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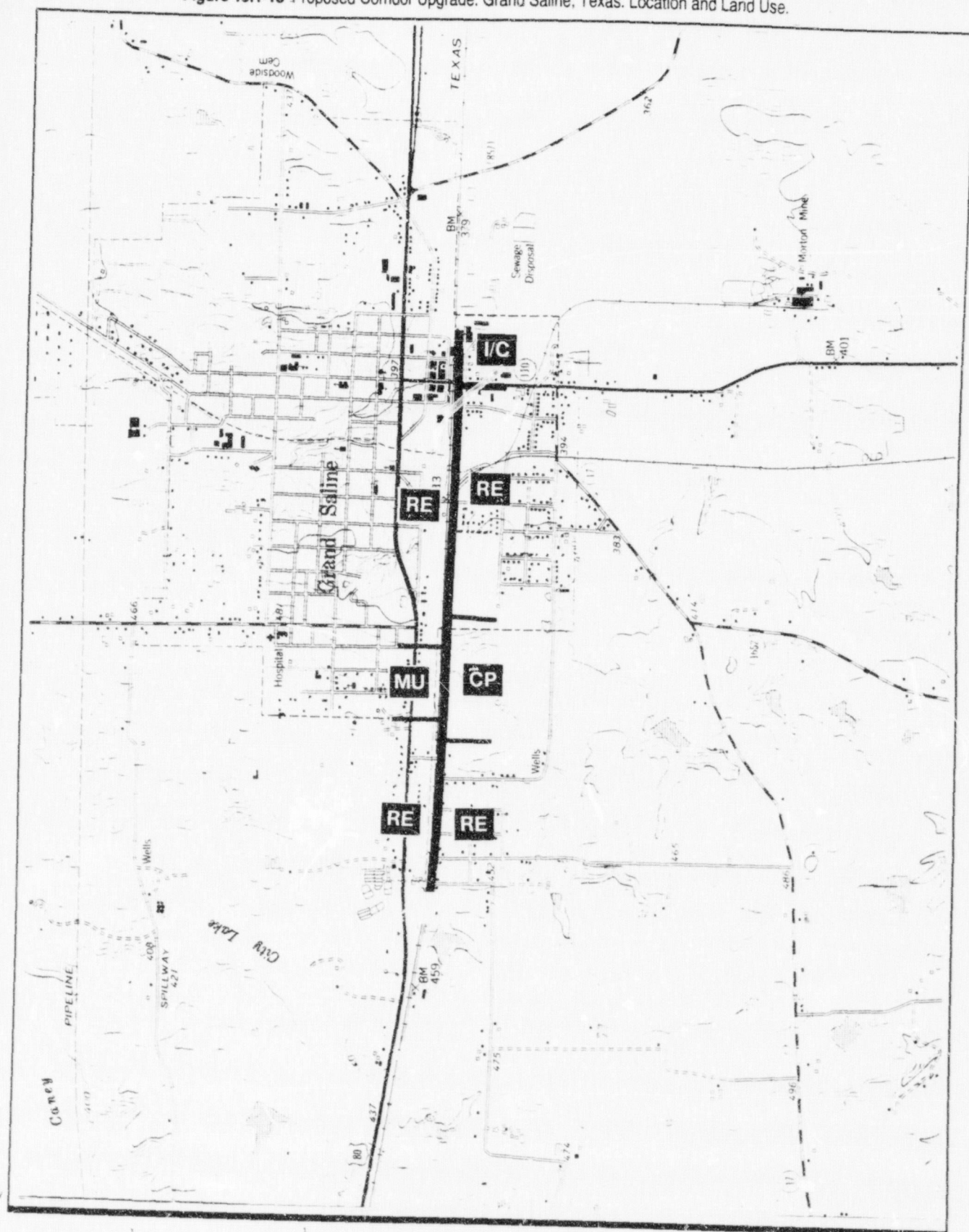
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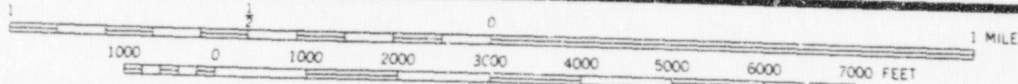
6/7



Figure 15.1-18 Proposed Corridor Upgrade: Grand Saline, Texas. Location and Land Use.

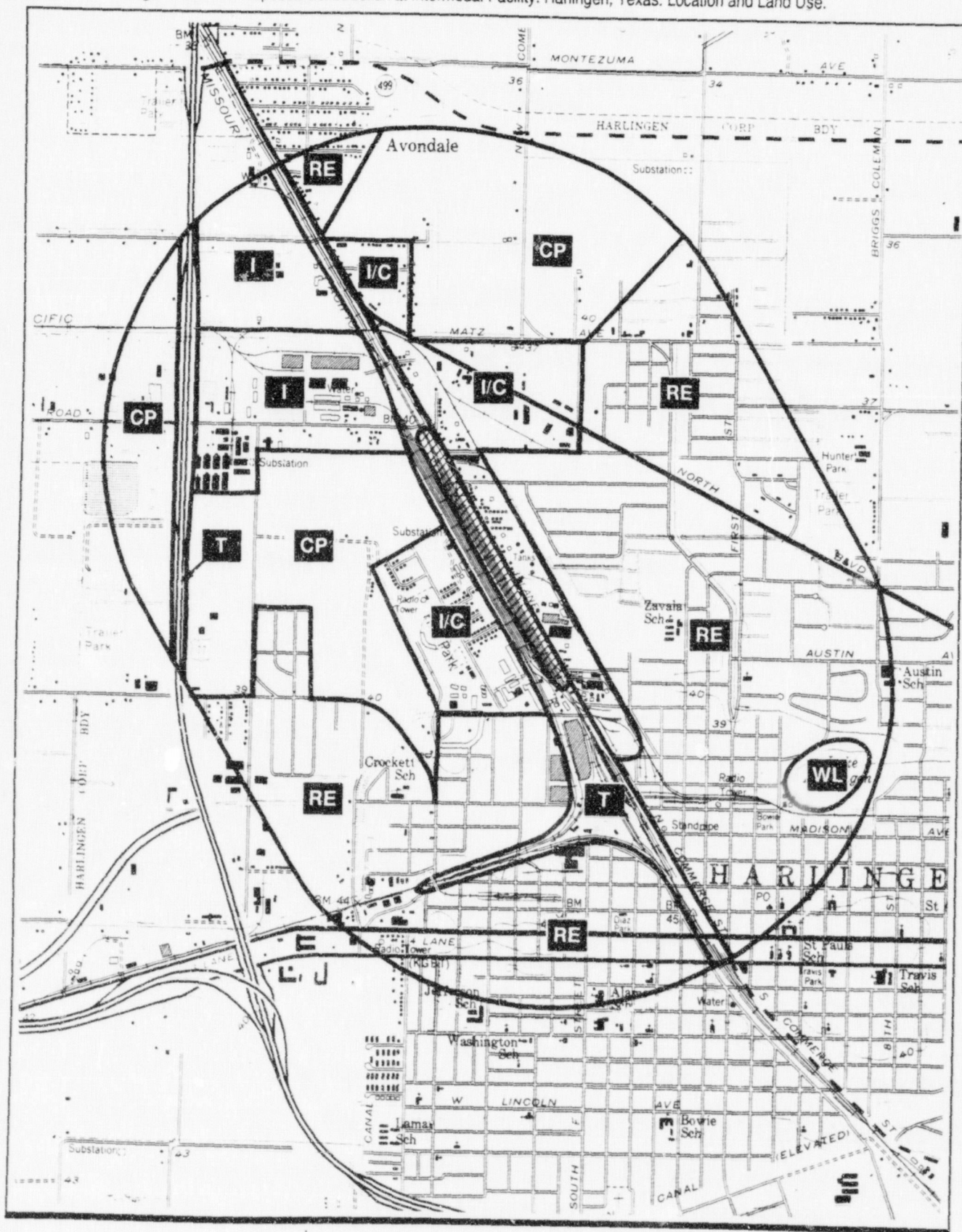


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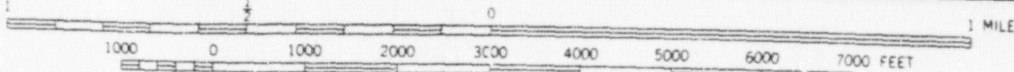


Base Map: USGS 7.5' Topographic Quadrangle: Grand Saline, Texas 1959 (Photorevised 1981)

Figure 15.1-19 Proposed Construction at Intermodal Facility: Harlingen, Texas. Location and Land Use.



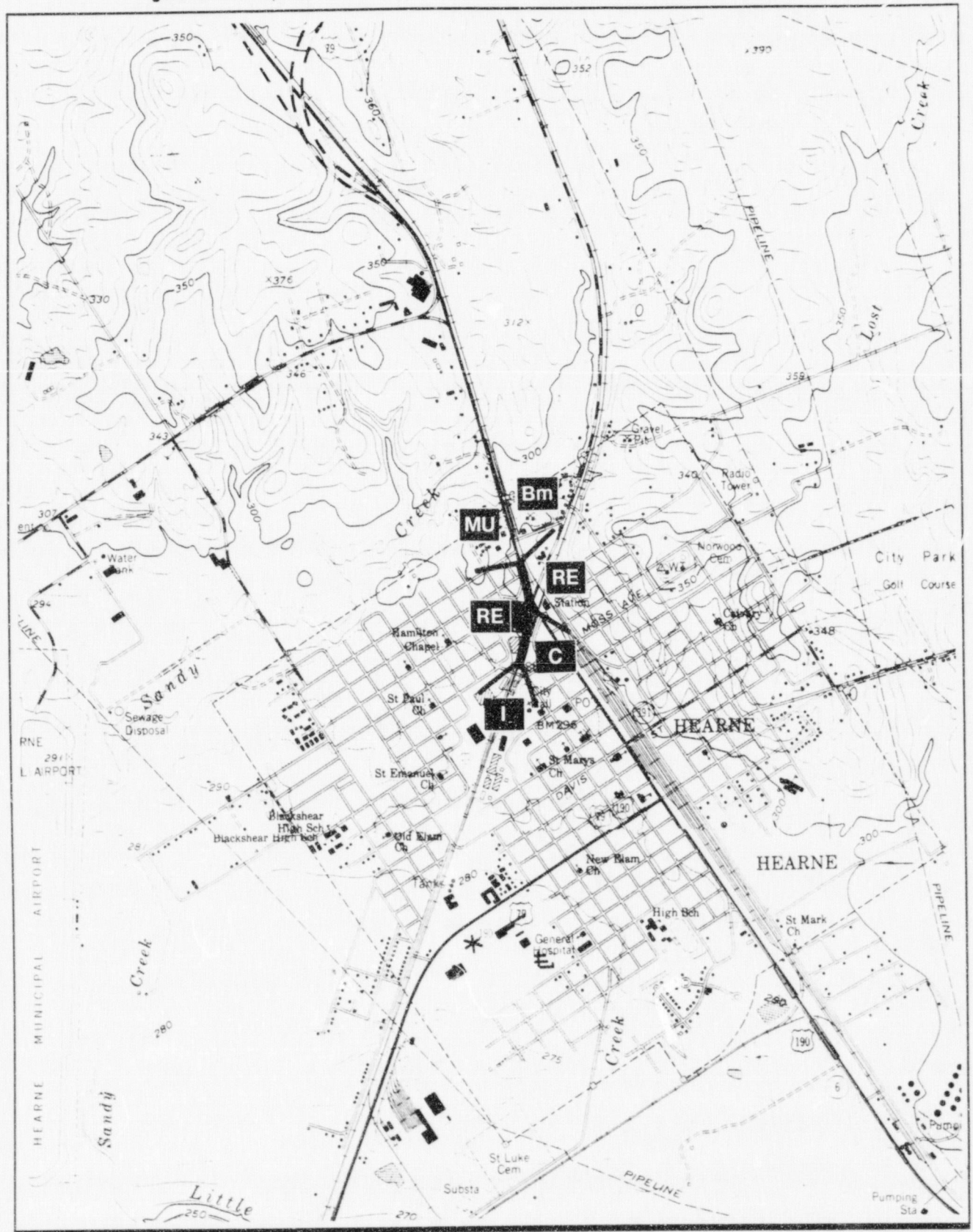
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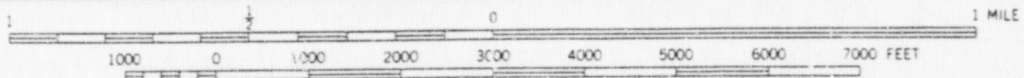
Base Map: USGS 7.5' Topographic Quadrangle: Harlingen, Texas 1956 (Photorevised 1983)



Figure 15.1-20 Proposed Common Point Connection: Hearne, Texas. Location and Land Use.

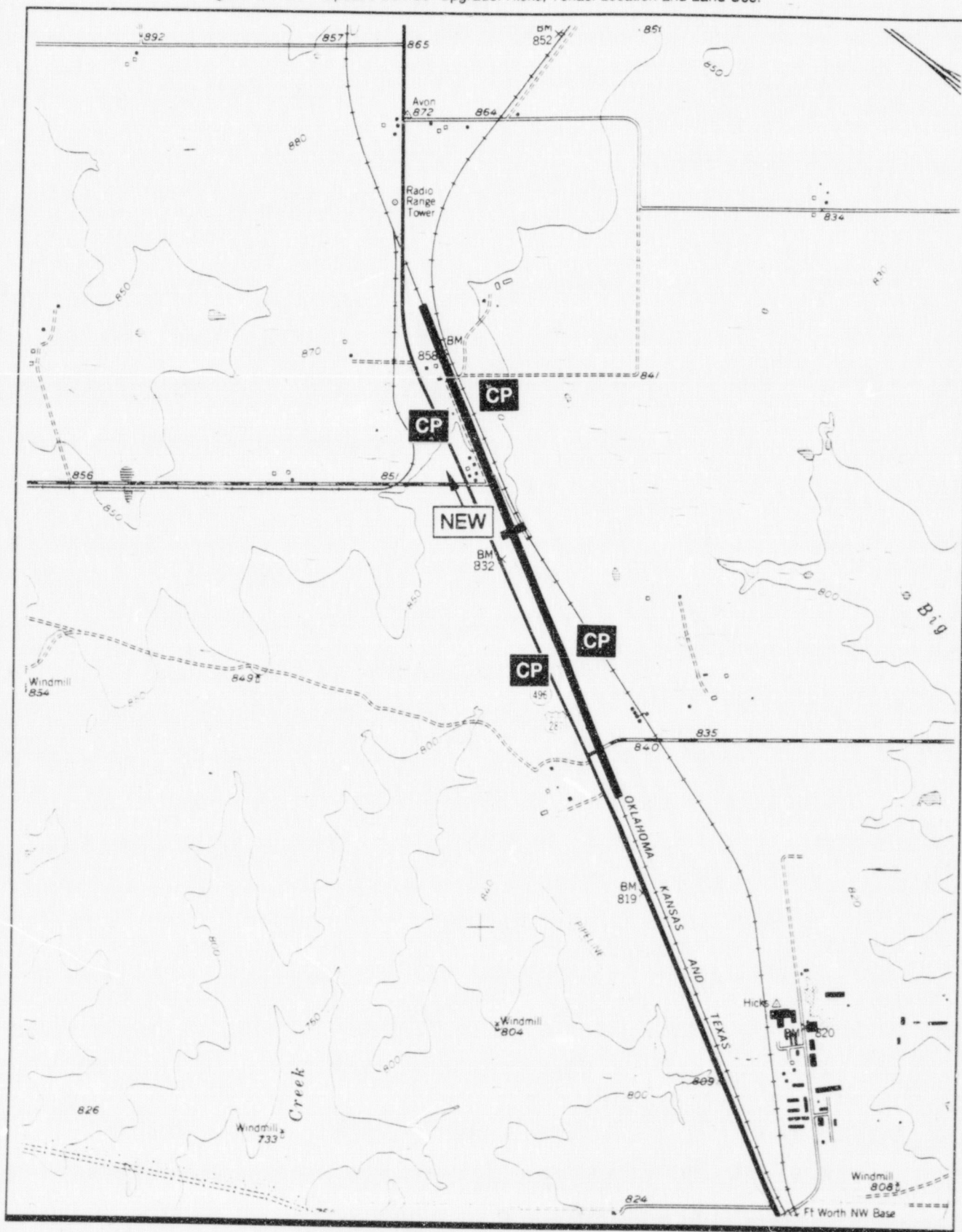


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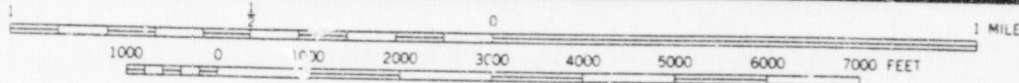


Base Map: USGS 7.5' Topographic Quadrangles: Hearne North, Texas 1961 (Photorevised 1989);  
Hearne South, Texas 1961 (Photorevised 1988)

Figure 15.1-21 Proposed Corridor Upgrade: Hicks, Texas. Location and Land Use.



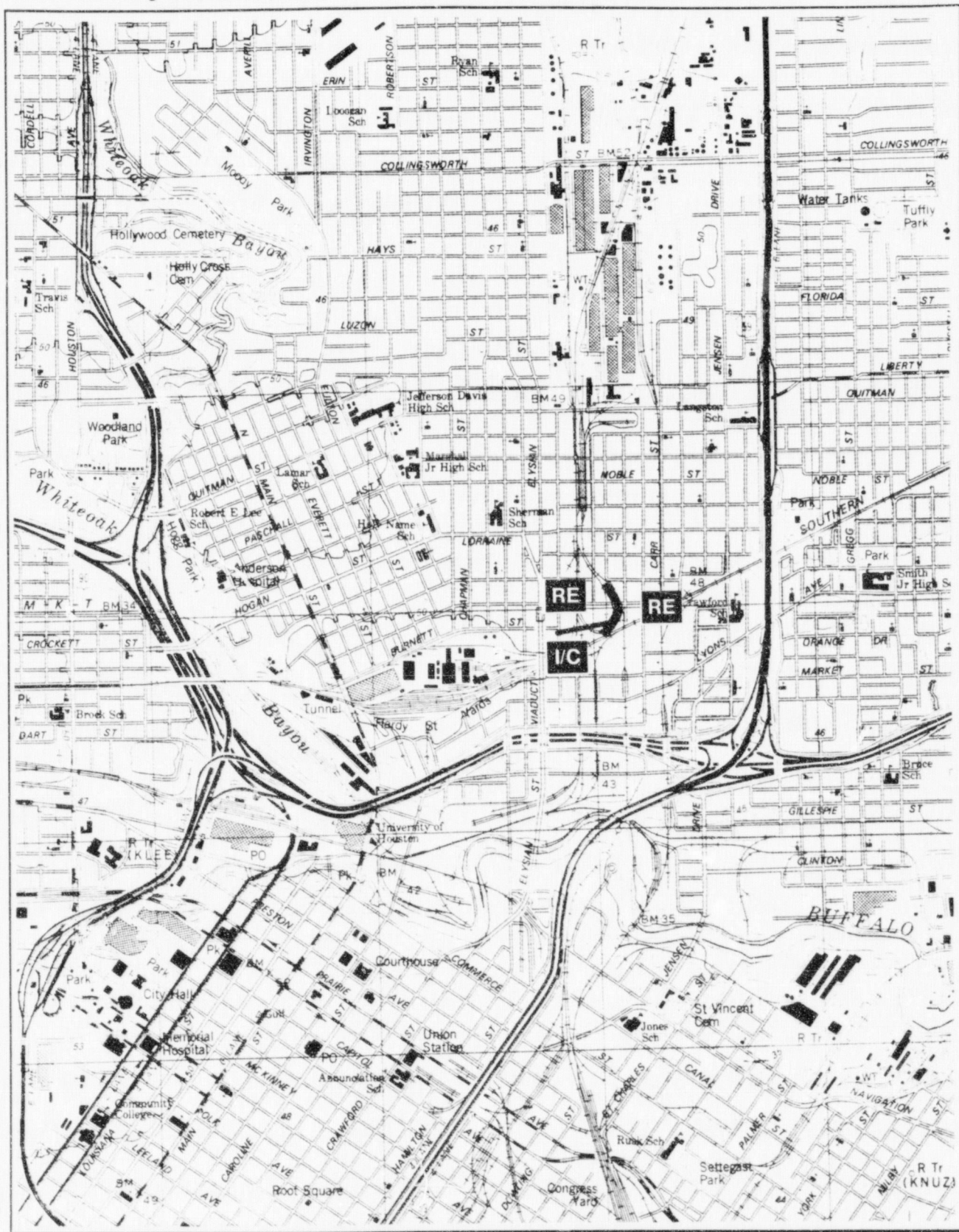
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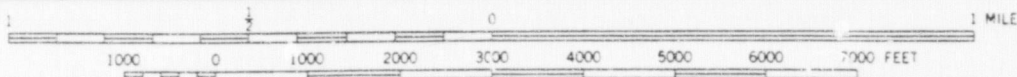
Base Map: USGS 7.5' Topographic Quadrangle: Avondale, Texas 1955 (Photorevised 1982)



Figure 15.1-22 Proposed Common Point Connection: Houston, Texas. Location and Land Use.



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Base Map: USGS 7.5' Topographic Quadrangle: Settegast, Texas 1982

Figure 15.1-23 Proposed Common Point Connection: Houston, Texas. Location and Land Use.

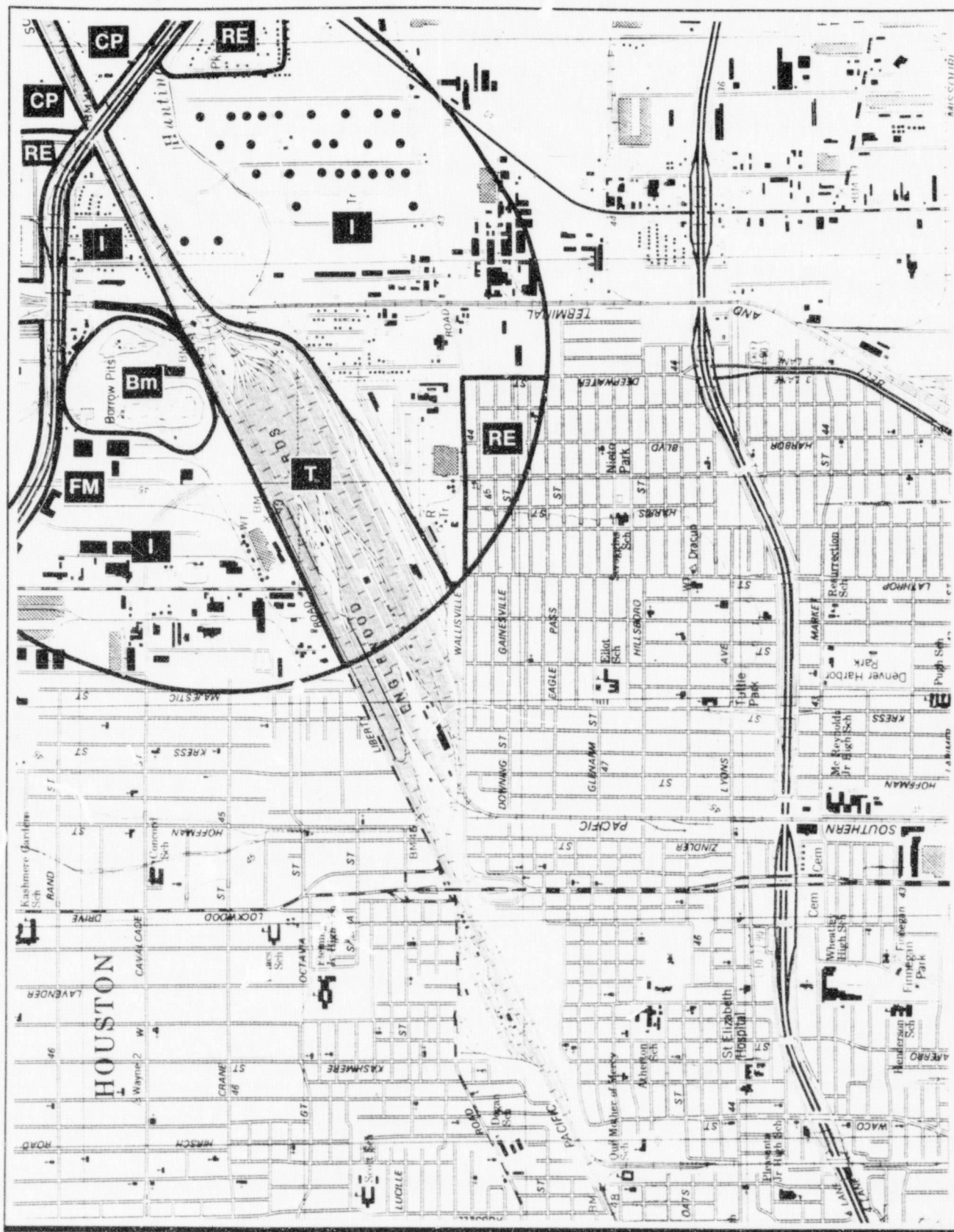
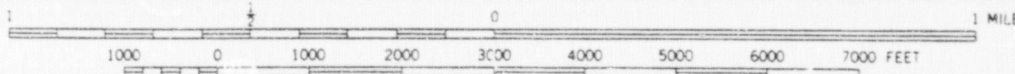




Figure 15.1-24 Proposed Common Point Connection: Houston, Texas. Location and Land Use.

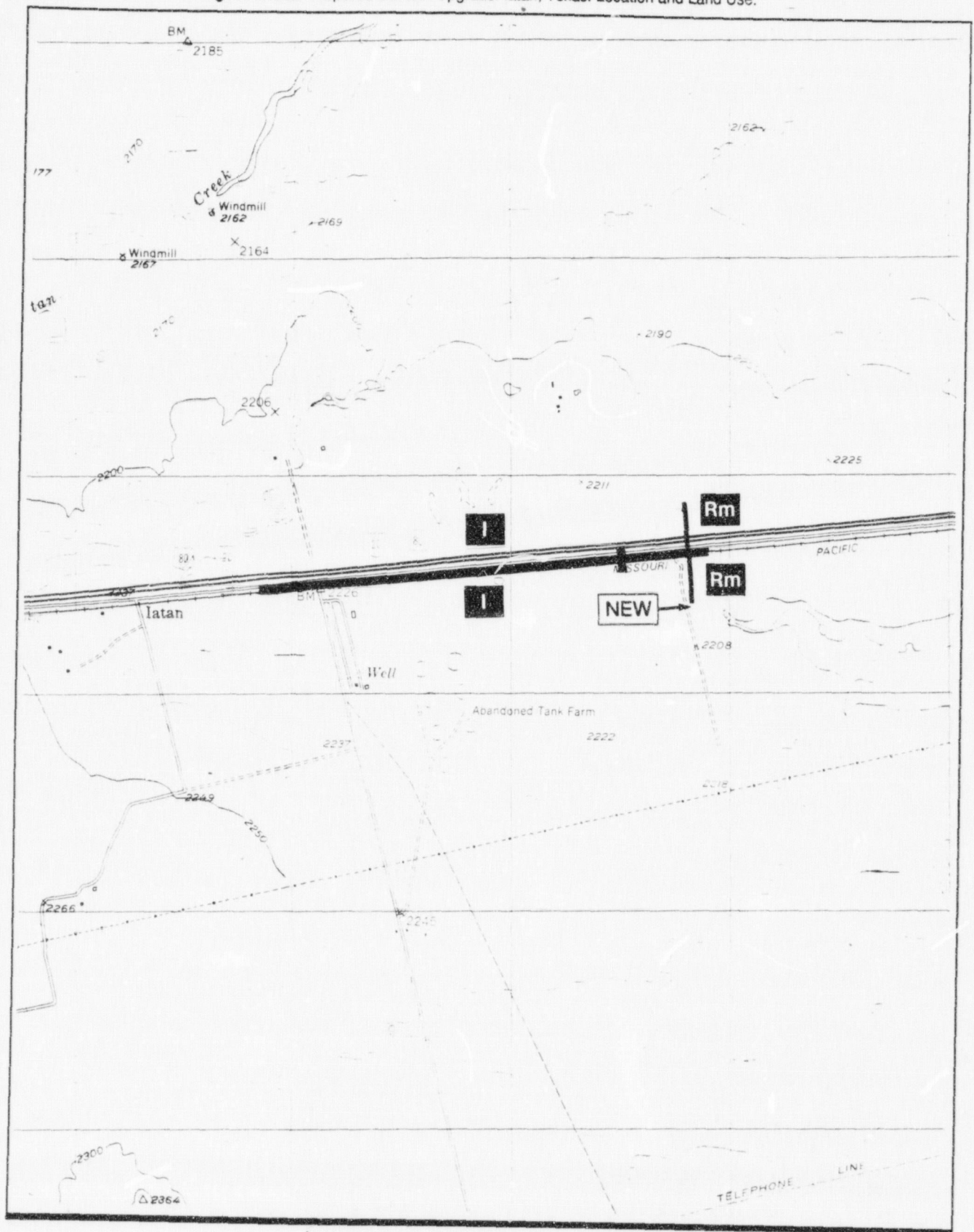


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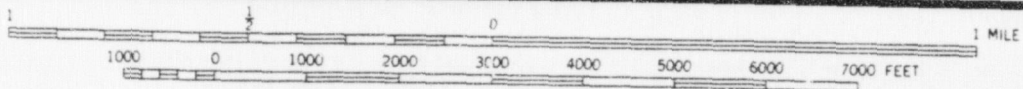


Base Map: USGS 7.5' Topographic Quadrangle: Settegast, Texas 1982

Figure 15.1-25 Proposed Corridor Upgrade: Iatan, Texas. Location and Land Use.



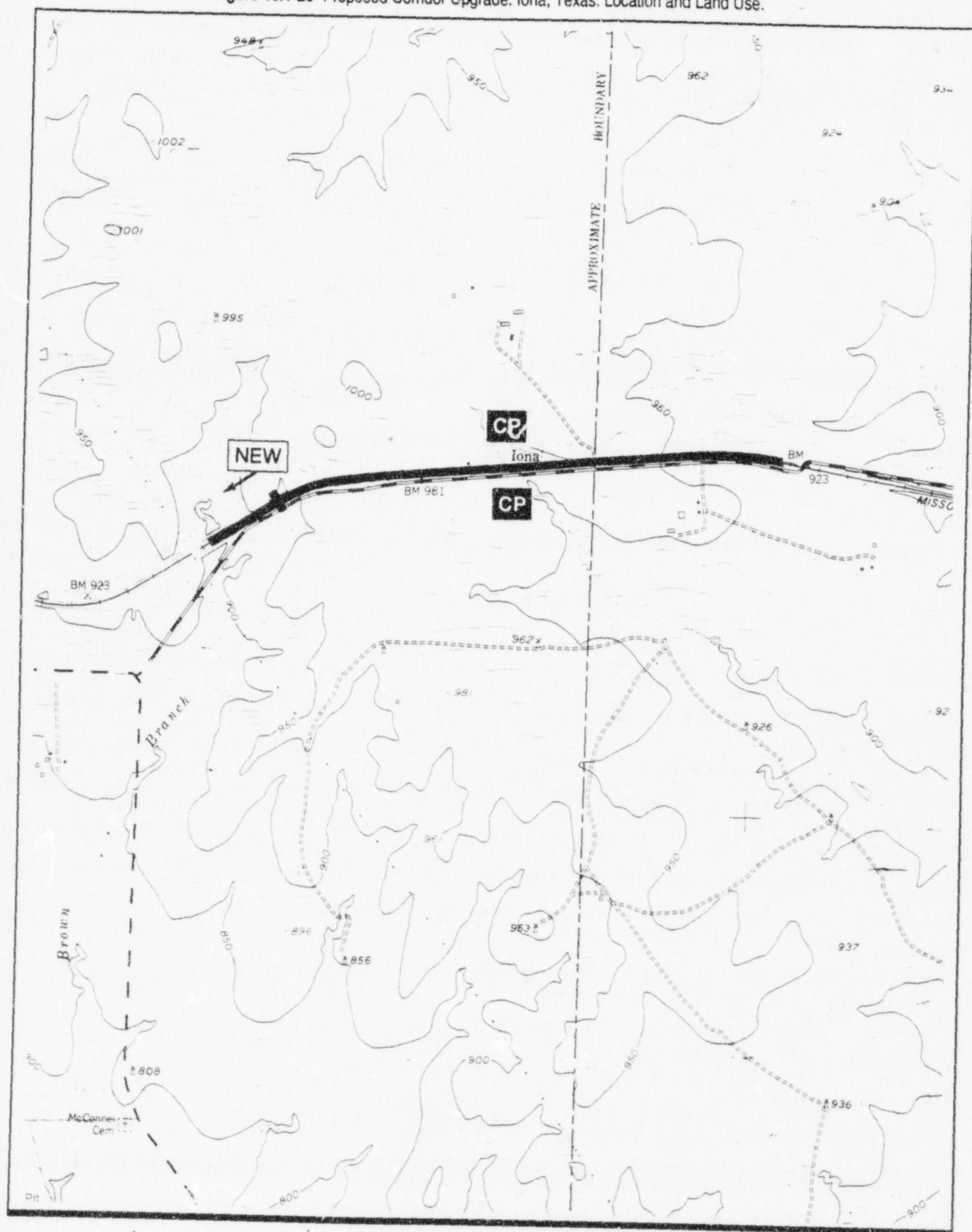
SCALE 1:24000



Base Map: USGS 7.5' Topographic Quadrangles: Iatan, Texas 1961 (Photorevised 1978);  
Westbrook, Texas 1952 (Photorevised 1978)



Figure 15.1-26 Proposed Corridor Upgrade: Iona, Texas. Location and Land Use.

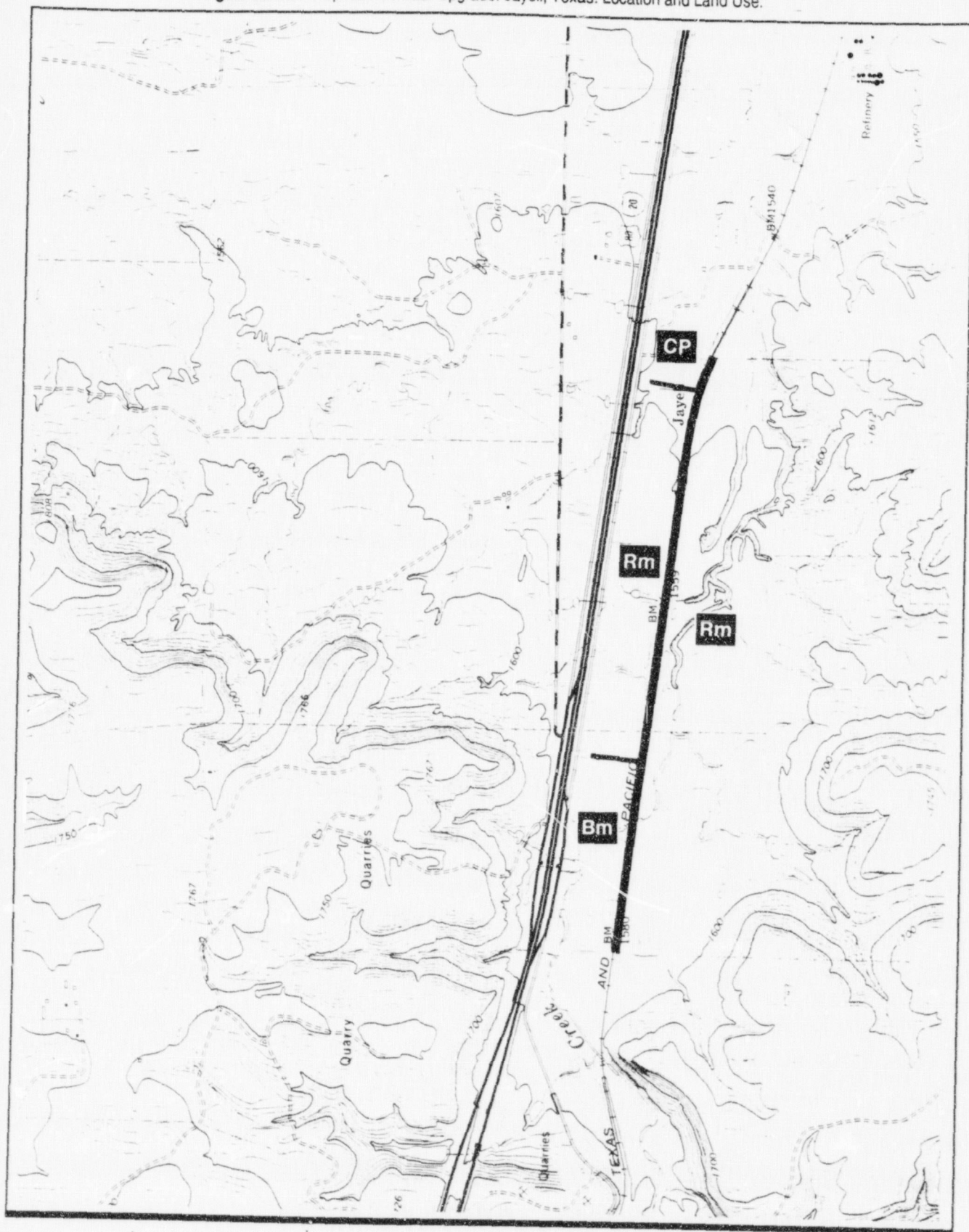


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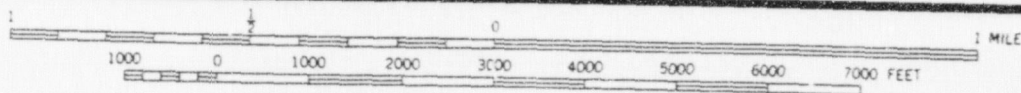


Base Map: USGS 7.5' Topographic Quadrangle: Aledo, Texas 1955 (Photorevised 1981)

Figure 15.1-27 Proposed Corridor Upgrade: Jayell, Texas. Location and Land Use.

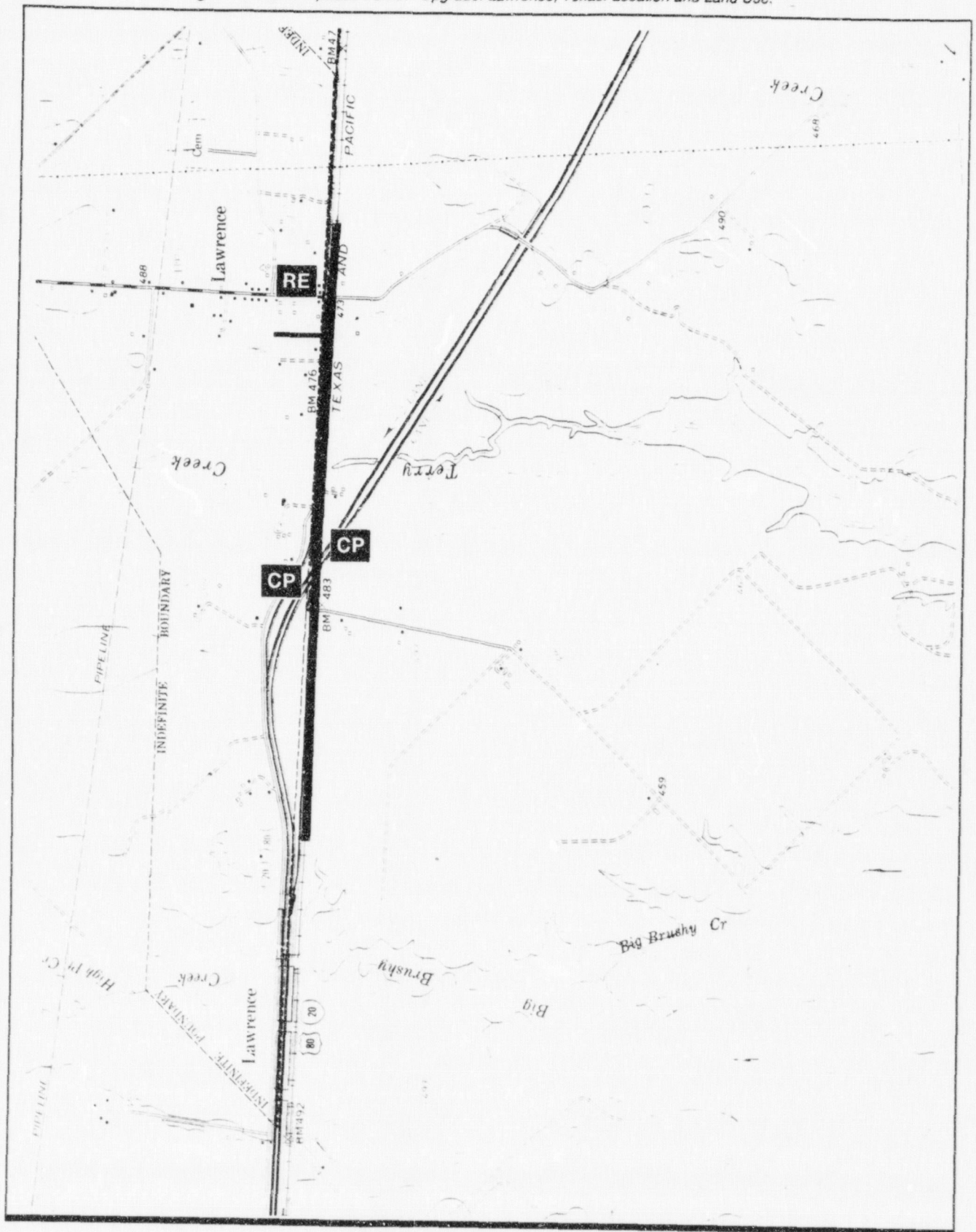


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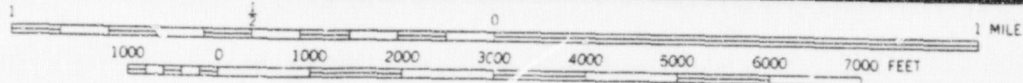


Base Map: USGS 7.5' Topographic Quadrangle: Jayell, Texas 1966

Figure 15.1-28 Proposed Corridor Upgrade: Lawrence, Texas. Location and Land Use.



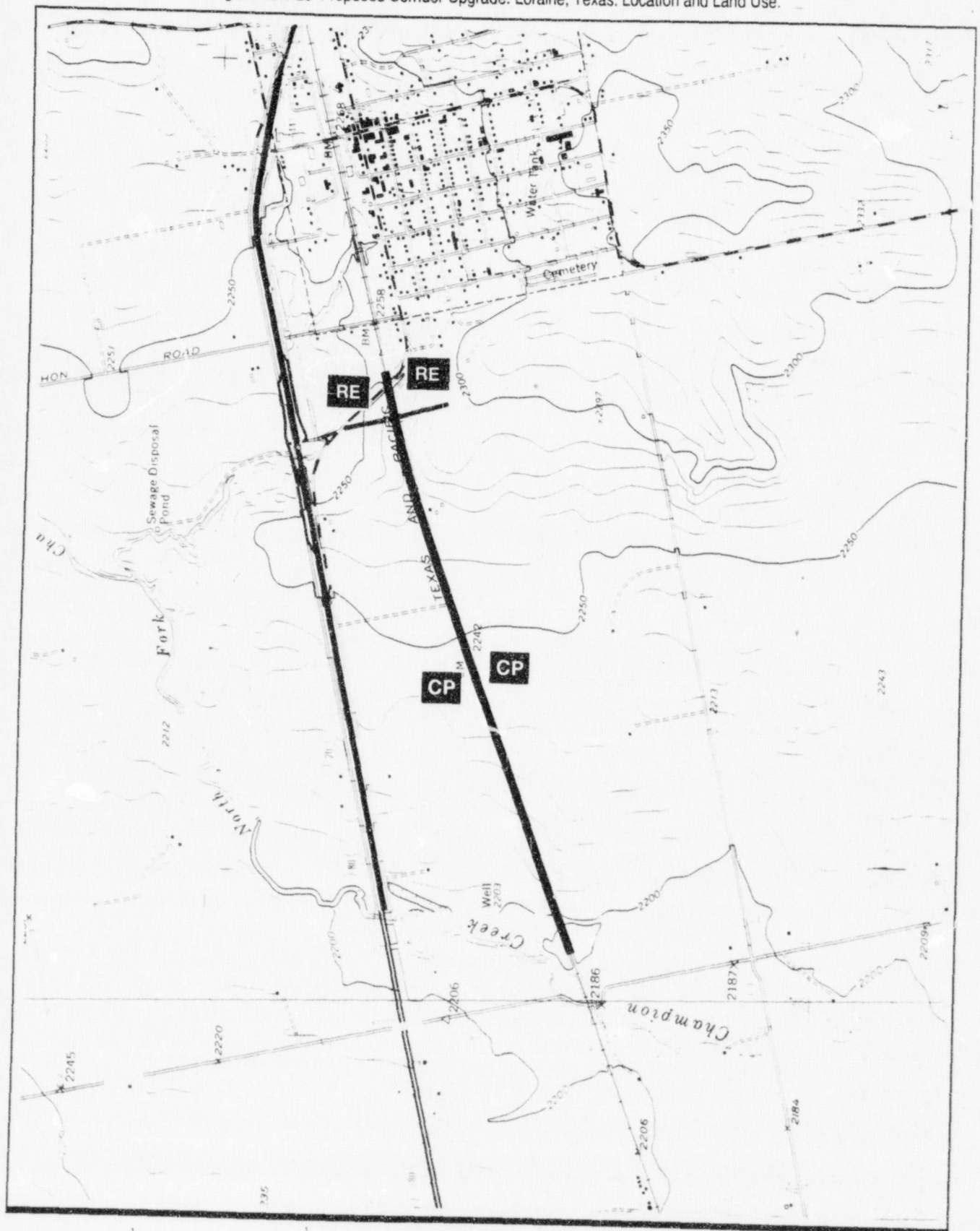
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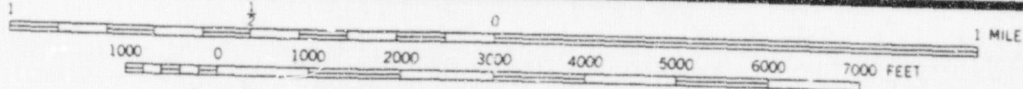
Base Map: USGS 7.5' Topographic Quadrangles: Forney South, Texas 1963 (Photorevised 1973);  
Terrell South, Texas 1963 (Photorevised 1963)



Figure 15.1-29 Proposed Corridor Upgrade: Loraine, Texas. Location and Land Use.

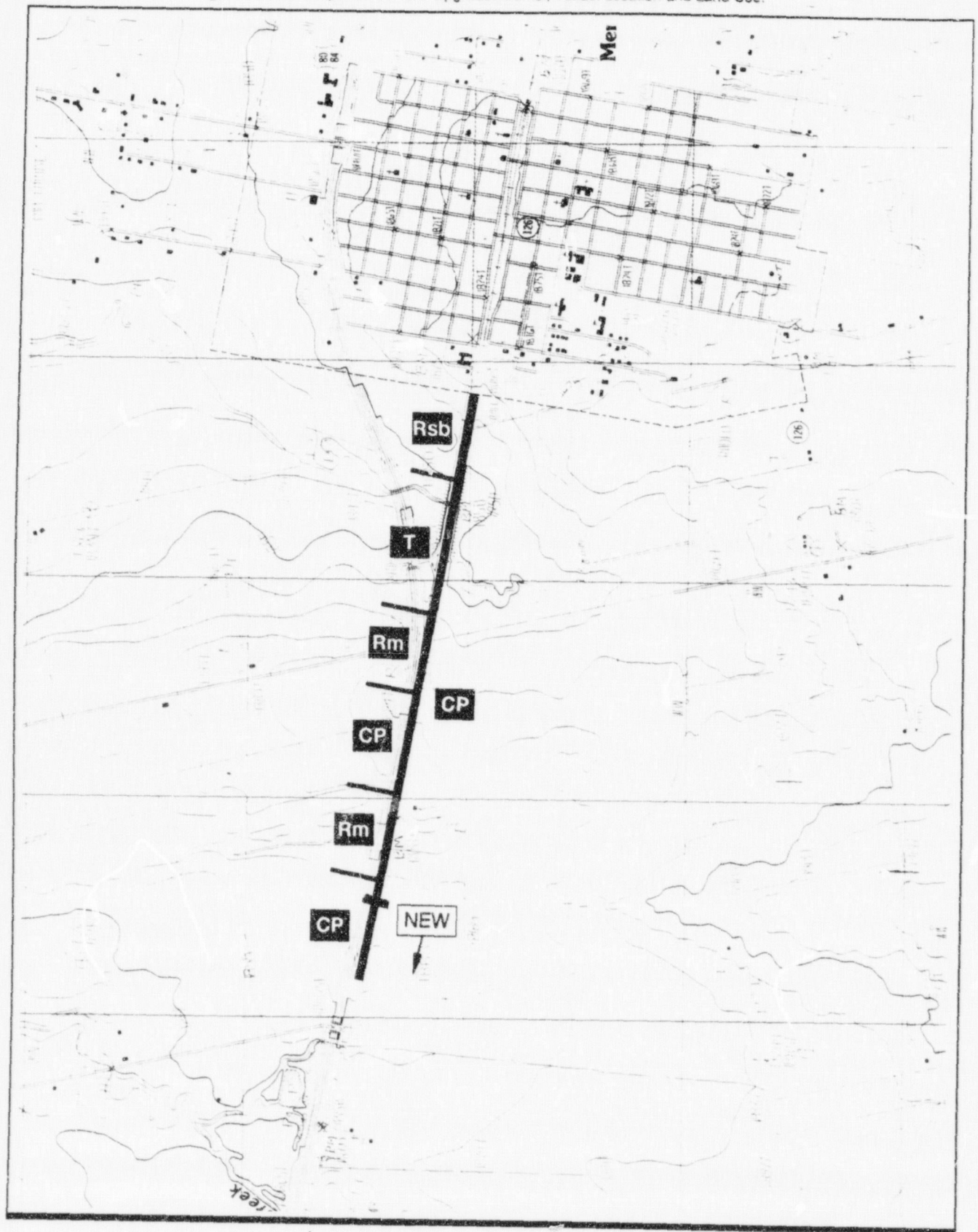


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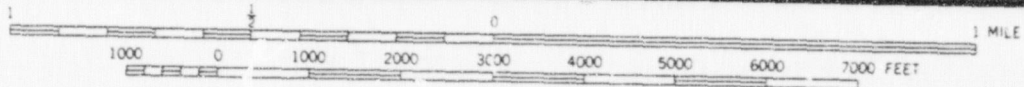


Base Map: USGS 7.5' Topographic Quadrangles: Loraine, Texas 1969;  
Colorado City, Texas 1952 (Photorevised 1979)

Figure 15.1-30 Proposed Corridor Upgrade: Merkel, Texas. Location and Land Use.



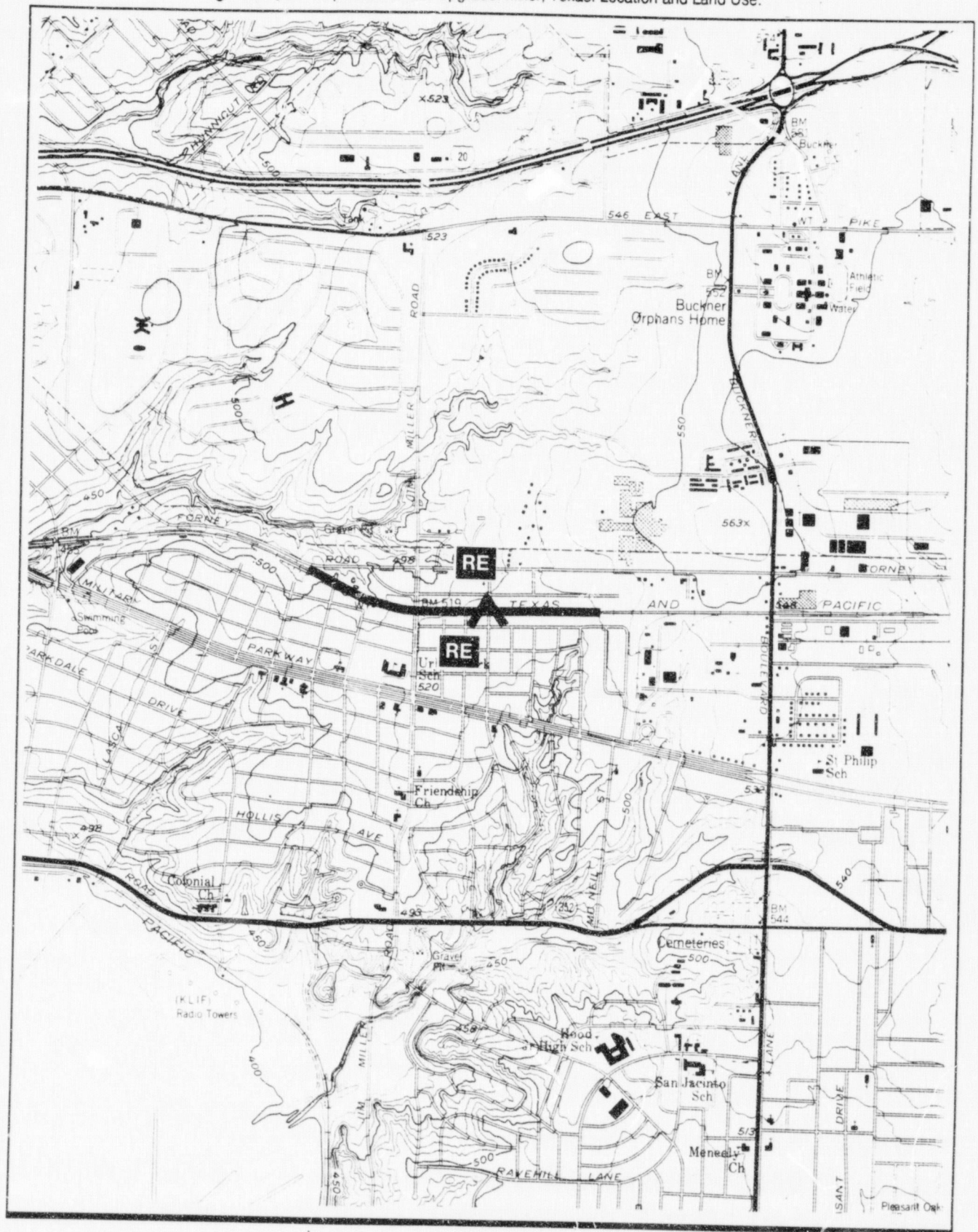
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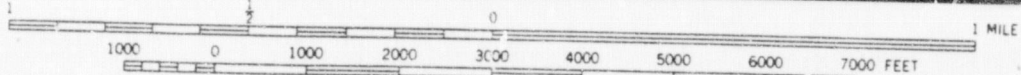
Base Map: USGS 7.5' Topographic Quadrangle: Merkel West, Texas (Provisional Edition 1964)



Figure 15.1-31 Proposed Corridor Upgrade: Miller, Texas. Location and Land Use.

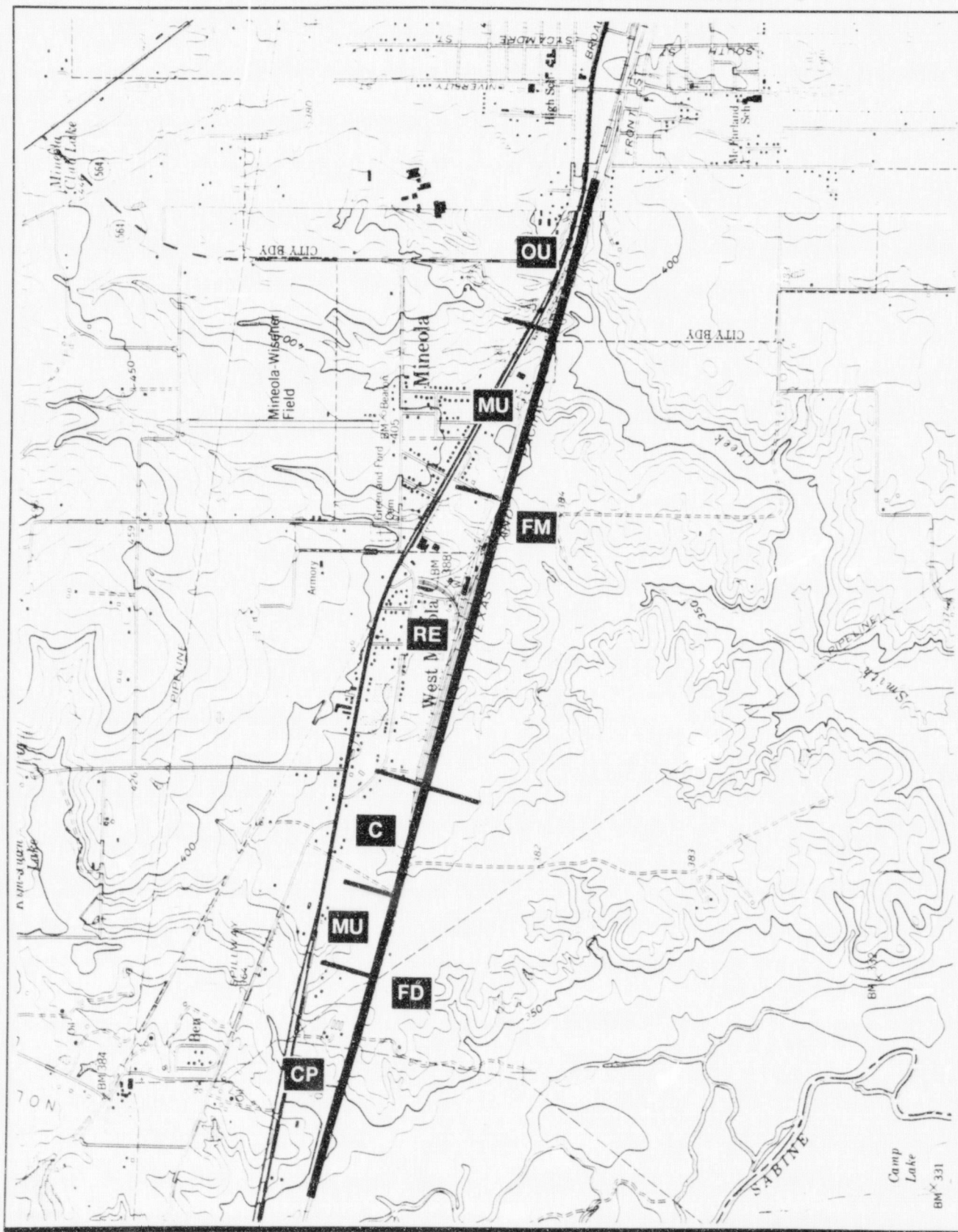


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Base Map: USGS 7.5' Topographic Quadrange: White Rock Lake, Texas 1958 (Photorevised 1968 and 1973)

Figure 15.1-32 Proposed Corridor Upgrade: Mineola, Texas. Location and Land Use.



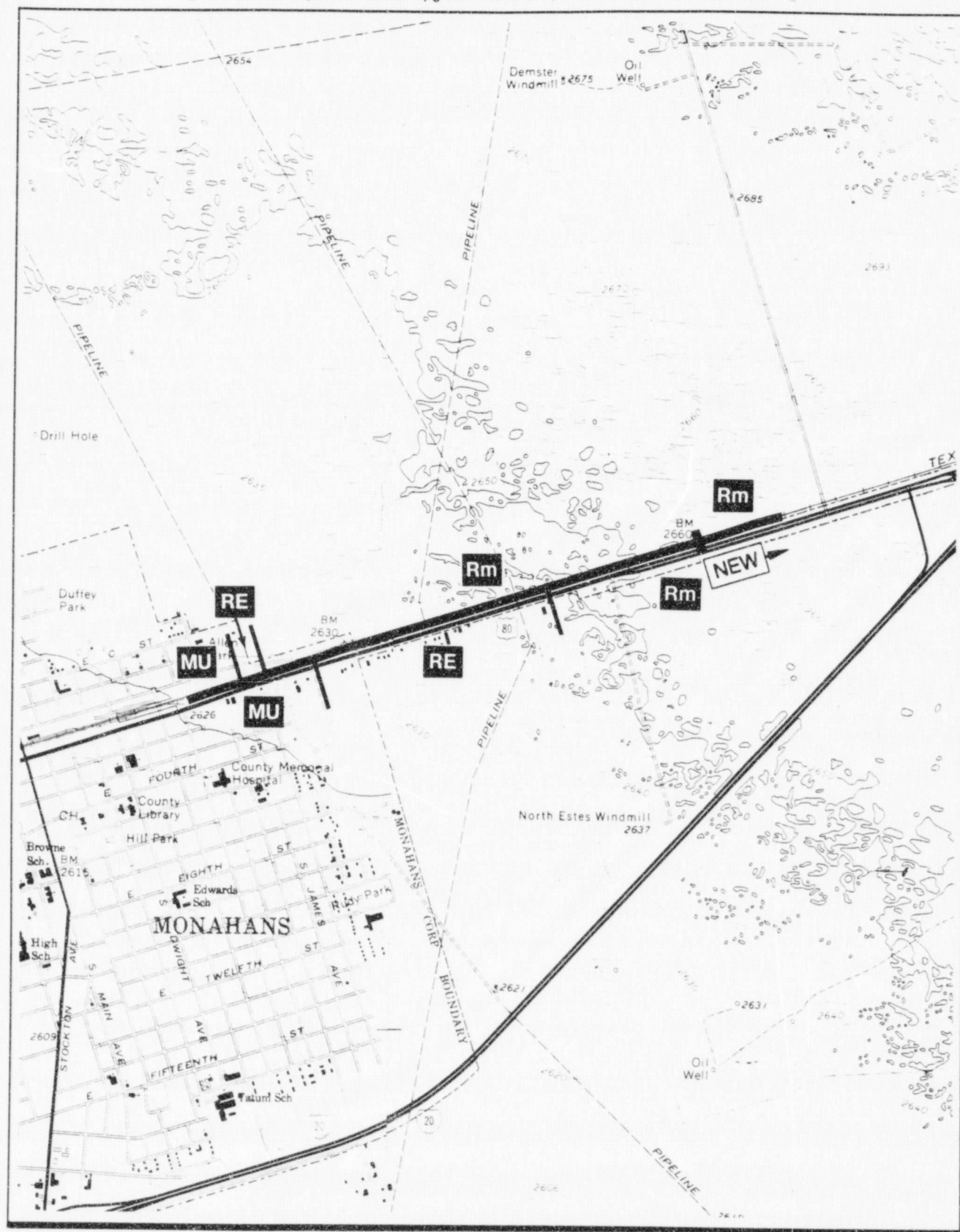
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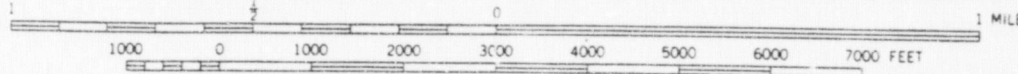
Base Map: USGS 7.5' Topographic Quadrangles: Golden, Texas 1959 (Photorevised 1981);  
Mineola, Texas 1960 (Photorevised 1981)



Figure 15.1-33 Proposed Corridor Upgrade: Monahans, Texas. Location and Land Use.



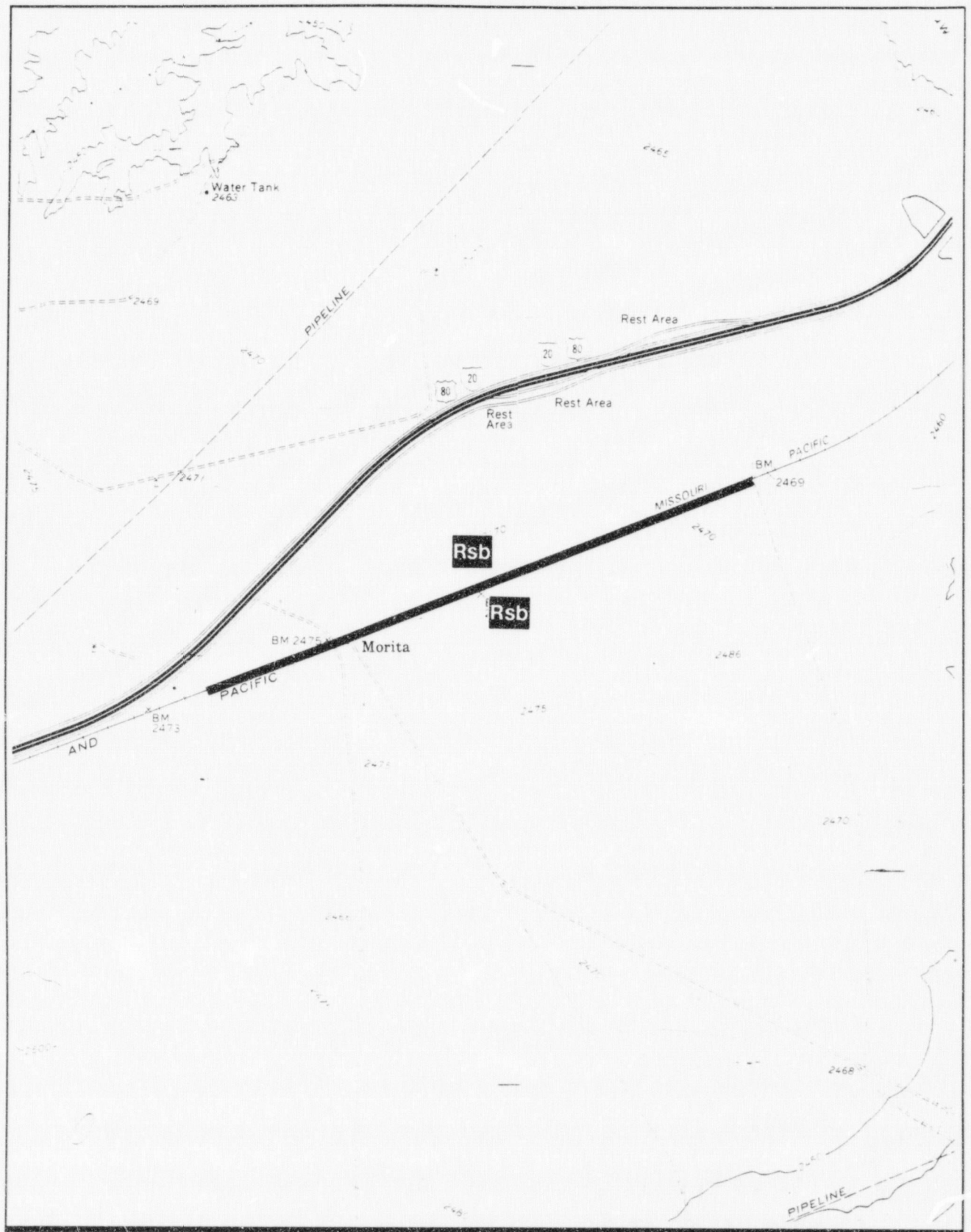
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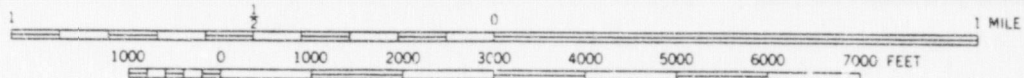
Base Map: USGS 7.5' Topographic Quadrangles: Monahans, Texas 1969 (Photorevised 1981);  
Monahans SE, Texas 1968



Figure 15.1-34 Proposed Corridor Upgrade: Morita, Texas. Location and Land Use.



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Base Map: USGS 7.5' Topographic Quadrangles: Natural Dam Lake, Texas 1966; Elbow, Texas 1966

Figure 15.1-35 Proposed Corridor Upgrade: Pecos, Texas. Location and Land Use.

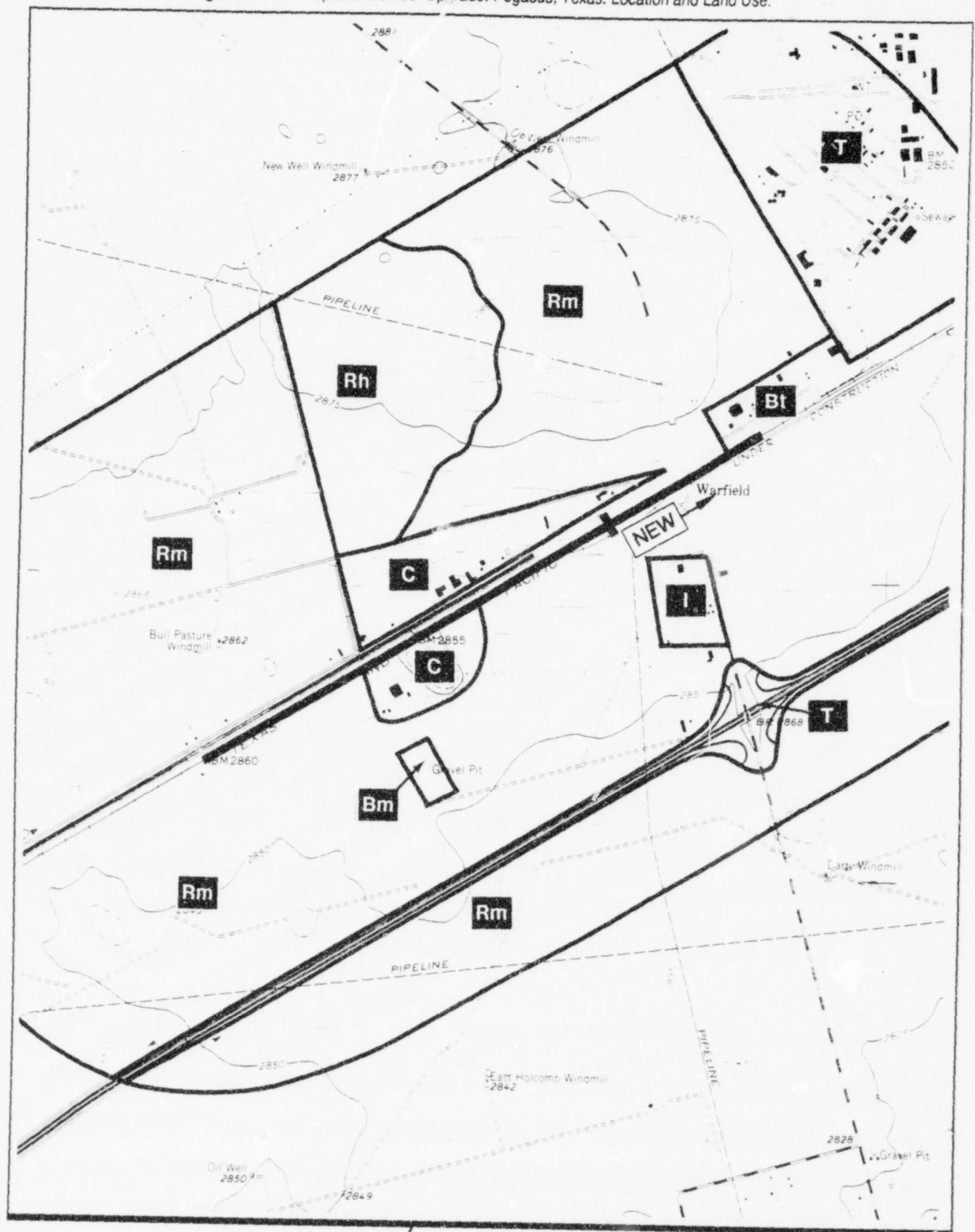


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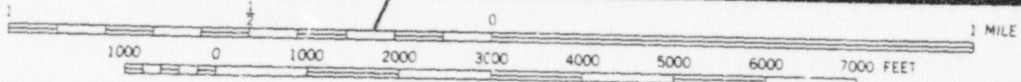


Base Map: USGS 7.5' Topographic Quadrangle: Pecos West, Texas 1971 (Photorevised 1981)

Figure 15.1-36 Proposed Corridor Upgrade: Pegasus, Texas. Location and Land Use.



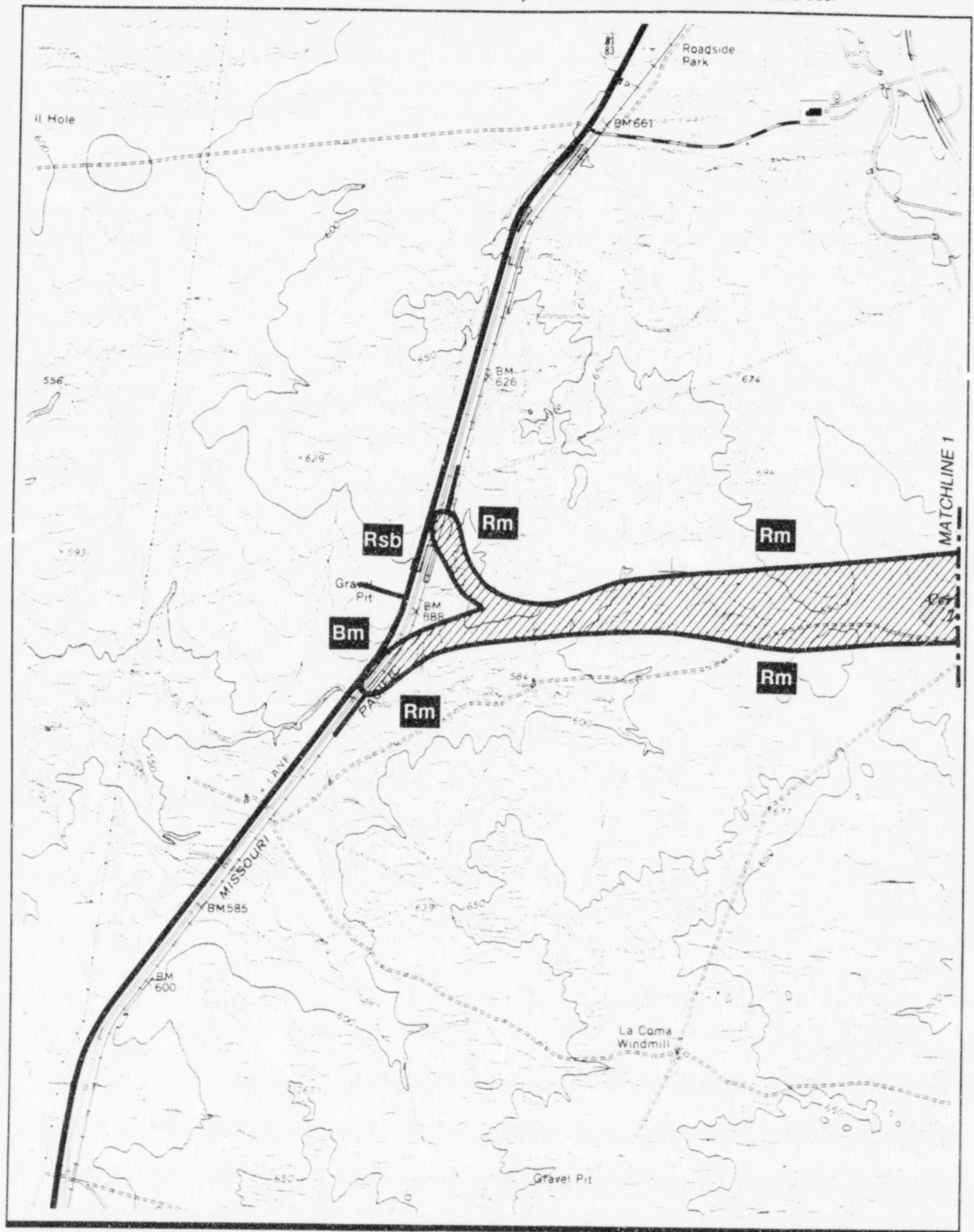
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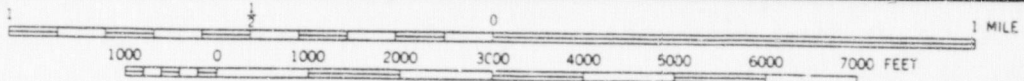
Base Map: USGS 7.5' Topographic Quadrangle: Southwest Midland, Texas 1965 (Photorevised 1974)



Figure 15.1-37a Proposed Construction at Intermodal Facility: Port Laredo, Texas. Location and Land Use.



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Base Map: USGS 7.5' Topographic Quadrangle: Orvil, Texas 1965 (Photorevised 1980)

This is a topographic map of a coastal region. A prominent feature is a hatched rectangular area, likely representing a specific land use or boundary. This area is labeled with 'Rm' in a black box. To the left of this area, a vertical dashed line is labeled 'MATCHLINE 1'. The map includes various contour lines with numerical values such as 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000. Other features include a 'Tasal Windmill' and a 'Corner Tank'. The map is oriented with North at the top.

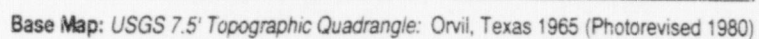
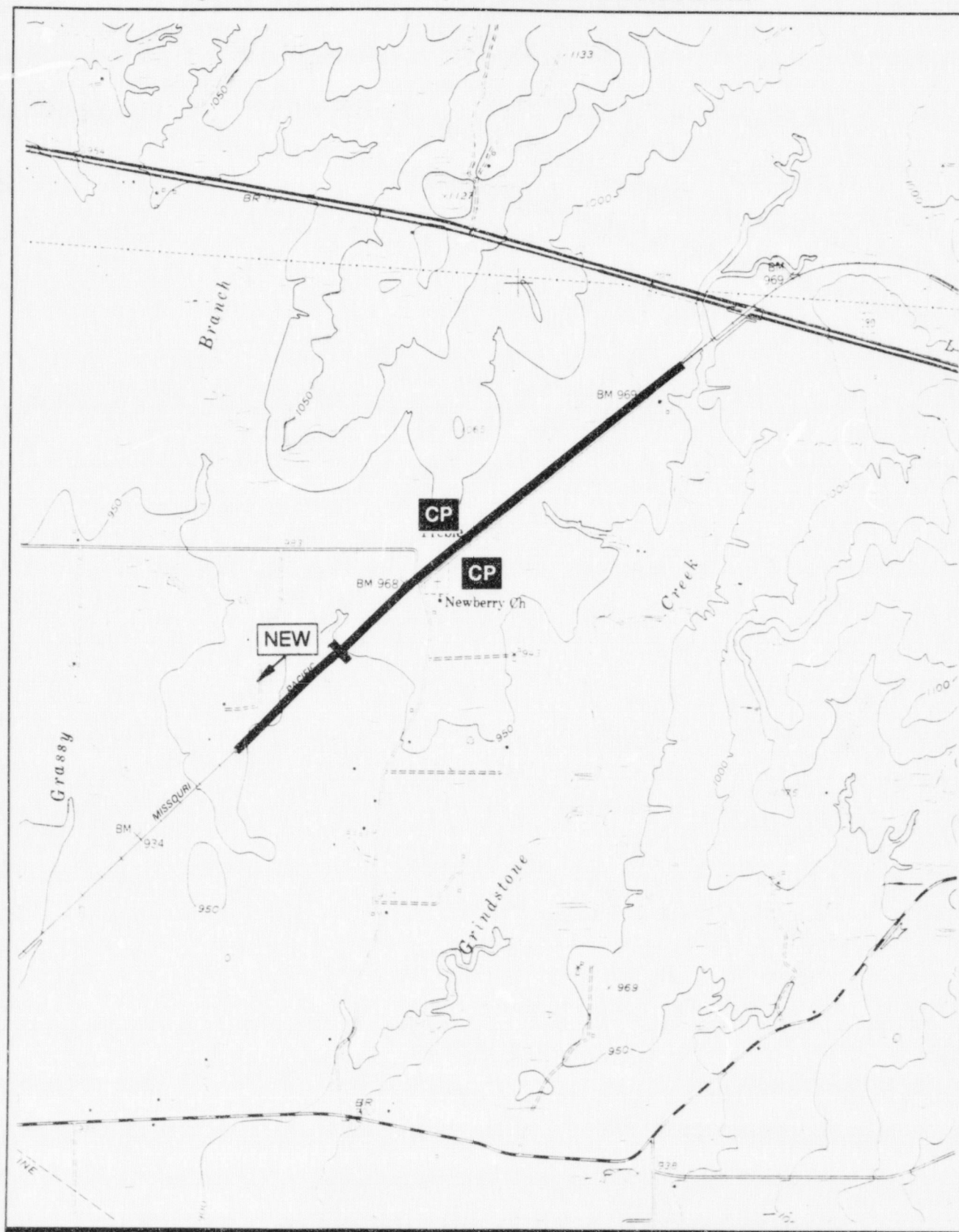
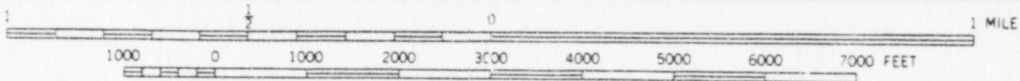


Figure 15.1-38 Proposed Corridor Upgrade: Preble, Texas. Location and Land Use.



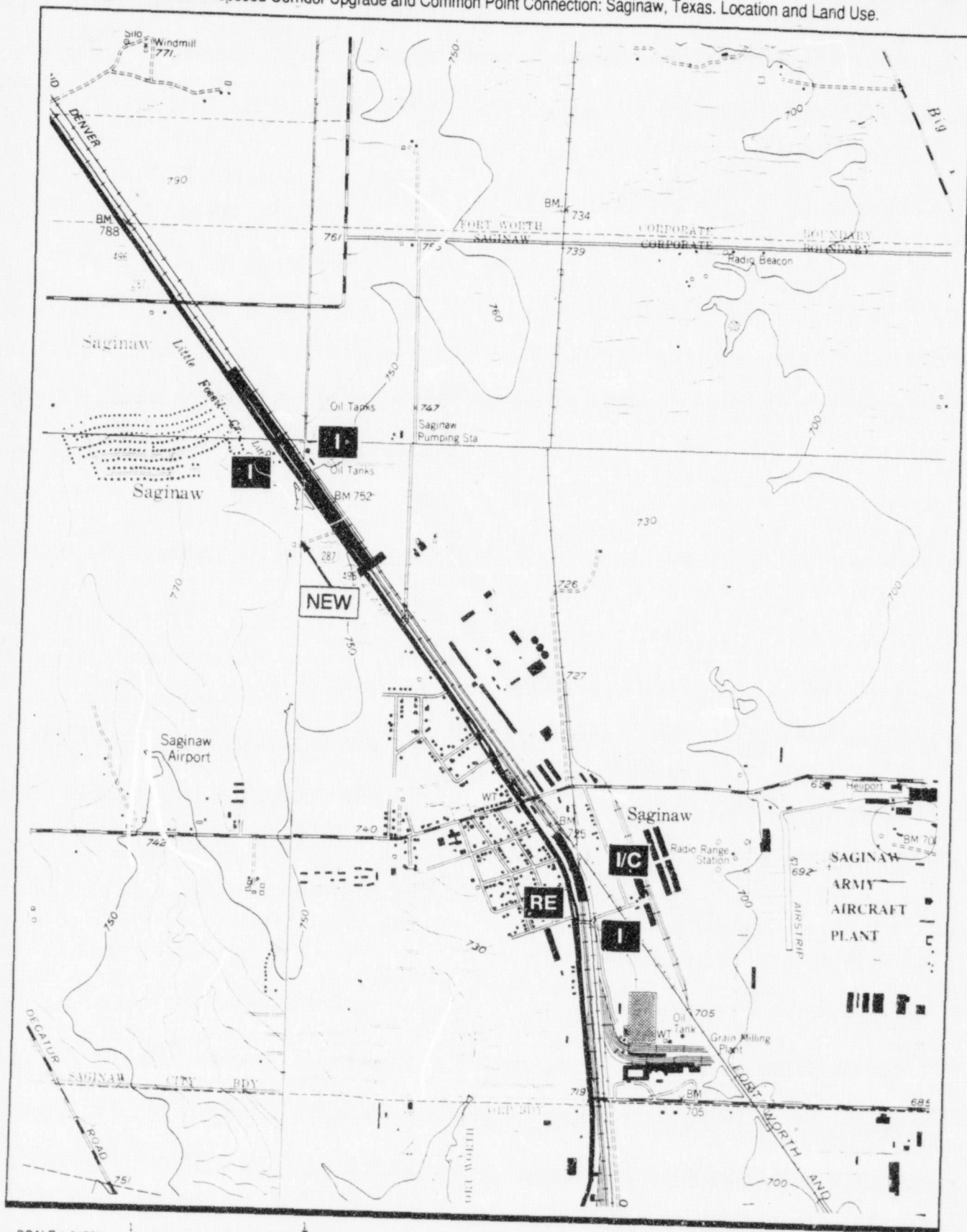
SCALE 1:24000



Base Map: USGS 7.5' Topographic Quadrangle: Garner, Texas 1959 (Photorevised 1979)



**Figure 15.1-39** Proposed Corridor Upgrade and Common Point Connection: Saginaw, Texas. Location and Land Use



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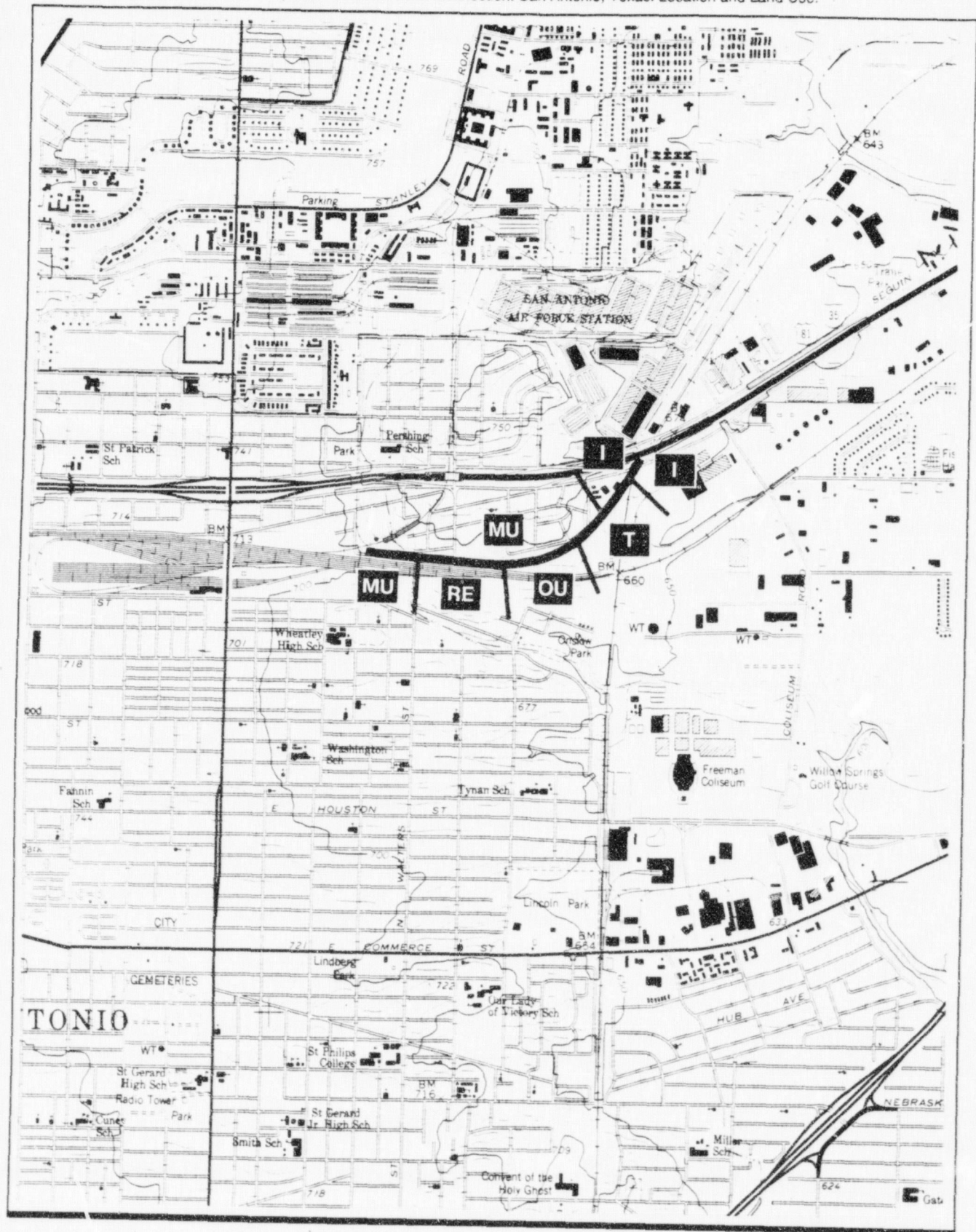
Base Map: USGS 7.5' Topographic Quadrangles: Avondale, Texas 1955 (Photorevised 1982); Keller, Texas 1955 (Photorevised 1981); Haltom City, Texas 1955 (Photorevised 1981); Lake Worth, Texas 1955 (Photorevised 1982)

[illegible]

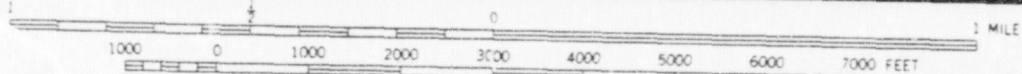
0683



Figure 15.1-41 Proposed Common Point Connection: San Antonio, Texas. Location and Land Use.

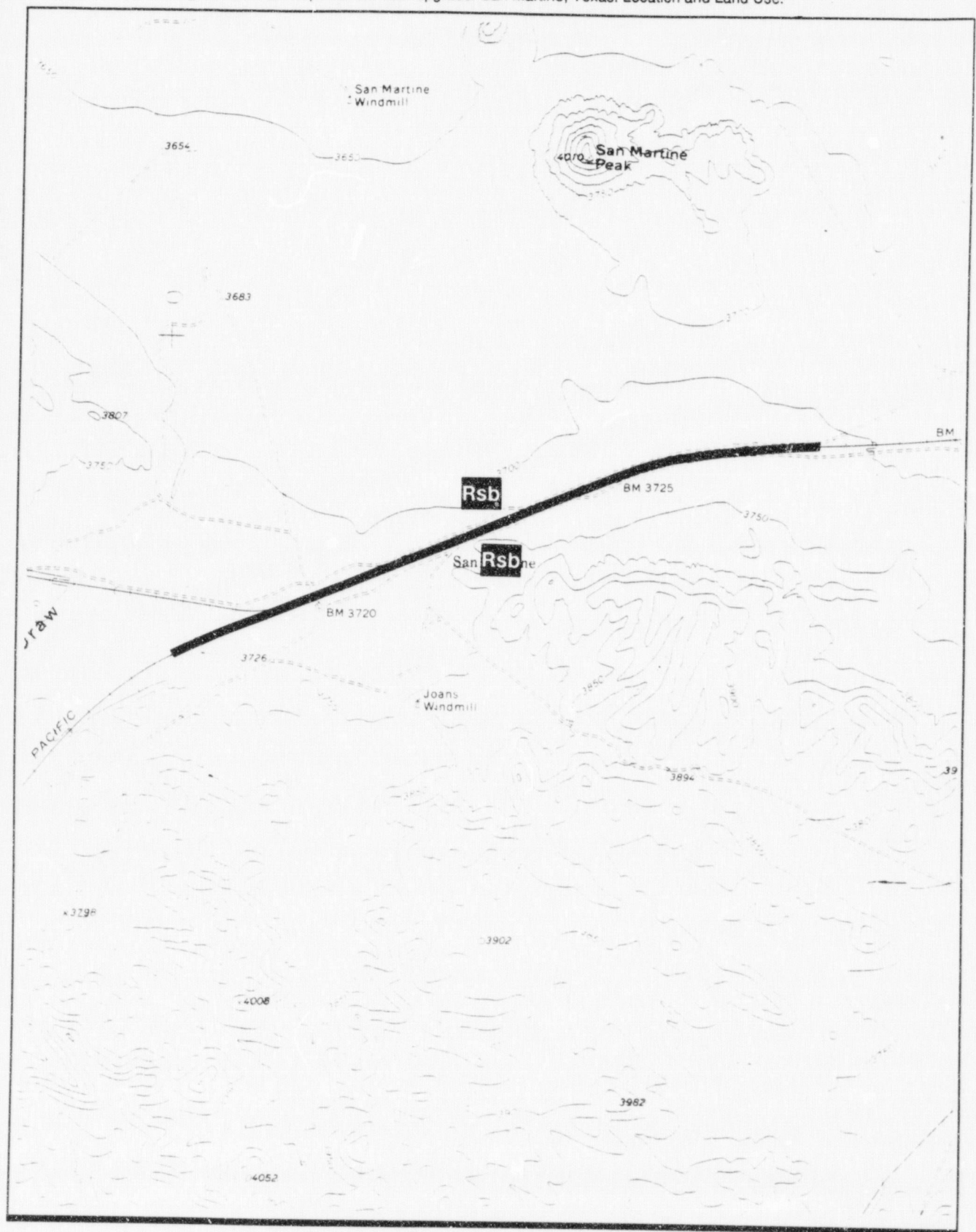


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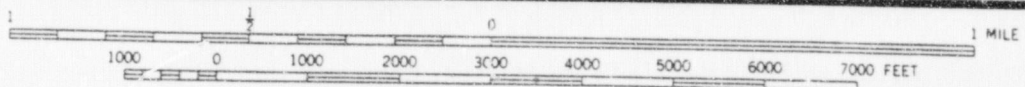


Base Map: USGS 7.5' Topographic Quadrangle: San Antonio East, Texas 1967 (Photorevised 1973)

Figure 15.1-42 Proposed Corridor Upgrade: San Martine, Texas. Location and Land Use.



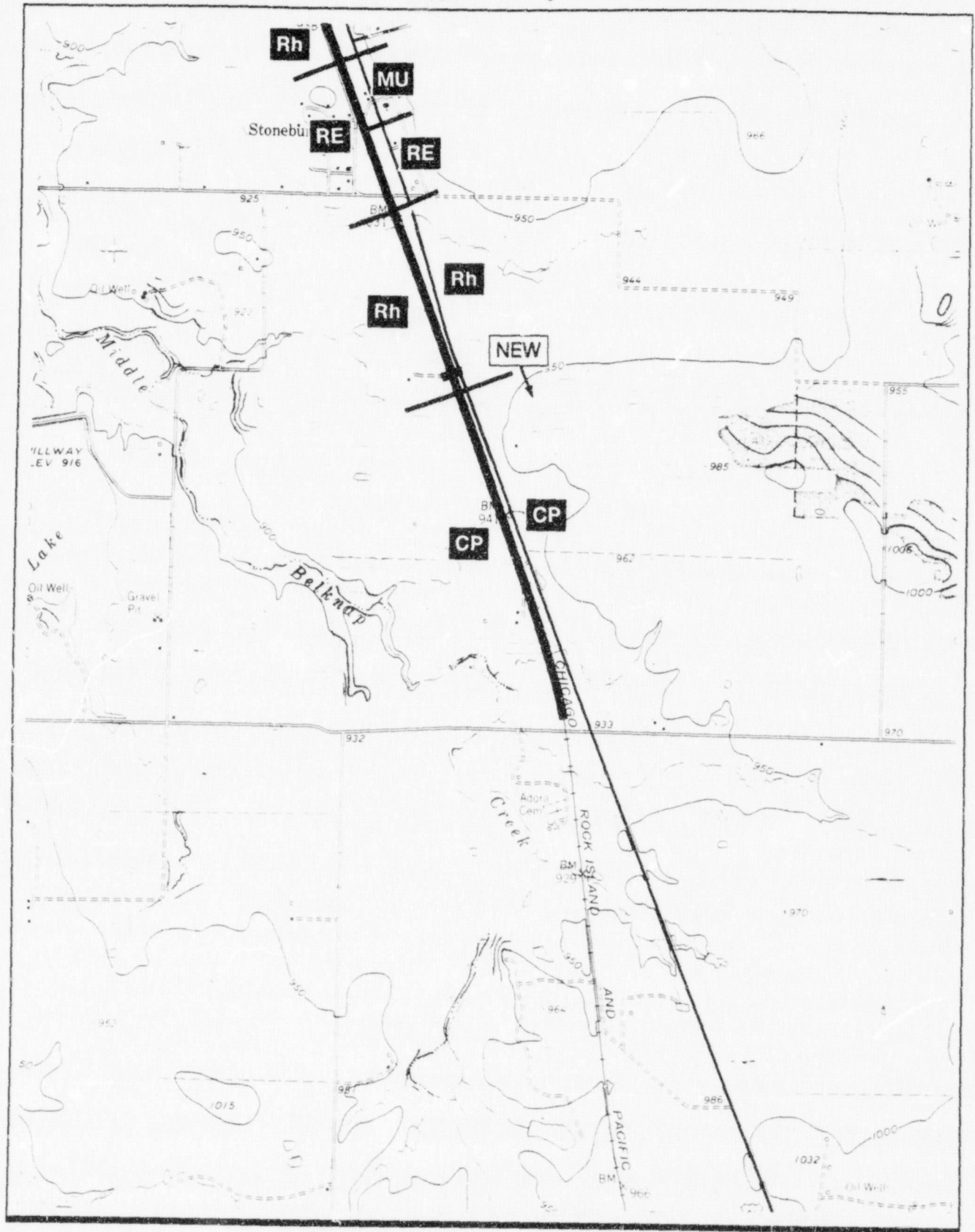
SCALE 1:24000



Base Map: USGS 7.5' Topographic Quadrangle: San Martine, Texas 1970



Figure 15.1-43. Proposed Corridor Upgrade: Stoneburg, Texas. Location and Land Use.

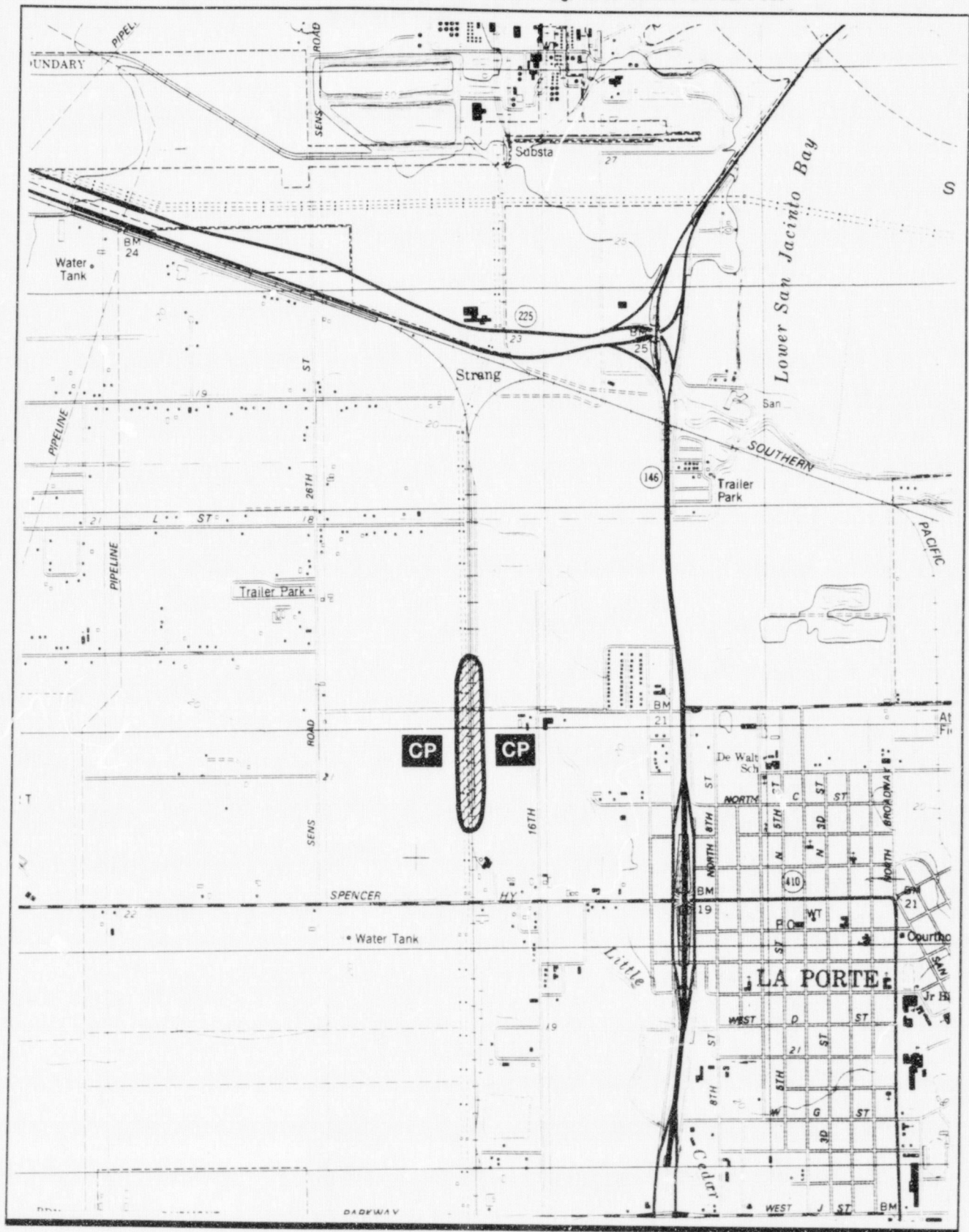


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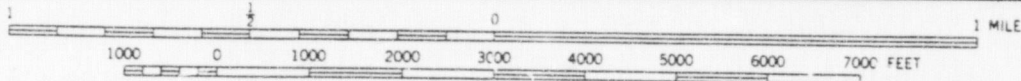


Base Map: USGS 7.5' Topographic Quadrangle: Stoneburg, Texas 1961

Figure 15.1-44 Proposed Construction at Rail Yard: Strang, Texas. Location and Land Use.

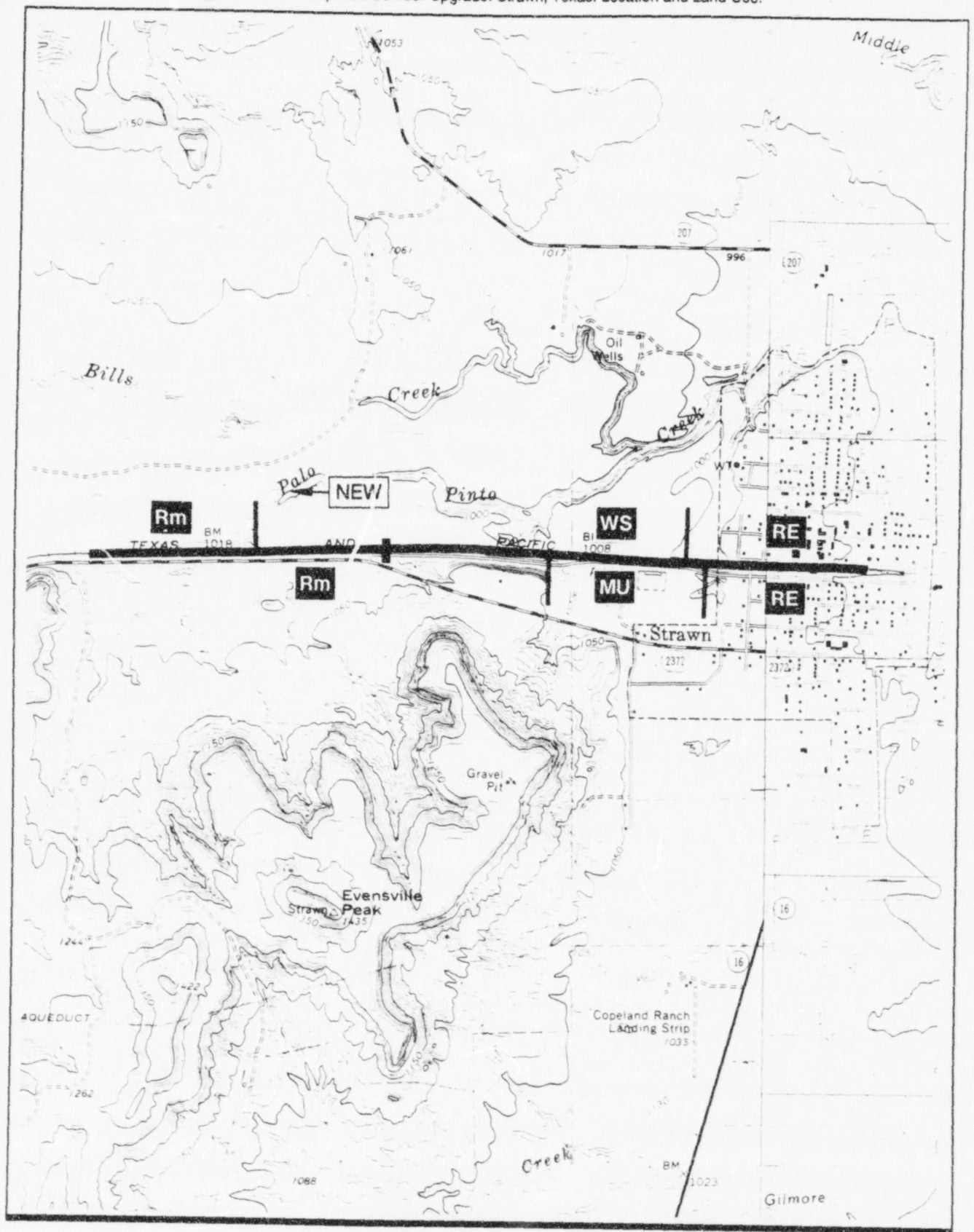


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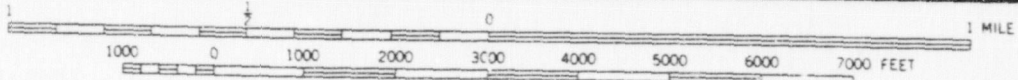


Base Map: USGS 7.5' Topographic Quadrangle: La Porte, Texas 1982

Figure 15.1-45 Proposed Corridor Upgrade: Strawn, Texas. Location and Land Use.



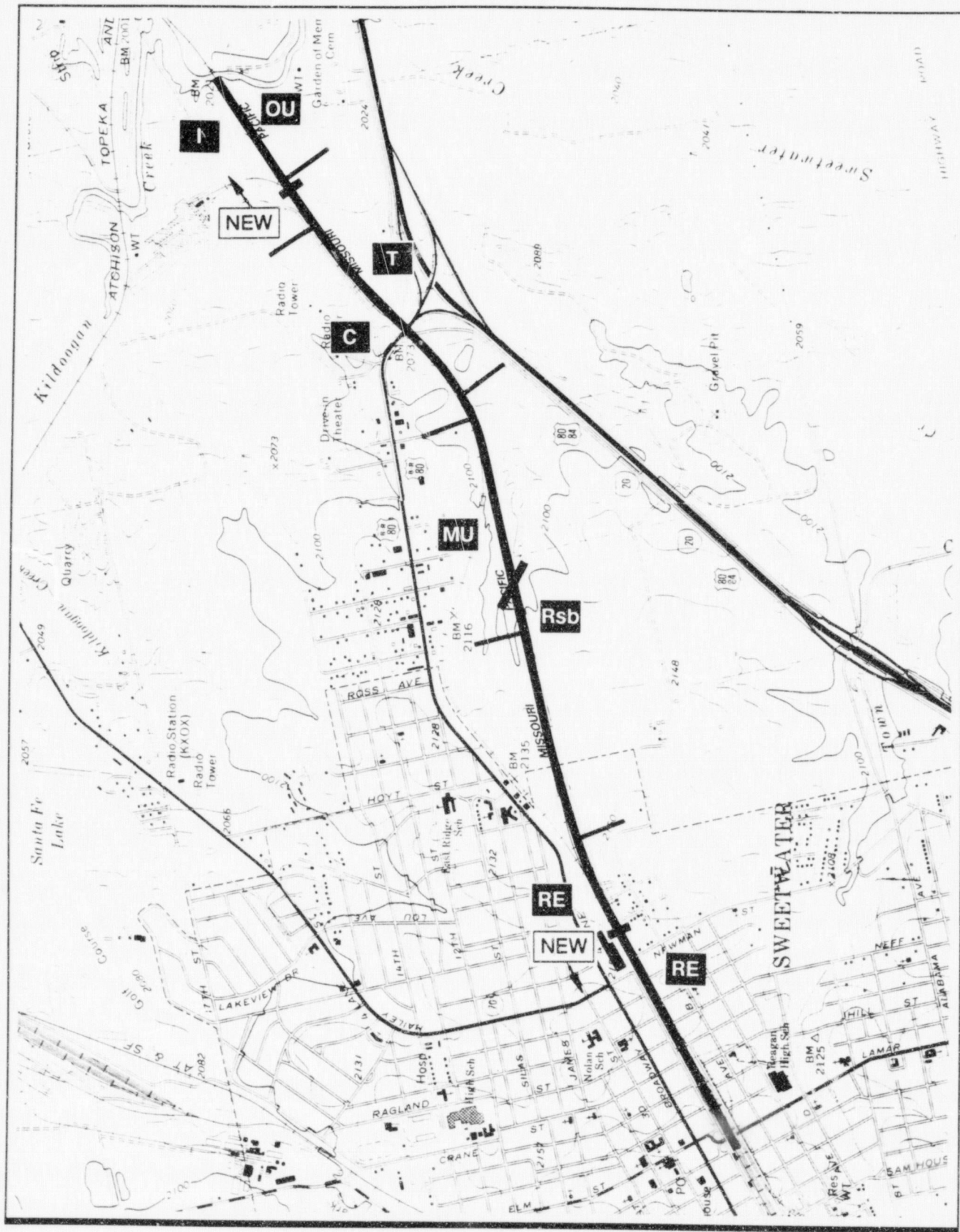
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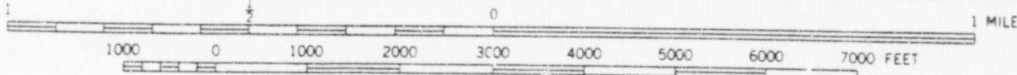
Base Map: USGS 7.5' Topographic Quadrangles: Strawn West, Texas 1967; Strawn East Texas (Provisional Edition 1984)



Figure 15.1-46 Proposed Corridor Upgrade: Sweetwater, Texas. Location and Land Use.

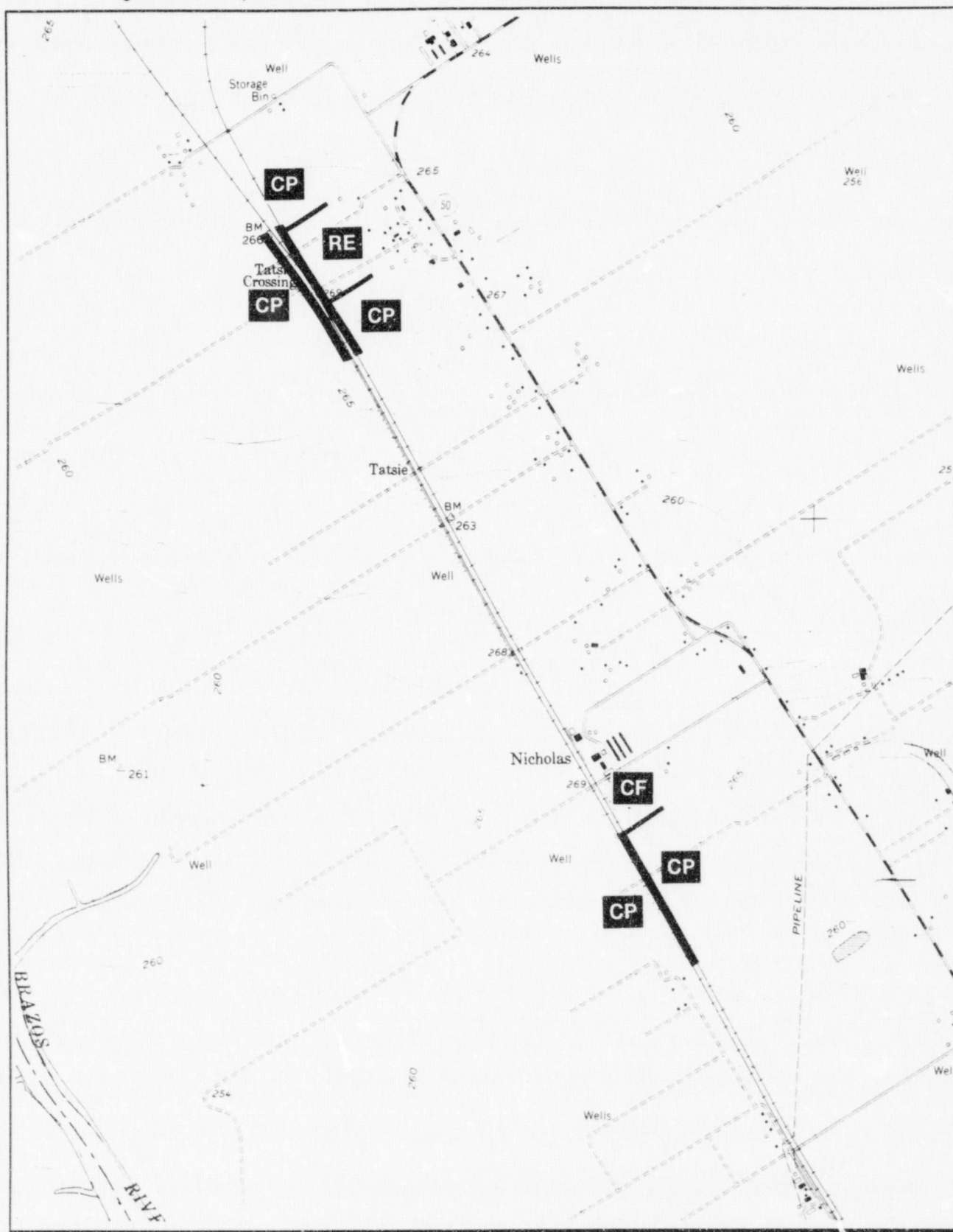


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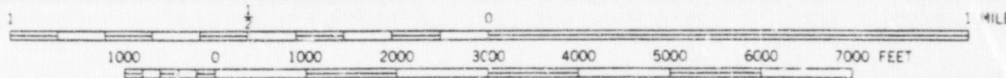


Base Map: USGS 7.5' Topographic Quadrangles: Sweetwater, Texas 1969 (Photorevised 1987);  
Lake Sweetwater, Texas 1969 (Photorevised 1987)

Figure 15.1-47 Proposed Common Point Connections: Tatsie/Mumford, Texas. Location and Land Use.



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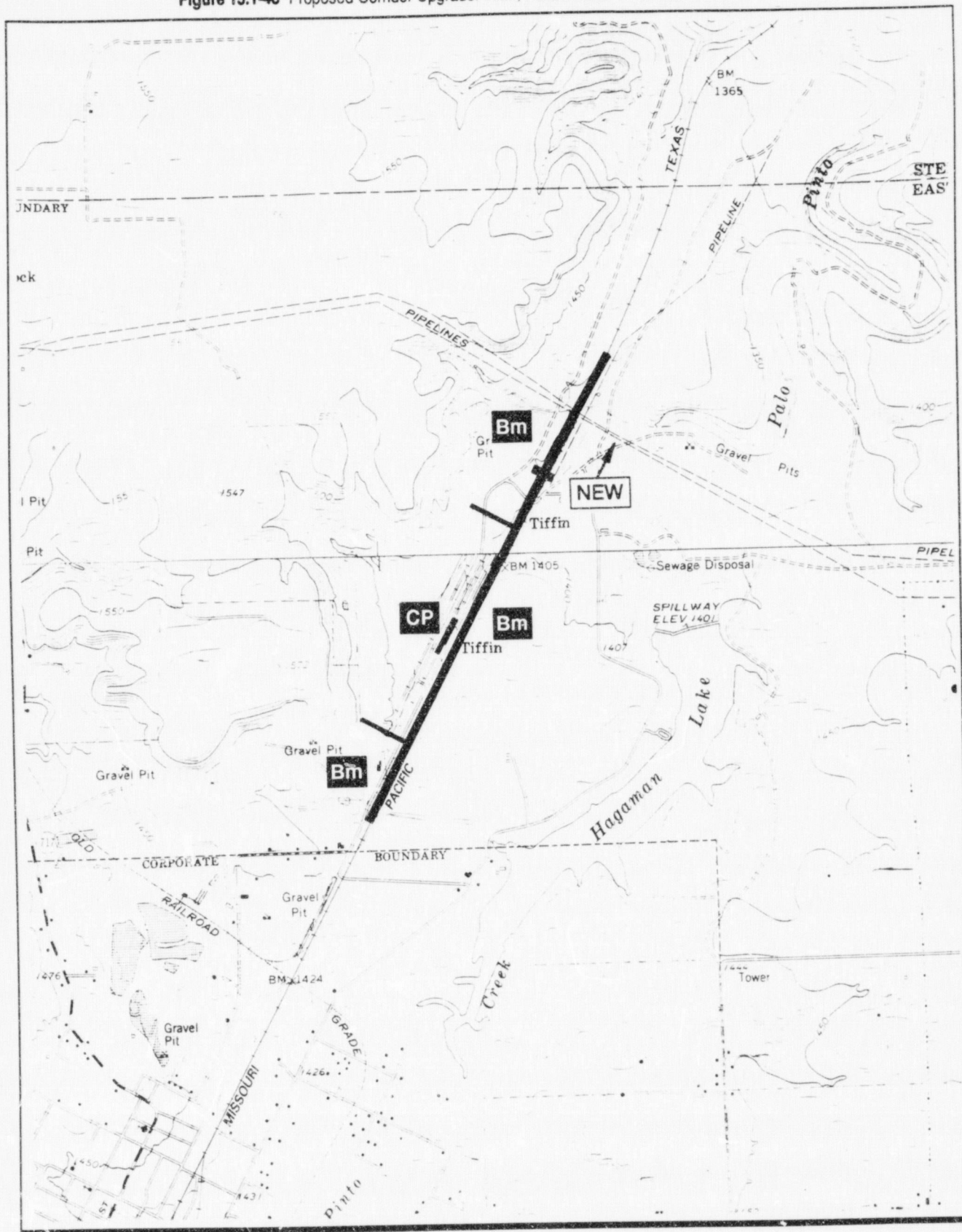


Base Map: USGS 7.5' Topographic Quadrange: Hearne South, Texas 1961 (Photorevised 1988)

0690



Figure 15.1-48 Proposed Corridor Upgrade: Tiffin, Texas. Location and Land Use.



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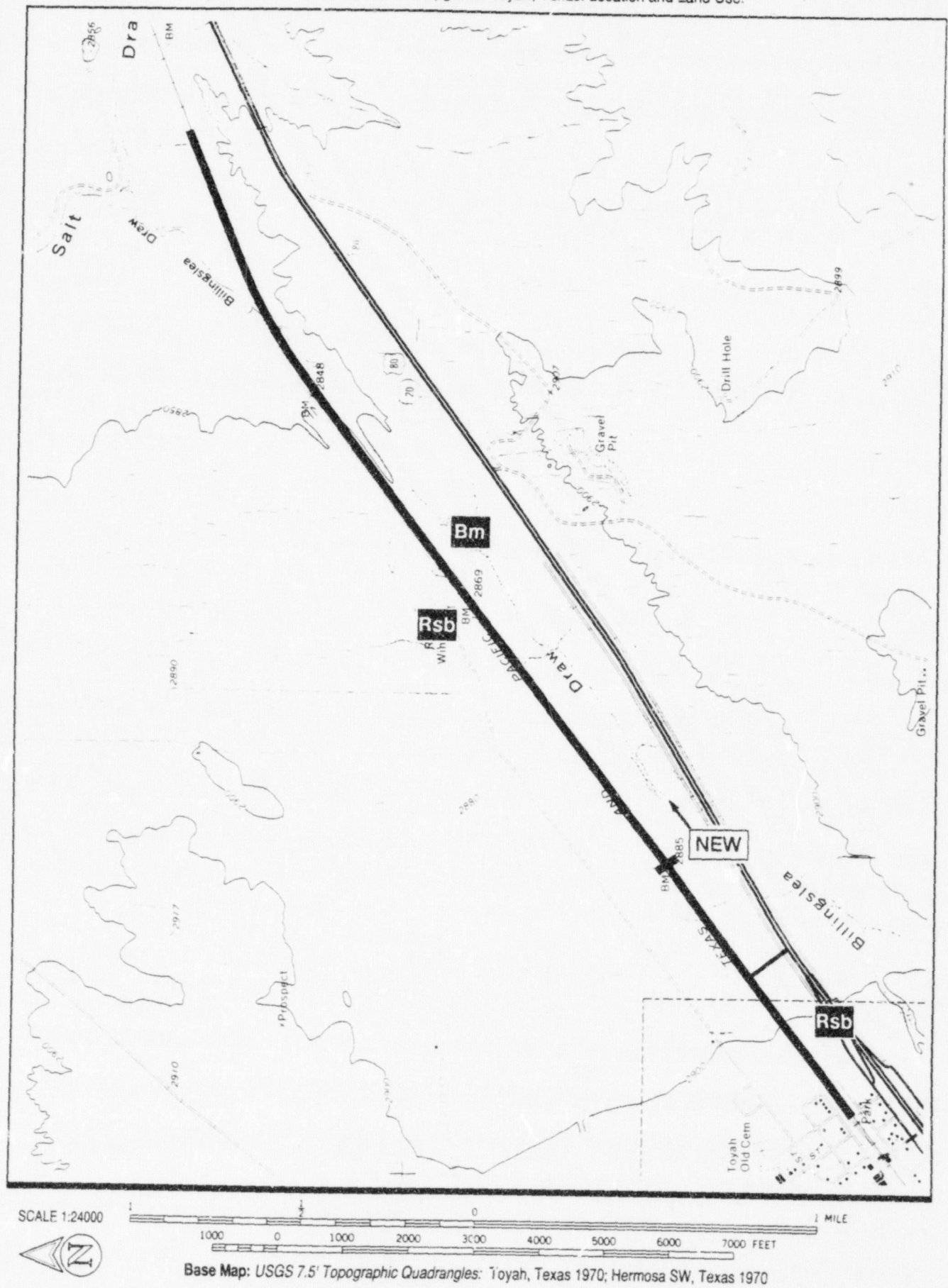


Base Map: USGS 7.5' Topographic Quadrangles: La Casa, Texas 1967;  
Ranger, Texas 1966 (Photorevised 1987)

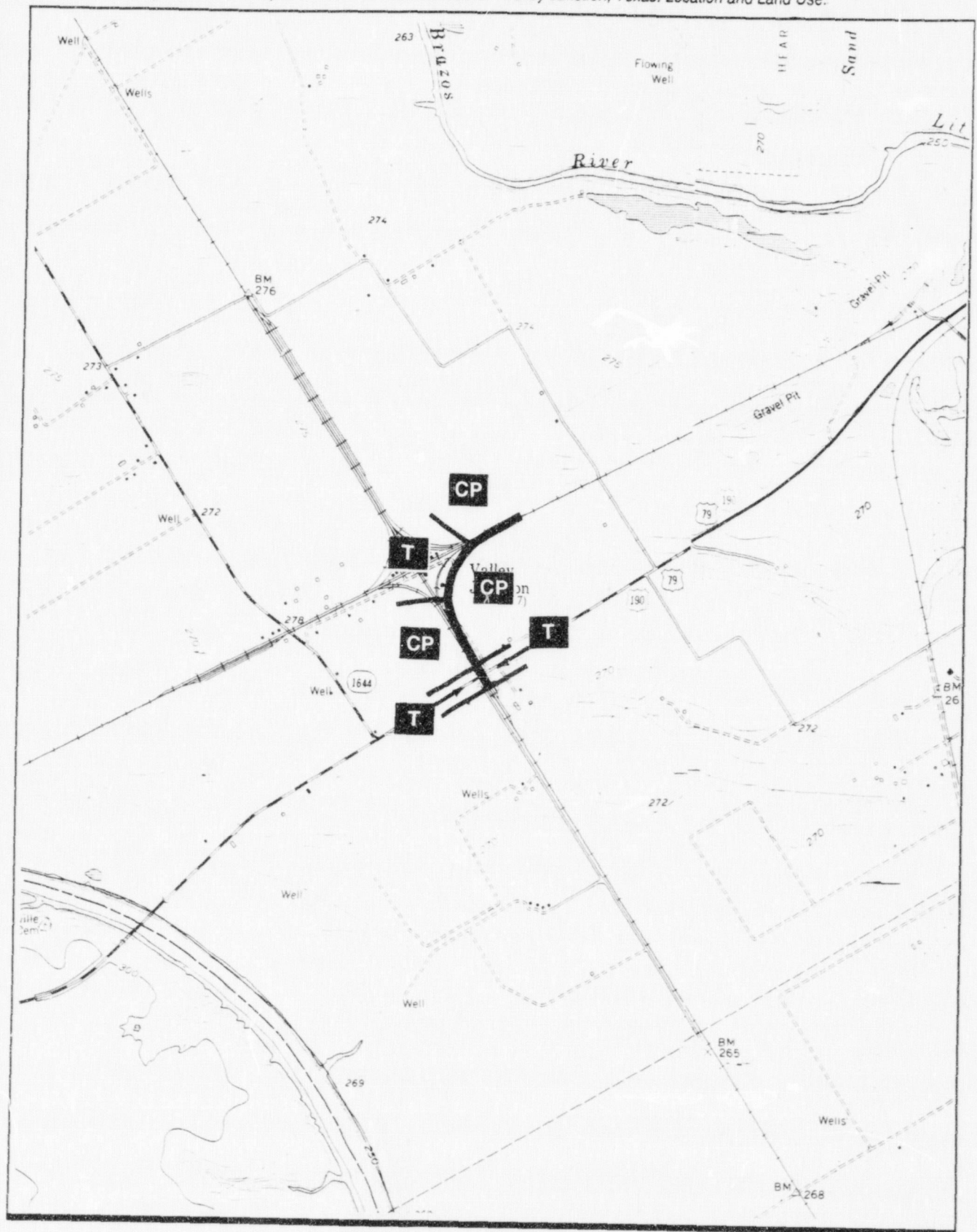
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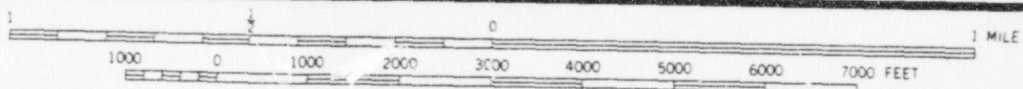
Figure 15.1-49 Proposed Corridor Upgrade: Toyah, Texas. Location and Land Use.



**Figure 15.1-50** Proposed Common Point Connection: Valley Junction, Texas. Location and Land Use.

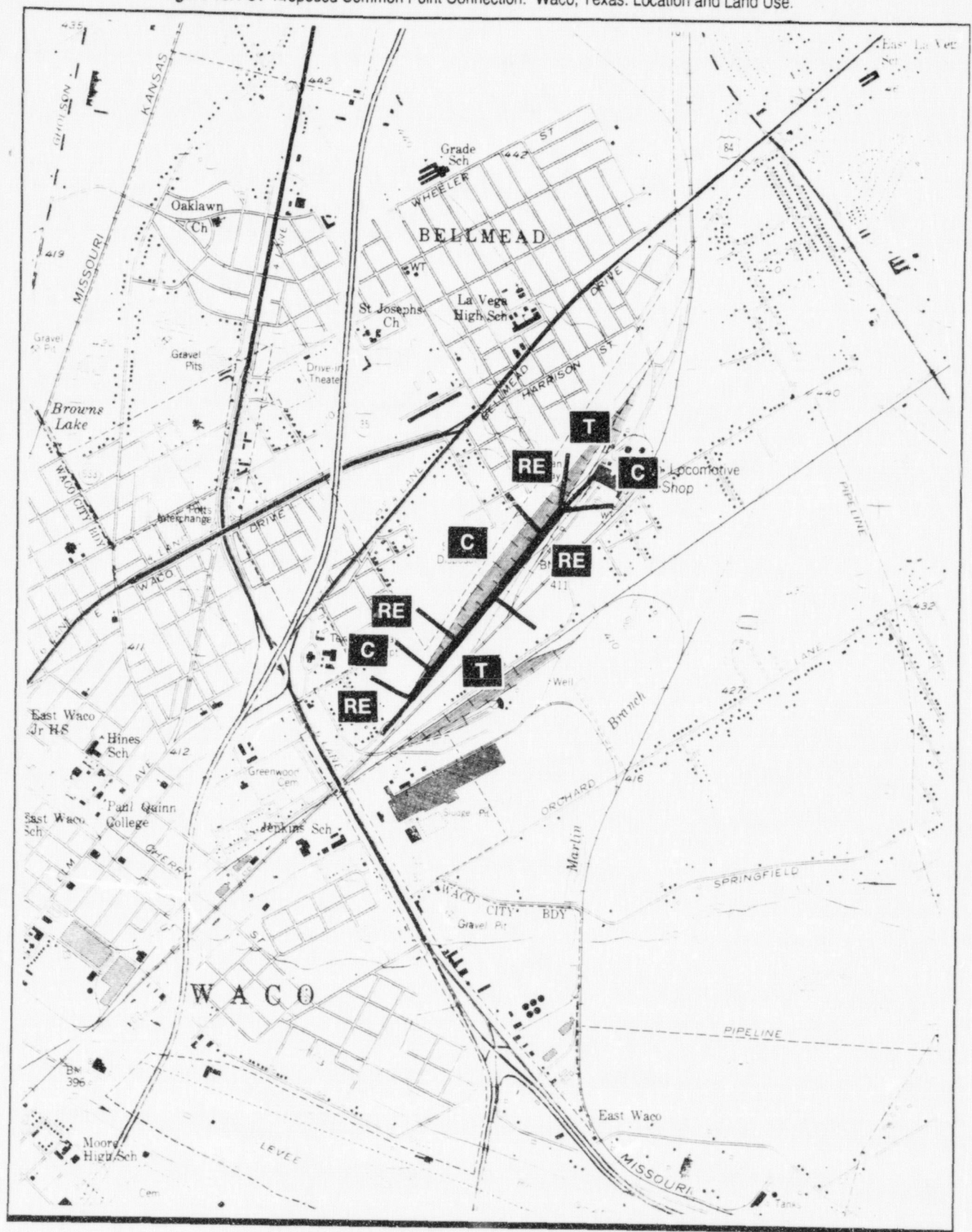


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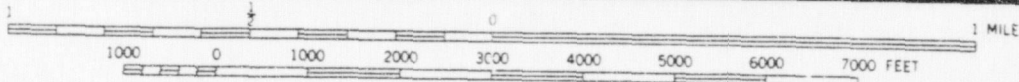


Base Map: USGS 7.5' Topographic Quadrangles: Gause, Texas 1962 (Photorevised 1989);  
Heame South, Texas 1961 (Photorevised 1988)

Figure 15.1-51 Proposed Common Point Connection: Waco, Texas. Location and Land Use.



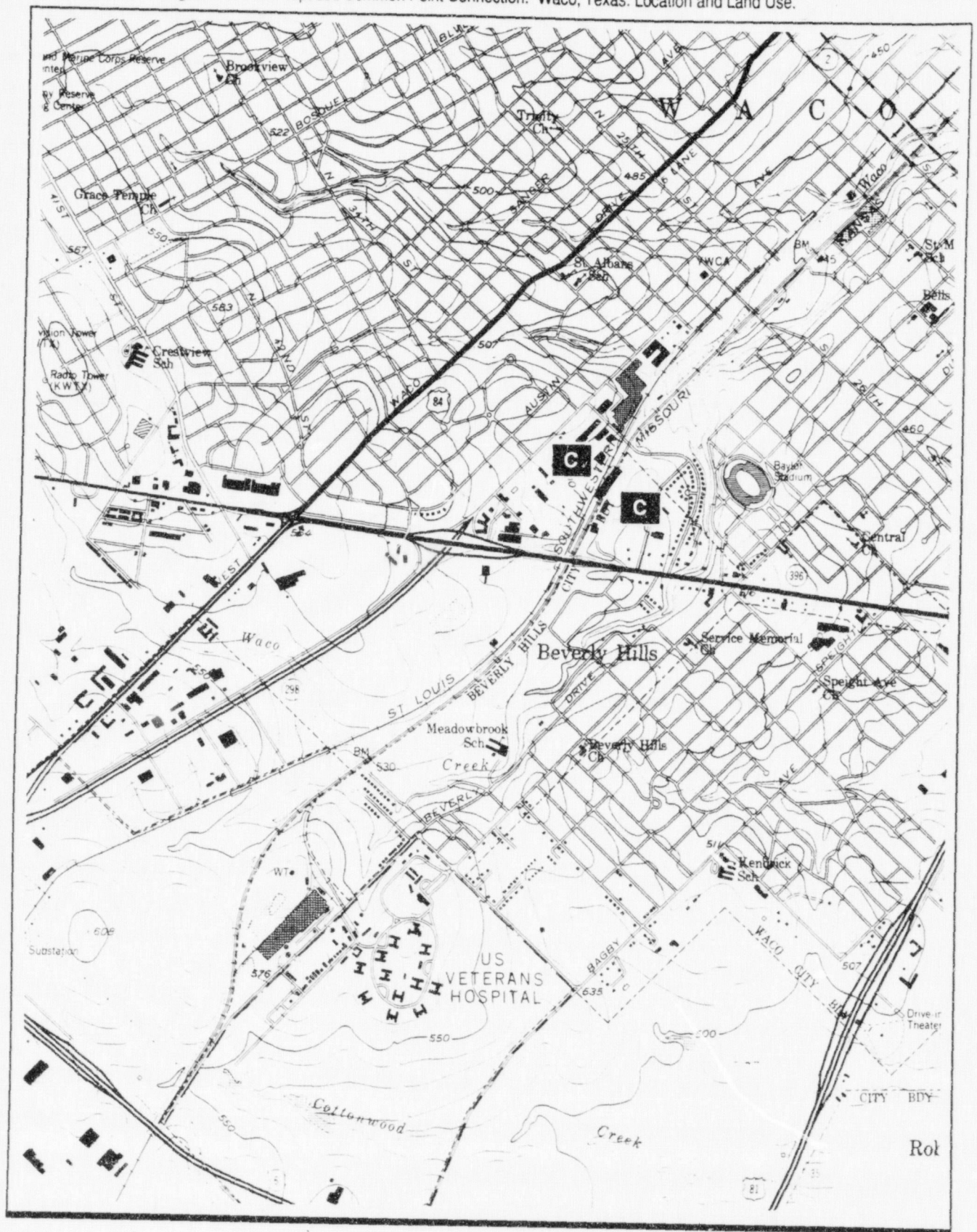
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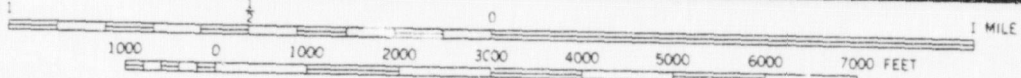
Base Map: USGS 7.5' Topographic Quadrangle: Waco East, Texas 1957 (Photorevised 1970 and 1975)



Figure 15.1-52 Proposed Common Point Connection: Waco, Texas. Location and Land Use.

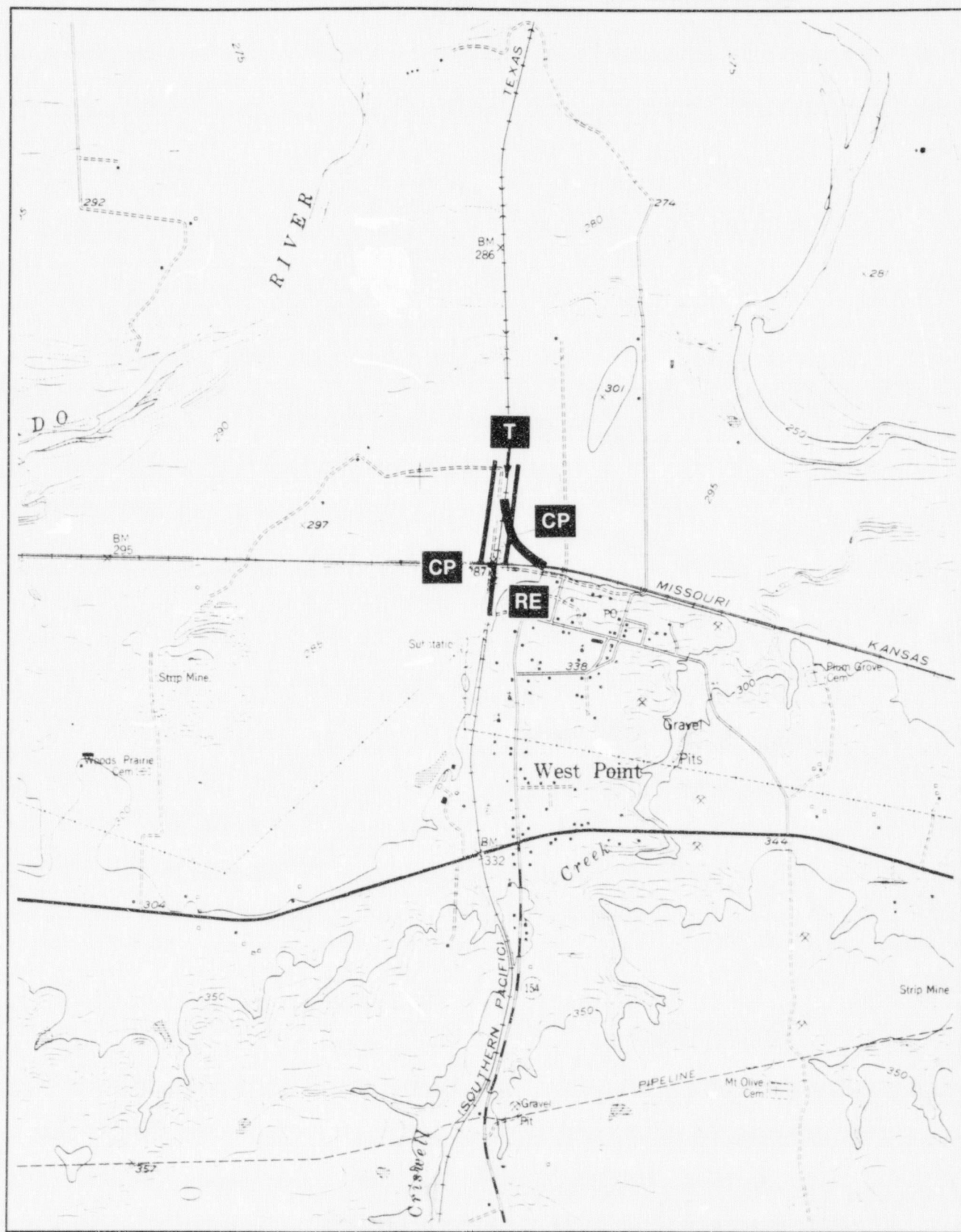


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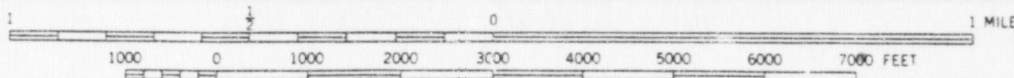


Base Map: USGS 7.5' Topographic Quadrangle: Waco West, Texas 1957 (Photorevised 1970 and 1975)

Figure 15.1-53 Proposed Common Point Connection: West Point, Texas. Location and Land Use.

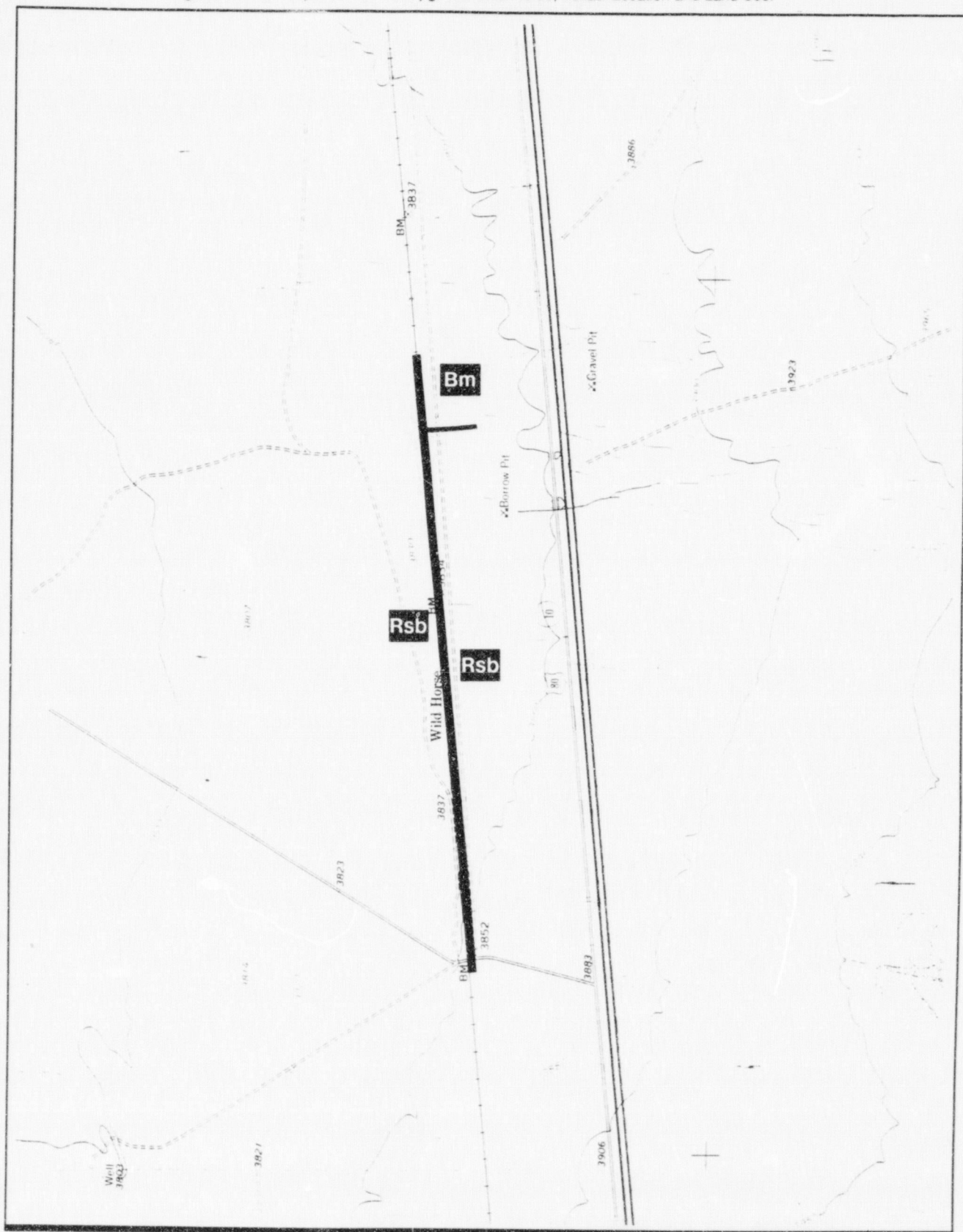


SCALE 1:24000

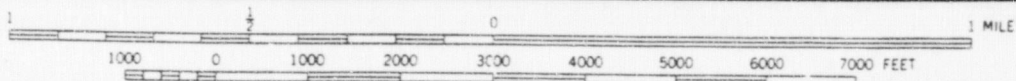


Base Map: USGS 7.5' Topographic Quadrangle: West Point, Texas 1958 (Photorevised 1981)

Figure 15.1-54 Proposed Corridor Upgrade: Wild Horse, Texas. Location and Land Use.

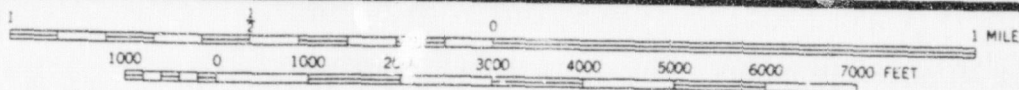


SCALE 1:24000



Base Map: USGS 7.5' Topographic Quadrangle: Wild Horse, Texas 1964 (Photorevised 1979)





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## NWI LEGEND

SYSTEM

M — MARINE

SUBSYSTEM

1 — SUBTIDAL

2 — INTERTIDAL

CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	RF — REEF	OW — OPEN WATER <i>Unknown Bottom</i>	AB — AQUATIC BED	RF — REEF	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE
Subclass	1 Bedrock 2 Rubble	1 Cobble Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 5 <i>Unknown Submergent</i>	1 Coral 3 Worm		1 Algal 3 Rooted Vascular 5 <i>Unknown Submergent</i>	1 Coral 3 Worm	1 Bedrock 2 Rubble	1 Cobble Gravel 2 Sand 3 Mud 4 Organic

SYSTEM

R — RIVERINE

SUBSYSTEM

1 — TIDAL

2 — LOWER PERENNIAL

3 — UPPER PERENNIAL

4 — INTERMITTENT

5 — UNKNOWN PERENNIAL

CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	SB — STREAMBED	AB — AQUATIC BED	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	EM — EMERGENT	OW — OPEN WATER/ <i>Unknown Bottom</i>
Subclass	1 Bedrock 2 Rubble	1 Cobble Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble 3 Cobble Gravel 4 Sand 5 Mud 6 Organic 7 Vegetated	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 <i>Unknown Submergent</i> 6 <i>Unknown Surface</i>	1 Bedrock 2 Rubble	1 Cobble Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

\*STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM

\*\*EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS

SYSTEM

P — PALUSTRINE

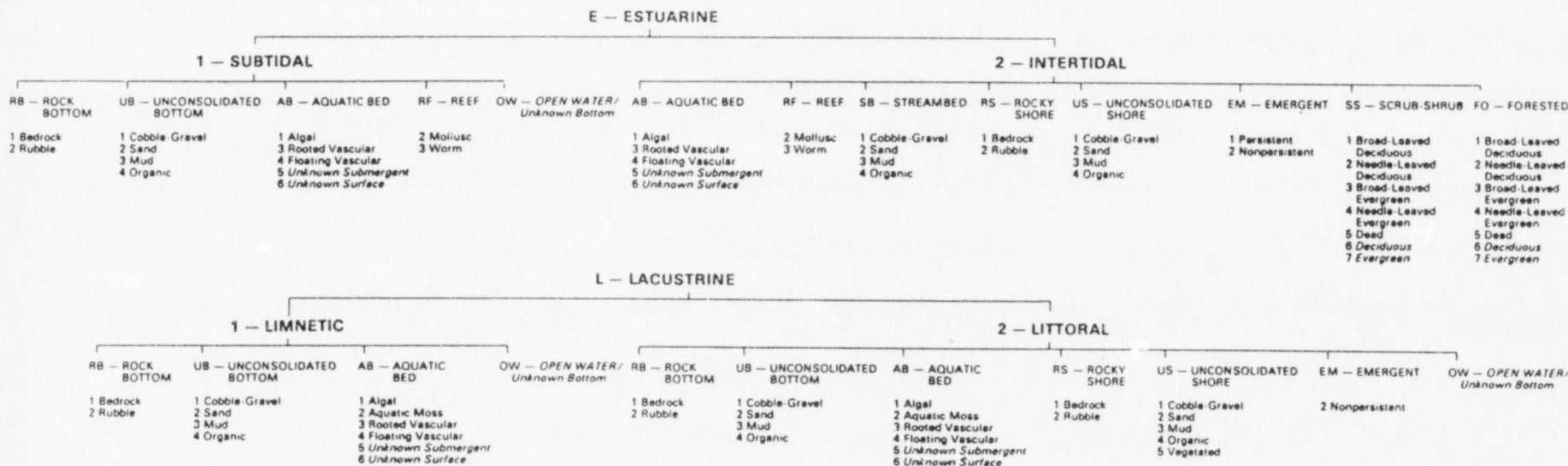
CLASS	RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	US — UNCONSOLIDATED SHORE	ML — MOSS LICHEN	EM — EMERGENT	SS — SCRUB SHRUB	FO — FORESTED	OW — OPEN WATER/ <i>Unknown Bottom</i>
Subclass	1 Bedrock 2 Rubble	1 Cobble Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 <i>Unknown Submergent</i> 6 <i>Unknown Surface</i>	1 Cobble Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Moss 2 Lichen	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen	

Instructions for using the legend:

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The NWI Inventory uses a hierarchy of alphabetical and numerical symbols to indicate wetland characteristics. The following example illustrates how the hierarchy works. For a hypothetical wetland type indicated as "L2AB3a" begin by finding the system type indicated by the first symbol; that is, "L" indicates "Lacustrine." The next symbol "2" indicates that the system type is "Littoral." The symbols "AB" indicate that the class is "Aquatic Bed." The symbol "3" indicates that the subclass is "Rooted Vascular." The last symbol "a" is explained in the Modifiers part of the system; the modifier indicates "acid."

# NWI LEGEND



## MODIFIERS

In order to more adequately describe wetland and deep-water habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The named modifier may also be applied to the ecological system.

WATER REGIME		WATER CHEMISTRY			SOIL	SPECIAL MODIFIERS
Non-Tidal		Coastal Salinity	Inland Salinity	pH Modifiers for a1: Fresh Water	g Organic n Mineral	b Beaver d Partially Drained/Ditched f Farmed h Diked/Impounded i Artificial Substrate s Spoil x Excavated
A Temporarily Flooded B Saturated C Seasonally Flooded D Seasonally Flooded/ Well Drained E Seasonally Flooded/ Saturated F Semipermanently Flooded G Intermittently Exposed	H Permanently Flooded J Intermittently Flooded K Artificially Flooded W Intermittently Flooded/Temporary Y Saturated/Semipermanent/ Seasonal Z Intermittently Exposed/Permanent U Unknown	K Artificially Flooded L Subtidal M Irregularly Exposed N Regularly Flooded P Irregularly Flooded	*S Temporary Tidal *R Seasonal-Tidal *T Semipermanent Tidal *V Permanent Tidal U Unknown	1 Hyperhaline 2 Euhaline 3 Mixohaline (Brackish) 4 Polyhaline 5 Mesohaline 6 Oligohaline 0 Fresh 7 Hypersaline 8 Eusaline 9 Mixosaline 0 Fresh		

## Instructions for using the legend:

The NWI Inventory uses a hierarchy of alphabetical and numerical symbols to indicate wetland characteristics. The following example illustrates how the hierarchy works. For a hypothetical wetland type indicated as "L2AB3a" begin by finding the system type indicated by the first symbol; that is, "L" indicates "Lacustrine." The next symbol "2" indicates that the system type is "Littoral." The symbols "AB" indicate that the class is "Aquatic Bed." The symbol "3" indicates that the subclass is "Rooted Vascular." The last symbol "a" is explained in the Modifiers part of the system; the modifier indicates "acid."



## FLOOD INSURANCE RATE MAP LEGEND

### EXPLANATION OF ZONE DESIGNATIONS

Flood Insurance Rate Maps (FIRMs) display the zone designations for communities according to areas of designated flood hazards. The zone designations used by the Federal Emergency Management Agency (FEMA) are:

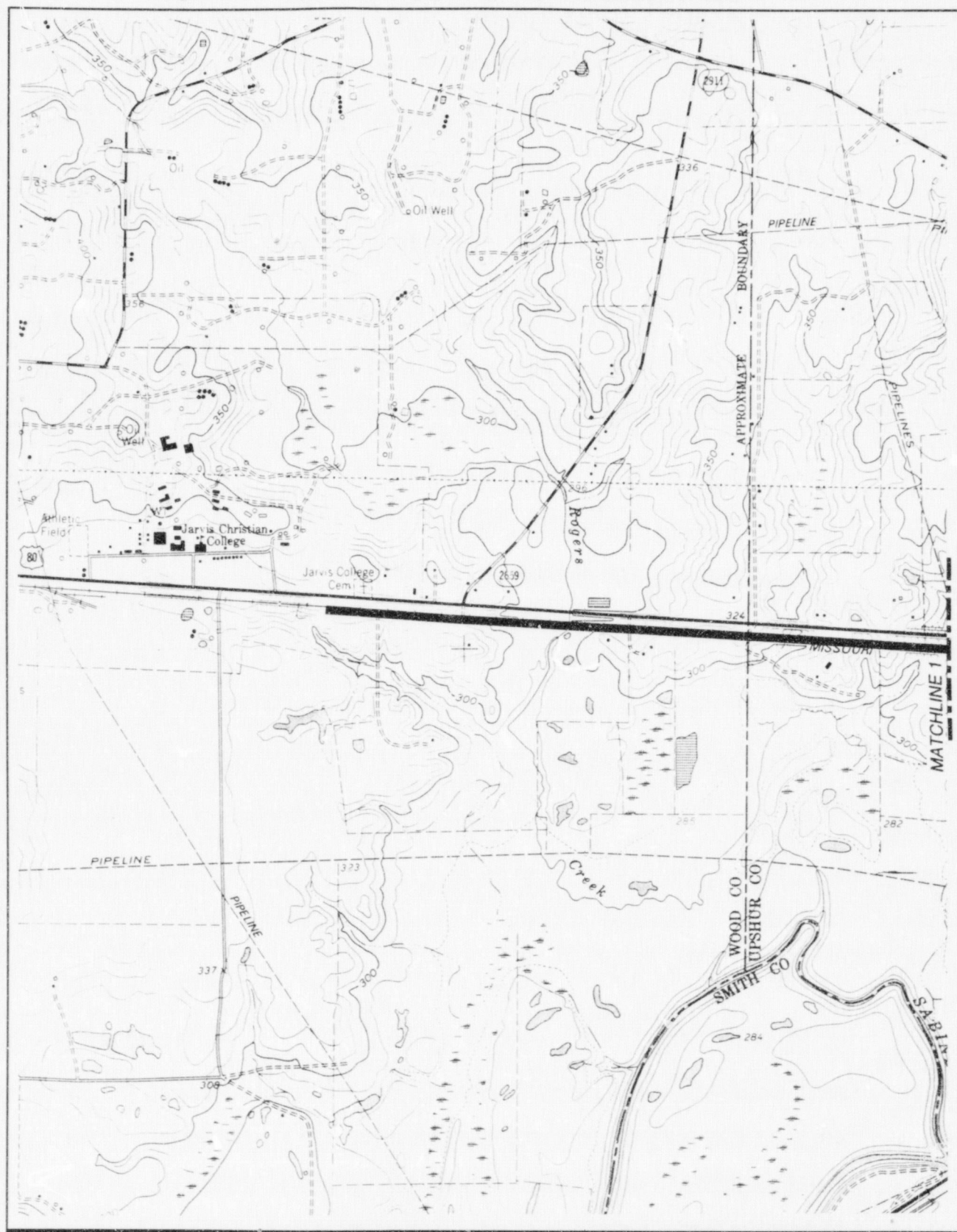
<u>Zone</u>	<u>Explanation</u>
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AO	Areas of 100-year shallow flooding; flood depth 1 to 3 feet; product of flood depth (feet) and velocity (feet per second) less than 15.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
AE	Areas of 100-year flood; base flood elevations determined (for Louisiana).
A99	Areas of 100-year flood to be protected by a flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of 100-year flood and 500-year flood, areas of 100-year shallow flooding where depths less than 1 foot.
C	Areas outside 500-year flood.
X	Areas of combined B and C zones (for Louisiana).
D	Areas of undetermined; but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevation and flood hazard factor determined.

#### Notes

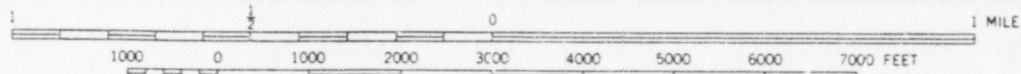
Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

FIRMs are for flood insurance rate purposes only; maps may not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

Figure 15.2-1a Proposed Corridor Upgrade: Big Sandy, Texas. Wetland Information.



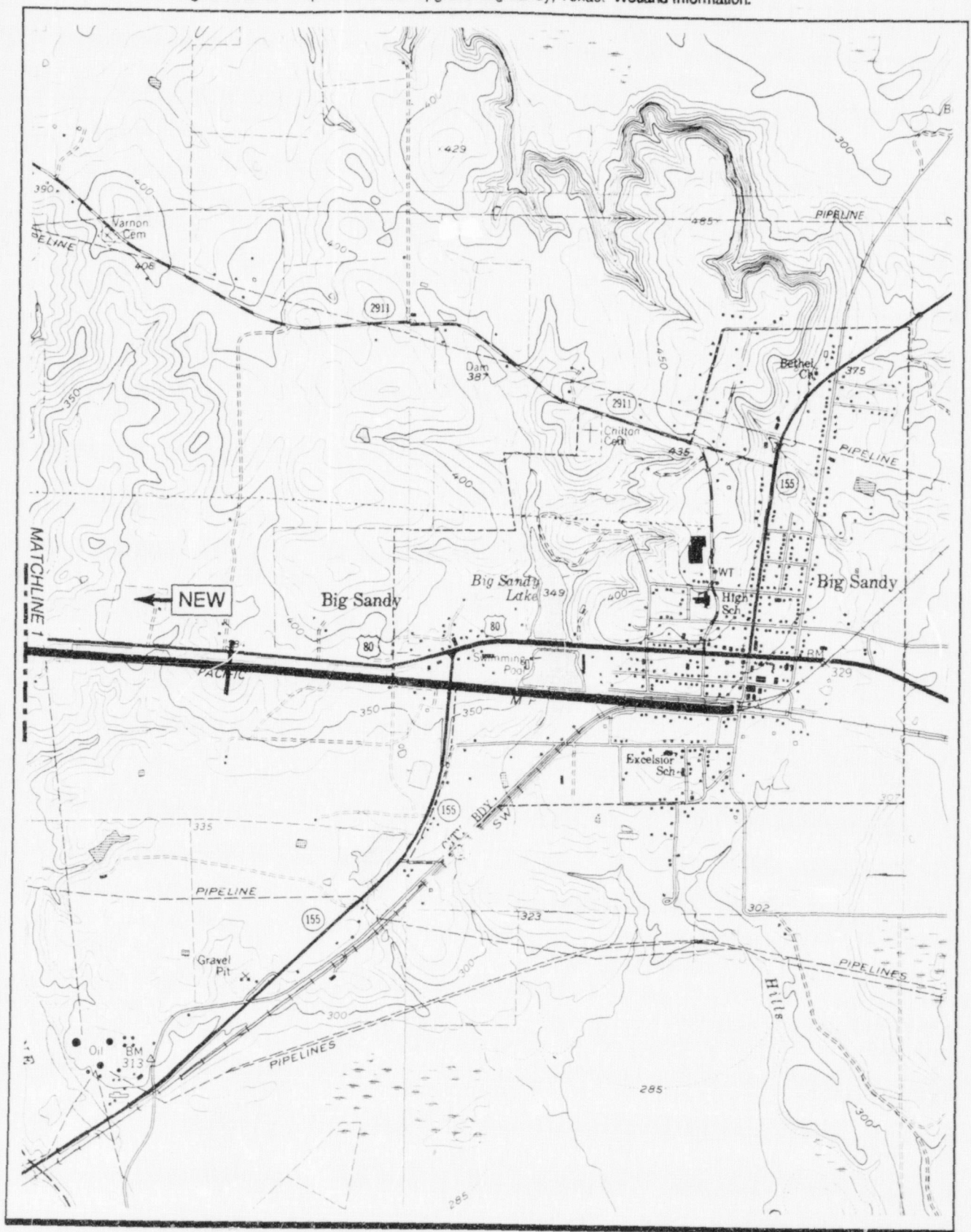
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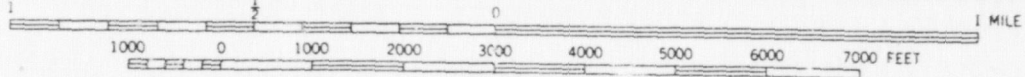
Base Map: USGS 7.5' Topographic Quadrangle: Hawkins, Texas 1960 (Photorevised 1981)



Figure 15.2-1b Proposed Corridor Upgrade: Big Sandy, Texas. Wetland Information.



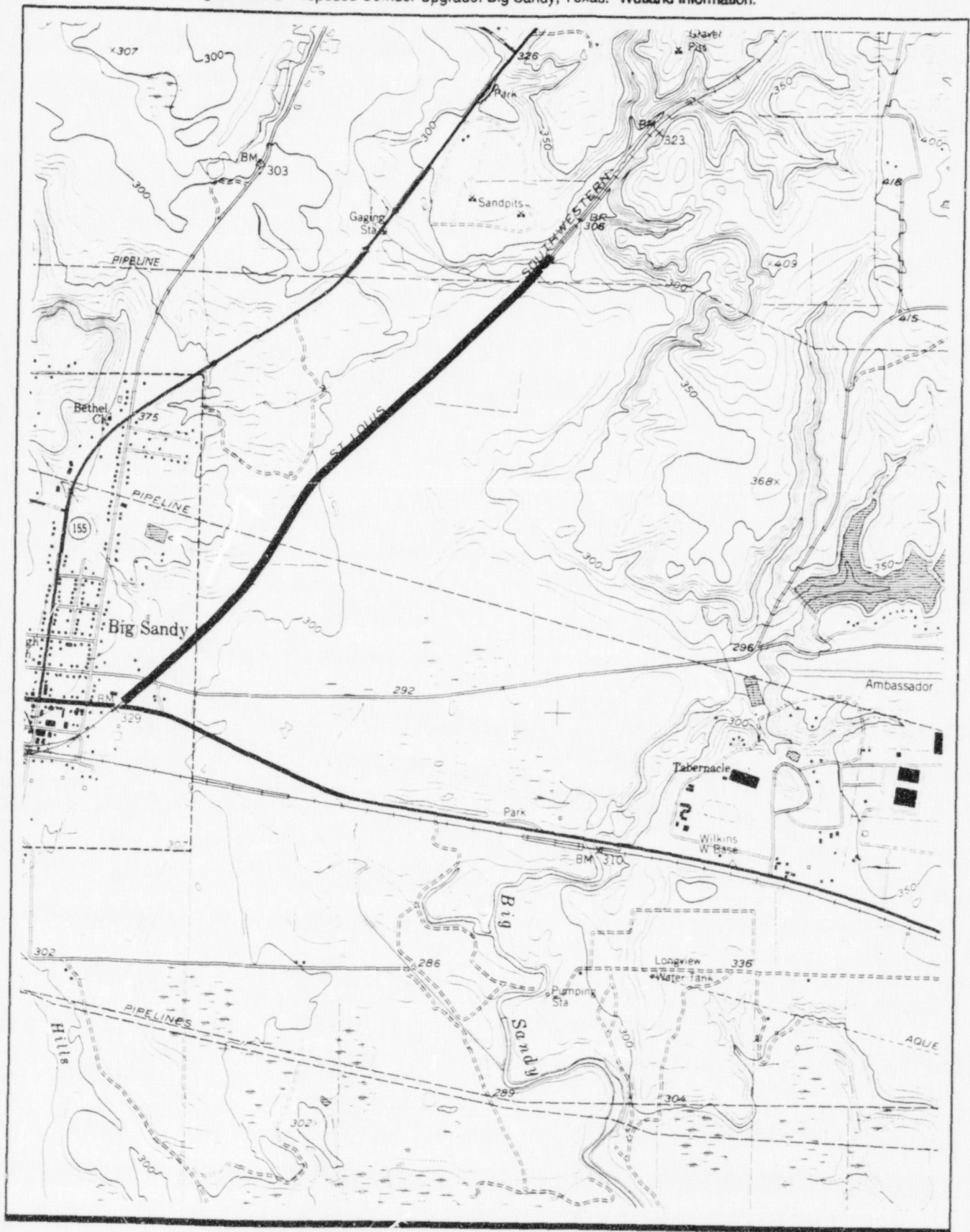
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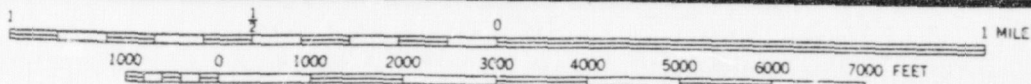
Base Map: USGS 7.5' Topographic Quadrangles: Hawkins, Texas 1981; Big Sandy, Texas 1981



Figure 15.2-2 Proposed Corridor Upgrade: Big Sandy, Texas. Wetland Information.

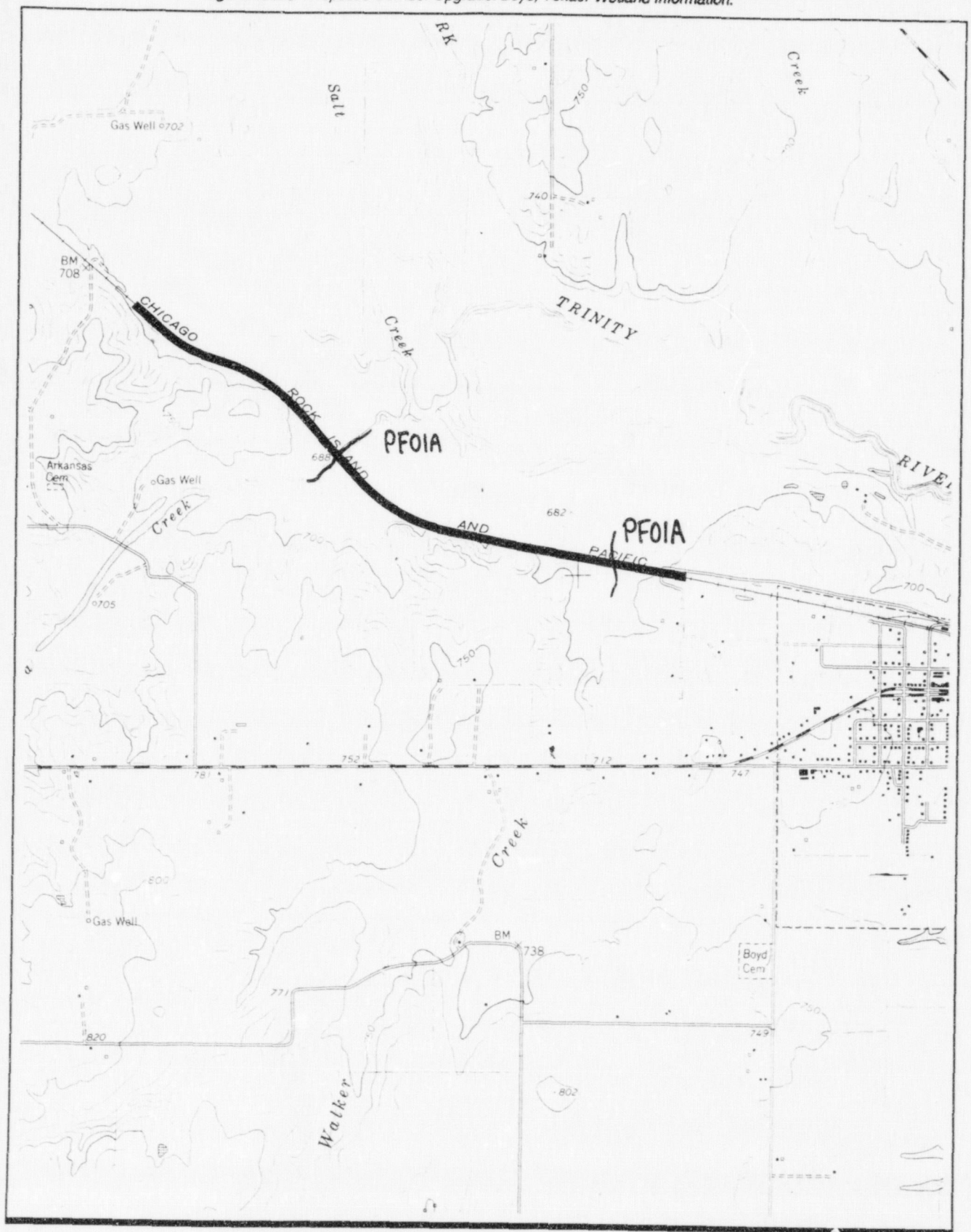


SCALE 1:24000

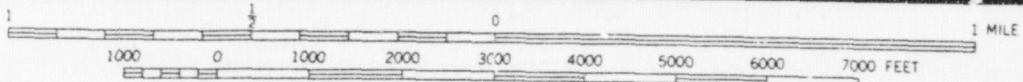


Base Map: USGS 7.5' Topographic Quadrangle: Big Sandy, Texas 1960 (Photorevised 1981)

Figure 15.2-3 Proposed Corridor Upgrade: Boyd, Texas. Wetland Information.



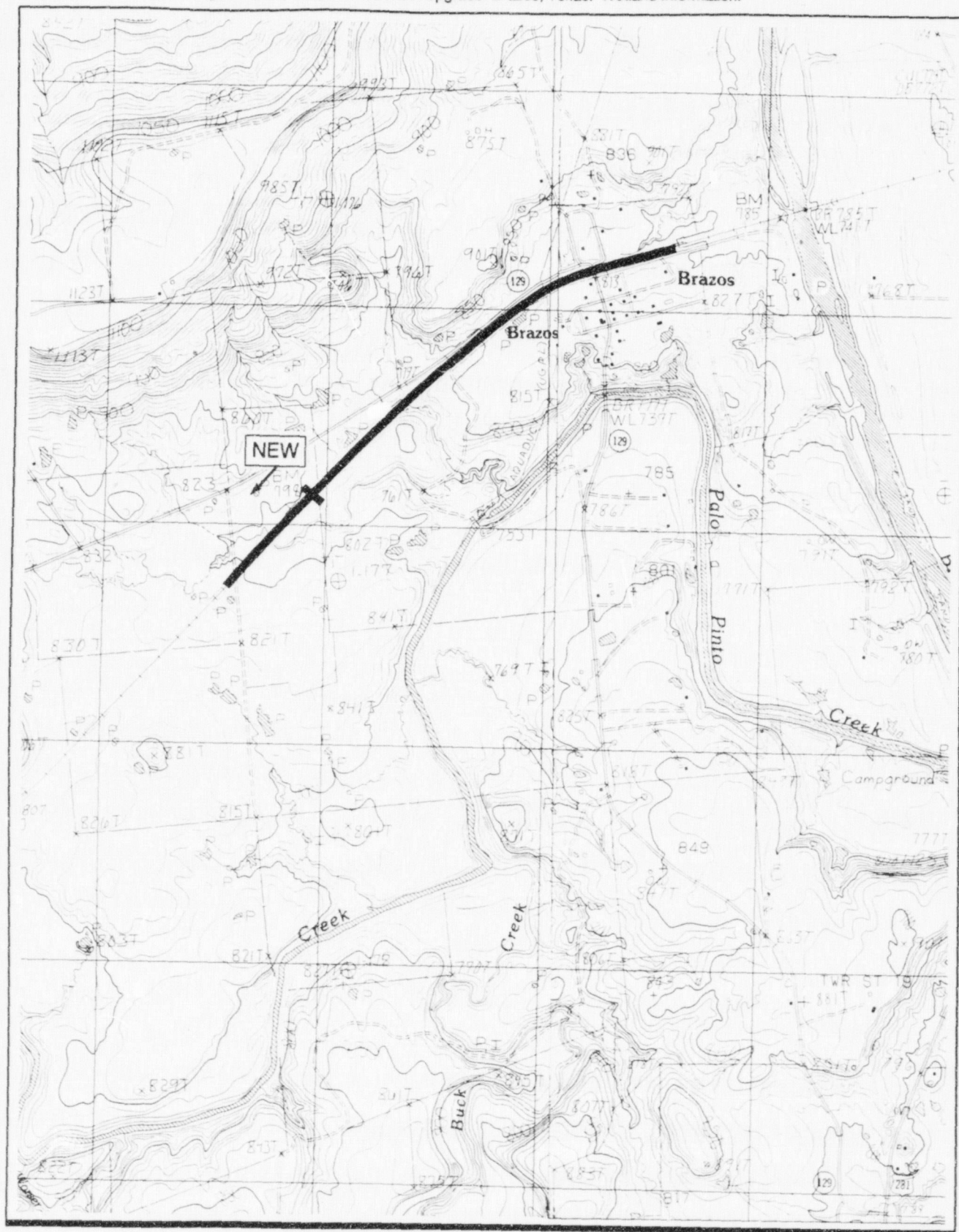
SCALE 1:24000



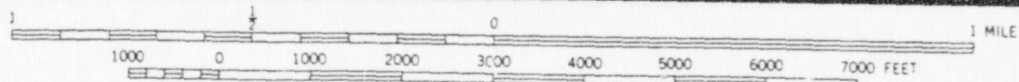
Base Map: USGS 7.5' Topographic Quadrangles: Boyd, Texas 1960 (Photorevised 1968, Photoinspected 1973)



Figure 15.2-4 Proposed Corridor Upgrade: Brazos, Texas. Wetland Information.



SCALE 1:24000

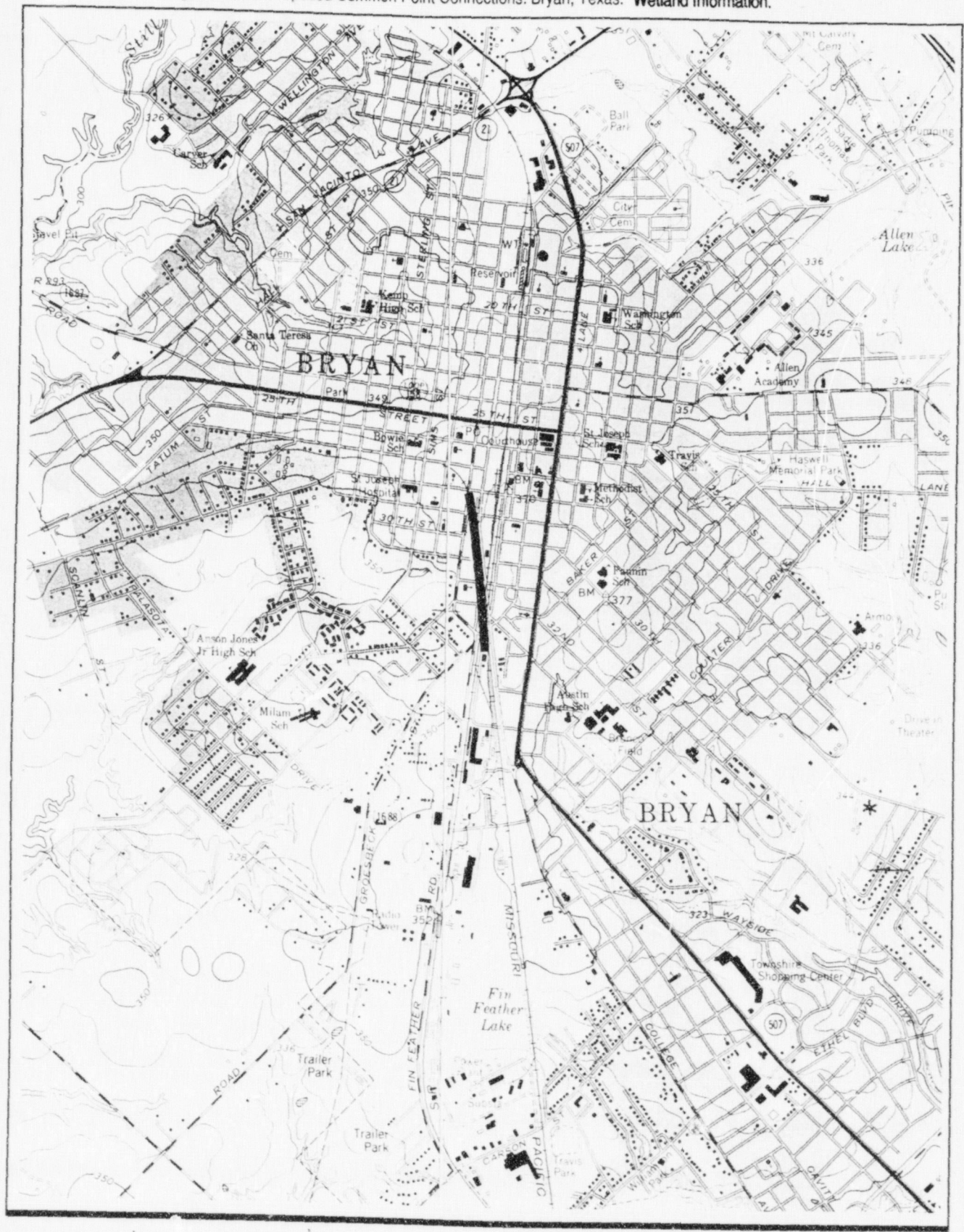


Base Map: USGS 7.5' Topographic Quadrangles: Brazos East, Texas (Provisional Edition 1984);  
Brazos West, Texas (Provisional Edition 1984)

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**Figure 15.2-5** Proposed Common Point Connections: Bryan, Texas. **Wetland Information.**

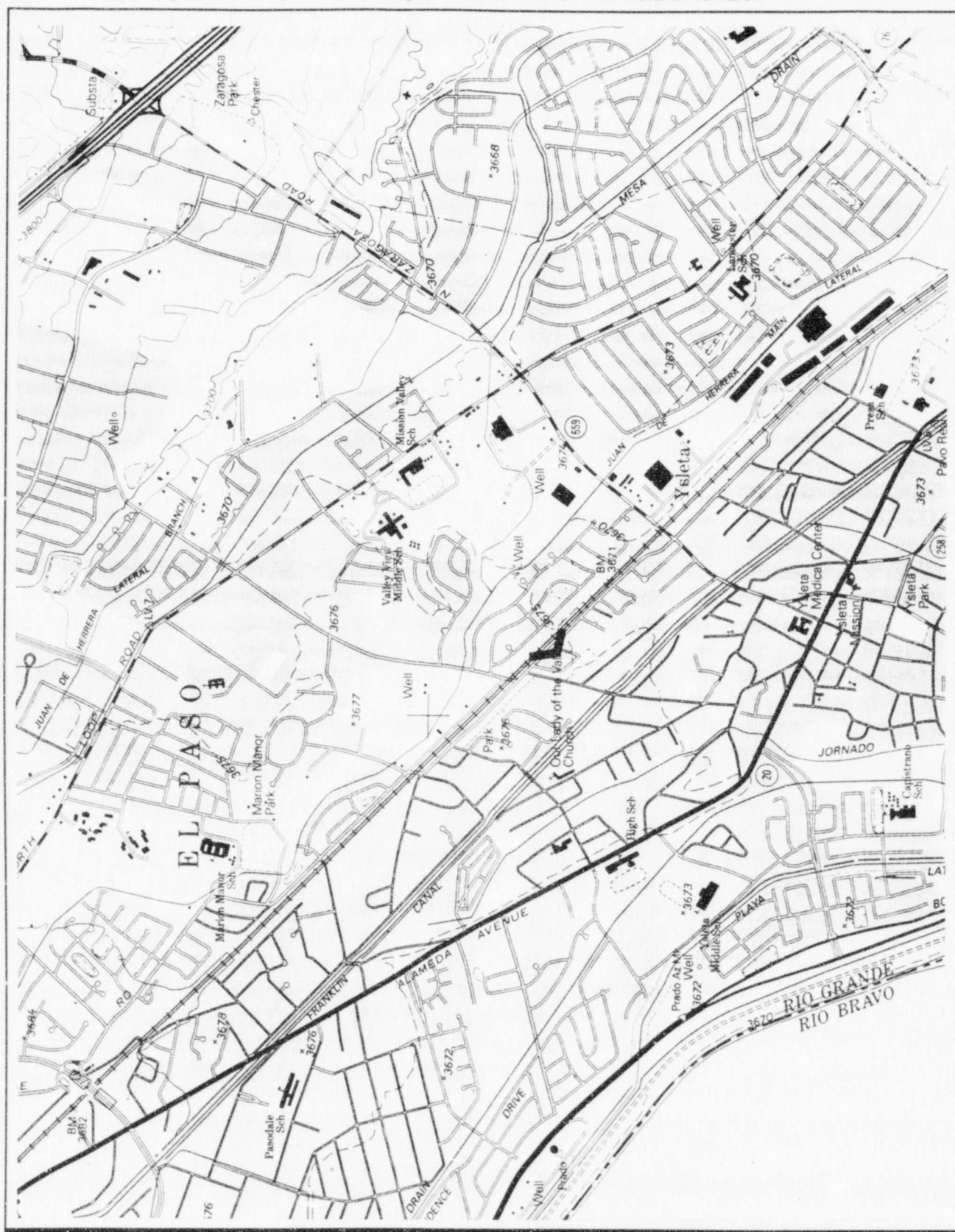


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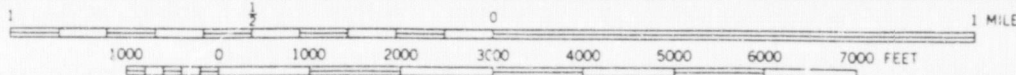


Base Map: USGS 7.5' Topographic Quadrangles: Bryan West, Texas 1962 (Photorevised 1980);  
Bryan East, Texas 1962 (Photorevised 1980)

Figure 15.2-6 Proposed Corridor Upgrade: Buford to Alfalfa, Texas. Wetland Information.



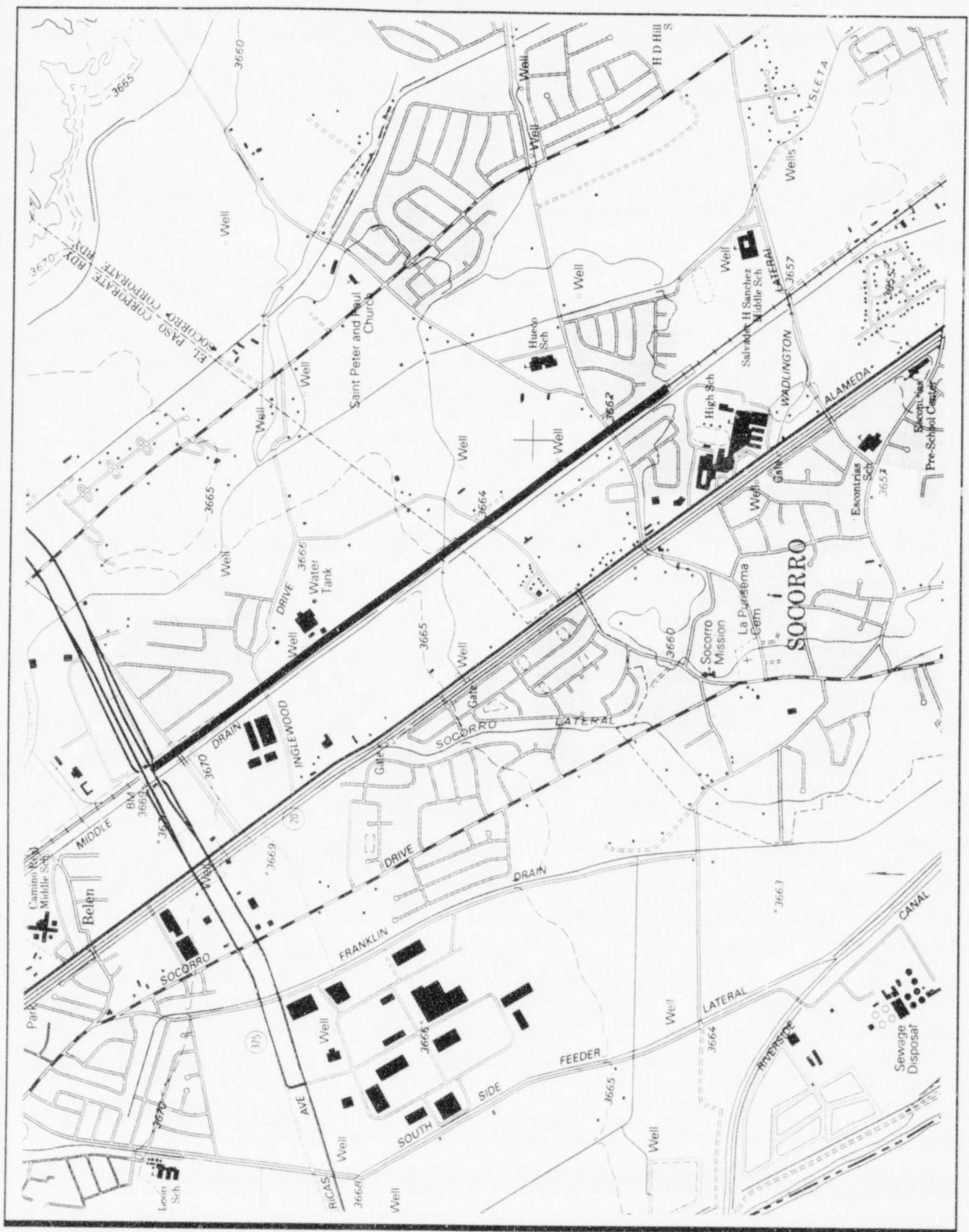
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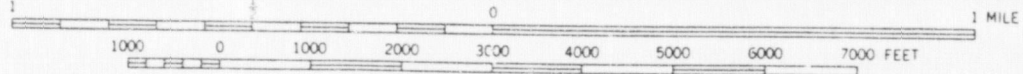
Base Map: USGS 7.5' Topographic Quadrangle: Ysleta, Texas 1994



Figure 15.2-7 Proposed Corridor Upgrade: Buford to Alfalfa, Texas. Wetland Information.



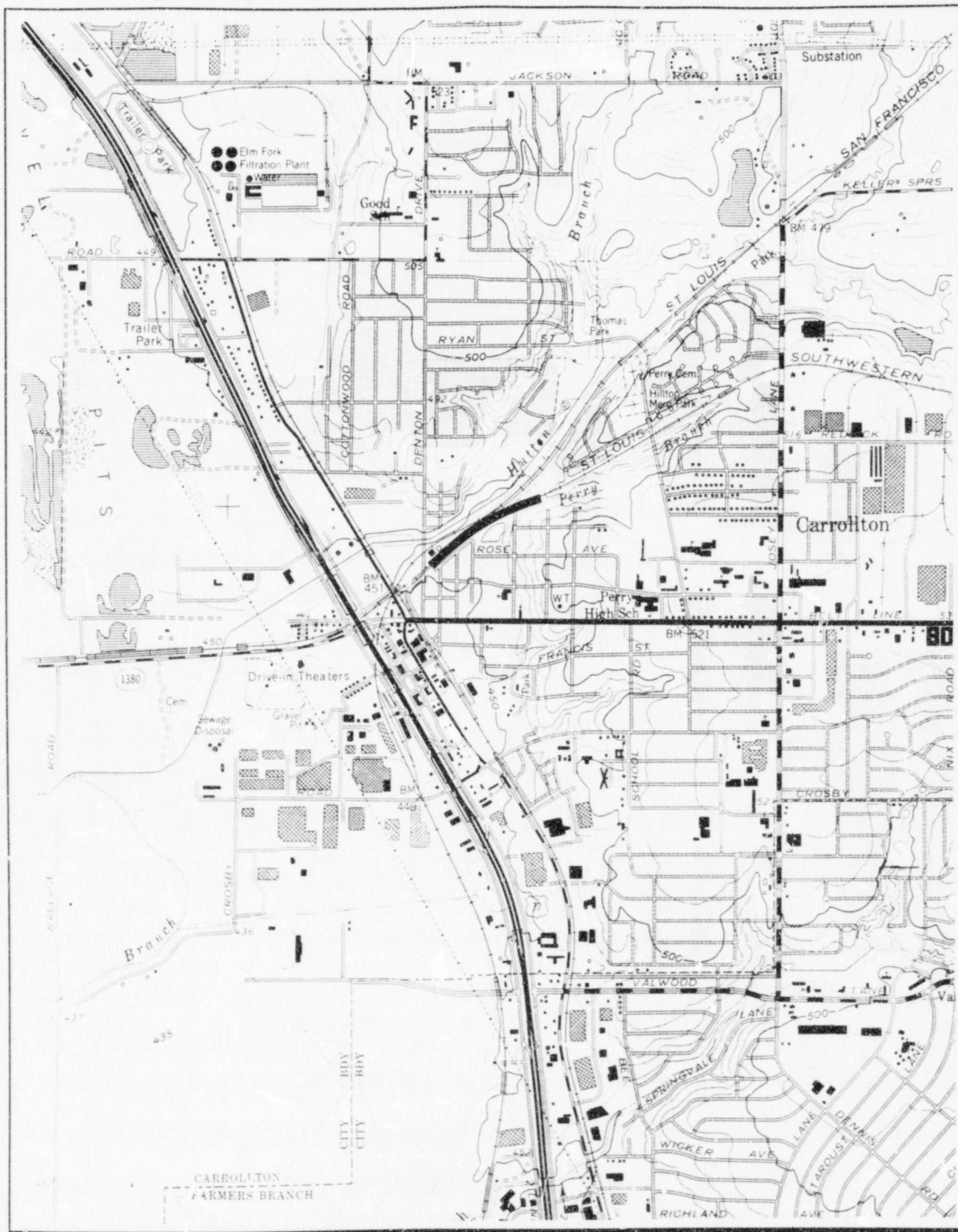
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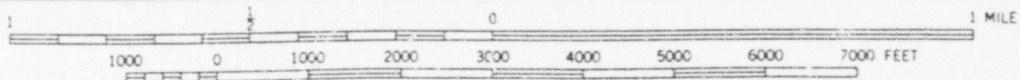
Base Map: USGS 7.5' Topographic Quadrangle: Ysleta, Texas 1994



Figure 15.2-8 Proposed Common Point Connection: Carrollton Texas. Wetland Information.

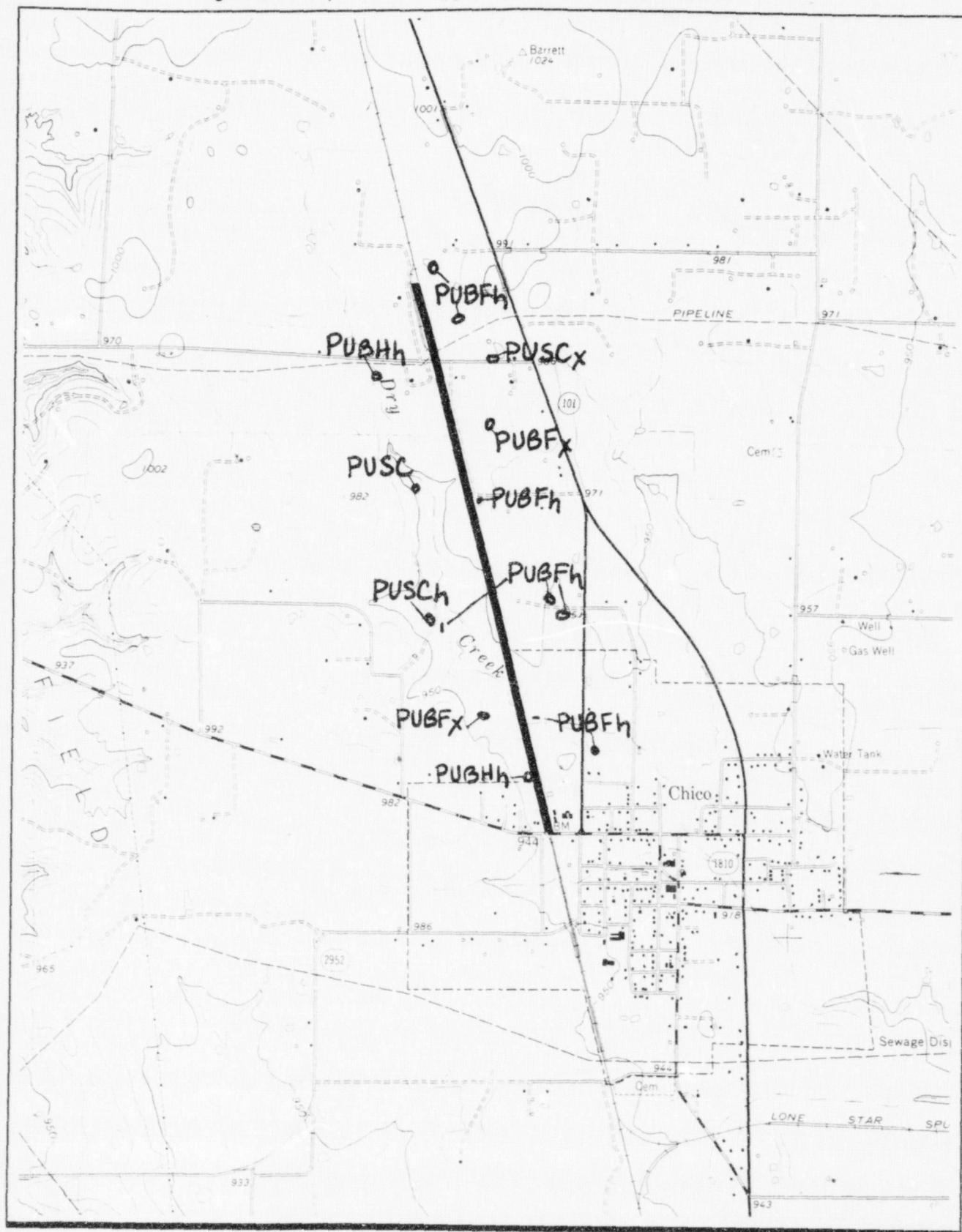


SCALE 1:24000



Base Map: USGS 7.5' Topographic Quadrangle: Carrollton, Texas 1959 (Photorevised 1981)

Figure 15.2-9 Proposed Corridor Upgrade: Chico, Texas. Wetland Information.



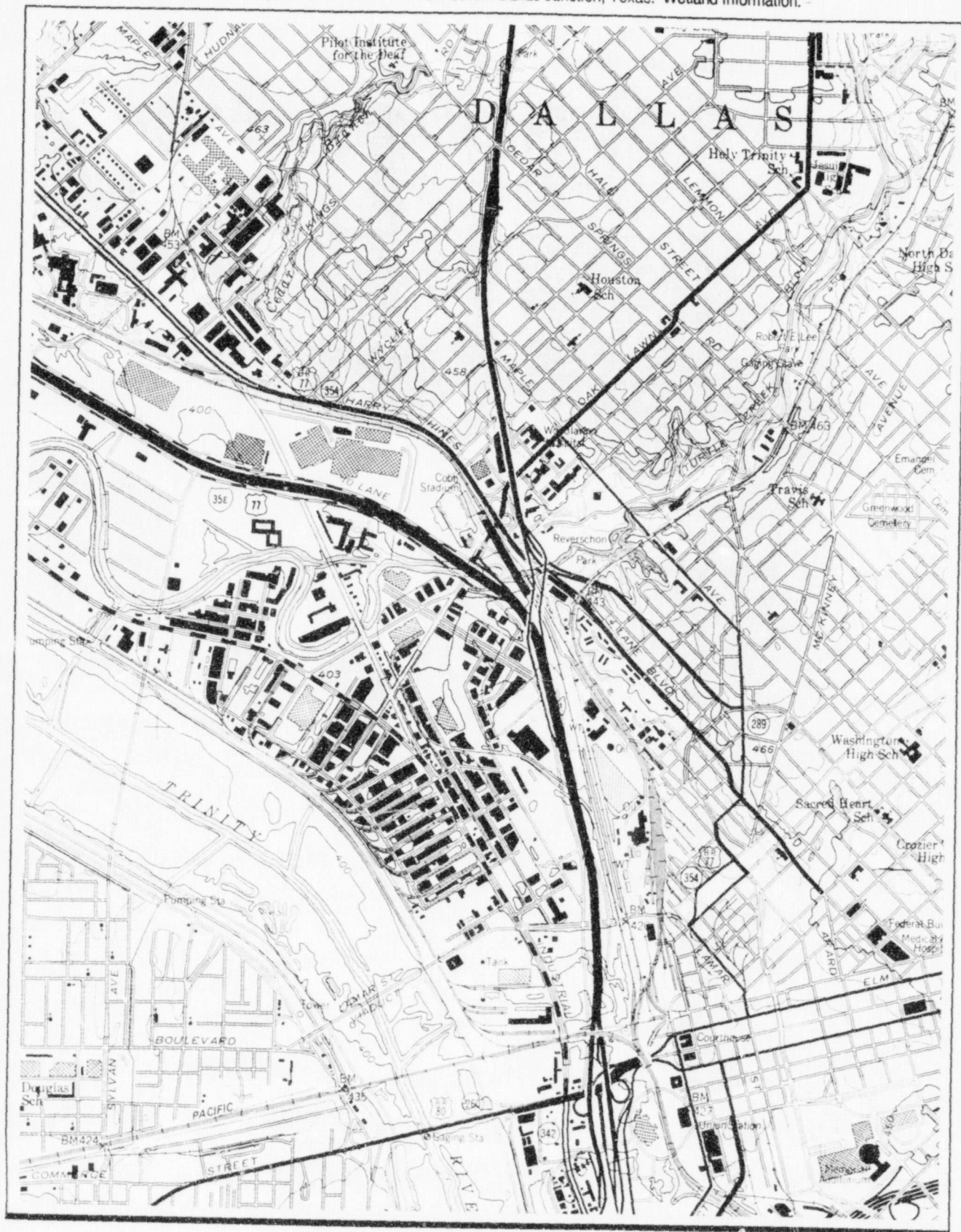
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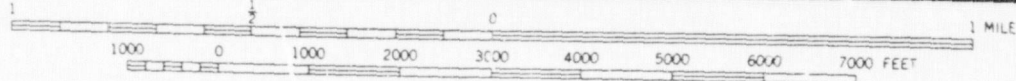
Base Map: USGS 7.5' Topographic Quadrangle: Chico, Texas 1961 (Photorevised 1978)



Figure 15.2-10 Proposed Common Point Connection: Dallas Junction, Texas. Wetland Information.



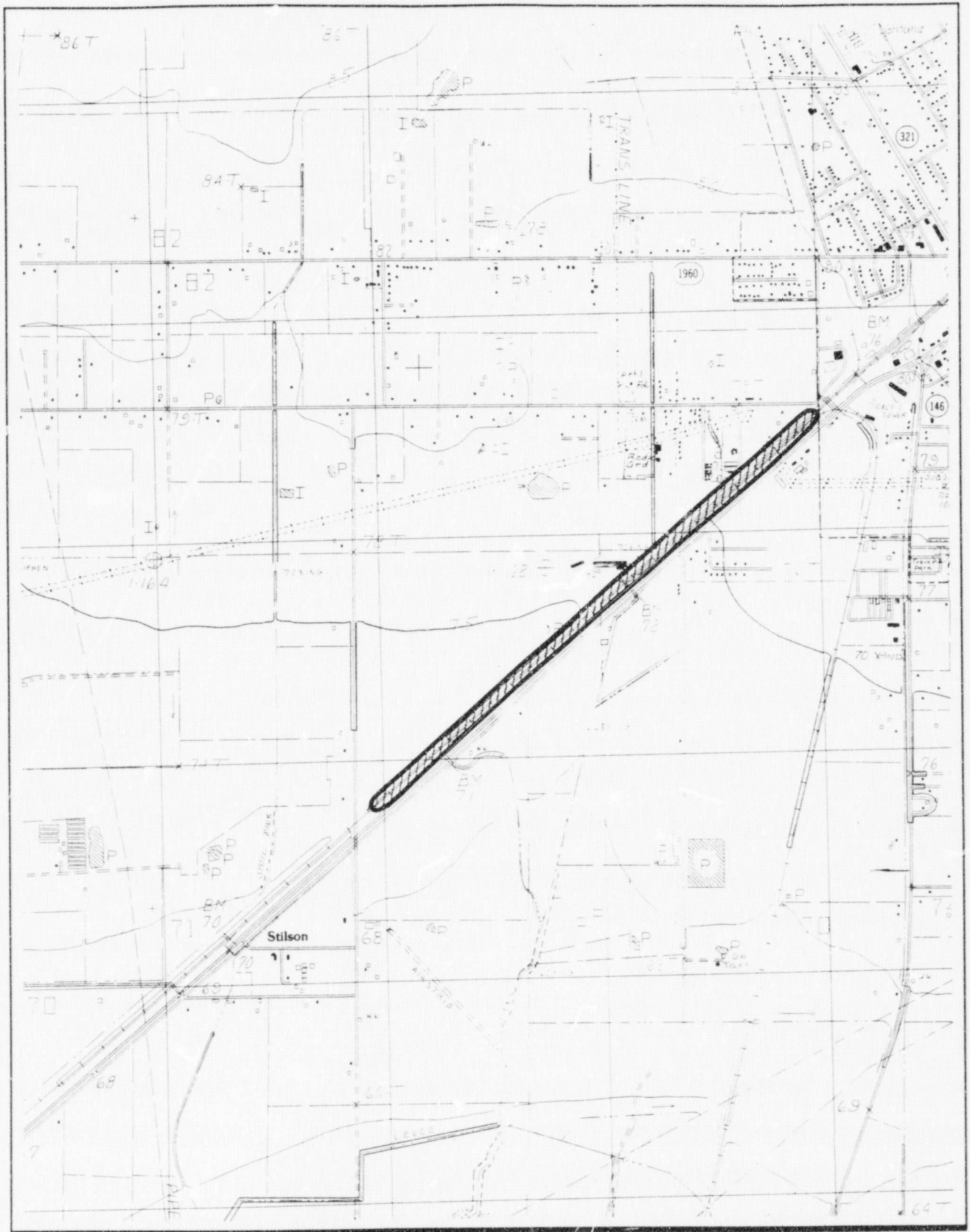
SCALE 1:24000



Base Map: USGS 7.5 Topographic Quadrangle: Dallas, Texas 1958 (Photorevised 1981)



Figure 15.2-11 Proposed Construction at Rail Yard: Dayton, Texas. Wetland Information.

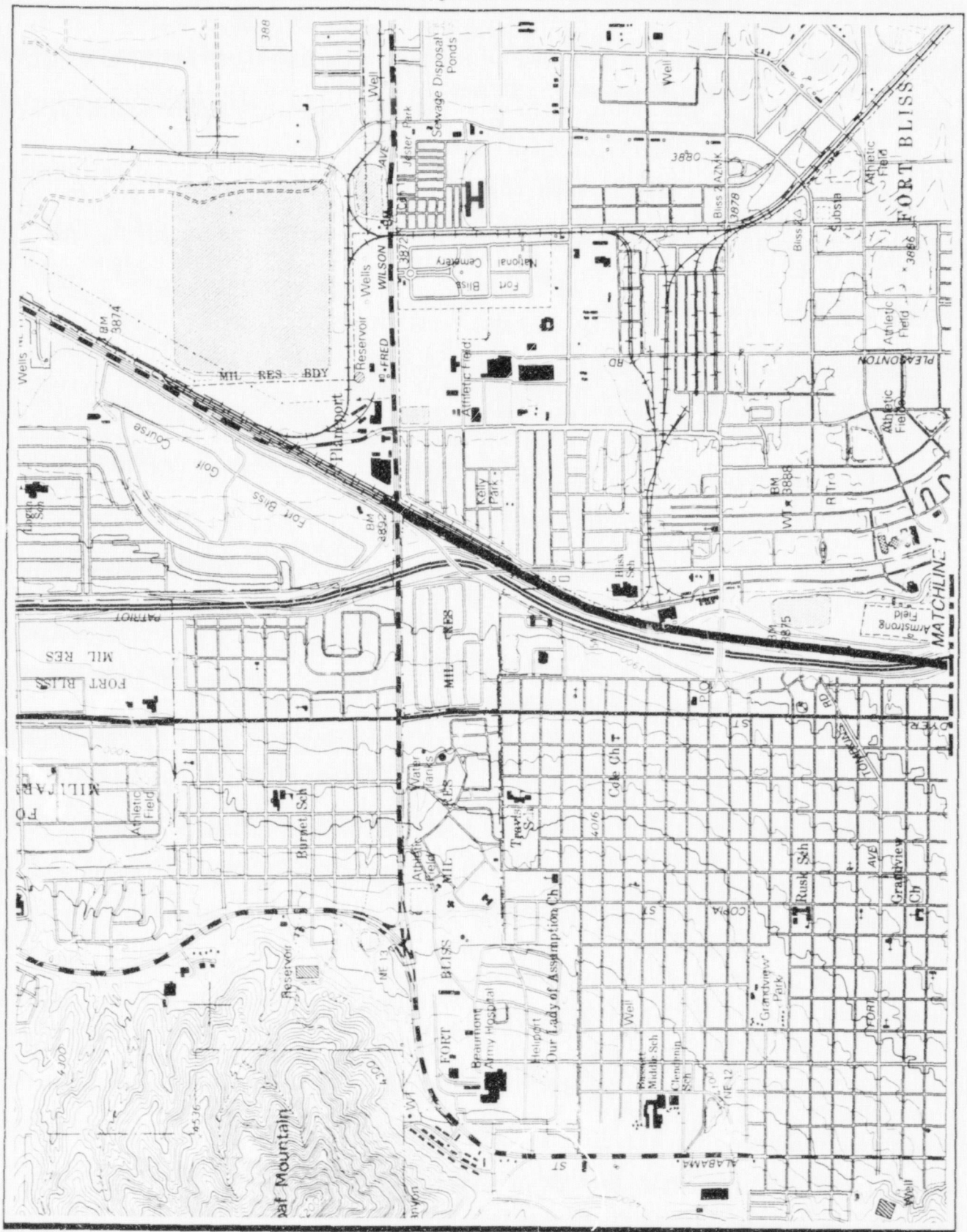


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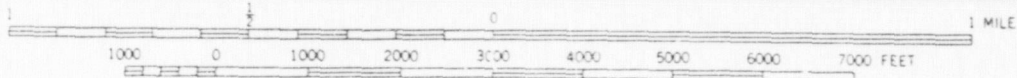


Base Map: USGS 7.5' Topographic Quadrangle: Dayton, Texas (Provisional Edition 1984)

Figure 15.2-12a Proposed Corridor Upgrade: El Paso, Texas. Wetland Information.



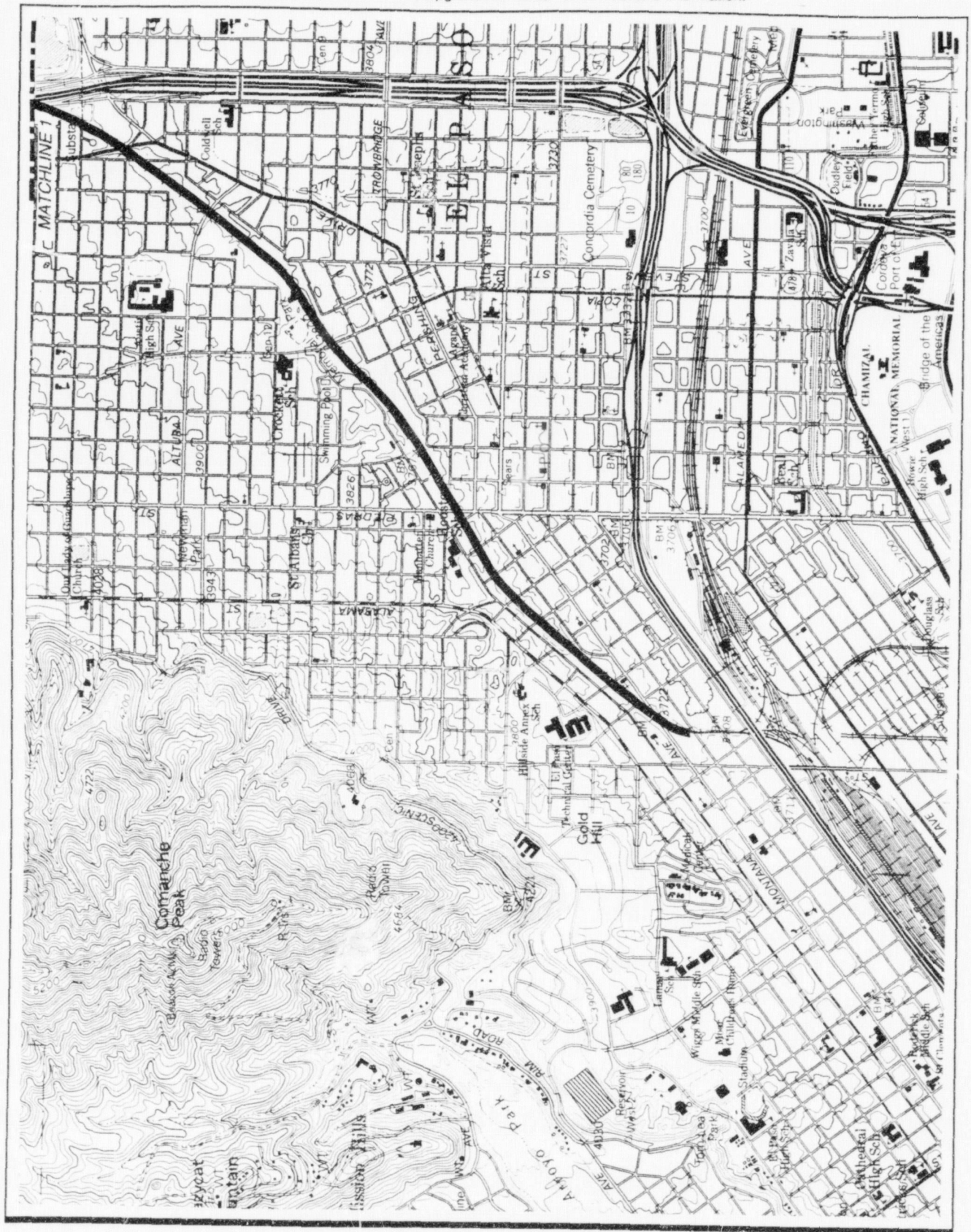
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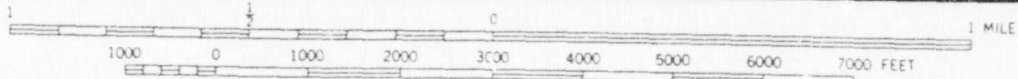
Base Map: USGS 7.5' Topographic Quadrangle: El Paso, Texas 1994



Figure 15.2-12b Proposed Corridor Upgrade: El Paso, Texas. Wetland Information.

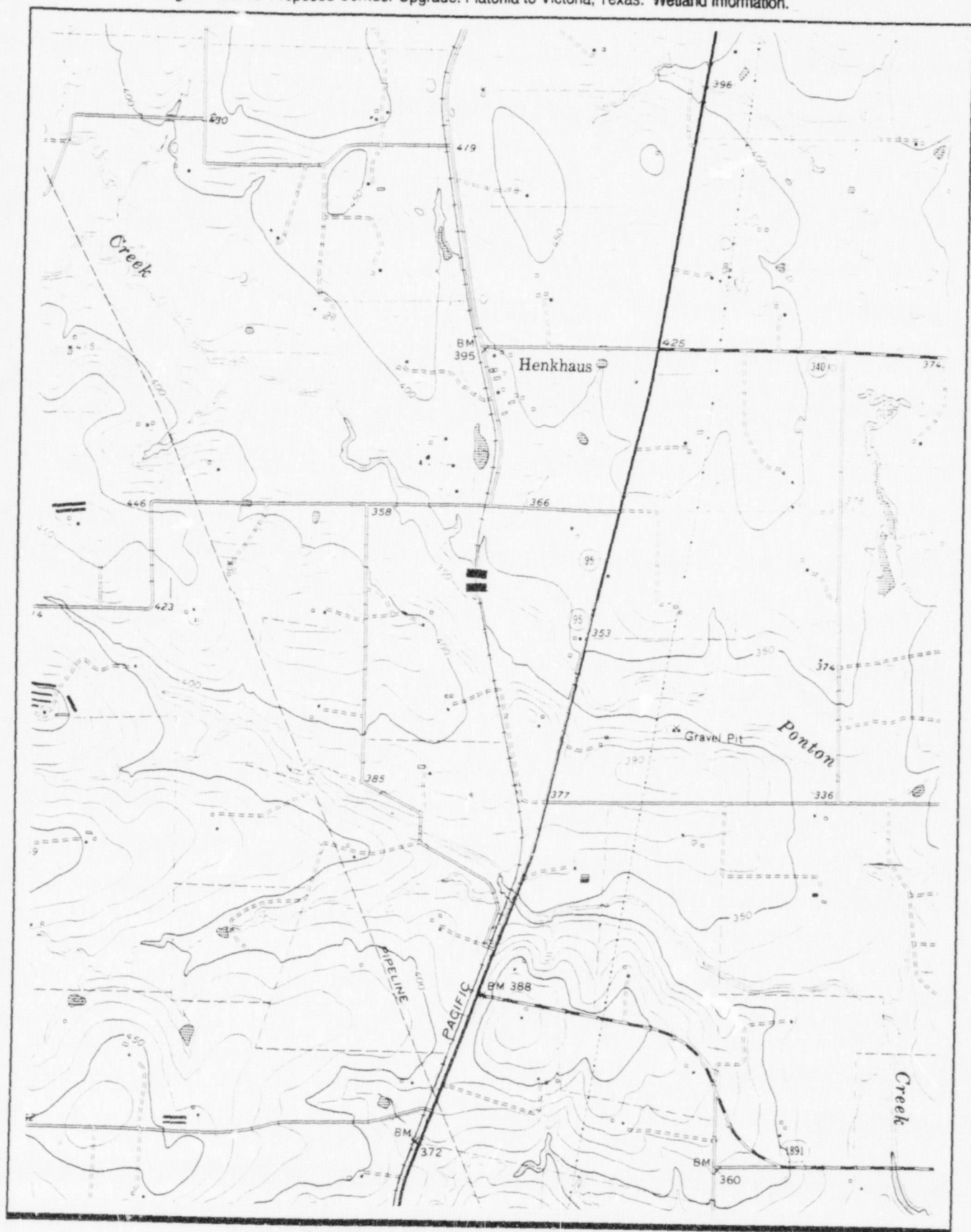


SCALE 1:24000

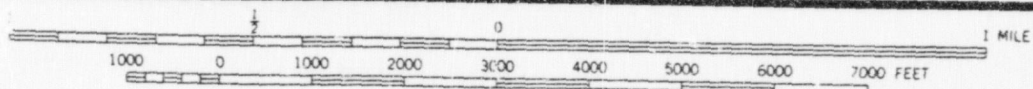


Base Map: USGS 7.5' Topographic Quadrangle: El Paso, Texas 1994

Figure 15.2-13 Proposed Corridor Upgrade: Flatonia to Victoria, Texas. Wetland Information.



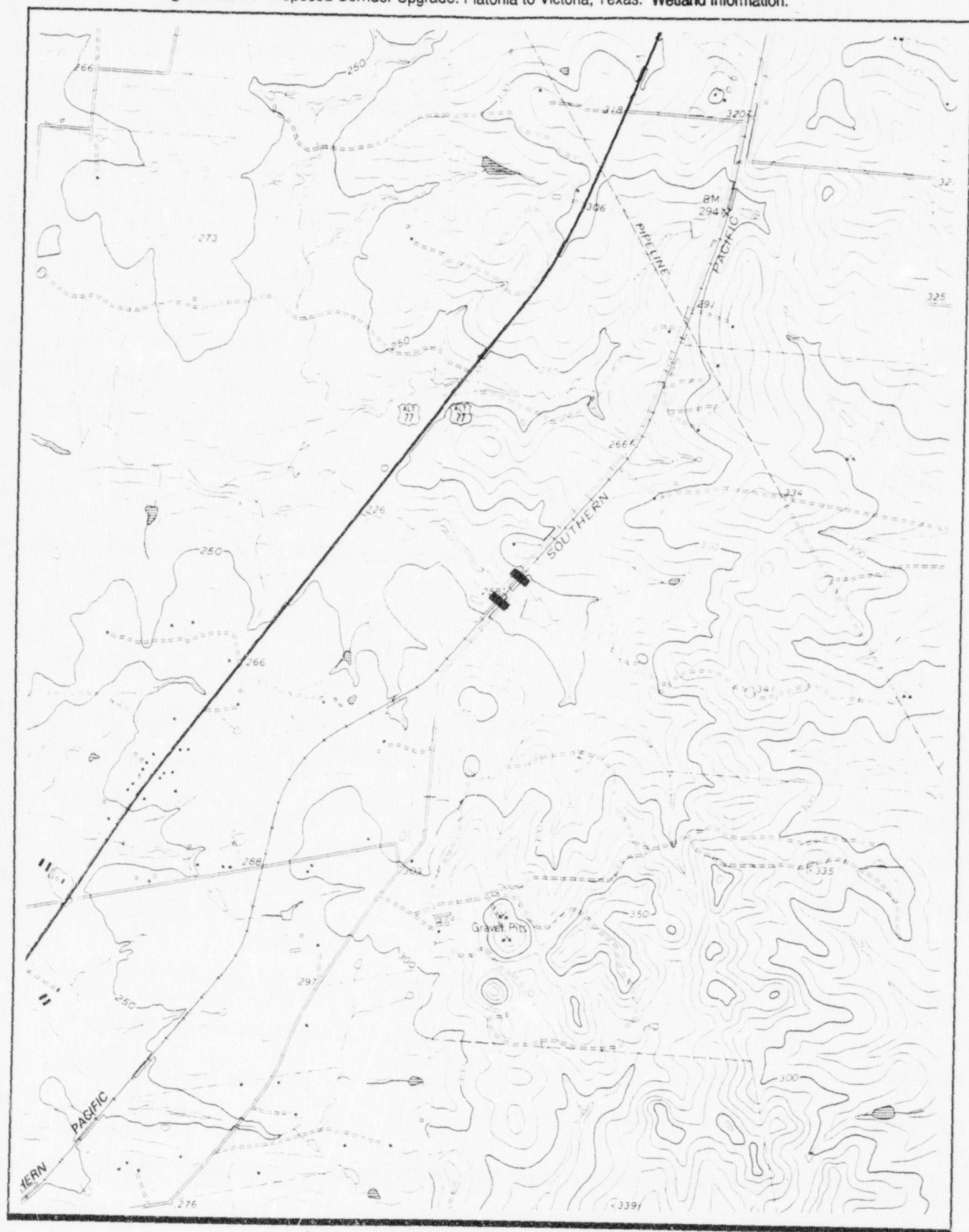
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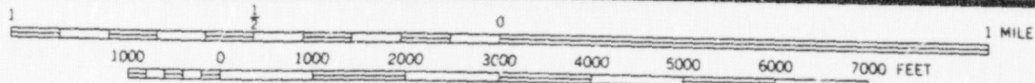
Base Map: USGS 7.5' Topographic Quadrangle: Moulton, Texas 1965 (Photorevised 1981);  
Shiner, Texas 1965 (Photorevised 1987)



Figure 15.2-14 Proposed Corridor Upgrade: Flatonia to Victoria, Texas. Wetland Information.

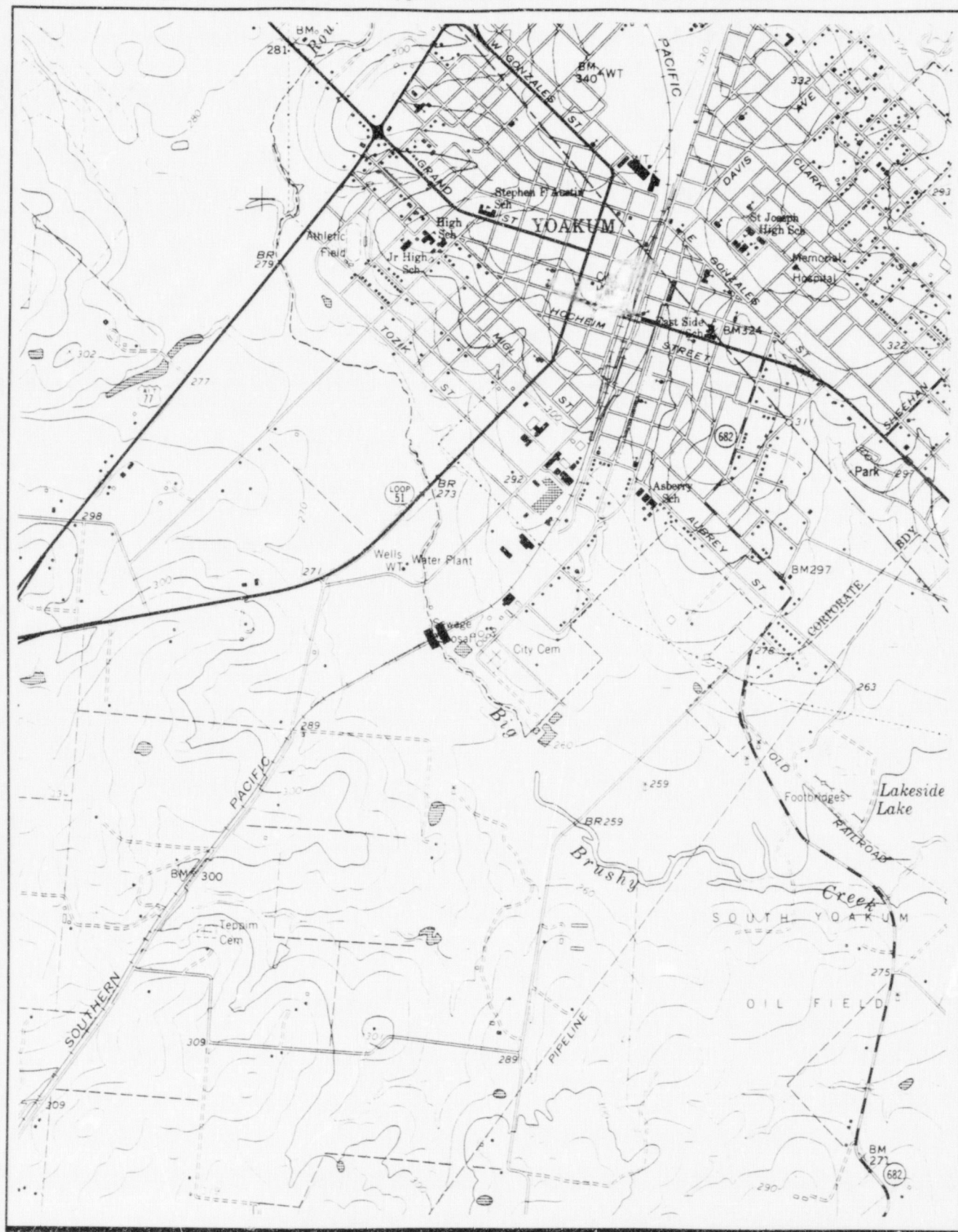


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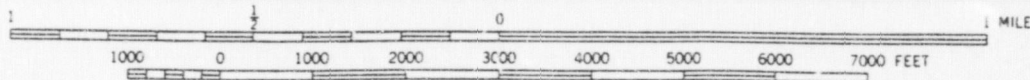


Base Map: USGS 7.5' Topographic Quadrangle: Edgar, Texas 1962 (Photorevised 1987);  
Concrete, Texas 1960 (Photorevised 1987)

Figure 15.2-15 Proposed Corridor Upgrade: Flatonia to Victoria, Texas. Wetland Information.



SCALE 1:24000

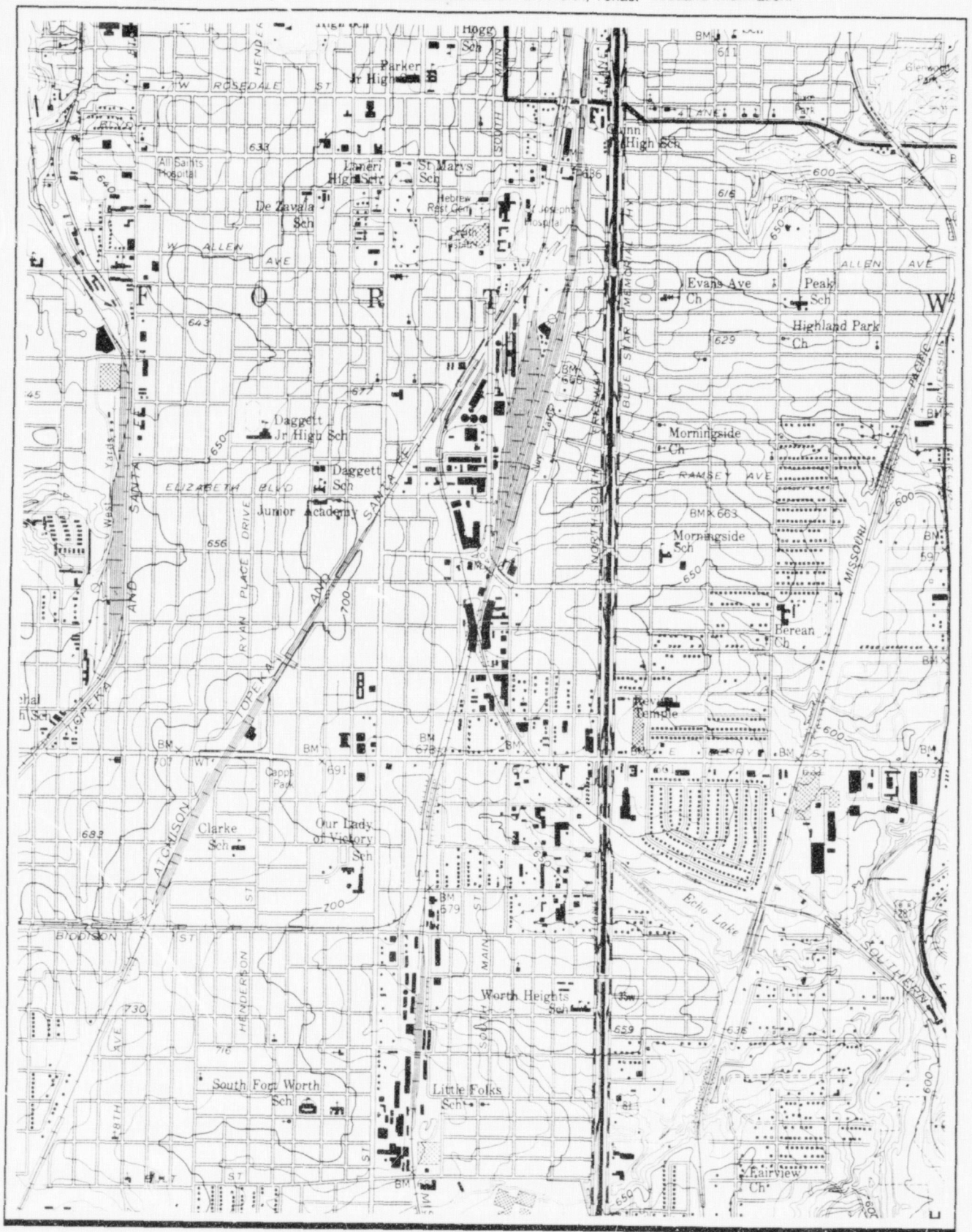


Base Map: USGS 7.5' Topographic Quadrangle: Yoakum, Texas 1963 (Photorevised 1987)

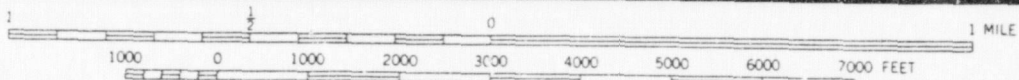
0718



Figure 15.2-16 Proposed Common Point Connections: Fort Worth, Texas. Wetland Information.

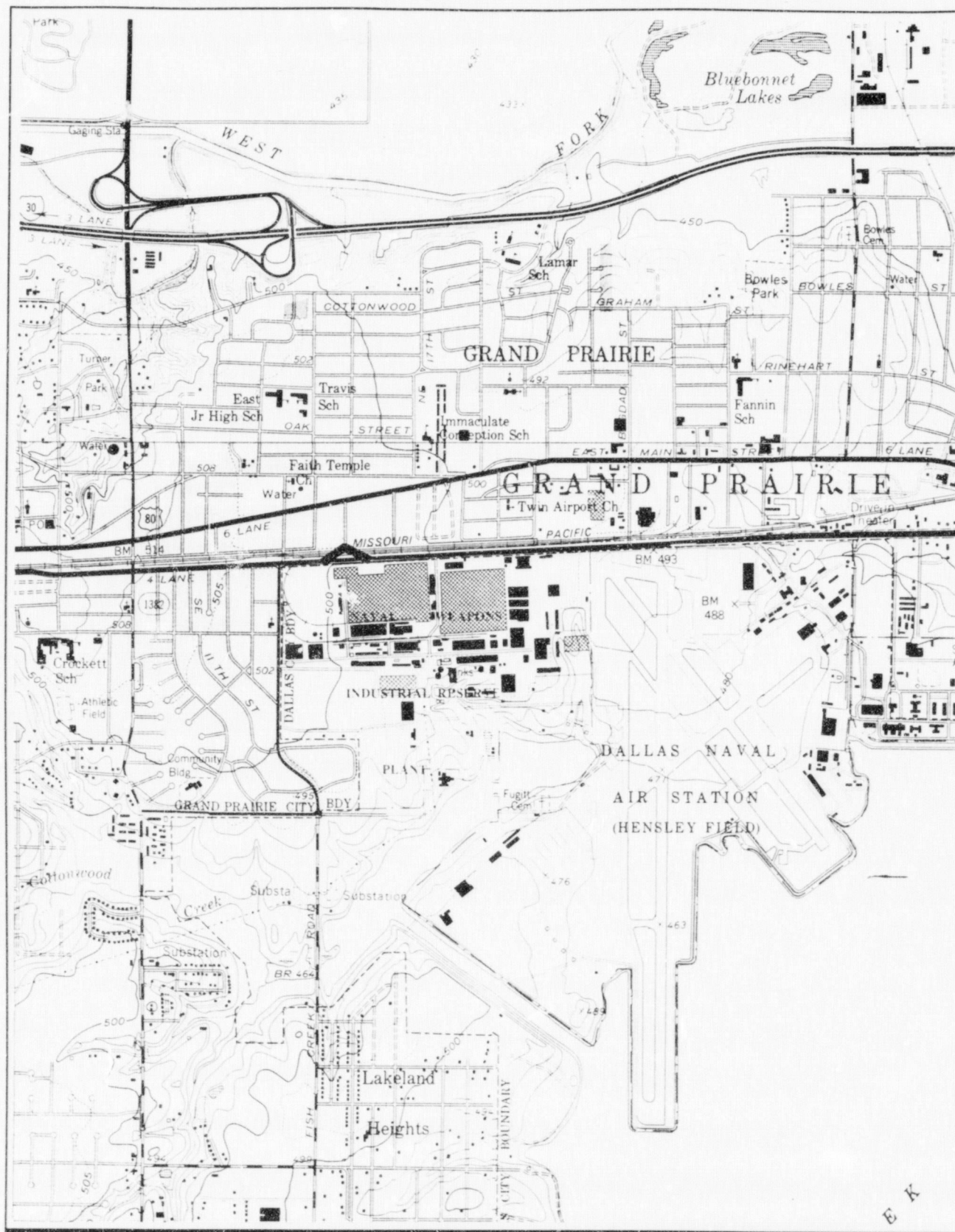


SCALE 1:24000



Base Map: USGS 7.5' Topographic Quadrangles: Fort Worth, Texas 1955 (Photorevised 1981)

Figure 15.2-17 Proposed Corridor Upgrade: Grand Prairie, Texas. Location and Land Use.



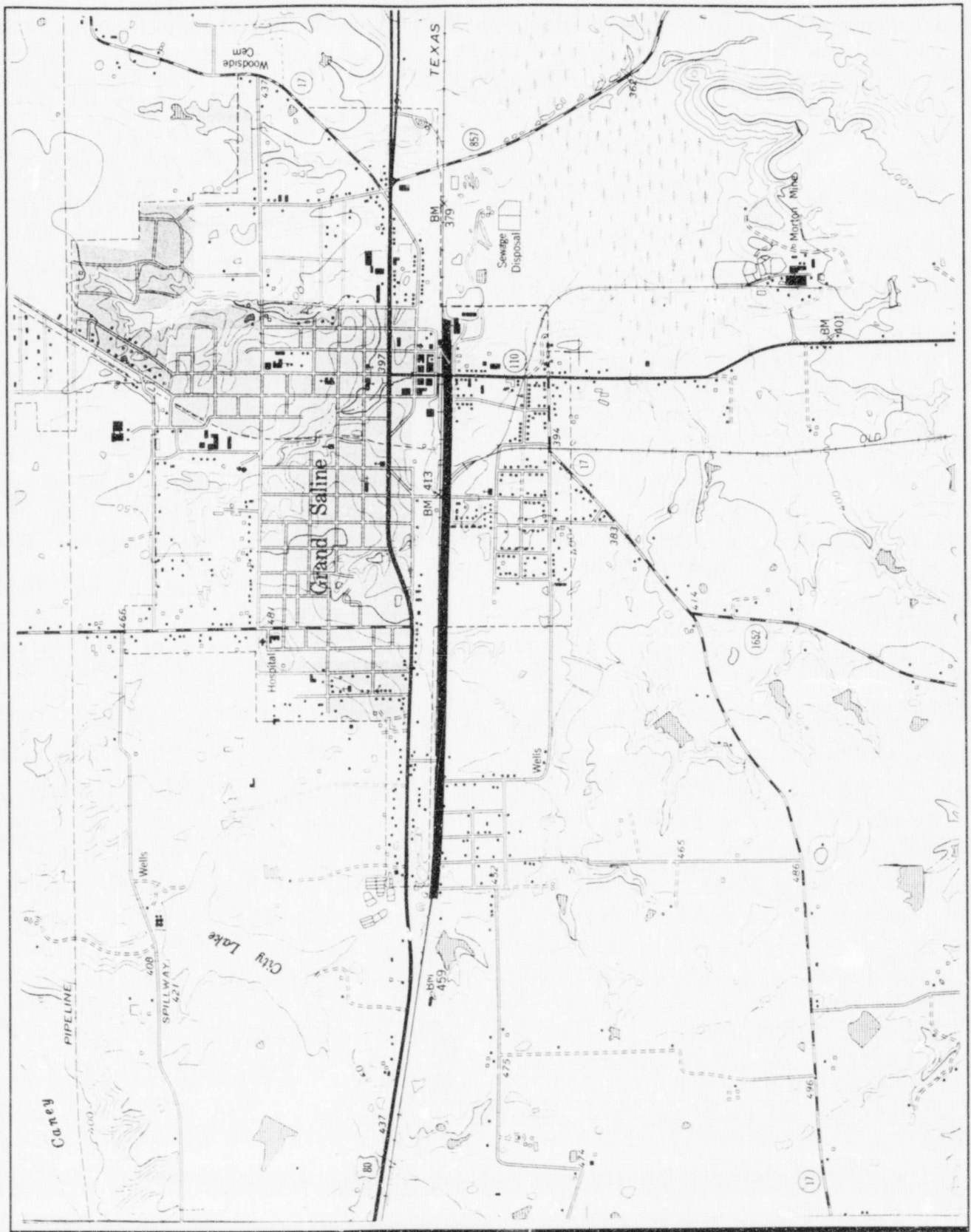
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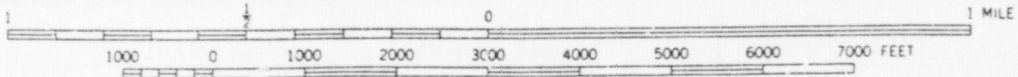
Base Map: USGS 7.5' Topographic Quadrangles: Irving, Texas 1959 (Photorevised 1981);  
Duncanville, Texas 1959 (Photorevised 1981)



Figure 15.2-18 Proposed Corridor Upgrade: Grand Saline, Texas. Wetland Information.



SCALE 1:24000

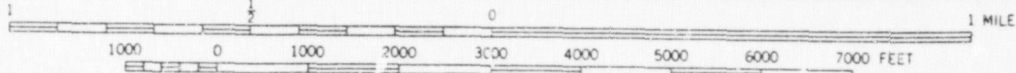


Base Map: USGS 7.5' Topographic Quadrangle: Grand Saline, Texas 1959 (Photorevised 1981)

Figure 15.2-19 Proposed Construction at Intermodal Facility: Harlingen, Texas. Wetland Information.



SCALE 1:24000

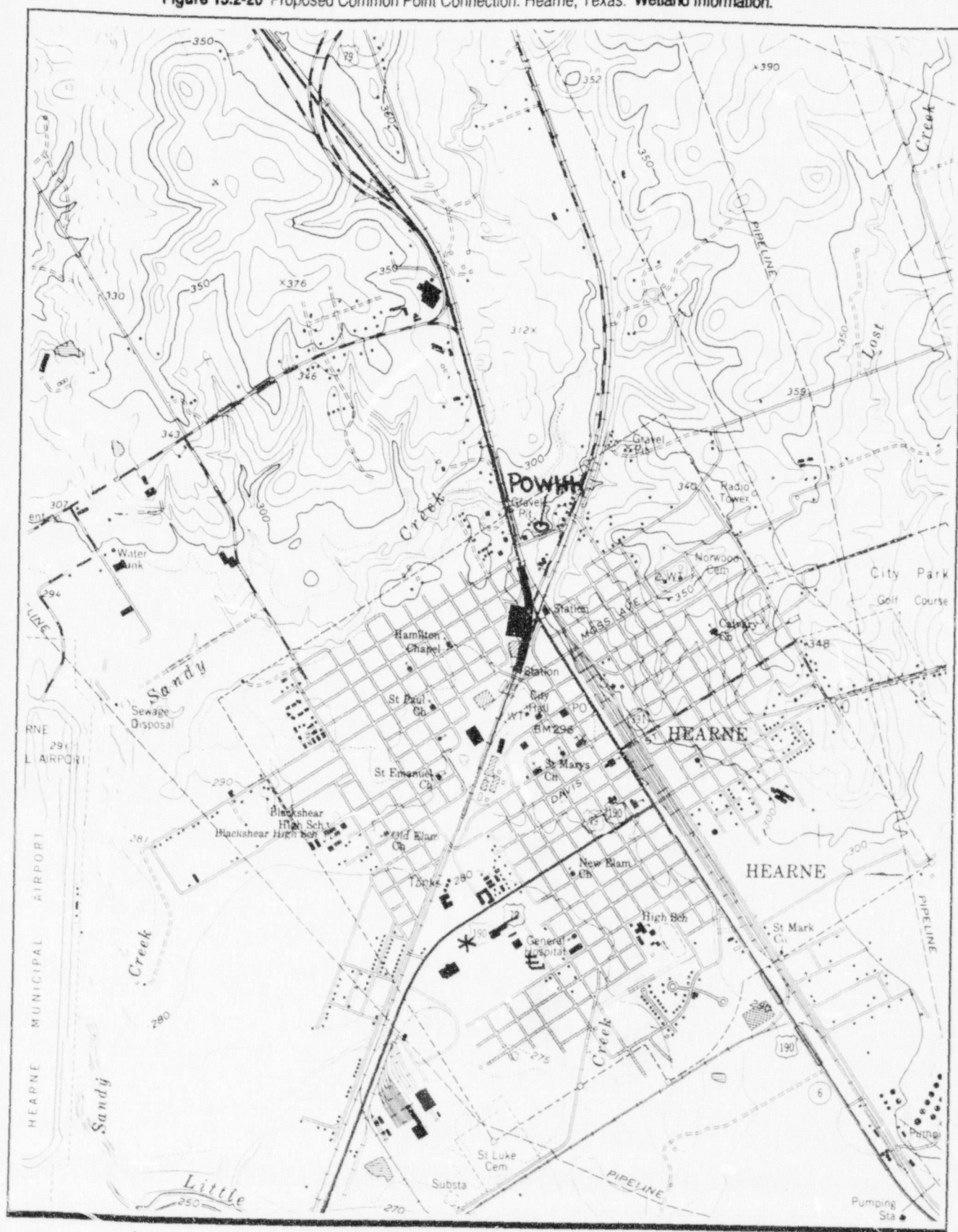


Base Map: USGS 7.5' Topographic Quadrangle: Harlingen, Texas 1956 (Photorevised 1983)

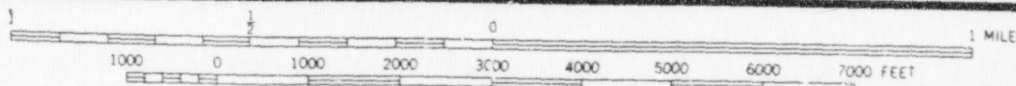


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Figure 15.2-20 Proposed Common Point Connection: Hearne, Texas. Wetland Information.



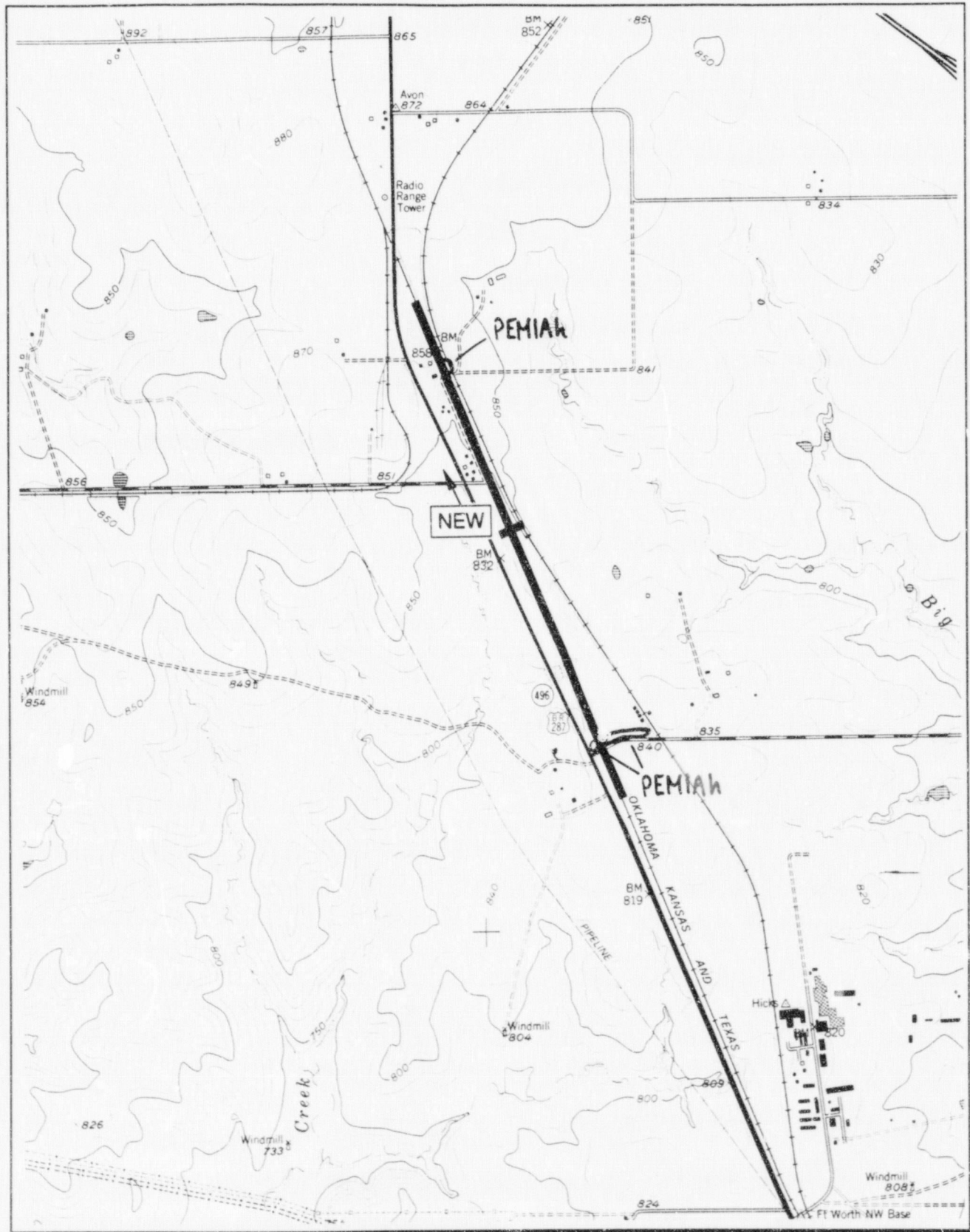
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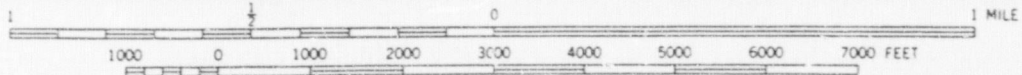
Base Map: USGS 7.5' Topographic Quadrangles: Hearne North, Texas 1961 (Photorevised 1989);  
Hearne South, Texas 1961 (Photorevised 1988)



Figure 15.2-21 Proposed Corridor Upgrade: Hicks, Texas. Wetland Information.

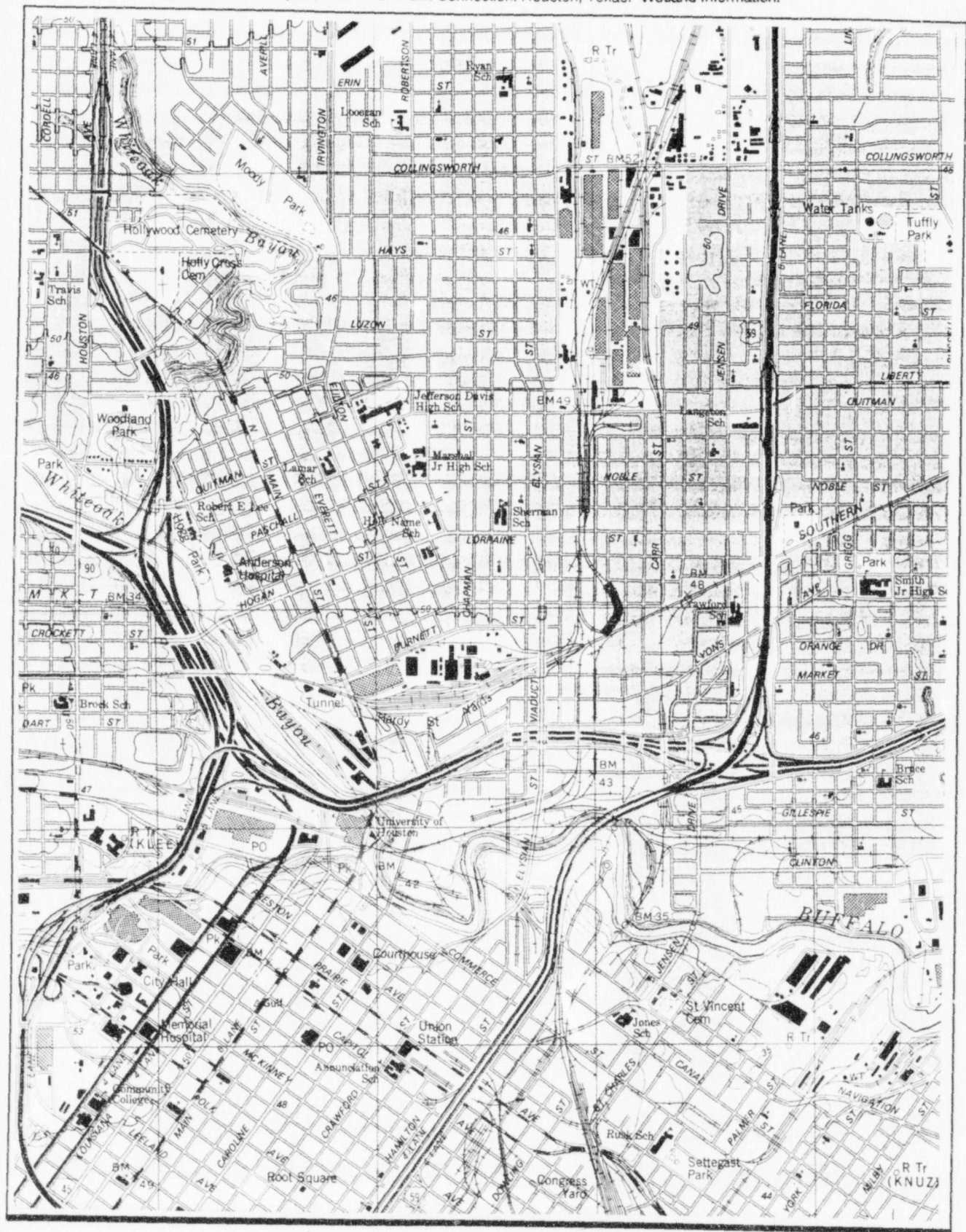


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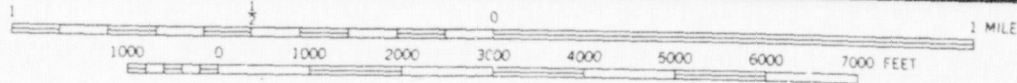


Base Map: USGS 7.5' Topographic Quadrangle: Avondale, Texas 1955 (Photorevised 1982)

Figure 15.2-22 Proposed Common Point Connection: Houston, Texas. Wetland Information.



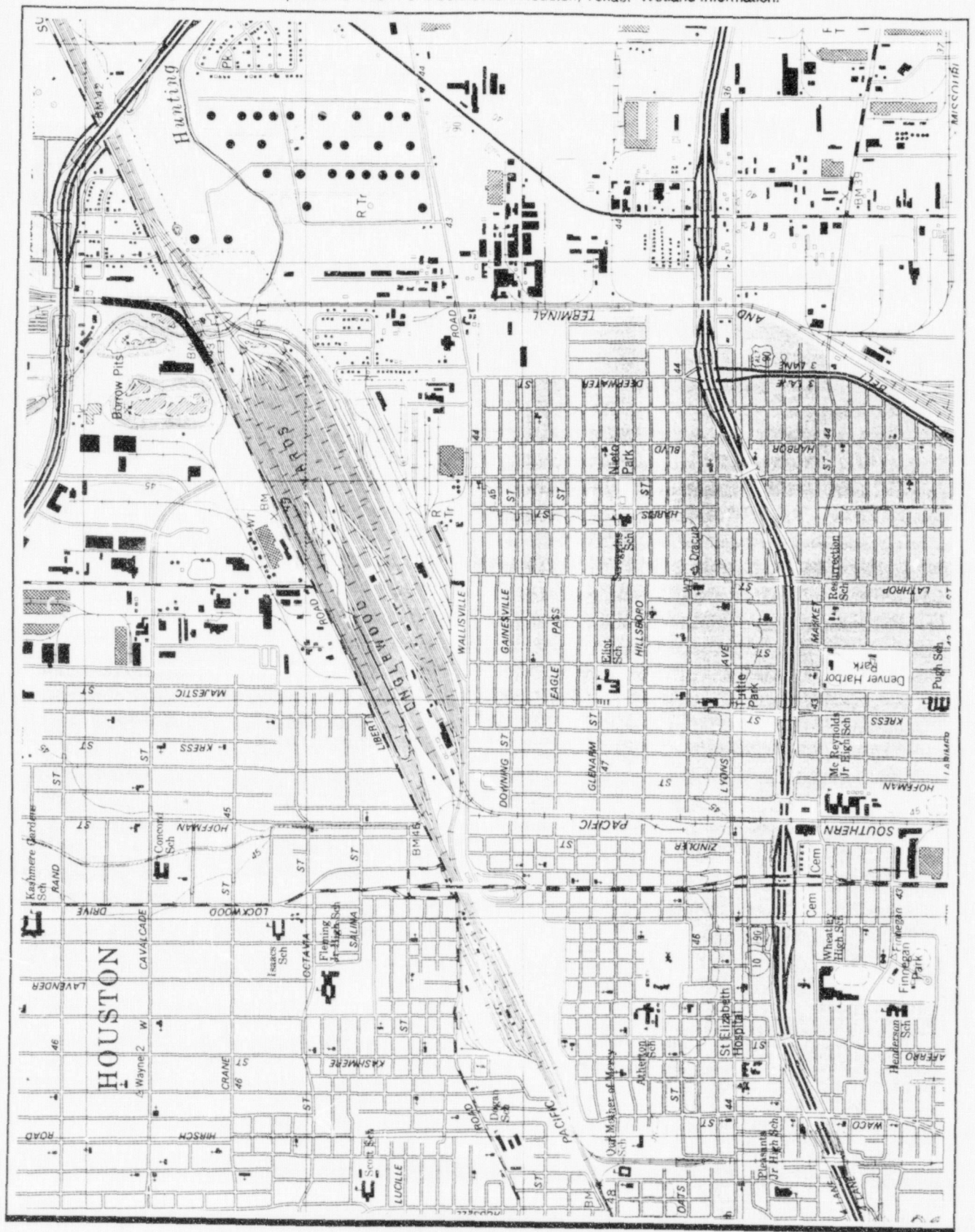
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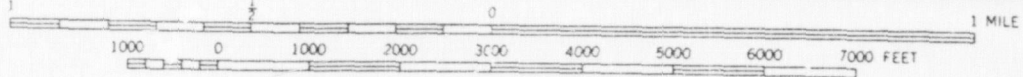
Base Map: USGS 7.5' Topographic Quadrangle: Settegast, Texas 1982



Figure 15.2-23 Proposed Common Point Connection: Houston, Texas. Wetland Information.



SCALE 1:24000



Base Map: USGS 7.5' Topographic Quadrangle: Settegast, Texas 1982

**Figure 15.2-24** Proposed Common Point Connection: Houston, Texas. **Wetland Information.**

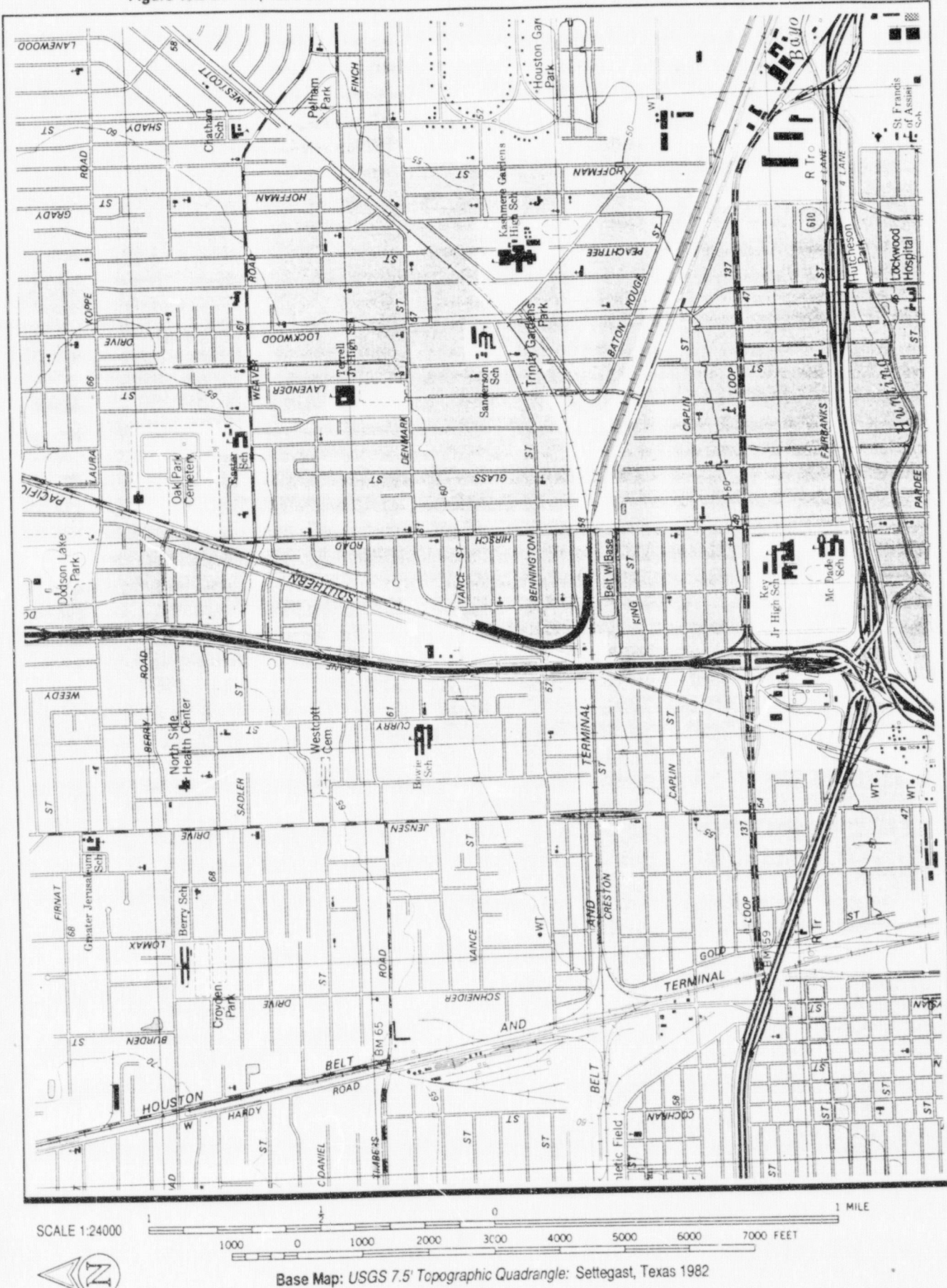
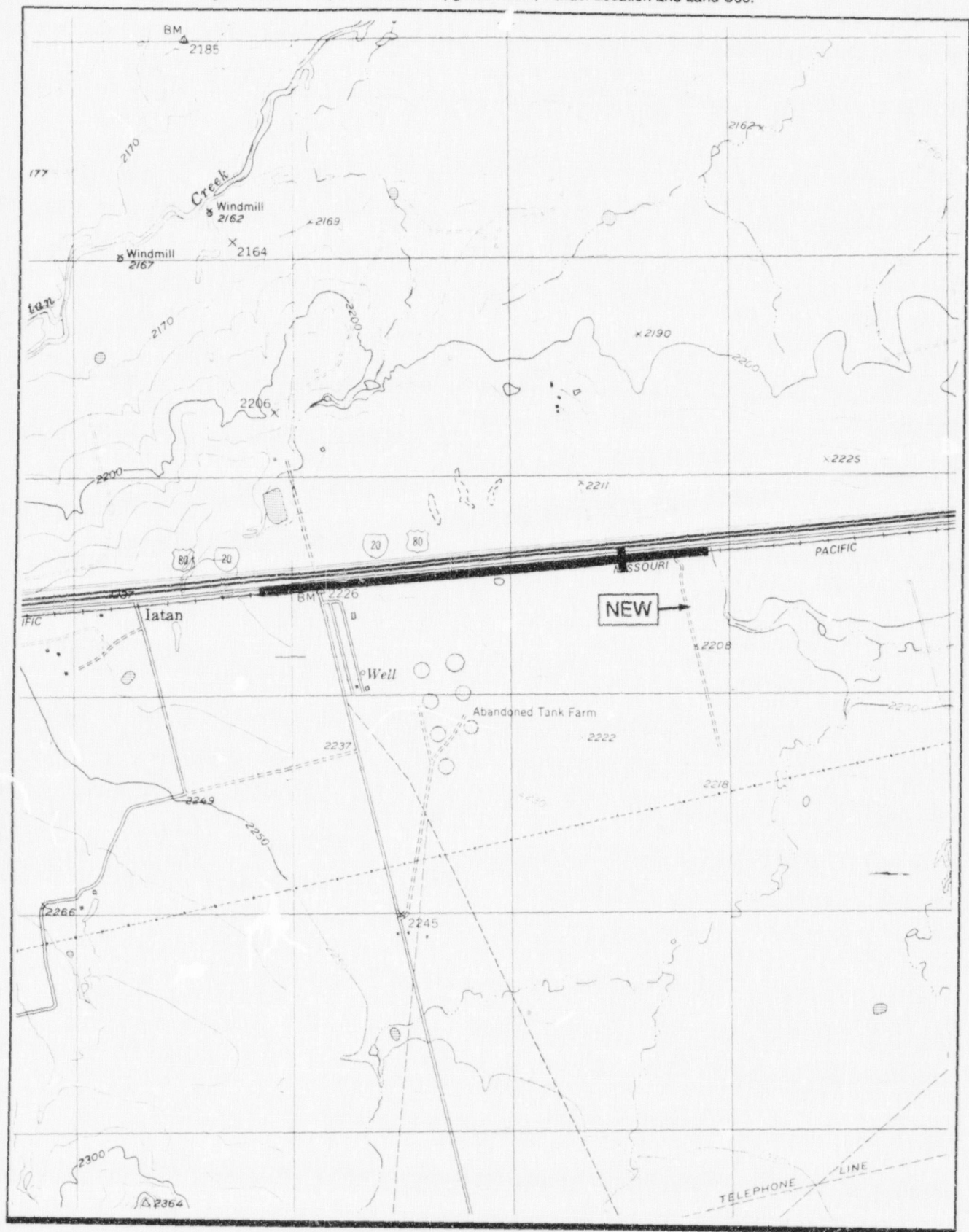
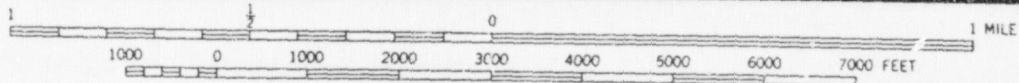




Figure 15.2-25 Proposed Corridor Upgrade: Iatan, Texas. Location and Land Use.

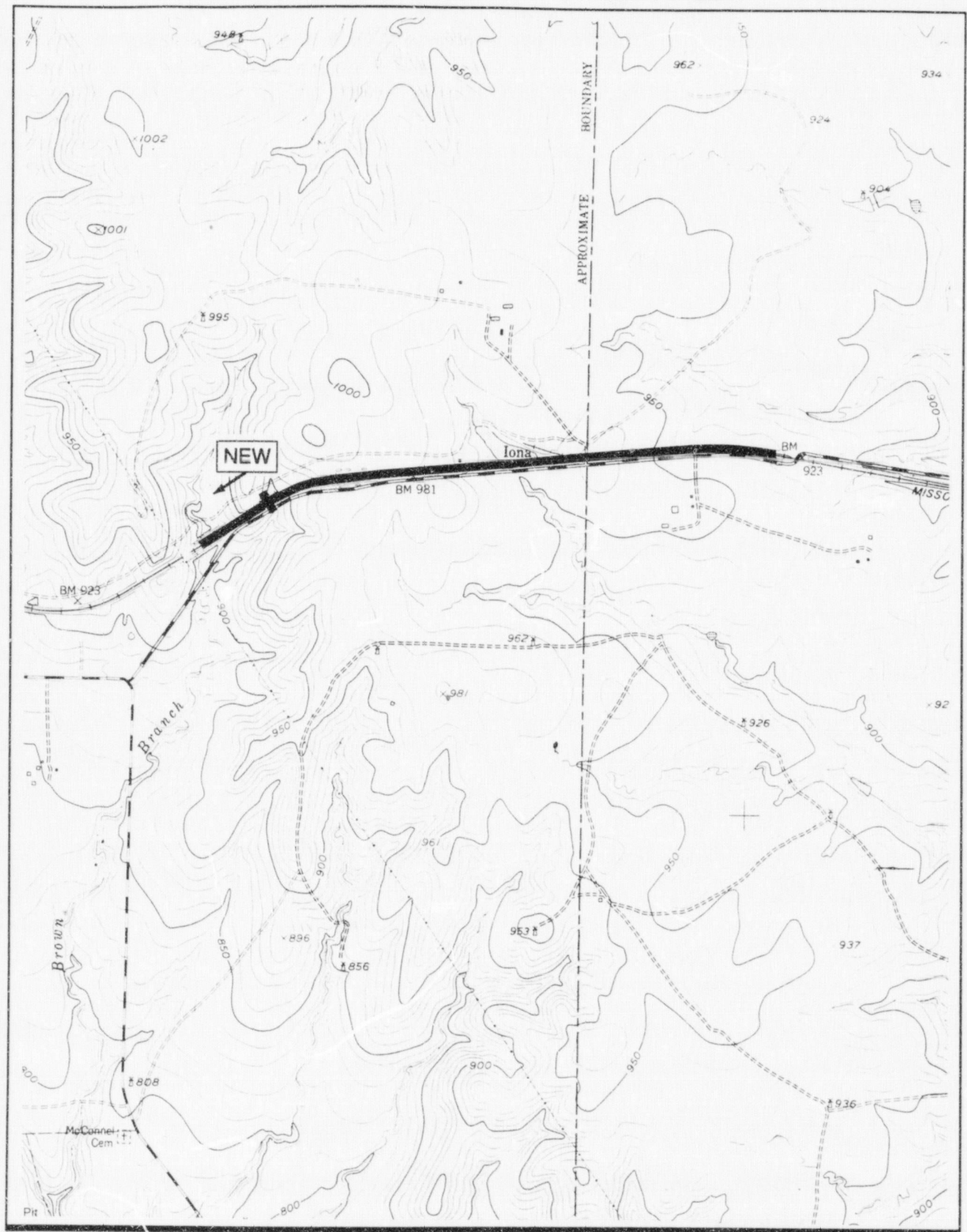


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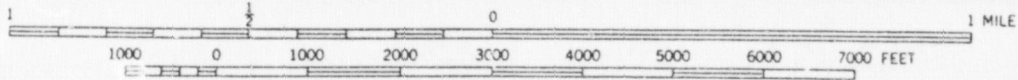


Base Map: USGS 7.5' Topographic Quadrangles: Iatan, Texas 1961 (Photorevised 1978);  
Westbrook, Texas 1952 (Photorevised 1978)

Figure 15.2-26 Proposed Corridor Upgrade: Iona, Texas. Wetland Information.



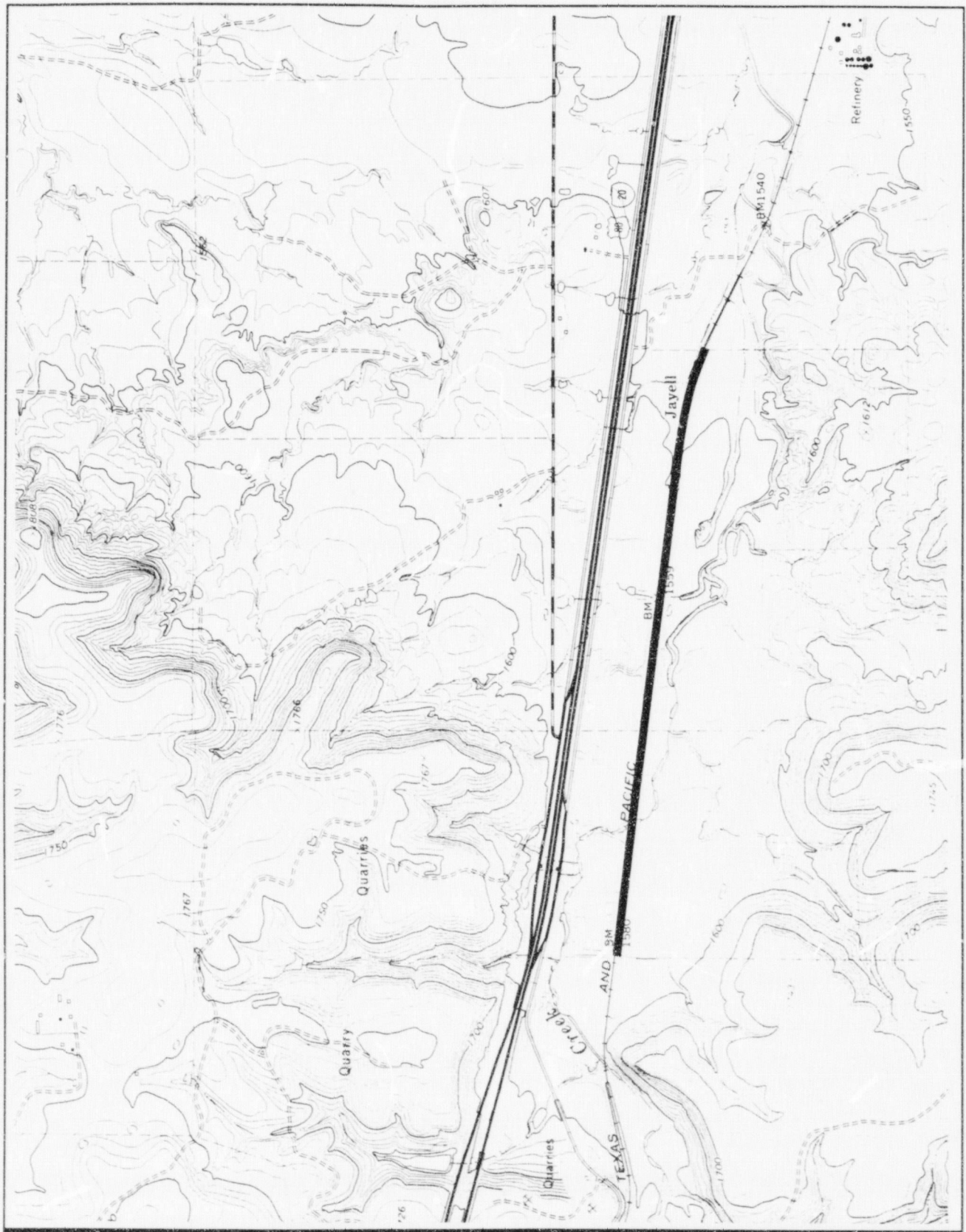
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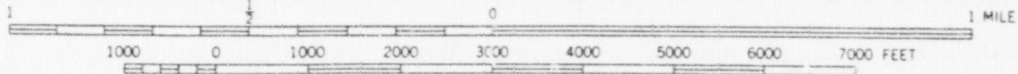
Base Map: USGS 7.5' Topographic Quadrangle: Aledo, Texas 1955 (Photorevised 1981)



Figure 15.2-27 Proposed Corridor Upgrade: Jayell, Texas. Wetland Information.

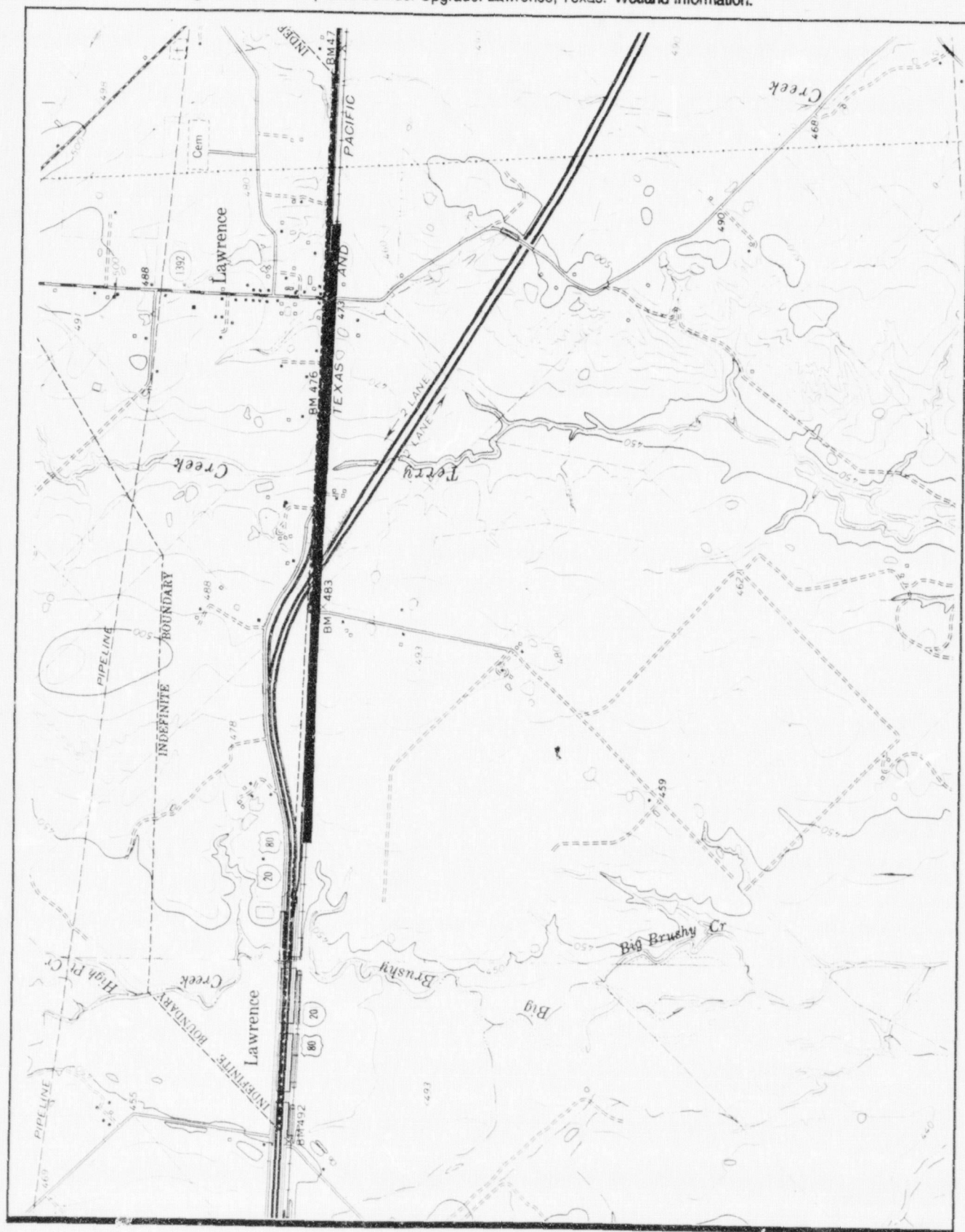


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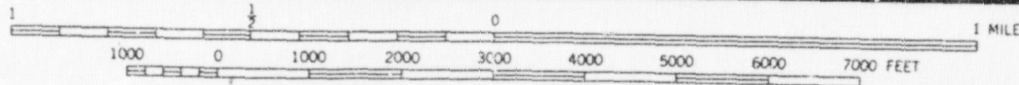


Base Map: USGS 7.5' Topographic Quadrangle: Jayell, Texas 1966

Figure 15.2-28 Proposed Corridor Upgrade: Lawrence, Texas. Wetland Information.



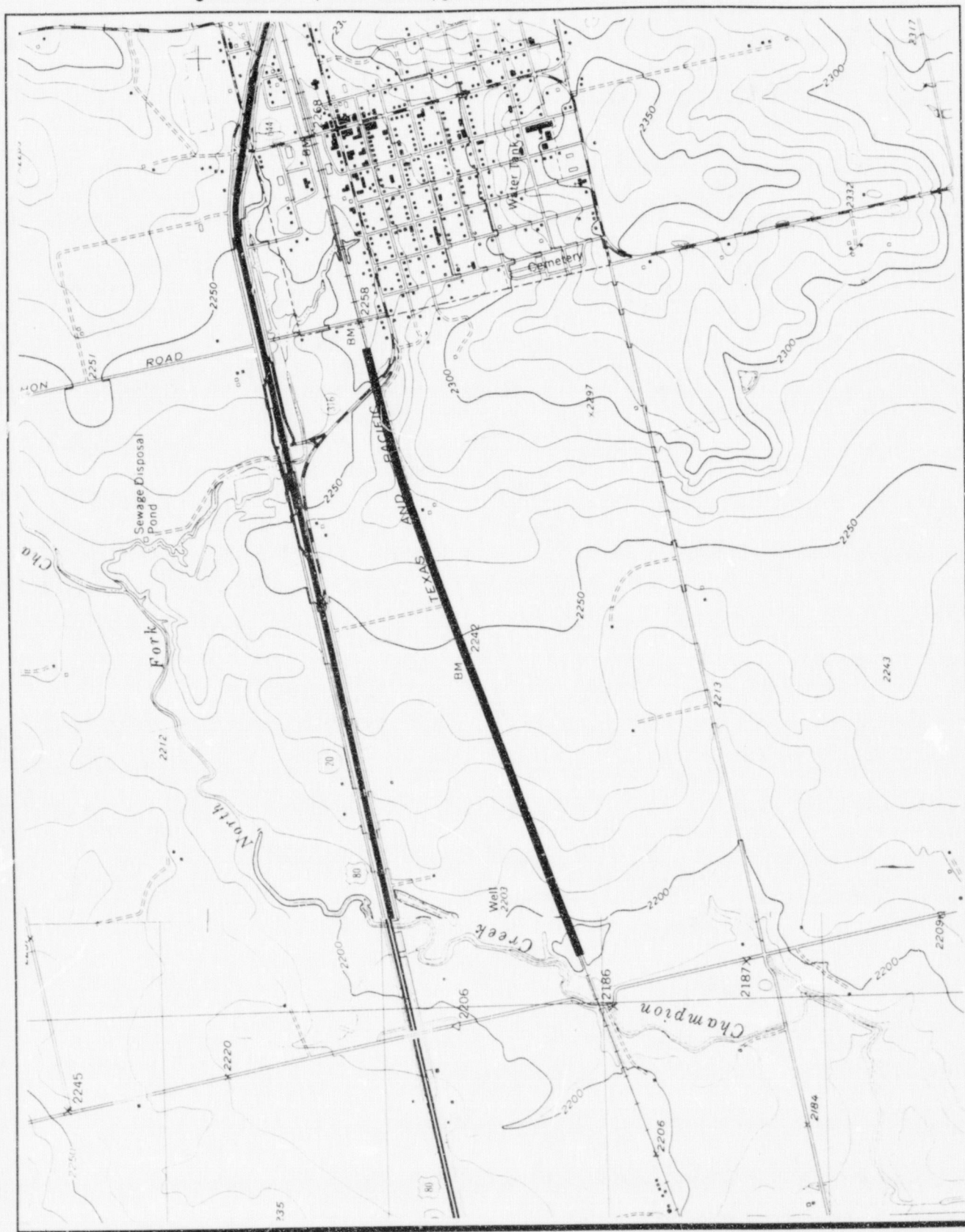
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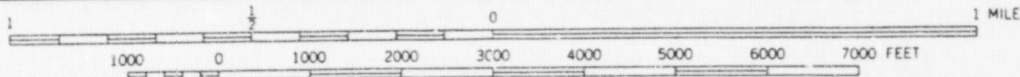
Base Map: USGS 7.5' Topographic Quadrangles: Forney South, Texas 1963 (Photorevised 1973);  
Terrell South, Texas 1963 (Photorevised 1963)



Figure 15.2-29 Proposed Corridor Upgrade: Loraine, Texas. Wetland Information.

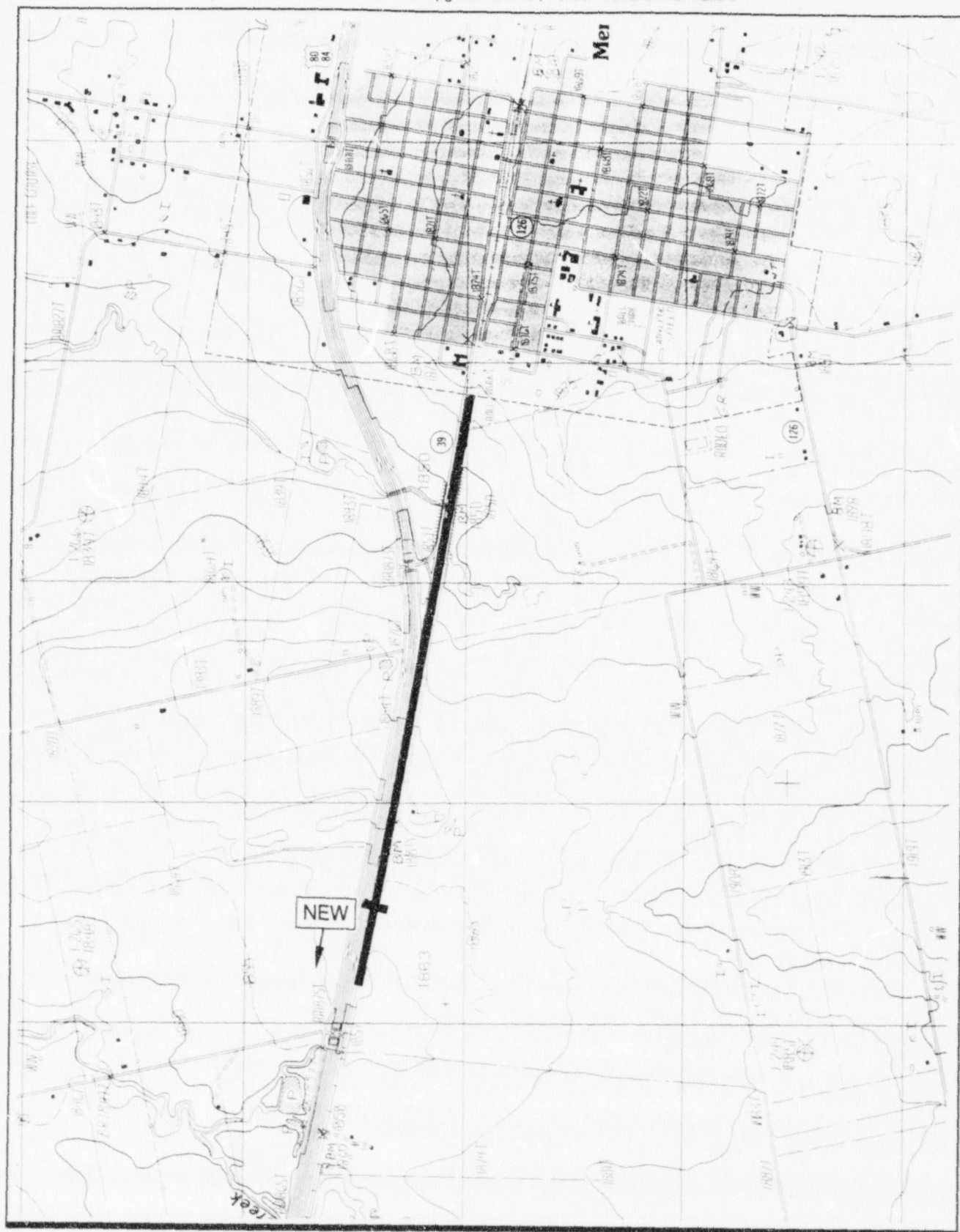


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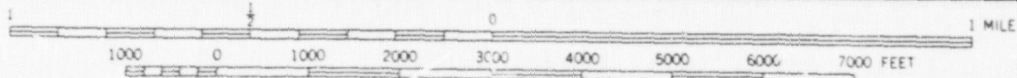


Base Map: USGS 7.5' Topographic Quadrangles: Loraine, Texas 1969;  
Colorado City, Texas 1952 (Photorevised 1979)

Figure 15.2-30 Proposed Corridor Upgrade: Merkel, Texas. Wetland Information.



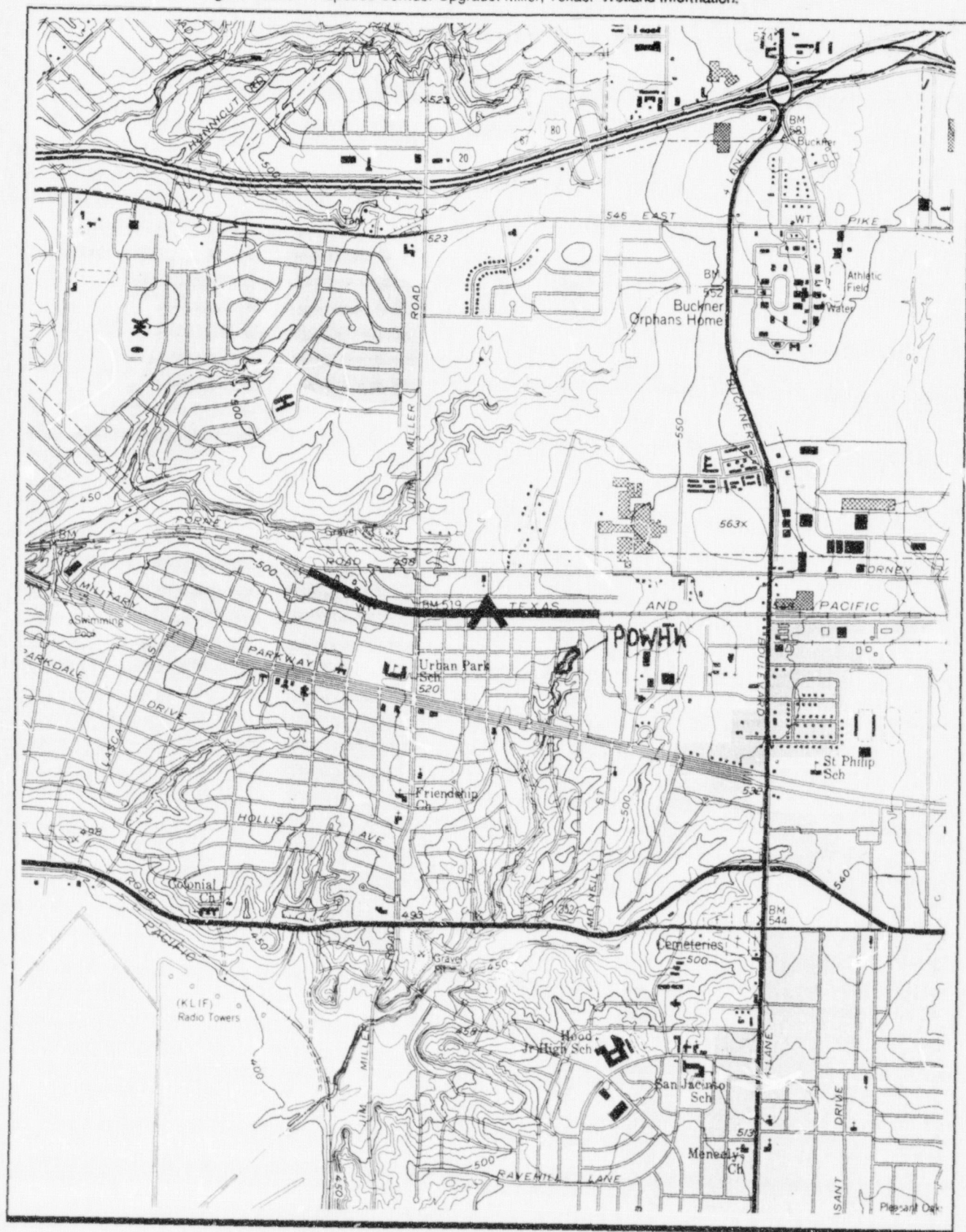
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Base Map: USGS 7.5' Topographic Quadrangle: Merkel West, Texas (Provisional Edition 1984)



Figure 15.2-31 Proposed Corridor Upgrade: Miller, Texas. Wetland Information.

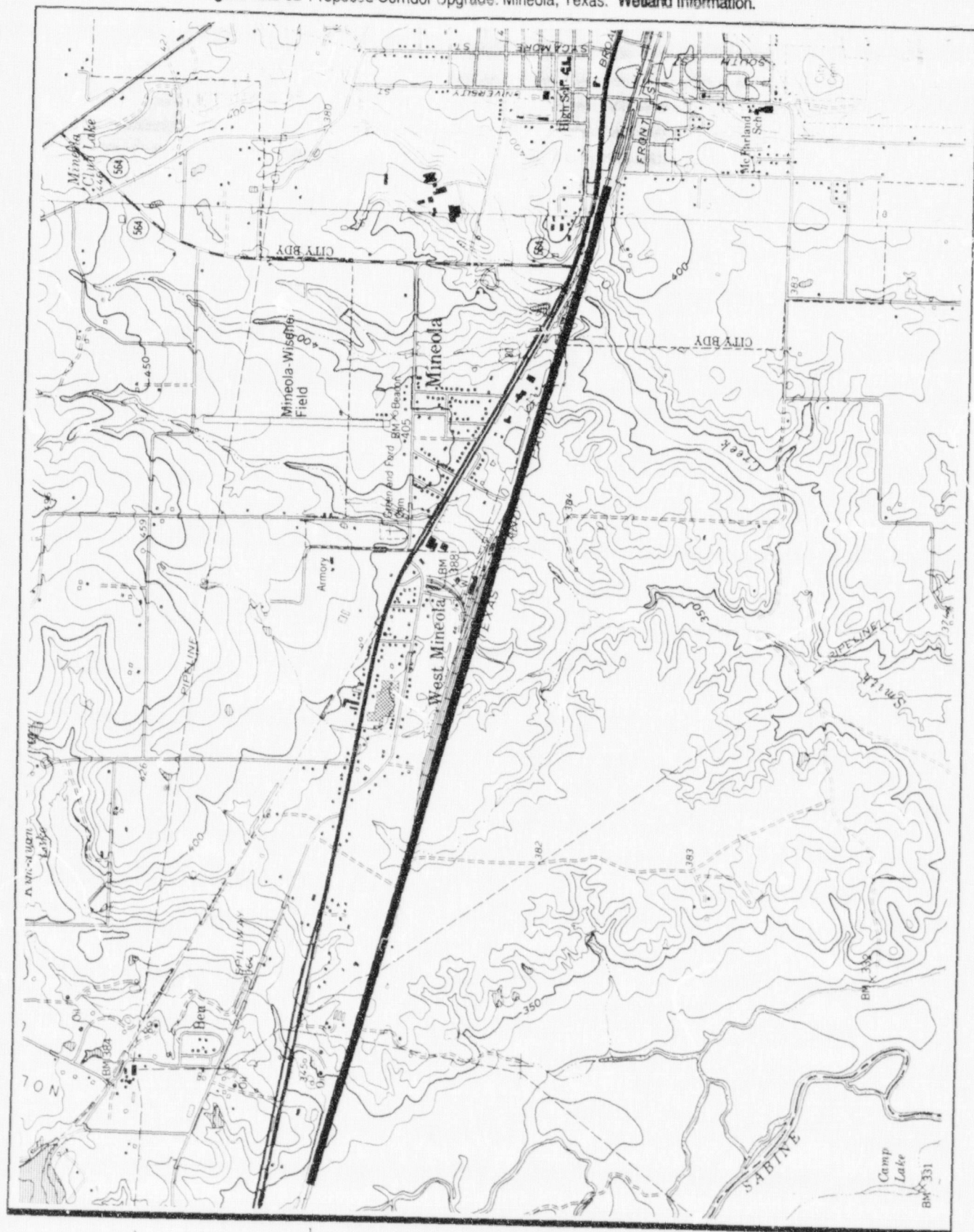


SCALE 1:24000



Base Map: USGS 7.5' Topographic Quadrangle: White Rock Lake, Texas 1958 (Photorevised 1968 and 1973)

Figure 15.2-32 Proposed Corridor Upgrade: Mineola, Texas. Wetland Information.



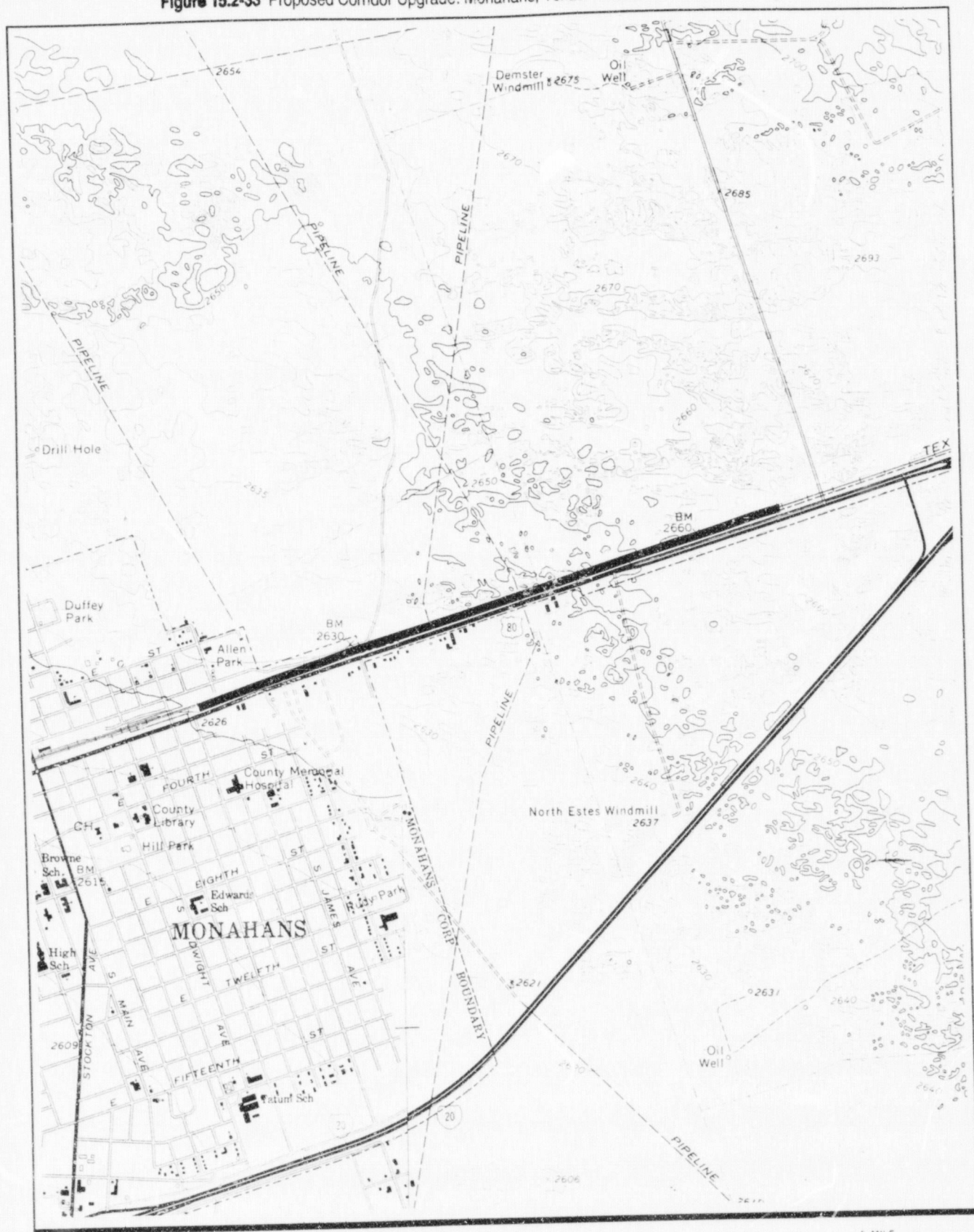
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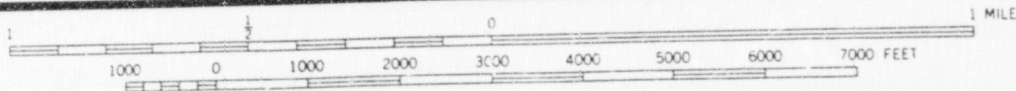
Base Map: USGS 7.5' Topographic Quadrangles: Golden, Texas 1959 (Photorevised 1981);  
Mineola, Texas 1960 (Photorevised 1981)



Figure 15.2-33 Proposed Corridor Upgrade: Monahans, Texas. Wetland Information.

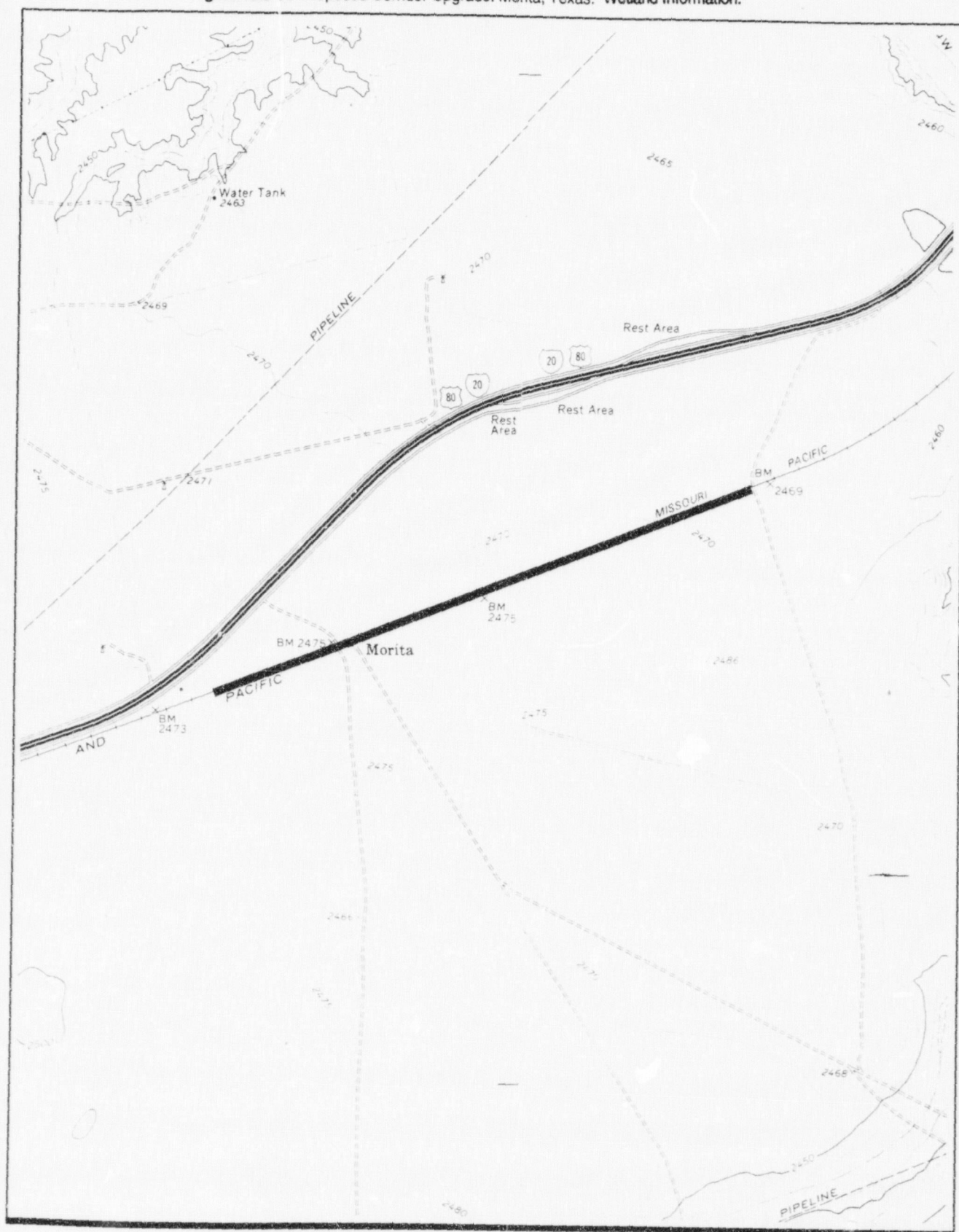


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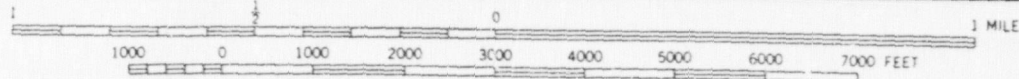


Base Map: USGS 7.5' Topographic Quadrangles: Monahans, Texas 1969 (Photorevised 1981);  
Monahans SE, Texas 1968

Figure 15.2-34 Proposed Corridor Upgrade: Morita, Texas. Wetland Information.



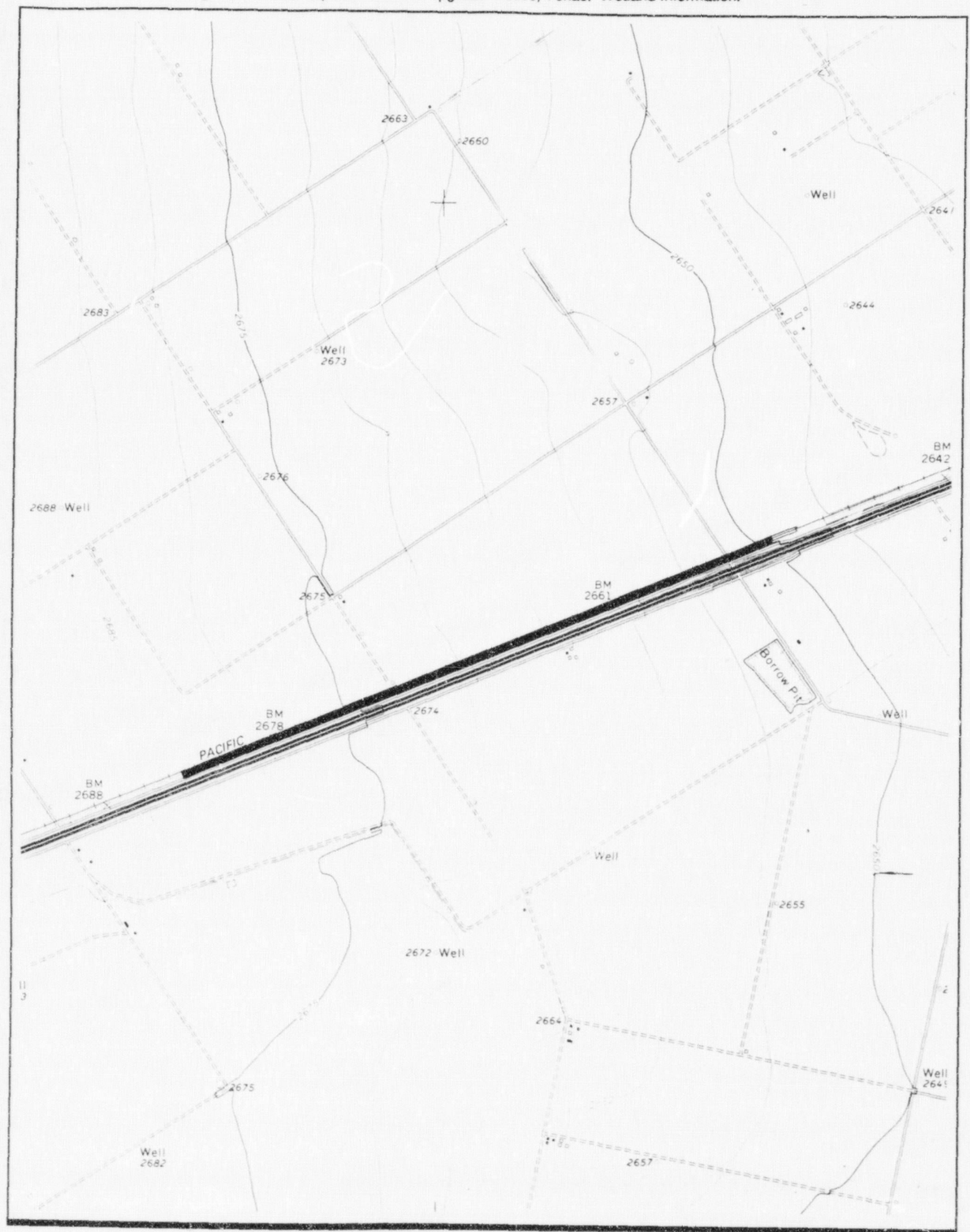
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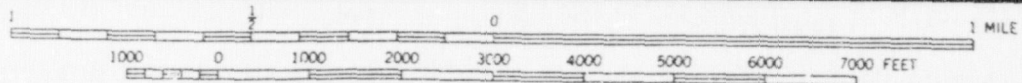
Base Map: USGS 7.5' Topographic Quadrangles: Natural Dam Lake, Texas 1966; Elbow, Texas 1966



Figure 15.2-35 Proposed Corridor Upgrade: Pecos, Texas. Wetland Information.

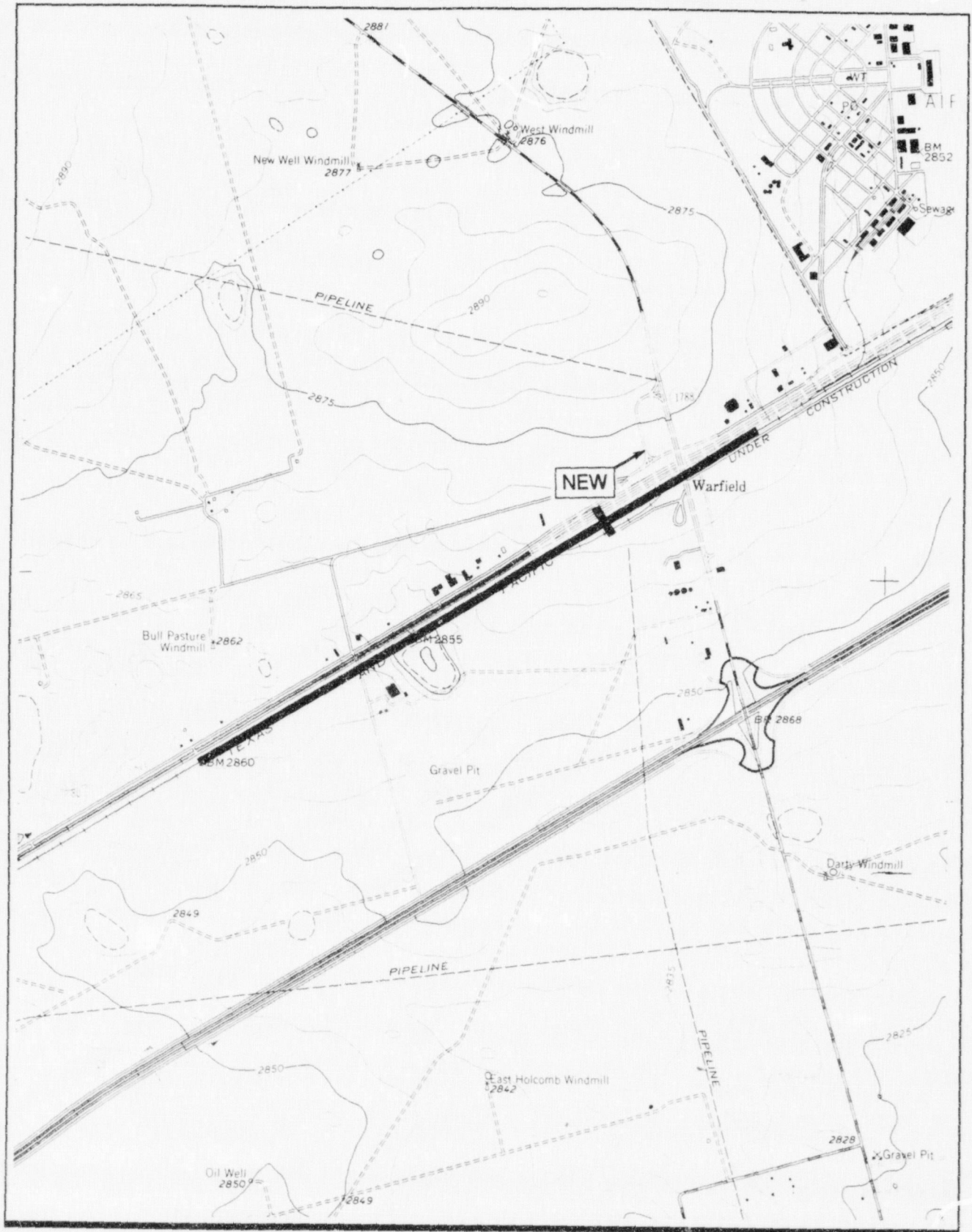


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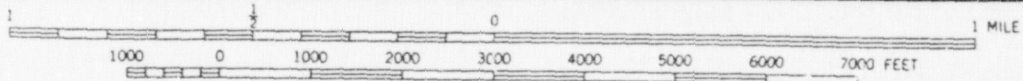


Base Map: USGS 7.5' Topographic Quadrangle: Pecos West, Texas 1971 (Photorevised 1981)

Figure 15.2-36 Proposed Corridor Upgrade: Pegasus, Texas. Wetland Information.



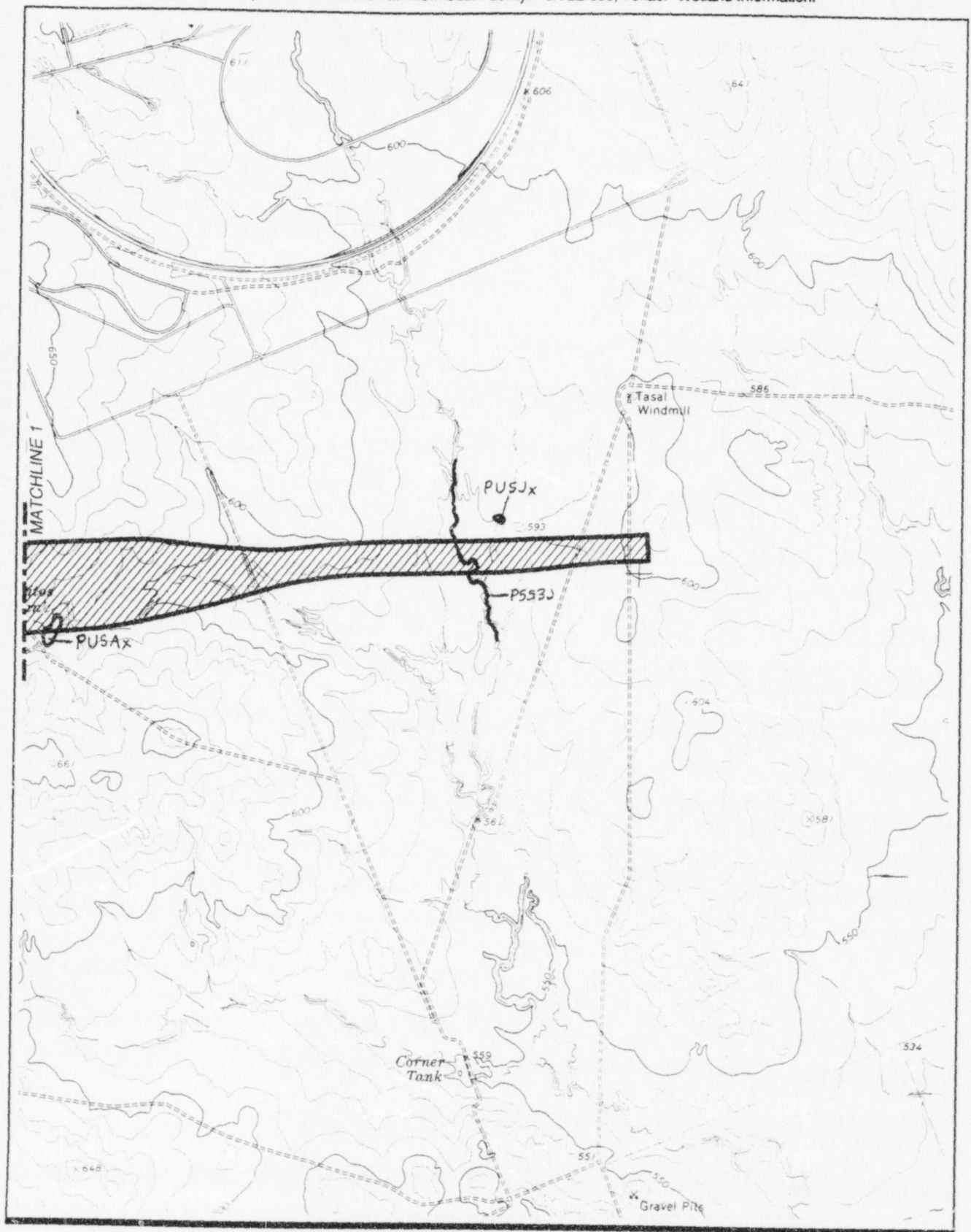
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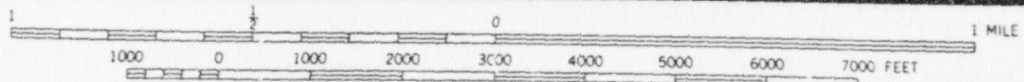
Base Map: USGS 7.5' Topographic Quadrangle: Southwest Midland, Texas 1965 (Photorevised 1974)



Figure 15.2-37a Proposed Construction at Intermodal Facility: Port Laredo, Texas. Wetland Information.

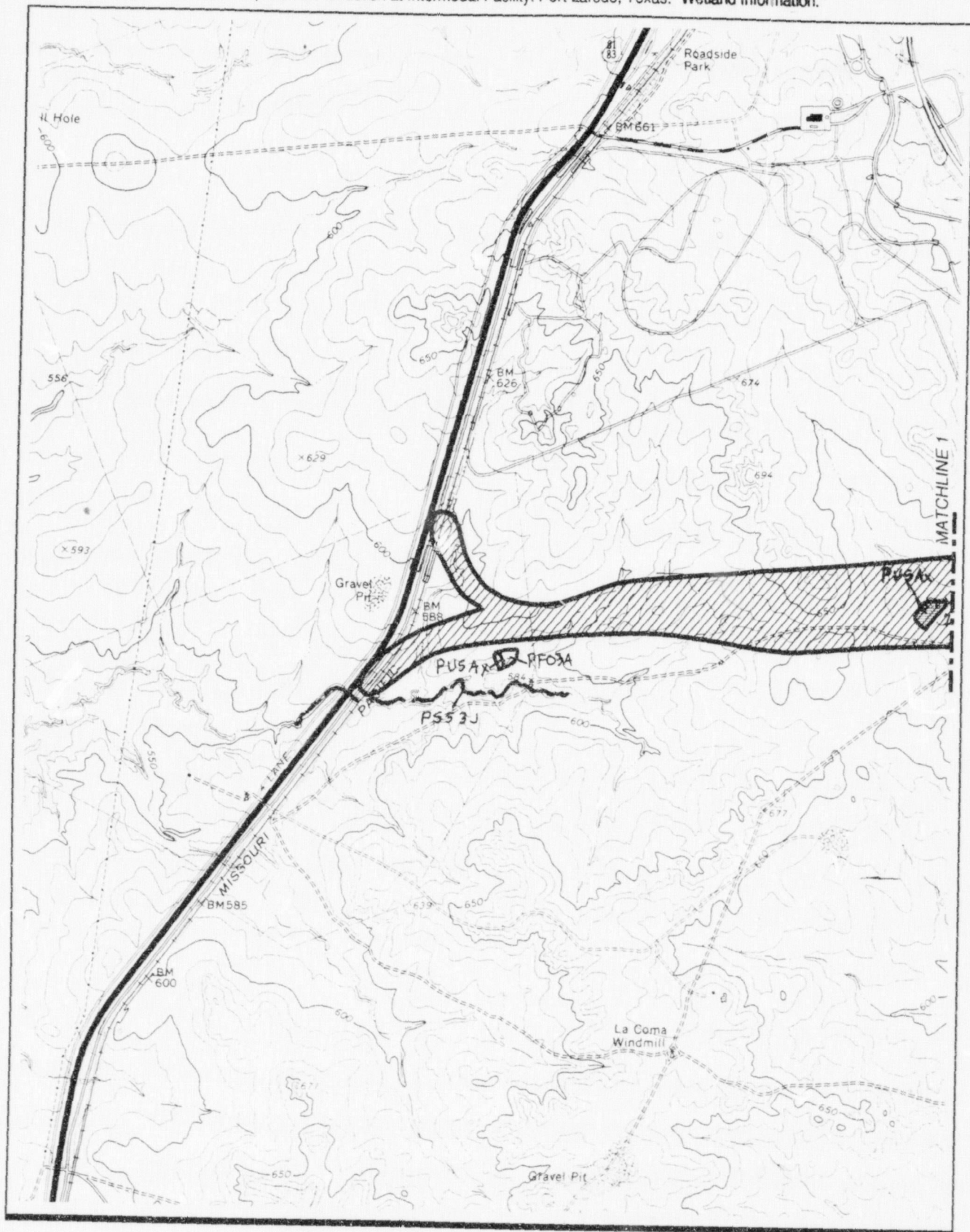


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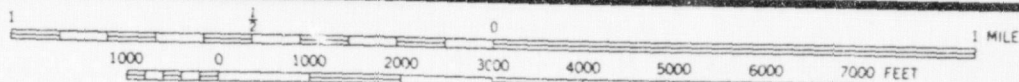


Base Map: USGS 7.5' Topographic Quadrangle: Orvil, Texas 1965 (Photorevised 1980)

Figure 15.2-37b Proposed Construction at Intermodal Facility: Port Laredo, Texas. Wetland Information.



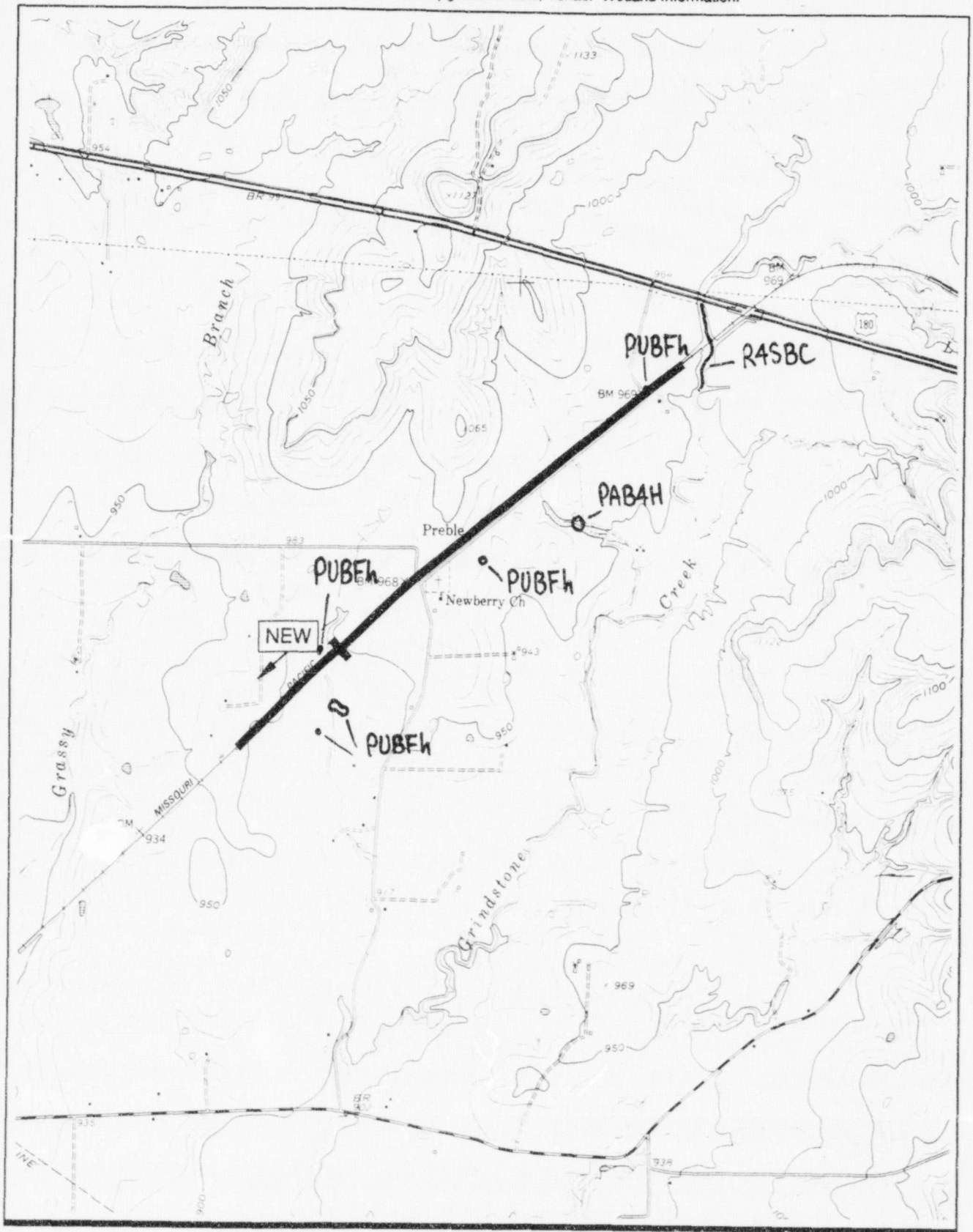
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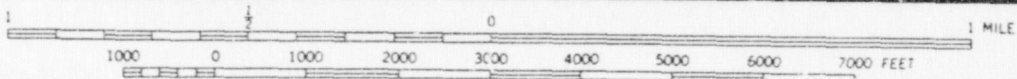
Base Map: USGS 7.5' Topographic Quadrangle: Orvil, Texas 1965 (Photorevised 1980)



Figure 15.2-38 Proposed Corridor Upgrade: Preble, Texas. Wetland Information.

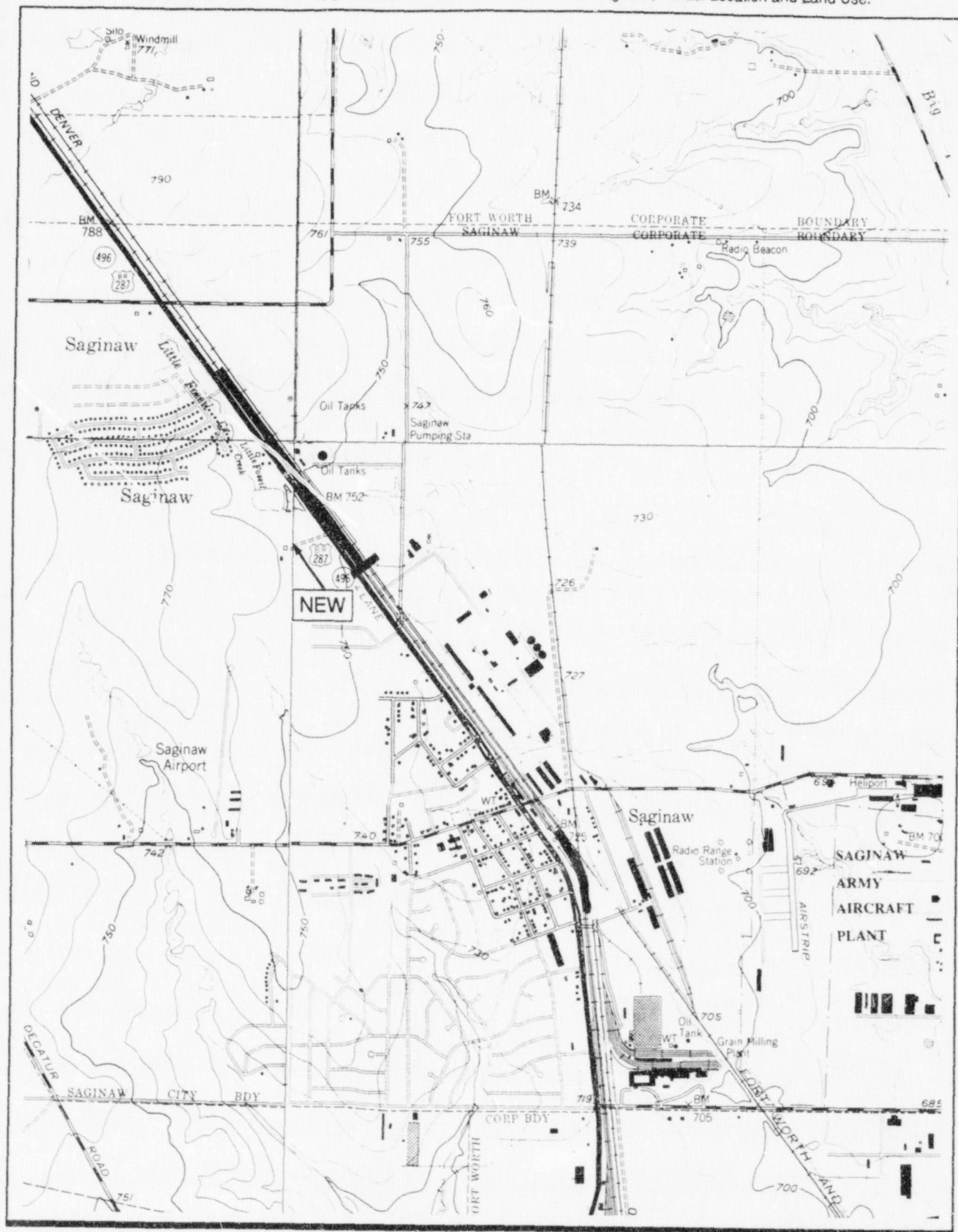


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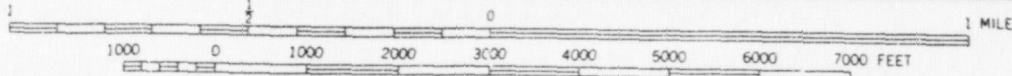


Base Map: USGS 7.5' Topographic Quadrangle: Garner, Texas 1959 (Photorevised 1979)

**Figure 15.2-39** Proposed Corridor Upgrade and Common Point Connection: Saginaw, Texas. Location and Land Use.



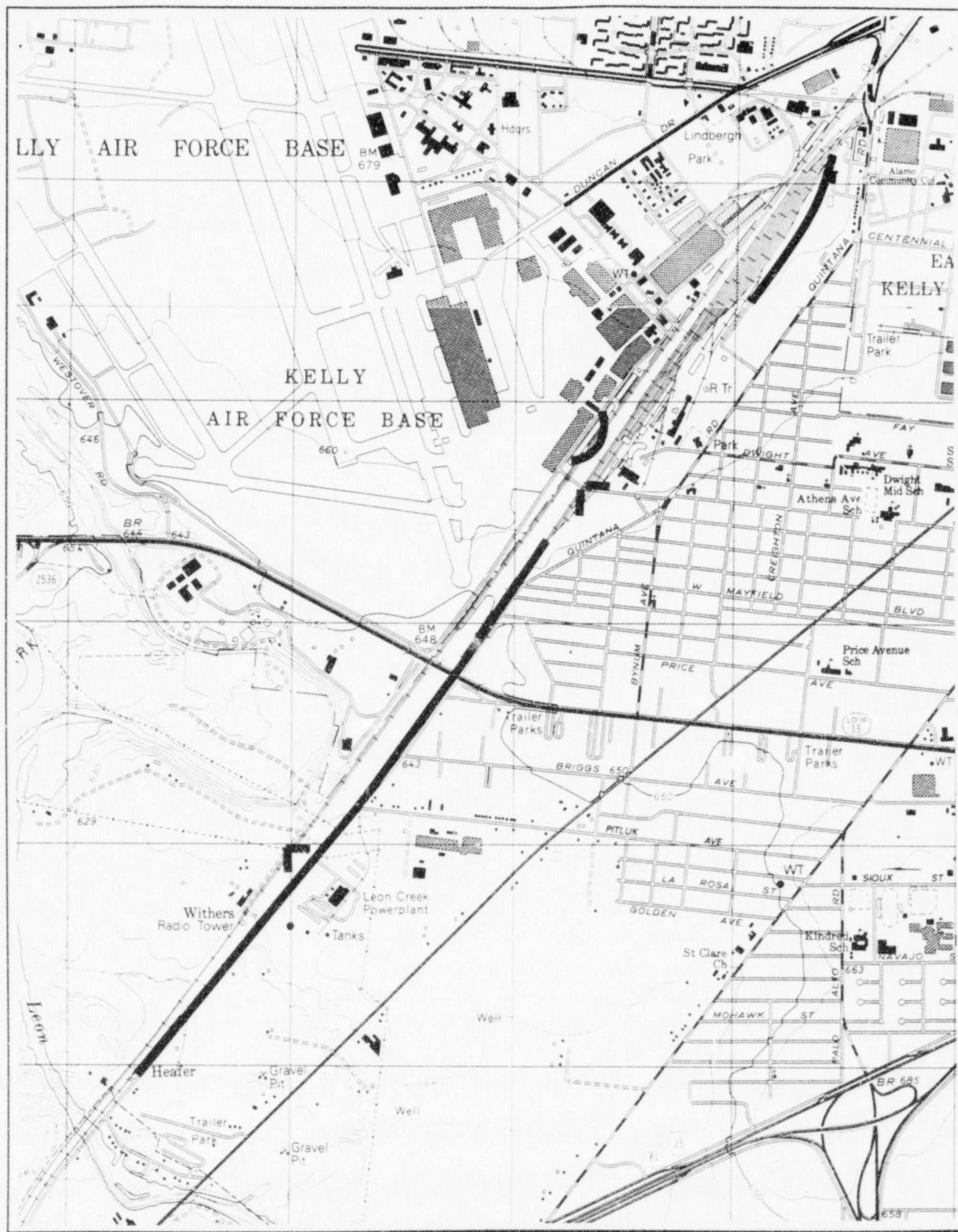
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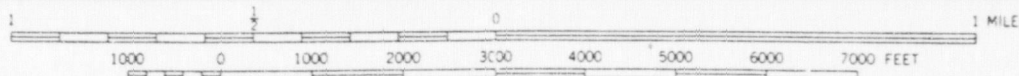
Base Map: USGS 7.5' Topographic Quadrangles: Avondale, Texas 1955 (Photorevised 1982);  
Keller, Texas 1955 (Photorevised 1981); Haltom City, Texas 1955 (Photorevised 1981);  
Lake Worth, Texas 1955 (Photorevised 1982)



Figure 15.2-40 Proposed Common Point Connections and Construction at Intermodal Facility: San Antonio, Texas. Wetland Information.

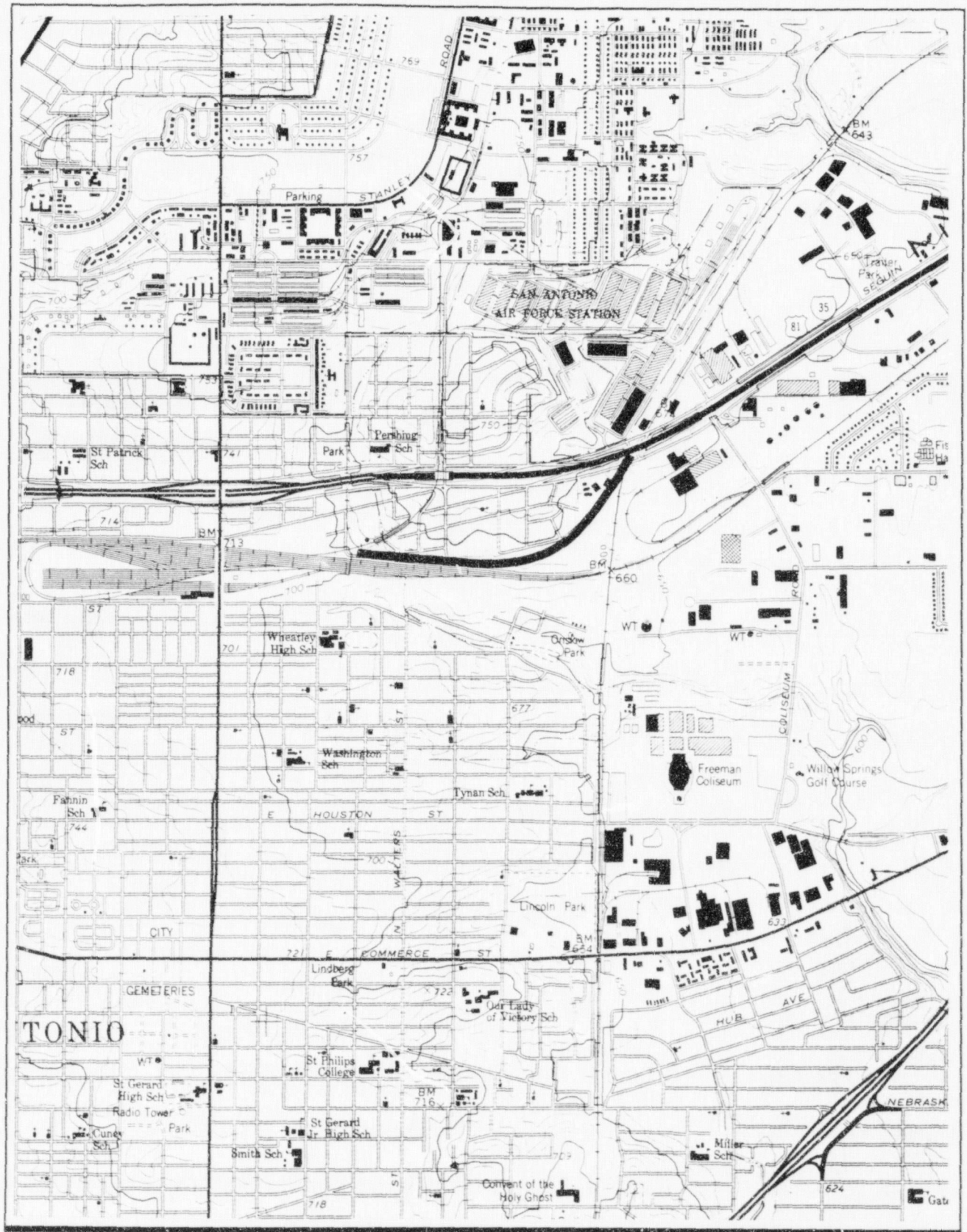


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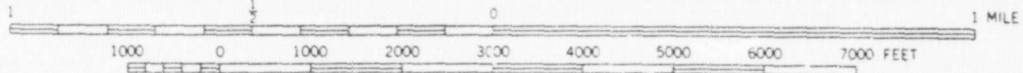


Base Map: USGS 7.5' Topographic Quadrangles: San Antonio West, Texas 1993;  
Terrell Wells, Texas 1992

Figure 15.2-41 Proposed Common Point Connection: San Antonio, Texas. Wetland Information.



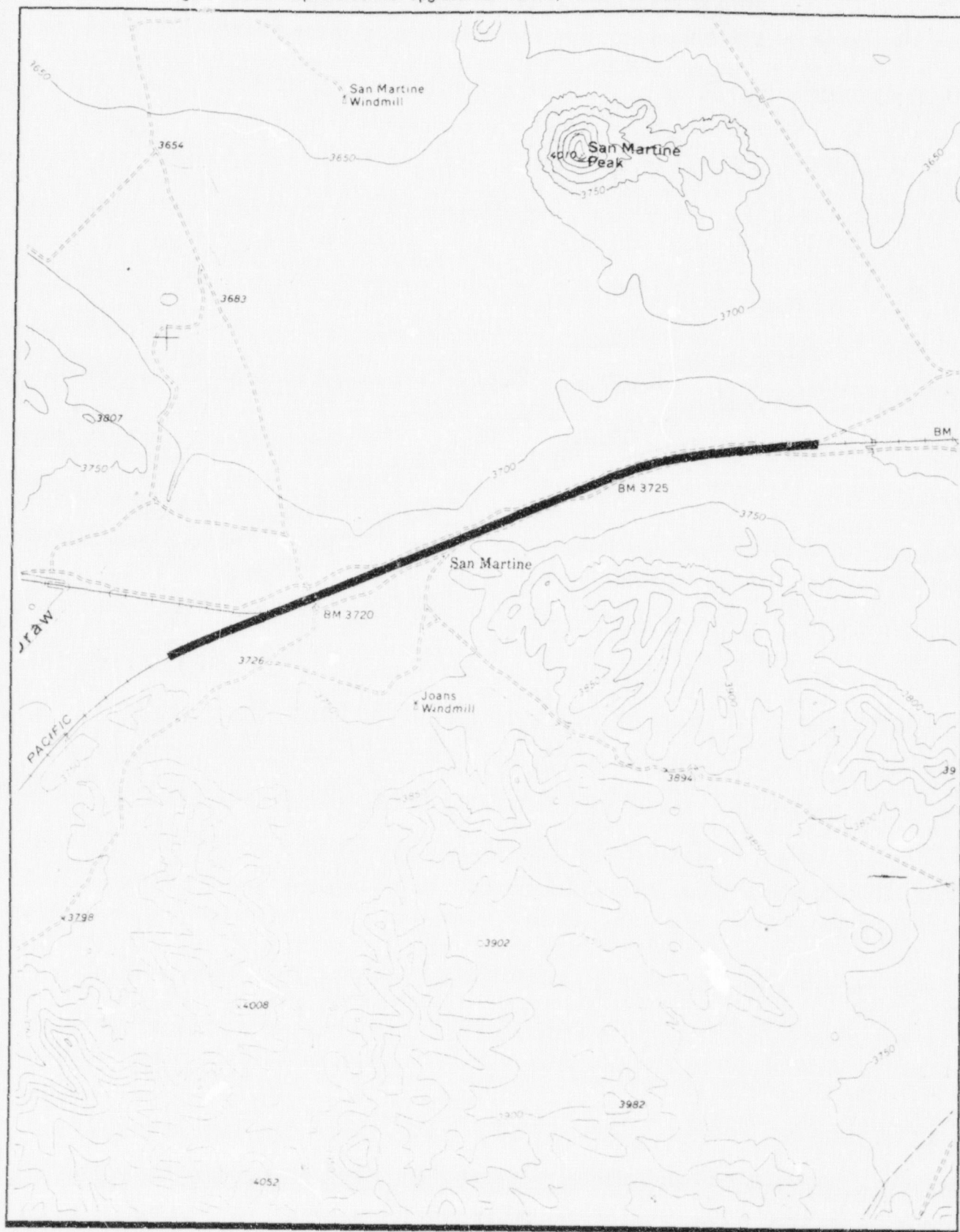
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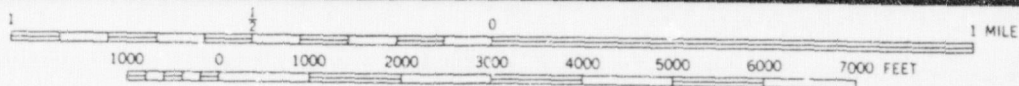
Base Map: USGS 7.5' Topographic Quadrangle: San Antonio East, Texas 1967 (Photorevised 1973)



Figure 15.2-42 Proposed Corridor Upgrade: San Martine, Texas. Wetland Information.



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Base Map: USGS 7.5' Topographic Quadrangle: San Martine, Texas 1970

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PUBFh

Adora Creek

Rock Island Creek

PACIFIC

Oil Wells

Gravel Pit

Middle Creek

Belknap Creek

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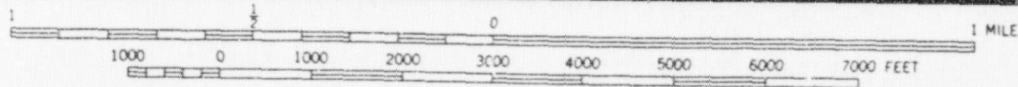
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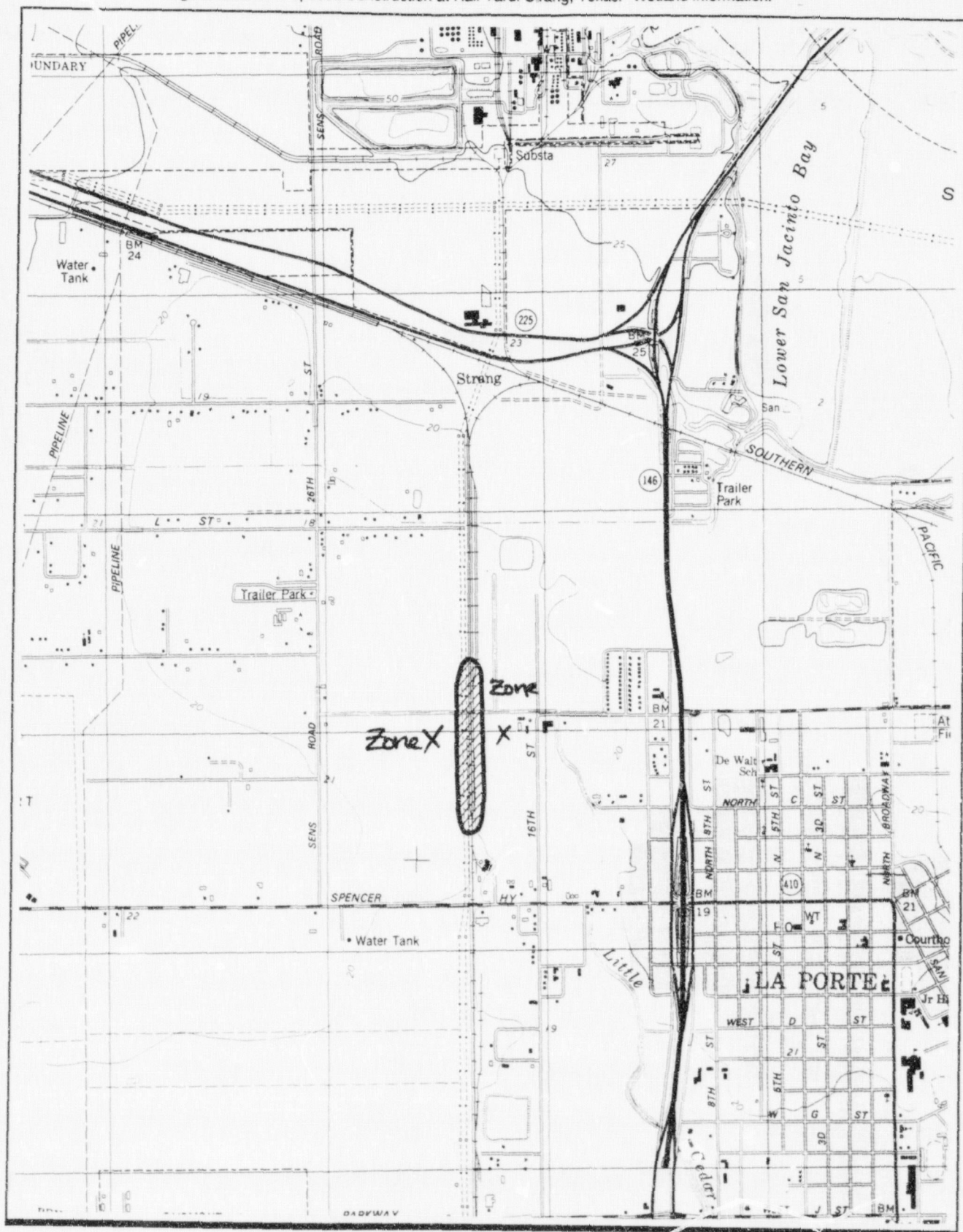
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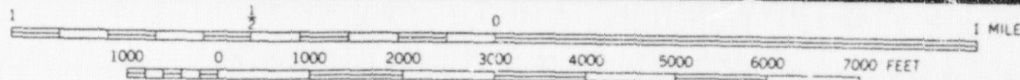
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Figure 15.2-44 Proposed Construction at Rail Yard: Strang, Texas. Wetland Information.

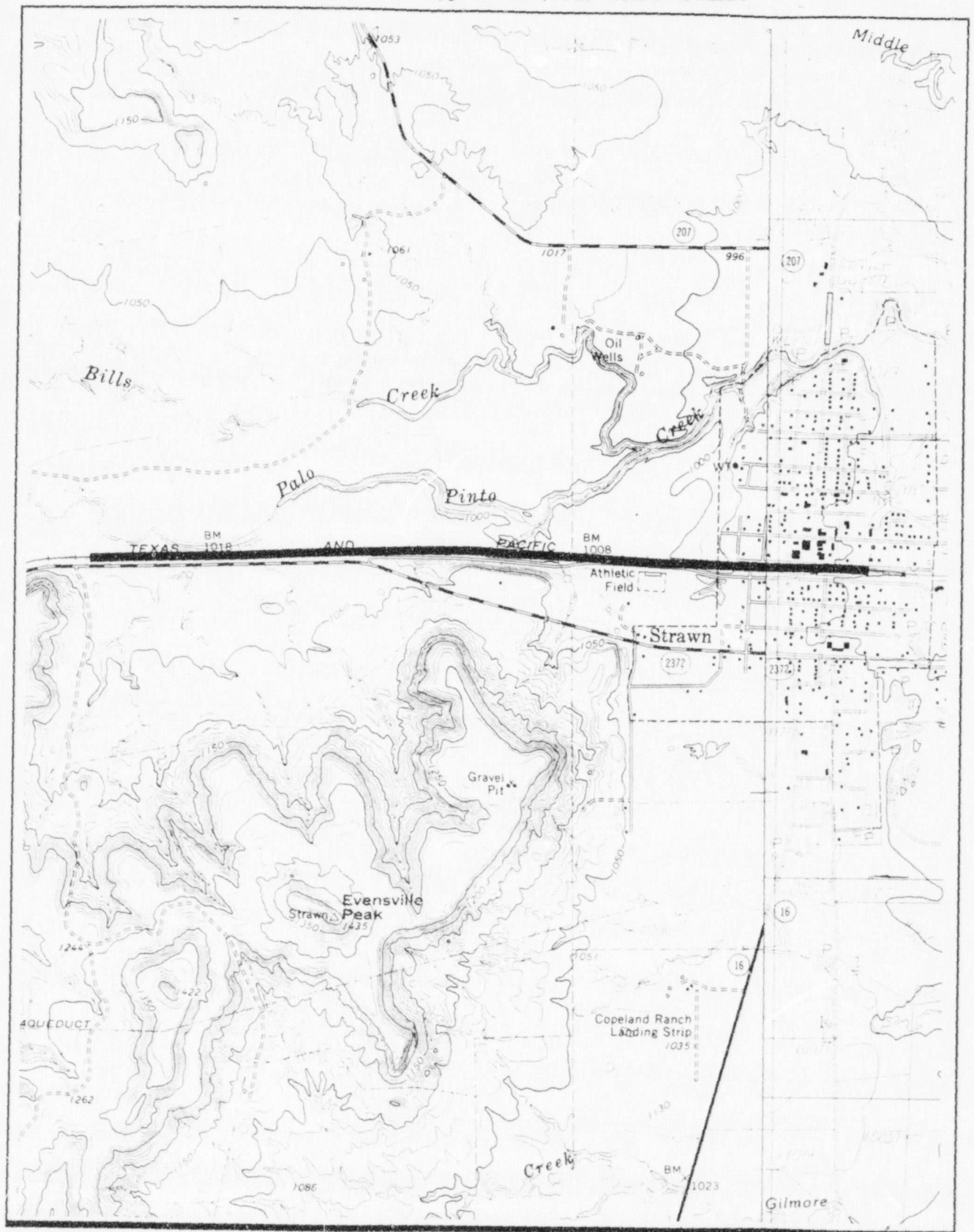


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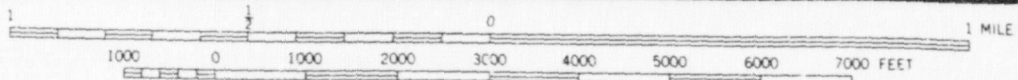


Base Map: USGS 7.5' Topographic Quadrangle: La Porte, Texas 1982

Figure 15.2-45 Proposed Corridor Upgrade: Strawn, Texas. Wetland Information.



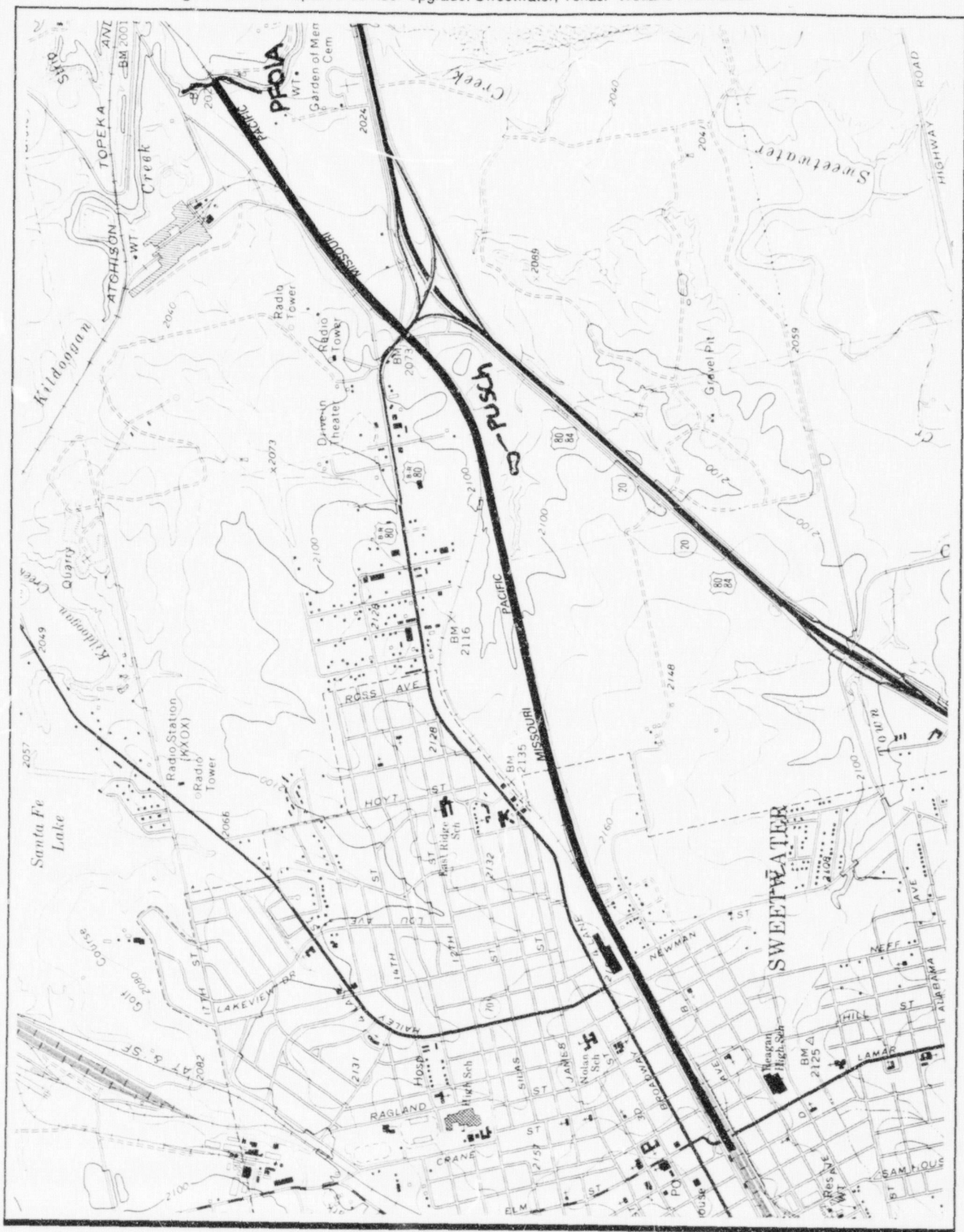
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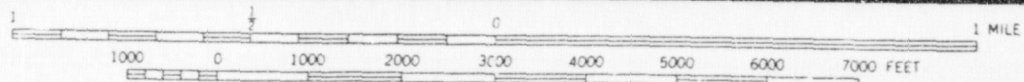
Base Map. USGS 7.5' Topographic Quadrangles: Strawn West, Texas 1967; Strawn East Texas (Provisional Edition 1984)



Figure 15.2-46 Proposed Corridor Upgrade: Sweetwater, Texas. Wetland Information.

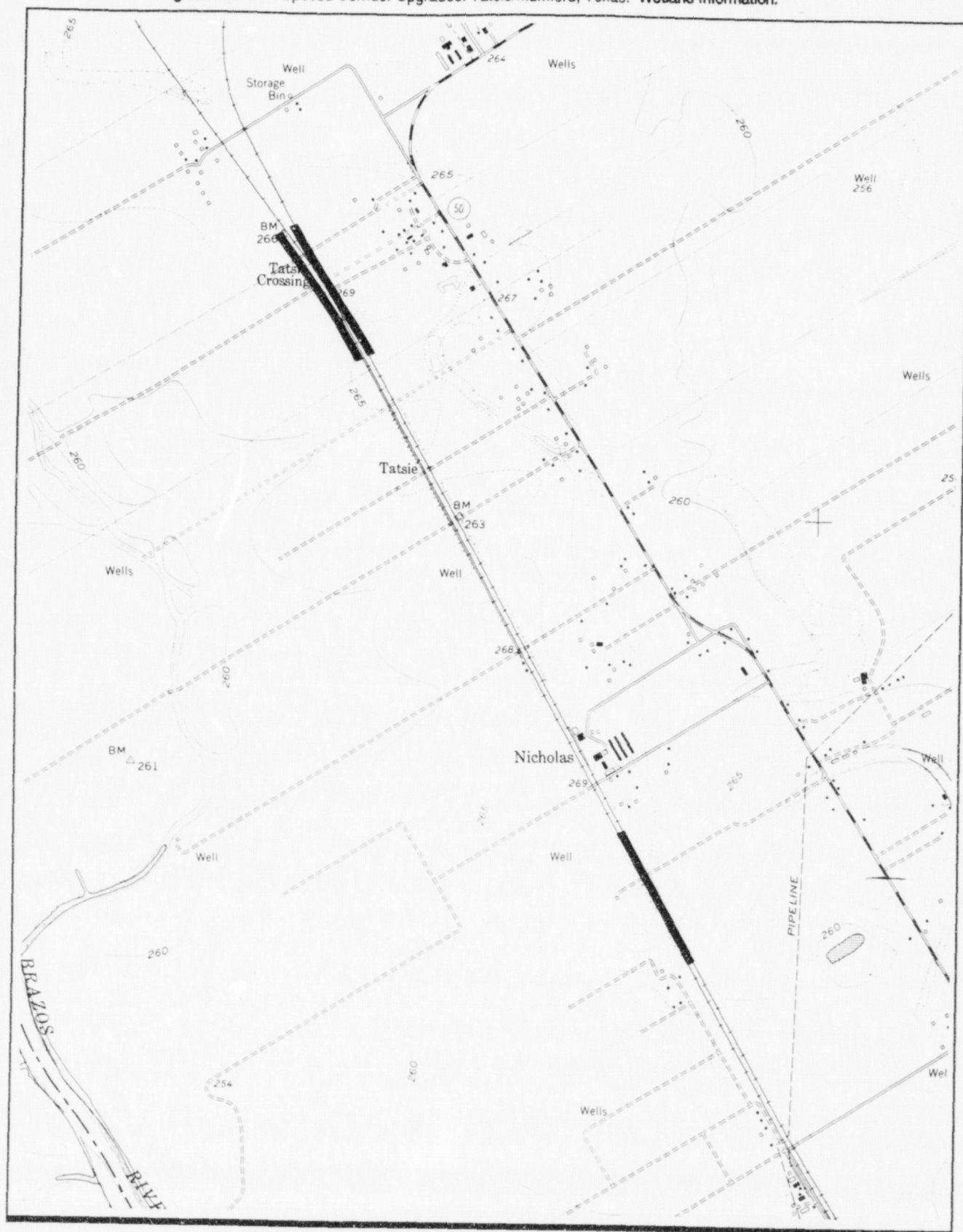


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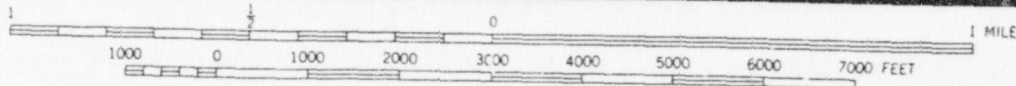


Base Map: USGS 7.5' Topographic Quadrangles: Sweetwater, Texas 1969 (Photorevised 1987);  
Lake Sweetwater, Texas 1969 (Photorevised 1987)

Figure 15.2-47 Proposed Corridor Upgrades: Tatsie/Mumford, Texas. Wetland Information.



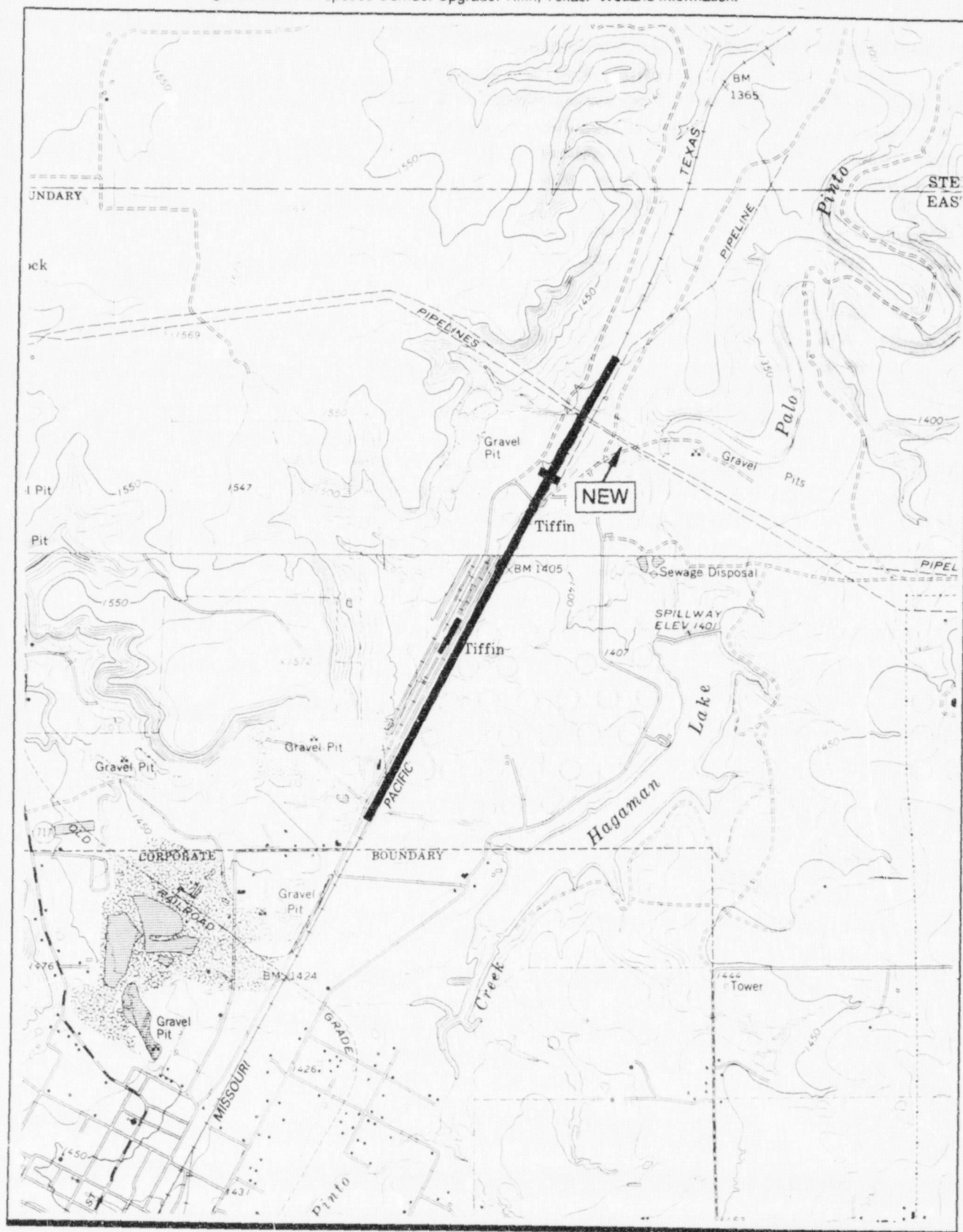
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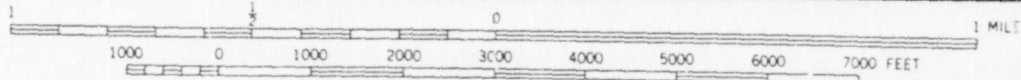
Base Map: USGS 7.5' Topographic Quadrangle: Hearne South, Texas 1961 (Photorevised 1988)



Figure 15.2-48 Proposed Corridor Upgrade: Tiffin, Texas. Wetland Information.

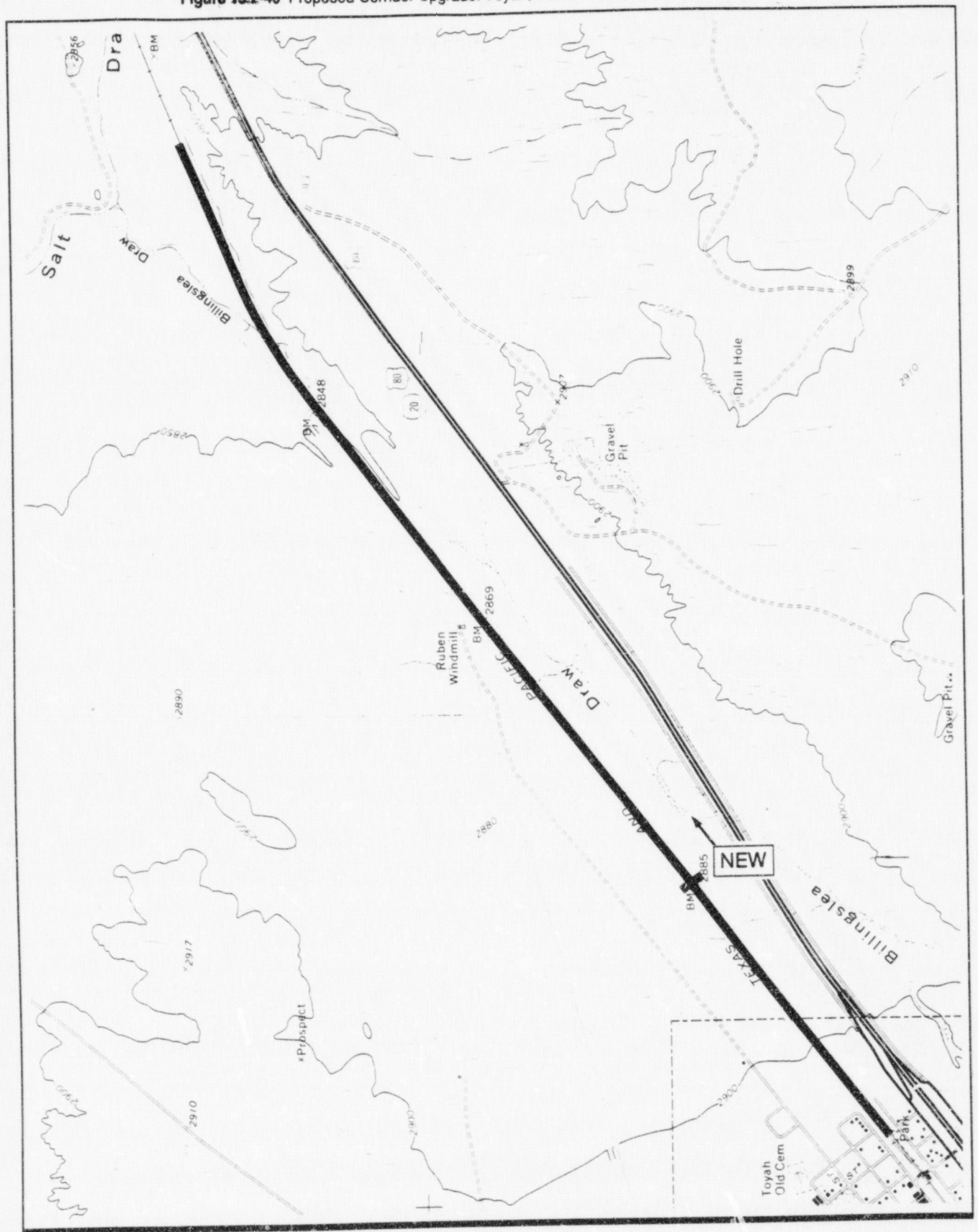


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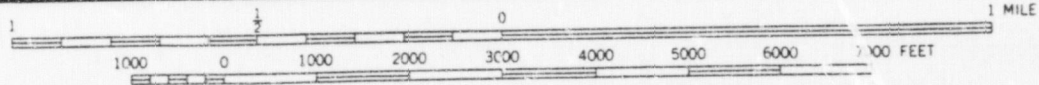


Base Map: USGS 7.5' Topographic Quadrangles: La Casa, Texas 1967;  
Ranger, Texas 1966 (Photorevised 1987)

Figure 15.2-49 Proposed Corridor Upgrade: Toyah, Texas. Wetland Information.



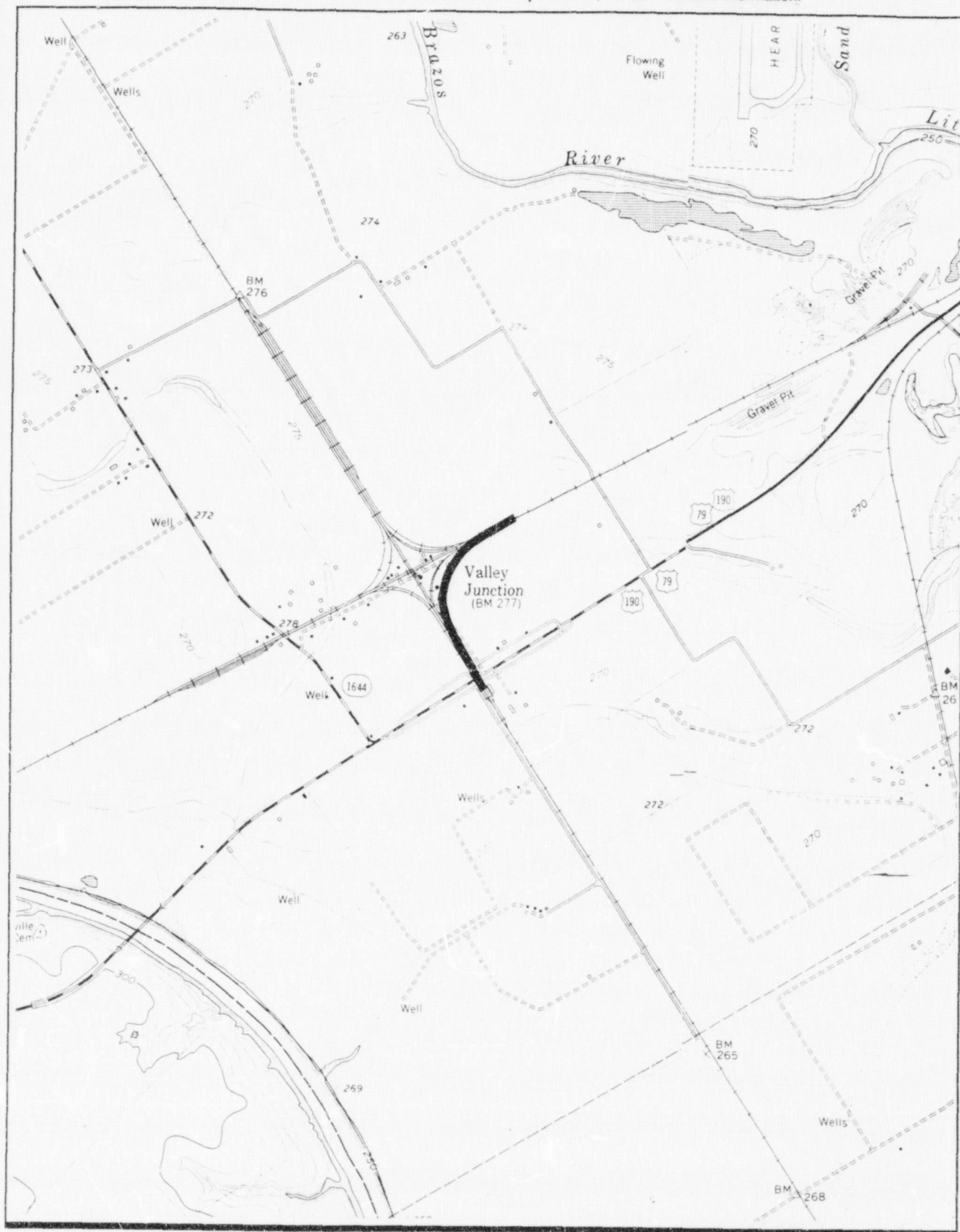
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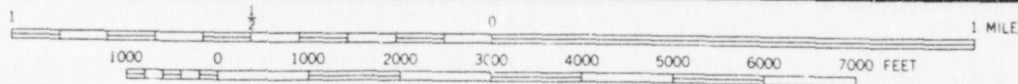
Base Map: USGS 7.5 Topographic Quadrangles: Toyah, Texas 1970; Hermosa SW, Texas 1970



**Figure 15.2-50** Proposed Common Point Connection: Valley Junction, Texas. Wetland Information.

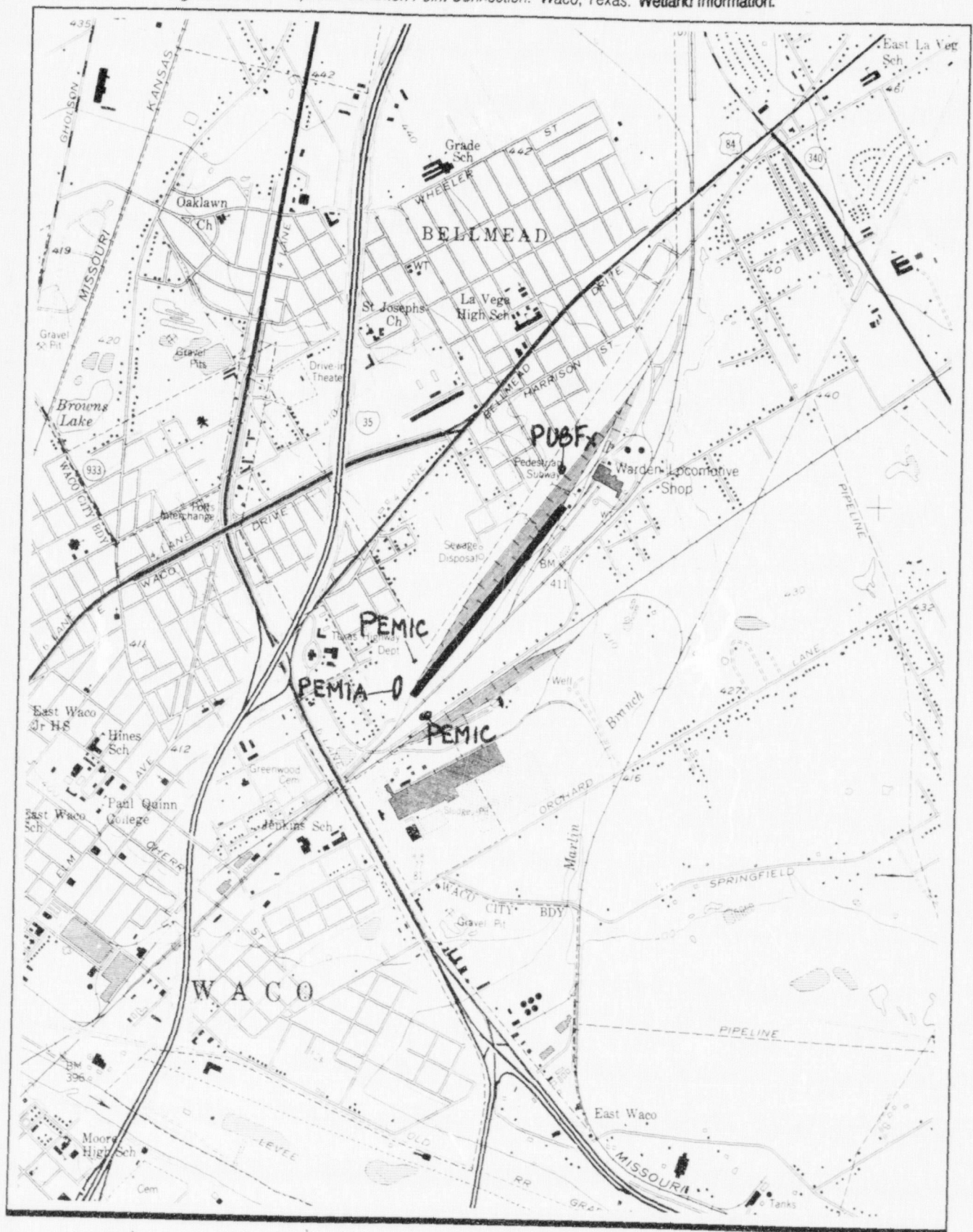


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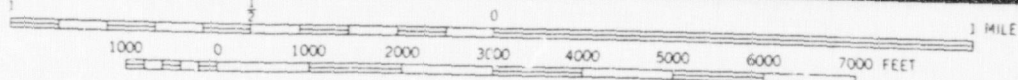


Base Map: USGS 7.5' Topographic Quadrangles: Gause, Texas 1962 (Photorevised 1989);  
Hearne South, Texas 1961 (Photorevised 1988)

Figure 15.2-51 Proposed Common Point Connection: Waco, Texas. Wetland Information.



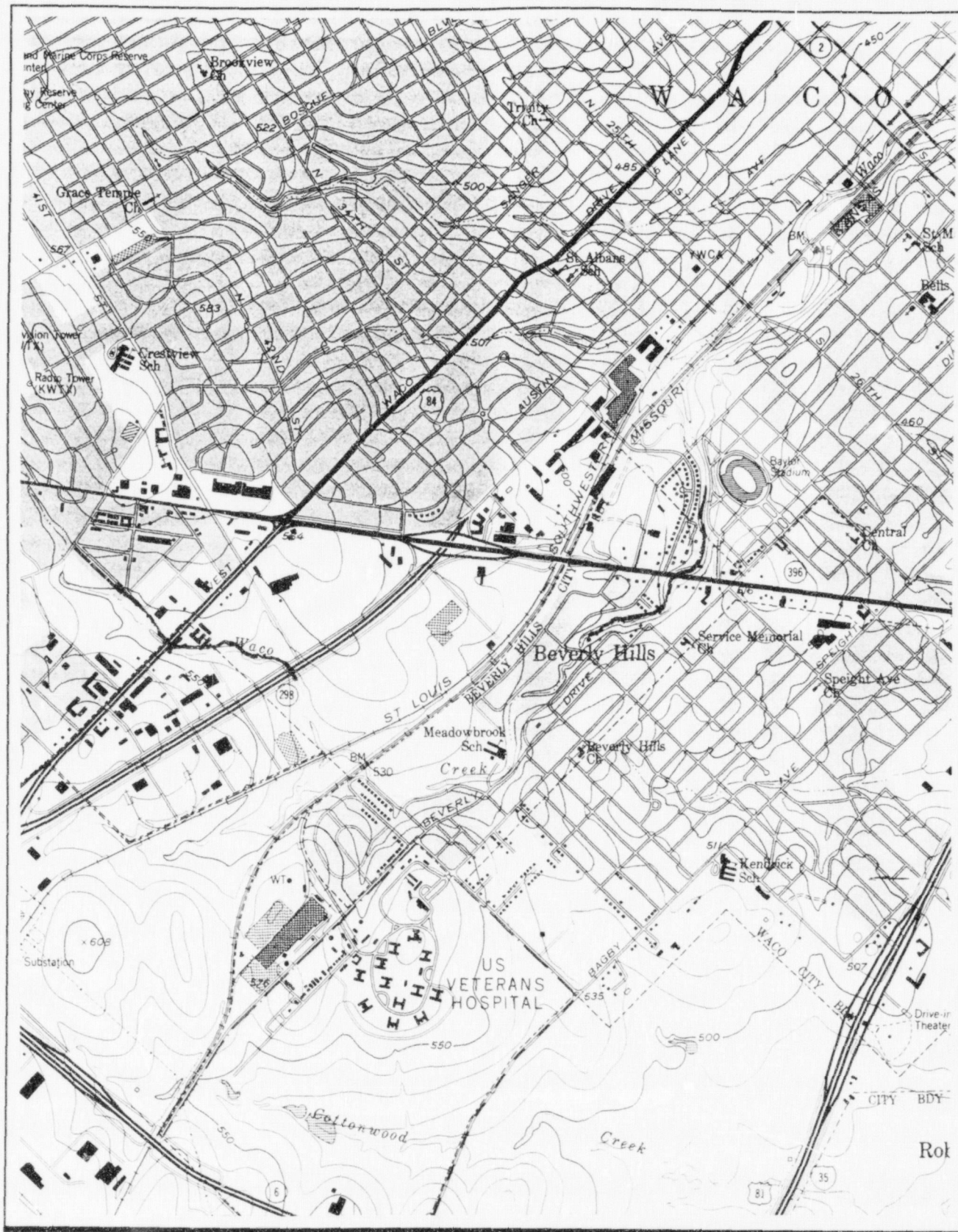
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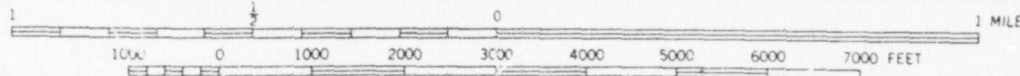
Base Map: USGS 7.5' Topographic Quadrangle: Waco East, Texas 1957 (Photorevised 1970 and 1975)



Figure 15.2-52 Proposed Common Point Connection: Waco, Texas. Wetland Information.

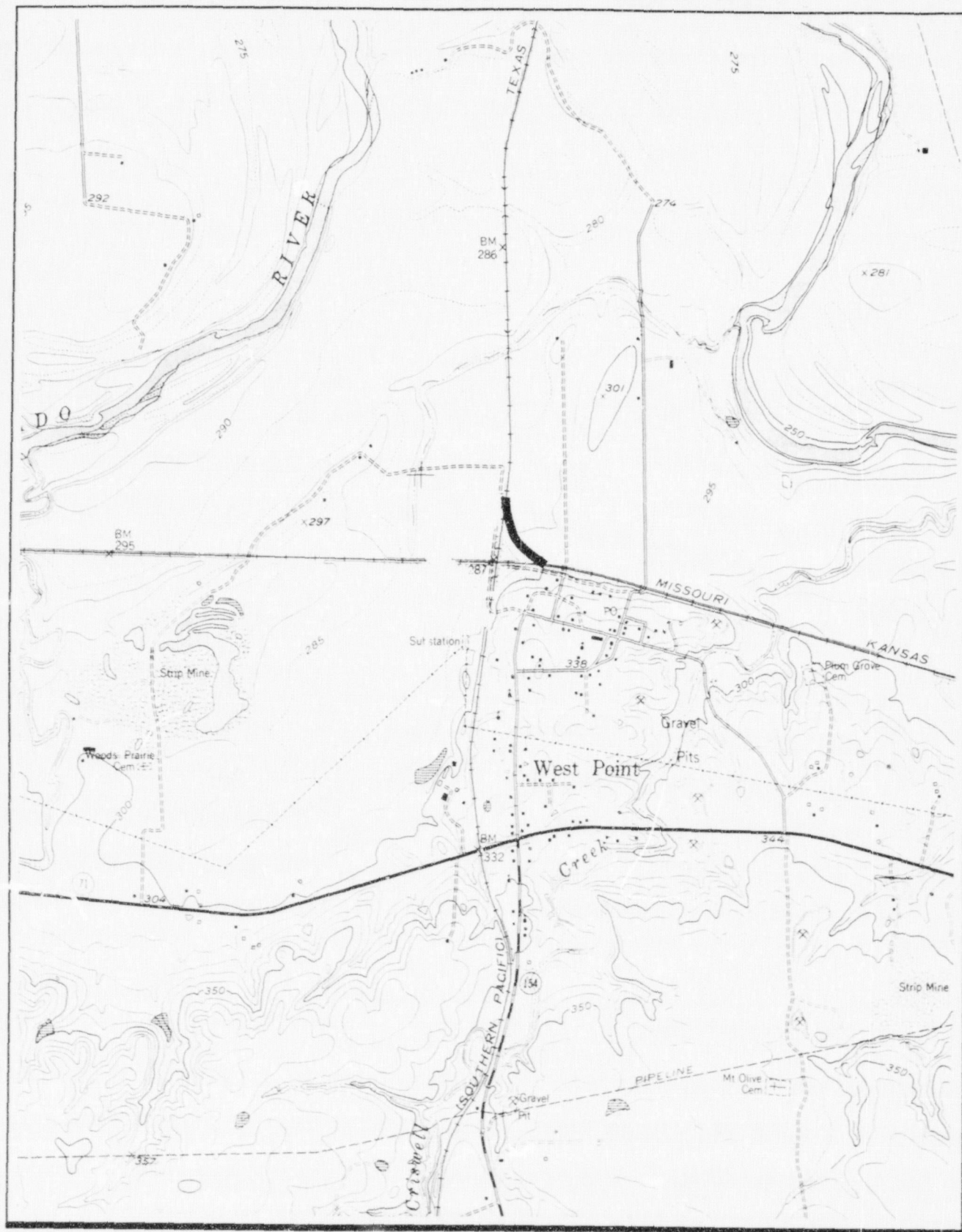


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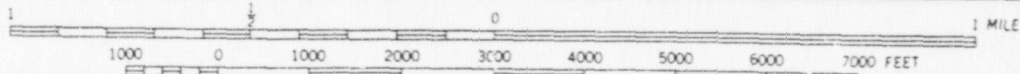


Base Map: USGS 7.5' Topographic Quadrangle: Waco West, Texas 1957 (Photorevised 1970 and 1975)

Figure 15.2-53 Proposed Common Point Connection: West Point, Texas. Wetland Information.



SCALE 1:24000



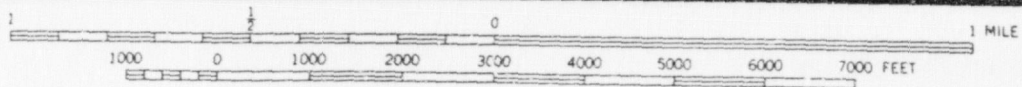
Base Map: USGS 7.5' Topographic Quadrangle: West Point, Texas 1958 (Photorevised 1981)



Figure 15.2-54 Proposed Corridor Upgrade: Wild Horse, Texas. Wetland Information.

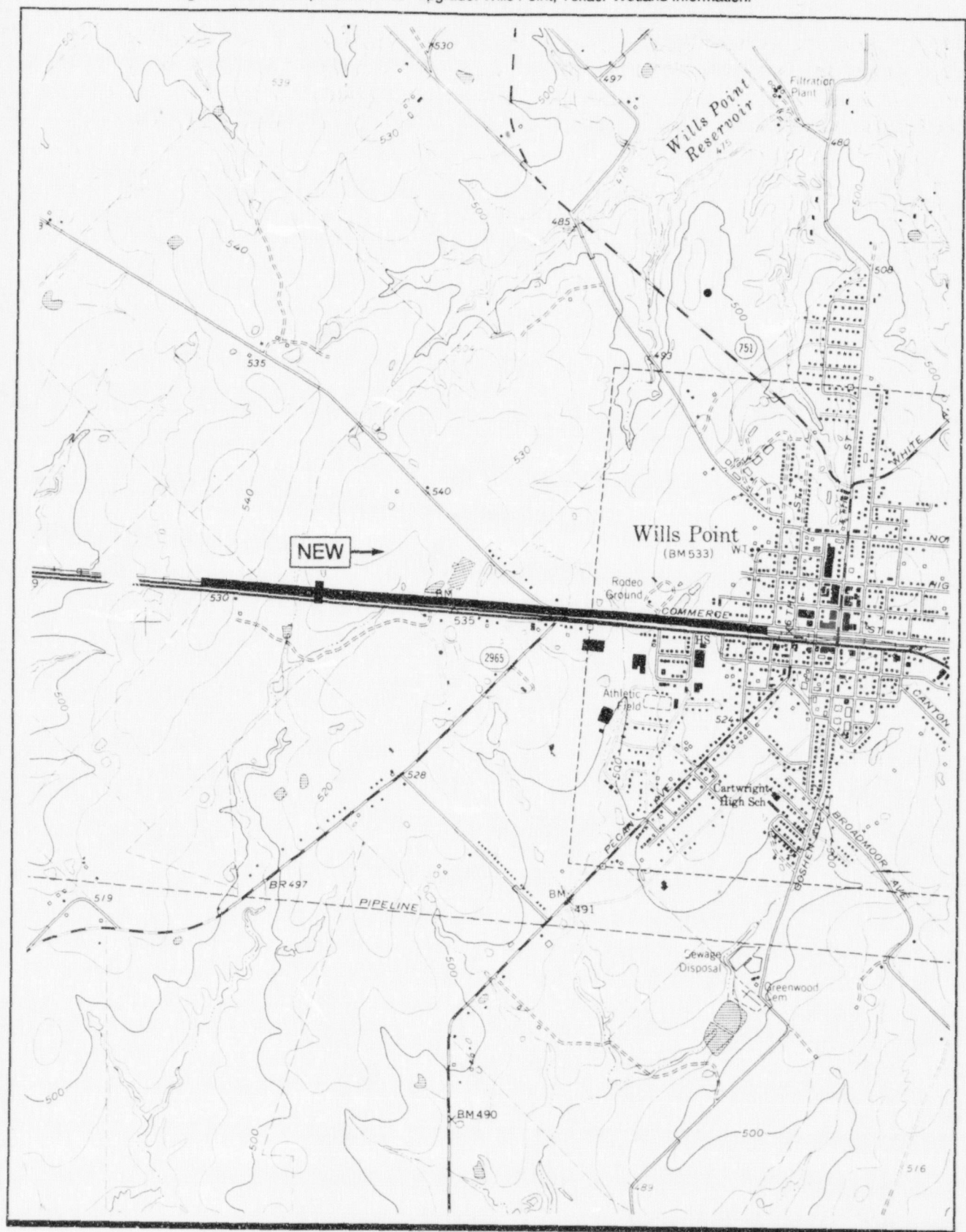


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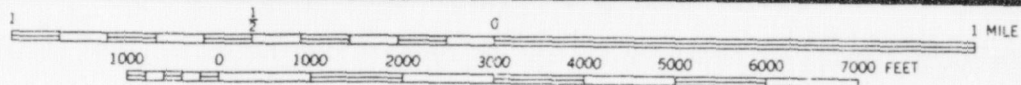


Base Map: USGS 7.5' Topographic Quadrangle: Wild Horse, Texas 1964 (Photorevised 1979)

Figure 15.2-55 Proposed Corridor Upgrade: Wills Point, Texas. Wetland Information.



SCALE 1:24000



Base Map: USGS 7.5' Topographic Quadrangle: Wills Point, Texas 1962 (Photorevised 1981)



## **16.0 UTAH**

### **16.1 PROPOSED ACTIONS AND NO-ACTION ALTERNATIVES**

The proposed action in Utah would involve the construction of the project described below which would be constructed generally as described in Section 2.0. The proposed construction is necessary to the efficiency of the merged operations and will result in the benefits discussed in Section 1 of this Part. The no-action alternative assumes that the projects would not be constructed.

Salt Lake - The operation of the merged systems anticipates consolidation of intermodal traffic from SP's existing facility into the UP's intermodal facility which will require the expansion of existing facilities at the North Yard, including additional parking and conversion to crane operations.

### **16.2 DESCRIPTION OF EXISTING ENVIRONMENT AND POTENTIAL ENVIRONMENTAL IMPACTS OF PROPOSED ACTIONS**

Existing land use information and potential impacts for proposed construction projects in Utah are included in Table 16-1 and shown on Figure 16.1-1. Water resources and wetland information is summarized in Table 16-3 and shown on Figure 16.2-1. Existing biological resources information and potential impacts are presented in Tables 16-4 and 16.5. Information concerning historic and cultural resources information at proposed construction project sites is included in Table 16-6.

Suggested mitigation measures are described in Section 17. Such measures as are appropriate will be implemented before and during construction activities.

### **16.3 POTENTIAL ENVIRONMENTAL IMPACTS OF NO-ACTION ALTERNATIVES**

Under the no-action alternative, it is assumed that the proposed projects would not be constructed and land use and environmental conditions that currently exist at the proposed sites would remain unchanged. However, if the merger is approved and implemented, elimination of the projects would result in less efficient rail service causing

capacity constraints, delays, and slower operating speeds which would result in additional fuel consumption and air emissions.

#### **16.4 SUMMARY OF COMMENTS**

To assist in assessing the potential environmental impacts of the proposed UP/SP merger, Dames & Moore sent letters requesting information to various federal, state, and local agencies. In these letters, information was requested for the areas of: air quality, noise, land use, biological and water resources, historic and cultural resources, transportation systems, energy, and public health and safety. Copies of all correspondence received and telephone conversation notes recorded in response to the requests for information are included in Part 6.

For the proposed construction project in this state, the following agencies responded: Salt Lake County Board of Commissioners. A summary of comments received prior to October 30, 1995 for Utah is listed below.

- The Salt Lake County Board of Commissioners identified the Northwest Multipurpose Center to be within approximately 1.5 miles of the project site and stated that the proposed project would have negligible impacts on the park.

#### **16.5 REFERENCES**

##### **16.5.1 Land Use**

Campbell, Doug, 1995. Personal communication with the County of Salt Lake Development Services from D. Lowery, Dames & Moore.

Davis County, 1995. Personal communication with Davis County from Irene Merrifield, Dames & Moore.

Doerr, Paul, Personal communication with Salt Lake City Building Services & Licensing Department from Irene Merrifield, Dames & Moore.

Hawkins, Lois, 1995. Personal communication with Davis County from D. Lowery, Dames & Moore.

Wood, Rod, 1995. Personal communication with Davis County from D. Lowery, Dames & Moore.



- U.S. Department of Agriculture, 1994. State soil geographic (STATSGO) data base.  
U.S. Geological Survey, various dates. Land use and land cover maps.  
U.S. Geological Survey, various dates. 1:24,000-scale topographic maps.

Vasquez, Isabel, 1995. Letter to Julie Donsky, Dames & Moore, from Salt Lake County Board of Commissioners.

#### **16.5.2 Water Resources and Wetlands**

Federal Emergency Management Agency (FEMA), various dates. FEMA Flood Insurance Rate Maps (FIRM) for Utah.

- U.S. Fish and Wildlife Service, various dates. National Wetland Inventory Maps.  
U.S. Geological Survey, various dates. 1:24,000-scale topographic maps.

#### **16.5.3 Biological Resources**

England, Larry, 1995. Personal communication with Brian Leatherman, Dames & Moore, from United States Fish and Wildlife Service, Salt Lake City, Utah, October 5.

Perkins, Jane, 1995. Personal communication/correspondence with Brian Leatherman, Dames & Moore, from Utah Division of Wildlife. October 6.

Robinette, Kevin, 1995. Personal communication/correspondence with Brian Leatherman, Dames & Moore, from Utah Division of Wildlife. October 10.

#### **16.5.4 Historic and Cultural Resources**

Bradley, Denise, Dames & Moore, 1995. Telephone message to Utah Historic Preservation Office.

#### **16.5.5 Air Quality**

- 40 CFR Part 81 - Designation of Areas for Air Quality Planning Purposes, Appendix A to Part 81.  
40 CFR Part 81 - Designation of Areas for Air Quality Planning Purposes, Sub Part C Section 107, Attainment Status Designation.  
40 CFR Part 1105 - Procedures for Implementation of Environmental Laws.

#### 16.5.6 Noise

Rathe, E.J., 1977. "Railway Noise Propagation," *Journal of Sound and Vibration*, vol. 51, no. 3, pp. 371-388.

Saurenman, H.J., Nelson, J.T. and Wilson, G.P., 1982. "Handbook of Urban Rail Noise and Vibration Control," UMTA-MA-06-099-82-1.



TABLE 16-1

**EXISTING LAND USE INFORMATION AT PROPOSED  
CONSTRUCTION LOCATIONS IN UTAH**

Location/Station	Existing Land Uses	General Plan Designation	Zoning Designation	Structures Near Site		Occurrence Within	
				Within 500 Feet	Length in Urbanized Areas (feet)	Prime Farmland	Coastal Zone
Salt Lake City	Site: Transportation Surrounding: Strip mines or quarries or gravel pits, industrial, transportation, other urban or built-up land, residential, mixed rangeland.	Manufacturing	Manufacturing (R-R development allowed)	71	0	Yes	No

TABLE 16-2

POTENTIAL LAND USE IMPACTS AT PROPOSED  
CONSTRUCTION LOCATIONS  
IN UTAH

Location/Station	Compatible with Surrounding Land Uses	Consistent with General Plan/Zoning Designation	Potential Loss of Prime Farmland
Salt Lake City	Yes - Not significant	Yes - Not significant	Not expected - Not significant <sup>1</sup>

<sup>1</sup> Construction is anticipated to be largely within existing right-of-way and no prime farmland is expected to be affected.



TABLE 16-3

**WATER RESOURCES AND WETLAND INFORMATION  
AT PROPOSED CONSTRUCTION LOCATIONS IN UTAH**

Location/Station	Water Resource Type <sup>1</sup>							
	bls	wb	wl	cd	tc	mf	ss	sp
Salt Lake City	1	-	-	2	-	-	-	-

- 1
- |   |   |  |
|---|---|--|
| blue-line streams (bls)   | = | permanent and intermittent watercourses, including creeks, streams, rivers, washes, and sloughs                              |
| waterbodies (wb)  | = | permanent and intermittent bodies of standing water including ponds, lakes, reservoirs, bayous, catchments, and beaver ponds |
| wetlands (wl)   | = | areas depicted with the USGS wetland symbol, primarily including marshes and wet meadows                                     |
| canals, culverts, ditches (cd)  | = | human-made water conveyances   |
| tidal channels (tc)   | = | tidal channels including inlets, harbors, bays, and sloughs subject to tidal influences                                      |
| mudflats (mf)   | = | permanent to intermittently wet, non-vegetated, usually alkaline, mudflats   |
| sewage-treatment ponds, industrial waste ponds, salt evaporators, etc. (ss) | = | areas used for public facilities or commercial purposes  |
| springs (sp)  | = | areas depicted with the USGS spring symbol   |

TABLE 16-4

**BIOLOGICAL RESOURCES INFORMATION AT  
PROPOSED CONSTRUCTION LOCATIONS  
IN UTAH**

Location	Vegetation Type		Known and Potential Occurrence of Rare, Threatened, and Endangered Species in the Area	Parks, Forests, Refuges, or Sanctuaries within 5 Miles
	At the Site	Adjacent		
Salt Lake City	Ruderal Non-Native Grassland	Ruderal Riparian Wetland	None	Wasatch National Forest



TABLE 16-5

**POTENTIAL IMPACTS TO SENSITIVE BIOLOGICAL RESOURCES AT  
PROPOSED CONSTRUCTION LOCATIONS  
IN UTAH**

Location	Potential Impacts To		
	Rare, Threatened, and Endangered Species	Critical Habitat	Parks, Forests, Refuges, Sanctuaries
Salt Lake City	None - NS	None - NS	Not Significant

NS = Not Significant

TABLE 16-6

**EXISTING CONDITIONS AND POTENTIAL IMPACTS FOR  
HISTORIC AND CULTURAL RESOURCES AT PROPOSED  
CONSTRUCTION LOCATIONS IN UTAH**

Location	Historic Resources			Archaeological Resources			Potential Impacts
	L	E	U	L	E	U	
Salt Lake City	CI	CI	CI	CI	CI	CI	ND

Note: L, listed on National Register of Historic Places (NRHP); E, determined or recommended eligible for NRHP; U, eligibility for NRHP is unknown; CI, consultation with SHPO and/or data repository has been initiated but not completed at time of report submittal; ND, not determined. The numbers on table denote the number of known historic or archaeological resources within 100 feet of construction areas.



## KEY FOR LAND USE

### URBAN OR BUILT-UP LAND

RE	Residential
C	Commercial and services
I	Industrial
T	Transportation, communications and utilities
I/C	Industrial and commercial complexes
MU	Mixed urban or build-up land
OU	Other urban or built-up land

### AGRICULTURAL LAND

CP	Cropland and pasture
CH	Orchards, groves, vineyards, nurseries, and ornamental horticultural areas
CF	Confined feeding operations
CO	Other agricultural land

### WATER

WS	Streams and canals
WL	Lakes
WR	Reservoirs
WB	Bays and estuaries

### WETLAND

WE	Forested wetland, and/or nonforested wetland
----	--

### RANGELAND

Rh	Herbaceous rangeland
Rsb	Shrub and brush rangeland
Rm	Mixed rangeland

### FOREST LAND

FD	Deciduous forest land
FE	Evergreen forest land
FM	Mixed forest land

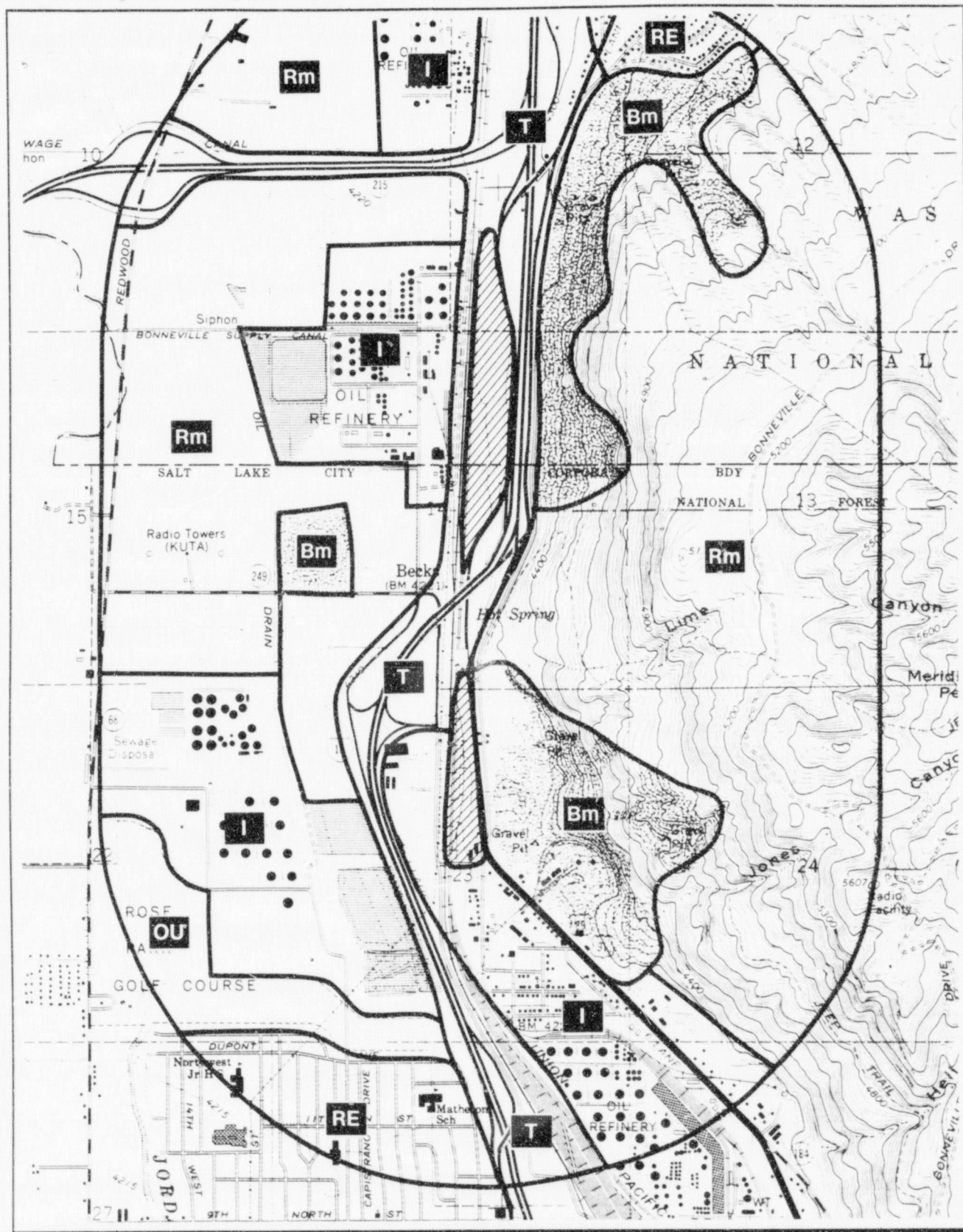
### BARREN LAND

Bsf	Dry salt flats
Bb	Beaches
Bs	Sandy areas other than beaches
Br	Bare exposed rocks
Bm	Strip mines, quarries, and gravel pits
Bt	Transitional areas
B	Mixed barren land

## KEY FOR CULTURAL RESOURCES SITES

- \* Location of known historic or or archaeological site

Figure 16.1-1 Proposed Construction at Intermodal Facility: Salt Lake City, Utah. Location and Land Use.





## NWI LEGEND

SYSTEM		M — MARINE									
SUBSYSTEM		1 — SUBTIDAL					2 — INTERTIDAL				
CLASS		RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	RF — REEF	OW — OPEN WATER/Unknown Bottom	AB — AQUATIC BED	RF — REEF	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	
Subclass		1 Bedrock 2 Rubble	1 Cobble Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 5 Unknown Submergent	1 Coral 3 Worm		1 Algal 3 Rooted Vascular 5 Unknown Submergent	1 Coral 3 Worm	1 Bedrock 2 Rubble	1 Cobble Gravel 2 Sand 3 Mud 4 Organic	

SYSTEM		R — RIVERINE									
SUBSYSTEM		1 — TIDAL		2 — LOWER PERENNIAL		3 — UPPER PERENNIAL		4 — INTERMITTENT		5 — UNKNOWN PERENNIAL	
CLASS		RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	*SB — STREAMBED	AB — AQUATIC BED	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	**EM — EMERGENT		OW — OPEN WATER/Unknown Bottom	
Subclass		1 Bedrock 2 Rubble	1 Cobble Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble 3 Cobble Gravel 4 Sand 5 Mud 6 Organic 7 Vegetated	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Bedrock 2 Rubble	1 Cobble Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent			

\*STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM

\*\*EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS

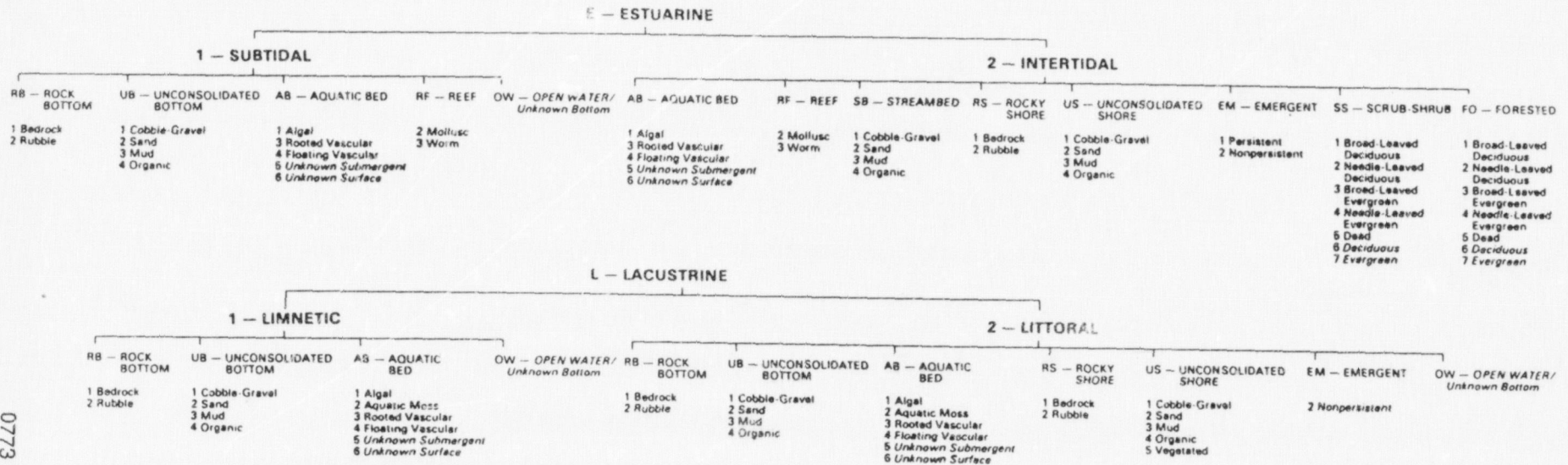
SYSTEM		P — PALUSTRINE							
SUBSYSTEM		RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	US — UNCONSOLIDATED SHORE	ML — MOSS LICHEN	EM — EMERGENT	SS — SCRUB SHRUB	FO — FORESTED
CLASS		1 Bedrock 2 Rubble	1 Cobble Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Cobble Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Moss 2 Lichen	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen

OW — OPEN WATER/Unknown Bottom

### Instructions for using the legend:

The NWI Inventory uses a hierarchy of alphabetical and numerical symbols to indicate wetland characteristics. The following example illustrates how the hierarchy works. For a hypothetical wetland type indicated as "L2AB3a" begin by finding the system type indicated by the first symbol; that is, "L" indicates "Lacustrine." The next symbol "2" indicates that the system type is "Littoral." The symbols "AB" indicate that the class is "Aquatic Bed." The symbol "3" indicates that the subclass is "Rooted Vascular." The last symbol "a" is explained in the Modifiers part of the system; the modifier indicates "acid."

# NWI LEGEND



## MODIFIERS

In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME			WATER CHEMISTRY			SOIL	SPECIAL MODIFIERS		
Non-Tidal		Tidal	Coastal Salinity	Inland Salinity	pH Modifiers for all Fresh Water				
A Temporarily Flooded	H Permanently Flooded	K Artificially Flooded	1 Hyperhaline	7 Hypersaline		g Organic	b Beaver	h Diked/Impounded	
B Saturated	J Intermittently Flooded	L Subtidal	2 Euhaline	8 Eusaline		n Mineral	d Partially Drained/Ditched	i Artificial Substrate	
C Seasonally Flooded	K Artificially Flooded	M Irregularly Exposed	3 Microhaline (Brackish)	9 Mixosaline	a Acid		f Farmed	s Spoil	
D Seasonally Flooded/ Well Drained	W Intermittently Flooded/Temporary	N Regularly Flooded	4 Polyhaline	0 Fresh	t Circumneutral			x Excavated	
E Seasonally Flooded/ Saturated	Y Saturated/Semipermanent/ Seasonal	P Irregularly Flooded	5 Mesohaline		l Alkaline				
F Semipermanently Flooded	Z Intermittently Exposed/Permanent		6 Oligohaline						
G Intermittently Exposed	U Unknown		0 Fresh						

## Instructions for using the legend:

The NWI Inventory uses a hierarchy of alphabetical and numerical symbols to indicate wetland characteristics. The following example illustrates how the hierarchy works. For a hypothetical wetland type indicated as "L2AB3a" begin by finding the system type indicated by the first symbol; that is, "L" indicates "Lacustrine." The next symbol "2" indicates that the system type is "Littoral." The symbols "AB" indicate that the class is "Aquatic Bed." The symbol "3" indicates that the subclass is "Rooted Vascular." The last symbol "a" is explained in the Modifiers part of the system; the modifier indicates "acid."



## FLOOD INSURANCE RATE MAP LEGEND EXPLANATION OF ZONE DESIGNATIONS

Flood Insurance Rate Maps (FIRMs) display the zone designations for communities according to areas of designated flood hazards. The zone designations used by the Federal Emergency Management Agency (FEMA) are:

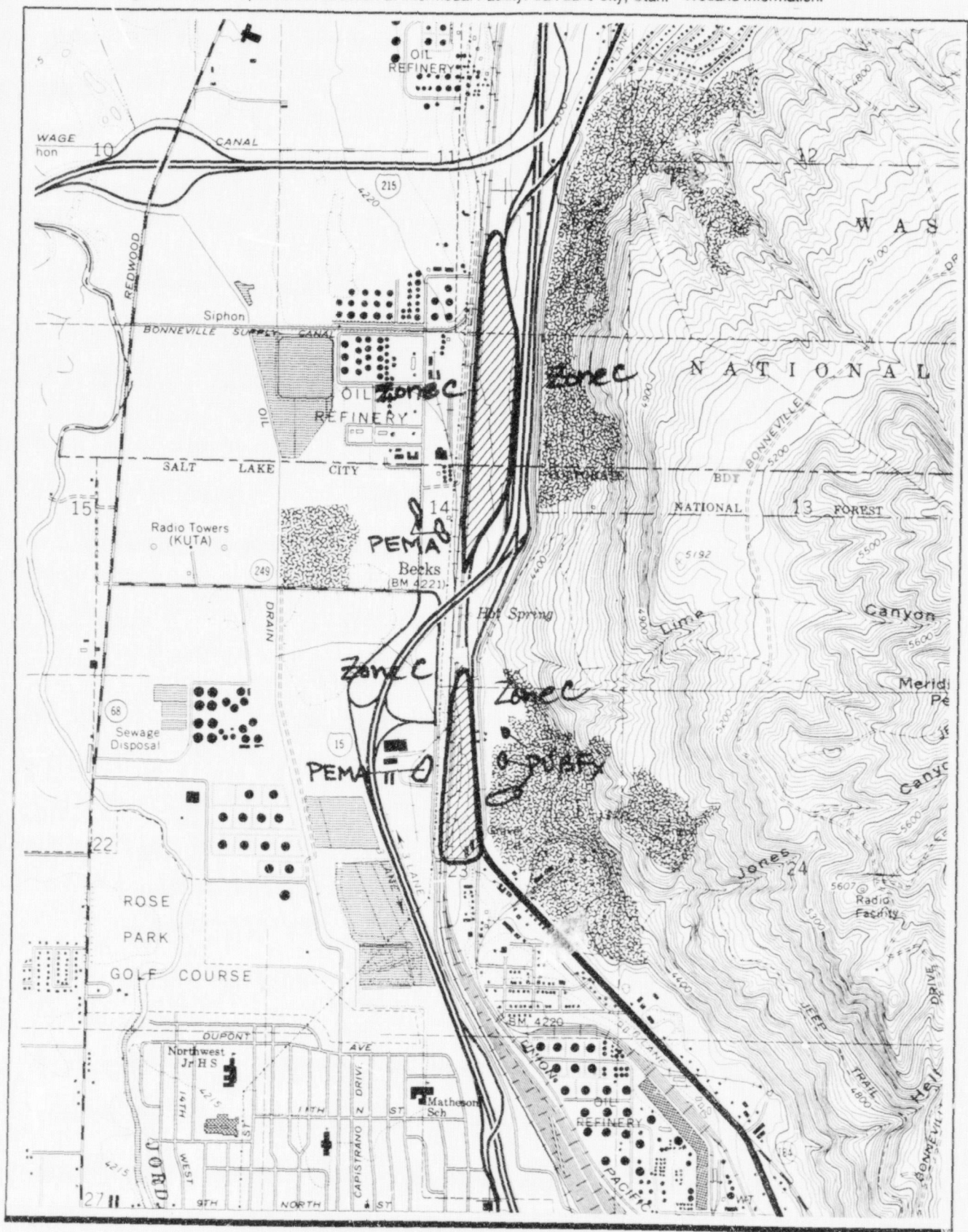
<u>Zone</u>	<u>Explanation</u>
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AO	Areas of 100-year shallow flooding; flood depth 1 to 3 feet; product of flood depth (feet) and velocity (feet per second) less than 15.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
AE	Areas of 100-year flood; base flood elevations determined (for Louisiana).
A99	Areas of 100-year flood to be protected by a flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of 100-year flood and 500-year flood, areas of 100-year shallow flooding where depths less than 1 foot.
C	Areas outside 500-year flood.
X	Areas of combined B and C zones (for Louisiana).
D	Areas of undetermined; but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevation and flood hazard factor determined.

### Notes

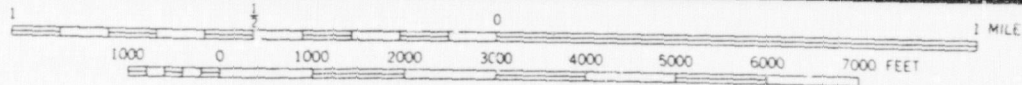
Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

FIRMs are for flood insurance rate purposes only; maps may not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

Figure 16.2-1 Proposed Construction at Intermodal Facility: Salt Lake City, Utah. Wetland Information.



SCALE 1:24000



Base Map: USGS 7.5' Topographic Quadrangle: Salt Lake City North, Utah 1963  
(Photorevised 1969 and 1975)



## **17.0 SUGGESTED MITIGATION**

Based on a review of: (1) the resources at and near the proposed construction projects; (2) standard practices and measures used on previous projects; and (3) agency suggestions and recommendations received in communications, the following mitigation measures are suggested for implementation, where appropriate, before and during construction activities.

### **17.1 LAND USE**

- Disposal of woody vegetation and other construction debris in compliance with applicable state and local regulations.
- Compliance with the Farmland Protection Policy Act, including submittal of completed Form AD-1006 to the local office of the Natural Resources Conservation Service.
- Consultation with local agencies as necessary to determine the need to obtain land use permits.

### **17.2 WATER RESOURCES AND WETLANDS**

- Minimization of disturbance to water resources, including design considerations to:
  - reduce construction footprints,
  - adjust proposed locations or alignments of connections, corridor upgrades, and facilities to avoid water resources, crossings of permanent streams and waterbodies, if possible.
- Proper servicing of mechanized equipment to lessen the potential for leakage of petrochemicals (such as diesel and lubricants) in and near wetlands areas.
- In and near wetlands areas, restriction of mechanized equipment to the area required to complete construction activities.
- Proper disposal of excavated material (cut) in excess of that required for use as railbed material and materials excavated within tunnels.

- Staging construction equipment and stockpiles of construction materials away from water resources, both on-site and off-site.
- Implementation of additional BMPs as necessary to minimize impacts to water resources and wetlands.
- Consultation with the appropriate state and federal agencies prior to the start of construction activities to determine the need for permits.

### **17.3 BIOLOGICAL RESOURCES**

- Implementation of BMPs as necessary regarding the use of mechanized equipment and ground-disturbing activities to minimize impacts to vegetation types and wildlife habitats.
- Consultation with the USFWS and appropriate state agencies if rare, threatened, or endangered species are discovered at or near the construction projects and development of additional mitigation measures as necessary.
- Identification of vegetation and habitat types in areas of potential disturbance and areas likely to contain rare, threatened or endangered plant or wildlife species. Survey during the appropriate time of year for species identification and observation.

### **17.4 HISTORIC AND CULTURAL RESOURCES**

- Further consultation with SHPOs, if appropriate, to develop mitigation measures for historic properties that are determined eligible for, or are listed on, the National Register and to determine the need for additional surveys at some construction locations.
- Consultation with the SHPO if previously unknown archaeological remains are discovered during ground disturbance.

### **17.5 SAFETY**

- Installation, as necessary, of appropriate safety devices at grade crossings during construction.



- Performance of construction in accordance with applicable regulatory requirements.
- Consultation with appropriate agencies if hazardous waste issues are discovered at the sites.

#### **17.6 TRANSPORTATION**

- If appropriate, rerouting construction traffic along the least traveled roads and during off peak travel hours.

#### **17.7 AIR QUALITY**

- Application of appropriate dust suppressants to exposed surfaces during construction.
- Installation of wind barriers as appropriate.
- Restriction of vehicles and equipment to construction areas and haul routes.

#### **17.8 NOISE**

- Performance of construction activities in accordance with applicable regulatory requirements.
- Maintenance of equipment used on construction projects in good operating condition.
- Restriction of vehicles and equipment to construction areas and haul routes.
- Employment of BMP's to reduce noise levels in residential areas.

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Finance Docket No. 32760, VOLUME 6, PART 6

23



**FILED**

NOV 30 1995

Before the

INTERSTATE COMMERCE COMMISSION

Finance Docket No. 32760

INTERSTATE  
COMMERCE COMMISSIONUNION PACIFIC CORPORATION, UNION PACIFIC RAILROAD COMPANY  
AND MISSOURI PACIFIC RAILROAD COMPANY

— CONTROL AND MERGER —

SOUTHERN PACIFIC RAIL CORPORATION,  
SOUTHERN PACIFIC TRANSPORTATION COMPANY, ST. LOUIS  
SOUTHWESTERN RAILWAY COMPANY, SPCSL CORP. AND THE  
DENVER AND RIO GRANDE WESTERN RAILROAD COMPANY**RAILROAD MERGER APPLICATION****VOLUME 6, PART 6****ENVIRONMENTAL REPORT (EXHIBIT 4) -  
APPENDIX**

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November 30, 1995

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**ENVIRONMENTAL REPORT  
UNION PACIFIC RAILROAD COMPANY/  
SOUTHERN PACIFIC RAILROAD COMPANY  
MERGER**

**PART 6 OF 6  
APPENDIX**

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**SECTION A**

**CONSULTATION**



**SECTION A-1**

**CONSTRUCTION PROJECTS**

0002

**SAMPLE LETTER TO AGENCIES**  
**CONSTRUCTION PROJECTS**



September 30, 1995

Mr. Mike Chiratti  
Chief Projects Analyst  
Office of Planning and Research  
1400 Tenth Street  
Sacramento, CA 95814

Dear Mr. Chiratti:

Dames & Moore is preparing the Environmental Report for the application for merger of the Union Pacific and Southern Pacific Railroads. The attached list and maps show construction projects which are currently identified within your state. In some states there may be additional construction projects and/or rail segments which will be affected by the proposed merger. We will advise you if and when these additional projects become identified.

To prepare our Environmental Report, we are requesting that you inform us of any concerns you have and provide information regarding:

- protected species information (State; Federal) within 5 miles of each site.
- listing of critical habitats within 5 miles of each site.
- locations of parks and refuges in proximity to the proposed projects.
- citations to any permitting/approval authority which you believe your state has over the actions identified.
- any other information you would like to provide regarding environmental matters or local concerns at these sites.

We would appreciate receiving the requested information at your earliest convenience. We would further appreciate it if the information could be supplied in writing or orally to the undersigned at the address and phone/fax numbers on this letterhead. The railroads will be filing our Environmental Report with their application to the Interstate Commerce Commission ("ICC") on or before December, and thus your prompt reply will ensure that our report, which the ICC will consider in preparing its own environmental assessment of the above-described project, includes consideration of your views.

We very much appreciate your assistance.

Very truly yours,  
DAMES & MOORE, INC.

Julie Donsky  
Environmental Scientist

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**CONSTRUCTION PROJECTS**



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County Clerk Court  
Brazos County  
300 E. 26th St., Ste 120  
Bryan, TX 77803

Honorable Judge Robert Echols  
Harris County  
1001 Preston, Suite 911  
Houston, TX 77002

Honorable Judge Billy Lee Stellbauer  
Robertson County  
P.O. Box 427  
Franklin, TX 77856

Honorable Judge Cleve E. Steed  
Montague County  
P.O. Box 475  
Montague, TX 76251

Honorable Judge Tom Vandergriff  
Tarrant County  
100 E. Watherford  
Fort Worth, TX 76196-0101

Honorable Judge Jim Lewis  
McLennan County  
P.O. Box 1728  
Waco, TX 76703

Honorable Judge L.B. McDonald  
Wise County  
P.O. Box 393  
Decatur, TX 76234

Honorable Judge Maxine Darst  
Kaufman County Courthouse  
Kaufman, TX 75142

Honorable Judge Edward Janecka  
Fayette County  
151 N. Washington  
LaGrange, TX 78945

Honorable Judge Harold M. Couch  
Palo Pinto County  
P.O. Box 190  
Palo Pinto, TX 76484

Honorable Judge Lloyd Kirkham  
Liberty County  
1923 Sam Houston  
Liberty, TX 77575

Honorable Judge Richard Lawrence  
Van Zandt County  
121 E. Dallas, Room 201  
Canton, TX 75103

Honorable Judge Ben Long  
Parker County  
One Courthouse Square  
Weatherford, TX 76086

Honorable Judge Scott Bailey  
Eastland County  
P.O. Box 327  
Eastland, TX 76448

Honorable Judge Bill Johnson  
Callahan County  
400 Market Street, Suite 200  
Baird, TX 79504



Honorable Judge Mercurio Martinez  
Webb County  
919 Houston  
Laredo, TX 78042

Honorable Jeff Norwood  
Midland County  
200 W. Wall Street, Ste. 006  
Midland, TX 79707

Honorable Lee E. Williams  
Wood County  
P.O. Box 938  
Quitman, TX 75783

Honorable Judge Charles Still  
Upshur County  
P.O. Box 790  
Gilmer, TX 75644

Honorable Judge James Carlow  
Bowie County  
P.O. Box 248  
New Boston, TX 75570

Honorable Judge Charles W. Mattox  
El Paso County  
500 E. San Antonio, Ste. 301  
County Courthouse  
El Paso, TX 79901

Honorable Judge Ben E. Prause  
DeWitt County  
307 North Gonzales  
Cuero, TX 77954

Honorable Judge Charles J. Rother  
LaVaca County  
P.O. Box 243  
Hallettsville, TX 77964

#### UTAH

Carolyn Wright  
Utah State Clearinghouse  
Office of Planning and Budget  
Room 116 State Capitol  
Salt Lake City, UT 84114

Utah State Historical Society  
300 Rio Grande  
Salt Lake City, UT 84101

Division of Environmental Health  
P.O. Box 16700  
Salt Lake City, UT 84116-0700

State Conservationist  
USDA Soil Conservation Service  
4402 Bennett Federal Building  
125 S. State Street  
Salt Lake City, UT 84147

Brent Overson, Chairman of the Board  
of Commissioners  
Salt Lake County  
201 S. State St., N2100  
Salt Lake City, UT 84190-1000

Bruce Anderson, Commissioner  
Weber County  
2549 Washington Blvd.  
Ogden, UT 84401

## WASHINGTON

Department of Transportation  
Transportation Building  
NS-KF-01  
Olympia, WA 98504

Washington Utilities and  
Tptn. Commission  
1300 South Evergreen Park Drive, SW  
Olympia, WA 98504

Office of Archeology and  
Historic Preservation  
111 W. 21st Avenue, KL-11  
Olympia, WA 98504

Department of Ecology  
P.O. Box 47600  
Olympia, WA 98504-7600

State Conservationist  
USDA Soil Conservation Service  
Rock Pointe Tower II  
316 Boone Avenue, Suite 450  
Spokane, WA 99201-2348

Program Manager  
Shorelands and Coastal  
Zone Mgt. Program  
Department of Ecology  
P.O. Box 47600  
Olympia, WA 98504-7600

King County Clerks Office  
516 3rd Seattle  
Seattle, WA 98028



**AGENCY RESPONSES**  
**CONSTRUCTION PROJECTS**



DEPARTMENT OF THE ARMY  
GALVESTON DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 1229  
GALVESTON, TEXAS 77553-1229

REPLY TO  
ATTENTION OF:

October 26, 1995

Environmental  
Resources Branch

Ms. Julie Donsky  
Environmental Scientist  
Dames & Moore, Inc.  
1701 Golf Road  
Suite 1000  
Rolling Meadows, Illinois 60008

Dear Ms. Donsky:

This is in response to your letters of September 22 and September 30, 1995 concerning sites within the State of Texas which are being considered for abandonment or construction as a result of the merger between Union Pacific and Southern Pacific Railroads. The segments under Galveston District jurisdiction are in Fayette, Jefferson, Liberty, Harris, Galveston, Victoria, and Cameron counties. A copy of the September 22 letter with accompanying information was forwarded to the Fort Worth District on October 2, while copies of the September 30 letter with accompanying information has been forwarded to the Fort Worth, Albuquerque and Tulsa districts. The Fort Worth District may be contacted at:

U.S. Army Corps of Engineers  
Planning Division  
P.O. Box 17300  
Fort Worth, Texas 76102-0300

The Albuquerque District may be contacted at:

U.S. Army Corps of Engineers  
Engineering and Planning Division  
P.O. Box 1580  
Albuquerque, New Mexico 87103-1580



The Tulsa District may be contacted at:

U.S. Army Corps of Engineers  
Planning Division  
P.O. Box 61  
Tulsa, Oklahoma 74121-0061

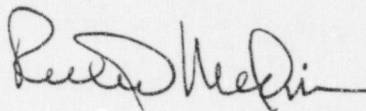
Review of those segments under Galveston District jurisdiction has elicited the following comments:

a. The Chief of our Evaluation Section should be contacted at 409/766-3938, once plans are finalized, to determine if Department of the Army permits are required. Please reference File No. D-7125 in your communications.

b. The Environmental Report should indicate if structures will be removed at stream crossings or if other actions will be taken to ensure unrestricted streamflow through abandoned crossings, cuts, and ditches.

We appreciate the opportunity to review and comment upon the proposed projects and trust that this response facilitates your planning and implementation process.

Sincerely,



Richard Medina  
Chief, Environmental  
Resources Branch



DEPARTMENT OF THE ARMY  
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 1580  
ALBUQUERQUE, NEW MEXICO 87103-1580  
FAX (505) 766-2770

REPLY TO  
ATTENTION OF:

October 31, 1995

Construction and Operations Division  
Regulatory Branch

Ms. Julie Donsky  
Environmental Scientist  
Dames & Moore, Inc.  
One Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, Illinois 60008

Dear Ms. Donsky:

This letter is in reference to your letter dated September 30, 1995, regarding the proposed construction and extension of rail siding concomitant with the merger of the Union Pacific and Southern Pacific Railroads at the following seven locations:

1. In the vicinity of North Mill Creek, near Oscura, Lincoln County, New Mexico;
2. In the vicinity of White Oaks Spring, near Robsart, Lincoln County, New Mexico;
3. In the vicinity of an unnamed tributary to Pintada Arroyo, near Arabella, Guadalupe County, New Mexico;
4. In the vicinity of San Pablo Draw, near Leoncito, Guadalupe County, New Mexico;
5. In the vicinity of Blanca Creek, near Palomas, Quay County, New Mexico;
6. In the vicinity of Sevenmile Creek, near Clifford, Lincoln County, Colorado; and
7. In the vicinity of First View, Cheyenne County, Colorado.

We have assigned Action No. 199500443 to your file. This letter supplements the letter sent to you by the U.S. Army Corps of Engineers, El Paso, Texas, Regulatory Office, dated October 23, 1995, regarding the construction of siding at the site near Tularosa, Otero County, New Mexico. Additionally, we have referred five Colorado sites--Utah Jct. to Sandown Jct., SP Denver, Mesa, Strasburg, and Cedar Point--to the U.S. Army Corps



of Engineers, Omaha District, Trilakes Regulatory Office, because these sites are within their jurisdiction, and it was their preference that they respond directly to your inquiry. The point of contact is Tim Carey, and his phone number is (303) 979-4120. Your letter was faxed to Mr. Carey on October 30, 1995.

Regulations pursuant to Section 404 of the Clean Water Act (Appendix A to 33 CFR 330) describe Nationwide Permit No. 26 for discharges of dredged or fill materials into headwaters and isolated waters of the United States, including wetlands. A summary of Nationwide Permit No. 26 and a brochure describing the Corps regulatory program are enclosed for your information.

The described project includes potential discharge into headwaters (at the Arabella, Palomas, New Mexico, and Clifford, Colorado sites) and possible discharge into isolated waters (at the Oscura, Robsart, and Leoncito, New Mexico sites). It does not appear from the available information that construction at the First View, Colorado site will affect any waters of the United States. Railroad siding can be constructed or extended at these sites, provided it does not result in the loss of more than one acre of waters of the United States at each site. The party responsible for the project must insure compliance with all conditions of the permit.

For discharges which cause the loss of one to ten acres of such waters, notification is required in accordance with General Condition No. 13. Discharges resulting in the loss of more than ten acres of these waters will require an individual Section 404 permit. The acreage of loss of waters of the U.S. includes the filled area plus waters of the U.S. that are adversely affected by flooding, excavation or drainage as a result of the project.

No work can be performed in any wetland (affecting over 1/2 acre) or perennial surface water of New Mexico under this nationwide permit until the permittee has notified the Surface Water Quality Bureau of the New Mexico Environment Department, and has received Environment Department approval of plans and specifications detailing how water quality standards will be attained. An application for the State Water Quality Certification is enclosed. You may contact them at:

New Mexico Environment Department  
Harold Runnels Building  
1190 St. Francis Drive, P.O. Box 26110  
Santa Fe, New Mexico 87502  
Attn: Ms. Cecilia Brown                      ph. (505) 827-0106

This verification will be valid for 2 years unless the nationwide permit is modified, reissued or revoked. The verification will remain valid if, during that time, the nationwide permit is reissued without modification or the activity complies with any subsequent modification of the nationwide permit authorization. If the nationwide permit authorization expires, is suspended, revoked, or modified such that the activity would no longer comply with the terms and conditions of the nationwide permit, the provisions of 33 CFR 330.6(b) will apply.

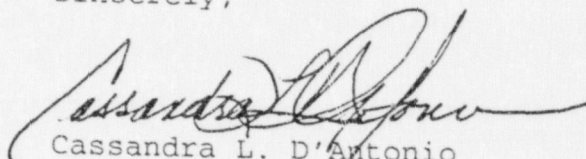
To avoid violation of the National Historic Preservation Act, you should immediately notify me if you encounter an archeological or historic site. You should avoid activities that impact the site until clearance is obtained.

Finally, for a list of federally protected species and critical habitats within five miles of each New Mexico site, you may contact the U.S. Fish and Wildlife's New Mexico field office at the following address:

U.S. Fish and Wildlife Service  
New Mexico Ecological Services State Office  
2105 Osuna, N.E.  
Albuquerque, New Mexico 87113  
telephone: (505) 761-4525 fax: (505) 761-4542

Should you have any questions regarding these regulations, please feel free to write or call me at (505) 766-2776.

Sincerely,

  
Cassandra L. D'Antonio  
Project Manager

- 3 Enclosures  
1. Nationwide Permit Summary  
2. Brochure  
3. WQ Cert Appl



APPLICATION FOR NEW MEXICO WATER QUALITY APPROVAL  
TO CONDUCT WORK UNDER A NATIONWIDE SECTION 404 PERMIT

New Mexico Environment Department  
Water and Waste Management Division  
Surface Water Quality Bureau  
1190 St. Francis Drive, P.O. Box 26110, Santa Fe, New Mexico 87502

State of New Mexico water quality certification of nationwide permits requires that plans for any work in a perennial water course or work that disturbs more than 1/2 acre of wetlands must be approved by the Environment Department prior to conducting the work.

1. Applicant:  
Name \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Contact \_\_\_\_\_  
Person: \_\_\_\_\_  
Phone \_\_\_\_\_  
Number: \_\_\_\_\_

2. Describe the location of the proposed dredging or filling activity (include an area map) and river or waterbody affected. Be as specific as possible:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Type of work: ☐ \* Bank Stabilization ☐ Road Crossing  
☐ Maintenance ☐ Above Headwaters  
☐ Other (describe) \_\_\_\_\_

4. Describe the work to be done and its purpose:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



US Army Corps  
of Engineers  
Albuquerque District  
P.O. Box 1800  
Albuquerque, NM 87106-1800

# Nationwide Permit Summary

APR 3 1992

## HEADWATERS AND ISOLATED WATER DISCHARGES (Reference 33 CFR 330 Appendix A, Paragraph 26)

Discharges of dredged or fill material into headwaters and isolated waters are authorized by this nationwide permit provided:

a. The discharge does not cause the loss of more than 10 acres of waters of the United States;

b. The permittee notifies the district engineer if the discharge would cause the loss of waters of the United States greater than one acre in accordance with the "Notification" general condition. For discharges in special aquatic sites, including wetlands, the notification must also include a delineation of affected special aquatic sites, including wetlands; and,

c. The discharge, including all attendant features, both temporary and permanent, is part of a single and complete project.

For the purposes of this nationwide permit, the acreage of loss of waters of the United States includes the filled area plus waters of the United States that are adversely affected by flooding, excavation, or drainage as a result of the project. The ten-acre and one-acre limits of NWP 26 are absolute, and cannot be increased by any mitigation plan offered by the applicant or required by the district engineer.

**Subdivisions:** For any real estate subdivision created or subdivided after October 5, 1984, a notification pursuant to subsection (b) of this nationwide permit is required for any discharge which would cause the aggregate total loss of waters of the United States for the entire subdivision to exceed one (1) acre. Any discharge in any real estate subdivision which would cause the aggregate total loss of waters of the United States in the subdivision to exceed ten (10) acres is not authorized by this nationwide permit; unless the district engineer exempts a particular subdivision or parcel by making a written determination that: (1) the individual and cumulative adverse environmental effects would be minimal and the property owner had, after October 5, 1964, but prior to January 21, 1992, committed substantial resources in reliance on NWP 26 with regard to a subdivision, in circumstances where it would be inequitable to frustrate his investment-backed expectations, or (2) that the individual and cumulative adverse environmental effects

would be minimal, high quality wetlands would not be adversely affected, and there would be an overall benefit to the aquatic environment. Once the exemption is established for a subdivision, subsequent lot development by individual property owners may proceed using this nationwide permit. For purposes of this nationwide permit, the term "real estate subdivision" shall be interpreted to include circumstances where a landowner or developer divides a tract of land into smaller parcels for the purposes of selling, conveying, transferring, leasing, or developing said parcels. This would include the entire area of a residential, commercial or other real estate subdivision, including all parcels and parts thereof. (Section 404)

## NATIONWIDE PERMIT CONDITIONS

**General Conditions:** The following general conditions must be followed in order for any authorization by a nationwide permit to be valid:

1. **Navigation.** No activity may cause more than a minimal adverse effect on navigation.
2. **Proper maintenance.** Any structure or fill authorized shall be properly maintained, including maintenance to ensure public safety.
3. **Erosion and siltation controls.** Appropriate erosion and siltation controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills must be permanently stabilized at the earliest practicable date.
4. **Aquatic life movements.** No activity may substantially disrupt the movement of those species of aquatic life indigenous to the waterbody, including those species which normally migrate through the area, unless the activity's primary purpose is to impound water.
5. **Equipment.** Heavy equipment working in wetlands must be placed on mats or other measures must be taken to minimize soil disturbance.
6. **Regional and case-by-case conditions.** The activity must comply with any regional conditions which may have been added by the division engineer (see 33 CFR 330.4(e)) and any case-specific conditions added by the Corps. To date, one regional condition has been added to this permit (see condition #3, Section 404 only conditions).
7. **Wild and Scenic Rivers.** No activity may occur in a component of the National Wild and Scenic River System; or in a river officially designated by Congress as a "study river" for study



adverse environmental effects or will be contrary to the public interest. The prospective permittee may, at his option, submit a proposed mitigation plan with the predischARGE notification to expedite the process and the district engineer will consider any optional mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed work are minimal. The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the nationwide permits and the need for mitigation to reduce the project's adverse environmental effects to a minimal level. The district engineer will, upon receipt of a notification, provide immediately (e.g., facsimile transmission, overnight mail, or other expeditious manner) a copy to the appropriate offices of the Fish and Wildlife Service, state natural resource or water quality agency, EPA, and, if appropriate, the National Marine Fisheries Service. With the exception of NWP 37, these agencies will then have 5 calendar days from the date the material is transmitted to telephone the district engineer if they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 10 calendar days before making a decision on the notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency. The district engineer will indicate in the administrative record associated with each notification that the resource agencies' concerns were considered. Applicants are encouraged to provide the Corps multiple copies of notifications to expedite agency notification. If the district engineer determines that the activity meets the terms and conditions of the NWP and that the adverse effects are minimal, he will notify the permittee and include any conditions he deems necessary. If the district engineer determines that the adverse effects of the proposed are more than minimal, he will notify the applicant either (1) that the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; or (2) that the project is authorized under the nationwide permit subject to the applicant's submitting a mitigation proposal that would reduce the adverse effects to the minimal level. This mitigation proposal must be approved by the district engineer prior to commencing work. If the prospective permittee elects to submit a mitigation plan, the district engineer will expeditiously review the proposed mitigation plan, but will not commence a second 30-day notification procedure. If the net adverse effects of the project (with the mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant informing him that the project can proceed under the terms and conditions of the nationwide permit.

(\*) Wetlands Delineations: Wetland delineations must be prepared in accordance with the current method required by the

Corps. The permittee may ask the Corps to delineate the special aquatic site. There may be some delay if the Corps does the delineation. Furthermore, the 30-day period will not start until the wetland delineation has been completed.

(f) Mitigation: Factors that the district engineer will consider when determining the acceptability of appropriate and practicable mitigation include, but are not limited to:

(1) To be practicable the mitigation must be available and capable of being done considering costs, existing technology, and logistics in light of overall project purposes;

(2) To the extent appropriate, permittees should consider mitigation banking and other forms of mitigation including contributions to wetland trust funds, which contribute to the restoration, creation, replacement, enhancement, or preservation of wetlands.

Furthermore, examples of mitigation that may be appropriate and practicable include, but are not limited to, reducing the size of the project; establishing buffer zones to protect aquatic resource values; and replacing the loss of aquatic resource values by creating, restoring, and enhancing similar functions and values. In addition, mitigation must address impacts and cannot be used to offset the acreage of wetland losses that would occur in order to meet the acreage limits of some of the nationwide permits (e.g., 5 acres of wetlands cannot be created to change a 6-acre loss of wetlands to a 1-acre loss; however, the 5 created acres can be used to reduce the impacts of the 6-acre loss).

Section 404 Only Conditions: In addition to the General Conditions, the following conditions apply only to activities that involve the discharge of dredged or fill material and must be followed in order for authorization by the nationwide permits to be valid:

1. Water supply intakes. No discharge of dredged or fill material may occur in the proximity of a public water supply intake, except where the discharge is for repair of the public water supply intake structures or adjacent bank stabilization.

2. Shellfish production. Not applicable.

3. Suitable material. No discharge of dredged or fill material may consist of unsuitable material (e.g., trash, debris, car bodies, etc.) and material discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act). Regional Condition for the State of Colorado: The following condition is added to Section 404 Only Conditions, No. 3 Suitable material: Unsuitable materials also include bituminous concrete (asphalt).



DEPARTMENT OF THE ARMY  
KANSAS CITY DISTRICT, CORPS OF ENGINEERS  
700 FEDERAL BUILDING  
KANSAS CITY, MISSOURI 64106-2896

REPLY TO  
ATTENTION OF:

CEMRK-CO-RE(PJD)

August 22, 1995

CONSULTANTS

THE FOLLOWING IS A LIST OF INDIVIDUALS OR FIRMS WHO HAVE REQUESTED THAT THEY BE INCLUDED ON A LIST OF CONSULTANTS AVAILABLE TO CONDUCT PRELIMINARY JURISDICTIONAL WETLAND DETERMINATIONS FOR SUBMISSION TO THE KANSAS CITY DISTRICT CORPS OF ENGINEERS. THIS LIST IS NOT ALL INCLUSIVE. THERE MAY BE OTHER CONSULTANTS WHO ARE NOT ON THIS LIST. THE KANSAS CITY DISTRICT PROVIDES THIS LIST AS A SERVICE TO THE PUBLIC. THIS LIST IS NOT AN ENDORSEMENT BY THE CORPS OF ENGINEERS. USERS OF THIS LIST MUST SATISFY THEMSELVES THAT ANY LISTED CONSULTANT IS QUALIFIED. FOR ADDITIONAL INFORMATION CONCERNING THIS LIST, CONTACT MR. MARK FRAZIER AT 816-426-2118 (FAX 816-426-2321).

CONSULTANT LIST

B & F Engineering, Inc.  
928 Airport Road  
Hot Springs, Arkansas 71913

POC: Bill Fletcher, President  
Telephone: (501) 767-2366, FAX: (501) 767-6859

Black & Veatch  
P.O. Box 8405  
Kansas City, MO 64114

POC: Ralph E. Brooks, PhD, Wetland Specialist  
Telephone: (913) 339-7290, FAX: (913) 339-2934

Burns & McDonnell  
P.O. Box 419173  
Kansas City, MO 64141-6173

POC: Robert Sholl, P.E., Manager, Environmental Studies  
Telephone: (816) 822-3154, FAX: (816) 333-3690

POC: Point of Contact





DEPARTMENT OF THE ARMY  
KANSAS CITY DISTRICT, CORPS OF ENGINEERS  
700 FEDERAL BUILDING  
KANSAS CITY, MISSOURI 64106-2896

REPLY TO  
ATTENTION OF:

October 25, 1995

Western Project Section  
96-00113  
(KANSAS, MISSOURI, GEN)

Ms. Julie Donsky  
Environmental Scientist  
Dames & Moore  
One Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, Illinois 60008

Dear Ms. Donsky:

This is in reply to your September 30, 1995, letter requesting a Department of the Army (DA) permit determination concerning proposed railroad construction projects that are associated with the merger of the Union Pacific and Southern Pacific Railroads in Kansas and Missouri.

The Corps of Engineers has jurisdiction over all waters of the United States. Excavation or discharges of dredged or fill material in waters of the United States, including wetlands, require prior authorization from the Corps under Section 404 of the Clean Water Act (33 USC 1344). The implementing regulation for this Act is found at 33 CFR 320-330.

Should the proposed construction require the discharge of fill material into any waters of the United States which includes lakes, streams, rivers, and wetlands a DA permit will be required. However, if the project will not involve work in any waters or wetlands a DA permit will not be required. If a DA permit is required, it must be obtained prior to initiation of the work requiring the permit.

Also, if there is a possibility that a project may involve work in a wetland area a jurisdictional wetland determination should be conducted. Enclosed for your information is a list of wetland consultants that are available for conducting jurisdictional wetland determinations for submission with DA permit applications.

Also enclosed are application forms and copies of our brochure entitled "Activities Requiring Permits" in the Regulatory Jurisdiction of the Kansas City District, Corps of Engineers.

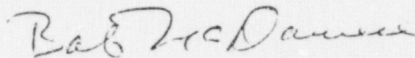
Information regarding Wild and Scenic River systems; farmland; rangeland and forest land may be obtained by contacting the U.S. Department of Agriculture, Box 2471, Washington, D.C. 20013.

Information regarding the projects effect on wildlife, threatened and endangered species may be obtained by contacting the Kansas Department of Wildlife and Parks, Route 2, Box 54A, Pratt, Kansas 67124, and the Missouri Department of Conservation, P.O. Box 180, Jefferson City, Missouri 65102.

For a permit determination concerning the project sites located in Dexter, Stoddard County, Missouri, you must contact the Memphis District, Corps of Engineers, Federal Building, Room B-202, Memphis, Tennessee.

If you have any questions, please feel free to write me or call me at 816-426-5643 (FAX 816-426-2321).

Sincerely,



Bob McDowell  
Regulatory Specialist  
Regulatory Branch

Enclosures





DEPARTMENT OF THE ARMY

VICKSBURG DISTRICT, CORPS OF ENGINEERS  
2101 NORTH FRONTAGE ROAD  
VICKSBURG, MISSISSIPPI 39180-5191

REPLY TO  
ATTENTION OF:

November 6, 1995

Planning Division  
Environmental Resources Branch

Ms. Julie Donsky  
Dames & Moore  
One Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, Illinois 60003

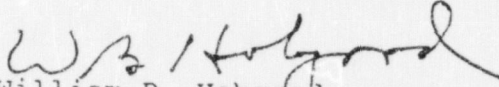
Dear Ms. Donsky:

I refer to your letter of September 30, 1995, regarding the merger of Union Pacific and Southern Pacific Railroads.

The U.S. Army Corps of Engineers, Vicksburg District, has no ongoing or proposed activities in proximity to the proposed projects. However, regarding actions within waters of the United States, I refer to our previous response and enclosure dated October 16, 1995.

I trust this information meets your needs. If you have any other questions, please contact Mr. Stuart McLean of this office (telephone (601) 631-5965) or write to the above address, ATTN: CELMK-PD-Q.

Sincerely,

  
William B. Hobgood  
Chief, Planning Division

Copy Furnished:

Ms. D. Lynn Newton  
Rural Economic and Community  
Development Services  
700 West Capitol, Room 5411  
Section RBCD  
Little Rock, Arkansas 72201-3225



DEPARTMENT OF THE ARMY  
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS  
CLOCK TOWER BUILDING - P.O. BOX 2004  
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO  
ATTENTION OF:

Operations Division

Enclosed for your use is a Joint Application packet entitled, "Protecting Illinois Waters." The packet contains the necessary application forms, drawings sheets, instructions, and information for applying for Department of the Army and State of Illinois permits to perform work in waters within Illinois.

Copies of the completed application, drawing sheets, and any other pertinent information should be mailed to three agencies. The most current addresses for these agencies are listed below:

1. U.S. Army Corps of Engineers, Rock Island  
ATTN: CENCR-OD-S  
Post Office Box 2004  
Rock Island, Illinois 61204-2004
2. Illinois Environmental Protection Agency  
2200 Churchill Road  
Springfield, Illinois 62706
3. Illinois Department of Transportation  
Division of Water Resources  
3215 Executive Park Drive  
Post Office Box 19484  
Springfield, Illinois 62794-9484

Your application to the Illinois Environmental Protection Agency should request Section 401 water quality certification. Your application to the Illinois Department of Transportation should request a construction permit. Please forward a copy of all approvals to this office as you receive them.

For your convenience, the copies of the application and drawing sheets are identified at the bottom of each page. Detailed instructions for completing the application are located on the back of the Joint Application form. In addition, the Joint Application form and drawing sheets are on self-copying paper, so please press down firmly with a hard point pen when completing them.

Should you have any questions, please contact our Regulatory Functions Branch by letter, or telephone Ms. Donna Willey, 309/794-5373.





REPLY TO  
ATTENTION OF:

DEPARTMENT OF THE ARMY  
ST. LOUIS DISTRICT, CORPS OF ENGINEERS  
1222 SPRUCE STREET  
ST. LOUIS, MISSOURI 63103-2833



October 30, 1995

Regulatory Branch  
File Number 199511610

Ms. Julie Donsky  
Dames & Moore  
One Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, Illinois 60008

Dear Ms. Donsky:

This letter is in response to your correspondence dated September 30, 1995 regarding the preparation of an Environmental Assessment for the merger of the Union Pacific and Southern Pacific Railroads. The specific geographic areas, within your assessment, which are covered by this District include: Girard, Salem, and Valley Junction, Illinois.

Section 404 of the Clean Water Act assigns responsibility to the Secretary of the Army to administer a permit program to regulate the placement of dredged or fill material into waters of the United States. The placement of any dredged or fill material into, or excavation from, waters of the United States below ordinary high water elevation, or in wetlands adjacent to these waters, must be authorized by a Section 404 Permit.

It is possible that your project will require Section 404 authorization from the Corps of Engineers, however, this cannot be determined until we have received a copy of your full wetland delineation. A wetland delineation must be performed in accordance with the "Corps of Engineers Wetlands Delineation Manual", dated January 1987.

Additionally, should your project require Section 404 authorization from this office you would further be required to comply with Section 106 of the National Historic Properties Preservation Act of 1966 (16 USC 470), as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties".

0038

-2-

If you have any questions, please feel free to contact me at (314) 331-8185. Please refer to file number 199511610 when discussing this project.

Sincerely,

*Susan Janota-Summers*

Susan L. Janota-Summers  
Supervisory Project Manager  
Illinois Permits Region





DEPARTMENT OF THE ARMY  
ST. LOUIS DISTRICT CORPS OF ENGINEERS  
1222 SPRUCE STREET  
ST. LOUIS, MISSOURI 63103-2833



REPLY TO  
ATTENTION OF:

October 12, 1995

Regulatory Branch  
File Number 199511610

Ms. Julie Donsky  
Dames & Moore  
One Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, Illinois 60008

Dear Ms. Donsky:

This letter is in response to your correspondence dated September 30, 1995 regarding the preparation of an Environmental Assessment for the merger of the Union Pacific and Southern Pacific Railroads. The specific geographic areas, within your assessment, which are covered by this District include: Girard, Salem, and Valley Junction, Illinois.

Section 404 of the Clean Water Act assigns responsibility to the Secretary of the Army to administer a permit program to regulate the placement of dredged or fill material into waters of the United States. The placement of any dredged or fill material into, or excavation from, waters of the United States below ordinary high water elevation, or in wetlands adjacent to these waters, must be authorized by a Section 404 Permit.

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Additionally, should your project require Section 404 authorization from this office you would further be required to comply with Section 106 of the National Historic Properties Preservation Act of 1966 (16 USC 470), as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties".

-2-

If you have any questions, please feel free to contact me at (314) 331-8185. Please refer to file number 199511610 when discussing this project.

Sincerely,

*Susan L. Janota-Summers*

Susan L. Janota-Summers  
Supervisory Project Manager  
Illinois Permits Region

0041





REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS  
CLOCK TOWER BUILDING - P O BOX 2004  
ROCK ISLAND ILLINOIS 61204-2004

October 20, 1995

Planning Division

Ms. Julie Donsky  
Environmental Scientist  
Dames & Moore  
One Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, Illinois 60008

Dear Ms. Donsky:

I received your letter dated September 30, 1995, concerning the Union Pacific and Southern Pacific Railroads merger and related abandonment sites. Rock Island District staff reviewed the information you provided and have the following comments:

a. Your proposal does not involve Corps of Engineers (Corps) administered land; therefore, no further Corps real estate coordination is necessary within this district. You will need to contact the St. Louis District concerning lands within their boundaries. The address is as follows:

District Engineer  
U.S. Army Engineer District, St. Louis  
1222 Spruce Street  
St. Louis, Missouri 63103-2833


b. Only the Springfield, Illinois, project is in the Rock Island District. More details of that project are required for our Regulatory Branch to determine whether a permit is needed. When details are available, please fill out the enclosed application form and send it to Ms. Donna Jones at our address above, ATTN: Operations Division (Donna Jones).

c. You should coordinate with the Illinois State Historic Preservation Officer, Old State Capitol, Springfield, Illinois 62701 to determine impacts to historic properties.

d. You also should contact the Rock Island Field Office of the U.S. Fish and Wildlife Service to determine if any federally listed endangered species are being impacted and, if so, how to avoid or minimize impacts. The Rock Island Field Office address is: 4469 - 48th Avenue Court, Rock Island, Illinois 61201. Mr. Rick Nelson is the Field Supervisor. You can reach him by calling 309/793-5800.

No other concerns surfaced during our review. Thank you for the opportunity to comment on your proposal. If you need more information, please call Mr. Randy Kraciun of our Environmental Analysis Branch, telephone 309/794-5174.

Sincerely,

  
Dudley M. Hanson, P.E.  
Chief, Planning Division

Enclosure





REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO  
CORPS OF ENGINEERS  
1325 J STREET  
SACRAMENTO, CALIFORNIA 95814-2922

October 25, 1995

Planning Division

Ms. Julie Donsky  
Environmental Scientist  
Dames & Moore, Incorporated  
One Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, Illinois 60008

Dear Ms. Donsky:

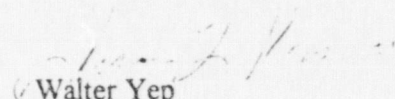
We have reviewed the material concerning the environmental report for the application for merger of the Union Pacific and Southern Pacific Railroads, provided with your September 30, 1995, letter.

The proposed project will not affect existing Corps projects or studies within our Sacramento District boundaries. However, discharge of dredged or fill material placed in or excavated from any waters or wetlands of the United States will require a Department of the Army permit. Please contact our Regulatory Branch at (916) 557-5250 for additional information on permit requirements.

Some rail segments traverse areas within the boundaries of the San Francisco and Los Angeles Districts of the Corps of Engineers, which you may also wish to contact. We forwarded them a copy of your letter to us.

Thank you for coordinating with us.

Sincerely,

  
Walter Yep  
Chief, Planning Division

Copy Furnished:  
U.S. Army Corps of Engineers, San Francisco District, ATTN: Regulatory, 211 Main Street,  
San Francisco, California 94105-1905  
U.S. Army Corps of Engineers, Los Angeles District, ATTN: Regulatory, P.O. Box 2711,  
Los Angeles, California 90012

# DAMES & MOORE

ONE CONTINENTAL TOWERS, 1701 GOLF ROAD, SUITE 1000, BOLLING GREENWAYS, ATLANTA, GA 30345  
(708) 228-0707 FAX: (708) 228-1115

September 30, 1995

RECEIVED

OCT 14 1995

## U.S. FISH AND WILDLIFE SERVICE

Region 4

Richard B. Russell Federal Building, Room 1200

1875 Century Blvd., Ste 200

Atlanta, GA 30345

U.S. FISH & WILDLIFE SERVICE  
VICKSBURG, MS

Dames & Moore is preparing the Environmental Report for the application for merger of the Union Pacific and Southern Pacific Railroads. The attached list and maps show construction projects which are currently identified within your state. In some states there may be additional construction projects and/or rail segments which will be affected by the proposed merger. We will advise you if and when these additional projects become identified.

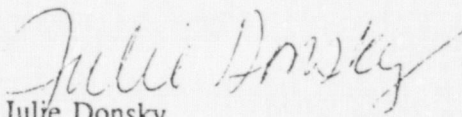
To prepare our Environmental Report, we are requesting that you inform us of any concerns you have and provide information regarding:

- protected species information (State; Federal) within 5 miles of each site.
- listing of critical habitats within 5 miles of each site.
- locations of parks and refuges in proximity to the proposed projects.
- citations to any permitting/approval authority which you believe your state has over the actions identified.
- any other information you would like to provide regarding environmental matters or local concerns at these sites.

We would appreciate receiving the requested information at your earliest convenience. We would further appreciate it if the information could be supplied in writing or orally to the undersigned at the address and phone/fax numbers on this letterhead. The railroads will be filing our Environmental Report with their application to the Interstate Commerce Commission ("ICC") on or before December, and thus your prompt reply will ensure that our report, which the ICC will consider in preparing its own environmental assessment of the above-described project, includes consideration of your views.

We very much appreciate your assistance.

Very truly yours,  
DAMES & MOORE, INC.

  
Julie Donsky  
Environmental Scientist

☒ By Signature of Julie Donsky, Environmental Scientist  
\_\_\_\_\_  
Curtis B. Jones  
Coordinator  
Service  
Log No. 96-027  
10/17/95  
\_\_\_\_\_  
Date



# DAMES & MOORE

ONE CONTINENTAL PLAZA, 1701 GOLF ROAD, SUITE 1000, ROLLING MEADOWS, ILL. 60015  
(708) 228-0707 FAX: (708) 228-1115

September 30, 1995

## U.S. FISH AND WILDLIFE SERVICE

Region 4

Richard B. Russell Federal Building, Room 1200

1875 Century Blvd., Ste 200

Atlanta, GA 30345

RECEIVED

OCT 14 1995

U.S. FISH & WILDLIFE SERVICE  
VICKSBURG, MS

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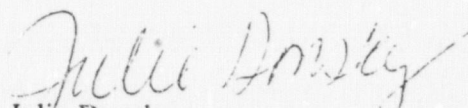
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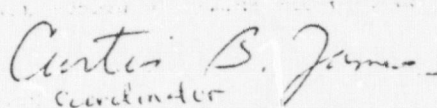
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We very much appreciate your assistance.

Very truly yours,  
DAMES & MOORE, INC.

  
Julie Donsky  
Environmental Scientist

☒ *For information only - no action required*  
  
Curtis B. Jones  
Coordinator  
U.S. Fish & Wildlife Service  
96-027  
10/17/95

[c:\user\jdonsky\upsp\notic2.ltr]

0046

RE:

# DAMES & MOORE

ONE CONTINENTAL TOWERS, 1701 GOLF ROAD, SUITE 1000, ROLLING MEADOWS, ILLINOIS 60015  
(708) 228-0707 FAX: (708) 228-1115

OCT 24 1995

September 30, 1995

ACCOUNTING DEPARTMENT

U.S. FISH AND WILDLIFE SERVICE  
Region 4

Richard B. Russell Federal Building, Room 1200  
1375 Century Blvd., Ste 200  
Atlanta, GA 30345

OCT 24 1995

ACCOUNTING DEPARTMENT

Dames & Moore is preparing the Environmental Report for the application for merger of the Union Pacific and Southern Pacific Railroads. The attached list and maps show construction projects which are currently identified within your state. In some states there may be additional construction projects and/or rail segments which will be affected by the proposed merger. We will advise you if and when these additional projects become identified.

To prepare our Environmental Report, we are requesting that you inform us of any concerns you have and provide information regarding:

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We very much appreciate your assistance.

Very truly yours,  
DAMES & MOORE, INC.

*Julie Donsky*  
Julie Donsky  
Environmental Scientist

*Therese Flakes*  
Therese Flakes  
Environmental Scientist  
DATE 10-9-95





United States Department of the Interior  
Fish and Wildlife Service

Arizona Ecological Services Field Office  
2321 W. Royal Palm Road, Suite 103  
Phoenix, Arizona 85021-4951  
(602) 640-2720 Fax (602) 640-2730



In Reply Refer To:

October 26, 1995

In Reply Refer To:  
AESO/SE  
2-21-96-I-047

Mr. Michael S. Huff  
Dames & Moore  
Cambric Corporate Center  
1790 E. River Road, Suite E-300  
Tucson, Arizona 85718-5876

Dear Mr. Huff:

This letter responds to your October 24, 1995, request for a list of species which are listed as threatened, endangered, or are proposed to be listed as such under the Endangered Species Act of 1973, as amended (Act), which may potentially occur in your project area. The enclosed list may include candidate species as well. In the past, the U.S. Fish and Wildlife Service has provided project-specific species lists and information. However, staff reductions no longer permit us to provide this detailed level of assistance. We regret any inconvenience this may cause you and hope the enclosed county list of species will be helpful. In future communications regarding this project, please refer to consultation number 2-21-96-I-047.

The enclosed list of the endangered, threatened, proposed, and candidate species includes all those potentially occurring anywhere in the county, or counties, where your project occurs. Please note that your project area may not necessarily include all or any of these species. The information provided includes general descriptions, habitat requirements, and other information for each species on the list. Also on the enclosed list is the Code of Federal Regulations (CFR) citation for each listed or proposed species. Additional information can be found in the CFR and is available at most public libraries. This information should assist you in determining which species may or may not occur within your project area. Site-specific surveys could also be helpful and may be needed to verify the presence or absence of a species or its habitat as required for the evaluation of proposed project-related impacts.

Endangered and threatened species are protected by Federal law and must be considered prior to project development. If the action agency determines that listed species or critical habitat may be adversely affected by a federally funded, permitted, or authorized activity, the action agency must request formal consultation with the Service. If the action agency determines that the planned action may jeopardize a proposed species or destroy or adversely modify proposed critical habitat, the action agency must enter into a section 7 conference with the Service.

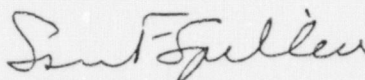
Candidate species are those which are being considered for addition to the list of threatened or endangered species. Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, we recommend that they be considered in the planning process in the event that they become listed or proposed for listing prior to project completion.

If any proposed action occurs in or near areas with trees and shrubs growing along watercourses, known as riparian habitat, the Service recommends the protection of these areas. Riparian areas are critical to biological community diversity and provide linear corridors important to migratory species. In addition, if the project will result in fill materials into waterways, we recommend you contact the Army Corps of Engineers which regulates this activity under Section 404 of the Clean Water Act.

The State of Arizona protects some plant and animal species not protected by Federal law. We recommend you contact the Arizona Game and Fish Department and the Arizona Department of Agriculture for State-listed or sensitive species in your project area.

The Service appreciates your efforts to identify and avoid impacts to listed and sensitive species in your project area. If we may be of further assistance, please contact Tom Gatz.

Sincerely,



Sam F. Spiller  
Field Supervisor

Enclosure

cc: Director, Arizona Game and Fish Department, Phoenix, AZ



LISTED TOTAL= 13

NAME: ARIZONA AGAVE

*AGAVE ARIZONICA*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 49 FR 21055, 05-18-1984

DESCRIPTION: HAS ATTRACTIVE ROSETTES OF BRIGHT GREEN LEAVES WITH DARK MAHOGANY MARGINS. FLOWER: BORNE ON SUB-UMBELLATE INFLORESCENCES.

ELEVATION  
RANGE: 3000-6000 FT.

COUNTIES: GILA, YAVAPAI, MARICOPA

HABITAT: TRANSITION ZONE BETWEEN OAK-JUNIPER WOODLAND & MOUNTAIN MAHOGANY-OAK SCRUB

SCATTERED CLONES IN NEW RIVER MOUNTAINS AND SIERRA ANCHA. USUALLY FOUND ON STEEP, ROCKY SLOPES. POSSIBLY MAZATAL MOUNTAINS SHOULD BE LOOKED FOR WHEREVER THE RANGES OF *Agave toumeyana* var. *bella* AND *Agave chrysantha* OVERLAP.

NAME: ARIZONA CLIFFROSE

*PURSHIA SUBINTEGRA*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 49 FR 22326 5-29-84

DESCRIPTION: EVERGREEN SHRUB OF THE ROSE FAMILY (ROSEACEAE). BARK PALE SHREDDY. YOUNG TWIGS WITH DENSE HAIRS. LEAVES 1-5 LOBES AND EDGES CURL DOWNWARD (REVOLUTE). FLOWERS: 5 WHITE OR YELLOW PETALS <0.5 INCH LONG.

ELEVATION  
RANGE: <4000 FT.

COUNTIES: GRAHAM YAVAPAI MARICOPA MOHAVE

HABITAT: CHARACTERISTIC WHITE SOILS OF TERTIARY LIMESTONE LAKEBED DEPOSITS CAN BE SEEN FROM A DISTANCE.

NAME: ARIZONA HEDGEHOG CACTUS

*ECHINOCEREUS TRIGLOCHIDIATUS ARIZONICUS*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 44 FR 61556, 10-15-1979

DESCRIPTION: DARK GREEN CYLINDROID 2.5-12 INCHES TALL, 2-10 INCHES IN DIAMETER, SINGLE OR IN CLUSTERS. 1-3 GRAY OR PINKISH CENTRAL SPINES LARGEST DEFLEXED AND 5-11 SHORTER RADIAL SPINES. FLOWER: BRILLIANT RED, SIDE OF STEM IN APRIL- MAY

ELEVATION  
RANGE: 3700-5200 FT.

COUNTIES: MARICOPA, GILA, PINAL

HABITAT: ECOTONE BETWEEN INTERIOR CHAPPARAL AND MADREAN EVERGREEN WOODLAND

OPEN SLOPES, IN NARROW CRACKS BETWEEN BOULDERS, AND IN UNDERSTORY OF SHRUBS. THIS VARIETY IS BELIEVED TO INTERGRADE AT THE EDGES OF ITS DISTRIBUTION WITH VARIETIES *MELANCANTHUS* AND *NEOMEXICANUS* CAUSING SOME CONFUSION IN IDENTIFICATION.

LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "MARICOPA"

NAME: LESSER LONG-NOSED BAT

*LEPTONYCTERIS CURASOAE YERBABUENAE*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 53 FR 38456, 09-30-88

DESCRIPTION: ELONGATED MUZZLE, SMALL LEAF NOSE, AND LONG TONGUE.  
\* YELLOWISH BROWN OR GRAY ABOVE AND CINNAMON BROWN BELOW.  
TAIL MINUTE AND APPEARS TO BE LACKING. EASILY DISTURBED.

ELEVATION  
RANGE: <6000 FT.

COUNTIES: COCHISE, PIMA, SANTA CRUZ, GRAHAM, PINAL, MARICOPA

HABITAT: DESERT SCRUB HABITAT WITH AGAVE AND COLUMNAR CACTI PRESENT AS FOOD PLANTS

DAY ROOSTS IN CAVES AND ABANDONED TUNNELS. FORAGES AT NIGHT ON NECTAR, POLLEN, AND FRUIT OF PANICULATE AGAVES AND COLUMNAR CACTI. THIS SPECIES IS MIGRATORY AND IS PRESENT IN ARIZONA, USUALLY FROM APRIL TO SEPTEMBER AND SOUTH OF THE BORDER THE REMAINDER OF THE YEAR.

NAME: SONORAN PRONGHORN

*ANTILOCAPRA AMERICANA SONORIENSIS*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67

DESCRIPTION: BUFF ON BACK AND WHITE BELOW, HOOVED WITH SLIGHTLY CURVED  
BLACK HORNS HAVING A SINGLE PRONG. SMALLEST AND PALEST OF  
THE PRONGHORN SUBSPECIES.

ELEVATION  
RANGE: 2000-4000 FT.

COUNTIES: PIMA, YUMA, MARICOPA

HABITAT: BROAD, INTERMOUNTAIN ALLUVIAL VALLEYS WITH CREOSOTE-BURSAGE & PALO VERDE-MIXED CACTI ASSOCIATIONS

TYPICALLY, BAJA DAS ARE USED AS FAWNING AREAS AND SANDY DUNE AREAS PROVIDE FOOD SEASONALLY. HISTORIC RANGE WAS PROBABLY LARGER THAN EXISTS TODAY. THIS SUBSPECIES ALSO OCCURS IN MEXICO.

NAME: DESERT PUFFISH

*CYPRINODON MACULARIUS*

STATUS: ENDANGERED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 51 FR 10842, 03-31-1986

DESCRIPTION: SMALL (2 INCHES) SMOOTHLY ROUNDED BODY SHAPE WITH NARROW  
VERTICAL BARS ON THE SIDES. BREEDING MALES BLUE ON HEAD AND  
SIDES WITH YELLOW ON TAIL. FEMALES & JUVENILES TAN TO OLIVE  
COLORED BACK AND SILVERY SIDES.

ELEVATION  
RANGE: <5000 FT.

COUNTIES: LA PAZ, PIMA, GRAHAM, MARICOPA, PINAL, YAVAPAI, SANTA CRUZ

HABITAT: SHALLOW SPRINGS, SMALL STREAMS, AND MARSHES. TOLERATES SALINE & WARM WATER

CRITICAL HABITAT INCLUDES QUITOBAQUITO SPRING, PIMA COUNTY, PORTIONS OF SAN FELIPE CREEK, CARRIZO WASH, AND FISH CREEK WASH, IMPERIAL COUNTY, CALIFORNIA. TWO SUBSPECIES ARE RECOGNIZED: DESERT PUFFISH (*C. m. macularius*) AND QUITOBAQUITO PUFFISH (*C. m. eremus*).



LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "MARICOPA"

NAME: GILA TOPMINNOW

*POECILIOPSIS OCCIDENTALIS OCCIDENTALIS*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967

DESCRIPTION: SMALL (2 INCHES), GUPPY-LIKE, LIVE BEARING, LACKS DARK SPOTS ON ITS FINS. BREEDING MALES ARE JET BLACK WITH YELLOW FINS.

ELEVATION  
RANGE: <4500 FT.

COUNTIES: GILA, PINAL, GRAHAM, YAVAPAI, SANTA CRUZ, PIMA, MARICOPA, LA PAZ

HABITAT: SMALL STREAMS, SPRINGS, AND CIENEGAS VEGETATED SHALLOWS

NAME: RAZORBACK SUCKER

*XYRAUCHEN TEXANUS*

STATUS: ENDANGERED

CRITICAL HABITAT: Yes RECOVERY PLAN: No CFR: 55 FR 21154, 05-22-1990;  
59 FR 13374, 03-21-1994

DESCRIPTION: LARGE (UP TO 2 FEET AND UP TO 16 POUNDS) LONG, HIGH SHARP-  
EDGED KEEL-LIKE HUMP BEHIND THE HEAD. HEAD FLATTENED ON TOP.  
OLIVE-BROWN ABOVE TO YELLOWISH BELOW.

ELEVATION  
RANGE: <6000 FT.

COUNTIES: GREENLEE, MOHAVE, PINAL, YAVAPAI, YUMA, LA PAZ, MARICOPA (REFUGIA), GILA, COCONINO, GRAHAM

HABITAT: RIVERINE & LACUSTRINE AREAS, GENERALLY NOT IN FAST MOVING WATER AND MAY USE BACKWATERS

SPECIES IS ALSO FOUND IN HORSESHOE RESERVOIR (MARICOPA COUNTY).

NAME: AMERICAN PEREGRINE FALCON

*FALCO PEREGRINUS ANATUM*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 35 FR 16047, 10-13-70; 35  
FR 8495, 06-02-70

DESCRIPTION: A RECLUSIVE, CROW-SIZED FALCON SLATY BLUE ABOVE WHITISH  
BELOW WITH FINE DARK BARRING. THE HEAD IS BLACK AND APPEARS  
TO BE MASKED OR HELMETED. WINGS LONG AND POINTED. LOUD  
WAILING CALLS ARE GIVEN DURING BREEDING PERIOD.

ELEVATION  
RANGE: 3500-9000 FT.

COUNTIES: MOHAVE COCONINO NAVAJO APACHE SANTA CRUZ MARICOPA COCHISE YAVAPAI GILA PINAL PIMA  
GREENLEE GRAHAM

HABITAT: CLIFFS AND STEEP TERRAIN USUALLY NEAR WATER OR WOODLANDS WITH ABUNDANT PREY

THIS IS A WIDE RANGING MIGRATORY BIRD THAT USES A VARIETY OF HABITATS. BREEDING BIRDS ARE YEAR-  
ROUND RESIDENTS. OTHER BIRDS WINTER AND MIGRATE THROUGH ARIZONA. SPECIES IS ENDANGERED FROM  
REPRODUCTIVE FAILURE FROM PESTICIDES.

LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "MARICOPA"

NAME: BALD EAGLE

*HALIAEETUS LEUCOCEPHALUS*

STATUS: THREATENED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 60 FR 35399, 07-12-95

DESCRIPTION: LARGE, ADULTS HAVE WHITE HEAD AND TAIL. HEIGHT 28 - 38";  
WINGSPAN 66 - 96". 1-4 YRS DARK WITH VARYING DEGREES OF  
MOTTLED BROWN PLUMAGE. FEET BARE OF FEATHERS.

ELEVATION

RANGE: VARIES FT.

COUNTIES: YUMA, LA PAZ, MOHAVE, YAVAPAI, MARICOPA, PINAL, COCONINO, NAVAJO, APACHE, SANTA CRUZ, PIMA,  
GILA, GRAHAM

HABITAT: LARGE TREES OR CLIFFS NEAR WATER (RESERVOIRS, RIVERS AND STREAMS) WITH ABUNDANT PREY

SOME BIRDS ARE NESTING RESIDENTS WHILE A LARGER NUMBER WINTERS ALONG RIVERS AND RESERVOIRS.  
AN ESTIMATED 200 TO 300 BIRDS WINTER IN ARIZONA. ONCE ENDANGERED (32 FR 4001, 03-11-1967; 43 FR 6233, 02-  
14-78) BECAUSE OF REPRODUCTIVE FAILURES FROM PESTICIDE POISONING AND LOSS OF HABITAT, THIS  
SPECIES WAS DOWN LISTED TO THREATENED ON AUGUST 11, 1995. ILLEGAL SHOOTING, DISTURBANCE, LOSS OF  
HABITAT CONTINUES TO BE A PROBLEM.

NAME: MEXICAN SPOTTED OWL

*STRIX OCCIDENTALIS LUCIDA*

STATUS: THREATENED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 56 FR 14678, 04-11-91

DESCRIPTION: MEDIUM SIZED WITH DARK EYES AND NO EAR TUFTS. BROWNISH AND  
HEAVILY SPOTTED WITH WHITE OR BEIGE.

ELEVATION

RANGE: 4100-9000 FT.

COUNTIES: MOHAVE, COCONINO, NAVAJO, APACHE, YAVAPAI, GRAHAM, GREENLEE, COCHISE, SANTA CRUZ, PIMA,  
PINAL, GILA, MARICOPA

HABITAT: NESTS IN CANYONS AND DENSE FORESTS WITH MULTI-LAYERED FOLIAGE STRUCTURE

GENERALLY NESTS IN OLDER FORESTS OF MIXED CONIFER OR PONDEROSA PINE/GAMBEL OAK TYPE, IN  
CANYONS, AND USE VARIETY OF HABITATS FOR FORAGING. SITES WITH COOL MICROCLIMATES APPEAR TO BE  
OF IMPORTANCE OR ARE PREFERRED.

NAME: SOUTHWESTERN WILLOW FLYCATCHER

*EMPIDONAX TRILLII EXIMUS*

STATUS: ENDANGERED

CRITICAL HABITAT: Yes RECOVERY PLAN: No CFR: 60 FR 10694, 02-27-95

DESCRIPTION: SMALL PASSERINE (ABOUT 6") GRAYISH-GREEN BACK AND WINGS,  
WHITISH THROAT, LIGHT OLIVE-GRAY BREAST AND PALE YELLOWISH  
BELLY. TWO WINGBARS VISIBLE. EYE-RING FAINT OR ABSENT.

ELEVATION

RANGE: <8500 FT.

COUNTIES: YAVAPAI, GILA, MARICOPA, MOHAVE, COCONINO, NAVAJO, APACHE, PINAL, LA PAZ, GREENLEE, GRAHAM,  
YUMA, PIMA, COCHISE, SANTA CRUZ

HABITAT: COTTONWOOD/WILLOW & TAMARISK VEGETATION COMMUNITIES ALONG RIVERS & STREAMS

MIGRATORY RIPARIAN OBLIGATE SPECIES THAT OCCUPIES BREEDING HABITAT FROM LATE APRIL TO  
SEPTEMBER. DISTRIBUTION WITHIN ITS RANGE IS RESTRICTED TO RIPARIAN CORRIDORS. DIFFICULT TO  
DISTINGUISH FROM OTHER MEMBERS OF THE EMPIDONAX COMPLEX BY SIGHT ALONE. TRAINING SEMINAR  
REQUIRED FOR THOSE CONDUCTING FLYCATCHER SURVEYS.



LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: \*MARICOPA\*

NAME: YUMA CLAPPER RAIL

*RALLUS LONGIROSTRIS YUMANENSIS*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67; 48  
FR 34182, 07-27-83

DESCRIPTION: WATER BIRD WITH LONG LEGS AND SHORT TAIL. LONG SLENDER  
DECURVED BILL. MOTTLED BROWN ON GRAY ON ITS RUMP. FLANKS  
AND UNDERSIDES ARE DARK GRAY WITH NARROW VERTICAL STRIPES  
PRODUCING A BARRING EFFECT.

ELEVATION

RANGE: <4500 FT.

COUNTIES: YUMA, LA PAZ, MARICOPA, PINAL, MOHAVE

HABITAT: FRESH WATER AND BRACKISH MARSHES

SPECIES IS ASSOCIATED WITH DENSE EMERGENT RIPARIAN VEGETATION. REQUIRES WET SUBSTRATE  
(MUDFLAT, SANDBAR) WITH DENSE HERBACEOUS OR WOODY VEGETATION FOR NESTING AND FORAGING.  
CHANNELIZATION AND MARSH DEVELOPMENT ARE PRIMARY SOURCES OF HABITAT LOSS.

LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "MARICOPA"

PROPOSED TOTAL= 1

NAME: CACTUS FERRUGINOUS PYGMY-OWL

*GLAUCIDIUM BRASILIANUM CACTORUM*

STATUS: PROPOSED ENDANGERED CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 59 FR 63975, 12-12-94

DESCRIPTION: SMALL (APPROX. 7"), DIURNAL OWL REDDISH BROWN OVERALL WITH  
CREAM-COLORED BELLY STREAKED WITH REDDISH BROWN. SOME  
INDIVIDUALS ARE GRAYISH BROWN

ELEVATION

RANGE: <4000 FT.

COUNTIES: MARICOPA, YUMA, SANTA CRUZ, GRAHAM, GREENLEE, PIMA, PINAL, GILA, YAVAPAI

HABITAT: MATURE COTTONWOOD/WILLOW, MESQUITE BOSQUES, AND DESERT SCRUB

RANGE LIMIT IN ARIZONA IS FROM NEW RIVER (NORTH) TO GILA BOX (EAST) TO CABEZA PRIETA MOUNTAINS (WEST). ONLY A FEW DOCUMENTED SITES WHERE THIS SPECIES PERSISTS ARE KNOWN. ADDITIONAL SURVEYS ARE NEEDED. CRITICAL HABITAT HAS BEEN PROPOSED FOR THIS SPECIES.



LISTED TOTAL= 13

NAME: ARIZONA HEDGEHOG CACTUS

*ECHINOCEREUS TRIGLOCHIDIATUS ARIZONICUS*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 44 FR 61556, 10-15-1979

DESCRIPTION: DARK GREEN CYLINDROID 2.5-12 INCHES TALL, 2-10 INCHES IN  
DIAMETER, SINGLE OR IN CLUSTERS. 1-3 GRAY OR PINKISH CENTRAL  
SPINES LARGEST DEFLEXED AND 5-11 SHORTER RADIAL SPINES.  
FLOWER: BRILLIANT RED, SIDE OF STEM IN APRIL- MAY

ELEVATION  
RANGE: 3700-5200 FT.

COUNTIES: MARICOPA, GILA, PINAL

HABITAT: ECOTONE BETWEEN INTERIOR CHAPPARAL AND MADREAN EVERGREEN WOODLAND

OPEN SLOPES, IN NARROW CRACKS BETWEEN BOULDERS, AND IN UNDERSTORY OF SHRUBS. THIS VARIETY IS  
BELIEVED TO INTERGRADE AT THE EDGES OF ITS DISTRIBUTION WITH VARIETIES MELANCANTHUS AND  
NEOMEXICANUS CAUSING SOME CONFUSION IN IDENTIFICATION.

NAME: NICHOL'S TURK'S HEAD CACTUS

*ECHINOCACTUS HORIZONTHALONIUS VAR NICHOLII*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 44 FR 61927, 10-26-1979

DESCRIPTION: BLUE-GREEN TO YELLOWISH-GREEN, COLUMNAR, 18 INCHES TALL, 8  
INCHES IN DIAMETER. SPINE CLUSTERS HAVE 5 RADIAL & 3 CENTRAL  
SPINES; ONE DOWNWARD SHORT; 2 SPINES UPWARD AND RED OR  
BASALLY GRAY. FLOWER: PINK FRUIT: WOOLLY WHITE

ELEVATION  
RANGE: 2400-4100 FT.

COUNTIES: PINAL, PIMA, YUMA

HABITAT: SONORAN DESERT SCRUB

FOUND IN UNSHADED MICROSITES IN SONORAN DESERT SCRUB ON DISSECTED ALLUVIAL FANS AT THE FOOT OF  
LIMESTONE MOUNTAINS AND ON INCLINED TERRACES AND SADDLES ON LIMESTONE MOUNTAIN SIDES. NEW  
POPULATION ON YUMA PROVING GROUNDS.

NAME: LESSER LONG-NOSED BAT

*LEPTONYCTERIS CURASOAE YERBABUENAE*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 53 FR 38456, 09-30-88

DESCRIPTION: ELONGATED MUZZLE, SMALL LEAF NOSE, AND LONG TONGUE.  
YELLOWISH BROWN OR GRAY ABOVE AND CINNAMON BROWN BELOW.  
TAIL MINUTE AND APPEARS TO BE LACKING. EASILY DISTURBED.

ELEVATION  
RANGE: <6000 FT.

COUNTIES: COCHISE, PIMA, SANTA CRUZ, GRAHAM, PINAL, MARICOPA

HABITAT: DESERT SCRUB HABITAT WITH AGAVE AND COLUMNAR CACTI PRESENT AS FOOD PLANTS

DAY ROOSTS IN CAVES AND ABANDONED TUNNELS. FORAGES AT NIGHT ON NECTAR, POLLEN, AND FRUIT OF  
PANICULATE AGAVES AND COLUMNAR CACTI. THIS SPECIES IS MIGRATORY AND IS PRESENT IN ARIZONA,  
USUALLY FROM APRIL TO SEPTEMBER AND SOUTH OF THE BORDER THE REMAINDER OF THE YEAR.

NAME: DESERT PUFFISH

*CYPRINODON MACULARIUS*

STATUS: ENDANGERED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 51 FR 10842, 03-31-1986

DESCRIPTION: SMALL (2 INCHES) SMOOTHLY ROUNDED BODY SHAPE WITH NARROW VERTICAL BARS ON THE SIDES. BREEDING MALES BLUE ON HEAD AND SIDES WITH YELLOW ON TAIL. FEMALES & JUVENILES TAN TO OLIVE COLORED BACK AND SILVERY SIDES.

ELEVATION  
RANGE: <5000 FT.

COUNTIES: LA PAZ, PIMA, GRAHAM, MARICOPA, PINAL, YAVAPAI, SANTA CRUZ

HABITAT: SHALLOW SPRINGS, SMALL STREAMS, AND MARSHES. TOLERATES SALINE & WARM WATER

CRITICAL HABITAT INCLUDES QUITOBAQUITO SPRING, PIMA COUNTY, PORTIONS OF SAN FELIPE CREEK, CARRIZO WASH, AND FISH CREEK WASH, IMPERIAL COUNTY, CALIFORNIA. TWO SUBSPECIES ARE RECOGNIZED: DESERT PUFFISH (*C. m. macularius*) AND QUITOBAQUITO PUFFISH (*C. m. eremus*).

NAME: GILA TOPMINNOW

*POECILIOPSIS OCCIDENTALIS OCCIDENTALIS*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967

DESCRIPTION: SMALL (2 INCHES), GUPPY-LIKE, LIVE BEARING. LACKS DARK SPOTS ON ITS FINS. BREEDING MALES ARE JET BLACK WITH YELLOW FINS.

ELEVATION  
RANGE: <4500 FT.

COUNTIES: GILA, PINAL, GRAHAM, YAVAPAI, SANTA CRUZ, PIMA, MARICOPA, LA PAZ

HABITAT: SMALL STREAMS, SPRINGS, AND CIENEGAS VEGETATED SHALLOWS

NAME: LOACH MINNOW

*TIAROGA COBITIS*

STATUS: THREATENED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 51 FR 39468, 10-28-1986;

DESCRIPTION: SMALL (<3 INCHES LONG) SLENDER, ELONGATED FISH, OLIVE COLORED WITH DIRTY WHITE SPOTS AT THE BASE OF THE DORSAL AND CAUDAL FINS. BREEDING MALES VIVID RED ON MOUTH AND BASE OF FINS

59 FR 10898, 03-08-1994  
ELEVATION  
RANGE: <7000 FT.

COUNTIES: PINAL, GRAHAM, GREENLEE, GILA, APACHE, NAVAJO, (AZ); GRANT, CATRON, (NM)

HABITAT: BENTHIC SPECIES OF SMALL TO LARGE PERENNIAL STREAMS WITH SWIFT SHALLOW WATER OVER COBBLE & GRAVEL

CRITICAL HABITAT IS IN ARAVAIPA CREEK, BLUE RIVER, CAMPBELL BLUE CREEK, SAN FRANCISCO RIVER, DRY BLUE CREEK, TULAROSA RIVER, EAST WEST AND MIDDLE FORKS OF THE GILA RIVER, AND THE MAINSTEM UPPER GILA RIVER. PRESENTLY FOUND IN ALL CRITICAL HABITAT PLUS WHITE RIVER AND EAGLE CREEKS.



LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "pinal"

NAME: RAZORBACK SUCKER

*XYRAUCHEN TEXANUS*

STATUS: ENDANGERED

CRITICAL HABITAT: Yes RECOVERY PLAN: No CFR: 55 FR 21154, 05-22-1990;

DESCRIPTION: LARGE (UP TO 3 FEET AND UP TO 16 POUNDS) LONG, HIGH SHARP-  
EDGED KEEL-LIKE HUMP BEHIND THE HEAD. HEAD FLATTENED ON TOP.  
OLIVE-BROWN ABOVE TO YELLOWISH BELOW.

ELEVATION

RANGE: <6000 FT.

COUNTIES: GREENLEE, MOHAVE, PINAL, YAVAPAI, YUMA, LA PAZ, MARICOPA (REFUGIA), GILA, COCONINO, GRAHAM

HABITAT: RIVERINE & LACUSTRINE AREAS, GENERALLY NOT IN FAST MOVING WATER AND MAY USE BACKWATERS

SPECIES IS ALSO FOUND IN HORSESHOE RESERVOIR (MARICOPA COUNTY).

NAME: SPIKEDACE

*MEDA FULGIDA*

STATUS: THREATENED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 51 FR 23769, 07-01-1986;

DESCRIPTION: SMALL (<3 INCHES) SLIM WITH SILVERY SIDES & "SPINE" ON DORSAL  
FIN. BREEDING MALES BRASSY GOLDEN COLOR

ELEVATION

RANGE: <6000 FT.

COUNTIES: GRAHAM, PINAL, GREENLEE, YAVAPAI, (AZ); GRANT, (NM)

HABITAT: MODERATE TO LARGE PERENNIAL STREAMS WITH GRAVEL COBBLE SUBSTRATES AND MODERATE TO  
SWIFT VELOCITIES

CRITICAL HABITAT IN ARAVAIPA CREEK, UPPER VERDE RIVER, AND PORTIONS OF GILA RIVER IN NEW MEXICO.  
PRESENTLY FOUND IN ARAVAIPA CREEK, EAGLE CREEK, VERDE RIVER ABOVE VERDE VALLEY, EAST-WEST-MAIN  
AND MIDDLE FORKS OF THE GILA RIVER IN NEW MEXICO, AND GILA RIVER FROM SAN PEDRO RIVER TO ASHURST  
HAYDEN DAM.

NAME: AMERICAN PEREGRINE FALCON

*FALCO PEREGRINUS ANATUM*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 35 FR 16047, 10-13-70; 35

DESCRIPTION: A RECLUSIVE, CROW-SIZED FALCON SLATY BLUE ABOVE WHITISH  
BELOW WITH FINE DARK BARRING. THE HEAD IS BLACK AND APPEARS  
TO BE MASKED OR HELMETED. WINGS LONG AND POINTED. LOUD  
WAILING CALLS ARE GIVEN DURING BREEDING PERIOD.

ELEVATION

RANGE: 3500-9000 FT.

COUNTIES: MOHAVE COCONINO NAVAJO APACHE SANTA CRUZ MARICOPA COCHISE YAVAPAI GILA PINAL PIMA  
GREENLEE GRAHAM

HABITAT: CLIFFS AND STEEP TERRAIN USUALLY NEAR WATER OR WOODLANDS WITH ABUNDANT PREY

THIS IS A WIDE-RANGING MIGRATORY BIRD THAT USES A VARIETY OF HABITATS. BREEDING BIRDS ARE YEAR-  
ROUND RESIDENTS. OTHER BIRDS WINTER AND MIGRATE THROUGH ARIZONA. SPECIES IS ENDANGERED FROM  
REPRODUCTIVE FAILURE FROM PESTICIDES.

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LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "pinal"

NAME: BALD EAGLE

*HALIAEETUS LEUCOCEPHALUS*

STATUS: THREATENED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 60 FR 35999, 07-12-95

DESCRIPTION: LARGE, ADULTS HAVE WHITE HEAD AND TAIL. HEIGHT 28 - 38".  
WINGSPAN 66 - 96". 1-4 YRS DARK WITH VARYING DEGREES OF  
MOTTLED BROWN PLUMAGE. FEET BARE OF FEATHERS.

ELEVATION  
RANGE: VARIES FT.

COUNTIES: YUMA, LA PAZ, MOHAVE, YAVAPAI, MARICOPA, PINAL, COCONINO, NAVAJO, APACHE, SANTA CRUZ, PIMA,  
GILA, GRAHAM

HABITAT: LARGE TREES OR CLIFFS NEAR WATER (RESERVOIRS, RIVERS AND STREAMS) WITH ABUNDANT PREY

SOME BIRDS ARE NESTING RESIDENTS WHILE A LARGER NUMBER WINTERS ALONG RIVERS AND RESERVOIRS.  
AN ESTIMATED 200 TO 300 BIRDS WINTER IN ARIZONA. ONCE ENDANGERED (32 FR 4001, 03-11-1967; 43 FR 6230 02-  
14-78) BECAUSE OF REPRODUCTIVE FAILURES FROM PESTICIDE POISONING AND LOSS OF HABITAT. THIS  
SPECIES WAS DOWN LISTED TO THREATENED ON AUGUST 11, 1995. ILLEGAL SHOOTING, DISTURBANCE, LOSS OF  
HABITAT CONTINUES TO BE A PROBLEM.

NAME: MEXICAN SPOTTED OWL

*STRIX OCCIDENTALIS LUCIDA*

STATUS: THREATENED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 56 FR 14678, 04-11-91

DESCRIPTION: MEDIUM SIZED WITH DARK EYES AND NO EAR TUFTS. BROWNISH AND  
HEAVILY SPOTTED WITH WHITE OR BEIGE.

ELEVATION  
RANGE: 4100-9000 FT.

COUNTIES: MOHAVE, COCONINO, NAVAJO, APACHE, YAVAPAI, GRAHAM, GREENLEE, COCHISE, SANTA CRUZ, PIMA,  
PINAL, GILA, MARICOPA

HABITAT: NESTS IN CANYONS AND DENSE FORESTS WITH MULTI-LAYERED FOLIAGE STRUCTURE

GENERALLY NESTS IN OLDER FORESTS OF MIXED CONIFER OR PONDEROSA PINE/GAMBEL OAK TYPE. IN  
CANYONS, AND USE VARIETY OF HABITATS FOR FORAGING. SITES WITH COOL MICROCLIMATES APPEAR TO BE  
OF IMPORTANCE OR ARE PREFERRED.

NAME: SOUTHWESTERN WILLOW FLYCATCHER

*EMPIDONAX TRAILLII EXTIMUS*

STATUS: ENDANGERED

CRITICAL HABITAT: Yes RECOVERY PLAN: No CFR: 60 FR 10694, 02-27-95

DESCRIPTION: SMALL PASSERINE (ABOUT 6") GRAYISH-GREEN BACK AND WINGS,  
WHITISH THROAT, LIGHT OLIVE-GRAY BREAST AND PALE YELLOWISH  
BELLY. TWO WINGBARS VISIBLE. EYE-RING FAINT OR ABSENT.

ELEVATION  
RANGE: <8500 FT.

COUNTIES: YAVAPAI, GILA, MARICOPA, MOHAVE, COCONINO, NAVAJO, APACHE, PINAL, LA PAZ, GREENLEE, GRAHAM,  
YUMA, PIMA, COCHISE, SANTA CRUZ

HABITAT: COTTONWOOD/WILLOW & TAMARISK VEGETATION COMMUNITIES ALONG RIVERS & STREAMS

MIGRATORY RIPARIAN OBLIGATE SPECIES THAT OCCUPIES BREEDING HABITAT FROM LATE APRIL TO  
SEPTEMBER. DISTRIBUTION WITHIN ITS RANGE IS RESTRICTED TO RIPARIAN CORRIDORS. DIFFICULT TO  
DISTINGUISH FROM OTHER MEMBERS OF THE EMPIDONAX COMPLEX BY SIGHT ALONE. TRAINING SEMINAR  
REQUIRED FOR THOSE CONDUCTING FLYCATCHER SURVEYS.

LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "pinal"

NAME: YUMA CLAPPER RAIL

*RALLUS LONGIROSTRIS YUMANENSIS*

STATUS: ENDANGERED

CRITICAL HABITAT: No

RECOVERY PLAN: Yes

CFR: 32 FR 4001, 03-11-67; 48

DESCRIPTION: WATER BIRD WITH LONG LEGS AND SHORT TAIL. LONG SLENDER

FR 34182, 07-27-83

DECURVED BILL. MOTTLED BROWN ON GRAY ON ITS RUMP. FLANKS

AND UNDERSIDES ARE DARK GRAY WITH NARROW VERTICAL STRIPES

PRODUCING A BARRING EFFECT.

ELEVATION

RANGE: <4500 FT.

COUNTIES: YUMA, LA PAZ, MARICOPA, PINAL, MOHAVE

HABITAT: FRESH WATER AND BRACKISH MARSHES

SPECIES IS ASSOCIATED WITH DENSE EMERGENT RIPARIAN VEGETATION. REQUIRES WET SUBSTRATE (MUDFLAT, SANDBAR) WITH DENSE HERBACEOUS OR WOODY VEGETATION FOR NESTING AND FORAGING. CHANNELIZATION AND MARSH DEVELOPMENT ARE PRIMARY SOURCES OF HABITAT LOSS.



LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "pinal"

PROPOSED TOTAL= 1

NAME: CACTUS FERRUGINOUS PYGMY-OWL

*GLAUCIDIUM BRASILIANUM CACTORUM*

STATUS: PROPOSED ENDANGERED CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 59 FR 63975, 12-12-94

DESCRIPTION: SMALL (APPROX. 7"), DIURNAL OWL REDDISH BROWN OVERALL WITH  
CREAM-COLORED BELLY STREAKED WITH REDDISH BROWN. SOME  
INDIVIDUALS ARE GRAYISH BROWN

ELEVATION

RANGE: <4000 FT.

COUNTIES: MARICOPA, YUMA, SANTA CRUZ, GRAHAM, GREENLEE, PIMA, PINAL, GILA, YAVAPAI

HABITAT: MATURE COTTONWOOD/WILLOW, MESQUITE BOSQUES, AND DESERT SCRUB

RANGE LIMIT IN ARIZONA IS FROM NEW RIVER (NORTH) TO GILA BOX (EAST) TO CABEZA PRIETA MOUNTAINS  
(WEST). ONLY A FEW DOCUMENTED SITES WHERE THIS SPECIES PERSISTS ARE KNOWN. ADDITIONAL SURVEYS  
ARE NEEDED. CRITICAL HABITAT HAS BEEN PROPOSED FOR THIS SPECIES.

LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "pinal"

CANDIDATE TOTAL= 1

NAME: ACUNA CACTUS

*ECHINOMASTUS ERECTOCENTRUS ACUNENSIS*

STATUS: CATEGORY-1

CRITICAL HABITAT: No RECOVERY PLAN: No CFR:

DESCRIPTION: <12 INCHES HIGH SPINE CLUSTERS BORNE ON TUBERCLES, EACH WITH  
A GROOVE ON THE UPPER SURFACE. 2-3 CENTRAL SPINES AND 12  
RADIAL SPINES. FLOWERS PINK TO PURPLE

ELEVATION

RANGE: 1300-2000 FT.

COUNTIES: PINAL, PIMA

HABITAT: WELL DRAINED KNOLLS AND GRAVEL RIDGES IN SONORAN DESERT SCRUB

IMMATURE PLANTS DISTINCTLY DIFFERENT FROM MATURE PLANTS. THEY ARE DISC-SHAPED OR SPHERICAL AND  
HAVE NO CENTRAL SPINES UNTIL THEY ARE ABOUT 1.5 INCHES. RADIAL SPINES ARE DIRTY WHITE WITH MAROON  
TIPS.



LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: \*COCHISE\*

LISTED TOTAL= 16

NAME: COCHISE PINCUSHION CACTUS

*CORYPHANTHA ROBBINSORUM*

STATUS: THREATENED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 51 FR 952, 1-9-1986

DESCRIPTION: A SMALL UNBRANCHED CACTUS WITH NO CENTRAL SPINES AND 11-17  
WHITE RADIAL SPINES. THE BELL-SHAPED FLOWERS ARE BORNE ON  
THE ENDS OF TUBERCULES (Protrusions). FLOWERS: BELL SHAPED,  
PALE YELLOW-GREEN. FRUITS: ORANGE-RED TO RED

ELEVATION  
RANGE: >4200 FT.

COUNTIES: COCHISE AND SONORA, MEXICO

HABITAT: SEMIDESERT GRASSLAND WITH SMALL SHRUBS, AGAVE, OTHER CACTI, AND GRAMA GRASS.

GROWS ON GRAY LIMESTONE HILLS.

NAME: NEW MEXICAN RIDGE-NOSED RATTLESNAKE *CROTALUS WILLARDI OBSCURUS*

STATUS: THREATENED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 43 FR 34479, 04-04-1978

DESCRIPTION: SMALL 12-24 INCHES. SECRETIVE GRAYISH-BROWN WITH DISTINCT  
RIDGE ON THE END OF THE SNOUT. THE DORSAL SURFACE HAS  
OBSCURE, IRREGULARLY SPACED WHITE CROSSBARS EDGED WITH  
BROWN (NOT A BOLD PATTERN).

ELEVATION  
RANGE: 5600-9000 FT.

COUNTIES: COCHISE

HABITAT: PRESUMABLY CANYON BOTTOMS IN PINE-OAK & PINE-FIR COMMUNITIES WITH ALDER, MAPLE, OAK, &  
BOX ELDER

THE SUBSPECIES HAS NOT BEEN DOCUMENTED IN ARIZONA. HOWEVER, IT HAS BEEN OBSERVED NEAR THE  
ARIZONA BORDER IN THE PELONCILLO MOUNTAINS AND LIKELY OCCURS IN THE ARIZONA PORTION OF THAT  
RANGE AS WELL. ANOTHER SUBSPECIES, (*CROTALUS WILLARDI WILLARDI*), IS AN ARIZONA STATE CANDIDATE.

NAME: JAGUARUNDI

*FELIS YAGOUAROUNDI TOLTECA*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 41 FR 24064, 06-14-76

DESCRIPTION: SMALL CAT WITH SHORT LEGS; SLENDER, ELONGATE BODY; AND LONG  
TAIL. HEAD SMALL & FLATTENED WITH SHORT ROUNDED EARS.  
REDDISH-YELLOW OR BLACKISH TO BROWN-GRAY IN COLOR AND  
WITHOUT SPOTS.

ELEVATION  
RANGE: 3500-6000 FT.

COUNTIES: SANTA CRUZ, PIMA, COCHISE

HABITAT: CAN BE FOUND IN A VARIETY OF HABITATS (SEE BELOW)

SEMI-ARID THORNY FORESTS, DECIDUOUS FORESTS, HUMID PRE-MONTANE FORESTS, UPLAND DRY SAVANNAHS,  
SWAMPY GRASSLANDS, RIPARIAN AREAS, AND DENSE BRUSH. UNCONFIRMED REPORTS OF INDIVIDUALS IN THE  
SOUTHERN PART OF THE STATE CONTINUE TO BE RECEIVED. NO SPECIMENS HAVE BEEN COLLECTED IN  
ARIZONA.

LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "COCHISE"

NAME: LESSER LONG-NOSED BAT

*LEPTONYCTERIS CURASOAE YERBABUENAE*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 53 FR 38456, 09-30-88

DESCRIPTION: ELONGATED MUZZLE, SMALL LEAF NOSE, AND LONG TONGUE.  
YELLOWISH BROWN OR GRAY ABOVE AND CINNAMON BROWN BELOW.  
TAIL MINUTE AND APPEARS TO BE LACKING. EASILY DISTURBED.

ELEVATION  
RANGE: <6000 FT.

COUNTIES: COCHISE, PIMA, SANTA CRUZ, GRAHAM, PINAL, MARICOPA

HABITAT: DESERT SCRUB HABITAT WITH AGAVE AND COLUMNAR CACTI PRESENT AS FOOD PLANTS

DAY ROOSTS IN CAVES AND ABANDONED TUNNELS. FORAGES AT NIGHT ON NECTAR, POLLEN, AND FRUIT OF PANICULATE AGAVES AND COLUMNAR CACTI. THIS SPECIES IS MIGRATORY AND IS PRESENT IN ARIZONA, USUALLY FROM APRIL TO SEPTEMBER AND SOUTH OF THE BORDER THE REMAINDER OF THE YEAR.

NAME: MEXICAN GRAY WOLF

*CANIS LUPUS BAILEYI*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67; 43 FR 1912, 03-09-78

DESCRIPTION: LARGE DOG-LIKE CARNIVORE WITH VARYING COLOR, BUT USUALLY A SHADE OF GRAY. DISTINCT WHITE LIP LINE AROUND MOUTH. WEIGH 60-90 POUNDS.

ELEVATION  
RANGE: 4,000-12,000 FT.

COUNTIES: COCHISE, PIMA, SANTA CRUZ

HABITAT: CHAPPARAL, WOODLAND, AND FORESTED AREAS. MAY CROSS DESERT AREAS.

HISTORIC RANGE IS CONSIDERED TO BE LARGER THAN THE COUNTIES LISTED ABOVE. UNCONFIRMED REPORTS OF INDIVIDUALS IN THE SOUTHERN PART OF THE STATE CONTINUE TO BE RECEIVED. INDIVIDUALS MAY STILL PERSIST IN MEXICO.

NAME: OCELOT

*FELIS PARDALIS*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 47 FR 31670; 07-21-82

DESCRIPTION: MEDIUM-SIZED SPOTTED CAT WHOSE TAIL IS ABOUT 1/2 THE LENGTH OF HEAD AND BODY. YELLOWISH WITH BLACK STREAKS AND STRIPES RUNNING FROM FRONT TO BACK. TAIL IS SPOTTED AND FACE IS LESS HEAVILY STREAKED THAN THE BACK AND SIDES.

ELEVATION  
RANGE: <8000 FT.

COUNTIES: SANTA CRUZ, PIMA, COCHISE

HABITAT: HUMID TROPICAL & SUB-TROPICAL FORESTS, SAVANNAHS, AND SEMI-ARID THORNSCRUB.

MAY PERSIST IN PARTLY-CLEARED FORESTS, SECOND-GROWTH WOODLAND, AND ABANDONED CULTIVATION REVERTED TO BRUSH. UNIVERSAL COMPONENT IS PRESENCE OF DENSE COVER. UNCONFIRMED REPORTS OF INDIVIDUALS IN THE SOUTHERN PART OF THE STATE CONTINUE TO BE RECEIVED.



LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "COCHISE"

NAME: BEAUTIFUL SHINER

*CYPRINELLA FORMOSA*

STATUS: THREATENED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 49 FR 34490, 8-31-1984

DESCRIPTION: SMALL (2.5 INCHES) SHINY MINNOW AND VERY SIMILAR TO RED SHINER.  
MALES COLORFUL DURING BREEDING (YELLOW-ORANGE OR ORANGE  
ON CAUDAL AND LOWER FINS AND BLUISH BODY.

ELEVATION  
RANGE: <4500 FT.

COUNTIES: COCHISE

HABITAT: SMALL TO MEDIUM SIZED STREAMS AND PONDS WITH SAND, GRAVEL, AND ROCK BOTTOMS.

VIRTUALLY EXTIRPATED IN THE UNITED STATES, WITH THE EXCEPTION OF A FEW ISOLATED POPULATIONS ON  
NATIONAL WILDLIFE REFUGES AND IN MEXICO. SAME CRITICAL HABITAT AS YAQUI CHUB AND CATFISH (SEE 49 FR  
34490, 08-31-1984).

NAME: YAQUI CATFISH

*ICTALURUS PRICEI*

STATUS: THREATENED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 49 FR 34490, 08-31-1984

DESCRIPTION: SIMILAR TO CHANNEL CATFISH (*Ictalurus punctatus*) EXCEPT ANAL FIN  
BASE IS SHORTER AND THE DISTAL MARGIN OF THE ANAL FIN IS  
BROADLY ROUNDED WITH 23-25 SOFT RAYS. BODY USUALLY  
PROFUSELY SPECKLED.

ELEVATION  
RANGE: 4000-5000 FT.

COUNTIES: COCHISE

HABITAT: MODERATE TO LARGE STREAMS WITH SLOW CURRENT OVER SAND AND ROCK BOTTOMS

CRITICAL HABITAT ALL AQUATIC HABITATS IN THE MAIN PORTION OF SAN BERNADINO NATIONAL WILDLIFE  
REFUGE

NAME: YAQUI CHUB

*GILA PURPUREA*

STATUS: ENDANGERED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 49 FR 34490, 08-31-1984

DESCRIPTION: MEDIUM SIZED MINNOW (<6 INCHES) DARK COLORED, LIGHTER BELOW.  
DARK TRIANGULAR CAUDAL SPOT

ELEVATION  
RANGE: 4000-6000 FT.

COUNTIES: COCHISE (AZ), MEXICO

HABITAT: DEEP POOLS OF SMALL STREAMS, POOLS, OR PONDS NEAR UNDERCUT BANKS.

CRITICAL HABITAT INCLUDES ALL AQUATIC HABITATS OF THE MAIN PORTION SAN BERNADINO NATIONAL WILDLIFE  
REFUGE.

LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "COCHISE"

NAME: YAQUI TOPMINNOW

*POECILIOPSIS OCCIDENTALIS SONORIENSIS*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967

DESCRIPTION: SMALL (2 INCHES) TOPMINNOW GUPPY-LIKE, LIVE BEARING, LACKING  
DARK SPOTS. BREEDING MALES JET BLACK WITH YELLOW FINS.

ELEVATION  
RANGE: <4500 FT.

COUNTIES: COCHISE

HABITAT: SMALL TO MODERATE SIZED STREAMS, SPRINGS, & CIENEGAS GENERALLY IN SHALLOWS

NAME: AMERICAN PEREGRINE FALCON

*FALCO PEREGRINUS ANATUM*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 35 FR 16047, 10-13-70: 35  
FR 8495, 06-02-70

DESCRIPTION: A RECLUSIVE, CROW-SIZED FALCON SLATY BLUE ABOVE WHITISH  
BELOW WITH FINE DARK BARRING. THE HEAD IS BLACK AND APPEARS  
TO BE MASKED OR HELMETED. WINGS LONG AND POINTED. LOUD  
WAILING CALLS ARE GIVEN DURING BREEDING PERIOD.

ELEVATION  
RANGE: 3500-9000 FT.

COUNTIES: MOHAVE COCONINO NAVAJO APACHE SANTA CRUZ MARICOPA COCHISE YAVAPAI GILA PINAL PIMA  
GREENLEE GRAHAM

HABITAT: CLIFFS AND STEEP TERRAIN USUALLY NEAR WATER OR WOODLANDS WITH ABUNDANT PREY

THIS IS A WIDE RANGING MIGRATORY BIRD THAT USES A VARIETY OF HABITATS. BREEDING BIRDS ARE YEAR-  
ROUND RESIDENTS. OTHER BIRDS WINTER AND MIGRATE THROUGH ARIZONA. SPECIES IS ENDANGERED FROM  
REPRODUCTIVE FAILURE FROM PESTICIDES.

NAME: CALIFORNIA CONDOR

*GYMNOPS CALIFORNIANUS*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67

DESCRIPTION: VERY LARGE VULTURE (55 INCHES HEAD TO TAIL, WING=34, TAIL=16,  
TARSUS=4.25). HEAD AND UPPER PARTS OF NECK BARE, BILL YELLOW,  
CERE, HEAD, AND NECK YELLOWISH-RED, PLUMAGE GREY-BLACK.

ELEVATION  
RANGE: VARIES FT.

COUNTIES: MOHAVE, COCONINO, NAVAJO COCHISE

HABITAT: HIGH DESERT CANYONLANDS, AND PLATEAUS

RECOVERY/REINTRODUCTION PROGRAM CURRENTLY EVALUATING THE FEASIBILITY OF REINTRODUCTION INTO  
ARIZONA BY 1996. NO LONGER OCCURS IN ARIZONA.



LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "COCHISE"

NAME: MEXICAN SPOTTED OWL

*STRIX OCCIDENTALIS LUCIDA*

STATUS: THREATENED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 56 FR 14678, 04-11-91

DESCRIPTION: MEDIUM SIZED WITH DARK EYES AND NO EAR TUFTS. BROWNISH AND HEAVILY SPOTTED WITH WHITE OR BEIGE.

ELEVATION

RANGE: 4100-9000 FT.

COUNTIES: MOHAVE, COCONINO, NAVAJO, APACHE, YAVAPAI, GRAHAM, GREENLEE, COCHISE, SANTA CRUZ, PIMA, PINAL, GILA, MARICOPA

HABITAT: NESTS IN CANYONS AND DENSE FORESTS WITH MULTI-LAYERED FOLIAGE STRUCTURE

GENERALLY NESTS IN OLDER FORESTS OF MIXED CONIFER OR PONDEROSA PINE/GAMBEL OAK TYPE. IN CANYONS. AND USE VARIETY OF HABITATS FOR FORAGING. SITES WITH COOL MICROCLIMATES APPEAR TO BE OF IMPORTANCE OR ARE PREFERRED.

NAME: NORTHERN APLOMADO FALCON

*FALCO FEMORALIS SEPTENTRIONALIS*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 51 FR 5686, 01-25-86

DESCRIPTION: RUFOUS UNDERPARTS, GRAY BACK, LONG BANDED TAIL, AND A DISTINCT BLACK AND WHITE FACIAL PATTERN. SMALLER THAN PEREGRINE LARGER THAN KESTREL. BREEDS BETWEEN MARCH- JUNE

ELEVATION

RANGE: 3500-9000 FT.

COUNTIES: COCHISE, SANTA CRUZ

HABITAT: GRASSLAND AND SAVANNAH

SPECIES FORMERLY NESTED IN SOUTHWESTERN US. NOW OCCURS AS AN ACCIDENTAL. GOOD HABITAT HAS LOW GROUND COVER AND MESQUITE OR YUCCA FOR NESTING PLATFORMS. CONTINUED USE OF PESTICIDES IN MEXICO ENDANGERS THIS SPECIES. NO RECENT CONFIRMED REPORTS FOR ARIZONA.

NAME: SOUTHWESTERN WILLOW FLYCATCHER

*EMPIDONAX TRAILLII EXTIMUS*

STATUS: ENDANGERED

CRITICAL HABITAT: Yes RECOVERY PLAN: No CFR: 60 FR 10694, 02-27-95

DESCRIPTION: SMALL PASSERINE (ABOUT 6") GRAYISH-GREEN BACK AND WINGS, WHITISH THROAT, LIGHT OLIVE-GRAY BREAST AND PALE YELLOWISH BELLY. TWO WINGBARS VISIBLE. EYE-RING FAINT OR ABSENT.

ELEVATION

RANGE: <8500 FT.

COUNTIES: YAVAPAI, GILA, MARICOPA, MOHAVE, COCONINO, NAVAJO, APACHE, PINAL, LA PAZ, GREENLEE, GRAHAM, YUMA, PIMA, COCHISE, SANTA CRUZ

HABITAT: COTTONWOOD/WILLOW & TAMARISK VEGETATION COMMUNITIES ALONG RIVERS & STREAMS

MIGRATORY RIPARIAN OBLIGATE SPECIES THAT OCCUPIES BREEDING HABITAT FROM LATE APRIL TO SEPTEMBER. DISTRIBUTION WITHIN ITS RANGE IS RESTRICTED TO RIPARIAN CORRIDORS. DIFFICULT TO DISTINGUISH FROM OTHER MEMBERS OF THE EMPIDONAX COMPLEX BY SIGHT ALONE. TRAINING SEMINAR REQUIRED FOR THOSE CONDUCTING FLYCATCHER SURVEYS.

LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "COCHISE"

NAME: WHOOPING CRANE

*GRUS AMERICANA*

STATUS: ENDANGERED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967 43  
FR 20938, 05-15-78

DESCRIPTION: TALLEST AMERICAN BIRD (UP TO 5 FEET) SNOWY WHITE, LONG NECK  
AND LEGS, BLACK WING TIPS, RED CROWN, AND BLACK WEDGE  
SHAPED PATCH OF FETHERS BEHIND ITS EYE.

ELEVATION  
RANGE: 4500 FT.

COUNTIES: COCHISE

HABITAT: MARSHES, PRAIRIES, RIVER BOTTOMS

BIRDS IN THE ROCKY MOUNTAIN POPULATION ARE OCCASIONAL VISITORS IN ARIZONA DURING MIGRATION.  
USUALLY NEAR WILCOX PLAYA.



PROPOSED TOTAL= 4

NAME: CANELO HILLS LADIES' TRESSES

*SPIRANTHES DELITESCENS*

STATUS: PROPOSED ENDANGERED CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 60 FR 16836, 4-3-1995

DESCRIPTION: SLENDER ERECT MEMBER OF THE ORCHID FAMILY (ORCHIDACEAE).  
FLOWER: STALK 50 CM TALL, MAY CONTAIN 40 WHITE FLOWERS  
SPIRALLY ARRANGED ON THE FLOWERING STALK.

ELEVATION  
RANGE: about 5000 FT.

COUNTIES: COCHISE, SANTA CRUZ

HABITAT: FINELY GRAINED, HIGHLY ORGANIC, SATURATED SOILS OF CIENEGAS

NAME: HUACHUCA WATER UMBEL

*LILAEOPSIS SCHAFFNERIANA* ssp *RECURVA*

STATUS: PROPOSED ENDANGERED CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 60 FR 16836, 4-3-1995

DESCRIPTION: HERBACEOUS, SEMI-AQUATIC PERENNIAL IN THE PARSLEY FAMILY  
(UMBELLIFERAE) WITH SLENDER ERECT, HOLLOW, LEAVES THAT GROW  
FROM THE NODES OF CREEPING RHIZOMES. FLOWER: 3 TO 10  
FLOWERED UMBELS ARISE FROM ROOT NODES.

ELEVATION  
RANGE: 3,000-6500 FT.

COUNTIES: PIMA, SANTA CRUZ, COCHISE

HABITAT: CIENEGAS, PERENNIAL LOW GRADIENT STREAMS, WETLANDS

NAME: JAGUAR, UNITED STATES POPULATION

*PANTHERA ONCA*

STATUS: PROPOSED ENDANGERED CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 59 FR 35674, 7-13-94

DESCRIPTION: MUSCULAR CAT WITH RELATIVELY SHORT, MASSIVE LIMBS AND A DEEP-  
CHESTED BODY. CINNAMON-BUFF IN COLOR WITH BLACK SPOTS.

ELEVATION  
RANGE: <8000 FT.

COUNTIES: COCHISE, PIMA, SANTA CRUZ

HABITAT: IN ARIZONA, RANGED WIDELY THROUGHOUT A VARIETY OF HABITATS FROM SONORAN DESERT TO  
CONIFER FORESTS

MOST RECORDS ARE FROM THE MADREAN EVERGREEN-WOODLAND, SHRUB-INVADDED SEMI-DESERT GRASSLAND,  
AND ALONG RIVERS. HISTORIC RANGE IS CONSIDERED TO HAVE EXTENDED BEYOND THE COUNTIES LISTED  
ABOVE. REPORTS OF INDIVIDUALS IN THE SOUTHERN PART OF THE STATE CONTINUE TO BE RECEIVED. THIS  
SPECIES IS LISTED AS ENDANGERED FROM THE U.S.-MEXICO BORDER SOUTH. LAST CONFIRMED INDIVIDUAL WAS  
KILLED IN ARIZONA IN 1991, SINCE THEN UNCONFIRMED SIGHTINGS AND TRACKS CONTINUE TO BE REPORTED.

LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "COCHISE"

NAME: SONORA TIGER SALAMANDER

*AMBYSTOMA TIGRINUM STEBBINSI*

STATUS: PROPOSED ENDANGERED CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 60 FR 16836, 04/03/95

DESCRIPTION: 2.6 TO 4.9" SNOUT-VENT LENGTH WITH LIGHT-COLORED BANDS ON A  
DARK BACKGROUND. AQUATIC LARVAE ARE UNIFORM DARK COLOR  
WITH PLUME-LIKE GILLS AND TAIL FINS.

ELEVATION

RANGE: 4000-6300 FT.

COUNTIES: SANTA CRUZ, COCHISE

HABITAT: STOCK TANKS AND IMPOUNDED CIENEGAS IN SAN RAFAEL VALLEY, HUACHUCA MOUNTAINS

ALSO OCCURS IN THE FOOTHILLS OF THE EAST SLOPE OF THE PATAGONIA MOUNTAINS



CANDIDATE TOTAL= 5

NAME: BLUMER'S DOCK

*RUMEX ORTHONEURUS*

STATUS: CATEGORY-1

CRITICAL HABITAT: No RECOVERY PLAN: No CFR:

DESCRIPTION: LARGE LONG-LIVED PERENNIAL PLANT IN THE BUCKWHEAT FAMILY  
THAT CAN REACH 1.2-2.0 METERS. LARGE BROAD, OVAL SEMI-  
SUCCULENT LEAVES ARE BRIGHT GREEN. CONSPICUOUS SECONDARY  
VEINS AT RIGHT ANGLES TO THE MIDVEIN

ELEVATION  
RANGE: 6500-9000 FT.

COUNTIES: GILA, COCHISE

HABITAT: MID TO HIGH ELEVATION SPRINGS, STREAMS, & WETLANDS WITH MOIST ORGANIC SOILS OR SHADED  
CANYONS

NAME: LEMMON FLEABANE

*ERIGERON LEMMONII*

STATUS: CATEGORY-1

CRITICAL HABITAT: No RECOVERY PLAN: No CFR:

DESCRIPTION: A PROSTRATE PERENNIAL IN THE SUNFLOWER FAMILY. STEMS AND  
LEAVES ARE DENSELY HAIRY. FLOWERS LOOK LIKE SMALL DELICATE  
DAISIES, WITH WHITE TO LIGHT PURPLE OUTER PETALS AND YELLOW  
INNER PETALS.

ELEVATION  
RANGE: 1500-6000 FT.

COUNTIES: COCHISE

HABITAT: GROWS IN DENSE CLUMPS IN CREVICES, LEDGES, AND BOULDERS IN CANYON BOTTOMS IN PINE-OAK  
WOODLAND

NAME: HJACHUCA SPRINGSNAIL

*PYRGULOPSIS THOMPSONI*

STATUS: CATEGORY-1

CRITICAL HABITAT: No RECOVERY PLAN: No CFR:

DESCRIPTION: VERY SMALL (1.7-3.2mm) CONICAL SHELL. IDENTIFICATION MUST BE  
VERIFIED BY CHARACTERISTICS OF REPRODUCTIVE ORGANS.

ELEVATION  
RANGE: 4500-6000 FT.

COUNTIES: COCHISE, SANTA CRUZ

HABITAT: AQUATIC AREAS, SMALL SPRINGS WITH VEGETATION SLOW TO MODERATE FLOW.

INDIVIDUALS FOUND ON FIRM SUBSTANCES (ROOTS, WOOD, AND ROCKS)

LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "COCHISE"

NAME: CHIRICAHUA LEOPARD FROG

*RANA CHIRICAHUENSIS*

STATUS: CATEGORY-1

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 59 FR 58996

DESCRIPTION: CREAM COLORED TUBERCULES (spots) ON A DARK BACKGROUND ON THE REAR OF THE THIGH, DORSOLATERAL FOLDS THAT ARE INTERRUPTED AND DEFLECTED MEDIALY, AND A CALL GIVEN OUT OF WATER DISTINGUISH THIS SPOTTED FROG FROM OTHER LEOPROD ELEVATION RANGE: 3000-8300 FT.

COUNTIES: SANTA CRUZ, APACHE, GILA, PIMA, COCHISE, GREENLEE, GRAHAM, YAVAPAI, COCONINO, NAVAJO

HABITAT: STREAMS, RIVERS, BACKWATERS, PONDS, AND STOCK TANKS THAT ARE FREE FROM INTRODUCED FISH AND BULLFROGS

REQUIRE PERMANENT OR NEARLY PERMANENT WATER SOURCES. POPULATIONS NORTH OF THE GILA RIVER ARE THOUGHT TO BE CLOSELY-RELATED, BUT DISTINCT, UNDESCRIBED SPECIES.

NAME: RAMSEY CANYON LEOPARD FROG

*RANA SUBAQUAVOCALIS*

STATUS: CATEGORY-1

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 59 FR 58996

DESCRIPTION: LARGE FROG WITH CREAM-COLORED TUBERCULES (spots) ON A DARK BACKGROUND ON THE REAR OF THE THIGH. TYPICALLY SPOTTED AND GREEN. CALL GIVEN UNDERWATER

ELEVATION RANGE: 5000-5700 FT.

COUNTIES: COCHISE

HABITAT: ARTIFICIAL PONDS IN TINKER, BROWN, AND RAMSEY CANYONS ON THE EAST SLOPE OF THE HUACHUCA MOUNTAINS.



LISTED TOTAL= 15

NAME: KEARNEY'S BLUE STAR

*AMSONIA KEARNEYANA*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 54 FR 2131, 01-19-1989

DESCRIPTION: A HERBACEOUS PERENNIAL IN THE DOGBANE FAMILY (APOCYNACEAE).  
THICKENED WOODY ROOT AND MANY PUBESCENT (HAIRY) STEMS THAT  
RARELY BRANCH. FLOWERS: WHITE TERMINAL INFLORESCENCE IN  
APRIL & MAY.

ELEVATION  
RANGE: 3600-3800 FT.

COUNTIES: PIMA

HABITAT: WEST-FACING DRAINAGES IN THE BABOQUIVARI MOUNTAINS.

PLANTS GROW IN STABLE, PARTIALLY SHADED, COARSE ALLUVIUM ALONG A DRY WASH IN THE BABOQUIVARI MOUNTAINS. RANGE IS EXTREMELY LIMITED. PROTECTED BY ARIZONA NATIVE PLANT LAW.

NAME: NICHOL'S TURK'S HEAD CACTUS

*ECHINOCACTUS HORIZONTHALONIUS VAR NICHOLII*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 44 FR 61927, 10-26-1979

DESCRIPTION: BLUE-GREEN TO YELLOWISH-GREEN, COLUMNAR, 18 INCHES TALL, 8  
INCHES IN DIAMETER. SPINE CLUSTERS HAVE 5 RADIAL & 3 CENTRAL  
SPINES; ONE DOWNWARD SHORT; 2 SPINES UPWARD AND RED OR  
BASALLY GRAY. FLOWER: PINK FRUIT: WOOLLY WHITE

ELEVATION  
RANGE: 2400-4100 FT.

COUNTIES: PINAL, PIMA, YUMA

HABITAT: SONORAN DESERT SCRUB

FOUND IN UNSHADED MICROSITES IN SONORAN DESERT SCRUB ON DISSECTED ALLUVIAL FANS AT THE FOOT OF LIMESTONE MOUNTAINS AND ON INCLINED TERRACES AND SADDLES ON LIMESTONE MOUNTAIN SIDES. NEW POPULATION ON YUMA PROVING GROUNDS.

NAME: PIMA PINEAPPLE CACTUS

*CORYPHANTHA SCHEERI ROBUSTISPINA*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 57 FR 14374, 04-20-1992

DESCRIPTION: HEMISPHERICAL STEMS 4-7 INCHES TALL 3-4 INCHES DIAMETER.  
CENTRAL SPINE 1 INCH LONG STRAW COLORED HOOKED  
SURROUNDED BY 6-15 RADIAL SPINES. FLOWER: YELLOW S/L MON OR  
RARELY WHITE NARROW FLORAL TUBE.

ELEVATION  
RANGE: 2300-5000 FT.

COUNTIES: PIMA, SANTA CRUZ

HABITAT: SONORAN DESERT SCRUB OR SEMI-DESERT GRASSLAND COMMUNITIES

OCCURS IN ALLUVIAL VALLEYS OR ON HILLSIDES IN ROCKY TO SANDY OR SILTY SOILS. THIS SPECIE CAN BE CONFUSED WITH JUVENILE BARREL CACTUS (FEROCACTUS). HOWEVER, THE SPINES OF THE LATER ARE FLATTENED, IN CONTRAST WITH THE ROUND CROSS-SECTION OF THE CORYPHANTHA SPINES. ALSO THE AREOLES (SPINE CLUSTERS) OF CORYPHANTHA ARE ON TUBERCLES (BUMPS), WHILE THE AREOLES OF FEROCACTUS ARE ON RIDGES (RIBS).

LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "PIMA"

NAME: JAGUARUNDI

*FELIS YAGOUAROUNDI TOLTECA*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 41 FR 24064, 06-14-76

DESCRIPTION: SMALL CAT WITH SHORT LEGS; SLENDER, ELONGATE BODY; AND LONG  
TAIL. HEAD SMALL & FLATTENED WITH SHORT ROUNDED EARS.  
REDDISH-YELLOW OR BLACKISH TO BROWN-GRAY IN COLOR AND  
WITHOUT SPOTS.

ELEVATION  
RANGE: 3500-6000 FT.

COUNTIES: SANTA CRUZ, PIMA, COCHISE

HABITAT: CAN BE FOUND IN A VARIETY OF HABITATS (SEE BELOW)

SEMI-ARID THORNY FORESTS, DECIDUOUS FORESTS, HUMID PRE-MONTANE FORESTS, UPLAND DRY SAVANNAHS,  
SWAMPY GRASSLANDS, RIPARIAN AREAS, AND DENSE BRUSH. UNCONFIRMED REPORTS OF INDIVIDUALS IN THE  
SOUTHERN PART OF THE STATE CONTINUE TO BE RECEIVED. NO SPECIMENS HAVE BEEN COLLECTED IN  
ARIZONA.

NAME: LESSER LONG-NOSED BAT

*LEPTONYCTERIS CURASOAE YERBABUENAE*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 53 FR 38456, 09-30-88

DESCRIPTION: ELONGATED MUZZLE, SMALL LEAF NOSE, AND LONG TONGUE.  
YELLOWISH BROWN OR GRAY ABOVE AND CINNAMON BROWN BELOW.  
TAIL MINUTE AND APPEARS TO BE LACKING. EASILY DISTURBED.

ELEVATION  
RANGE: <6000 FT.

COUNTIES: COCHISE, PIMA, SANTA CRUZ, GRAHAM, PINAL, MARICOPA

HABITAT: DESERT SCRUB HABITAT WITH AGAVE AND COLUMNAR CACTI PRESENT AS FOOD PLANTS

DAY ROOSTS IN CAVES AND ABANDONED TUNNELS. FORAGES AT NIGHT ON NECTAR, POLLEN, AND FRUIT OF  
PANICULATE AGAVES AND COLUMNAR CACTI. THIS SPECIES IS MIGRATORY AND IS PRESENT IN ARIZONA,  
USUALLY FROM APRIL TO SEPTEMBER AND SOUTH OF THE BORDER THE REMAINDER OF THE YEAR.

NAME: MEXICAN GRAY WOLF

*CANIS LUPUS BAILEYI*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67; 43  
FR 1912, 03-09-78

DESCRIPTION: LARGE DOG-LIKE CARNIVORE WITH VARYING COLOR, BUT USUALLY A  
SHADE OF GRAY. DISTINCT WHITE LIP LINE AROUND MOUTH. WEIGH 60-  
90 POUNDS.

ELEVATION  
RANGE: 4,000-12,000 FT.

COUNTIES: COCHISE, PIMA, SANTA CRUZ

HABITAT: CHAPPARAL, WOODLAND, AND FORESTED AREAS. MAY CROSS DESERT AREAS.

HISTORIC RANGE IS CONSIDERED TO BE LARGER THAN THE COUNTIES LISTED ABOVE. UNCONFIRMED REPORTS  
OF INDIVIDUALS IN THE SOUTHERN PART OF THE STATE CONTINUE TO BE RECEIVED. INDIVIDUALS MAY STILL  
PERSIST IN MEXICO.



LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "PIMA"

NAME: GILA TOPMINNOW

*POECILIOPSIS OCCIDENTALIS OCCIDENTALIS*

STATUS: ENDANGERED

CRITICAL HABITAT: No

RECOVERY PLAN: Yes

CFR: 32 FR 4001, 03-11-1967

DESCRIPTION: SMALL (2 INCHES), GUPPY-LIKE, LIVE BEARING, LACKS DARK SPOTS ON ITS FINS. BREEDING MALES ARE JET BLACK WITH YELLOW FINS.

ELEVATION

RANGE: <4500 FT.

COUNTIES: GILA, PINAL, GRAHAM, YAVAPAI, SANTA CRUZ, PIMA, MARICOPA, LA PAZ

HABITAT: SMALL STREAMS, SPRINGS, AND CIENEGAS VEGETATED SHALLOWS

NAME: AMERICAN PEREGRINE FALCON

*FALCO PEREGRINUS ANATUM*

STATUS: ENDANGERED

CRITICAL HABITAT: No

RECOVERY PLAN: Yes

CFR: 35 FR 16047, 10-13-70; 35 FR 8495, 06-02-70

DESCRIPTION: A RECLUSIVE, CROW-SIZED FALCON SLATY BLUE ABOVE WHITISH BELOW WITH FINE DARK BARRING. THE HEAD IS BLACK AND APPEARS TO BE MASKED OR HELMETED. WINGS LONG AND POINTED. LOUD WAILING CALLS ARE GIVEN DURING BREEDING PERIOD.

ELEVATION

RANGE: 3500-9000 FT.

COUNTIES: MOHAVE COCONINO NAVAJO APACHE SANTA CRUZ MARICOPA COCHISE YAVAPAI GILA PINAL PIMA GREENLEE GRAHAM

HABITAT: CLIFFS AND STEEP TERRAIN USUALLY NEAR WATER OR WOODLANDS WITH ABUNDANT PREY

THIS IS A WIDE RANGING MIGRATORY BIRD THAT USES A VARIETY OF HABITATS. BREEDING BIRDS ARE YEAR-ROUND RESIDENTS. OTHER BIRDS WINTER AND MIGRATE THROUGH ARIZONA. SPECIES IS ENDANGERED FROM REPRODUCTIVE FAILURE FROM PESTICIDES.

NAME: BALD EAGLE

*HALIAEETUS LEUCOCEPHALUS*

STATUS: THREATENED

CRITICAL HABITAT: No

RECOVERY PLAN: Yes

CFR: 60 FR 35999, 07-12-95

DESCRIPTION: LARGE, ADULTS HAVE WHITE HEAD AND TAIL. HEIGHT 28 - 38", WINGSPAN 66 - 96", 1-4 YRS DARK WITH VARYING DEGREES OF MOTTLED BROWN PLUMAGE. FEET BARE OF FEATHERS.

ELEVATION

RANGE: VARIES FT.

COUNTIES: YUMA, LA PAZ, MOHAVE, YAVAPAI, MARICOPA, PINAL, COCONINO, NAVAJO, APACHE, SANTA CRUZ, PIMA, GILA, GRAHAM

HABITAT: LARGE TREES OR CLIFFS NEAR WATER (RESERVOIRS, RIVERS AND STREAMS) WITH ABUNDANT PREY

SOME BIRDS ARE NESTING RESIDENTS WHILE A LARGER NUMBER WINTERS ALONG RIVERS AND RESERVOIRS. AN ESTIMATED 200 TO 300 BIRDS WINTER IN ARIZONA. ONCE ENDANGERED (32 FR 4001, 03-11-1967; 43 FR 6233, 02-14-78) BECAUSE OF REPRODUCTIVE FAILURES FROM PESTICIDE POISONING AND LOSS OF HABITAT, THIS SPECIES WAS DOWN LISTED TO THREATENED ON AUGUST 11, 1995. ILLEGAL SHOOTING, DISTURBANCE, LOSS OF HABITAT CONTINUES TO BE A PROBLEM.

LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: \*PIMA\*

NAME: MASKED BOBWHITE

*COLINUS VIRGINIANUS RIDGEWAYI*

STATUS: ENDANGERED

CRITICAL HABITAT: No RECOVERY PLAN: Yes CFR: 35 FR 4001, 03-11-1967, 35

DESCRIPTION: MALES BRICK-RED BREAST AND BLACK HEAD AND THROAT. FEMALES  
ARE GENERALLY NONDESCRIPT BUT RESEMBLE OTHER RACES SUCH  
AS THE TEXAS BOBWHITE.

FR 8495, 06-02-70

ELEVATION

RANGE: 1000-4000 FT.

COUNTIES: PIMA

HABITAT: DESERT GRASSLANDS WITH DIVERSITY OF DENSE NATIVE GRASSES, FORBS AND BRUSH

SPECIES IS CLOSELY ASSOCIATED WITH ACACIA ANGUSTISSIMA. FORMERLY OCCURRED IN ALTAR AND SANTA CRUZ VALLEYS, AS WELL AS SONORA, MEXICO. PRESENTLY ONLY KNOWN FROM REINTRODUCED POPULATION ON BUENOS AIRES.

NAME: MEXICAN SPOTTED OWL

*STRIX OCCIDENTALIS LUCIDA*

STATUS: THREATENED

CRITICAL HABITAT: Yes RECOVERY PLAN: Yes CFR: 56 FR 14678, 04-11-91

DESCRIPTION: MEDIUM SIZED WITH DARK EYES AND NO EAR TUFTS. BROWNISH AND  
HEAVILY SPOTTED WITH WHITE OR BEIGE.

ELEVATION

RANGE: 4100-9000 FT.

COUNTIES: MOHAVE, COCONINO, NAVAJO, APACHE, YAVAPAI, GRAHAM, GREENLEE, COCHISE, SANTA CRUZ, PIMA,  
PINAL, GILA, MARICOPA

HABITAT: NESTS IN CANYONS AND DENSE FORESTS WITH MULTI-LAYERED FOLIAGE STRUCTURE

GENERALLY NESTS IN OLDER FORESTS OF MIXED CONIFER OR PONDEROSA PINE/GAMBEL OAK TYPE. IN CANYONS, AND USE VARIETY OF HABITATS FOR FORAGING. SITES WITH COOL MICROCLIMATES APPEAR TO BE OF IMPORTANCE OR ARE PREFERRED.

NAME: SOUTHWESTERN WILLOW FLYCATCHER

*EMPIDONAX TRAILLII EXTIMUS*

STATUS: ENDANGERED

CRITICAL HABITAT: Yes RECOVERY PLAN: No CFR: 60 FR 10694, 02-27-95

DESCRIPTION: SMALL PASSERINE (ABOUT 6") GRAYISH-GREEN BACK AND WINGS,  
WHITISH THROAT, LIGHT OLIVE-GRAY BREAST AND PALE YELLOWISH  
BELLY. TWO WINGBARS VISIBLE. EYE-RING FAINT OR ABSENT.

ELEVATION

RANGE: <8500 FT.

COUNTIES: YAVAPAI, GILA, MARICOPA, MOHAVE, COCONINO, NAVAJO, APACHE, PINAL, LA PAZ, GREENLEE, GRAHAM,  
YUMA, PIMA, COCHISE, SANTA CRUZ

HABITAT: COTTONWOOD/WILLOW & TAMARISK VEGETATION COMMUNITIES ALONG RIVERS & STREAMS

MIGRATORY RIPARIAN OBLIGATE SPECIES THAT OCCUPIES BREEDING HABITAT FROM LATE APRIL TO SEPTEMBER. DISTRIBUTION WITHIN ITS RANGE IS RESTRICTED TO RIPARIAN CORRIDORS. DIFFICULT TO DISTINGUISH FROM OTHER MEMBERS OF THE EMPIDONAX COMPLEX BY SIGHT ALONE. TRAINING SEMINAR REQUIRED FOR THOSE CONDUCTING FLYCATCHER SURVEYS.



PROPOSED TOTAL= 4

NAME: HUACHUCA WATER UMBEL

*LILAEOPSIS SCHAFFNERIANA* ssp *RECURVA*

STATUS: PROPOSED ENDANGERED CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 60 FR 16836, 4-3-1995

DESCRIPTION: HERBACEOUS, SEMI-AQUATIC PERENNIAL IN THE PARSLEY FAMILY (UMBELLIFERAE) WITH SLENDER ERECT, HOLLOW, LEAVES THAT GROW FROM THE NODES OF CREEPING RHIZOMES. FLOWER: 3 TO 10 FLOWERED UMBELS ARISE FROM ROOT NODES.

ELEVATION  
RANGE: 3500-6500 FT.

COUNTIES: PIMA, SANTA CRUZ, COCHISE

HABITAT: CIENEGAS, PERENNIAL LOW GRADIENT STREAMS, WETLANDS

NAME: SAN XAVIER TALUSSNAIL

*SONORELLA EREMITA*

STATUS: PROPOSED ENDANGERED CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 56 FR 13691, 03-23-1994

DESCRIPTION: LESS THAN ONE INCH (AVE 19 MM), LIGHT BROWN, PILL SHAPED, DARK STRIPE ENCIRCLES OUTER PERIMETER

ELEVATION  
RANGE: 3850 - 3920 FT.

COUNTIES: PIMA

HABITAT: LIMESTONE TALUS ON NORTHSIDE OF A SINGLE HILL.

NAME: JAGUAR, UNITED STATES POPULATION

*PANTHERA ONCA*

STATUS: PROPOSED ENDANGERED CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 59 FR 35674, 7-13-94

DESCRIPTION: MUSCULAR CAT WITH RELATIVELY SHORT, MASSIVE LIMBS AND A DEEP-CHESTED BODY. CINNAMON-BUFF IN COLOR WITH BLACK SPOTS.

ELEVATION  
RANGE: <8000 FT.

COUNTIES: COCHISE, PIMA, SANTA CRUZ

HABITAT: IN ARIZONA, RANGED WIDELY THROUGHOUT A VARIETY OF HABITATS FROM SONORAN DESERT TO CONIFER FORESTS

MOST RECORDS ARE FROM THE MADREAN EVERGREEN-WOODLAND, SHRUB-INVADDED SEMI-DESERT GRASSLAND, AND ALONG RIVERS. HISTORIC RANGE IS CONSIDERED TO HAVE EXTENDED BEYOND THE COUNTIES LISTED ABOVE. REPORTS OF INDIVIDUALS IN THE SOUTHERN PART OF THE STATE CONTINUE TO BE RECEIVED. THIS SPECIES IS LISTED AS ENDANGERED FROM THE U.S.-MEXICO BORDER SOUTH. LAST CONFIRMED INDIVIDUAL WAS KILLED IN ARIZONA IN 1991, SINCE THEN UNCONFIRMED SIGHTINGS AND TRACKS CONTINUE TO BE REPORTED.

CANDIDATE TOTAL= 4

NAME: ACUNA CACTUS

*ECHINOMASTUS ERECTOCENTRUS ACUNENSIS*

STATUS: CATEGORY-1

CRITICAL HABITAT: No RECOVERY PLAN: No CFR:

DESCRIPTION: <12 INCHES HIGH SPINE CLUSTERS BORNE ON TUBERCLES, EACH WITH  
A GROOVE ON THE UPPER SURFACE. 2-3 CENTRAL SPINES AND 12  
RADIAL SPINES. FLOWERS PINK TO PURPLE

ELEVATION

RANGE: 1300-2000 FT.

COUNTIES: PINAL, PIMA

HABITAT: WELL DRAINED KNOLLS AND GRAVEL RIDGES IN SONORAN DESERT SCRUB

IMMATURE PLANTS DISTINCTLY DIFFERENT FROM MATURE PLANTS. THEY ARE DISC-SHAPED OR SPHERICAL AND  
HAVE NO CENTRAL SPINES UNTIL THEY ARE ABOUT 1.5 INCHES. RADIAL SPINES ARE DIRTY WHITE WITH MAROON  
TIPS.

NAME: GENTRY INDIGO BUSH

*DALEA TENTACULOIDES*

STATUS: CATEGORY-1

CRITICAL HABITAT: No RECOVERY PLAN: No CFR:

DESCRIPTION: SHRUBBY PERENNIAL IN THE LEGUME FAMILY WITH NUMEROUS STEMS  
IN OLDER PLANTS, UP TO 6-7 FEET TALL USUALLY LESS. FLOWER:  
SMALL ROSE-PURPLE APPEAR IN APRIL-JUNE OR SEPT-OCT.

ELEVATION

RANGE: 4500 FT.

COUNTIES: SANTA CRUZ, PIMA

HABITAT: FLOODPLAIN TERRACES IN DRY CANYON RIPARIAN AREAS IN PARTIAL SHADE

NAME: GOODING ONION

*ALLIUM GOODINGII*

STATUS: CATEGORY-1

CRITICAL HABITAT: No RECOVERY PLAN: No CFR:

DESCRIPTION: PERENNIAL ONION WITH WIDER LEAVES THAN OTHER ARIZONA  
ONIONS. FLOWERS RED-PURPLE WITH SIX PETALS ON A SCAPE TALLER  
THAN THE LEAVES

ELEVATION

RANGE: 7000-9400 FT.

COUNTIES: GREENLEE, APACHE, PIMA

HABITAT: MATURE FORESTS USUALLY ALONG NORTH-TRENDING DRAINAGE BOTTOMS IN MIXED-CONIFER SPRUCE-  
FIR ZONES



LISTED, PROPOSED, AND CANDIDATE CATEGORY-1 SPECIES FOR THE FOLLOWING COUNTY: "PIMA"

NAME: CHIRICAHUA LEOPARD FROG

*RANA CHIRICAHUENSIS*

STATUS: CATEGORY-1

CRITICAL HABITAT: No RECOVERY PLAN: No CFR: 59 FR 58996

DESCRIPTION: CREAM COLORED TUBERCLES (spots) ON A DARK BACKGROUND ON  
THE REAR OF THE THIGH, DORSOLATERAL FOLDS THAT ARE

INTERRUPTED AND DEFLECTED MEDIALY, AND A CALL GIVEN OUT OF  
WATER DISTINGUISH THIS SPOTTED FROG FROM OTHER LEOPROD

ELEVATION

RANGE: 3000-8300 FT.

COUNTIES: SANTA CRUZ, APACHE, GILA, PIMA, COCHISE, GREENLEE, GRAHAM, YAVAPAI, COCONINO, NAVAJO

HABITAT: STREAMS, RIVERS, BACKWATERS, PONDS, AND STOCK TANKS THAT ARE FREE FROM INTRODUCED FISH  
AND BULLFROGS

REQUIRE PERMANENT OR NEARLY PERMANENT WATER SOURCES. POPULATIONS NORTH OF THE GILA RIVER ARE  
THOUGHT TO BE CLOSELY-RELATED, BUT DISTINCT, UNDESCRIBED SPECIES.



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
New Mexico Ecological Services Field Office  
2105 Osuna NE  
Albuquerque, New Mexico 87113  
Phone: (505) 761-4525 Fax: (505) 761-4542

October 30, 1995

Cons. #2-22-96-I-014

Mr. Michael S. Huff  
Dames and Moore  
Cambric Corporate Center  
1790 East River Road, Suite E-300  
Tucson, Arizona 85718-5876

Dear Mr. Huff:

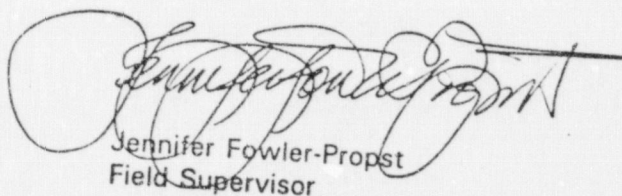
This responds to your letter dated October 24, 1995, requesting a list of protected species located within 5 miles of proposed project sites. Your letter also requests information regarding environmental matters or local concerns. The proposed action involves the construction of railroad sidings and track extensions. Your geographic areas of interest are Doña Ana, Grant, Hidalgo and Luna counties, New Mexico. This letter does not address the other counties that you list as we have already addressed those proposed projects in a letter to Ms. Julie Donsky of your Rolling Meadows, Illinois office.

Enclosed are lists of species that are federally listed as endangered, threatened or are candidates for listing for Doña Ana, Grant, Hidalgo and Luna counties. Due to staffing constraints, we are unable to provide a species list specific to your immediate project area.

Wetlands, riparian vegetation, and the above listed species' sensitive habitat(s) on or near the site should also be protected. If adverse impacts cannot be avoided, we would appreciate discussing your project in more detail.

We suggest you contact the New Mexico Department of Game and Fish and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry and Resources Conservation Division for information concerning fish, wildlife, and plants of State concern. If we can be of further assistance, please call Mr. Craig L. Springer of my staff at (505) 761-4525.

Sincerely,



Jennifer Fowler-Propst  
Field Supervisor

Enclosure

0080



Mr. Michael S. Huff

2

cc: (wo/enc)

Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico  
Director, New Mexico Energy, Minerals and Natural Resources Department, Forestry  
and Resources Conservation Division, Santa Fe, New Mexico

0081

Endangered, Threatened, and Candidate Species List

Doña Ana County, New Mexico

October 27, 1995

- Big free-tailed bat, Nyctinomops macrotis (= Tadarida m., T. molossa), C2
- Black-footed ferret, Mustela nigripes, E
- Desert pocket gopher, Geomys bursarius arenarius, C2
- Fringed myotis, Myotis thysanodes, C2
- Greater western mastiff bat, Eurnops perotis californicus, C2
- Occult little brown bat, Myotis lucifugus occultus, C2
- Organ Mountains Colorado chipmunk, Eutamias quadrivittatus australis, C2
- Pale Townsend's (= western) big-eared bat, Plecotus townsendii pallescens, C2
- Pecos River muskrat, Ondatra zibethicus ripensis, C2
- Small-footed myotis, Myotis ciliolabrum, C2
- Spotted bat, Euderma maculatum, C2
- White Sands woodrat, Neotoma micropus leucophaea, C2
- Yuma myotis, Myotis yumanensis, C2
- American peregrine falcon, Falco peregrinus anatum, E
- Arctic peregrine falcon, Falco peregrinus tundrius, T (S/A)
- Baird's sparrow, Ammodramus bairdii, C2
- Bald eagle, Haliaeetus leucocephalus, T
- Black tern, Chlodonias niger, C2
- Ferruginous hawk, Buteo regalis, C2
- Interior least tern, Sterna antillarum, E
- Loggerhead shrike, Lanius ludovicianus, C2
- Mexican spotted owl, Strix occidentalis lucida, T w/CH



Endangered, Threatened, and Candidate Species List

Grant County, New Mexico

October 27, 1995

- Black-footed ferret, Mustela nigripes, E
- Cave myotis, Myotis velifer, C2
- Fringed myotis, Myotis thysanodes, C2
- Greater western mastiff bat, Eumops perotis californicus, C2
- Long-eared myotis, Myotis evotis, C2
- Long-legged myotis, Myotis volans, C2
- Mexican gray wolf, Canis lupus baileyi, E
- Occult little brown bat, Myotis lucifugus occultus, C2
- Pale Townsend's (= western) big-eared bat, Plecotus townsendii pallescens, C2
- Small-footed myotis, Myotis ciliolabrum, C2
- Spotted bat, Euderma maculatum, C2
- White-sided jackrabbit, Lepus callotis gaillardi, C2
- Yuma myotis, Myotis yumanensis, C2
- American peregrine falcon, Falco peregrinus anatum, E
- Arctic peregrine falcon, Falco peregrinus tundrius, T (S/A)
- Baird's sparrow, Ammodramus bairdii, C2
- Bald eagle, Haliaeetus leucocephalus, T
- Brown pelican, Pelecanus occidentalis, E
- Ferruginous hawk, Buteo regalis, C2
- Loggerhead shrike, Lanius ludovicianus, C2
- Mexican spotted owl, Strix occidentalis lucida, T w/CH
- Northern aplomado falcon, Falco femoralis septentrionalis, F

Northern aplomado falcon, Falco femoralis septentrionalis, E  
Southwestern willow flycatcher, Empidonax traillii extimus, E w/PCH  
Western burrowing owl, Athene cunicularia hypugea, C2  
White-faced ibis, Plegadis chihi, C2  
Whooping crane, Grus americana, E  
Texas horned lizard, Phrynosoma cornutum, C2  
Anthony blister beetle, Lytta mirifica, C2  
Doña Ana talussnail, Sonorella todseni, C2  
Alamo beardtongue, Penstemon alamosensis, C2  
Grama grass cactus, Pediocactus papyracanthus, C2  
Mescalero milkwort, Polygala rimulicola var. mescalorum, C2  
Night-blooming cereus, Cereus greggii var. greggii, C2  
Nodding cliff daisy, Perityle cernua, C2  
Organ Mountain evening primrose, Oenothera organensis, C2  
Organ Mountain figwort, Scrophularia laevis, C2  
Sand prickly pear, Opuntia arenaria, C2  
Sandhill goosefoot, Chenopodium cycloides, C2  
Sneed's pincushion cactus, Coryphantha sneedii var. sneedii, E  
Standley's whitlowgrass, Draba standleyi, C2



Northern goshawk, Accipiter gentilis, C2  
Northern gray hawk, Buteo nitidus maximus, C2  
Southwestern willow flycatcher, Empidonax traillii extimus, E w/PCH  
Whooping crane, Grus americana, E  
Beautiful shiner, Cyprinella formosa, T  
Chihuahua chub, Gila nigrescens, T  
Desert sucker, Catostomus clarki, C2  
Gila chub, Gila intermedia, C2  
Gila topminnow, Poeciliopsis occidentalis, E  
Gila trout, Oncorhynchus gilae, E  
Loach minnow, Rhinichthys cobitis, T  
Longfin dace, Agosia chrysogaster, C2  
Roundtail chub, Gila robusta, C2  
Sonora sucker, Catostomus insignis, C2  
Speckled dace, Rhinichthys osculus (Gila drainage), C2  
Spikedace, Meda fulgida, T  
Mexican garter snake, Thamnophis eques, C2  
Narrowhead garter snake, Thamnophis rufipunctatus, C2  
Texas horned lizard, Phrynosoma cornutum, C2  
Arizona southwestern toad, Bufo microscaphus, C2  
Chiricahua leopard frog, Rana chiricahuensis, C1  
Lowland leopard frog, Rana yavapaiensis, C2  
Gila springsnail, "Fontelicella" gilae, C1  
New Mexico hot spring snail, "Fontelicella" thermalis, C1  
Shortneck snaggleteeth (snail), Gastrocopta dalliana dalliana, C2

- Dwarf milkweed, Asclepias uncialis, C2
- Grama grass cactus, Pediocactus papyracanthus, C2
- Mimbres figwort, Scrophularia macrantha, C1
- Night-blooming cereus, Cereus greggii var. greggii, C2
- Parish's alkali grass, Puccinellia parishii, PE
- Pinos Altos flameflower, Talinum humile, C2
- Porsild's starwort, Stellaria porsildii, C2
- San Carlos wild-buckwheat, Eriogonum capillare, C2
- Slender spiderflower, Cleome multicaulis, C2
- Wright's dogweed, Adenophyllum wrightii, C2



Endangered, Threatened, and Candidate Species List

Hidalgo County, New Mexico

October 27, 1995

- Arizona shrew, Sorex arizonae, C2
- Big free-tailed bat, Nyctinomops macrotis (= Tadarida m., T. molossa), C2
- Black-footed ferret, Mustela nigripes, E
- California leaf-nosed bat, Macrotus californicus, C2
- Cave myotis, Myotis velifer, C2
- Fringed myotis, Myotis thysanodes, C2
- Greater western mastiff bat, Eumops perotis californicus, C2
- Lesser long-nosed bat, Leptonycteris curasoae verbabuenae, E
- Long-legged myotis, Myotis volans, C2
- Mearns' southern pocket gopher, Thomomys umbrinus mearnsi, C2
- Mexican gray wolf, Canis lupus baileyi, E
- Mexican long-nosed bat, Leptonycteris nivalis, E
- Mexican long-tongued bat, Choeronycteris mexicana, C2
- Occult little brown bat, Myotis lucifugus occultus, C2
- Pale Townsend's (= western) big-eared bat, Plecotus townsendii pallescens, C2
- Small-footed myotis, Myotis ciliolabrum, C2
- Spotted bat, Euderma maculatum, C2
- White-sided jackrabbit, Lepus callotis gaillardi, C2
- Yellow-nosed cotton rat, Sigmodon ochrognathus, C2
- Yuma myotis, Myotis yumanensis, C2
- American peregrine falcon, Falco peregrinus anatum, E
- Arctic peregrine falcon, Falco peregrinus tundrius, T (S/A)

Baird's sparrow, Ammodramus bairdii, C2  
Bald eagle, Haliaeetus leucocephalus, T  
Ferruginous hawk, Buteo regalis, C2  
Loggerhead shrike, Lanius ludovicianus, C2  
Mexican spotted owl, Strix occidentalis lucida, T w/CH  
Northern aplomado falcon, Falco femoralis septentrionalis, E  
Northern goshawk, Accipiter gentilis, C2  
Northern gray hawk, Buteo nitidus maximus, C2  
Southwestern willow flycatcher, Empidonax traillii extimus, E w/PCH  
Western burrowing owl, Athene cunicularia hypugea, C2  
Desert sucker, Catostomus clarkii, C2  
Loach minnow, Rhinichthys cobitis, T  
Longfin dace, Agosia chrysogaster, C2  
Roundtail chub, Gila robusta, C2  
Sonora sucker, Catostomus insignis, C2  
Spikedace, Meda fulgida, T  
Canyon (giant) spotted whiptail, Cnemidophorus burti, C2  
Gray-checked whiptail, Cnemidophorus dixonii, C2  
Mexican garter snake, Thamnophis eques, C2  
Narrowhead garter snake, Thamnophis rufipunctatus, C2  
New Mexican ridge-nosed rattlesnake, Crotalus willardi obscurus, T  
Texas horned lizard, Phrynosoma cornutum, C2  
Arizona southwestern toad, Bufo microscaphus microscaphus, C2  
Chiricahua leopard frog, Rana chiricahuensis, C1  
Lowland leopard frog, Rana yavapaiensis, C2



- Animas minute moss beetle, Limnebius aridus, C2
- Hacheta Grande woodlandsnail, Ashmunella hebardi, C2
- Shortneck snaggleteeth (snail), Gastrocopta dalliana dalliana, C2
- Chiricahua mudflower, Limosella pubiflora, C2
- Five-leaf scurfpea, Pedimelum pentaphyllum, C2
- Grama grass cactus, Pediocactus papyracanthus, C2
- Gypsum hotspring aster, Machaeranthera gypsitherma, C2
- Limestone rosewood, Vauquelinia californica ssp. pauciflora, C2
- Night-blooming cereus, Cereus greggii var. greggii, C2
- San Carlos wild-buckwheat, Eriogonum capillare, C2

Endangered, Threatened, and Candidate Species List

Luna County, New Mexico

October 27, 1995

- Black-footed ferret, Mustela nigripes, E
- Cave myotis, Myotis velifer, C2
- Desert pocket gopher, Geomys bursarius arenarius, C2
- Fringed myotis, Myotis thysanodes, C2
- Greater western mastiff bat, Eumops perotis californicus, C2
- Long-legged myotis, Myotis volans, C2
- Mexican gray wolf, Canis lupus baileyi, E
- Pale Townsend's (= western) big-eared bat, Plecotus townsendii pallescens, C2
- Spotted bat, Euderma maculatum, C2
- White-sided jackrabbit, Lepus callotis gaillardi, C2
- American peregrine falcon, Falco peregrinus anatum, E
- Arctic peregrine falcon, Falco peregrinus tundrius, T (S/A)
- Baird's sparrow, Ammodramus bairdii, C2
- Bald eagle, Haliaeetus leucocephalus, T
- Ferruginous hawk, Buteo regalis, C2
- Loggerhead shrike, Lanius ludovicianus, C2
- Mountain plover, Charadrius montanus, C1
- Northern aplomado falcon, Falco femoralis septentrionalis, E
- Northern gray hawk, Buteo nitidus maximus, C2
- Southwestern willow flycatcher, Empidonax traillii extimus, E w/PCH
- Western burrowing owl, Athene cunicularia hypugea, C2
- Whooping crane, Grus americana, E



Beautiful shiner, Cyprinella formosa, T  
 Longfin dace, Agosia chrysoqaster, C2  
 Chiricahua leopard frog, Rana chiricahuensis, C1  
 Lowland leopard frog, Rana yavapaiensis, C2  
 Texas horned lizard, Phrynosoma cornutum, C2  
 Cook's Peak woodlandsnail, Ashmunella macromphala, C2  
 Florida mountainsnail, Oreohelix florida, C2  
 Shortneck snaggleteeth (snail), Gastrocopta dalliana dalliana, C2  
 Grama grass cactus, Pediocactus papyracanthus, C2  
 Mimbres figwort, Scrophularia macrantha, C1  
 Night-blooming cereus, Cereus greggii var. greggii, C2  
 Sand prickly pear, Opuntia arenaria, C2

# Index

E	=	Endangered
PE	=	Proposed Endangered
PE w/CH	=	Proposed Endangered with critical habitat
T	=	Threatened
PT	=	Proposed Threatened
PT w/CH	=	Proposed Threatened with critical habitat
PCH	=	Proposed critical habitat
C1	=	Category 1 Candidate
C2	=	Category 2 Candidate
S/A	=	Similarity of Appearance



United States Environmental Protection Agency  
726 Minnesota Avenue  
Kansas City, Kansas 66101  
Request Acknowledgment

October 18, 1995

Julie Donsky  
Dames And Moore  
1701 Golf Road  
Suite 1000, One Continental Towers  
Rolling Meadows, IL 60008

Date of Your Request: September 30, 1995	Received: October 18, 1995
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SUBJECT:	SPECIFIED INFO LOCATIONS IN KANSAS
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The Agency has ten (10) working days to respond to your request. You can expect a reply shortly after expiration of the ten-working day period. Further correspondence on this subject should cite the following Request Identification Number:

**07-RIN-01346-95**

*Ronald A. Michael*

Freedom of Information Officer (FOI)





United States Environmental Protection Agency  
726 Minnesota Avenue  
Kansas City, Kansas 66101  
Request Acknowledgment

October 18, 1995

Julie Donsky  
Dames And Moore  
1701 Golf Road  
Suite 1000, One Continental Towers  
Rolling Meadows,, IL 60008

Date of Your Request: October 4, 1995

Received: October 18, 1995

SUBJECT:

SPECIFIED INFO LOCATIONS IN KS

The Agency has ten (10) working days to respond to your request. You can expect a reply shortly after expiration of the ten-working day period. Further correspondence on this subject should cite the following Request Identification Number:

07-RIN-01347-95

A handwritten signature in cursive script that reads "Rhonda L. Mitchell".

Freedom of Information Officer (FOI)



United States  
Department of  
Agriculture

Natural  
Resource  
Conservation  
Service

Geary Field Office  
129 East Main  
Geary, OK 73040  
405/884-2383

Date: November 1, 1995

Project Name: Environmental Report - Concho, Oklahoma  
Proposed Rail Construction

County: Canadian County, Oklahoma

Location: NE 1/4 Sec. 12, T13N, R8W

There are two soil map units associated with this project. The soil map unit (ShC) Shellabarger Fine Sandy Loam, 3 to 5 Percent Slopes and (PkA) Pond Creek Silt Loam, 0 to 1 Percent Slopes is considered as PRIME FARMLAND and therefore IS SUBJECT to the provisions of the Farmland Protection Policy Act. Form AD-1006, available at the NRCS county office, will need to be completed to meet provisions of the Farmland Protection Policy Act.

Jon Hise  
District Conservationist

0094



# NONTECHNICAL SOILS DESCRIPTION REPORT loamy

Map Symbol	Soil name and description
PkA	<p>Pond Creek silt loam, 0 to 1 percent slopes</p> <p>THIS DEEP, WELL DRAINED, NEARLY LEVEL SOIL IS ON FLAT TO SLIGHTLY CONVEX AREAS OF TERRACES. THIS SOIL HAS A LOAMY SURFACE LAYER AND A LOAMY SUBSOIL. PERMEABILITY IS MODERATELY SLOW, AVAILABLE WATER CAPACITY IS HIGH, AND RUNOFF IS SLOW.</p>
ShC	<p>Shellabarger fine sandy loam, 3 to 5 percent slopes</p> <p>THIS DEEP, WELL DRAINED, GENTLY SLOPING SOIL IS ON SIDE SLOPES OF TERRACES. THIS SOIL HAS A LOAMY SURFACE LAYER AND A LOAMY SUBSOIL. PERMEABILITY IS MODERATE, AVAILABLE WATER CAPACITY IS MEDIUM, AND RUNOFF IS MEDIUM.</p>



February 11, 1993

CANADIAN COUNTY, OKLAHOMA

Prime Farmland

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land, but not urban built-up land or water). It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods.

In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding.

The following list of soil survey map units meet the soil requirements for prime farmland in CANADIAN COUNTY, OKLAHOMA. Soils that have limitations, such as a high water table or flooding, may qualify as prime farmland if these limitations are overcome by such measures as drainage or flood control. In the following list, the measures needed to overcome the limitations of a map unit, if any, are shown in parenthesis after the map unit name.



PRIME FARMLAND

Survey Area- CANADIAN COUNTY, OKLAHOMA

Map	Prime Farmland	Symbol	Code	Soil Mapunit Name
BeA	1			BETHANY SILT LOAM, 0 TO 1 PERCENT SLOPES
BnC	1			BINGER FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES
Br	1			BREWER SILTY CLAY LOAM
Ca	1			CANADIAN FINE SANDY LOAM
Da	1			DALE SILT LOAM
GdB	1			GRANDFIELD FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES
GdC	1			GRANDFIELD FINE SANDY LOAM, 3 TO 5 PERCENT SLOPES
KfB	1			KINGFISHER SILT LOAM, 1 TO 3 PERCENT SLOPES
KfC	1			KINGFISHER SILT LOAM, 3 TO 5 PERCENT SLOPES
KrA	1			KIRKLAND SILT LOAM, 0 TO 1 PERCENT SLOPES
KrB	1			KIRKLAND SILT LOAM, 1 TO 3 PERCENT SLOPES
Mc	1			MCLAIN SILTY CLAY LOAM
MsB	1			MINCO SILT LOAM, 1 TO 3 PERCENT SLOPES
MsC	1			MINCO SILT LOAM, 3 TO 5 PERCENT SLOPES
NbC	1			NOBLE FINE SANDY LOAM, 3 TO 5 PERCENT SLOPES
NrB	1			NORGE SILT LOAM, 1 TO 3 PERCENT SLOPES
NrC	1			NORGE SILT LOAM, 3 TO 5 PERCENT SLOPES
PkA	1			POND CREEK SILT LOAM, 0 TO 1 PERCENT SLOPES
PkB	1			POND CREEK SILT LOAM, 1 TO 3 PERCENT SLOPES
Po	1			PORT SILT LOAM
Ra	1			REINACH VERY FINE SANDY LOAM
RbA	1			RENFROW SILT LOAM, 0 TO 1 PERCENT SLOPES
RbB	1			RENFROW SILT LOAM, 1 TO 3 PERCENT SLOPES
ShB	1			SHELLABARGER FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES
ShC	1			SHELLABARGER FINE SANDY LOAM, 3 TO 5 PERCENT SLOPES
Wa	1			WATONGA SILTY CLAY
Ya	1			YAHOLA FINE SANDY LOAM

Prime

Farmland

Code Description

1 All areas are prime farmland.

FEDERALLY LISTED, PROPOSED, AND CANDIDATE  
THREATENED AND ENDANGERED SPECIES FOR  
CANADIAN COUNTY, OKLAHOMA  
JUNE 20, 1990

<u>SPECIES</u>	<u>CLASSIFICATION</u>
Bald eagle	Endangered
Black-capped vireo	Endangered
Interior least tern	Endangered
Piping plover	Threatened
Whooping crane	Endangered
Peregrine falcon	Endangered
Prairie mole cricket	Proposed Threatened
Arkansas River shiner	Category 1 Candidate
Arkansas River speckled chub	Category 2 Candidate
White-faced ibis	Category 2 Candidate
Ferruginous hawk	Category 2 Candidate
Long-billed curlew	Category 2 Candidate
Western Snowy plover	Category 2 Candidate





United States  
Department of  
Agriculture

Natural  
Resource  
Conservation  
Service

Geary Field Office  
129 East Main  
Geary, OK 73040  
405/884-2383

Dames & Moore, Inc.  
One Continental Towers,  
1701 Golf Road, Suite 1000,  
Rolling Meadows, Illinois 60008

Attention: Julie Donsky  
Environmental Scientist

Proposed Merger Related Rail Construction OKLAHOMA  
Concho, Oklahoma Canadian County

We have reviewed your proposed project identified as the CONCHO project, Canadian County, Oklahoma. Based on this review we have determined that prime farmland is present in the proposed project area and therefore is subject to the provisions of the Farmland Protection Policy Act. Form AD-1006, available at the Natural Resource Conservation Service office, will need to be completed to meet provisions of the Farmland Protection Policy Act.

Prime farmland is a rapidly diminishing, irreplaceable natural resource. All practicable alternatives should be evaluated in order to minimize adverse impact on these lands.

In order to aid in the evaluations of these alternatives, please find enclosed one copy of the Soil Survey map covering the proposed project area.

Also a list of threatened and endangered species is attached for your information.

We know of no critical habitats within 5 miles.

The Cheyenne and Arapaho tribe has a large number of acres adjoining the project area and should be contacted for response. The Administration office located in Concho, Oklahoma can be contacted for direction. (405) 262-0345.

Thank you for the opportunity to comment on these proposed actions early in the planning stage.

Sincerely,

Jon Hise  
District Conservationist

0099



United States  
Department of  
Agriculture

Natural Resources  
Conservation  
Service

Enid Field Office  
2309 N 10th Street  
Enid, OK 73701  
405-237-4338

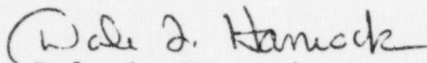
Dames & Moore Inc.  
One Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, Illinois 60008

October 20, 1995

Julie Donsky,

In response to the request for an environmental assessment for the purposed extending of existing siding by 1200 feet on rail construction in North Enid, Oklahoma.

This purposed extension located within Section 32-T23N-R6W and Section 5-T22N-R6W will involve two soil mapping units considered as PRIME FARMLAND and therefore IS SUBJECT to the provisions of the Farmland Protection Policy Act. Form AD-1006, available to the NRCS county office, will need to be completed to meet provisions of the Farmland Protection Policy Act.

  
Dale L. Hancock

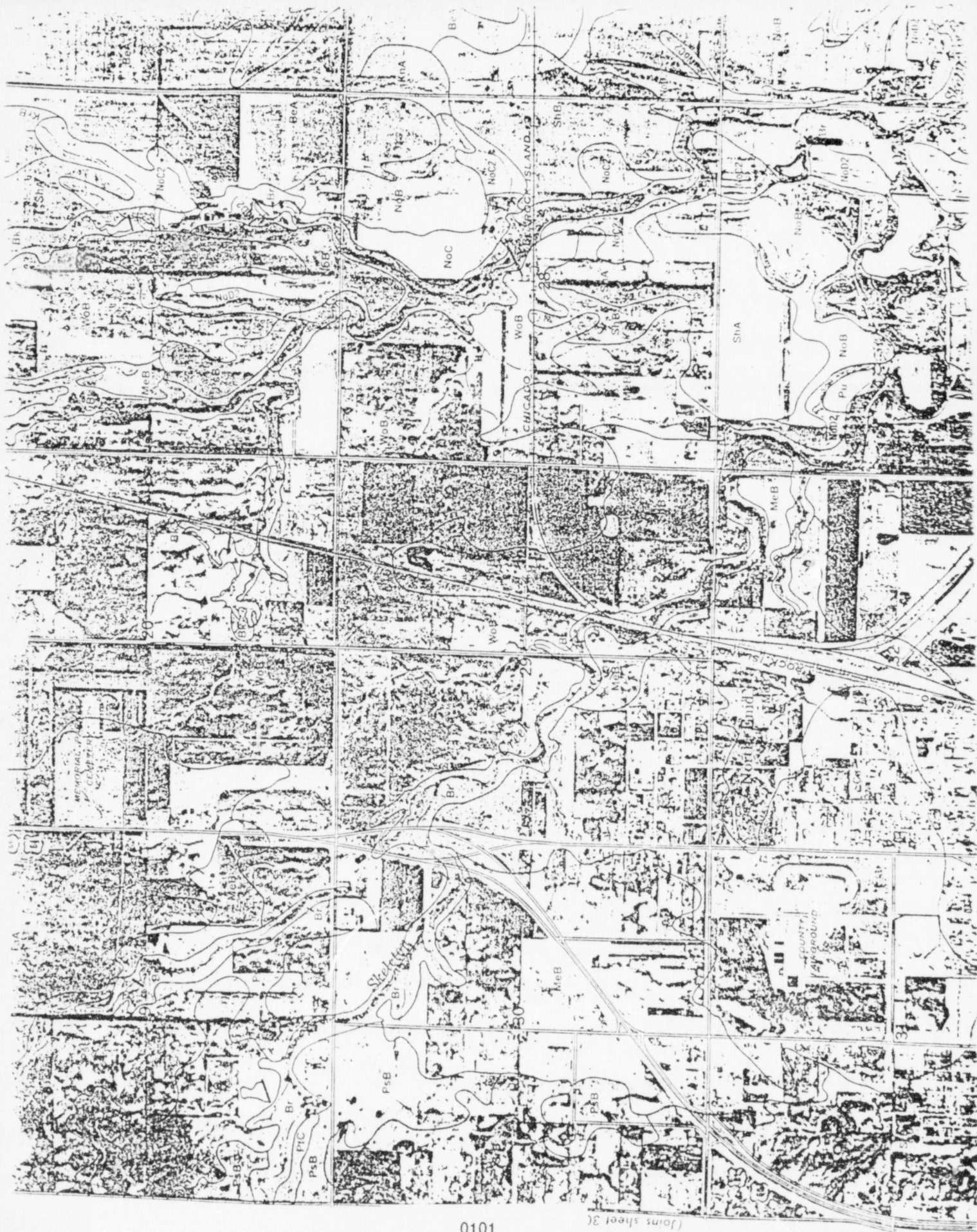
District Conservationist

RECEIVED

OCT 26 1995

COUNTING DEPARTMENT













United States  
Department of  
Agriculture

Natural Resources  
Conservation Service

State Office  
100 USDA Suite 203  
Stillwater, OK 74074-2655

October 16, 1995

Ms. Julie Donsky  
Environmental Scientist  
Dames & Moore  
One Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, Illinois 60008

Dear Ms. Donsky:

We have reviewed your proposed project identified as Environmental Report for the merger of Union Pacific and Southern Pacific Railroads in Oklahoma. Based on this review we have determined that prime farmland is present in the proposed project areas. Prime farmland is a rapidly diminishing, irreplaceable natural resource. All practicable alternatives should be evaluated in order to minimize adverse impact on these lands.

Thank you for the opportunity to comment on these proposed actions early in the planning stage.

Sincerely,

JIMMY G. FORD  
Director (Soils)



October 17, 1995

Julie Donsky, Environmental Scientist  
Dames & Moore, Inc.  
One Continental Towers  
1701 Golf Road, Suite 100  
Rolling Meadows, IL 60008

Dear Julie:

This letter is in response to your request for environmental information on the proposed construction of a railway "Y" south of Girard in Macoupin County, Illinois. You requested information on; 1) Protected species within 5 miles. 2) Critical habitat within 5 miles. 3) Parks and refuges in the proximity. 4) Other environmental information. 5) Permits/approvals needed. Our comments are as follows:

- 1) There are several plant and animal species listed as threatened or endangered which occur in Macoupin County. We have on file one documented occurrence of an endangered species approximately five miles from this site. The pondhorn mussel (*Unio merus tetralasmus*) has been found in the east fork of Otter Creek (see attached map). I see no direct or indirect impacts of this proposed construction on this identified occurrence. The Illinois Department of Natural Resources can provide more information on documented occurrences in the area.
- 2) There are three areas of land adjacent to the track — which have been identified as wetlands on the National Wetland Inventory maps (see attached map). The area north of the "Y" is a borrow pit adjacent to the track. There are other wetlands associated with the ditch adjacent to the track. There is also a wetland associated with a tributary of Shearles Branch just south of the "Y". There are areas of trees and native prairie grasses along the existing railway which could be considered valuable habitat.
- 3) There are no documented refuges in the vicinity of this project area.

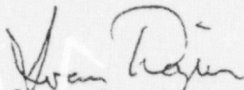


pg.2

- 4) Approximately 14 acres of prime farmland would be directly converted to non-agricultural use by the construction of this "Y".
- 5) Permits may needed from the US Army Corps of Engineers if wetlands are manipulated.

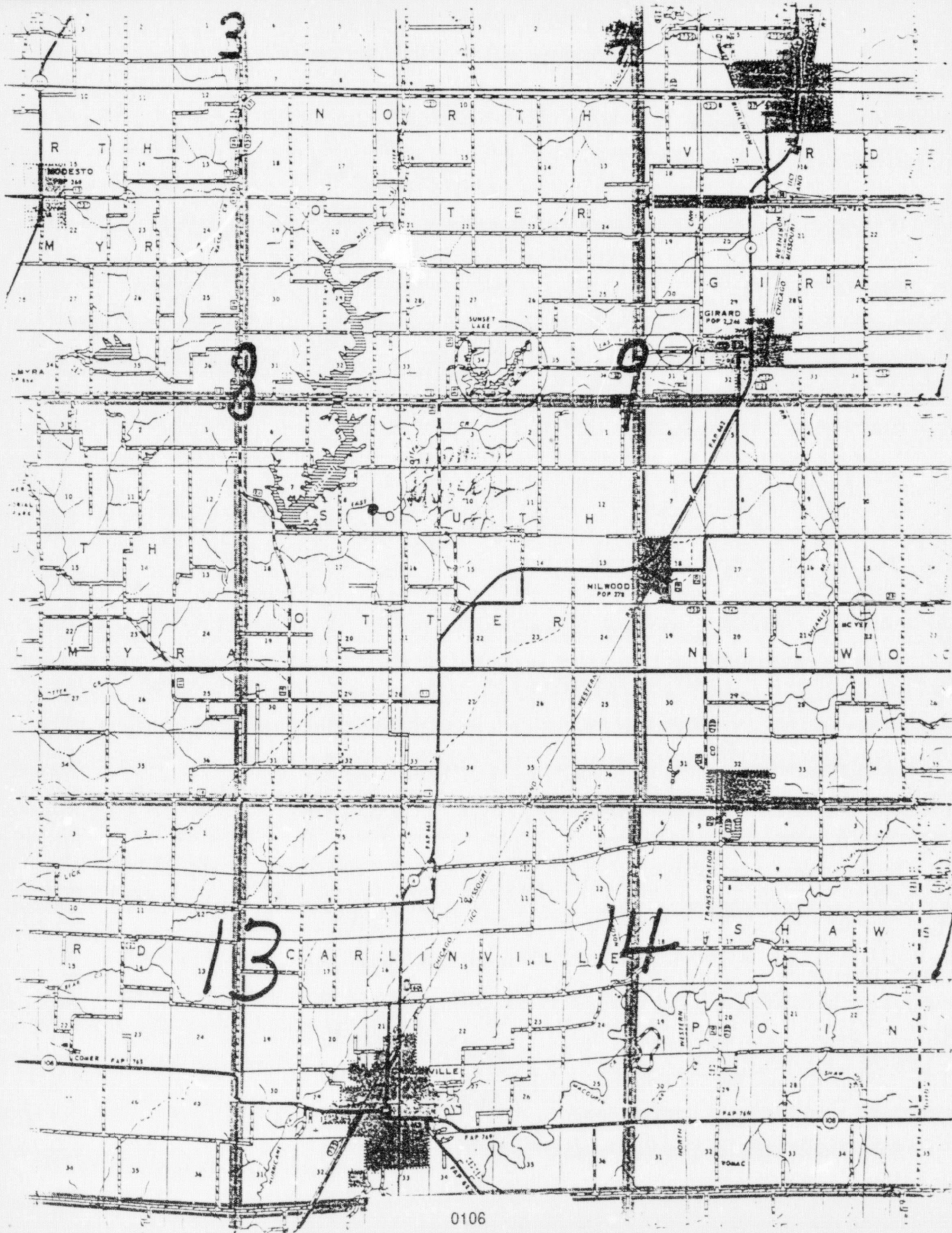
If you have any questions or would like clarification of any of these comments, please contact me at the above address or by phone at 217-854-2628.

Sincerely,

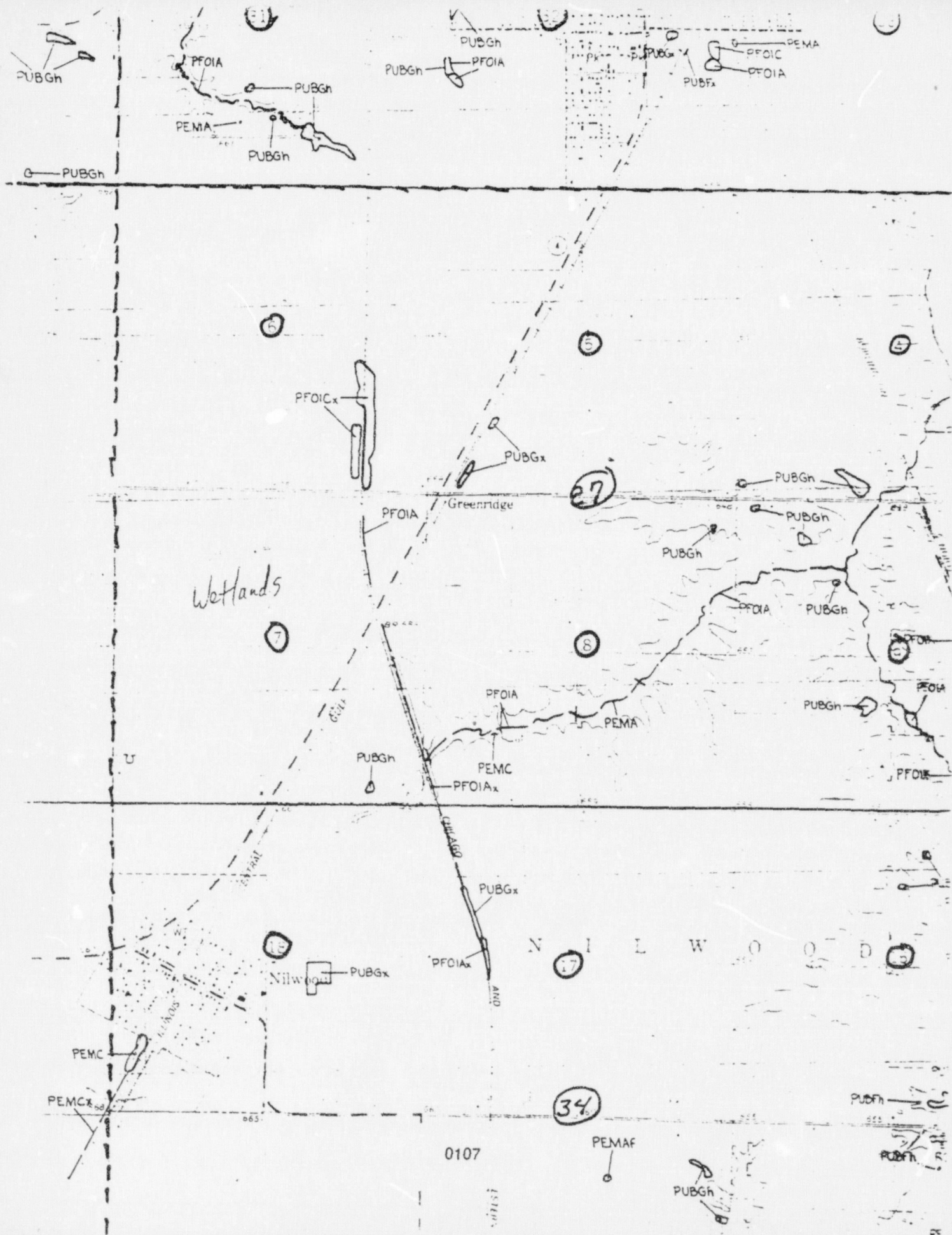


Ivan Dozier  
District Conservationist

cc.  
R. McLeese, NRCS SRSS







United States  
Department of  
Agriculture

Natural Resources  
Conservation  
Service

1315 G. 7th. Suite C  
Kingfisher, OK 73750  
405-375-3247

Date: October 30, 1995

Dames & Moore  
ONE CONTINENTAL TOWERS  
1701 GOLF ROAD, SUITE 1000  
ROLLING MEADOWS, ILLINOIS 60008

I have reviewed your request for any concerns and information regarding the construction project for the Jacks, OK, siding extension located in Kingfisher, County, Oklahoma.

**Protected Species Information:** There is habitat along the Cimarron River in Kingfisher County for the Interior Least Tern and the Piping Plover which are both on the Oklahoma and Federal List of Endangered Species. The river is within 4 miles of the proposed construction project.

**Critical Habitats:** The Cimarron River is considered critical habitat for the Interior Least Tern and the Piping Plover. There are also designated wetland areas within 5 miles of the construction site that could possibly be used by Whooping Cranes during their migrations.

**Parks and Refuges:** There are no parks or refuges within the proximity of the proposed project.

There are Prime Farmland soil mapping units located adjacent to the project area. As long as construction is limited to the easement area, these will not be effected.

If you have any questions, please feel free to call me my office anytime.

Sincerely,

*James R. Smith*  
James R. Smith  
District Conservationist

cc: Jimmy G. Ford - State Soil Scientist - Stillwater, OK



United States  
Department of  
Agriculture

Natural  
Resources  
Conservation  
Service

Medford Field Office  
121 E. Kretchmar Dr.  
Medford, OK 73759

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November 2, 1995

Ms. Julie Donsky, Environmental Scientist  
Dames & Moore  
1 Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, ILL 60008

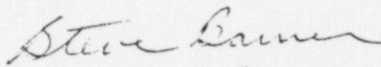
Dear Ms. Donsky:

We have reviewed your proposed project for the merger of the Union Pacific and Southern Pacific Railroads on 18-26N-5W and 7-26N-5W in Grant County. Based on this review we have determined that prime farmland is present in the proposed project area. If the new construction is to be completed within your current Right-of-way we do not view this as an impact on Prime farmland in the Grant County Conservation District. Should your construction design go beyond your easement form AD-1006 will need to be completed here.

Prime farmland is a rapidly diminishing, irreplaceable natural resource. All practicable alternatives should be evaluated in order to minimize adverse impact on these lands.

Thank you for the opportunity to comment on these proposed actions early in the planning stage.

Sincerely,

  
Anthony Boeckman

Anthony Boeckman  
District conservationist



United States  
Department of  
Agriculture

Soil  
Conservation  
Service

Parkade Center, Suite 250  
601 Business Loop 70 West  
Columbia, Missouri 65203

October 13, 1995

Julie Donsky  
Environmental Scientist  
One Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, IL 60008

Dear Ms. Donsky:

Our office has received your correspondence concerning an Environmental Report for merger of the Union Pacific and Southern Pacific Railroads.

Our primary concern is there will be no damage to adjacent farmland where connections are constructed at the Dexter Junction and the Missouri Junction sites in Stoddard County, Missouri.

If you have questions or need additional information, please contact Kenneth Vogt, Assistant State Soil Scientist (Correlation) at 314/876-0907.

Sincerely,

ROGER A. HANSEN  
State Conservationist



The Soil Conservation Service  
is an agency of the  
Department of Agriculture

AN EQUAL OPPORTUNITY EMPLOYER

0110



United States  
Department of  
Agriculture

Natural Resources  
Conservation Service

3737 Government Street  
Alexandria, Louisiana  
71302

October 19, 1995

Ms. Julie Donsky  
Environmental Scientist  
Dames and Moore  
One Continental Towers  
1701 Golf Road  
Suite 1000  
Rolling Meadows, Illinois 60008

Dear Ms. Donsky:

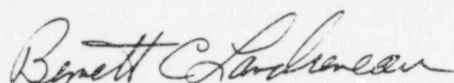
RE: Solicitation of Views  
Union Pacific and Southern Pacific Railroads Merger

We received your letter of September 30, 1995, requesting our comments on the above referenced project.

The Natural Resources Conservation Service (NRCS), formerly the Soil Conservation Service (SCS), has no current projects that would affect or be affected by this project.

We wish you well in your rail construction efforts. Feel free to call on our agency if we can be of further assistance.

Sincerely,



Donald W. Gohmert  
State Conservationist

cc: Bruce M. Lehto, Area Conservationist, NRCS, Crowley, LA

0111



United States  
Department of  
Agriculture

Natural  
Resources  
Conservation  
Service

760 South Broadway  
Salina, Kansas  
67401-4642  
913-823-4500 / FAX 913-823-4540

October 24, 1995

Ms. Julie Donsky, Environmental Scientist  
Dames and Moore  
One Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, Illinois 60008

Dear Ms. Donsky:

Thank you for the opportunity to review the plans for the merger of the Union Pacific and Southern Pacific Railroads.

The merger of the railroads within the state of Kansas should have no effect on prime farmlands. However, if federal funds are utilized in the removal of lands from outside of the railroads existing boundaries and if those soils are prime farmlands or of statewide importance, then a Form AD-1006 will need to be completed and returned to this office. If the latter occurs, you will need to outline and determine acreages from those areas on county base maps so we can determine if there are any negative impacts to important farmlands as defined by the Farmland Protection Policy Act (FPPA).

If I can be of further assistance, please let me know.

Sincerely,

James N. Habiger  
State Conservationist

ACTING FOR

Enclosure



October 24, 1995

Julie Donsky, Environmental Scientist  
Dames & Moore  
One Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, Illinois 60008

Dear Ms. Donsky,

This correspondence is in response to your letter to the State Conservationist for the USDA-NRCS (formerly the Soil Conservation Service) in Illinois dated September 30, 1995. Per your request our office has reviewed information available for sites #35 and #36 located near Salem in Marion County. Our comments are as follows:

Protected Species Information: State and federal lists of threatened and endangered species for Marion County and a brief description for each species are being sent to you under separate cover. Our office does not maintain a record of siting for these species. Additional information may be available from the U.S. Fish and Wildlife Service, the Illinois Department of Natural Resources or the Illinois Natural History Survey. If needed our office can provide the names and addresses of contacts for these agencies.

Listing of Critical Habitats: Known critical habitat areas within five miles of the sites include forested wetlands on bottomland and upland sites. Several jurisdictional wetlands are also located within the areas designated for sites #35 and #36.

Location of parks and refuges: Bryan Memorial and Tully Parks, which are operated by the City of Salem, are located to the south and west of site #35 and to the north and west of site #36. The Salem Moose Lodge maintains a park facility adjacent to site #35. Site #36 is located near a golf course operated by the Salem Country Club.

Known permitting/approval authorities:

- 1.) Salem, City of
- 2.) Illinois Department of Transportation - Springfield
- 3.) Illinois EPA - Springfield
- 4.) U.S. Army Corp. of Engineers - St. Louis District

5.) Illinois State Historic Preservation Officer -  
Springfield

Other information: Prior experience has shown railroad right-of way sites to contain unique plant species and communities. An example is the Illinois Central Gulf Railroad Prairie located in Marion County between Odin and Farina. If you wish to consider this potential in your evaluation, assistance is available from the Illinois Department of Natural Resources through a Natural Heritage Biologist.

If you require any further assistance or information please contact our office at (618) 548-1337 or at the address shown above.

Sincerely,

Tony Antonacci  
District Conservationist

cc: Bob McLeese, NRCS - Champaign w/out attachments  
Marion County SWCD - w/out attachments

The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-5881 (voice) or (202) 720-7808 (TDD). To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C., 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal opportunity employer.





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October 6, 1995

Julie Donsky  
Dames & Moore, Inc.  
One Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, IL 60008

Dear Julie,

I have reviewed your proposal sent on September 30 regarding the merger related rail construction for the Union Pacific and Southern Pacific Railroads in Sangamon County. Since there will be no adverse affects to the natural resource base of the county, I have no comment concerning this proposal. If you need any other information, feel free to contact our office at (217) 492-4015.

Sincerely,

*Theresa M. Chadwick*  
Theresa M. Chadwick  
District Conservationist

cc: Bob McLeese, USDA NRCS

October 24, 1995

Julie Donsky, Environmental Scientist  
Dames & Moore  
One Continental Towers  
1701 Golf Road, Suite 1000  
Rolling Meadows, Illinois 60008

Dear Ms. Donsky,

This correspondence is in response to your letter to the State Conservationist for the USDA-NRCS (formerly the Soil Conservation Service) in Illinois dated September 30, 1995. Per your request our office has reviewed information available for sites #35 and #36 located near Salem in Marion County. Our comments are as follows:

Protected Species Information: State and federal lists of threatened and endangered species for Marion County and a brief description for each species are being sent to you under separate cover. Our office does not maintain a record of siting for these species. Additional information may be available from the U.S. Fish and Wildlife Service, the Illinois Department of Natural Resources or the Illinois Natural History Survey. If needed our office can provide the names and addresses of contacts for these agencies.

Listing of Critical Habitats: Known critical habitat areas within five miles of the sites include forested wetlands on bottomland and upland sites. Several jurisdictional wetlands are also located within the areas designated for sites #35 and #36.

Location of parks and refuges: Bryan Memorial and Tully Parks, which are operated by the City of Salem, are located to the south and west of site #35 and to the north and west of site #36. The Salem Moose Lodge maintains a park facility adjacent to site #35. Site #36 is located near a golf course operated by the Salem Country Club.

Known permitting/approval authorities:

- 1.) Salem, City of
- 2.) Illinois Department of Transportation - Springfield
- 3.) Illinois EPA - Springfield
- 4.) U.S. Army Corp. of Engineers - St. Louis District

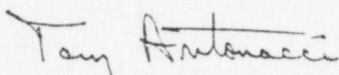


5.) Illinois State Historic Preservation Officer -  
Springfield

Other information: Prior experience has shown railroad right of way sites to contain unique plant species and communities. An example is the Illinois Central Gulf Railroad Prairie located in Marion County between Odin and Farina. If you wish to consider this potential in your evaluation, assistance is available from the Illinois Department of Natural Resources through a Natural Heritage Biologist.

If you require any further assistance or information please contact our office at (618) 548-1337 or at the address shown above.

Sincerely,



Tony Antonacci  
District Conservationist

cc: Bob McLeese, NRCS - Champaign w/out attachments  
Marion County SWCD - w/out attachments

The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-5881 (voice) or (202) 720-7808 (TDD). To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C., 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal opportunity employer.

Marion County  
Federal  
Endangered and Threatened  
Species List

Species  
-----

INDIANA BAT (E) MYOTIS SODALIS

E = Endangered, T = Threatened

The above list of Federal endangered and threatened species was updated May 1992. It does not include state listed endangered and threatened species. For state listings contact the Illinois Division of Natural Heritage, Endangered Species Protection Board.

Attached are fact sheets for each species listed above.



Marion County  
State  
Endangered and Threatened  
Species List

The following list of State endangered and threatened species was provided by the Illinois Department of Conservation Division of Natural Heritage and the Illinois Endangered Species Protection Board, November, 1991. Since this information changes frequently updated list for specific projects should be obtained from the Board. State Listing column: LT = Threatened listing, LE = Endangered listing.

SCIENTIFIC NAME	COMMON NAME	STATE LISTING
ASIO FLAMMEUS	SHORT-EARED OWL	LE
BARTRAMIA LONGICAUDA	UPLAND SANDPIPER	LE
CIRCUS CYANEUS	NORTHERN HARRIER	LE
TYMPANUCHUS CUPIDO	GREATER PRAIRIE-CHICKEN	LE
VILLOSA LIENOSA	LITTLE SPECTACLE CASE MUSSEL	LE
SABATIA CAMPESTRIS	PRAIRIE PINK	LE
UNIOMERUS TETRALASMUS	PONDHORN	LT
ACCIPITER COOPERII	COOPER'S HAWK	LE
LANIUS LUDOVICIANUS	LOGGERHEAD SHRIKE	LT
TRIFOLIUM REFLEXUM	BUFFALO CLOVER	LE

## INDIANA BAT

Myotis sodalis (Miller and Allen)

Order: Chiroptera

Family: Vespertilionidae

Description: A medium-size myotis, closely resembling the little brown bat (Myotis lucifugus) but differing in coloration, the fur being a dull grayish chestnut rather than bronze, with the basal portion of the hairs of the back dull lead colored; coloration of underparts pinkish to cinnamon, hind feet smaller and more delicate than in M. lucifugus; calcar strongly keeled.

Distribution: Midwest and eastern United States from the western edge of Ozark region in Oklahoma to central Vermont, to southern Wisconsin, and as far south as northern Florida. Distribution is associated with major cavernous limestone areas and areas just north of cave regions. (Hall, 1962).

Former Distribution: Probably about the same, although there is evidence that many caves within the range of the species have been abandoned since 1950.

Status: Endangered. Decreasing in numbers.

Estimated numbers: About 500,000.

Breeding rate in the wild: Usually a single young in late June.

Reasons for decline: Commercialization of caves in which Indiana bats roost. Wanton destruction of large numbers of Indiana bats by vandals. (John S. Hall reported in personal communication, 1963, that a few years ago two boys killed about 10,000 Myotis sodalis in Carter Cave, Kentucky, in just a few minutes.) Roosts being disturbed by increasing numbers of spelunkers and others seeking recreation. Disturbances during bat banding programs. Colonies frequently raided for laboratory experimental animals. Insecticide poisoning may possibly be new threat. The species has a fairly restricted geographic range and shows a high degree of aggregation in the winter, when over 90 per cent of the estimated population occurs in only four caves. This high degree of aggregation makes the species very vulnerable.

Protective measures already taken: American Society of Mammalogists appointed a committee in the fall of 1963 to investigate the problem of reduction in bat populations; resolution approved by American Society of Mammalogists on June 17, 1964, that removal of bats from caves be discouraged except for scientific research and that molestation of bats in roosts or other unnecessary disturbance be discontinued. Construction of a gate across entrance to Carter Cave, Kentucky, where over 100,000

SCS-IL, August, 1992

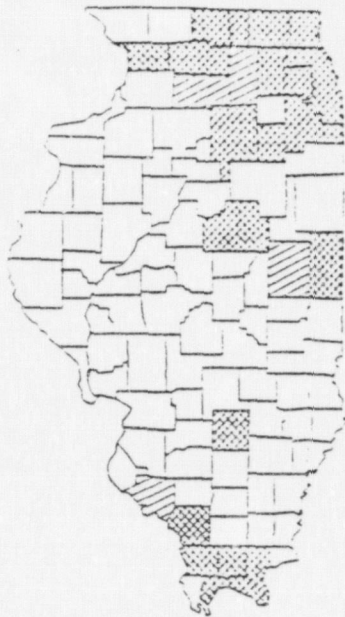


*Accipiter cooperii* (Bonaparte)

COOPER'S HAWK

ACCIPITRIDAE

Status: Endangered in Illinois



**Present Distribution:** One of the 3 North American accipiters, the Cooper's hawk breeds from British Columbia, central Saskatchewan and Nova Scotia south to Baja California, Northern Mexico and the southeastern U.S.. Wintering birds occur north to southern New England and British Columbia. In Illinois this species is a rare summer resident and an uncommon migrant and winter resident (Bohler 1989).

**Former Illinois Distribution:** This woodland raptor was formerly considered to be relatively common throughout all the wooded portions of the state (Ridgway 1889).

**Habitat:** The Cooper's hawk prefers mature deciduous forests but also occurs in open woodland and forest edge. The nest consists of a bulky platform of sticks and twigs usually placed near the trunk in a tall tree.

**Reason for Status:** Continental populations of the Cooper's hawk have recently stabilized following a severe decline during the 1970s, probably due to the banning of DDT (Ehrlich et al. 1988). However, the Illinois breeding population is still very low with recent nesting known from only 21 Illinois counties.

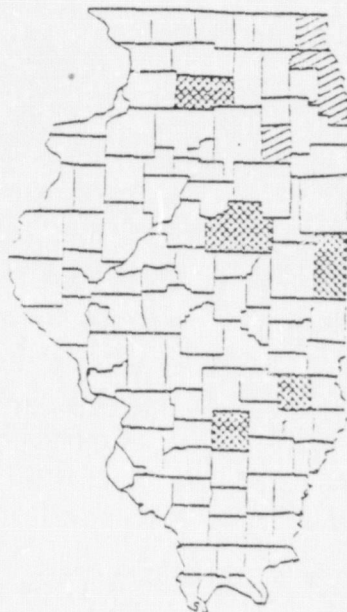
**Management Recommendations:** The preservation of large forest trees for nest sites and the protection of known nesting areas from human disturbance would be the most beneficial management for this species in Illinois.

*Asio flammeus* (Pontoppidan)

SHORT-EARED OWL

STRIGIDAE

Status: Endangered in Illinois



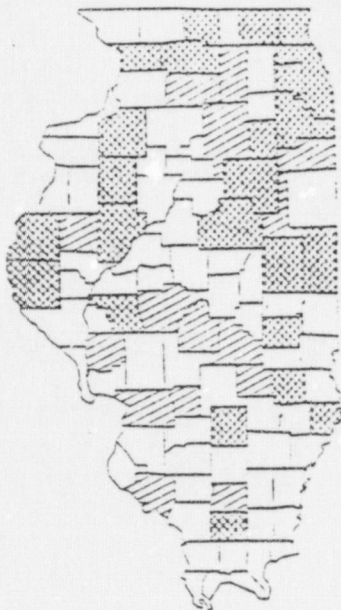
**Present Distribution:** In North America, short-eared owls breed locally from Alaska and northern Canada south to New Jersey and California. They winter from the southern part of their breeding range to as far south as Guatemala. This owl is a rare summer resident and an uncommon migrant and winter resident throughout the state (Bohler 1989). In 1990 this species nested at 5 locations in Jasper, Lee, Marion and McLean counties, the first documented nesting in the state since 1973.

**Former Illinois Distribution:** Cory (1909) believed this owl nested in Cook County, and Ford (1956) emphasized an erratic nesting behavior in Illinois. Sporadic nesting probably formerly occurred across the northern half of Illinois wherever appropriate habitat was available. Wintering birds have apparently always been locally common in Illinois.

**Habitat:** The short-eared owl nests on the ground in open country including prairies, meadows, marshes, savanna and dunes. In Illinois the short-eared owl may prefer wet prairie habitats (Birkenholz 1975). However, recent nesting also has occurred in agricultural set-aside land. Nearly all of the recent nest records for Illinois are from grassland areas at least 50 ha in size.

**Reason for Status:** Destruction of grassland and wetland habitat have probably been the primary factors creating the precarious status of this owl as a breeding species in Illinois. The extremely low breeding population and erratic nesting behavior make the short-eared owls' continued presence unpredictable even in known nesting areas.

**Management Recommendations:** Since most recent nesting of this species in Illinois is from large grassland areas, the preservation of large blocks of prairie and marsh habitat appear essential. Further research may show that specific management techniques, such as prescribed burning, influence nesting behavior.



**Present Distribution:** This grassland species breeds from Alaska and central Canada to the central U.S., and winters in southern South America. It occurs as an uncommon summer resident and migrant throughout Illinois (Bohlen 1989).

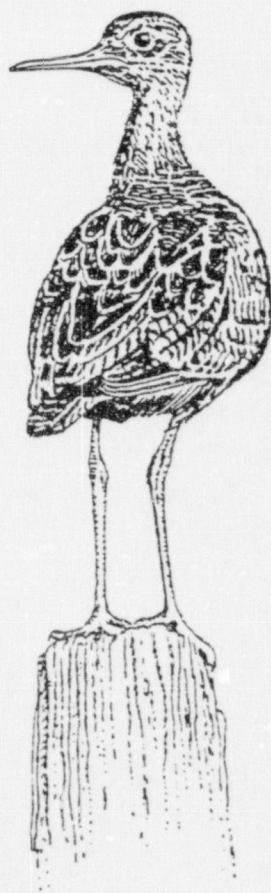
**Former Illinois Distribution:** The upland sandpiper was once a very common summer resident throughout Illinois (Nelson 1876b, Ridgway 1895, Ford 1956). However, it was hunted nearly to extinction before it was given protection (Ridgway 1915).

**Habitat:** In Illinois the upland sandpiper usually inhabits prairies, pastureland and hayfields with an average grass height less than 30 cm (Graber and Graber 1963, Buhnerkempke and Westemeier 1988). However, late spring burns and drought may allow this species to utilize areas of normally taller grasses. Grasslands adjacent to airports also are sometimes utilized by this species in Illinois (Becker 1980).

**Reason for Status:** The upland sandpiper has shown some signs of a weak recovery but is still scarce when compared to early records. The continued loss and fragmentation of grassland habitat (pasture, hayfields, and upland prairie) continues to threaten this species' survival in Illinois.

**Management Recommendations:** Preservation and proper management of large grassland areas are critical for this species. Prescribed burning or mowing is essential in order to provide suitable nesting areas. A reduction in disturbance levels in pastures and hayfields also would benefit this species.

*Bartramia longicauda*  
(Upland Sandpiper)



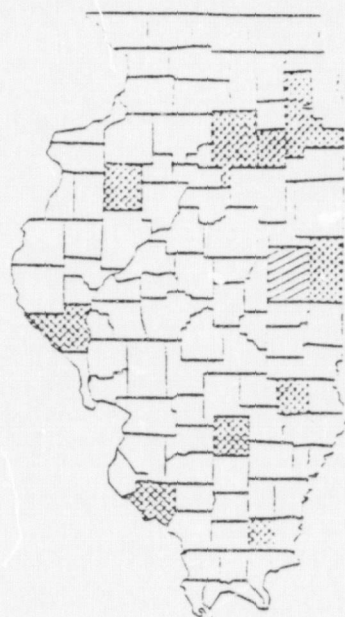


## *Circus cyaneus* Linnaeus

NORTHERN HARRIER

ACCIPITRIDAE

Status: Endangered in Illinois



**Present Distribution:** The northern harrier nests from Alaska, the Mackenzie District, and Newfoundland south to Virginia and northern Mexico and winters south from British Columbia, Wisconsin, and New Brunswick. It is an occasional summer resident and a common migrant and winter resident in open country throughout Illinois (Bohlen 1989).

**Former Illinois Distribution:** Ridgway (1889) described the northern harrier as a species of very extensive distribution in Illinois, but also noted that very little was known about its habits.

**Habitat:** In Illinois, harriers are most often observed during migration as they hunt over pastures and fallow fields. Nesting is usually restricted to relatively large undisturbed grasslands and marshes. Most harrier nests in Illinois occur in grasslands at least 60 ha in size and include a variety of cover types such as prairie grasses, brome, timothy, and fallow fields and even wheat fields. The nest is usually placed on the ground in a mound of dead reeds or grasses (Bull and Ferraro 1977).

**Reason for Status:** As a breeding bird, this species is rare in Illinois. Destruction of marsh and prairie nest habitat probably led to the decline of its once wide distribution. The population decline, present status, and habitat of this species parallel those of the short-eared owl.

**Management Recommendations:** Preservation of large blocks of prairie and marsh habitat are essential for this species. Further research into nesting behavior as it relates to prairie management also would be beneficial in protecting this species.

## *Lanius ludovicianus* Linnaeus

LOGGERHEAD SHRIKE

LANIIDAE

Status: Threatened in Illinois



**Present Distribution:** The loggerhead shrike breeds from southern Canada south to southern Florida, the Gulf Coast, and southern Mexico. Wintering birds occur north to Virginia, the Midwest, and northern California. The loggerhead shrike is a common resident in the southern third of Illinois and an uncommon migrant and summer resident elsewhere in the state.

**Former Illinois Distribution:** Prior to 1900 the shrike was distributed statewide, adapting to osage orange hedgerows for nesting and feeding. With the elimination of the hedgerows, the central and northern Illinois populations declined steadily and were almost entirely eliminated by 1972 (Graber et al. 1973).

**Habitat:** In the Midwest, loggerhead shrikes inhabit open, agricultural areas interspersed with grassland habitat (Brooks and Temple 1990a). Most of the nests found in Illinois are in osage orange, honey locust, red cedar and rose.

**Reason for Status:** Shrike populations in Illinois declined dramatically between the 1950s and the early 1970s (Graber et al. 1973). Shrikes remain relatively uncommon in Illinois but the population is apparently stable and possibly even currently increasing in some parts of the state.

**Management Recommendations:** The primary management needs of the loggerhead shrike in Illinois are the preservation of hedgerows and other thorny species, interspersed with large, open grassland areas. Brooks and Temple (1990b), however, suggest that recent shrike declines in the upper Midwest may be due to low overwinter survival caused by factors outside their breeding range.