

City of Deming

Comprehensive Master Plan for the Peru Mill Industrial Park

June, 2010

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ENGINEERS & ARCHITECTS

in association with

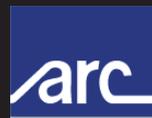


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Executive Summary



Executive Summary

The City of Deming has evaluated the recently annexed 1,512 acres of land north of Interstate Highway 10 for the future development of an Industrial Park. The land is currently Zoned D-Industrial which allows for the construction of a wide range of manufacturing and industrial applications. The evaluation included the review and inventory of the existing physical and cultural conditions including:

- Physical Features- Such as roadway access and topography
- Environmental Easements- Peru Mill Environmental Mitigation Areas
- Rail Service, Existing-Southwest Railroad (SWRR) and the interchange with Burlington Northern and Santa Fe Railroad (BNSF) and the Union Pacific Railroad (UPRR).
- Utilities- Availability of potable water, storm sewer, sanitary sewer, gas and electric
- FEMA Floodplain- Existing and Proposed conditions for the Mimbres River and Porter Draw
- Climatic Conditions- average temperature, sunshine, rainfall
- Community Characteristics- Demographics, population statistics, and work force availability

The Proposed Peru Mill Industrial Park has some very significant advantages. One of the most significant advantages is the availability of rail service to the Industrial Park. Of particular importance is the fact that the site can be served by both the UPRR and the BNSF. The dual service from two Class I railroads cannot be overemphasized. The competition for services between these two large Class I railroads is intense and will lead to favorable and competitive haul rates.

Other significant advantages to the Proposed Industrial Park include:

- Available Workforce (both Skilled and Unskilled)
- Available Local Access to the Site (with improvements noted)
- Access to Interstate Highway 10
- Available Utilities including abundant water, gas and electric supply (with improvements noted)
- Moderate Climate

Currently, the proposed Industrial Park is divided into two industry types, rail and non-rail served. Rail served properties are generally located west of Peru Mill Road and are large plots of property easily served by rail and truck traffic. Non-rail served properties are generally located east of Peru Mill Road.

Industry types that have been identified as being likely candidates for the proposed park include, but are not limited to:

- Cross-Dock/Transload Facilities
- Local or Specialized Warehousing
- Logistic Centers
- Food Processing
- Solar Energy Generation
- Renewable Energy Projects
- Manufacturing

The following Master Plan provides a roadmap to the development of the Peru Mills Industrial Park. The Master Plan is intended to be flexible to accommodate varying industries. As the industrial park develops and new industries are identified, the Master Plan can be modified to incorporate these new business opportunities.



Existing Conditions

Physical Features
Environmental Easements
Rail Service
Existing Utilities
FEMA Floodplain
Climate Conditions
Community Characteristics

Section 1-Existing Conditions

1.1 Physical Features of Site

The Peru Mill Industrial Park consists of 1,512 acres of City-owned land located north of Deming, New Mexico. The terrain is generally flat and has suitable soils for development. Predominant ground cover consists of creosote, mesquite, yucca, and native grasses.

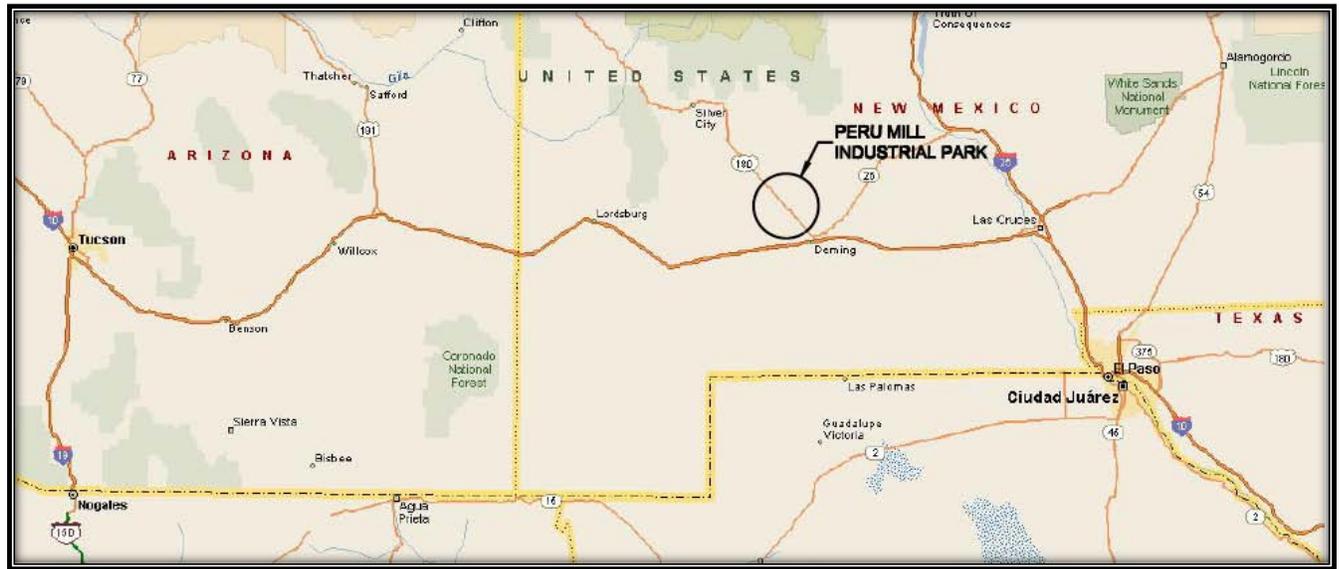


Figure 1.1-Location Map

The Peru Mill Industrial Park is close to and visible from I-10, one of the main east-west freeways traversing the United States. The interstate serves as a major route for truck transport, as well as travelers and tourists. The industrial park is not far from several U.S. metropolitan areas, including Las Cruces (60 miles), El Paso (102 miles), and Tucson (215 miles). The industrial park's proximity to the border with Mexico and Mexican cities is 38 miles from the Columbus Port of Entry/Puerto Palomas, 84 miles from Ascension, 110 miles from Ciudad Juarez, and 360 miles from Chihuahua.

While close to the core of Deming, the site is somewhat isolated from the rest of the community possibly due to the barrier of I-10 to the south and mainly undeveloped land surrounding it. Few residences are located near the industrial park. The site is sufficiently close to the workforce in Deming, community facilities and services, and various retail services to be highly convenient for future employees.

Additional undeveloped land adjacent to the site, both publicly and privately owned, creates a possible opportunity for future expansion of industrial activities outside the master plan area.

1.2 Environmental Easement

The site has a history of heavy industry. The legacy of past milling operations includes two environmental easement areas of 54.1 acres and 5.18 acres within the City-owned site. The Peru Mill site required large-scale environmental remediation efforts to clean up a 265 acre contamination area. The City contracted with Zia Engineering to assist them, the EPA and the New Mexico Voluntary Remediation and Brownfields Program to provide technical support for the site assessment, remediation and closure. The remediation efforts included groundwater contamination remediation, soils and asbestos investigations, development of a closure/remediation plan and developing a remedial cap system. The remediation restricts development within 54.1 acre environmental easement.

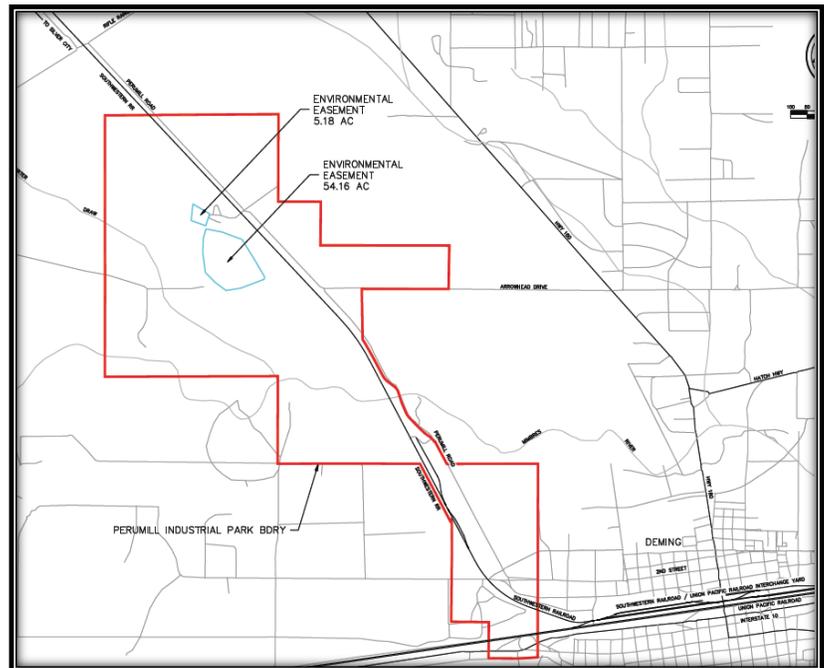


Figure 1.2-Environmental Easement

1.3 Rail Service

The Southwest Railroad operates an existing rail line through the proposed industrial park. The Southwest Railroad interchanges with the BNSF in Rincon, NM approximately 50 miles to the northeast (near Hatch, NM) and the Union Pacific Railroad in Deming, NM, approximately 1 mile to the south. The existing rail is in fair to poor condition. Wilson & Company has performed a Rail Condition Assessment Report which is included in the supporting appendix.

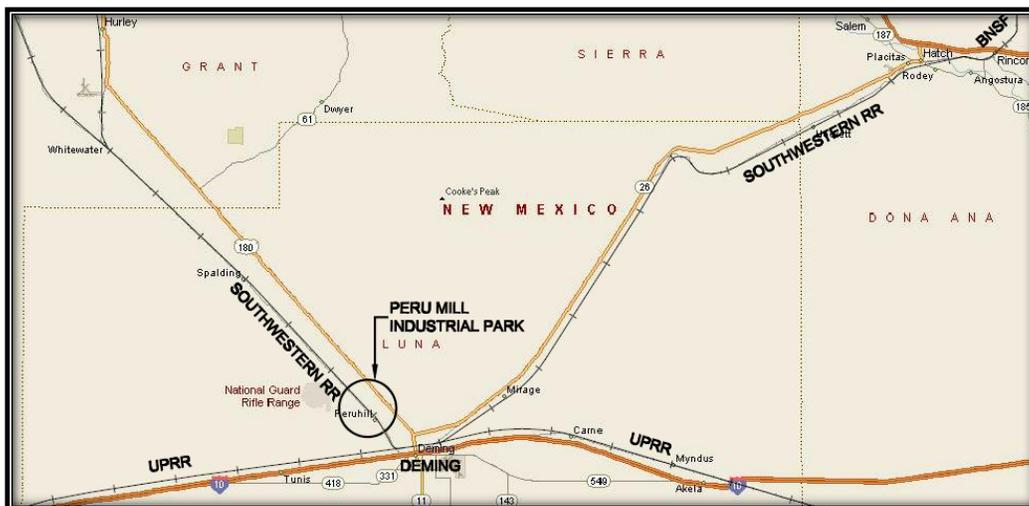


Figure 1.3-Existing Rail Service

Right-of-Way

The majority of the right-of-way along this rail line from M.P. 1 to M.P. 3 is open and very visible. The right-of-way is not fenced and is not adequately protected against trespassing onto railroad property by the public.



Roadbed

The subgrade in most locations appears stable and in good condition. There may be portions of the sub-grade not identified during this review that will require repair or widening to provide for the operation of increased traffic or speeds greater than 10 M.P.H.

Rail

The majority of the rail is welded and jointed 90 lb. It was observed that in most areas where a portion of rail was replaced, a Dutchman was cut in rather than replacing a full joint. In this 3 mile area there were far too many Dutchman repairs to be considered for high volume track or speeds greater than 10 M.P.H. Track gauge, level and alignment was fair, tie spacing was acceptable, minor amount of loose spikes and bolts were observed. A program to renew worn rail, in some areas, replacing Dutchman's with new jointed rail would be a necessity.

Ties

The tie condition is acceptable for the volume of traffic at the present time. There were some cross-ties with weather cracking observed however, they appeared to be solid. Maintenance has been performed and there was evidence that deficient ties have been replaced on an as needed basis.

Surface

The over-all track surface is in reasonably good condition across this 3 mile area. There appears to be an adequate amount of ballast across most of this area and drainage appears to be adequate with no pumping problems observed. There are some sand drifts between the rails that can be corrected with some minor surfacing.

Turnouts and Sidings

There is a short siding approximately 1200 ft. in length, consisting of good 90 lb. rail and good cross-ties. The first turnout is in good condition and would only require some minor preventative maintenance at this time. All the switch ties are acceptable.



The second turnout at M.P. 1 is 115 lb composition that transitions down to 90 lb. rail. The switch point needs some repair; nine (9) switch ties need to be replaced.

Structure

1. The structure is a timber open deck trestle near M.P. 2
 - A. Bridge is approximately 200 ft. long
 - B. Bridge has rail stringers on wooden caps.
 - C. Bridge is built on wooden piling.
 - D. At present time over dry river bed
 - E. Bridge at north end has had fire damage.
 - F. Minor repairs have been made.
 - G. Crossties on bridge are in acceptable condition
 - H. Some crossties need replacement on both sides of approach



It is important to note that no drilling, sounding or excavation was performed during this investigation. Also, conditions such as cracked stringers and pile pumping are frequently only evident while a train is traveling over the superstructure. There was no train observed during this field review.

1.4 Existing Utilities

The Luna Energy Facility, a 570-megawatt natural gas power plant, is located directly to the east of the site, north of Arrowhead Drive. 345 KV aerial transmission lines exit the Luna Energy facility and pass through the proposed industrial park in a southwesterly alignment. (See Figure 1.4)

A 12" water line is located along Peru Mill road and is fed by an existing well located just north of the environmental mitigation area. The City of Deming operates the well and is limited to a capacity 442 acre-feet per year.

Currently there is no sanitary sewer service adjacent to the site. The capacity of the existing sewage treatment plant is 2 million gallons per day. Currently the treatment plant is processing 1.3 million gallons per day.

An existing 16" high pressure gas line feeds the Luna Energy facility and roughly parallels the transmission line.

PNM is a local provider for electrical service in the proposed Industrial Park area.

The SunZia transmission line is proposed in southern New Mexico and southern Arizona to transmit power from renewable energy sources. The project would help meet state regulatory renewable energy portfolio standards, set at 15% by 2025 for Arizona, 20% by 2010 and 33% by 2020 for California, 25% by 2025 for Nevada, and 20% by 2020 for New Mexico. The preferred alignment of the transmission line is north of the Peru Mill Industrial Park. Plans call for the line to be completed by 2013.

1.5 FEMA Floodplain

The Mimbres River and Porter Draw run through the site. Within the boundaries of the proposed industrial park both the Mimbres River and Porter Draw are within a Federal Emergency Mapping Agency (FEMA) floodplain designation Zone A.

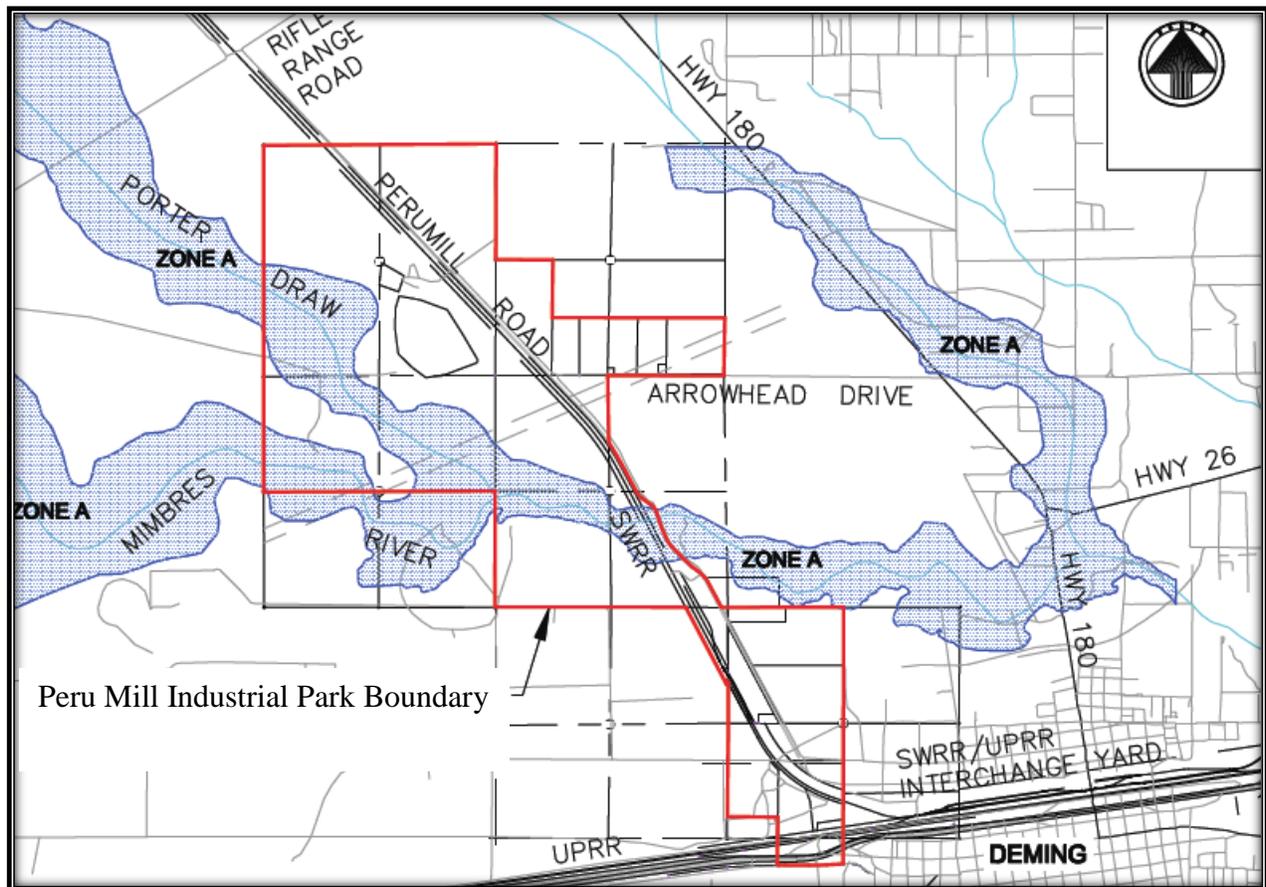


Figure 1.5-FEMA Floodplain

1.6 Climate Conditions

The climate is warm, arid and sunny, offering advantages over areas of the country where conditions are more unpleasant, extreme or variable. The area from Deming to Lordsburg has the highest rating of solar insolation in New Mexico, and excellent potential for solar energy.

Altitude	4,331 feet
Prevailing wind	West
Average relative humidity	25% (lower than Las Cruces 39%)
Clear skies and sunny year-round	
Annual precipitation	9.35" (1914-2005)
Average snow depth	0"
Average maximum temperature	94.6 degrees (July)
Average minimum temperature	26.2 degrees (January)
Average maximum temperature	76.7 degrees (annual)
Average minimum temperature	44.1 degrees (annual)

Sources: Western Regional Climate Center and <http://www.cityofdeming.org>.

Table 1.1 Climate Conditions

1.7 Community Characteristics

Surrounded by the counties of Luna, Hidalgo, Grant and Catron, Deming is the largest community in southwest New Mexico. Deming has a high quality of life that persuades many to stay in the community and others from outside the area to relocate there. Positive community factors include a friendly small town character, medical services at the Mimbres Memorial Hospital, the Deming Public School District, and higher education opportunities at Western New Mexico University-Deming branch and Doña Ana Community College-Deming branch. Recreational opportunities include the Deming Luna Mimbres Museum, Rockhound State Park, City of Rocks State Park, Spring Canyon State Park, Voiers "Pit" Park and the Rio Mimbres County Club. Several recreational sport activities are available including baseball, golf, softball, soccer, tennis, volleyball, bowling and basketball. The Deming Municipal Airport is a highly functional general aviation airport, used by the Border Patrol, local business people and others. Nearby mountains and deserts provide an interesting visual setting for the community and offer many recreational opportunities. Deming enjoys a relatively low cost of living and regularly hosts various cultural activities.

The City of Deming, Luna County, Deming-Luna County Economic Development Incorporated (DLCED), Deming Public Schools and residents are highly supportive of industrial development. The DLCED actively works with the New Mexico Local Government Development Act (LEDA) and various loans, grants and tax credits. EDC along with the City, county and state can package incentives to assist businesses to locate or expand in Deming. Further information about available incentives is contained within the appendix of this master plan. At a September, 2009 strategic planning session of the EDC, participants identified community strengths in the availability of industrial land, and specifically in the north area (Peru Mill Industrial Park as being available to businesses requiring large tracts of land).



Studies

Demographics
Land Use
Zoning
Rail
Infrastructure
Access

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Section 2-Studies

2.1 Demographics

The populations of the City of Deming and Luna County are growing. The City grew at an average annual rate of 1.9% from 1990 to 2000. The county grew by 3.3% on average from 1990 to 2000.

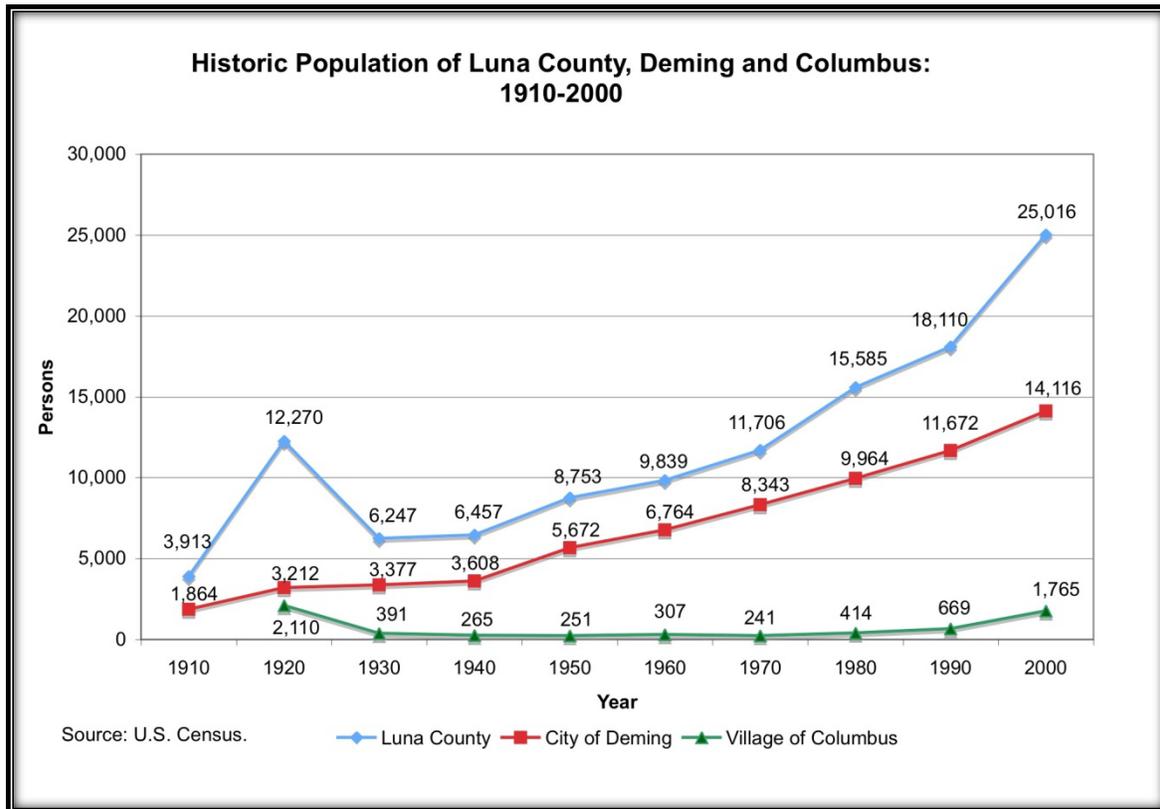


Figure 2.1-Historic Population-Deming

According to the Bureau of Business and Economic Research, BBER, the population in Luna County grew from 2000 to 2008, adding 2,200 persons, for an average annual rate of 1.1%. The City of Deming added 1,240 residents during this period, or 1% per year on average. Both rates are lower than the rates from 1990 to 2000.

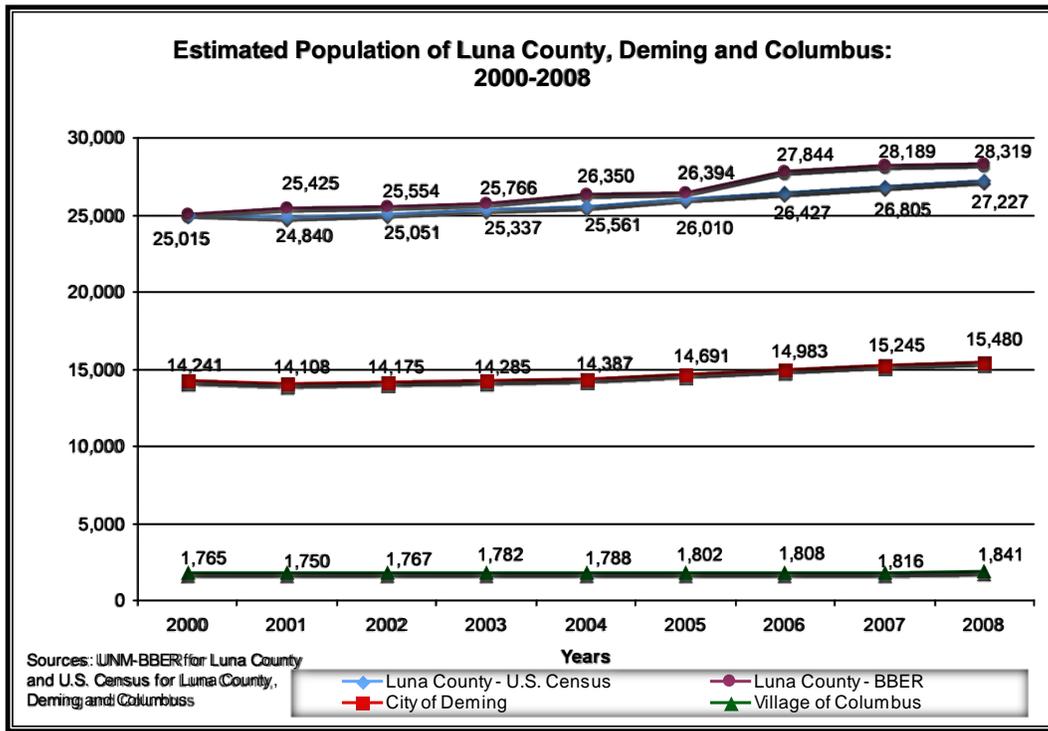


Figure 2.2-Population-Luna County, Deming and Columbus

Luna County is projected to grow at an average annual rate of 1.0% over the next 25 years, reaching over 35,600 persons by 2035.

2.2 Employment Statistics

Luna County gained 1,877 jobs between 1997 and 2009. Its unemployment rate remains high at 15.9% for 2009. Luna County has the highest unemployment rate in New Mexico. Grant County, where many Luna County residents have traditionally worked, lost employment during this period, and also experienced a high unemployment rate in 2009, a substantial number of available workers are among the unemployed. For example, some are miners who have lost their jobs and have excellent work skills. In addition, young retirees may be available to enter the local work force, bringing areas of expertise, an interest in additional revenue, and entrepreneurial skills. Luna County has a relatively large manufacturing sector, with 21 establishments and 1,048 employees (4th quarter of 2008, NMDWS, Economic Research and Analysis Bureau). Wages in Luna County are relatively low.

Luna County Employment and Unemployment: 1997 - 2009													Total Change	
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	1997-2009
Civilian Labor Force	11,228	11,505	10,956	11,167	10,994	11,541	12,674	12,312	12,949	13,032	12,614	12,680	12,613	1,385
Employment	8,416	8,495	8,361	8,595	8,388	9,297	9,860	10,380	11,258	11,667	11,421	11,305	10,293	1,877
Unemployment	2,812	3,010	2,595	2,572	2,606	2,244	2,814	1,932	1,691	1,366	1,193	1,375	2,320	-492
Unemployment Rate	25.0%	26.2%	23.7%	23.0%	23.7%	19.4%	22.2%	15.7%	13.1%	10.5%	9.5%	10.8%	15.9%	

Grant County Employment and Unemployment: 1997 - 2009													Total Change	
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	1997-2008
Civilian Labor Force	12,925	13,026	12,420	12,615	12,944	13,121	12,491	11,974	12,345	12,477	12,394	12,631	12,532	-393
Employment	12,076	12,125	11,354	11,853	12,068	11,521	10,745	10,919	11,579	11,898	11,948	12,073	11,070	-1,006
Unemployment	849	901	1,066	762	876	1,600	1,746	1,055	766	579	446	558	1,462	613
Unemployment Rate	6.6%	6.9%	8.6%	6.0%	6.8%	12.2%	14.0%	8.8%	6.2%	4.6%	3.6%	4.4%	11.7%	

Source: New Mexico Department of Workforce Solutions Table A Employment and Unemployment.

Table 2.1-Employment and Unemployment St

Over the period of 2001 to 2008, Luna County's strongest growth sectors were federal employment (in particular, the U.S. Border Patrol and Immigration and Customs Enforcement added employees), retail trade and construction. Agricultural sector employment declined. Many of the unemployed are residents applying for immigration papers, unskilled and seasonal agricultural workers, and workers who were laid off from mines in Grant County and southeast Arizona.

Luna County Employment by Sectors										Change 2001 to 2008
Industry	2001	2002	2003	2004	2005	2006	2007	2008		
Agriculture, forestry, fishing & hunting	1,586	1,355	1,338	1,311	1,197	901	890	829		-757
Mining	*	*	*	*	*	*	*	*		
Utilities	*	*	*	*	*	*	*	*		
Construction	162	283	201	213	621	425	378	381		219
Manufacturing	998	1,232	1,445	1,248	1,180	1,240	1,107	1,084		86
Wholesale trade	114	115	118	109	101	103	102	91		-23
Retail trade	919	1,041	1,201	1,282	1,291	1,341	1,342	1,208		289
Transportation & warehousing	113	110	121	138	147	149	142	143		30
Information	23	32	32	25	25	23	24	22		-1
Finance & insurance	96	126	132	145	143	145	150	128		32
Real estate & rental & leasing	55	53	61	76	56	72	63	59		4
Professional & technical services	100	83	92	109	114	132	146	160		60
Management of companies & enterprises	0	0	*	*	*	*	*	*		
Administrative & waste services	36	43	56	92	132	122	106	84		48
Educational services	*	*	*	*	*	*	*	*		
Health care & social assistance	503	508	530	571	575	599	579	584		81
Arts, entertainment & recreation	*	*	46	53	46	41	45	45		
Accommodation & food services	524	556	556	564	624	666	763	728		
Other services, except public admin	140	122	123	128	132	119	124	125		-15
Non-classifiable	2	*	*	*	*	*	*	0		-2
Total Private	5,460	5,759	6,223	6,122	6,456	6,153	6,043	5,761		301
Total Government	1,682	1,724	1,727	1,778	1,877	1,976	2,084	2,235		553
Federal	202	217	226	240	293	350	421	528		326
State	300	305	310	318	323	330	343	338		38
Local	1,179	1,201	1,191	1,221	1,261	1,296	1,320	1,368		189
Total, All Industries	7,143	7,482	7,951	7,900	8,334	8,129	8,127	7,996		853

Source: New Mexico Department of Workforce Solutions, Table D - Labor Market Information Series. Table D is derived from the Quarterly Census of Employment and Wages.

* Non-Disclosure - Sum of industries may not add to total due to Non-Disclosure.

Table 2.2-Employment by Sectors

Among the major employers in Deming, the food processing sector claims the most employees, with 1,251 employees working in six businesses in 2009, followed by the government sector with 1,105 employees in 2009.

Major Employers in Deming and Luna County				No. of Employees		
Name	Business Sector	July 2007	Sept. 2009	Change	% Change	
Deming Public Schools	Education	686	805	119	17.3%	
Border Foods (chili processing) *	Food processing	500	750	250	50.0%	
Wal-Mart Superstore	Retail	376	330	-46	-12.2%	
NM DOT (Hwy Dept)	Government	323	258	-65	-20.1%	
Mimbres Memorial Hosp. & Nursing Home	Health care	299	299	0	0.0%	
Homeland Security (Border Patrol)	Government	275	396	121	44.0%	
City of Deming * *	Government	263	195	-68	-25.9%	
County of Luna	Government	255	230	-25	-9.8%	
Solitaire Manufactured Homes	Manufacturing	214	156	-58	-27.1%	
Proper Foods (frozen foods)	Food processing	166	119	-47	-28.3%	
J.R. Builders (plus subcontractors)	Construction	157	75	-82	-52.2%	
Peppers Supermarket (includes gas station)	Retail	130	156	26	20.0%	
Carzallia Valley Gin (onion plant during season)	Food processing	120	145	25	20.8%	
K-Mart	Retail	75	79	4	5.3%	
First NM Bank	Banking	54	43	-11	-20.4%	
Amigos (tamales/tortillas)	Food processing	52	39	-13	-25.0%	
Village of Columbus	Government	41	*			
Deming Coca Cola Plant	Local supplies	35	28	-7	-20.0%	
Ben Archer Primary Health Clinics	Health care	33	28	-5	-15.2%	
US Post Office	Government	31	26	-5	-16.1%	
NM Chili Products (dehydration plant during season)	Food processing	31	37	6	19.4%	
Sisbarro Car Dealership	Retail	30	30	0	0.0%	
Columbus Electric Co-op	Electric utility	28	29	1	3.6%	
Luna Energy (electric plant)	Energy generation	26	25	-1	-3.8%	
Deming Electronics/Compass Components	Manufacturing	26	89	63	242.3%	
W.R. Johnson & Son (farming)	Agriculture	25	10	-15	-60.0%	
Jack Key Motors (car dealership)	Retail	25	15	-10	-40.0%	
Joseph Lite Cookies (manufacturing)	Manufacturing	18	*			
Wells Fargo Bank	Banking	17	17	0	0.0%	
Public Service Co of NM (electric utility)	Electric utility	15	14	-1	-6.7%	
J & D Produce (seasonal)	Food processing		161	161		
Total		4,326	4,584	317	7.3%	

Source: Deming/Luna County Economic Development Corporation, 2009.

Table 2.3-Major Employers

* Includes maximum workforce

** Includes temporary summer employees

2.3 Land Use

Existing Land Use Pattern

The Peru Mill Industrial Park is located in a mainly undeveloped area north of I-10 and northwest of the developed portions of the City of Deming. The abandoned, former Peru Mill structures and the remediated tailings pond environmental easement area are the only development on the site. To the southeast of the industrial park and south of Mimbres River is the former American Smelting and Refining Company (ASARCO) Mill, consisting of several structures and a remediated tailings pond environmental easement area.



Figure 2.3 Land Use

The Luna Energy Facility is east of the industrial park by approximately .25 miles along Arrowhead Drive.

An area approximately 1¼ mile east of the industrial park and north of US Highway 180 is mostly residential. The Ruben Torres Elementary School, located on 8th Street and Chapparral Boulevard recently opened in 2007.

Housing is scattered south of the Mimbres River, approximately 1 mile from the industrial park, in the area of Saddle Bronc Road/Chaparral Boulevard and following the Kinder Morgan pipeline. Further to the north of this area is scattered residential development, also in unincorporated Luna County.

An urban residential neighborhood is located approximately 1 ¾ miles southeast of the industrial park in an area bounded by North Copper Street, West 1st Street, N. Granite Street, and West 4th Street. This is an old section of Deming, with some houses older than 50 years.

Irrigated agricultural fields and scattered rural housing are located to the south and west of the industrial park by approximately 1 mile in the vicinity of San Acacia Road.

Land Use and Economic Development Objectives for the Peru Mill Industrial Park

City of Deming Comprehensive Plan

The City of Deming Comprehensive Plan (2003) supports industrial development. In a survey conducted during the planning process, 87% of respondents (the highest proportion for any question) agreed that Deming needs to attract more industry. The plan designated in the future land use map a portion of the Peru Mill site as light industrial. Much of the area was outside the City, and not targeted at that time for annexation. The plan showed a lineal retail commercial area north of I-10, with a smaller lineal, medium density residential area and agricultural area flanking the light industrial area.

The 2003 Comprehensive Plan's extraterritorial zoning (ETZ) map of 2001 shows that most of the Peru Mill site was zoned industrial when this area was in unincorporated Luna County. The southern portion was zoned rural agriculture. The entire industrial park is located inside the City limits at this time and not subject to ETZ planning, platting and zoning regulations. Following annexation, the area was zoned industrial.

The Economic Development Element in the Comprehensive Plan lists the following goals:

1. The City of Deming should work to pursue a more inviting business environment.
2. Living wage jobs should be created in Deming to improve the quality of life.
3. The City of Deming should create opportunities for business development.
4. Deming should seek diversification of its economy by attracting and growing stable and sustainable industries.
5. Economic development in Deming should be sensitive to the City's natural and cultural environment.
6. Enhance economic partnerships with other governmental entities, private organizations and non-profit groups.
7. Continue to coordinate with other entities to provide and promote affordable vocational training opportunities in Deming.

Economic diversification policies include a guideline for the City to recruit businesses and industries which:

- Have a high export or growth potential
- Focus on workforce training
- Pay above-average wages
- Add value to Luna County's agricultural base

It should be noted that the City of Deming is currently in the process of updating its comprehensive plan. This effort gives the City further opportunity to refine or change policies and the future land use map to be more supportive of the Peru Mill Industrial Park, which was planned after the 2003 plan.

Peru Mill Annexation Report

The Peru Mill Annexation Report (November, 2007 Draft) was prepared by the City to study annexation of the area, which was larger than the industrial park, and demonstrates that the proposed annexation met state law requirements for annexations. This report argues that the City-owned land is highly suitable for and needed for large industrial land users. Such land users have requirements for large land areas which cannot be accommodated in the Deming Industrial Park, with approximately 674 acres available in relatively small and dispersed aggregations of parcels.

Authors of the Annexation Report projected industrial land requirements, including those of large land users, of approximately 800 acres. They concluded that the City-owned lands of Peru Mill Industrial Park can accommodate the land needs for industrial growth to the year 2040.

Annexation of the Peru Mill Industrial Park was completed in 2008 and 2009.

2.4 Zoning

Zoning and Subdivision Regulations Applicable to the Peru Mill Industrial Park

The entire industrial park is zoned D. Industrial, as shown in the map below, part of the City of Deming's official zoning map showing the northwest quadrant of the City.

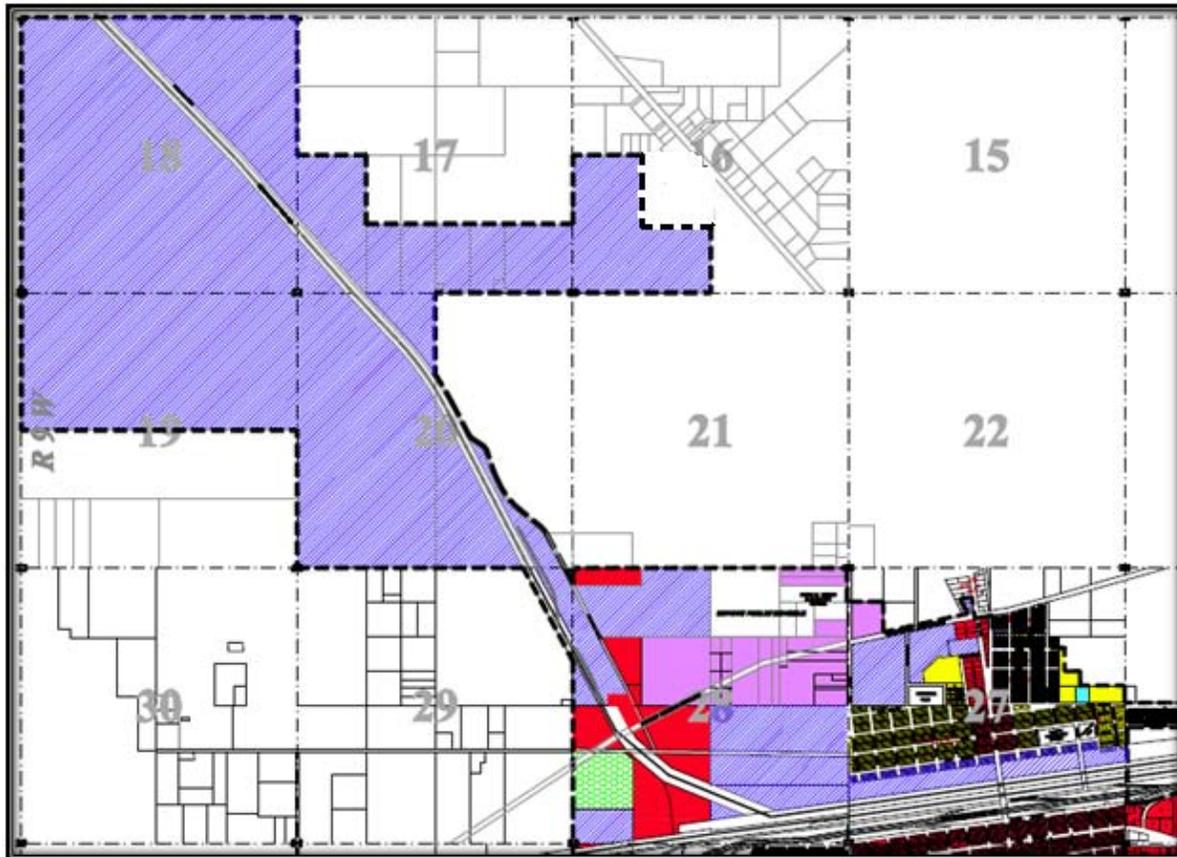


Figure 2.4 NE Quadrant Deming Zoning Map

Partial Zoning Legend

D	Industrial	
C	Commercial	
A5	Agricultural	

Peru Mill Industrial Park Master Plan Objectives

During development of the Master Plan, various meetings were held with City staff to study aspects of the industrial park and consider policies and priorities for guiding its use. The following objectives were formulated for the Industrial Park, based on those meetings and review of City planning documents.

1. Spur industrial development as a long-term strategy for the City of Deming and Luna County.
2. Increase manufacturing and warehousing as an economic development strategy.

Comprehensive Master Plan for the Peru Mill Industrial Park

- a. Take advantage of existing rail infrastructure and opportunities for improvements to rail serving the site that would promote manufacturing, warehousing, and transload operations requiring rail service.
3. Create jobs paying livable wages to reduce unemployment, increase wealth in the community, and create opportunities for current residents and their children to live and prosper in Deming.
4. Increase revenues for the City of Deming, Luna County and others to be able to enhance public services and facilities.
5. Locate businesses in the Peru Mill Industrial Park that need larger tracts of land than are available in the Deming Industrial Park.
6. Put underutilized land and resources to beneficial use.
7. Place any heavy industry in an area located where impacts are minimal to residents, traveler or tourist trade, and resident-serving businesses.
8. Develop sufficient infrastructure first to make some sites immediately ready for new business development.
9. Accommodate solar energy generation or equipment manufacturing on a portion of the site to support renewable energy development in southwest New Mexico.

During development of the Master Plan, target industries were identified and evaluated to provide guidance in some of the requirements of possible industrial and warehousing uses that might locate in the industrial park. The matrix below summarizes the suitability of the uses evaluated.

Overall Likelihood	Use/Facility Type	Locational Advantages and Disadvantages	Market Growth Trends	Transportation Needs	Parcel Size Requirements	Building Size Requirements	Site Requirements	Environmental Conservation Practices
Low ○	Inland Port	○	○	●	○	○	○	○
Low ○	Wal-Mart Regional Distribution Center	●	●	●	●	●	○	○
Mid ●	Manufacturing - general, including electronics, furniture or cabinetry fabrication	●	○	○	●	●	○	○
Mid ●	Manufacturing - solar or other alternative energy equipment	●	○	○	●	●	○	●
Mid - High ●	Regional Warehousing or Logistics Center (3PL - Third Party Logistics)	●	○	○	●	●	○	○
Highest ●	Local or specialized freight warehousing, including transload and intermodal warehousing	●	●	●	●	●	○	○
Highest ●	Food Processing	●	○	●	●	●	●	●
Highest ●	Renewable Energy Projects	●	●	●	○	○	●	●

Table 2.4-Matrix

The City of Deming is committed to flexibility in the Peru Mill Industrial Park, since various uses may be accommodated there over time. The industrial park should be designed for adaptability. Individual uses typically have very different requirements for infrastructure, site layout, building features and amenities.

2.5 Rail

The proposed Peru Mill Industrial Park has the substantial competitive advantage of being served by Southwest Railroad which interchanges with two major Class One railroads. SWRR interchanges with the Burlington Northern & Santa Fe Railroad (BNSF) in Rincon, NM (near Hatch) approximately 50 miles to the northeast and the Union Pacific Railroad (UPRR) in Deming, NM approximately 1 mile to the south.

The SWRR in this area runs from Rincon, NM through Deming and up to the copper mines near Hurley. The SWRR transports unit coal trains from the BNSF interchange in Rincon, NM to the UPRR interchange in Deming.

The advantage of interchanging with both the BNSF and the UPRR cannot be understated. The competition for services between these two large Class One railroads is intense and will lead to favorable and competitive haul rates.

The feasibility of providing rail service to the Peru Mill site has been evaluated. The evaluation included the determination of costs associated with improving rail service to meet minimum design standards. The required improvements are discussed below. Refer to figure 2.5 for a graphical representation.

Required Improvements to the SWRR

The existing mainline track between the west end of the existing switching yard in Deming and the southern boundary of the proposed industrial park will require reconstruction (approximately 2.63 miles). The reconstruction should include the replacement of the existing 90 lb rail with 110 lb rail, re-ballasting, selective tie replacement and the reconstruction of the existing timber bridge. It is estimated that the cost of this reconstruction will be \$1.7 million for the track improvements and \$1.2 million for the bridge replacement. See appendix for breakdown of costs. The total cost of the improvements to SWRR is \$2.9 million.

As an alternate to the using the existing SWRR, the possibility of an additional track beginning at the UPRR yard parallel to the SWRR alignment and continuing north to the Industrial Park has been investigated. The 2.63 mile track extension will require approximately \$2.5 million in new rail and \$1.2 million for a new bridge over the Mimbres River. The total cost for the alternate parallel alignment is estimated to be approximately \$3.7 million.

Required Improvements to the UPRR

UPRR has specific design and construction requirements in order to provide rail service to a new industry location. The existing interchange with SWRR does not meet these requirements. However, UPRR is currently providing low volume service to the existing UPRR/SWRR interchange in Deming. As the number of trains (both unit and manifest) increases within the industrial park, UPRR may require improvements to the interchange facility.

The existing UPRR through Deming is classified as a Restricted Access Mainline Corridor. UPRR minimum design standards require 9,000 lineal feet of siding track, #15 mainline power turnouts at each end of the siding. Currently, there is 7,000 lf of siding and one #15 mainline power turnout. The estimated cost of the additional 2,000 lf of track is \$480,000 and the new # 15 mainline power turnout is \$750,000. The total cost of improvements to the interchange yard is \$1.23 million. Refer to figure 2.6 for graphical depiction of improvement and the appendix for breakdown of unit costs.

2.6 Infrastructure

Water Line Improvements

As discussed in section 1.4, the 12" water line that serves the site is limited to 442 acre feet per year. Wilson and Company has performed an evaluation of the existing system to provide design considerations to provide and maintaining potable water services to the proposed Deming industrial park expansion. At the request of Wilson and Company, the City provided Wilson & Company with a hydraulic model showing the skeleton distribution system for the City and its associated clients.

Within the hydraulic model it shows that the City maintains 3 water storage facilities each with a maximum elevation and volume provided. Given that the model is organized for a steady state analysis, Wilson & Company has assumed that the maximum pressures within the system are limited to the maximum water tank elevations at their respective locations.

The proposed industrial park area is solely serviced by a 12" PVC trunk line that extends from the northwest corner of town to the industrial site. This line traverses approximately 4.57 miles and climbs in elevation from 4,345 ft to an elevation of 4,430 ft. At the end of this run, the line terminates with a storage tank (T-3) and well having a maximum elevation of 4,469 ft. As modeled the current demand loads on this line is 273 gallons per minute (gpm). As modeled, storage tank T-3 is unable to be effectively filled by the pressure being provided by the lower City of Deming distribution system.

Our analysis of the system notes the following:

- There is an elevation difference of 85 ft between tank T-3 and the remainder of the distribution system as connected by the 12" PVC trunk line.
- The downstream static pressure at the bottom of the 12" PVC trunk line is approximately 51 pound per square inch (psi).
- The existing storage volume of T-3 is likely unsuitable for future demand loads that the industrial park will require.
- The existing elevation of T-3 when filled has insufficient volume to maintain water supply at the top of the system in the event of a pump failure or downstream failure of the 12" PVC trunk line.

As shown, the pressure of the 12" trunk line is inversely proportional to the elevation of the terrain as the pipe approaches the industrial area site. Currently, the maximum static elevation achieved by the water in the pipe as distributed by the lower distribution system is 4462.95. Since the base elevation of the 12" trunk line at the storage tank T-3 is 4430, the lower system would only be able to provide an elevation head of 32.95 ft (14.28 psi) at T-3 with no head loss. With a demand load of 273 gpm, an additional head loss of approximately 6 ft is estimated. The graphic below summarizes the analysis of the 12" PVC trunk line.

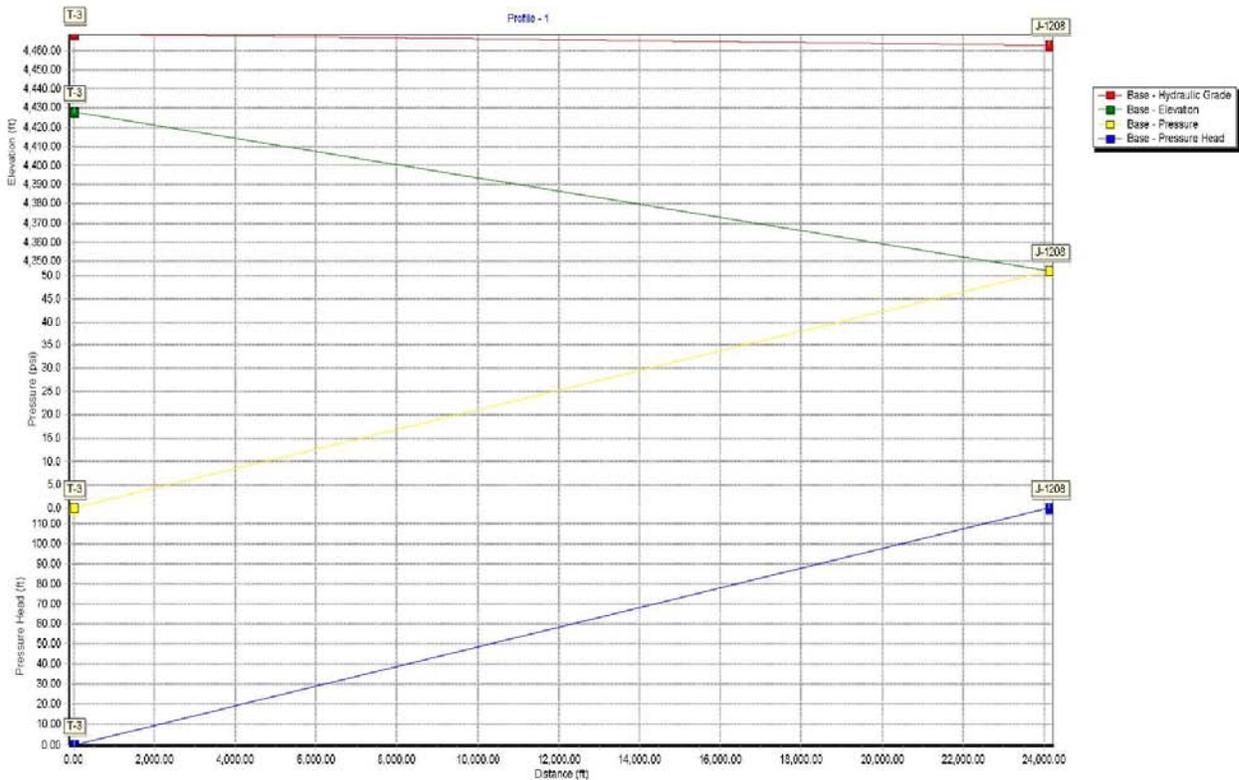


Figure 2.7-Water Pressure Plane

Recommendations:

Since the pressure provided by the lower system is inadequate to provide working pressure at the top of the system near the proposed industrial park area, it will be necessary to provide additional pumping to the 12" PVC trunk line. Additionally it is prudent to anticipate that the water usage in the industrial park area will increase due to operational requirements and fire flow demands. For this reason, additional storage is recommended. Wilson and Company recommends the following configurations:

A booster pump and additional storage tank can be placed near elevation 4415 along the 12" PVC trunk line. The pump will be upstream of the storage tank and will pump its flows directly from the tank to the industrial park site. The proposed storage tank will "float" on system pressure and will have a cut off when it reaches its maximum elevation. The existing T-3 tank will be utilized in its current configuration. This solution will provide pressure to the industrial park, and will provide static pressures downstream of the tank in the event of a pump failure. The tank will buffer pressures during peak demand times and will provide additional fire flow capacity to the industrial park site and lower system. Additionally, since the water is part of the main system, turnover will be rapid and chlorine residuals should be maintainable. (See figure 2.8 for approximate location)

Sanitary Sewer Improvements

The water and wastewater requirements for the industrial park will vary widely depending upon the type of industries allowed or attracted to the park. In order to exemplify the extremes we have chosen two types of industries that typically are found in industrial parks throughout the country.

Warehousing is considered a 'dry' industry and as such has very low water/sewage requirements. Typically a warehouse will require large area dedicated to storage and only toilets/sinks for warehouse workers and drivers.

Warehouse – Typical water/wastewater characteristics

Flow	500-1,000 gallons/day
Water characteristics	normal 'city' water
BOD	350 mg/l
Population equivalent	10-15 persons
Treatment Requirements	Septic tank or small residential package treatment plant
Treatment Capital Cost	\$20,000

Food Processing is considered a "wet" industry utilizing water to process the final product. While portions of the rendering process is kept as dry as possible (in order to minimize water usage), the end process is very water-intensive. Also, the water characteristics are intended to provide highly sterile liquid for the food processing. Thus, City water with normal minimal chlorine residual (1-2 mg/l) would usually require re-chlorination in order to boost the residual for disinfection purposes.

Food Processing – Typical water/wastewater characteristics

Flow	100,000 gallons/day
Water Characteristics	chlorine added to 5-10 mg/l residual
BOD	2,500 mg/l
Population equivalent	10,000 persons
Treatment Requirements	Custom designed package wastewater treatment plant
Treatment Capital Cost	\$800,000

Water supply would likely be from City-supplied water and, other than some individual requirements as described above, would not pose any significant issue. At this time it is assumed that the demand would vary from 500 to 100,000 gallons per day depending on the type of industry attracted.

Wastewater collection and disposal may be an issue to pose serious consideration. The Mimbres River runs directly through or adjacent to the industrial park area. The flow of the Mimbres is reported at 21 cfs average flow, which is a very small creek-type flow rate. Any discharge of wastewater effluent will likely require a high degree of treatment in order to protect the stream. However, there is indeed a watercourse into which an effluent can be discharged. Another alternative would be partial or complete effluent reuse, potentially to be re-used as agricultural or turf irrigation, cooling tower use or other potentially innovative uses. Many wastewater effluents are re-used to irrigate golf courses. Some are used in crop production in lieu of groundwater pumping.

Individual wastewater treatment for each industrial occupant can be effective if the flow and waste characteristics are small and domestic in nature. For a warehouse, use of a small septic tank and leach field may be

appropriate. Day-to-day operations and costs are also more acceptable to an industrial park tenant. However for more water-intensive industries combining the wastewater treatment into a single treatment location is more likely the desired end product. If there is the higher flow that would either discharge to the nearby stream or be reused in some manner, permitting is required either with the USEPA (for a surface water discharge) or NMED (for a groundwater discharge). These facilities also require a licensed, trained operator that would operate and maintain the facilities. Most industrial park tenants are not accustomed to or interested in such staffing requirements, therefore the City of Deming will run the package plants for a fee.

Natural Gas Improvements

The City of Deming is the local provider for natural gas. The site is not currently served by natural gas. Future development will require the construction of a 4" gas line beginning at the regulator station on Maple Street. This will require the construction of 2.72 miles of 4" high pressure (100 psi) gas line and one regulator station. See figure 2.8 for approximate location of the new gas line.

Storm Water Floodplain Modifications

The site generally drains from northwest to southeast. There are currently no stormwater facilities within the boundary of the proposed industrial park. The Mimbres River and Porter Draw FEMA Floodplain bisect the site (see figure 2.9). Both the Mimbres River and Porter draw are characterized as ephemeral streams with 100 year discharges of 17,800 cfs and 8,481 cfs respectively.

The Porter draw floodplain will be modified by re-routing the draw south along the west property line. This floodplain modification will require the preparation of a Conditional Letter of Map Revision (CLOMR) prior to construction of any improvements to the site. Refer to figure 2.9 for approximate location and of the relocated Porter Draw.

2.7 Site Access Improvements

Currently the site can be accessed from Peru Mill Road, Arrowhead Drive and Rifle Range Road (refer to figure 2.10).

Arrowhead Drive Improvements

Arrowhead Drive is an east west road currently serving the Luna Energy Facility. Arrowhead Drive is located approximately 1.9 miles north of Interstate 10 along US Highway 180. Arrowhead Drive is a two lane paved roadway with no shoulders from the intersection of US Highway 180 to the west property line of Luna Energy Facility (approximately .9 miles). From the west property line of the Luna Energy Facility to Peru Mill Road Arrowhead Drive is an unimproved gravel roadway. Arrowhead Drive would enter the industrial park along the east boundary at the approximate middle of the site.

Improvements to Arrowhead Drive would be required in order to provide access to the proposed industrial park. These improvements include continuation of the paved section from the Luna Energy Facility to Peru Mill Road, intersection improvements to US Highway 180 (acceleration and de-acceleration lanes) and the purchase of additional right of way. The proposed typical section for Peru Mill Road and Arrowhead Drive is shown in figure 2.11.

Peru Mill Road

Peru Mill Road begins at 2nd Street approximately 1.2 miles west of US Highway 180 and continues northwest terminating at Rifle Range Road (approximately 4 miles). The roadway is a two lane paved section in very poor condition. Peru Mill Road will require complete reconstruction for the entire 3.9 mile length. The proposed typical section for Peru Mill Road is shown in figure 2.11.

Reconstruction of Peru Mill Road is divided into three sections (see figure 2.10). Section one begins at the intersection of Arrowhead Drive continuing northwest for approximately 0.63 miles. The City of Deming currently uses this termination point to access the City owned well site. In the future this location will serve as one of the primary entrances into the Industrial Park.

The second section of Peru Mill Road improvements begins at Rifle Range Road and continues southeast for 1.3 miles to the terminus of section 1. These improvements will allow convenient access for southbound US 180 traffic to the industrial park.

The third section of Peru Mill Road begins at 2nd Street and continues 2.0 miles northwest to Arrowhead Drive. These improvements will allow convenient access for local traffic to access Interstate 10 via 2nd Street and Peru Mill Road.

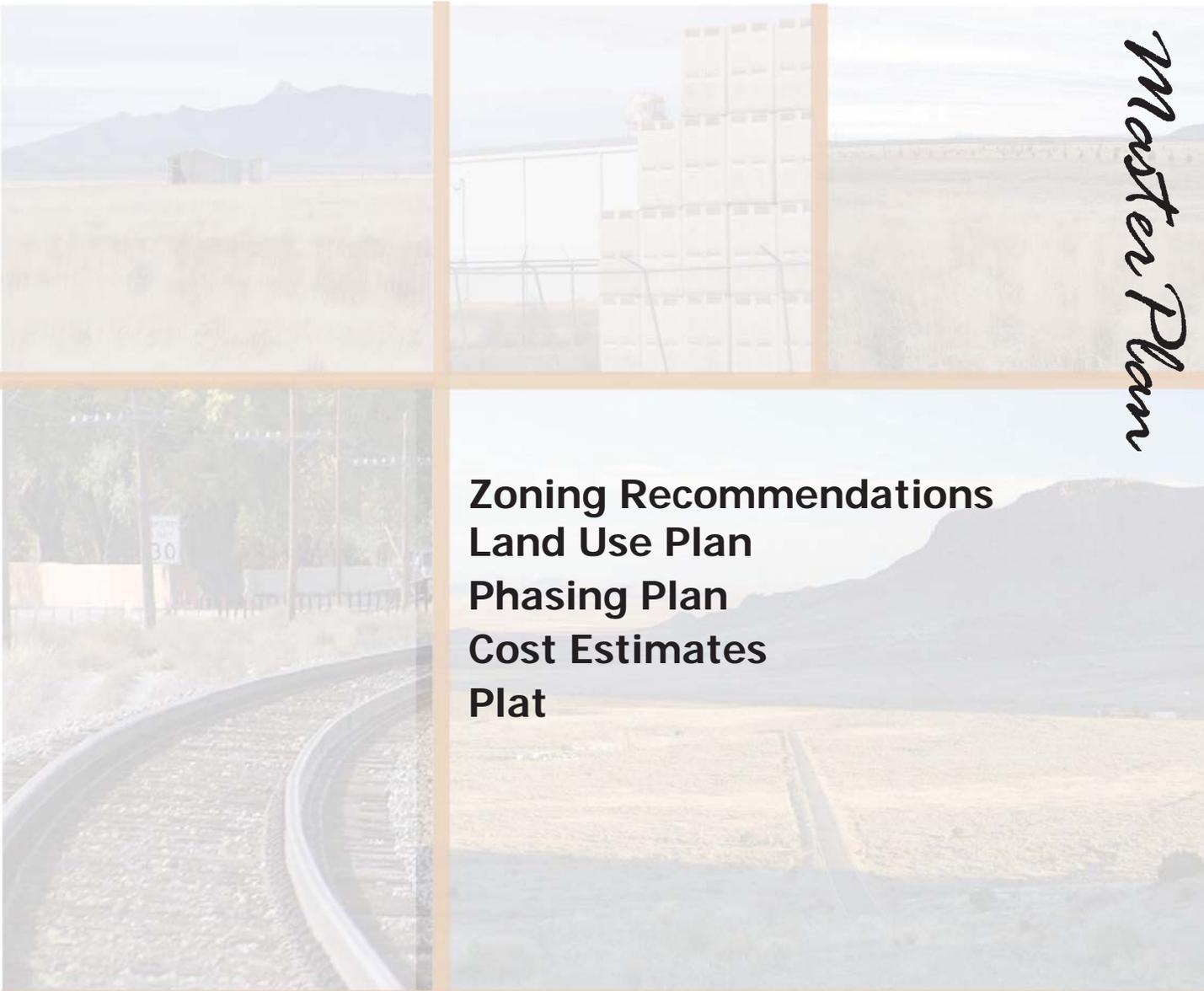
Second Street

Second Street is a two lane urban collector road in fair condition. Second Street from US Highway 180 to 8th Street is a 20 foot paved roadway with 10 foot unpaved shoulders and concrete sidewalks along the south right of way line. From 8th street to Peru Mill Road, 2nd Street is a rural 2-lane 24 foot-wide paved section with minimum shoulders and roadside ditches.

Improvements to 2nd Street include the reconstruction to an urban section with curb and gutter and underground storm sewer from US Highway 180 to Peru Mill Road. The proposed typical section for 2nd Street is shown in Figure 2.11. The improvements to 2nd Street will provide convenient access for local traffic to access the Industrial Park via Peru Mill Road. Given the residential nature 2nd Street it is recommended that large truck traffic be prohibited.

Rifle Range Road

Rifle Range Road is located approximately 4.4 miles north of Interstate 10 along US Highway 180. Rifle Range Road is a 2-lane roadway with minimum shoulders and is in fair to good condition. No improvements to Rifle Range Road are anticipated, however intersection improvements to US 180 will be required as traffic to the Industrial Park increases. These improvements include acceleration and de-acceleration lanes for northbound and southbound traffic. The proposed typical section for future US Highway 180 is shown in figure 2.11.



Master Plan

**Zoning Recommendations
Land Use Plan
Phasing Plan
Cost Estimates
Plat**

Section 3.0 Master Plan

3.1 Zoning Recommendations

The Peru Mill Industrial Park is zoned D Industrial. Land use regulations and development standards pertaining to the Industrial Park are contained in several sections of the City Code of Deming, including the zoning code, subdivision regulations, general regulations and industrial regulations.

The following table reviews current provisions in the City code and makes recommendations for code amendments in order to better guide development in the Industrial Park. The recommendations are intended to help implement the land use plan and plan objectives in this master plan. Whether development occurs in the industrial park during the near future or over many years, clarifying and establishing appropriate zoning and development standards will best serve the City's interests.

Several of the recommendations are procedural and do not affect land use or standards, but rather would improve the review process or better organize code provisions. The most important substantive recommendations are to:

- Create definitions of uses allowed in the zone and accompanying use-specific development standards,
- Review the sign code to assure it is appropriate with regard to size, stability and aesthetics of sign
- Evaluate whether the height limit should be greater in the Industrial Park
- Redraft planned unit development (pud) regulations to apply to the industrial zone, commercial zones, as well as residential zones
- Consider changes to landscaping requirements in the industrial zone that may be less strict in heavy industrial areas, and include screening of storage areas, junk yards and other activities.

Not all zoning code issues can be anticipated prior to development applications. Consequently, it is important to review the City code and consider revisions in response to emerging needs, while keeping consistent with the goals of the master plan and the City's comprehensive plan, which should also be periodically updated.

Review of Deming's City Code Pertaining to Industrial Development

Code Title	Topic	Summary of City of Deming Code Provision	Comments/Recommendations
Zoning	Uses	§12-4M-2 Any building or premises may be used in the D Industrial District for any purpose not in conflict with any provision of this code regulating nuisances, with some exceptions (see next provision).	The current code provides a great deal of flexibility in allowed uses. The land use exhibit shows distinct areas for rail served industrial (light and heavy) and non-rail served industrial. Use tables listing permitted, conditional and prohibited uses would be appropriate. Definitions of uses and possibly use-specific development standards should also be added.

Review of Deming's City Code Pertaining to Industrial Development

Code Title	Topic	Summary of City of Deming Code Provision	Comments/Recommendations
		§12-4M-2 Certain heavy industrial uses listed are only allowed upon approval by the City council.	The City should consider codifying full conditional (or special) use procedures, criteria, and a requirement to make findings that support decisions.
			The City sign code should be reviewed to assure provisions pertaining to signs in this zone are appropriate with regard to their size, stability, and aesthetics.
		No residential uses are allowed in D Industrial District. Ordinance #1197 Title 12-Chapter 4	Per state requirements, residential use in Industrial Parks must be prohibited.
	Height	§12-4M-3 No building shall exceed three (3) stories or 45'.	Height restriction may be too restrictive and should be re-evaluated.
	Area Regulations	§12-4M-4 Area Regulations: Front yard - no setback Side yard - same as B multiple dwelling district (generally no less than 5') Rear yard - 20' Intensity refers to C Commercial District	Recommend stating the side yard dimension rather than referring to the B multiple dwelling district, which then refers to the A single family district. No minimum lot size stated. C- Commercial intensity is not applicable since residential uses are not permitted.
	Planned Unit Development	§12-6-1 PUD standards allow only in residential zones.	PUDs are typically allowed in zoning codes in order to encourage creativity in design and mix of uses. The standards can be negotiated through involvement of many parties in a public process. The usefulness of this planning/platting tool is as great in non-residential as residential development. Recommend that the PUD regulations be redrafted to allow for industrial and probably commercial zones.
Development Standards and Design Guidelines	Landscaping	§12-18-2.C.1 Landscape plans are required for parking lots, street landscape borders, interior landscape borders, and vehicular entrances, describing location, type, size and spacing of all plant materials. Applies to D. Industrial District.	Should landscaping be less intense in heavy industrial areas compared to commercial and light industrial areas? Screening of storage materials, junk yards and possibly other activities through fencing, walls and other means should be considered in at least some areas of industrial park.
		§12-18-2.C.1.b Landscape plan must show areas to be turfed and low water use/drought tolerant planting areas.	Appears to be appropriate references to xeric landscape plant listings. Since the literature and best practices change over time, this should be periodically updated.
		§12-18-2.C.3 Turf areas are generally prohibited in public street medians and boulevards and required interior landscape borders. Industrial developments are specifically cited for this provision.	Appears to be an appropriate water conservation measure.
		§12-18-2.C.5 Parking areas with 25 or more parking spaces shall be landscaped, with a minimum number of trees and landscape islands.	
	Storm water detention/retention	§12-18-2.C.7 A storm water detention/retention pond is required for any new development.	

Review of Deming's City Code Pertaining to Industrial Development

Code Title	Topic	Summary of City of Deming Code Provision	Comments/Recommendations
	Landscaping	§12-18-2.C.8 Maintenance of required landscaping responsibility.	
		§12-18-2.F.1 Minimum landscape area for commercial and industrial development shall be a minimum of 20% of the lot or site area.	20% may be too high for large industrial sites. A sliding scale requirement with standards by zone district may be more appropriate.
		§12-18-2.F.3 Street landscape border must be a minimum width of 10', including deciduous or evergreen shade trees.	
		§12-18-2.F.5 Vehicular entrance standards for commercial or industrial development with a gross floor area of 25,000 s.f. or greater shall have a landscaped median with shade trees.	
Subdivision Regulations		§13-3-2 Streets and roads dimensions are set by road type.	No comments on specific standards. Maximum length of cul de sacs might be appropriate to set, although the length will likely be different in industrial areas than in residential areas.
		§13-3-3 Sidewalks are required.	
		§13-3-6 Drainage study and plan are required.	
		§13-3-7 Streetlights are required.	
General Provisions		§13-4 Various provisions are addressed regarding setback lines, dedications of streets, sewer facilities, water supply, and procedural matters (e.g., subdivision applications and variances)	
	Utilities Easements	§13-4-1B Utility easements shall be a minimum of 10'.	
Industrial Regulations	Purchase of land from City and issuance of revenue bonds	§14 Acquisition of industrial projects from the City for sale or lease must follow various terms, including the provision of a favorable feasibility study and report, a market survey and analysis, and a firm commitment from a recognized established financial source for the purchase of any bonds to be issued.	Related to this topic but not codified, the City should require reversion clauses so that phasing of the industrial park development can proceed in an orderly way, and assure that lots can be reassembled if a speculative buyer is unable to develop the property in a reasonable period of time.

Source: Deming, New Mexico City Code last updated by 1190 passed July 13, 2009, Sterling Codifiers, Inc. web version.

Table 3.1 City of Deming Code

3.2 Land Use Plan

Generalized land use areas are designated on the Land Use Plan map Figure 3.1 to provide guidance on basic use types envisioned in the Industrial Park. Following are brief narrative descriptions of these areas.

A – Non-Rail Served Light Industrial: This area is located in the northeast portion of the site, east of Peru Mill Road. This area is less easily served by a rail spur, requiring addition at grade rail crossing with Peru Mill Road.

B- Non-Rail Served Industrial: Located mainly on the north side of Arrowhead Road, this area is the entrance to the industrial park. Planned unit developments and other development approaches are encouraged in this area to achieve a mix of compatible industrial and flex spaces for industrial uses, associated office space or limited sales.

C – Rail Served Industrial: This main area of the Industrial Park offers the largest contiguous area. Concepts for varied user types are included in the appendix. This large area of land is suited for rail loop service and the addition of storage and ladder tracks.

CG – Recovered Flood Plain: This area should be added to C and possess the same character as C once Porter Draw has been relocated and the floodplain modified.

D – Rail Served Industrial: This area south of the Mimbres River is also suitable for rail-served industrial uses.

E – Non-Rail Served Industrial: This small triangular shaped area is west of the rail tracks. It would be difficult to provide rail service to the site as currently configured.

F – Rail Served Industrial: This area south of the Mimbres River also can be readily served from rail through the site, and should be available for industrial development. It is the portion of the Industrial Park farthest from Arrowhead Drive. Any significant truck traffic should be directed to access this site from Arrowhead Drive.

G – Existing Flood Plain Zone A: The Mimbres River flood plain, traversing mainly east-west along the southern portion of the Industrial Park, will remain undeveloped.

H – Proposed Diversion Channel: The diversion channel on the western boundary of the property will be used for the conveyance of storm water into the Mimbres River.

3.3 Phasing Plan

The first phase in the development of the Peru Mill Master Plan is the acceptance and implementation of the Land Use Plan as needed for development. The Land Use Plan outlined in section 3.2 and depicted in figure 3.1 provides a framework for development. The land use types described in generalities to allow for maximum flexibility in the development of the Industrial Park.

The next most critical aspect in the development of the site is to provide direct access to the site via Arrowhead Drive. This would include the construction of approximately 1.7 miles of roadway.

Simultaneously with the roadway improvements to Arrowhead Drive the floodplain modifications to Porter Draw and the Mimbres River should be pursued. The floodplain modifications will require the preparation of a United States Army Corps of Engineers 404 Individual Permit. In addition, the modifications will require a Conditional Letter of Map Revision to allow construction within the area designated as CG on the Land Use Plan (figure 3.1).

As development occurs the demand for potable water will increase beyond the capacity of the Peru Mill Well site limited to 442 acre feet per year. Improvements to the water supply system would be required including the construction of a 2-million gallon storage tank and pumping system.

The construction of a natural gas line to serve the development may be required depending on the users that occupy the Industrial Park. The City of Deming is the local provider for natural gas.

The site is currently served by the Southwest Railroad. The track is in fair to poor condition. As rail traffic increases to the site it will be necessary to improve the existing rail line including the upgrading of the rail to 110 lb rail and the replacement of the existing timber structure.

3.4 Cost Estimates

Cost Estimates have been developed for the improvements identified in the preceding study section. These cost estimates are preliminary and are based on estimated quantities without the benefit of full design. As full design requirements are disclosed the cost estimates will be updated to reflect the requirements of the Industrial Park Tenants.

Table 3.2 is a summary of costs for the improvements to the Southwest Railroad.

PRELIMINARY COST ESTIMATE					
Peru Mill Industrial Park-Railroad Improvements					
CONSTRUCTION COST ESTIMATE			4/27/2010 WCI REF#: 09-600-201		
ITEM	DESCRIPTION	UNIT	QUANTITY	PRICE	TOTAL
Union Pacific Siding Extension (.663 mi)					
1	136 lb Rail Siding (includes ballast, ties, anchors and grading)	LF	3,500.00	\$ 200.00	\$ 700,000.00
2	#9 Turnout	EA	1.00	\$ 150,000.00	\$ 150,000.00
3	#15 Turnout Central Traffic Control	EA	1.00	\$ 750,000.00	\$ 750,000.00
4					\$ -
	SUBTOTAL				\$ 1,600,000.00
	CONTINGENCIES-20%				\$ 320,000.00
	TOTAL-UP Siding				\$ 1,920,000.00
Upgrade Existing Southwest Railroad (2.63 mi)					
6	110 lb Rail Spur (includes ballast, ties, anchors and grading)	LF	13,865.00	\$ 100.00	\$ 1,386,500.00
7	Bridge Replacement	LF	200.00	\$ 5,000.00	\$ 1,000,000.00
8					\$ -
	SUBTOTAL				\$ 2,386,500.00
	CONTINGENCIES-20%				\$ 477,300.00
	TOTAL-Upgrade Southwest Railroad				\$ 2,863,800.00
Optional Parallel Rail Spur (2.63 mi)					
11	110 lb Rail Spur (includes ballast, ties, anchors and grading)	LF	13,865.00	\$ 150.00	\$ 2,079,750.00
12	Bridge Construction	LF	200.00	\$ 5,000.00	\$ 1,000,000.00
13					\$ -
	SUBTOTAL				\$ 3,079,750.00
	CONTINGENCIES-20%				\$ 615,950.00
	TOTAL-Option Parallel Rail Spur				\$ 3,695,700.00
	TOTAL BID ITEMS				\$ 6,950,150.00
	TOTAL CONTINGENCIES				\$ 1,390,030.00
	TOTAL				\$ 8,340,180.00

Table 3.2 Cost Estimate Rail Improvement

Table 3.3 is a summary of cost to provide infrastructure improvements for Potable Water, Natural Gas Service and On-Site Sanitary Sewer (Package Plants).

PRELIMINARY COST ESTIMATE Peru Mill Industrial Park-Utility Improvements CONSTRUCTION COST ESTIMATE 4/27/2010 WCI REF#: 09-600-201					
ITEM	DESCRIPTION	UNIT	QUANTITY	PRICE	TOTAL
Water Line Improvements					
1	2-Million Gallon Storage Tank	GAL	1,000,000.00	\$ 1.10	\$ 1,100,000.00
2	500 gpm Pumps and House	EA	4.00	\$ 200,000.00	\$ 800,000.00
3					\$ -
4					\$ -
	SUBTOTAL				\$ 1,900,000.00
	CONTINGENCIES-20%				\$ 380,000.00
	TOTAL-Water Line Improvements				\$ 2,280,000.00
					\$ -
4" Gas Line					
5	4" High Pressure Gas Line	LF	14,370.00	\$ 20.00	\$ 287,400.00
6	2-Regulator Stations	EA	2.00	\$ 30,000.00	\$ 60,000.00
7					\$ -
8					\$ -
	SUBTOTAL				\$ 347,400.00
	CONTINGENCIES-20%				\$ 69,480.00
	TOTAL-Gas Line Improvements				\$ 416,880.00
Sanitary Sewer Packaging Plants					
9	Packaging Plant-Low Water Demand-Warehouse	EA	2.00	\$ 20,000.00	\$ 40,000.00
10					\$ -
11					\$ -
	SUBTOTAL				\$ 40,000.00
	CONTINGENCIES-20%				\$ 8,000.00
	TOTAL-Sewer Packaging Plant Improvements				\$ 48,000.00
	TOTAL BID ITEMS				\$ 2,287,400.00
	TOTAL CONTINGENCIES				\$ 457,480.00
	TOTAL				\$ 2,744,880.00

Table 3.3 Cost Estimate-Infrastructure Improvements

Table 3.4 is a summary of cost to construct the floodplain diversion dike for Porter Draw

PRELIMINARY COST ESTIMATE					
Peru Mill Industrial Park-Floodplain					
CONSTRUCTION COST ESTIMATE			4/27/2010		
			WCI REF#: 09-600-201		
ITEM	DESCRIPTION	UNIT	QUANTITY	PRICE	TOTAL
Diversion Channel (5 ft Levee)					
1	Embankment	CYD	84,000.00	\$ 2.50	\$ 210,000.00
2	Excavation	CYD	66,000.00	\$ 2.50	\$ 165,000.00
3	Pilot Channel	SYD	2,600.00	\$ 35.00	\$ 91,000.00
4	Diversion Structure	EA	1.00	\$ 150,000.00	\$ 150,000.00
5					\$ -
	SUBTOTAL				\$ 616,000.00
	CONTINGENCIES-20%				\$ 123,200.00
	TOTAL-UP Siding				\$ 739,200.00
Diversion Channel (10 ft Levee)					
6	Embankment	CYD	65,750.00	\$ 2.50	\$ 164,375.00
7	Excavation	CYD	174,900.00	\$ 2.50	\$ 437,250.00
8	Pilot Channel	SYD	2,600.00	\$ 35.00	\$ 91,000.00
9	Diversion Structure	EA	1.00	\$ 150,000.00	\$ 150,000.00
10					\$ -
	SUBTOTAL				\$ 842,625.00
	CONTINGENCIES-20%				\$ 168,525.00
	TOTAL-UP Siding				\$ 1,011,150.00

Table 3.4 Cost Estimate-Porter Draw Floodplain

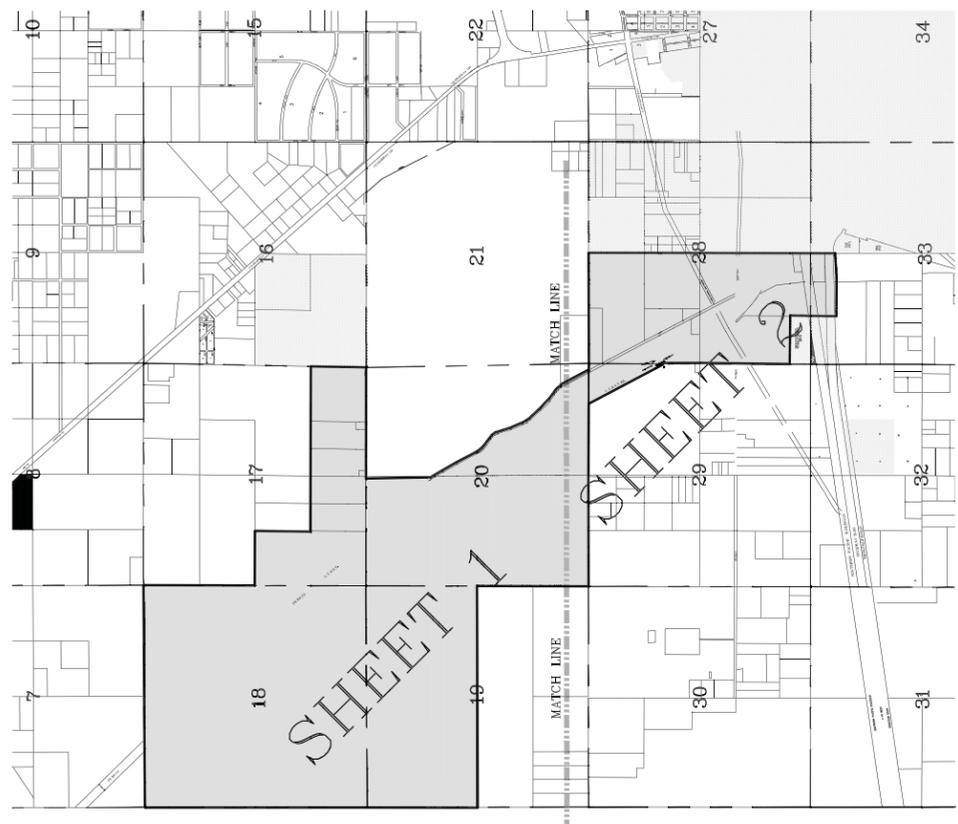
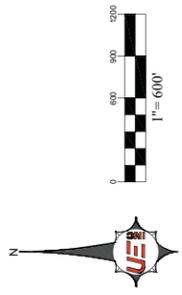
Table 3.5 is a summary of costs for roadway improvements to US Highway 180, Arrowhead Drive, Peru Mill Road and Second Street

PRELIMINARY COST ESTIMATE					
Peru Mill Industrial Park-Roadway Improvements					
CONSTRUCTION COST ESTIMATE			4/27/2010 WCI REF#: 09-600-201		
ITEM	DESCRIPTION	UNIT	QUANTITY	PRICE	TOTAL
Arrowhead Drive Imp. Peru Mill to US 180 (1.7 miles)					
1	EXCAVATION	CY	7,998.22	\$ 2.50	\$ 19,995.56
2	EMBANKMENT	CY	15,996.44	\$ 2.50	\$ 39,991.11
3	6" CRUSHED AGGREGATE BASE	CY	3,999.11	\$ 18.00	\$ 71,984.00
4	6" ASPHALT BASE COURSE	TN	8,098.20	\$ 110.00	\$ 890,802.00
5	2" ASPHALT SURFACE COURSE	TN	2,699.40	\$ 115.00	\$ 310,431.00
	SUBTOTAL				\$ 1,333,203.67
	CONTINGENCIES-20%				\$ 266,640.73
	TOTAL-Arrowhead Drive				\$ 1,599,844.40
US Highway 180 Improvements @ Arrowhead Drive (0.90 mi)					
6	EXCAVATION	CY	3,861.59	\$ 2.50	\$ 9,653.98
7	EMBANKMENT	CY	7,723.19	\$ 2.50	\$ 19,307.96
8	6" CRUSHED AGGREGATE BASE	CY	4,558.19	\$ 18.00	\$ 82,047.33
9	6" ASPHALT BASE COURSE	TN	7,819.73	\$ 110.00	\$ 860,169.75
10	2" ASPHALT SURFACE COURSE	TN	3,076.78	\$ 115.00	\$ 353,829.13
	SUBTOTAL				\$ 1,325,008.15
	CONTINGENCIES-20%				\$ 265,001.63
	TOTAL-SH 180 Improvements Arrowhead Drive				\$ 1,590,009.78
US Highway 180 Improvements @ Rifle Range Road (0.90 mi)					
11	EXCAVATION	CY	3,861.59	\$ 2.50	\$ 9,653.98
12	EMBANKMENT	CY	7,723.19	\$ 2.50	\$ 19,307.96
13	6" CRUSHED AGGREGATE BASE	CY	4,558.19	\$ 18.00	\$ 82,047.33
14	6" ASPHALT BASE COURSE	TN	7,819.73	\$ 110.00	\$ 860,169.75
15	2" ASPHALT SURFACE COURSE	TN	3,076.78	\$ 115.00	\$ 353,829.13
	SUBTOTAL				\$ 1,325,008.15
	CONTINGENCIES-20%				\$ 265,001.63
	TOTAL-US 180 Improvements @ Rifle Range Road				\$ 1,590,009.78
Peru Mill Road North,-Arrowhead to Well Site (0.63 mi)					
	EXCAVATION	CY	2,933	\$ 2.50	\$ 7,333.33
	EMBANKMENT	CY	5,867	\$ 2.50	\$ 14,666.67
	6" CRUSHED AGGREGATE BASE	CY	1,467	\$ 18.00	\$ 26,400.00
	6" ASPHALT BASE COURSE	TN	2,970	\$ 110.00	\$ 326,700.00
	2" ASPHALT SURFACE COURSE	TN	990	\$ 115.00	\$ 113,850.00
	SUBTOTAL				\$ 488,950.00
	CONTINGENCIES-20%				\$ 97,790.00
	TOTAL- Peru Mill Road North				\$ 586,740.00
Peru Mill Road Well Site to Rifle Range Road (1.32 mi)					
16	EXCAVATION	CY	6,216.00	\$ 2.50	\$ 15,540.00
17	EMBANKMENT	CY	12,432.00	\$ 2.50	\$ 31,080.00
18	6" CRUSHED AGGREGATE BASE	CY	3,108.00	\$ 18.00	\$ 55,944.00
19	6" ASPHALT BASE COURSE	TN	6,293.70	\$ 110.00	\$ 692,307.00
20	2" ASPHALT SURFACE COURSE	TN	2,097.90	\$ 115.00	\$ 241,258.50
	SUBTOTAL				\$ 1,036,129.50
	CONTINGENCIES-20%				\$ 207,225.90
	TOTAL- Peru Mill Road North				\$ 1,243,355.40

3.5 Plat

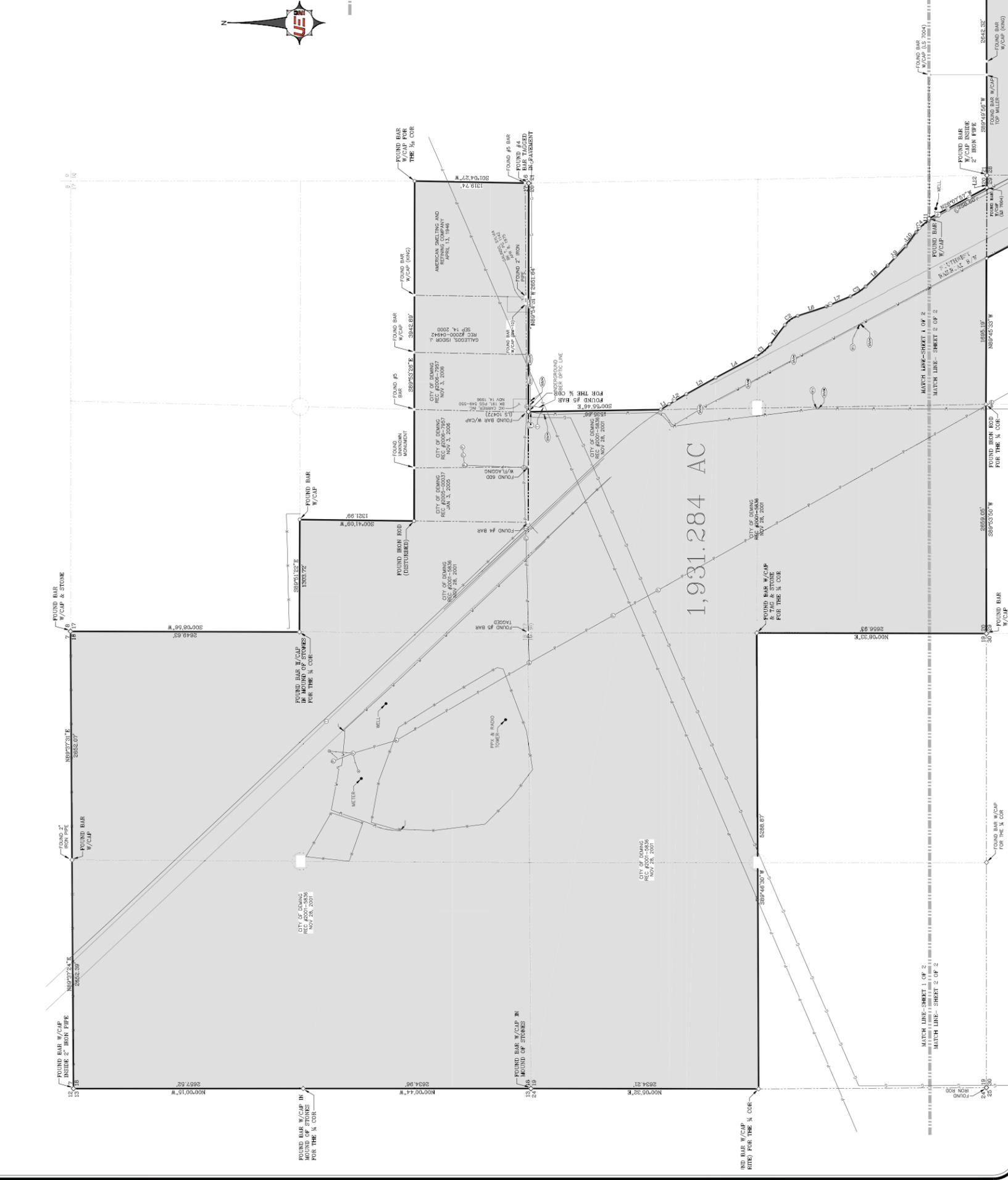
Figure 3.2

PLAT OF BOUNDARY SURVEY FOR THE
PERU MILL INDUSTRIAL PARK MASTER PLAN
 A 1931.28± ACRE ANNEXATION FOR INDUSTRIAL LAND USE
 LOCATED WITHIN ALL OR PART OF SECTIONS 17, 18, 19, 20, 28, 29, & 33, ALL IN T23S, R9W
 NORTH OF THE CITY OF DEMING, LUNA COUNTY, NEW MEXICO
 SCALE: 1"=600' MARCH 18, 2010



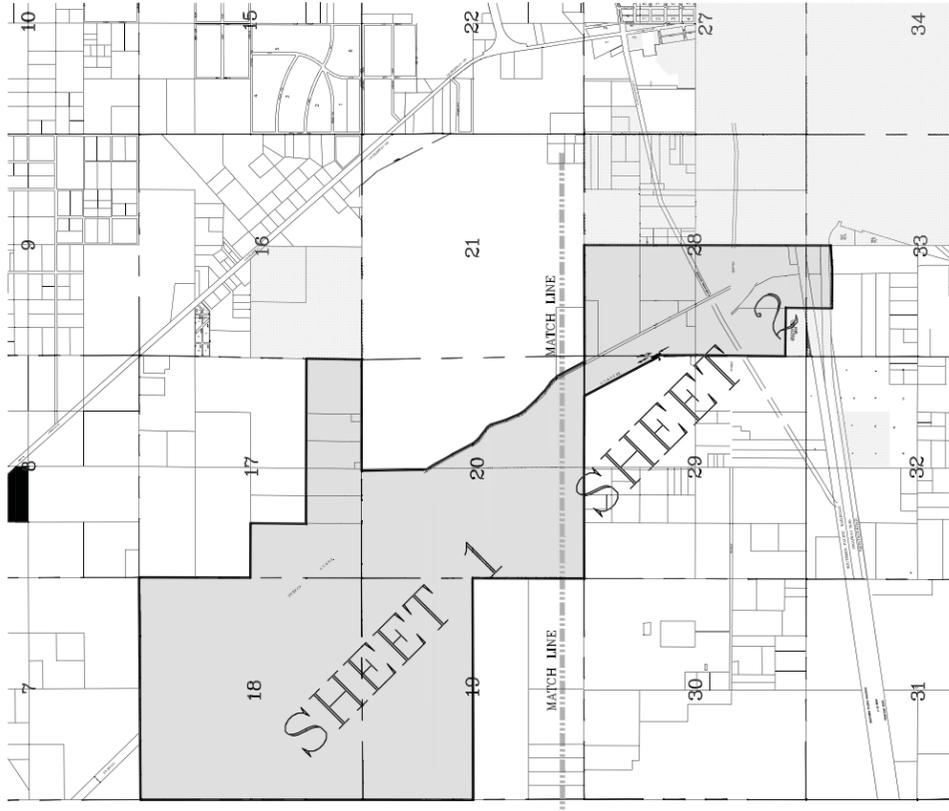
LEGEND

- SECTION CORNER MONUMENT AS NOTED
- SECTION & CORNER MONUMENT AS NOTED
- FOUND MONUMENT, AS NOTED
- SECTION MONUMENT, LACK OF CORNER, SET TO IRON ROD W/CAP W/CP, UNLESS OTHERWISE NOTED
- EXIST FENCE LINE
- EXIST AIRBORNE POWER LINE & POWER POLE & OUTLINE & ANCHOR
- EXIST UTILITY SERVICE POLE
- EXIST UNDERGROUND 'PERF' LINE
- EXIST UNDERGROUND FIBER OPTIC LINE
- EXIST WATER LINE
- EXIST GAS LINE
- EXIST TELEPHONE LINE
- EXIST WATER VALVE
- EXIST WATER MANHOLE
- EXIST FIRE HYDRANT
- EXIST WATER TEE
- EXIST TELEPHONE RISER

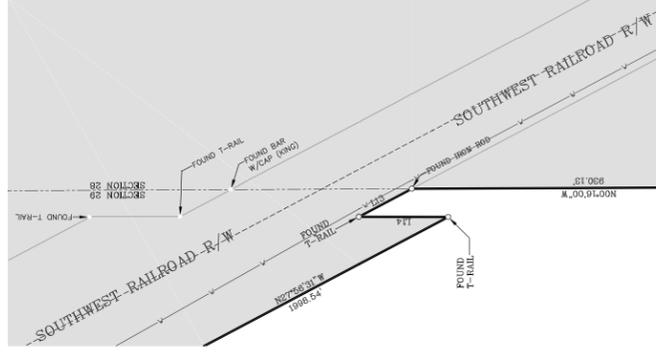
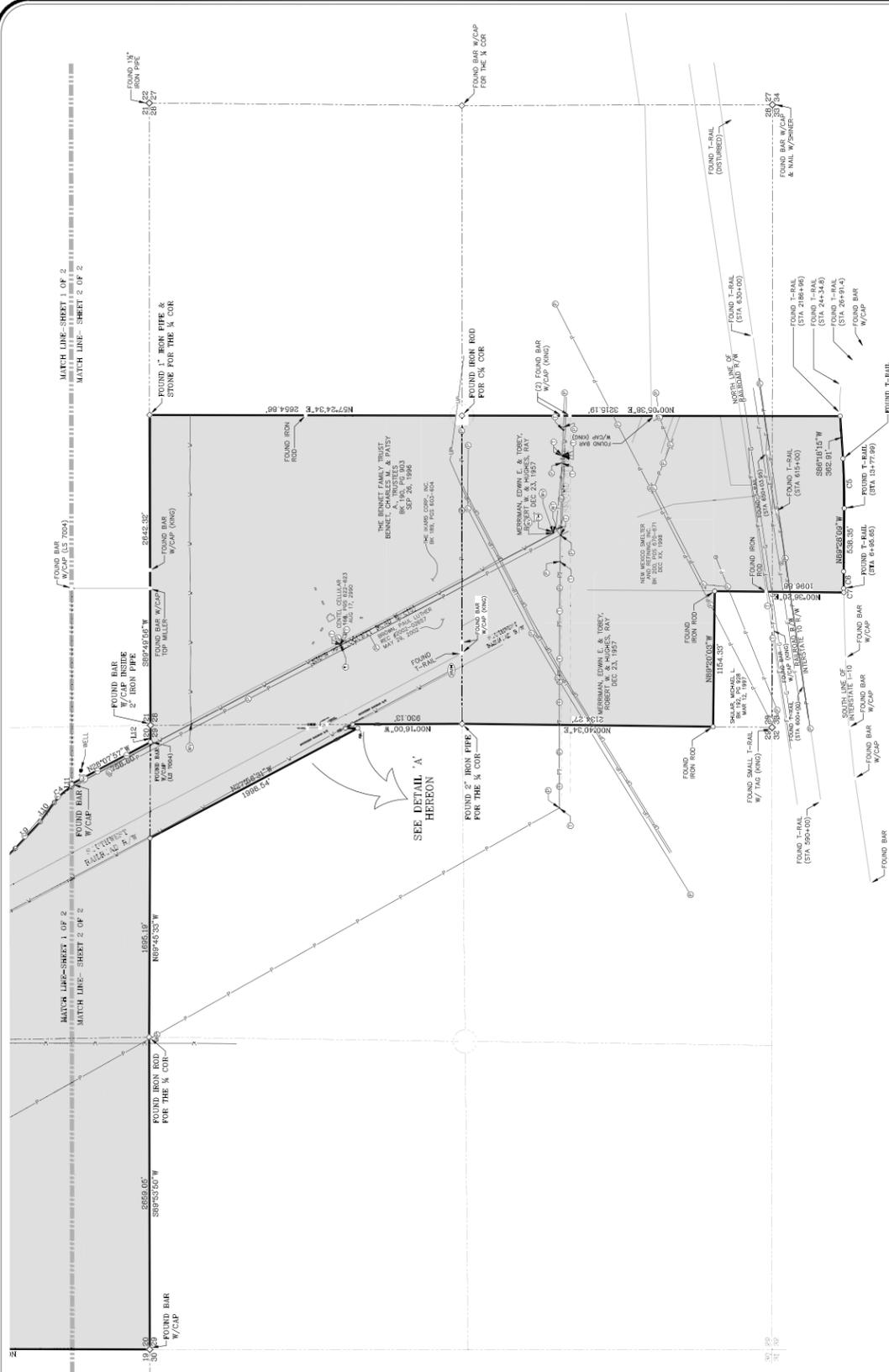


UNDERWOOD ENGINEERING
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 PROJECT NO.: 0920

PLAT OF BOUNDARY SURVEY FOR THE
PERU MILL INDUSTRIAL PARK MASTER PLAN
 A 1931.28± ACRE ANNEXATION FOR INDUSTRIAL LAND USE
 LOCATED WITHIN ALL OR PART OF SECTIONS 17, 18, 19, 20, 28, 29, & 33, ALL IN T23S, R9W
 NORTH OF THE CITY OF DEMING, LUNA COUNTY, NEW MEXICO
 SCALE: 1"=600' MARCH 18, 2010



VICINITY MAP



DETAIL 'A'
1"=100'

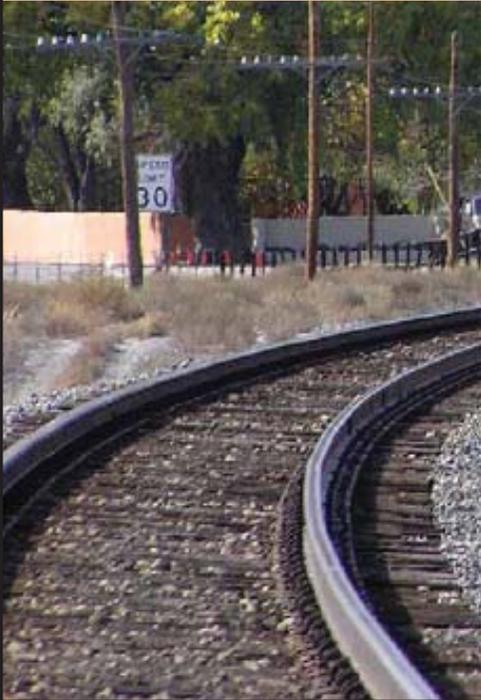
LEGEND

- SECTION & CORNER MONUMENT AS NOTED
- FOUND MONUMENT, AS NOTED
- SURVEY BOUNDARY LINES & CORNER, SET AS IRON ROD W/ ALLM CAP UNLESS OTHERWISE NOTED
- EXIST FENCE LINE
- EXIST OVERHEAD POWER LINE & POWER POLE & GUY WIRE & ANCHOR
- EXIST UTILITY SERVICE POLE
- EXIST UNDERGROUND PEBER/RY LINE
- EXIST UNDERGROUND FIBER OPTIC LINE
- EXIST WATER LINE
- EXIST GAS LINE
- EXIST TELEPHONE LINE
- EXIST WATER VALVE
- EXIST WATER MANHOLE
- EXIST FIRE HYDRANT
- EXIST WATER TEE
- EXIST TELEPHONE RISER



CURVE TABLE

CURVE	DELTA	RADIUS	CHORD	LENGTH	BEARING	CHORD BEARING
L1	33.1524	496.17	324.50	114.45	114.45	114.45
L2	33.1524	496.17	324.50	114.45	114.45	114.45
L3	33.1524	496.17	324.50	114.45	114.45	114.45
L4	33.1524	496.17	324.50	114.45	114.45	114.45
L5	33.1524	496.17	324.50	114.45	114.45	114.45
L6	33.1524	496.17	324.50	114.45	114.45	114.45
L7	33.1524	496.17	324.50	114.45	114.45	114.45
L8	33.1524	496.17	324.50	114.45	114.45	114.45
L9	33.1524	496.17	324.50	114.45	114.45	114.45
L10	33.1524	496.17	324.50	114.45	114.45	114.45
L11	33.1524	496.17	324.50	114.45	114.45	114.45
L12	33.1524	496.17	324.50	114.45	114.45	114.45
L13	33.1524	496.17	324.50	114.45	114.45	114.45



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ENGINEERS & ARCHITECTS

in association with

