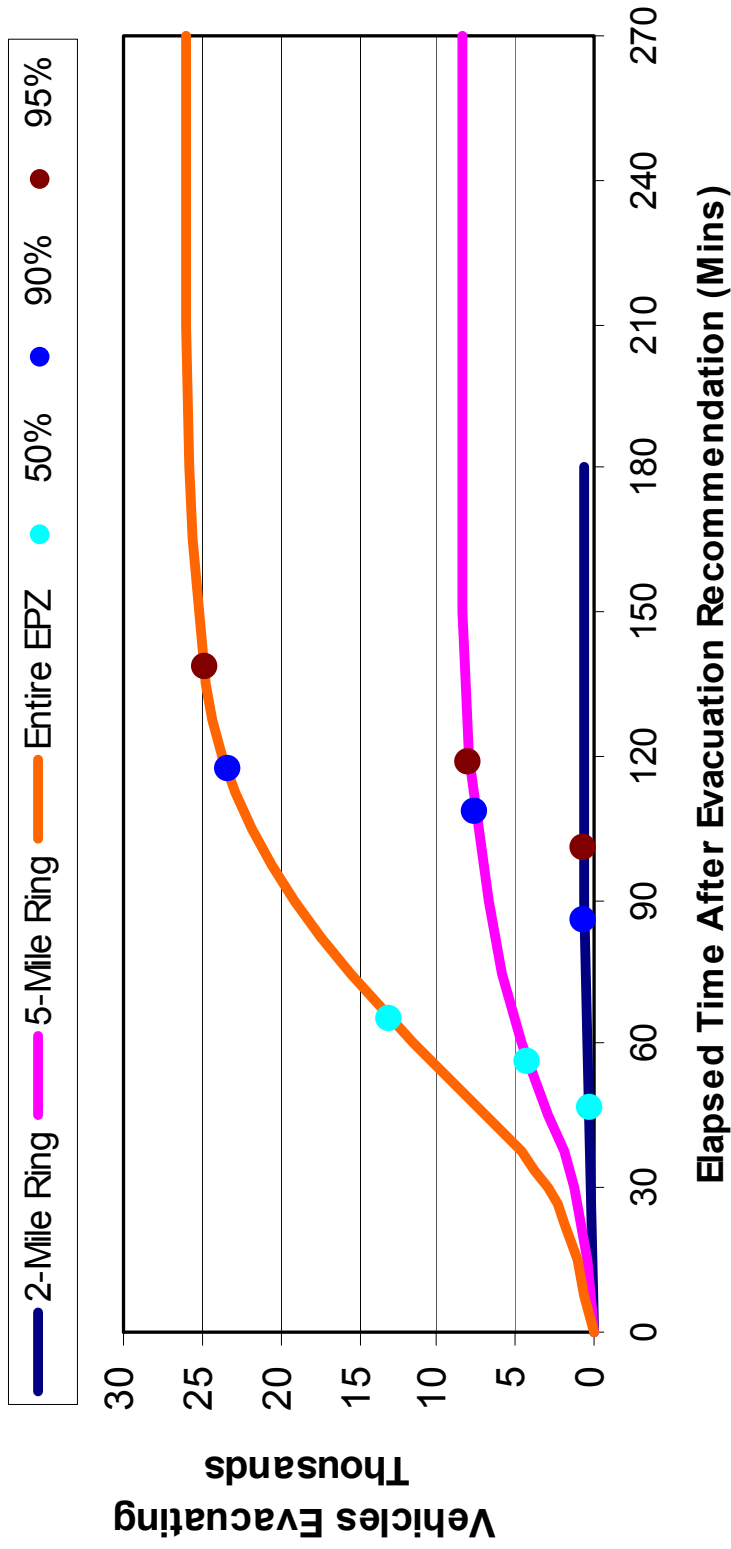


Figure J-5. Evacuation Time Estimates
Scenario 5, Region R03 (Entire EPZ)

Evacuation Time Estimates

Winter, Midweek, Midday, Good Weather (Scenario 6)

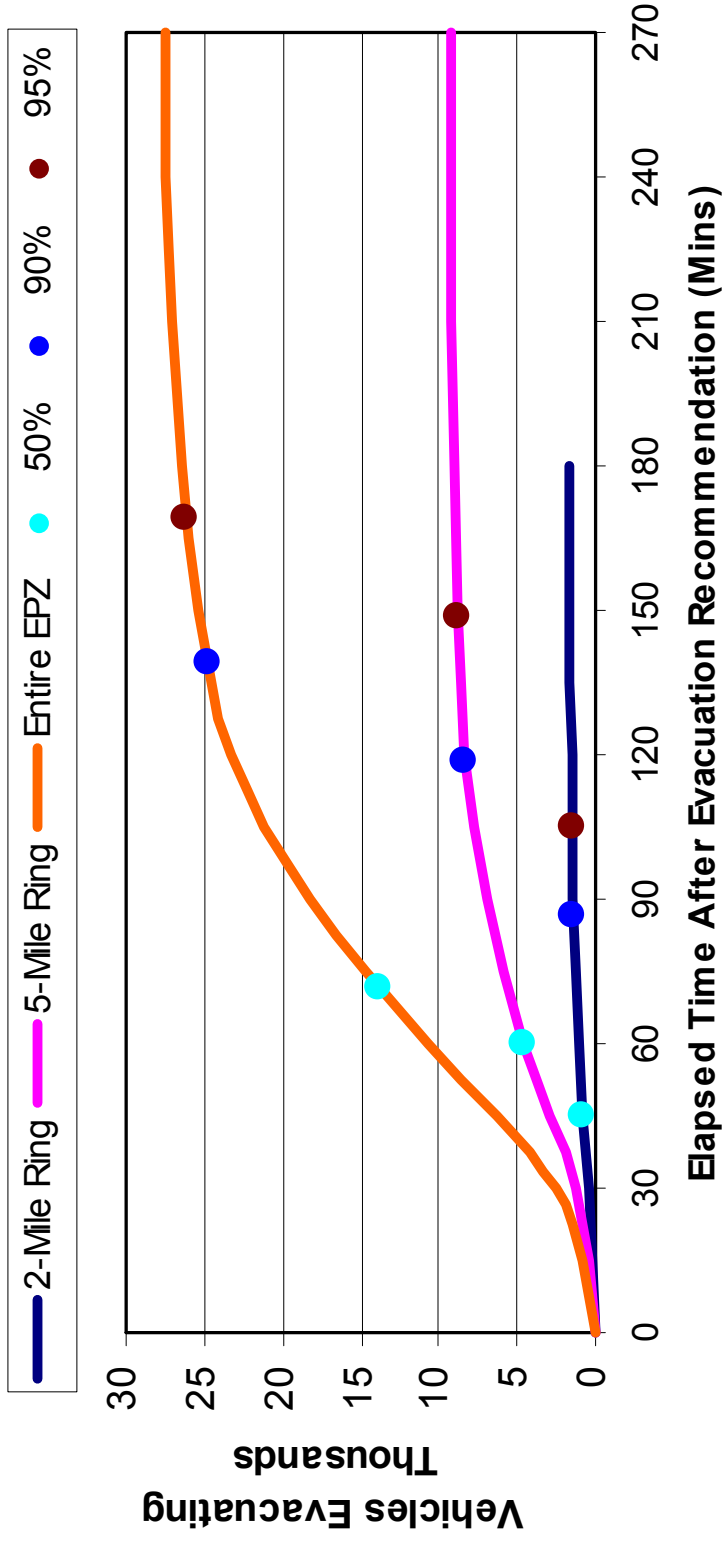


Figure J-6. Evacuation Time Estimates
Scenario 6, Region R03 (Entire EPZ)

Evacuation Time Estimates Winter, Midweek, Midday, Rain (Scenario 7)

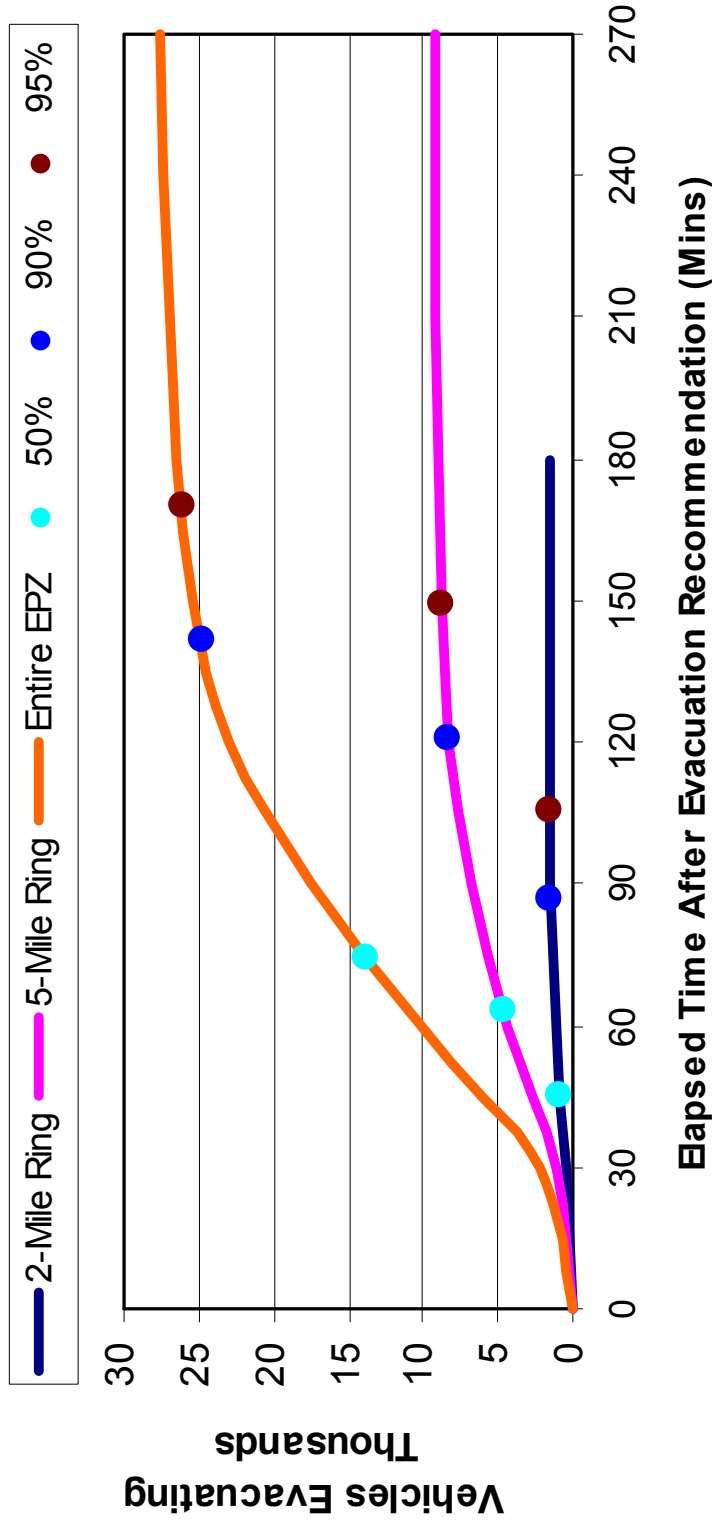


Figure J-7. Evacuation Time Estimates
Scenario 7, Region R03 (Entire EPZ)

Evacuation Time Estimates Winter, Weekend, Midday, Good Weather (Scenario 8)

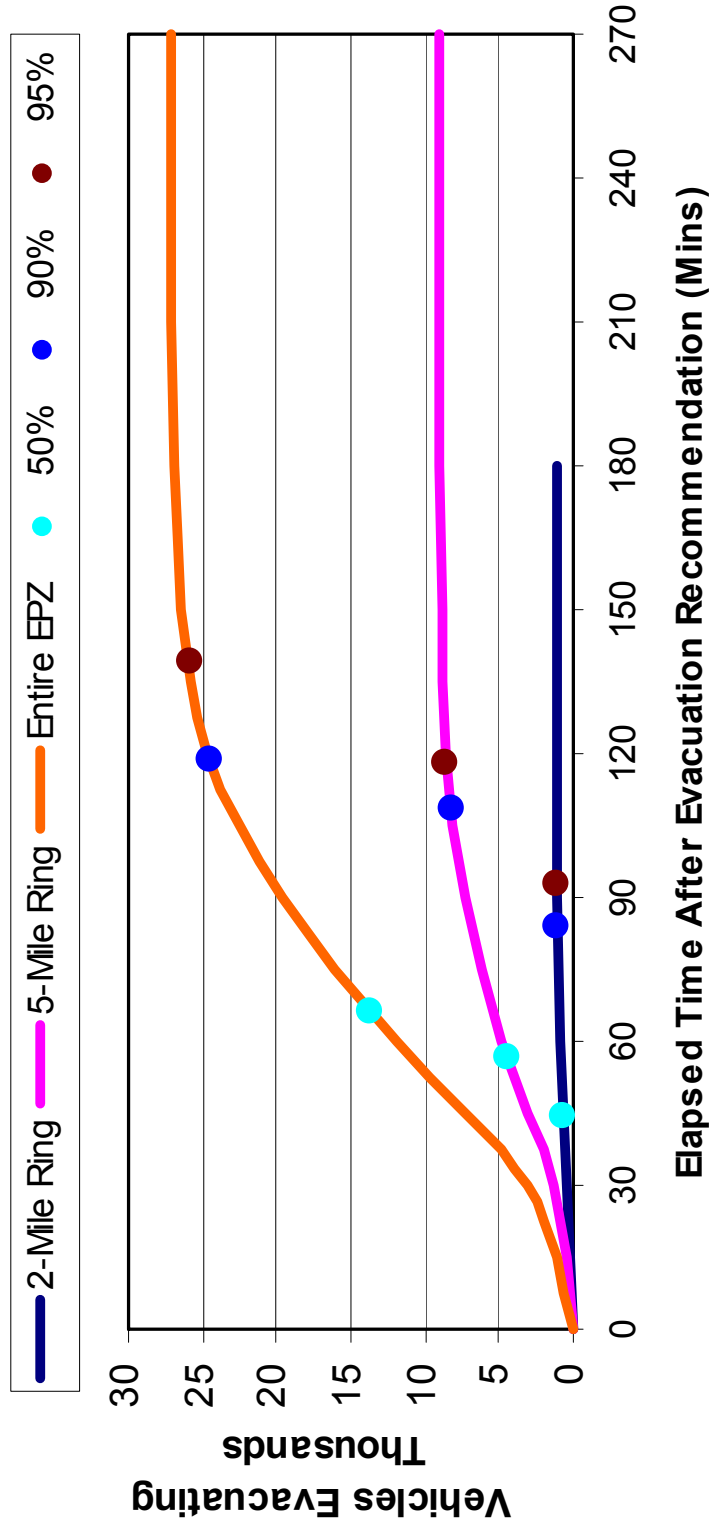


Figure J-8. Evacuation Time Estimates
Scenario 8, Region R03 (Entire EPZ)

Evacuation Time Estimates Winter, Weekend, Midday, Rain (Scenario 9)

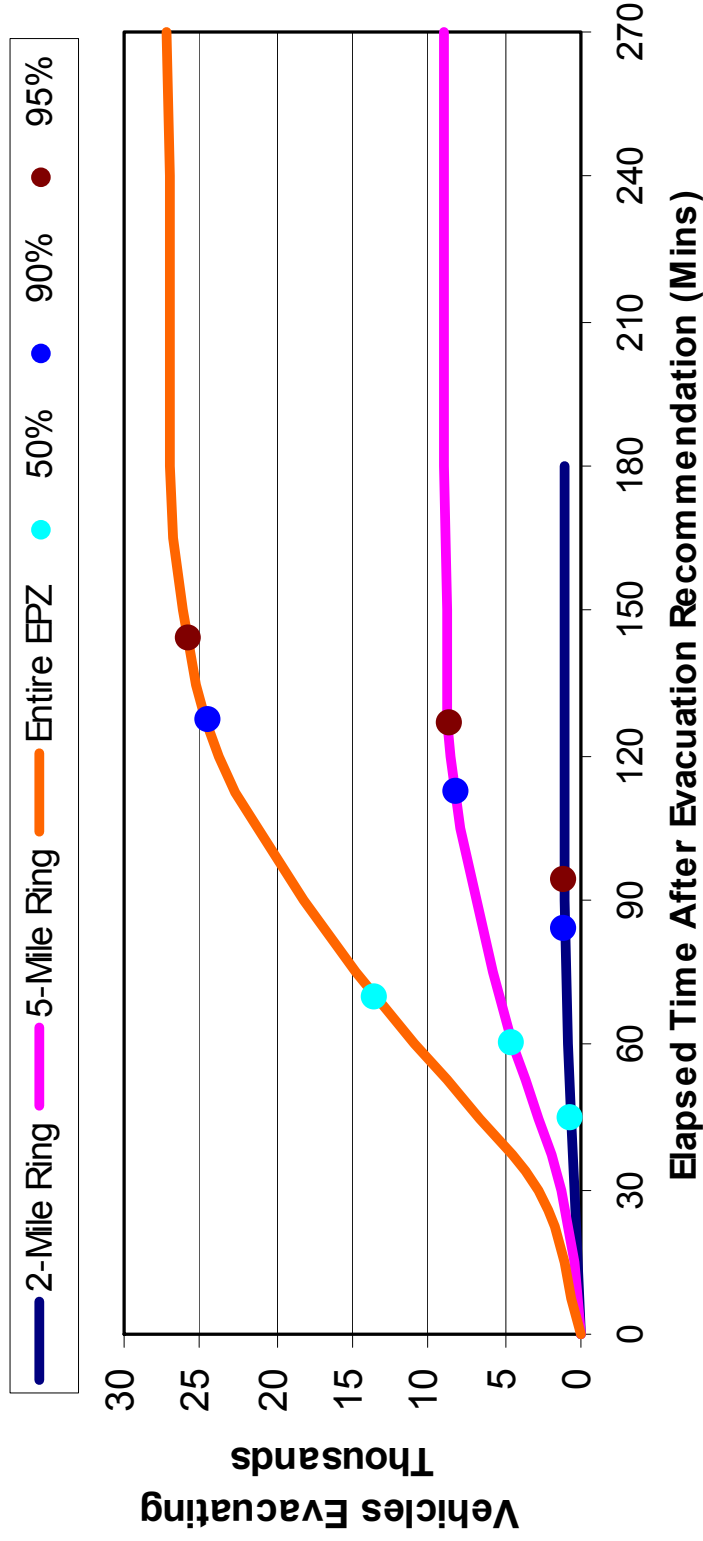


Figure J-9. Evacuation Time Estimates
Scenario 9, Region R03 (Entire EPZ)

Evacuation Time Estimates Winter, Evening, Good Weather (Scenario 10)

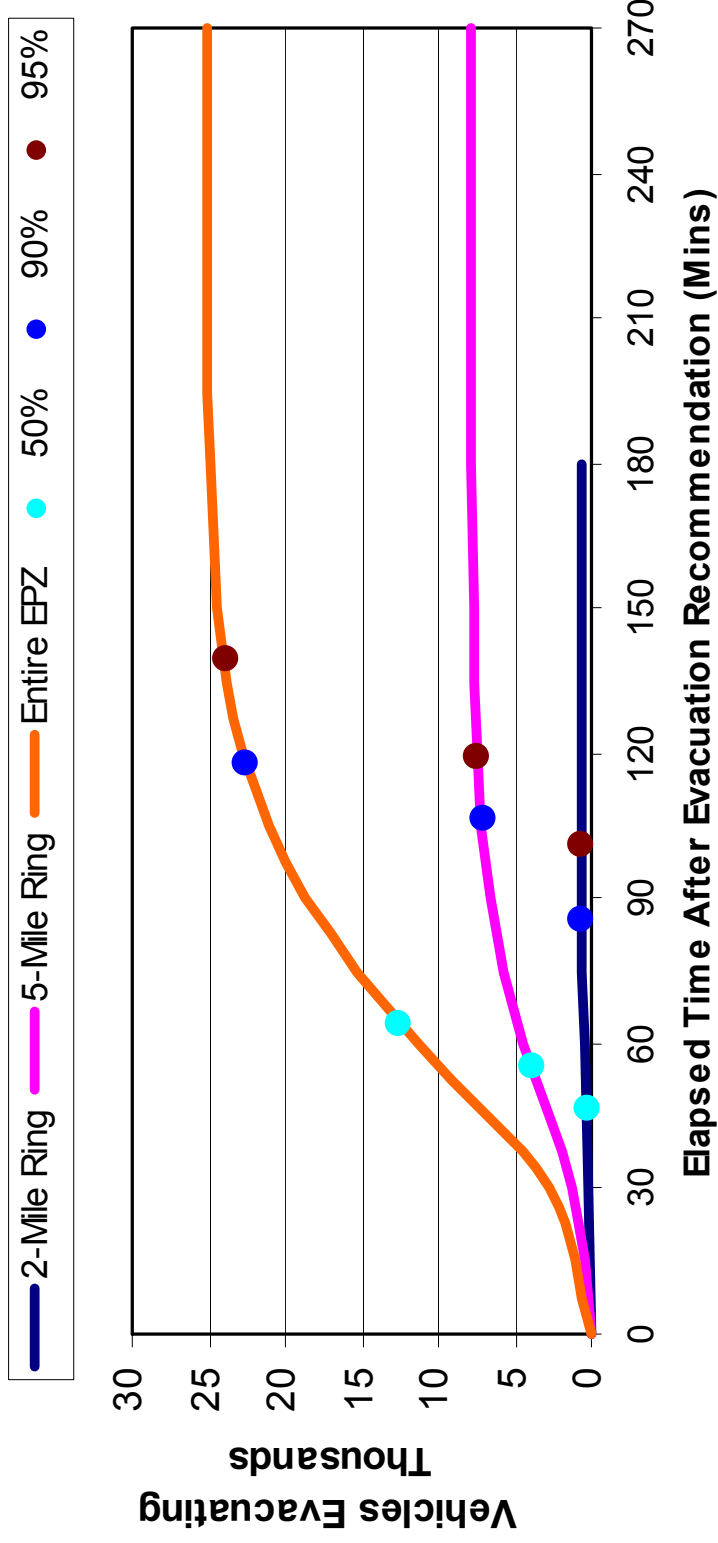


Figure J-10. Evacuation Time Estimates
Scenario 10, Region R03 (Entire EPZ)

Evacuation Time Estimates Summer, Weekend, Midday, Event in Amphitheatre (Scenario 11)

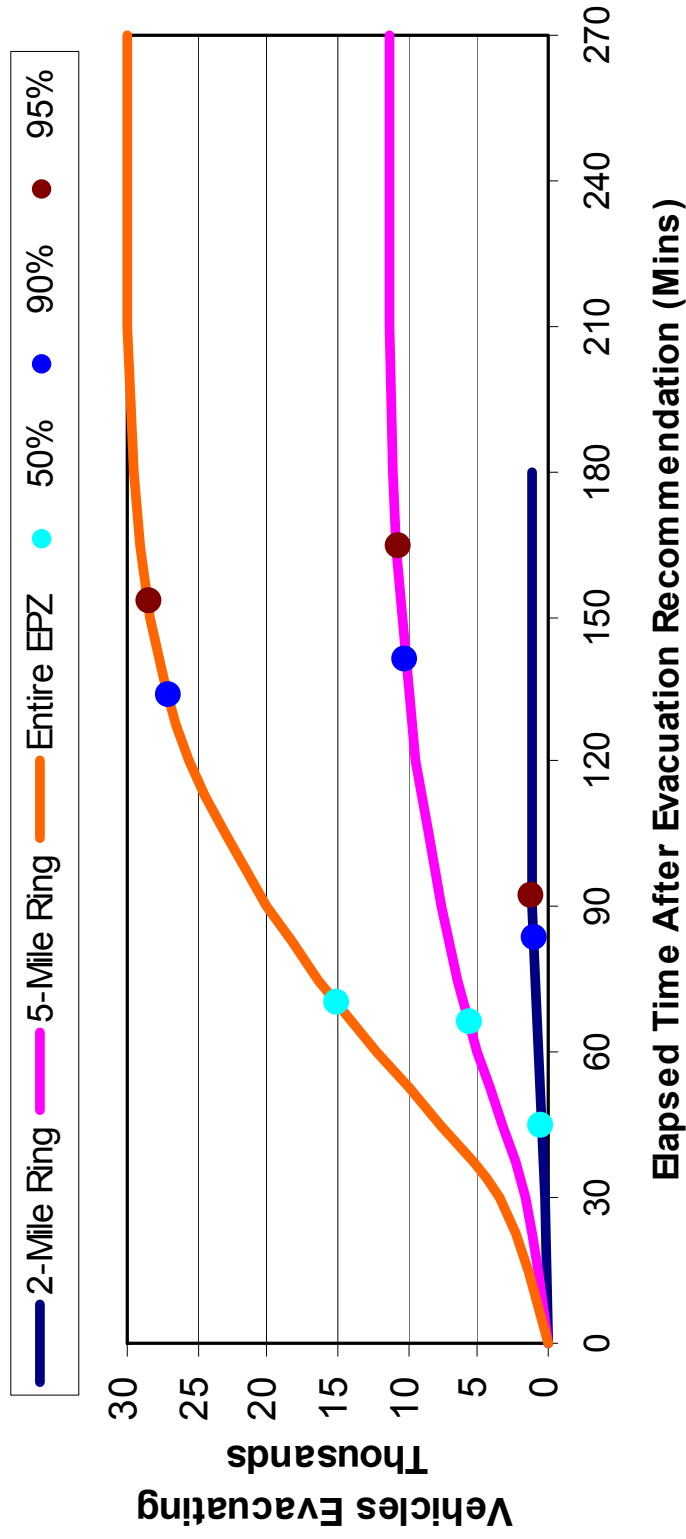


Figure J-11. Evacuation Time Estimates
 Scenario 11, Region R03 (Entire EPZ)

Evacuation Time Estimates Summer, Midweek, Midday, Plant Construction (Scenario 12)

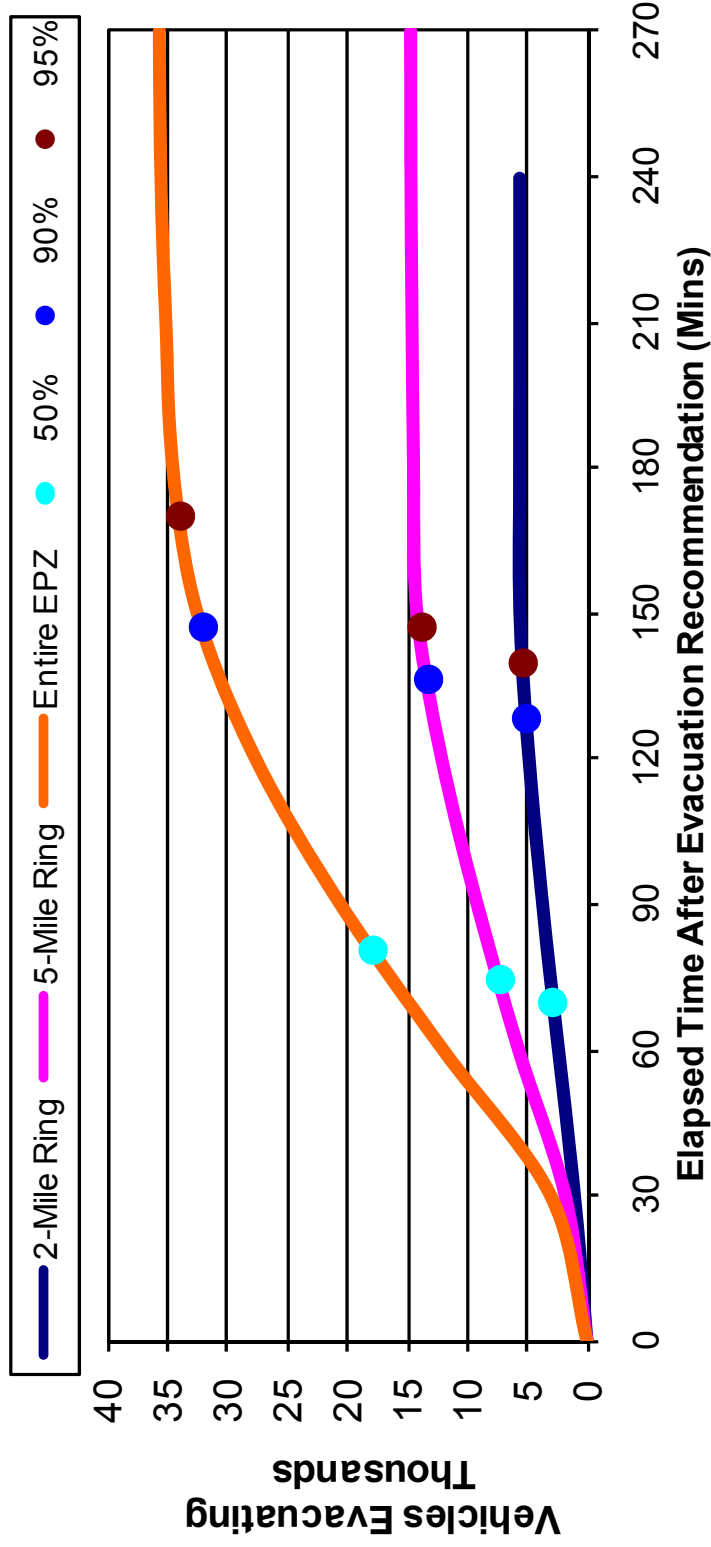


Figure J-12. Evacuation Time Estimates
 Scenario 12, Region R03 (Entire EPZ)

Evacuation Time Estimates Summer, Weekend, Midday, Granbury 4th of July (Scenario 13)

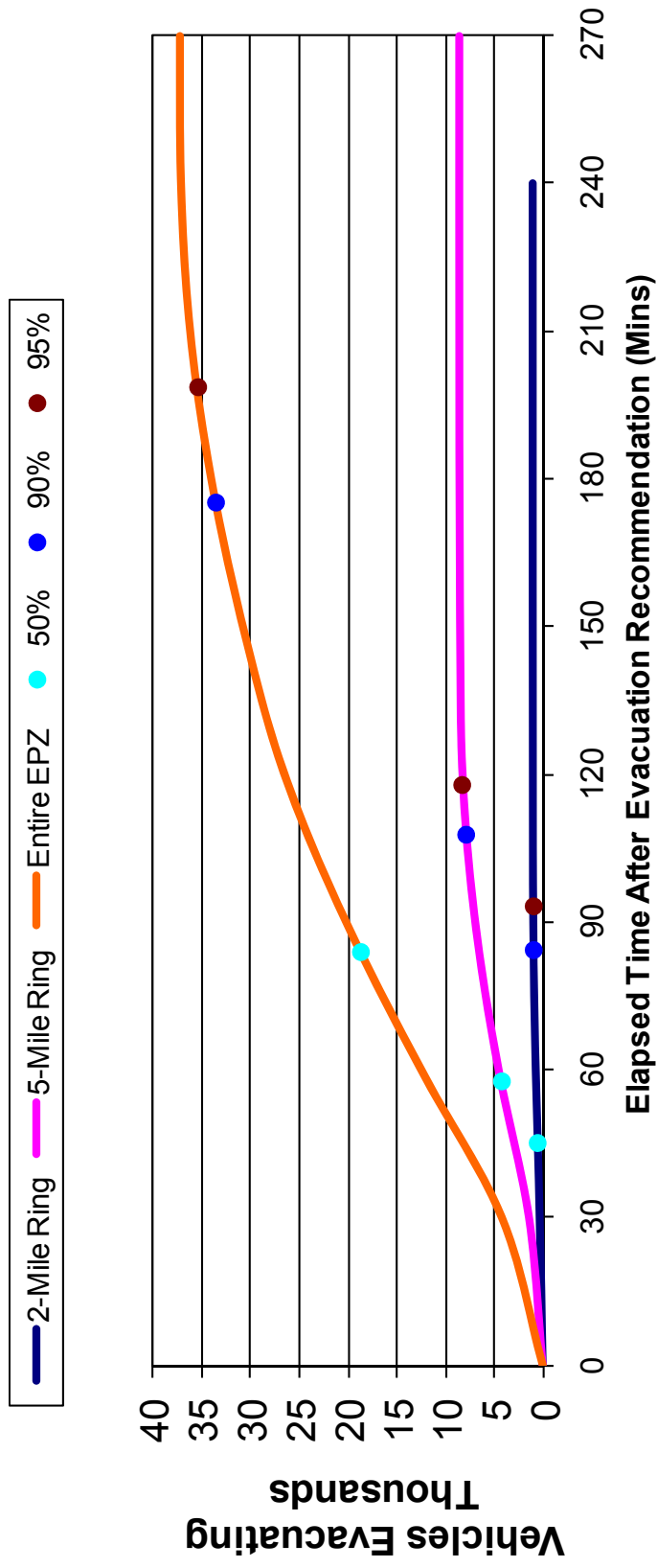


Figure J-13. Evacuation Time Estimates
 Scenario 13, Region R03 (Entire EPZ)

APPENDIX K

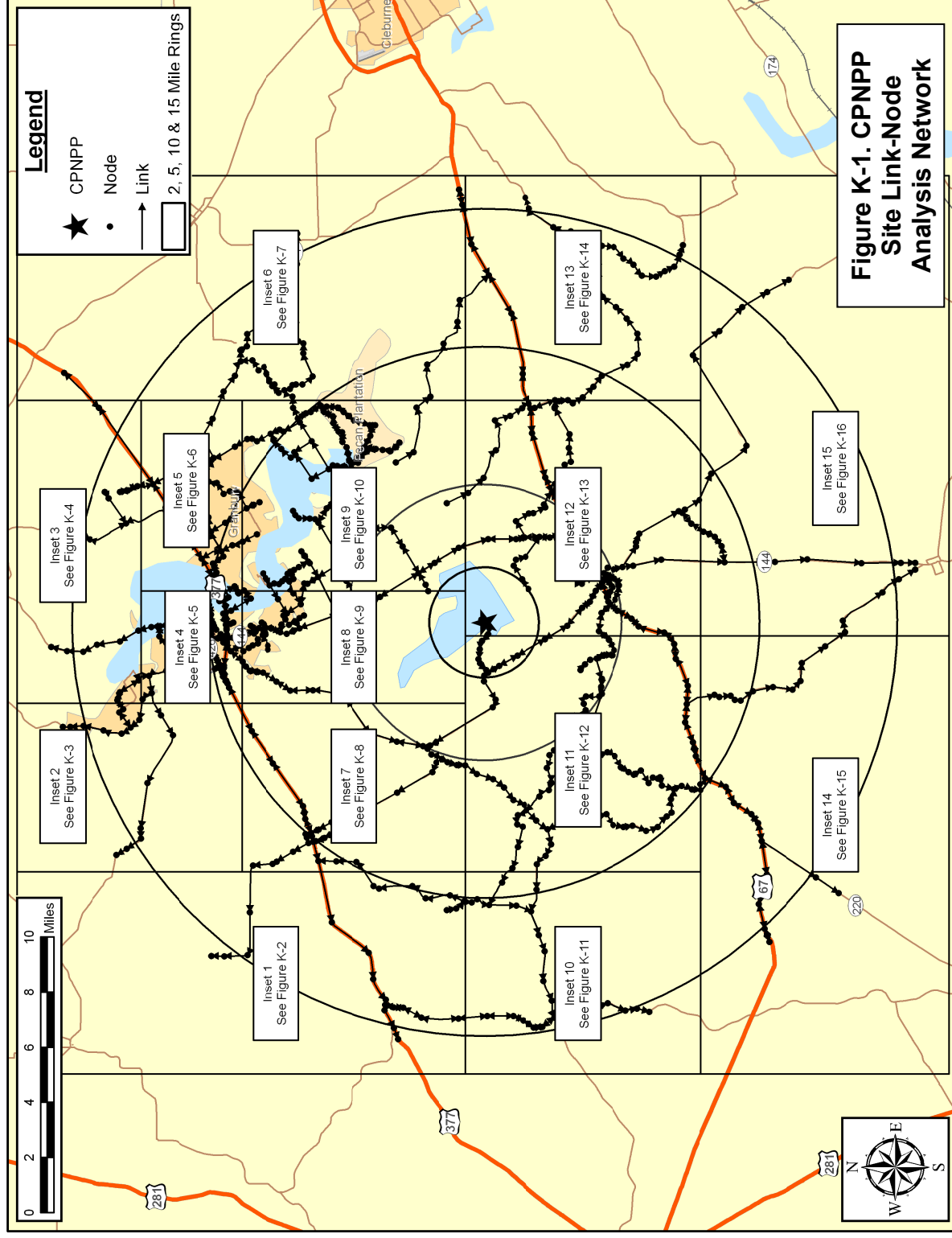
Evacuation Roadway Network

Appendix K: Evacuation Roadway Network

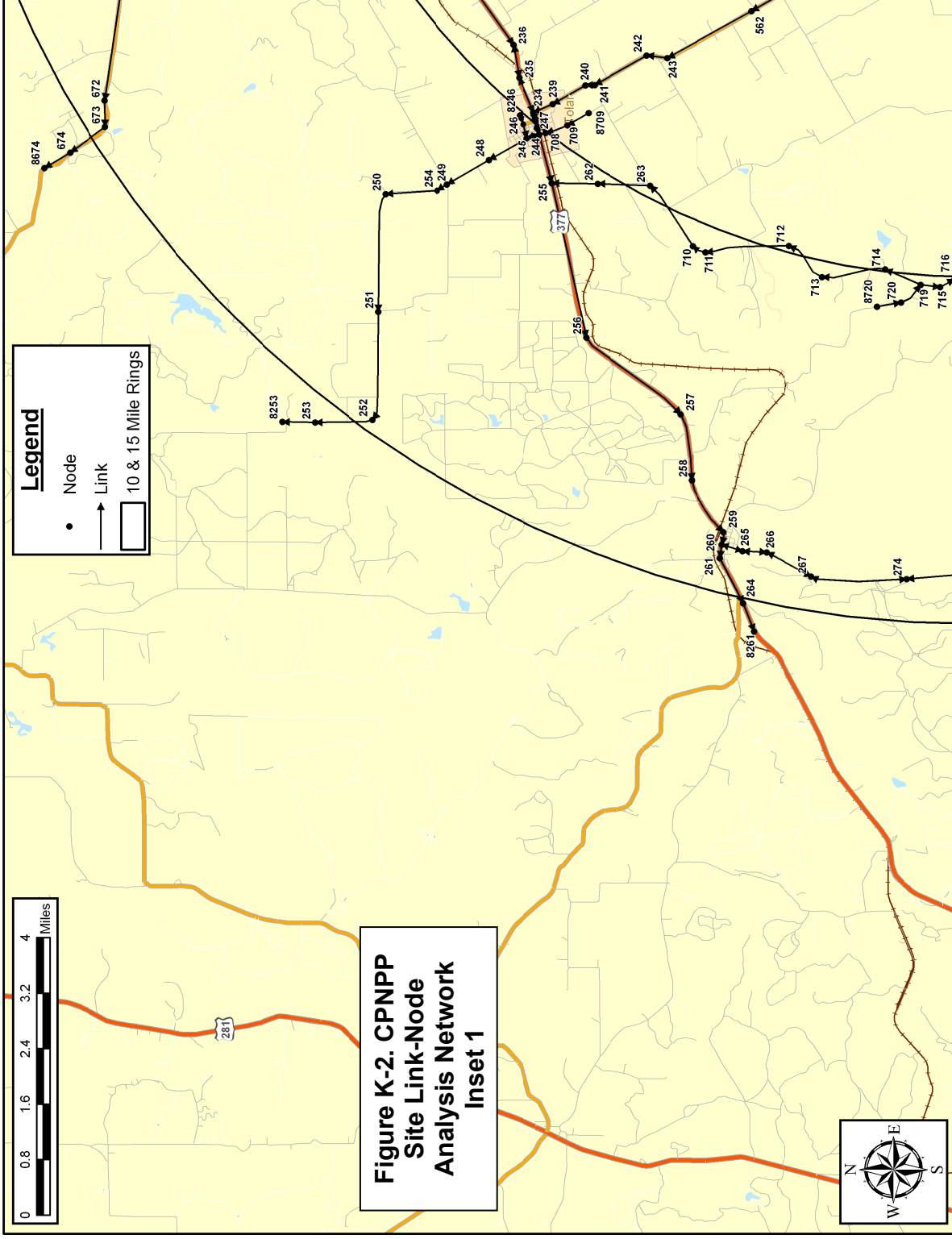
As discussed in Section 1.3, a computerized link-node analysis network was constructed to model the roadway network within the study area. Figure K-1 provides an overview of the link-node analysis network. The figure has been divided up into 15 more detailed figures (Figures K-2 through K-16) which show each of the links and nodes in the network.

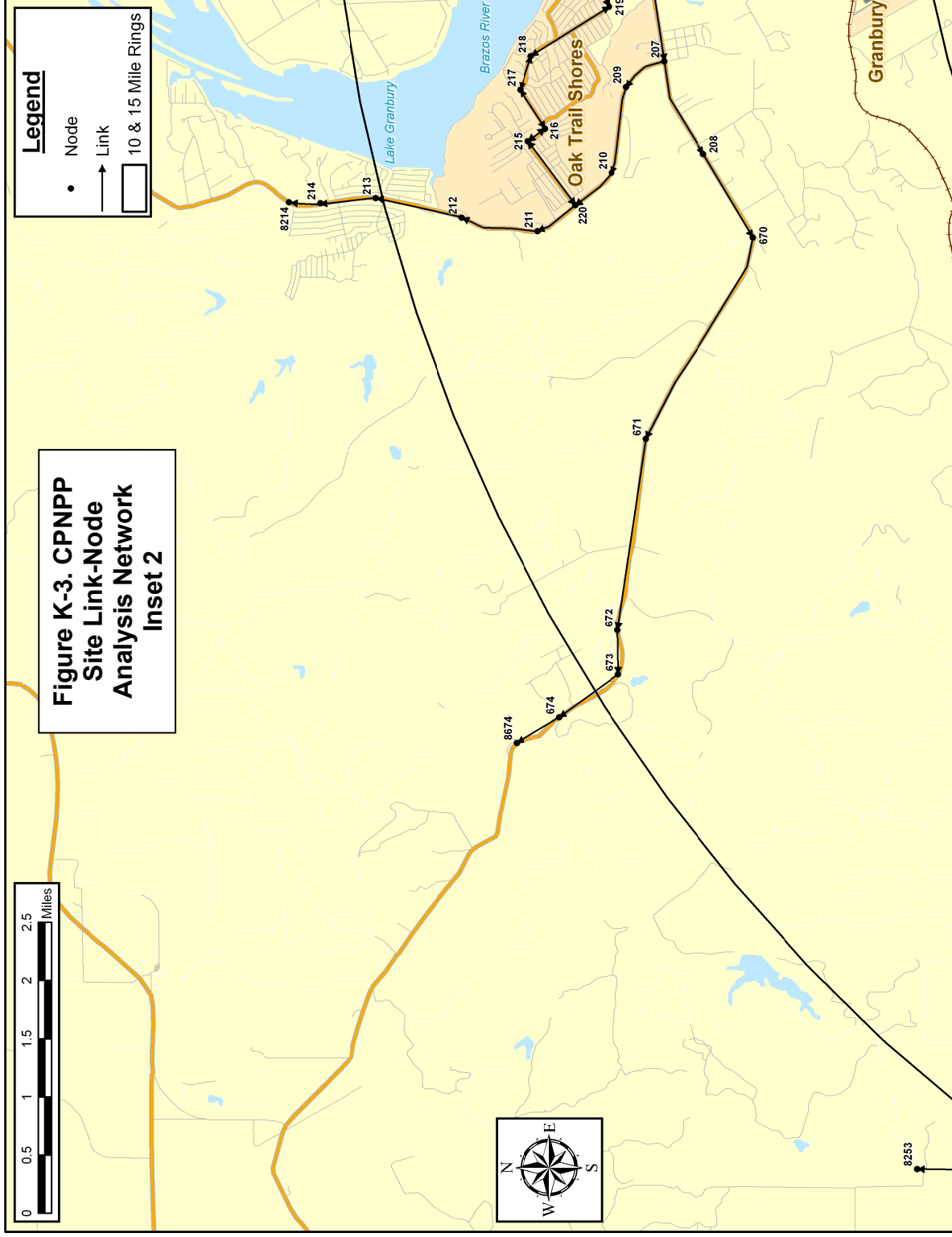
The analysis network was calibrated using the observations made during the field survey conducted in January 2007. Table K-1 lists the characteristics of each roadway section modeled in the ETE analysis. Each link is identified by its upstream and downstream node numbers. These node numbers can be cross-referenced to Figures K-1 through K-16 to identify the geographic location of each link.

The term, “Full Lanes” in Table K-1 identifies the number of lanes that extend throughout the length of the link. Many links have additional lanes on the immediate approach to an intersection (turn pockets); these have been recorded and entered into the IDYNEV System input stream.

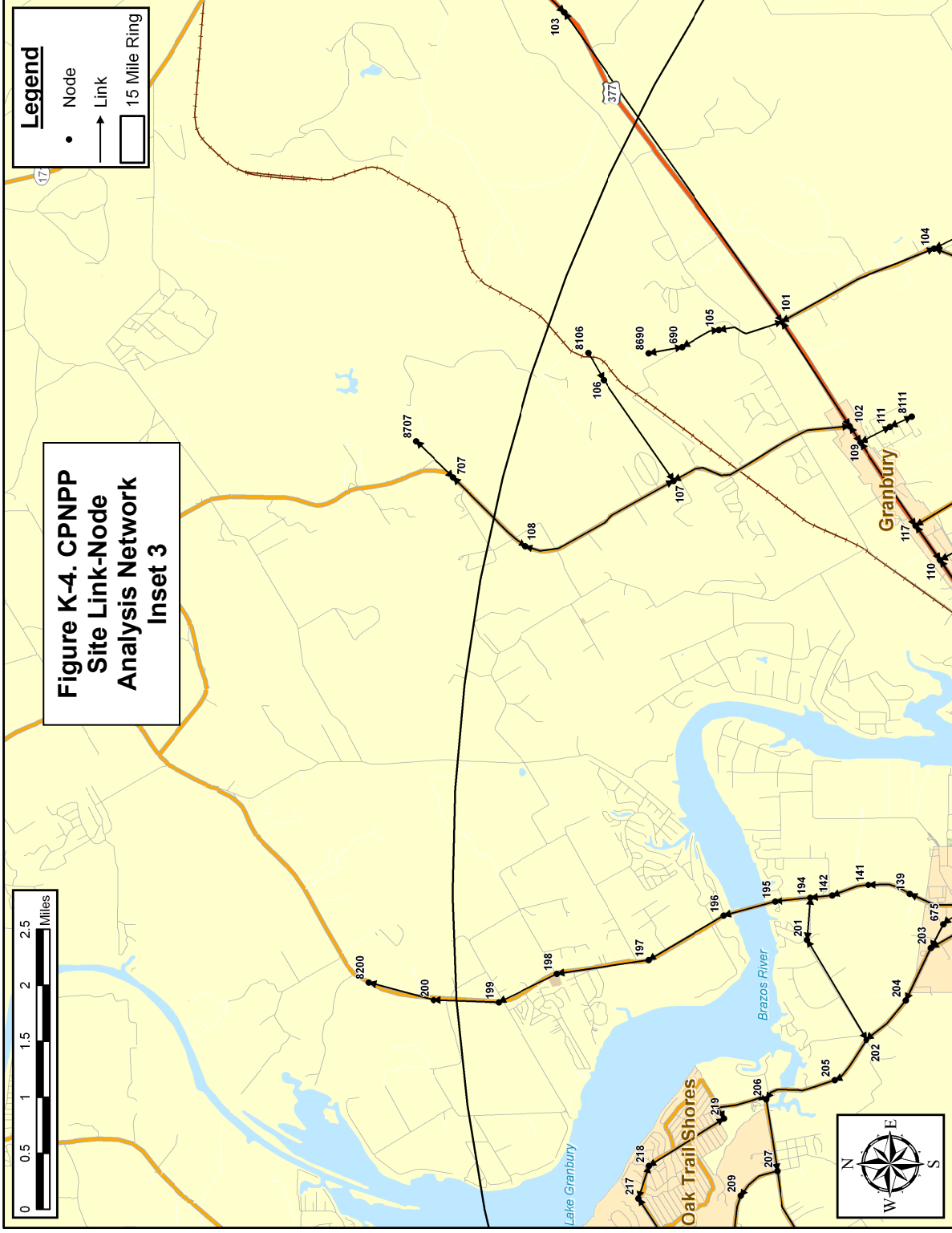


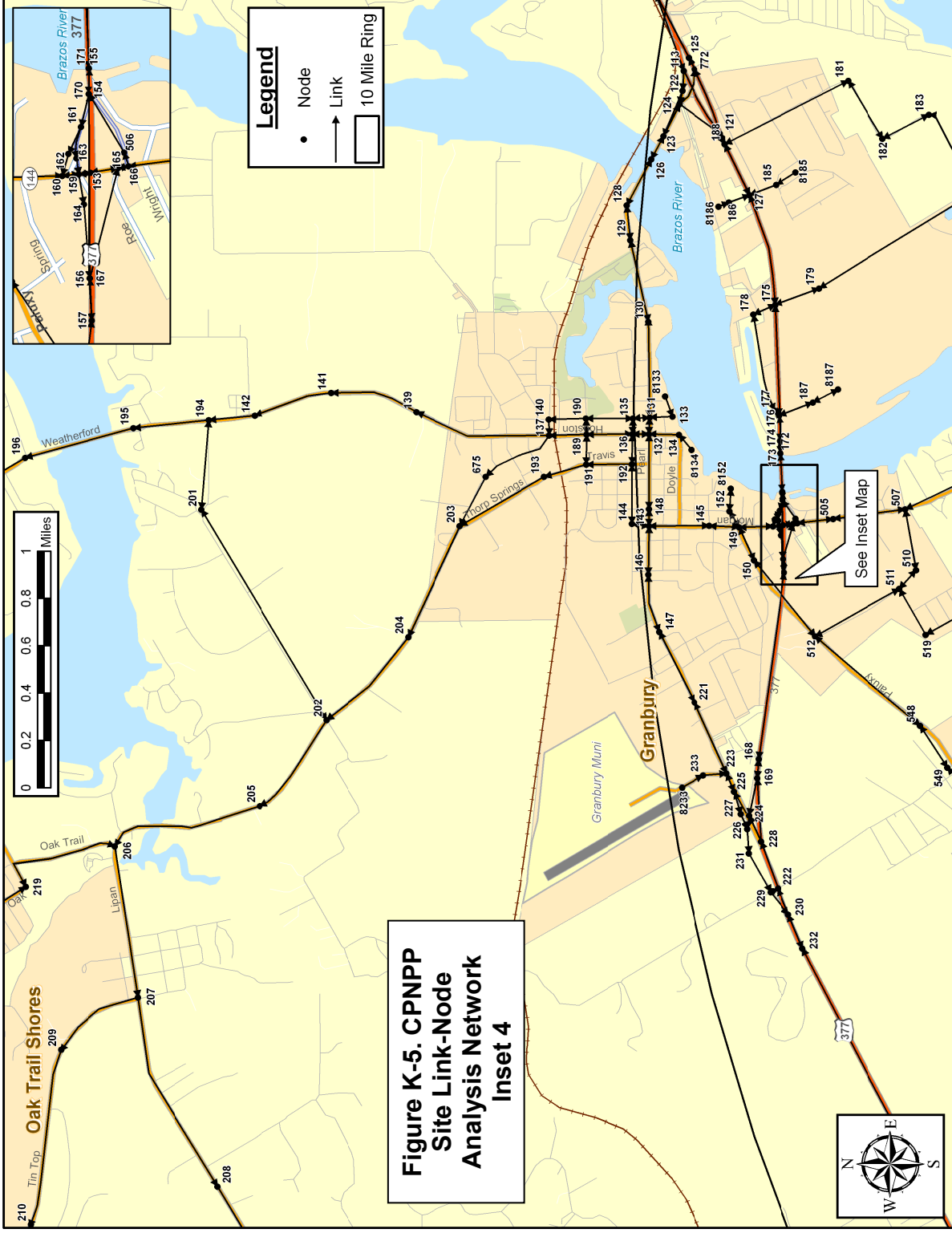
**Figure K-1. CPNPP
Site Link-Node
Analysis Network**

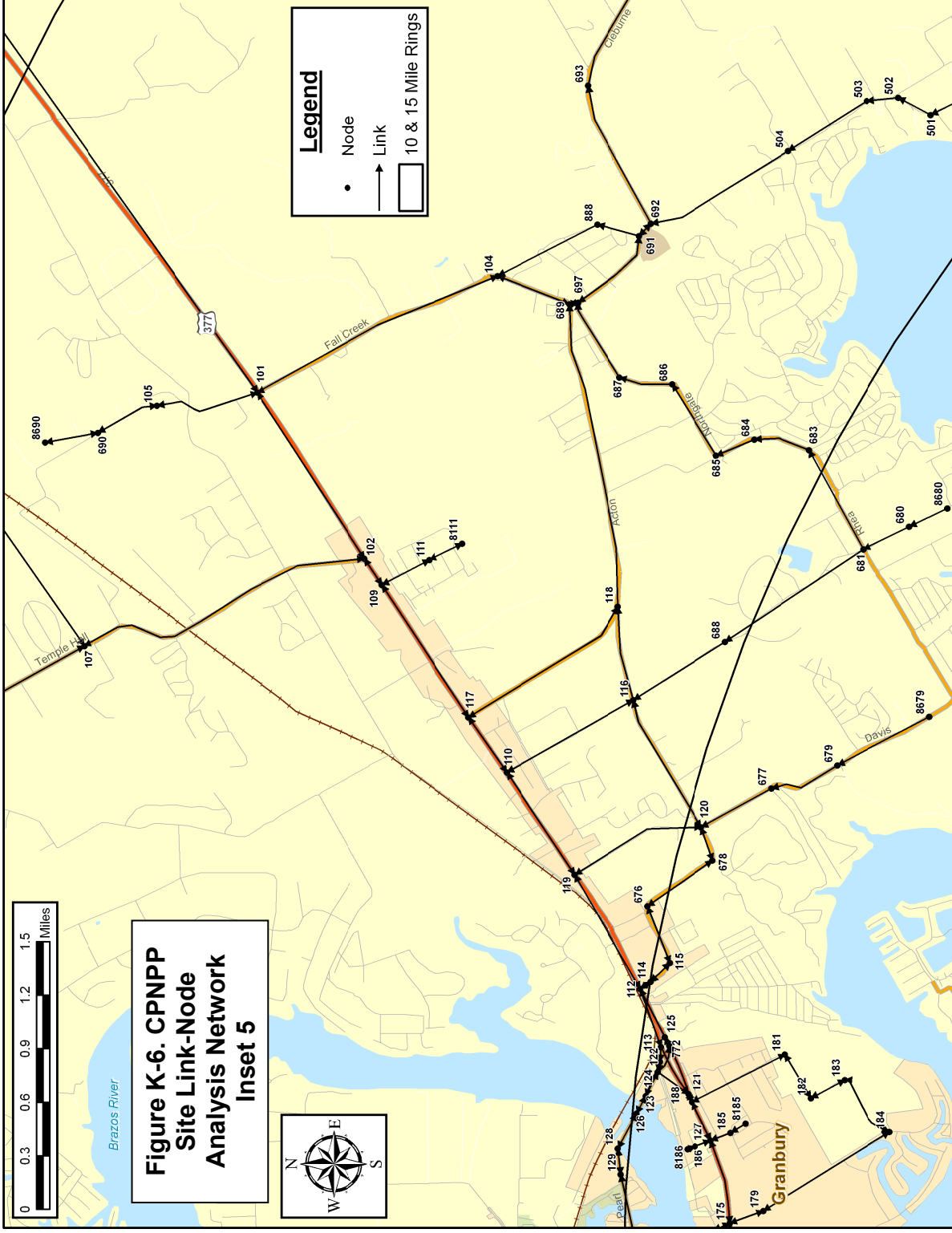


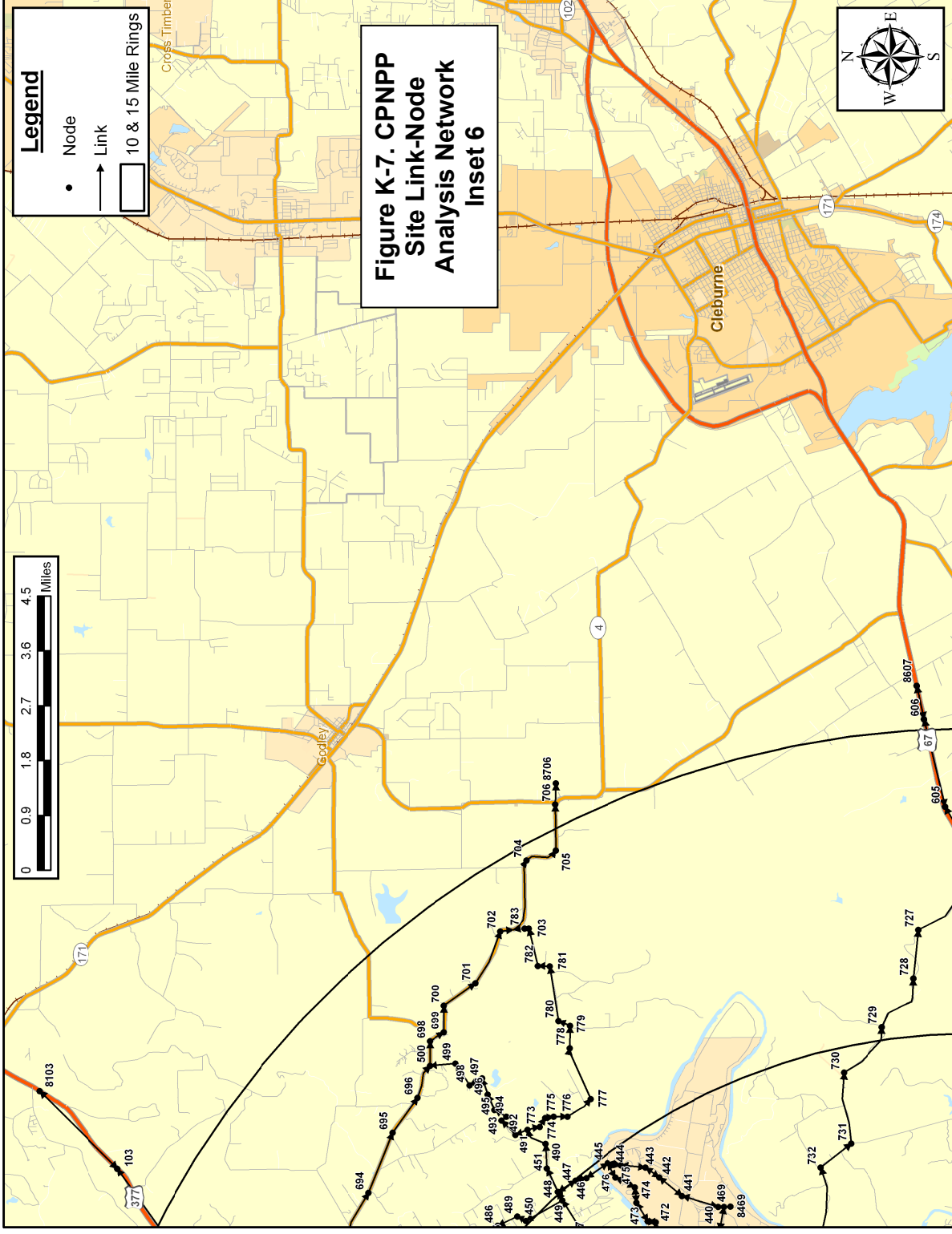


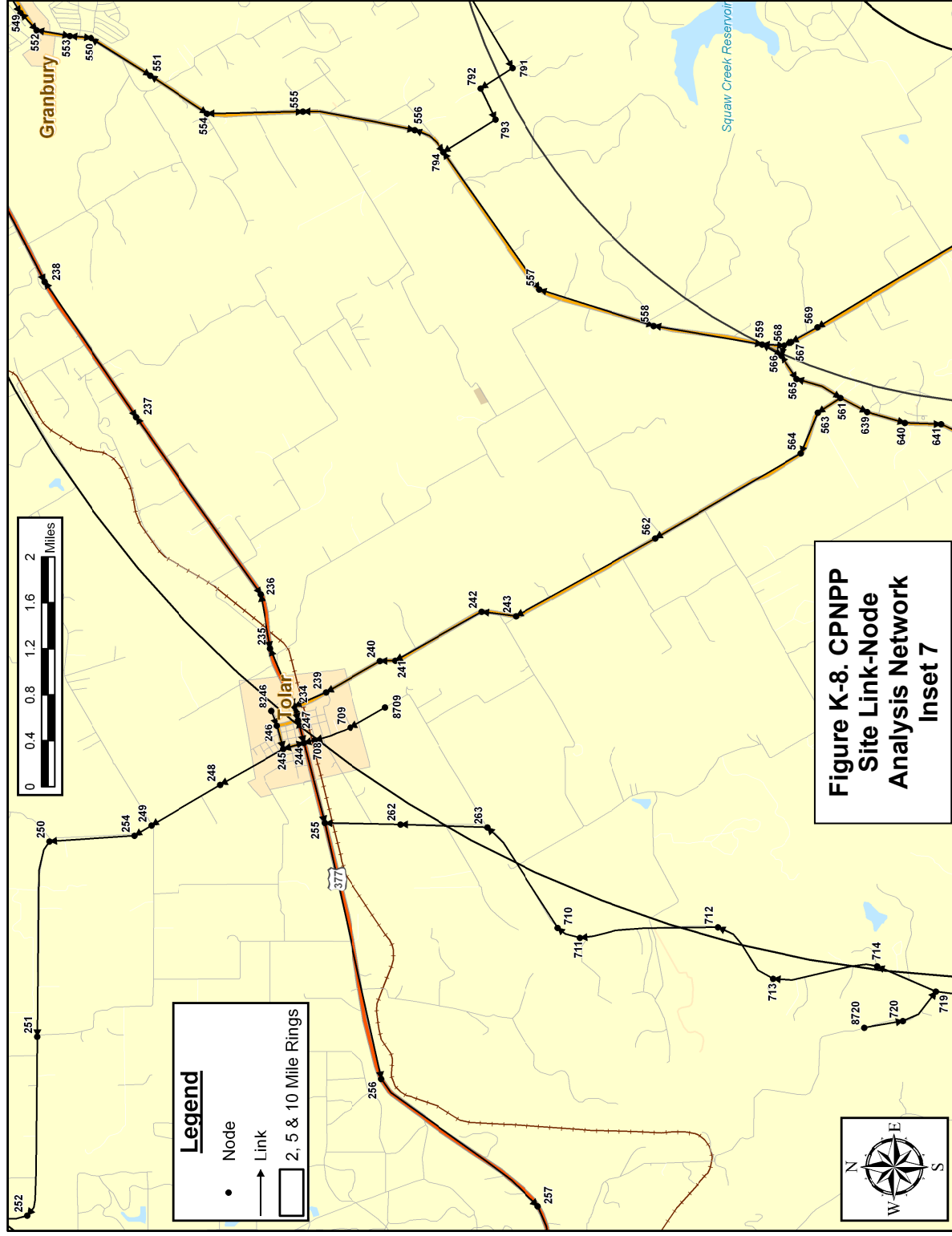
**Figure K-3. CPNPP
Site Link-Node
Analysis Network
Inset 2**



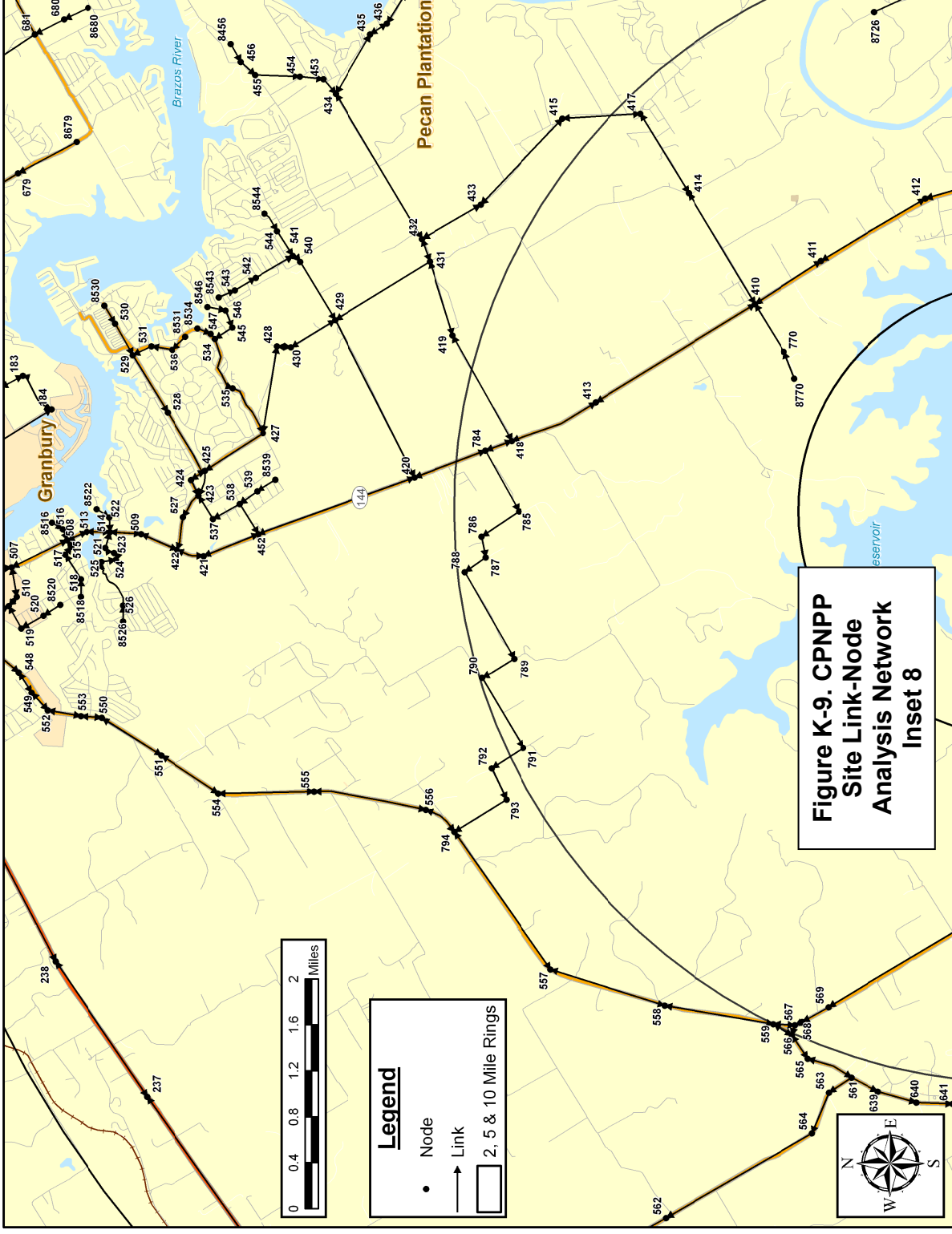


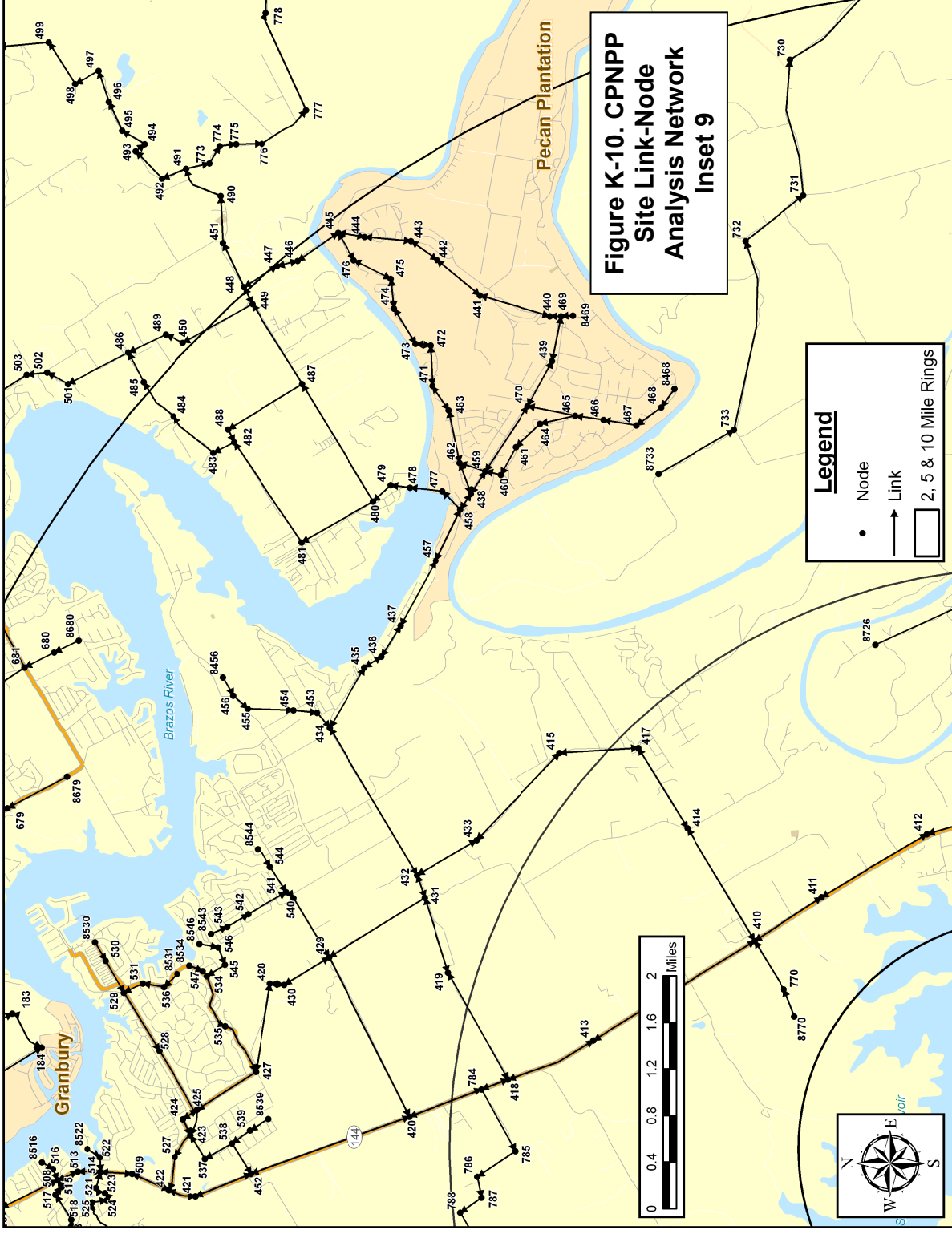


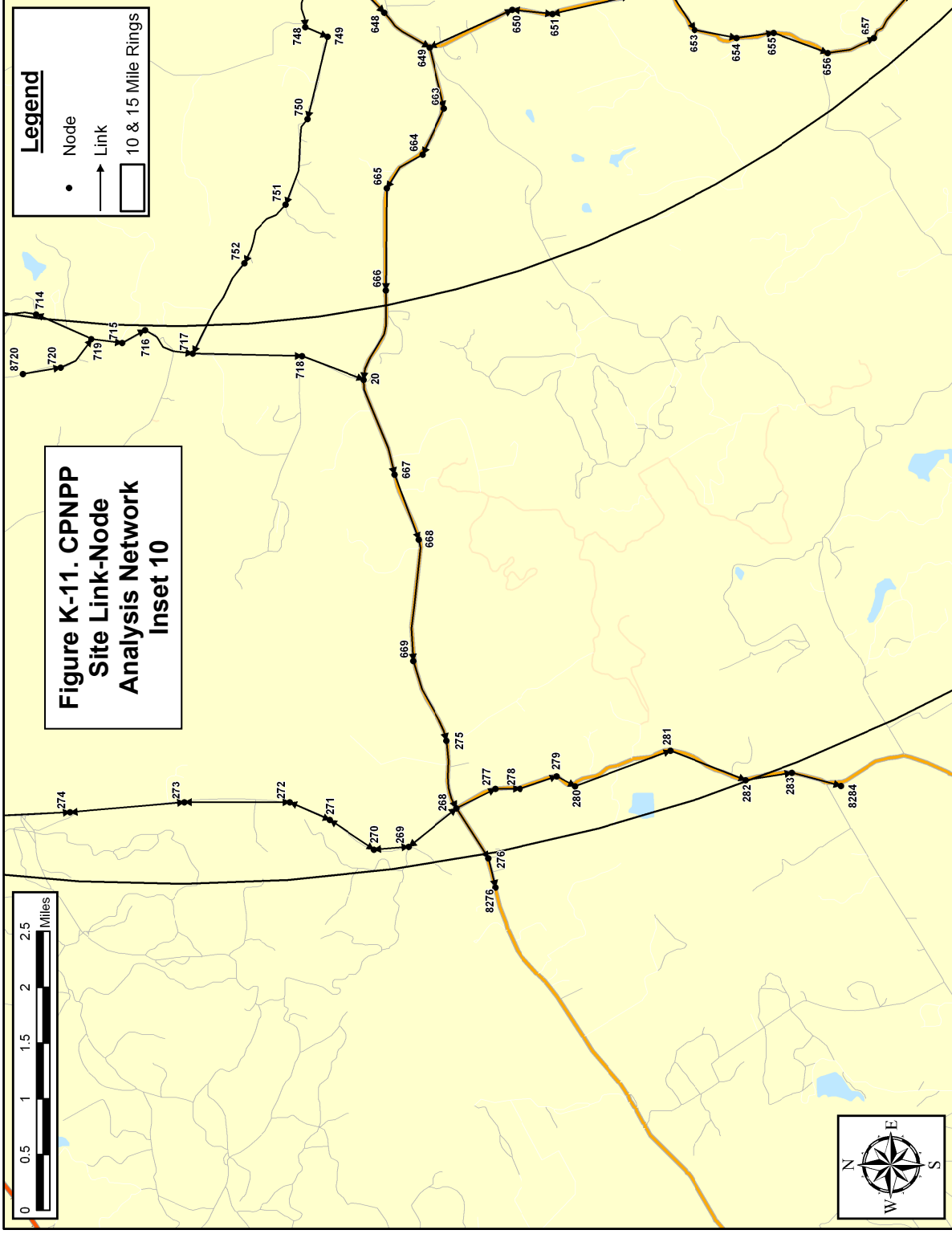




**Figure K-8. CPNPP
Site Link-Node
Analysis Network
Inset 7**







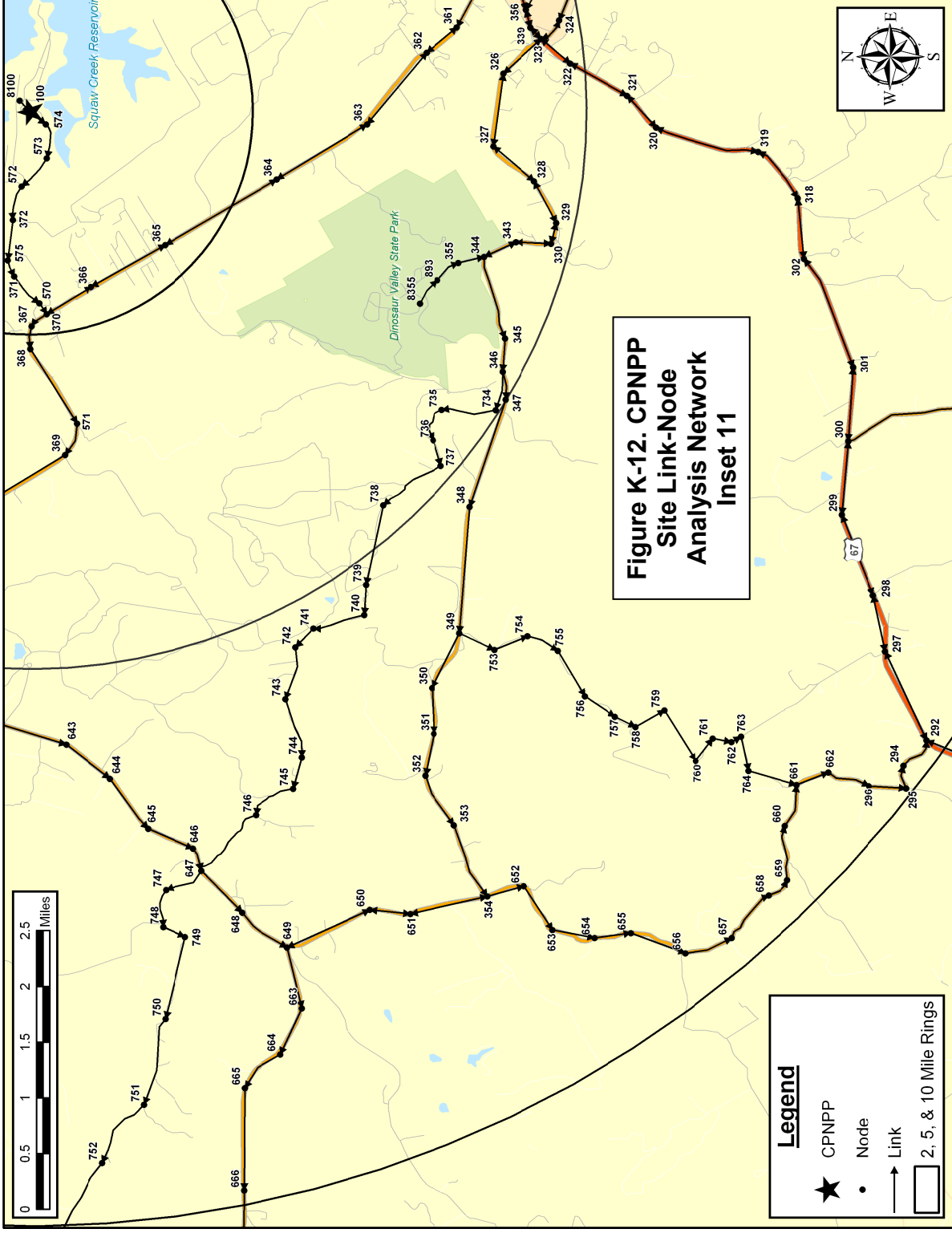
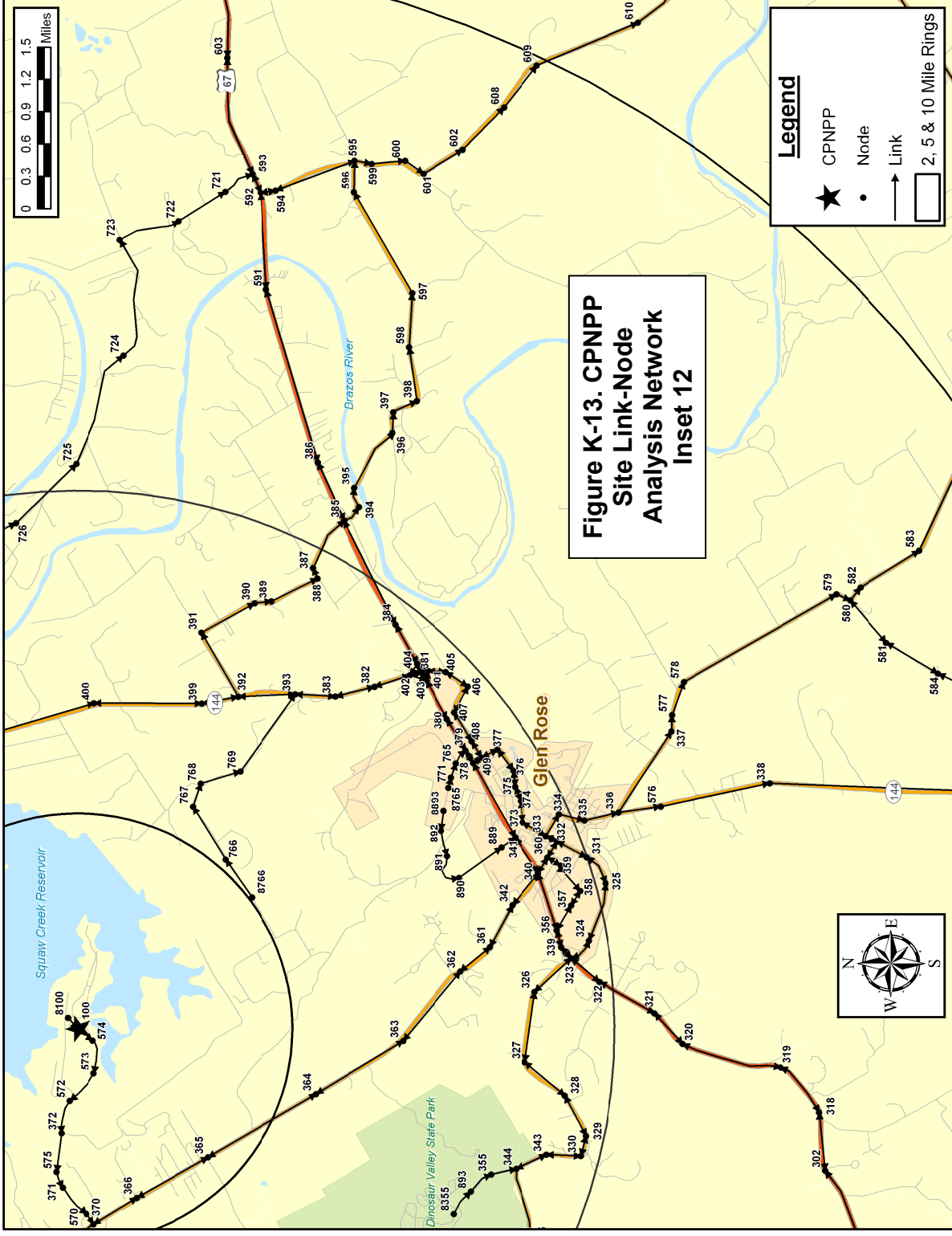
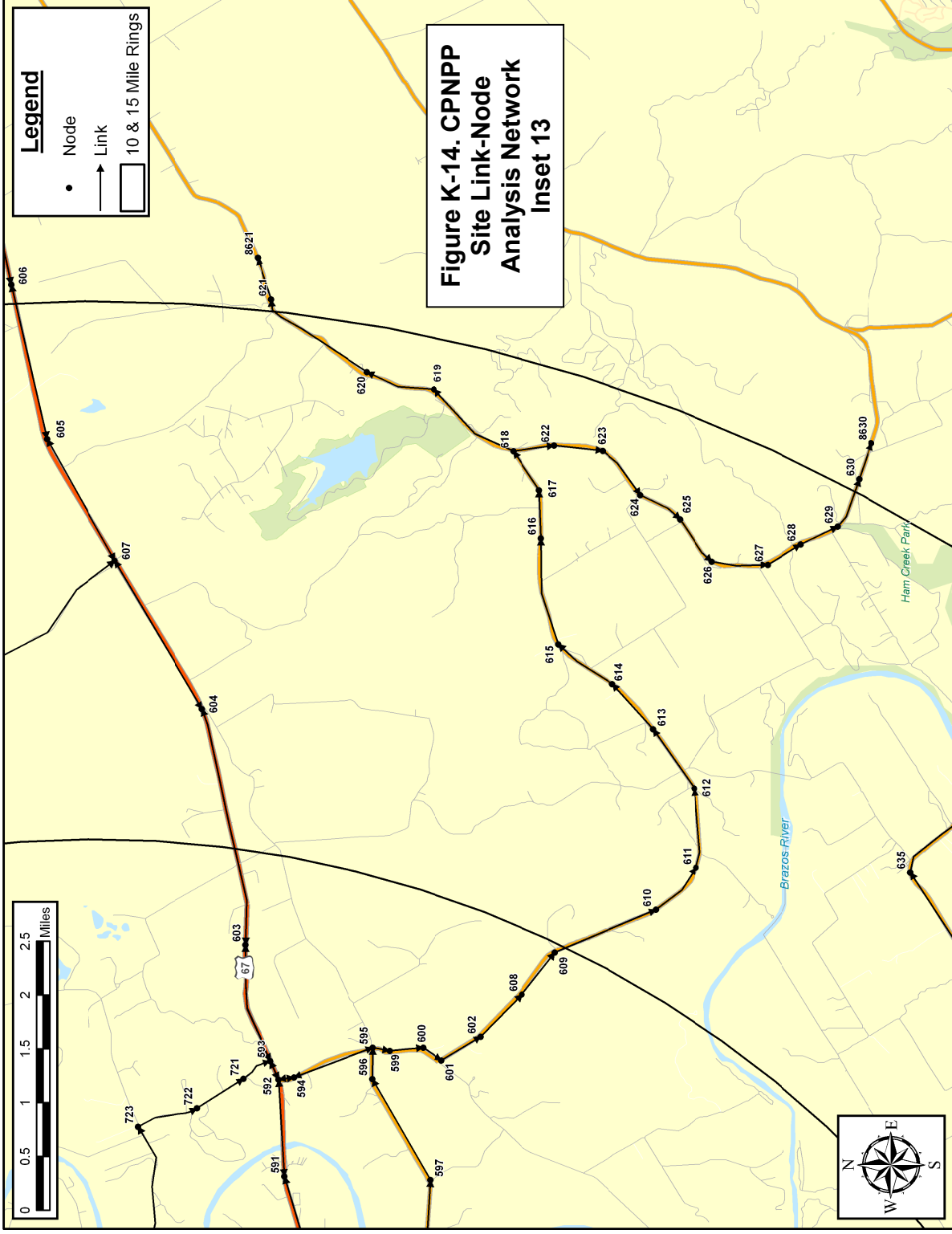
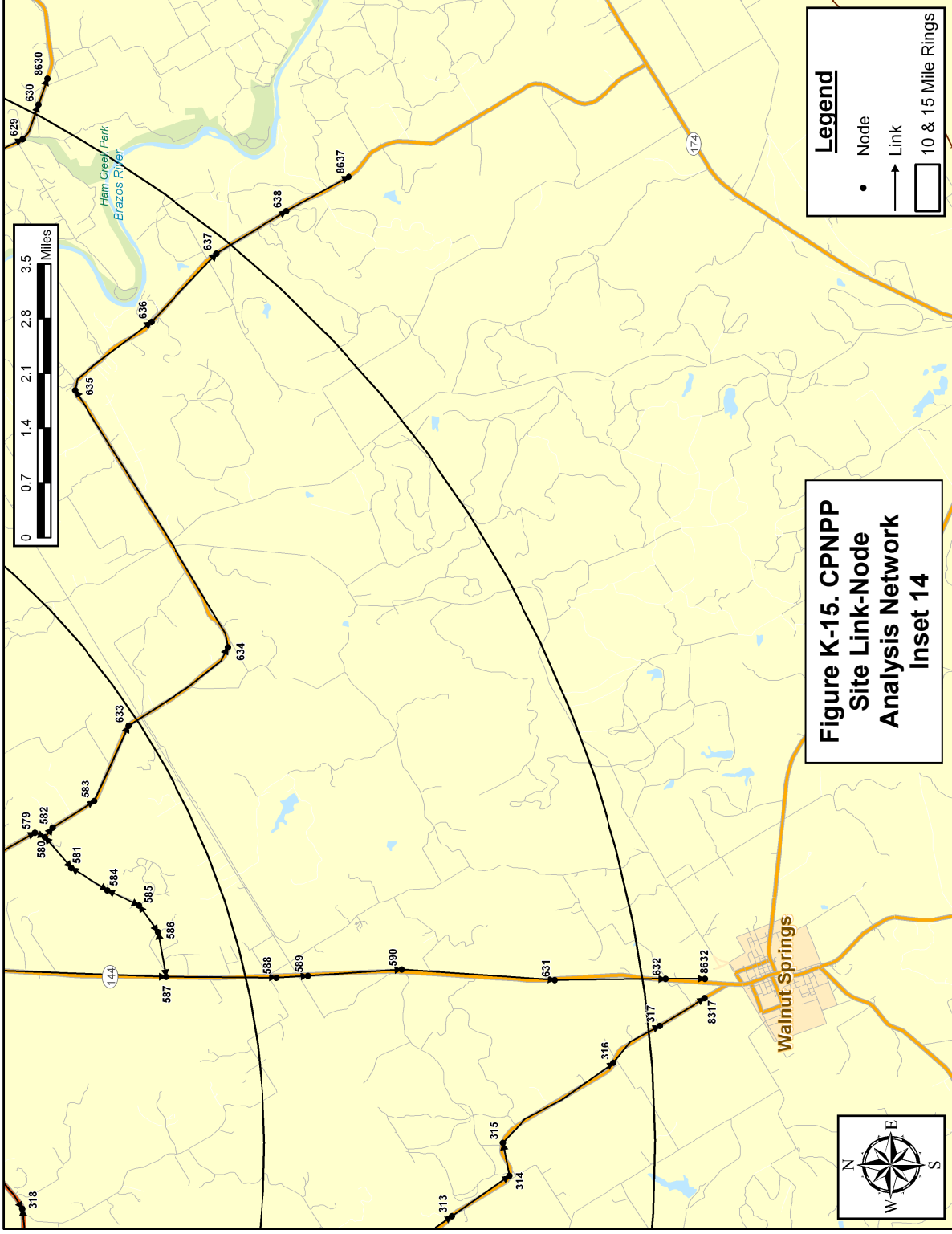


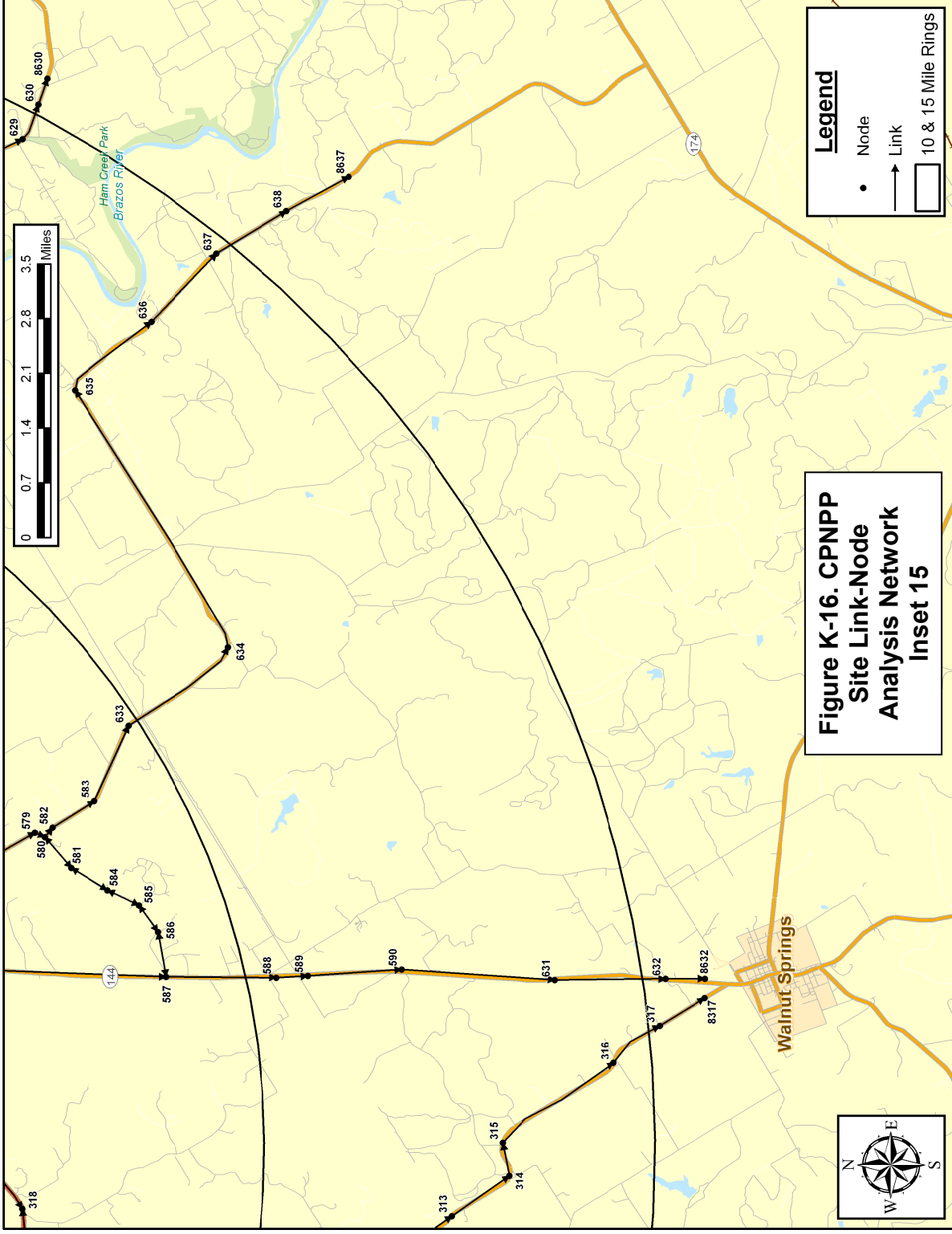
Figure K-12. CPNPP
Site Link-Node
Analysis Network
Inset 11







**Figure K-15. CPNPP
Site Link-Node
Analysis Network
Inset 14**



**Figure K-16. CPNPP
Site Link-Node
Analysis Network
Inset 15**

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
20	667	89	1	1714	60
100	574	18	2	1714	40
101	102	110	2	1895	50
101	103	327	2	1895	65
101	104	150	1	1714	35
101	105	36	1	1714	30
102	107	146	2	1714	45
102	109	34	2	1895	50
102	101	110	2	1895	55
103	101	327	2	1895	55
104	101	150	1	1714	40
104	689	43	1	1714	35
105	101	36	1	1714	30
105	690	36	1	1714	35
106	107	95	2	1714	45
107	102	146	1	1714	50
107	108	145	1	1714	40
108	107	145	1	1714	45
108	707	92	1	1714	45
109	102	34	2	1895	50
109	111	48	1	1714	30
109	117	60	2	1895	50
110	117	49	2	1895	50
110	119	72	2	1895	30
110	116	83	1	1714	35
111	109	48	2	1714	45
112	113	27	2	1895	45
112	114	9	2	1714	30
112	119	75	2	1895	30
113	121	35	2	1714	45
113	122	16	1	1714	40
114	112	9	2	1714	45
114	115	15	2	1714	45
115	676	36	1	1714	45
115	114	15	2	1714	45
116	110	83	1	1714	40
116	118	50	1	1714	40
116	120	80	1	1714	35
117	109	60	2	1895	50
117	110	49	2	1895	30

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
117	118	105	2	1714	50
118	117	105	2	1714	45
118	689	175	1	1714	35
119	120	75	1	1714	30
119	110	72	2	1895	30
119	112	75	2	1895	45
120	116	80	1	1714	40
120	119	75	1	1714	30
120	678	22	1	1714	45
121	772	23	2	1714	45
121	188	7	2	1714	45
122	123	24	1	1714	40
122	124	13	1	1714	30
123	126	7	1	1714	40
123	124	15	1	1714	40
124	772	20	1	1714	45
124	121	20	1	1714	35
125	112	33	2	1895	45
126	128	16	1	1714	40
126	123	7	1	1714	40
127	188	48	2	1714	45
127	175	23	2	1714	45
128	126	16	1	1714	40
128	129	18	1	1565	30
129	130	35	1	1565	30
129	128	18	1	1714	40
130	129	35	1	1565	30
130	131	41	1	1565	30
131	130	41	1	1565	30
131	132	13	1	1565	30
131	135	7	1	1565	30
132	131	13	1	1565	30
132	136	7	1	1565	30
132	148	27	1	1714	30
133	131	13	1	1565	30
134	132	13	1	1565	30
135	136	12	1	1565	30
135	190	20	1	1565	30
135	131	7	1	1565	30
136	132	7	1	1565	30

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
136	135	12	1	1565	30
136	189	20	1	1565	30
136	192	9	1	1714	50
137	139	36	1	1714	45
137	675	24	1	1714	50
139	141	39	1	1714	45
140	137	11	1	1565	35
141	142	34	1	1714	55
142	194	42	1	1714	55
143	144	8	1	1565	30
143	145	24	2	1714	35
143	148	4	1	1714	30
143	146	22	1	1714	40
144	143	8	1	1714	30
144	192	22	1	1714	50
145	143	24	2	1714	30
145	149	13	2	1714	45
146	143	22	1	1714	30
146	147	26	1	1714	30
147	221	32	1	1714	40
147	146	26	1	1714	30
148	132	27	1	1565	30
148	143	4	2	1714	30
149	145	13	2	1714	35
149	150	18	1	1714	50
149	152	6	1	1714	40
149	160	15	2	1714	45
150	149	18	1	1714	45
150	512	42	1	1714	50
152	149	6	1	1714	45
153	159	3	2	1714	45
153	165	4	2	1714	40
154	156	25	2	1895	70
154	161	5	1	1714	30
155	154	3	2	1895	65
156	157	6	2	1895	70
157	167	6	2	1895	65
157	168	79	2	1800	55
159	153	3	2	1714	40
159	160	1	2	1714	45

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
159	164	5	1	1714	50
160	149	15	2	1714	45
160	159	1	2	1714	45
161	163	5	2	1714	25
161	162	4	1	1714	40
162	160	3	1	1714	45
163	159	1	2	1714	20
164	156	10	1	1895	60
165	153	4	2	1714	40
165	166	3	2	1714	40
166	505	12	2	1714	40
166	506	3	2	1714	50
166	165	3	2	1714	40
167	165	15	1	1714	40
167	170	25	2	1895	55
168	157	79	2	1895	70
168	169	10	1	1714	50
169	168	10	2	1800	55
169	224	14	1	1714	45
170	171	3	3	1714	55
171	173	16	3	1895	65
172	155	16	2	1714	50
173	174	5	2	1714	45
174	172	5	2	1714	65
174	176	13	2	1714	45
175	179	18	1	1565	30
175	127	23	2	1714	45
175	178	13	1	1565	25
175	176	45	2	1714	45
176	177	4	1	1565	25
176	175	45	2	1714	45
176	187	14	1	1565	30
176	174	13	2	1714	45
177	178	41	1	1565	25
177	176	4	2	1714	45
178	177	41	1	1565	25
178	175	13	1	1714	25
179	184	83	1	1565	30
179	175	18	1	1714	30
181	188	56	1	1565	25

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
181	182	27	1	1565	25
182	181	27	1	1565	25
182	183	24	1	1565	25
183	182	24	1	1565	25
183	184	37	1	1565	30
184	179	83	1	1565	30
184	183	37	1	1565	25
185	127	19	2	1565	25
186	127	16	2	1565	25
187	176	14	1	1714	45
188	181	56	1	1565	30
188	121	7	2	1714	45
188	127	48	2	1714	45
189	137	18	1	1714	35
189	190	12	1	1565	30
189	136	20	1	1565	30
189	191	9	1	1565	30
190	135	20	1	1565	30
190	140	17	1	1565	30
190	189	12	1	1565	30
191	189	9	1	1565	30
191	193	17	1	1714	45
192	191	20	1	1565	30
192	144	22	1	1565	30
192	136	9	1	1565	30
193	203	45	1	1714	45
194	195	27	1	1714	55
194	201	38	1	1714	40
195	196	51	1	1714	60
196	197	83	1	1714	60
197	198	83	1	1714	60
198	199	58	1	1714	60
199	200	58	1	1714	60
201	194	38	1	1714	45
201	202	104	1	1714	40
202	201	104	1	1714	40
202	205	43	1	1714	40
203	204	52	1	1714	40
204	202	50	1	1714	40
205	206	67	1	1714	40

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
206	219	40	1	1714	30
206	207	64	1	1714	45
207	208	94	1	1714	50
207	209	43	1	1714	50
208	670	75	1	1714	50
209	210	68	1	1714	50
210	220	42	1	1714	50
211	212	53	1	1714	50
212	213	78	1	1714	50
213	214	45	1	1714	50
215	216	22	1	1714	30
215	220	66	1	1714	30
216	215	22	1	1714	30
216	217	47	1	1714	30
217	218	28	1	1714	30
217	216	47	1	1714	30
218	219	77	1	1714	30
218	217	28	1	1714	30
219	206	40	1	1714	30
219	218	77	1	1714	30
220	211	41	1	1714	50
220	215	66	1	1714	30
221	147	32	1	1714	30
221	223	29	1	1714	35
222	228	25	2	1714	55
223	221	29	1	1714	40
223	225	10	1	1714	35
224	225	10	2	1714	35
224	226	6	1	1714	45
225	227	10	2	1714	35
225	223	10	1	1714	35
226	231	12	1	1714	45
227	226	5	1	1714	35
228	169	22	2	1714	55
228	224	10	1	1714	35
229	222	5	1	1714	20
229	230	12	1	1714	50
230	232	15	1	1714	55
230	222	11	1	1714	50
231	229	20	1	1714	45

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
232	238	187	1	1714	55
232	230	15	1	1714	50
233	223	10	1	1565	25
234	235	52	1	1714	50
234	247	9	1	1714	30
235	236	49	1	1714	55
235	234	52	1	1714	35
236	237	186	1	1714	55
236	235	49	1	1714	50
237	236	186	1	1714	55
237	238	143	1	1714	55
238	232	187	1	1714	55
238	237	143	1	1714	55
239	234	29	1	1714	30
240	239	57	1	1714	50
241	240	16	1	1714	50
242	241	85	1	1714	50
243	242	32	1	1714	50
244	247	22	1	1714	30
244	255	74	1	1714	45
244	245	19	1	1565	30
245	244	19	1	1565	30
245	248	51	1	1714	40
246	245	21	1	1565	30
247	234	9	1	1714	35
247	244	22	1	1714	30
248	249	82	1	1714	50
249	254	15	1	1714	50
250	251	172	1	1714	50
251	252	156	1	1714	50
252	253	70	1	1714	50
254	250	83	1	1714	50
255	256	231	1	1714	70
256	257	179	1	1714	70
257	258	92	1	1714	55
258	259	88	1	1714	40
259	260	19	1	1714	30
260	261	19	1	1714	40
260	265	33	1	1714	40
261	264	72	1	1714	50

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
262	255	78	1	1714	35
263	262	65	1	1714	40
265	260	33	1	1714	40
265	266	31	1	1714	50
266	265	31	1	1714	40
266	267	84	1	1714	50
267	266	84	1	1714	50
267	274	138	1	1714	50
268	269	56	1	1714	50
268	276	51	1	1714	60
268	277	37	1	1714	50
269	268	56	1	1714	40
269	270	32	1	1714	50
270	269	32	1	1714	50
270	271	48	1	1714	50
271	272	39	1	1714	50
271	270	48	1	1714	50
272	271	39	1	1714	50
272	273	94	1	1714	50
273	272	94	1	1714	50
273	274	104	1	1714	50
274	267	138	1	1714	50
274	273	104	1	1714	50
275	268	62	1	1714	55
277	278	22	1	1714	50
278	279	35	1	1714	50
279	280	19	1	1714	50
280	281	91	1	1714	50
281	282	72	1	1714	50
282	283	42	1	1714	50
284	285	89	1	1714	60
284	286	105	1	1714	60
285	284	89	1	1714	60
286	284	105	1	1714	60
286	287	123	1	1714	50
287	286	123	1	1714	60
287	288	68	1	1714	55
287	293	227	1	1714	50
288	287	68	1	1714	60
288	289	52	1	1714	60

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
289	288	52	1	1714	60
289	290	70	1	1714	60
290	289	70	1	1714	60
290	291	66	1	1714	60
291	290	66	1	1714	60
291	292	75	1	1714	60
292	291	75	1	1714	60
292	297	91	1	1714	60
294	292	31	1	1714	45
295	294	20	1	1714	45
296	295	35	1	1714	50
297	292	91	1	1714	60
297	298	52	1	1714	60
298	299	77	1	1714	60
298	297	52	1	1714	60
299	298	77	1	1714	60
299	300	73	1	1714	60
300	299	73	1	1714	60
300	301	61	1	1714	60
300	303	105	1	1714	50
301	300	61	1	1714	60
301	302	108	1	1714	60
302	318	55	1	1714	55
302	301	108	1	1714	60
303	304	21	1	1714	50
304	305	48	1	1714	50
305	306	27	1	1714	50
306	307	18	1	1714	50
307	308	42	1	1714	50
308	309	71	1	1714	50
309	310	74	1	1714	50
310	311	52	1	1714	40
311	312	68	1	1714	40
312	313	96	1	1714	50
313	314	102	1	1714	40
314	315	42	1	1714	40
315	316	182	1	1714	50
316	317	64	1	1714	50
318	302	55	1	1714	60
318	319	62	1	1714	50

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
319	318	62	1	1714	55
319	320	93	1	1714	50
320	321	39	1	1714	50
320	319	93	1	1714	50
321	322	60	1	1714	50
321	320	39	1	1714	50
322	323	30	1	1714	45
322	321	60	1	1714	50
323	339	17	1	1714	45
323	324	21	1	1714	40
323	322	30	1	1714	50
323	326	44	1	1714	50
324	323	21	1	1714	45
324	325	59	1	1714	40
325	331	35	1	1714	40
325	324	59	1	1714	40
326	323	44	1	1714	45
326	327	66	1	1714	50
327	328	49	1	1714	50
327	326	66	1	1714	50
328	327	49	1	1714	50
328	329	45	1	1714	45
329	328	45	1	1714	50
329	330	19	1	1714	45
330	329	19	1	1714	45
330	343	31	1	1714	45
331	332	29	1	1714	30
331	325	35	1	1714	40
332	360	18	1	1714	30
332	333	11	1	1714	30
332	331	29	1	1714	40
333	334	21	1	1714	25
333	373	24	1	1714	30
333	332	11	1	1714	30
334	335	20	1	1714	40
335	336	39	1	1714	40
336	576	33	1	1714	40
336	337	88	1	1714	50
337	577	15	1	1714	50
338	587	242	1	1714	60

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
339	356	15	2	1714	45
339	323	17	1	1714	45
340	360	19	1	1714	30
340	341	44	2	1714	45
340	342	38	1	1714	50
340	356	54	2	1714	45
341	378	75	2	1714	45
341	340	44	2	1714	45
342	361	43	1	1714	45
342	340	38	1	1714	45
343	330	31	1	1714	45
343	344	34	1	1714	45
344	345	75	1	1714	50
344	343	34	1	1714	45
345	346	27	1	1714	50
346	347	25	1	1714	50
346	734	35	1	1636	35
347	348	103	1	1714	50
348	349	114	1	1714	50
349	753	29	1	1636	30
349	350	57	1	1714	50
350	351	40	1	1714	50
351	352	39	1	1714	50
352	353	51	1	1714	50
353	354	70	1	1714	45
354	651	71	1	1714	60
354	652	40	1	1714	50
355	344	28	1	1714	45
356	339	15	2	1714	45
356	340	54	2	1714	45
356	357	25	1	1565	30
357	358	19	1	1565	30
357	356	25	1	1714	45
358	359	29	1	1565	30
358	357	19	1	1565	30
359	360	15	1	1714	30
359	358	29	1	1565	30
360	359	15	1	1565	30
360	340	19	1	1714	45
360	332	18	1	1714	30

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
361	362	38	1	1714	50
361	342	43	1	1714	50
362	363	84	1	1714	50
362	361	38	1	1714	50
363	364	95	1	1714	55
363	362	84	1	1714	50
364	363	95	1	1714	50
364	365	116	1	1714	60
365	366	76	2	1714	60
365	364	116	1	1714	55
366	370	49	2	1714	60
366	365	76	2	1714	60
367	368	15	2	1714	60
368	571	91	2	1714	60
369	569	242	1	1714	60
370	367	14	2	1714	60
370	366	49	2	1714	60
371	570	32	2	1714	40
372	575	37	2	1714	40
373	333	24	1	1714	30
373	374	21	1	1714	30
374	373	21	1	1714	30
374	375	15	1	1714	30
375	376	15	1	1714	30
375	374	15	1	1714	30
376	377	22	1	1714	25
376	375	15	1	1714	30
377	376	22	1	1714	30
377	409	17	1	1714	30
378	341	75	2	1714	45
378	379	17	2	1714	45
378	409	10	1	1714	30
379	378	17	2	1714	45
379	380	33	2	1714	45
380	379	33	2	1714	45
380	403	41	2	1714	45
381	403	9	2	1714	45
381	404	9	2	1714	45
381	401	6	1	1714	45
381	402	11	1	1714	45

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
382	402	37	1	1714	45
382	383	36	1	1714	60
383	382	36	1	1714	60
383	393	38	1	1714	60
384	404	42	2	1714	45
384	385	108	1	1714	60
385	394	19	1	1714	40
385	384	108	1	1714	55
385	386	59	1	1714	60
386	385	59	1	1714	60
386	591	169	1	1714	60
387	385	52	1	1714	40
388	387	11	1	1714	40
389	388	47	1	1714	40
390	389	16	1	1714	50
391	390	56	1	1714	50
392	391	69	1	1714	40
392	393	55	1	1714	60
392	399	34	1	1714	60
393	383	38	1	1714	60
393	392	55	1	1714	60
394	395	19	1	1714	40
395	396	63	1	1714	50
396	397	21	1	1714	40
397	398	27	1	1714	40
398	598	50	1	1714	50
399	392	34	1	1714	60
399	400	100	1	1714	60
400	412	111	1	1714	60
400	399	100	1	1714	60
401	381	6	1	1714	45
401	404	12	1	1714	30
401	405	16	1	1714	40
402	382	37	1	1714	60
402	403	16	1	1714	45
402	381	11	1	1714	45
403	401	9	1	1714	45
403	381	9	2	1714	45
403	380	41	2	1714	45
404	381	9	2	1714	45

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
404	384	42	2	1714	55
404	402	13	1	1714	45
405	401	16	1	1714	45
405	406	24	1	1714	45
406	407	24	1	1714	45
406	405	24	1	1714	40
407	408	33	1	1714	45
407	406	24	1	1714	45
408	407	33	1	1714	45
408	409	18	1	1714	30
409	377	17	1	1714	30
409	378	10	1	1714	30
409	408	18	1	1714	45
410	414	112	1	1714	50
410	411	72	1	1714	60
410	413	160	1	1714	55
411	410	72	1	1714	50
411	412	105	1	1714	60
412	400	111	1	1714	60
412	411	105	1	1714	60
413	410	160	1	1714	50
413	418	88	1	1714	55
414	410	112	1	1714	45
414	417	81	1	1714	50
415	417	62	1	1714	50
415	433	108	1	1714	50
417	414	81	1	1714	50
417	415	62	1	1714	50
418	784	25	1	1714	55
418	413	88	1	1714	55
418	419	106	1	1714	55
419	431	67	1	1714	55
419	418	106	2	1714	45
420	784	68	1	1714	55
420	452	150	2	1714	50
421	452	53	2	1714	50
421	422	24	2	1714	50
422	421	24	2	1714	50
422	509	32	2	1714	45
423	527	24	1	1565	30

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
424	423	14	1	1565	30
425	423	19	1	1565	30
425	424	15	1	1565	25
427	425	62	1	1565	25
427	428	77	1	1565	25
428	427	77	1	1565	25
428	430	19	1	1565	25
429	430	39	1	1565	25
429	420	152	1	1714	40
430	429	39	1	1565	25
430	428	19	1	1565	25
431	419	67	1	1714	55
431	429	104	1	1565	25
431	432	21	1	1714	55
432	433	68	1	1714	50
432	431	21	1	1714	55
432	434	149	1	1714	45
433	432	68	1	1714	50
433	415	108	1	1714	50
434	435	64	1	1714	50
434	432	149	1	1714	55
435	434	64	1	1714	45
435	436	18	1	1714	45
436	435	18	1	1714	45
436	437	29	1	1714	40
437	457	65	1	1714	20
437	436	29	1	1714	45
438	462	27	1	1565	25
438	458	16	1	1565	25
438	459	23	1	1565	25
439	470	44	1	1565	30
439	440	38	1	1565	25
440	439	38	1	1565	25
440	441	64	1	1565	30
441	442	48	1	1565	30
441	440	64	1	1565	30
442	443	28	1	1565	30
442	441	48	1	1565	30
443	444	40	1	1565	30
443	442	28	1	1565	30

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
444	445	38	1	1565	25
444	443	40	1	1565	30
445	446	40	1	1714	30
445	444	38	1	1565	30
445	476	28	1	1565	25
446	445	40	1	1565	25
446	447	23	1	1714	30
447	446	23	1	1714	30
447	448	33	1	1714	40
448	447	33	1	1714	30
448	449	16	1	1714	45
448	451	36	1	1714	45
449	448	16	1	1714	40
449	450	66	1	1714	45
450	489	20	1	1714	50
451	490	45	1	1714	45
452	421	53	2	1714	50
452	420	150	2	1714	55
453	434	14	1	1714	40
454	453	23	1	1800	45
455	454	38	1	1565	30
456	455	19	1	1565	30
457	437	65	1	1714	40
457	458	49	1	1565	25
458	477	15	1	1565	25
458	438	16	1	1565	25
458	457	49	1	1714	30
459	438	23	1	1565	25
459	470	67	1	1565	30
459	462	24	1	1565	25
460	459	16	1	1565	25
461	460	27	1	1565	25
462	463	46	1	1565	25
462	438	27	1	1565	25
463	471	25	1	1565	25
463	462	46	1	1565	25
464	461	29	1	1565	25
465	464	31	1	1565	25
465	470	44	1	1565	30
466	465	24	1	1565	25

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
467	466	29	1	1565	25
468	467	27	1	1565	25
469	440	10	1	1565	30
470	459	67	1	1565	25
470	439	44	1	1565	25
471	463	25	1	1565	25
471	472	31	1	1565	25
472	471	31	1	1565	25
472	473	19	1	1565	25
473	474	32	1	1565	25
473	472	19	1	1565	25
474	475	26	1	1565	25
474	473	32	1	1565	25
475	474	26	1	1565	25
475	476	35	1	1565	25
476	445	28	1	1565	25
476	475	35	1	1565	25
477	478	28	1	1565	30
478	479	17	1	1565	25
479	480	30	1	1565	30
480	481	72	1	1565	30
480	487	122	1	1565	30
481	482	106	1	1565	30
482	483	18	1	1714	30
483	484	41	1	1565	30
484	485	38	1	1565	30
485	486	38	1	1714	40
486	501	59	1	1714	50
487	449	83	1	1714	40
487	488	76	1	1565	25
488	482	13	1	1565	30
489	486	38	1	1714	50
490	491	38	1	1714	30
491	773	20	1	1714	40
491	492	25	1	1714	40
492	493	34	1	1714	40
493	494	13	1	1714	30
494	495	23	1	1714	40
495	496	27	1	1714	40
496	497	28	1	1714	35

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
497	498	23	1	1714	30
498	499	43	1	1714	30
499	500	46	1	1714	30
500	698	44	1	1714	50
501	502	20	1	1714	50
502	503	17	1	1714	50
503	504	52	1	1714	50
504	692	90	1	1714	50
505	507	30	2	1714	35
505	166	12	2	1714	40
506	170	10	1	1800	55
507	508	59	2	1714	45
507	510	23	1	1714	35
507	505	30	2	1714	40
508	513	16	2	1714	35
508	507	59	2	1714	35
509	514	28	2	1714	35
509	422	32	2	1714	50
510	511	14	1	1565	40
510	507	23	1	1714	35
511	510	14	1	1714	35
511	512	40	1	1714	40
512	548	61	1	1714	55
512	511	40	1	1565	40
512	150	42	1	1714	50
513	508	16	2	1714	45
513	514	22	2	1714	35
514	513	22	2	1714	35
514	509	28	2	1714	45
515	508	8	1	1565	30
516	508	10	1	1565	30
517	515	9	1	1565	30
518	517	26	1	1565	30
519	511	21	1	1565	40
520	519	21	1	1565	30
521	514	14	1	1565	30
522	514	12	1	1565	30
523	521	9	1	1565	30
524	523	7	1	1565	30
525	524	15	1	1565	30

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
526	525	43	1	1565	30
527	422	28	1	1565	50
528	425	54	1	1565	25
529	528	66	1	1565	25
530	529	23	1	1565	25
531	529	18	1	1565	25
534	535	42	1	1565	25
535	427	50	1	1565	25
536	531	18	1	1565	25
537	423	28	1	1565	30
538	537	27	1	1565	25
538	452	33	1	1565	25
539	538	21	1	1565	25
540	429	61	1	1565	25
541	540	9	1	1565	25
542	541	36	1	1565	25
543	542	22	1	1565	25
544	541	22	1	1565	25
545	534	19	1	1565	25
546	545	16	1	1565	25
547	534	10	1	1565	25
548	512	61	1	1714	50
548	549	21	1	1714	55
549	552	19	1	1714	55
549	548	21	1	1714	55
550	553	18	1	1714	65
550	551	73	1	1714	65
551	550	73	1	1714	65
551	554	49	1	1714	65
552	553	32	1	1714	65
552	549	19	1	1714	55
553	552	32	1	1714	55
553	550	18	1	1714	65
554	551	49	1	1714	65
554	555	96	1	1714	65
555	554	96	1	1714	65
555	556	100	1	1714	65
556	794	19	1	1714	65
556	555	100	1	1714	65
557	794	146	1	1714	65

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
557	558	117	1	1714	65
558	559	92	1	1714	60
558	557	117	1	1714	65
559	566	14	1	1714	45
559	558	92	1	1714	65
559	567	10	1	1714	60
561	565	45	1	1714	55
561	639	27	1	1714	55
561	563	30	1	1714	50
562	243	146	1	1714	60
563	564	39	1	1714	50
564	562	141	1	1714	60
565	561	45	1	1714	50
565	566	26	1	1714	45
566	565	26	1	1714	55
566	567	8	1	1714	40
567	566	8	1	1714	45
567	559	10	1	1714	60
568	567	9	1	1714	60
569	568	36	1	1714	60
570	370	12	2	1714	40
571	369	28	2	1714	50
572	372	31	2	1714	40
573	572	35	2	1714	40
574	573	30	2	1714	40
575	371	17	2	1714	40
576	338	103	1	1714	50
577	578	31	1	1714	50
578	579	170	1	1714	45
579	580	16	1	1714	40
580	581	45	1	1714	50
580	582	14	1	1714	50
581	580	45	1	1714	40
581	584	51	1	1714	50
582	583	65	1	1714	50
583	633	109	1	1714	50
584	585	52	1	1714	50
584	581	51	1	1714	50
585	584	52	1	1714	50
585	586	45	1	1714	50

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
586	585	45	1	1714	50
586	587	61	1	1714	40
587	586	61	1	1714	50
587	588	129	1	1714	60
588	589	41	1	1714	60
589	590	120	1	1714	60
590	631	197	1	1714	60
591	592	90	1	1714	60
591	386	169	1	1714	60
592	591	90	1	1714	60
592	594	14	1	1714	45
592	593	35	1	1714	60
593	592	35	1	1714	60
593	603	95	1	1714	65
594	592	14	1	1714	45
594	595	79	1	1714	50
595	594	79	1	1714	45
595	599	16	1	1714	50
596	595	29	1	1714	45
597	596	108	1	1714	45
598	597	49	1	1714	50
599	600	31	1	1714	50
600	601	21	1	1714	50
601	602	43	1	1714	50
602	608	55	1	1714	50
603	593	95	1	1714	60
603	604	219	1	1714	65
604	603	219	1	1714	60
604	607	163	1	1714	65
605	607	129	1	1714	60
605	606	148	1	1714	65
606	605	148	1	1714	60
607	604	163	1	1714	60
607	605	129	1	1714	65
608	609	50	1	1714	50
609	610	102	1	1714	50
610	611	59	1	1714	50
611	612	75	1	1714	50
612	613	71	1	1714	50
613	614	58	1	1714	50

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
614	615	63	1	1714	50
615	616	100	1	1714	50
616	617	45	1	1714	50
617	618	45	1	1714	40
618	622	33	1	1714	50
618	619	96	1	1714	50
619	620	64	1	1714	50
620	621	112	1	1714	50
622	623	51	1	1714	50
623	624	50	1	1714	50
624	625	42	1	1714	50
625	626	50	1	1714	50
626	627	49	1	1714	50
627	628	36	1	1714	50
628	629	49	1	1714	50
629	630	46	1	1714	50
631	632	141	1	1714	60
633	634	158	1	1714	50
634	635	385	1	1714	50
635	636	128	1	1714	50
636	637	120	1	1714	50
637	638	106	1	1714	50
639	640	34	1	1714	60
640	641	34	1	1714	65
641	642	49	1	1714	65
642	643	63	1	1714	65
643	644	53	1	1714	65
644	645	56	1	1714	50
645	646	44	1	1714	65
646	647	26	1	1714	60
647	648	49	1	1714	60
647	747	43	1	1636	40
648	649	52	1	1714	55
649	650	77	1	1714	60
649	663	59	1	1714	55
650	651	38	1	1714	60
650	649	77	1	1714	45
651	354	71	1	1714	60
651	650	38	1	1714	50
652	653	44	1	1714	50

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
653	654	39	1	1714	55
654	655	34	1	1714	55
655	656	50	1	1714	60
656	657	50	1	1714	60
657	658	47	1	1714	60
658	659	27	1	1714	60
659	660	52	1	1714	60
660	661	42	1	1714	50
661	662	29	1	1714	60
662	296	32	1	1714	55
663	664	46	1	1714	55
664	665	44	1	1714	60
665	666	92	1	1714	60
666	20	82	1	1714	60
667	668	63	1	1714	60
668	669	109	1	1714	60
669	275	79	1	1714	55
670	671	195	1	1714	50
671	672	171	1	1714	50
672	673	30	1	1714	50
673	674	60	1	1714	50
675	203	31	1	1714	50
676	115	36	1	1714	45
676	678	43	1	1714	45
677	120	54	1	1714	30
678	120	22	1	1714	35
678	676	43	1	1714	45
679	677	43	1	1714	40
680	681	31	1	1714	35
681	683	55	1	1714	45
681	688	77	1	1714	45
683	684	37	1	1714	45
684	685	26	1	1714	45
685	686	47	1	1714	45
686	687	34	1	1714	40
687	697	48	1	1714	35
688	116	80	1	1714	35
689	104	43	1	1714	40
689	697	5	1	1714	35
690	105	36	1	1714	30

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
691	692	14	1	1714	50
691	697	49	1	1714	35
691	888	34	1	1714	35
692	693	89	1	1714	50
692	691	14	1	1714	50
693	694	78	1	1714	50
694	695	107	1	1714	50
695	696	70	1	1714	50
696	500	49	1	1714	50
697	691	49	1	1714	50
697	689	5	1	1714	35
698	699	27	1	1714	50
699	700	42	1	1714	50
700	701	66	1	1714	55
701	702	93	1	1714	50
702	703	37	1	1714	50
703	704	107	1	1714	50
704	705	52	1	1714	50
705	706	81	1	1714	50
707	108	92	1	1714	40
708	244	18	1	1565	30
709	708	33	1	1565	30
710	263	107	1	1714	45
711	710	28	1	1714	50
712	711	117	1	1714	50
713	712	67	1	1714	50
714	713	103	1	1714	50
715	716	30	1	1714	50
716	717	43	1	1714	50
717	718	102	1	1714	45
718	20	59	1	1714	40
719	714	52	1	1714	50
719	715	24	1	1714	50
720	719	35	1	1714	40
721	593	33	1	1714	40
722	721	49	1	1714	45
723	722	57	1	1714	45
724	723	105	1	1714	40
725	724	111	1	1714	40
726	725	78	1	1714	50

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
727	607	144	1	1714	45
728	727	74	1	1714	40
729	728	98	1	1714	45
730	729	103	1	1714	45
731	730	115	1	1714	45
732	731	68	1	1714	45
733	732	159	1	1714	45
734	735	47	1	1636	45
735	736	28	1	1636	45
736	737	28	1	1636	45
737	738	62	1	1636	45
738	739	74	1	1636	45
739	740	30	1	1636	40
740	741	53	1	1636	40
741	742	17	1	1636	45
742	743	47	1	1636	45
743	744	54	1	1636	45
744	745	27	1	1636	45
745	746	43	1	1636	40
746	647	72	1	1636	40
747	748	33	1	1636	40
748	749	25	1	1636	40
749	750	72	1	1636	45
750	751	74	1	1636	45
751	752	68	1	1636	45
752	717	94	1	1636	40
753	754	34	1	1636	35
754	755	32	1	1636	45
755	756	45	1	1636	45
756	757	35	1	1636	40
757	758	24	1	1636	30
758	759	31	1	1636	30
759	760	57	1	1636	35
760	761	24	1	1636	30
761	762	18	1	1636	30
762	763	13	1	1636	30
763	764	29	1	1636	35
764	661	50	1	1636	35
765	379	19	1	1636	30
766	767	58	1	1636	30

Table K-1. Evacuation Roadway Network Characteristics					
Upstream Node Number	Downstream Node Number	Length (miles * 100)	Full Lanes	Saturation Flow Rate (Veh/hr/ln)	Free Flow Speed (MPH)
767	768	23	1	1636	45
768	769	38	1	1636	40
769	393	91	1	1636	35
770	410	52	1	1636	40
771	765	15	1	1636	30
772	125	5	3	1714	45
773	774	17	1	1714	40
774	775	14	1	1714	40
775	776	22	1	1714	40
776	777	49	1	1714	40
777	778	93	1	1714	45
778	779	36	1	1714	45
779	780	21	1	1714	40
780	781	89	1	1714	45
781	782	26	1	1714	40
782	783	62	1	1714	40
783	703	12	1	1714	35
784	420	68	1	1714	55
784	785	57	1	1714	45
784	418	25	1	1714	55
785	786	39	1	1714	45
786	787	20	1	1714	45
787	788	26	1	1714	45
788	789	80	1	1714	45
789	790	31	1	1714	45
790	791	70	1	1714	45
791	792	31	1	1714	45
792	793	27	1	1714	45
793	794	55	1	1714	45
794	556	19	1	1714	65
794	557	146	1	1714	65
888	104	59	1	1714	35
889	341	18	1	1714	25
890	889	55	1	1714	25
891	890	19	1	1714	25
892	891	27	1	1714	25
893	355	26	1	1714	25

APPENDIX L

Zone Boundaries

APPENDIX L: ZONE BOUNDARIES

Zone 1A	North:	FM 2425 and River Country Lane	
Hood and Somervell Counties	East:	Brazos River	
	South:	Brazos River and Hood/Somervell County Line	
	West:	Highway 144	
Zone 1B	North:	FM 2425	
Hood County	East:	FM 2425	
	South:	FM 2425	
	West:	Highway 144	
Zone 1C	North:	FM 3210, Power Plant Ct, and Lake Granbury	
Hood County	East:	Brazos River and FM 167	
	South:	River Country Lane and Brazos River	
	West:	FM 2425 and Brazos River	
Zone 1D	North:	Highway 377, 10-mile limit and north boundary of Descordova Bend development	
Hood County		East:	10-mile limit, FM 167
		South:	Mambrino Highway
		West:	Highway 144
Zone 2A	North:	CPNPP boundary	
Somervell County	East:	County Road 302	
	South:	County Road 318 and 313	
	West:	FM 56	
Zone 2B	North:	Somervell /Hood County Line	
Somervell County	East:	Highway 144	
	South:	County Road 302	
	West:	County Road 303 and CPNPP boundary	
Zone 2C	North:	County Road 318 and 313	
Somervell County	East:	County Road 302 and Highway 144	
	South:	Glen Rose northern city limits	
	West:	FM 56	
Zone 2D	North:	Somervell /Hood County Line	
Somervell County	East:	Brazos River	
	South:	Brazos River and Highway 67	
	West:	Highway 144	
Zone 2E	North:	Brazos River	
Hood and Somervell Counties	East:	FM 199	
	South:	Highway 67	
	West:	Brazos River	
Zone 2F	North:	Somervell /Hood County Line	
Somervell County	East:	Johnson County Line	
	South:	Highway 67	
	West:	FM 199	

Zone 2G	North:	Brazos River
Hood County	East:	Johnson County Line
	South:	Hood County Line
	West:	Brazos River
Zone 2H	North:	Highway 67 and Brazos River
Somervell County	East:	10-mile limit
	South:	Brazos River and 10-mile limit
	West:	Brazos River
Zone 2J	North:	Glen Rose southern city limits and Highway 67
Somervell County	East:	Brazos River
	South:	10-mile limit
	West:	Highway 144
Zone 3A	North:	Somervell/Hood County Line
Somervell County	East:	FM 56
	South:	County Road 1007
	West:	County Road 1008
Zone 3B	North:	County Road 1007
Somervell County	East:	FM 56
	South:	FM 205 and Glen Rose northern city limits
	West:	County Road 1007
Zone 3C	North:	Glen Rose southern city limits
Somervell County	East:	Highway 144
	South:	10-mile limit
	West:	County Road 1008 and Highway 67
Zone 3D	North:	FM 205
Somervell County	East:	Highway 67
	South:	Highway 67
	West:	County Road 1004 and FM 51
Zone 3E	North:	Somervell /Hood County Line and County Road 1008
Somervell County	East:	County Road 1004 and FM 51
	South:	County Road 1004 and 10-mile limit
	West:	Somervell /Hood County Line and 10-mile limit
Zone 3F	North:	Highway 67
Somervell County	East:	County Road 2008
	South:	10-mile limit
	West:	Highway 67 and 10-mile limit
Zone 4A	North:	Coates Road
Hood County	East:	Highway 144
	South:	CPNPP boundary and Hood/Somervell County Line
	West:	CPNPP boundary
Zone 4B	North:	Cripple Creek Court and Neri Road
Hood County	East:	Highway 144
	South:	Coates Road
	West:	CPNPP boundary and Cripple Creek Court

Zone 4C	North:	FM 51 and Neri Road
Hood County	East:	CPNPP western boundary
	South:	Hood/Somervell County Line
	West:	Highway 56 and FM 51
Zone 4D	North:	FM 51
Hood County	East:	FM 56
	South:	Hood/Somervell County Line
	West:	FM 51 and Edwards Road
Zone 4E	North:	Granbury southern city limits
Hood County	East:	Highway 144
	South:	Neri Road
	West:	FM 51
Zone 4F	North:	10-mile limit
Hood County	East:	FM 51 and Granbury western city limits
	South:	FM 51
	West:	FM 56
Zone 4G	North:	Tolar southern city limits, 10-mile ring
Hood County	East:	FM 56
	South:	FM 51, Bakers Crossing Road
	West:	10-mile limit
Zone 4H	North:	FM 51, Bakers Crossing Road
Hood County	East:	Edwards Road
	South:	Hood/Somervell County Line
	West:	10-mile limit
Glen Rose	North:	City Limits
Somervell County	East:	City Limits
	South:	City Limits
	West:	City Limits
Granbury	North:	Pearl Street and 10-mile limit
Hood County	East:	Highway 377 and 10-mile limit
	South:	Highway 377
	West:	Pearl Street
Tolar	North:	City Limits
Hood County	East:	City Limits
	South:	City Limits
	West:	City Limits
CPNPP	North:	CPNPP boundary
Hood and	East:	CPNPP boundary
Somervell Counties	South:	CPNPP boundary
	West:	CPNPP boundary