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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS

SPECIAL REPORT ON

X - Y RANCH, COLORADO

WATER UTILIZATION PLANNING SERVICE
DENVER, COLORADO

April 1942

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS

SPECIAL REPORT

ON

X-Y RANCH

COLORADO

FOR THE

WAR RELOCATION AUTHORITY

BY

WATER UTILIZATION PLANNING SERVICE
DENVER, COLORADO

April 1942

Summary and Recommendation

1. This proposed area is a block of 4,668 acres in one ownership that can be acquired immediately.
2. The land has been improved considerably and in addition to the 2,500 acres now irrigated about 1,500 acres can be irrigated in a very short time at relatively small expense.
3. Only about 10 families would be displaced.
4. The climatic and soil conditions are good for both living and successful crop production.
5. The area is not near any large population centers or any known war industries.
6. Public facilities - railroad, highway, telephone, power and fuel -- are readily accessible.
7. Domestic and irrigation water can be provided with a minimum of time and expense.
8. It is recommended that this area be given consideration as an evacuee Reception Center.

A REPORT TO THE WAR RELOCATION AUTHORITY
UPON THE FEASIBILITY OF THE X-Y RANCH, COLORADO
AS A SITE FOR EVACUEE RESETTLEMENT

Authorization

The War Relocation Authority solicited the aid of the Water Utilization Planning Service of the Bureau of Agricultural Economics in making field investigations and reporting such findings which would assist the Authority in selecting areas suitable for the establishment of evacuee Reception Centers.

Purpose and Scope

The purpose of this report is to present certain data and analyses which will assist the War Relocation Authority in selecting an area for the location of an evacuee Reception Center.

The scope of the report is limited to a generalized description of the characteristics of the area, both physical and economic, adjustments which appear will be necessary in the establishment of an evacuee Reception Center, and a statement concerning the post-war value of the project.

Characteristics of the Area Proposed for a Reception Center

Name, Location and Size

The X-Y Ranch is located near Holly, in Prowers County in southeastern Colorado. The elevation of the Ranch is approximately 3,400 feet. It is in the valley of the Arkansas River on the south side of the river. The general location of the area is shown on Map 1.

The block of land under consideration contains 4,668 acres which is in one ownership. (See Map 2)

Improvements

The X-Y Ranch land has been improved considerably. About 2,500 acres have been irrigated and therefore have been leveled and provided with the necessary canals, laterals, etc. The main canal can be used to bring an additional 1,500 acres under irrigation, but it is probable that field laterals will have to be constructed for this purpose.

At the Ranch headquarters, at Barton, there are four houses: a seven room, one and one-half story, frame house; a five room stucco house; a four room frame house; and a two room stucco house. Other improvements include: a five car garage; a barn 48 x 150 feet; numerous other buildings; feeding corrals; granaries, etc.; and a farm lighting plant. At the Ranch house there is a 250 foot well with windmill and elevated storage tank,

and there are nine other wells pumped by windmills scattered over the Ranch. Four of these wells have 250 gallon galvanized iron storage tanks. There are about 50 miles of 3 and 4 wire fences, and about three miles of woven wire fence.

Problems of Acquiring Control

This land is one ownership but an option for purchase of this tract is held by a Mr. Jenkins who is willing to transfer the option to the Federal Government immediately. The option price on the X-Y Ranch is $144,500 for all land, water rights pertaining to the land, fences, buildings and other improvements except machinery. This is an average of about $31.00 per acre for the 4,668 acres.

Public Reaction

The attitude of the Governor of Colorado and other State Officials toward the relocation of evacuees in the State of Colorado is favorable. The possibility of a relocation center has been discussed with many individuals in the vicinity of this area and their attitude is generally favorable.

Present Status of the Land

There are about 1,600 acres of the 2,500 acres of irrigated land now in cultivation. Compensation for the planted acreage has been provided for in the option.

The owner operates the land. He employs labor to assist him in the operation of the Ranch, and these persons would be displaced

if the land were purchased by the Federal Government. The exact number of employees at present is unknown, but is reported to be less than ten persons.

Nearby Population Centers

Holly, Colorado, (population 864) is about six miles east of the area; Lamar, Colorado, (population 4,445) is about 20 miles west of the area; Las Animas, Colorado, (population 3,232) is about 57 miles west of the area; and La Junta, Colorado, (population 7,040) is about 77 miles west of the area. These are the only towns of any size that are near the Ranch.

Transportation Facilities

The main line of the Santa Fe Railroad skirts the Ranch and there is a siding at the Ranch headquarters with livestock shipping pens, sugar beet dump, and other loading facilities available. U. S. Highway No. 50 traverses the ranch east and west.

Power

The main power line from the municipal power plant at Lamar, Colorado, to Holly, Colorado, passes through the Ranch. The unused capacity of the plant and of this line is unknown.

Telephone Service

The main toll and exchange line of the Mountain States Telephone and Telegraph Company extends east and west through the Ranch.

Climate

The growing season at this location averages about 165 days. The average annual precipitation is 15.0 inches of which 12.0 inches occurs during the growing season. The average annual temperature is 54.0° F. with an average daily maximum during June through August of 91° F. and an average daily minimum during December through February of 25° F. The average annual snowfall is about 14.0 inches.

Agricultural Land Use

A large portion of the soil is a very productive silt loam. The Bureau of Chemistry and Soils reports that the natural drainage of most of the soil is good, and that little alkali is present. They also report that the clay loam portion of the area should be productive if drained. Since their report the Granada Drainage District has been organized and the area has been provided with drainage ditches. The land near the river is a silty clay loam that produces good yields of sugar beets, alfalfa, corn, cauliflower, and other crops.

At present there are about 800 acres of wheat, about 600 acres of barley and 200 acres of alfalfa planted in the area. The wheat will be harvested by about the first of July and the barley by about the middle of July. The area is adapted to many other crops which are successfully grown in other parts of the Arkansas Valley with similar soil, moisture, and climatic conditions. Sugar beets, cantaloupes, beans, onions, other truck crops, small grains and hay yield well under irrigation in this area.

Water Supply

Ground water is available over practically all of the Ranch at depths of about 30 feet. The ground water occurs in alluvial gravels and is replenished, to a large extent, by surface discharge of the Arkansas River and rainfall. The permeability of the alluvial gravels is high and wells in them will yield a large volume of water. This water is rather hard and therefore not too desirable for domestic uses although it can be used for those purposes. Water of good quality is also available in lower strata (Dakota Sandstone) and can be obtained in sufficient quantities for domestic purposes.

Water for irrigation purposes is obtained by gravity diversion of surface flow of the Arkansas River. This water is of good quality for irrigation. At present the X-Y Canal furnishes irrigation water for the X-Y Ranch. This canal has a decree of 69.0 cubic feet per second with a date of appropriation as of July 22, 1889. The Water Commissioners' records for the years 1924 to 1935 show that an average of 2,923 acres have been irrigated from this canal with an average of 7,728 acre-feet of water diverted through the canal. This is a gross system duty of 2.64 acre-feet of water per acre of land. The extremes of water duty were recorded as 1.52 acre-feet per acre in 1931 and 5.47 acre-feet per acre in 1933. The X-Y Ranch owns 127 of the 138 shares of water in the X-Y Ditch.

There are also two pumps which supply water to the irrigation system. In the town of Granada there is a 12 inch centrifugal pump powered by a 25 horsepower natural gas motor which furnishes about 8 cubic feet per second of water. The other pump is located at the junction of the drainage ditches, from which it receives its supply. This pump delivers about 6 cubic feet per second of water.

Opportunities for Work Off the Project

The Arkansas Valley is a highly developed agricultural area where many specialty crops that require a large amount of labor are grown. There are sugar beets, cantaloupes, melons, onions, tomatoes, etc., grown on a commercial scale, in addition to other crops, that require hand labor. Since a large amount of labor has been absorbed by the war effort, the shortage of local labor is serious and will probably become acute in the immediate future. This will open a large field for the application of the manpower of the evacuee Center. Very little opportunity for industrial work will be available in this area since it is not within a reasonable distance of industries of any size.

Sewage Disposal

Disposal of sewage should present no particular problem since the Arkansas River is adjacent to the area. No sewage disposal system is available at present.

Fuel

There is a natural gas line within one quarter of a mile of the west end of the Ranch. This is a branch of the main line that goes from Hugoton, Kansas to Lamar, Colorado. Several of the southeastern Colorado towns are served by this line. The operating company is the Colorado Gas and Utilities Company. The size of the line and the additional capacity that it could carry are unknown.

Preparing Area for Reception Center

Preparing Land for Irrigation

The 2,500 acres that are now in cultivation are already prepared for irrigation and supplied with the necessary canals and laterals. Very little work would be required to bring the additional 1,500 acres of irrigable land into production. Only a small amount of clearing and leveling would be required and the laterals would have to be provided. It is estimated that this work could be done for about $10 an acre.

It will be necessary to clean and repair the main canal for practically its entire length. This will not require a great amount of work except on the upper 2½ miles. This portion of the ditch is now (April 25, 1942) under flood water from the Arkansas River, and it is expected that considerable damage will result in this portion of the canal.

Improvement of Transportation Facilities

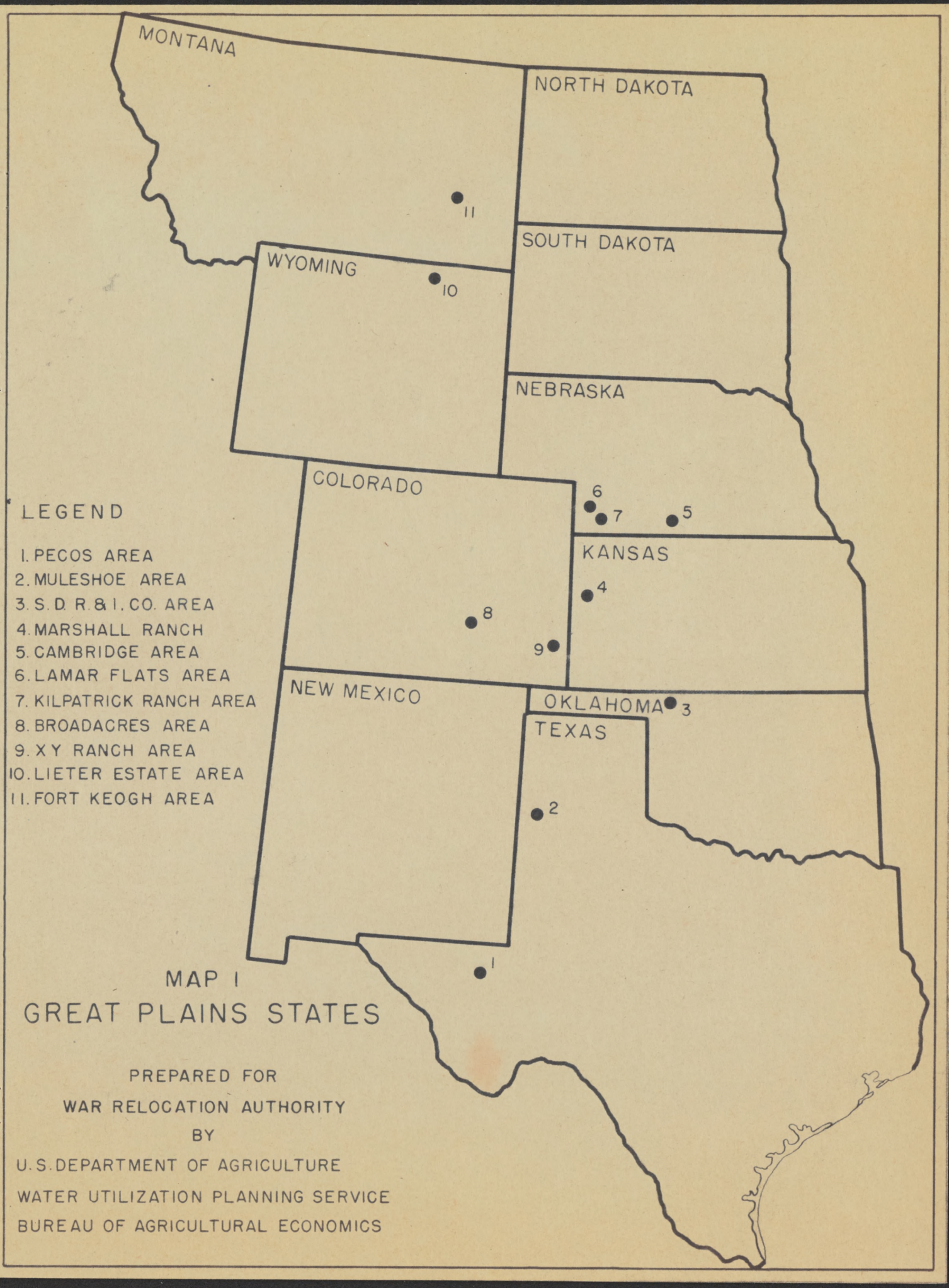
The railroad and major highways should be satisfactory for the purpose of the Reception Center. The county roads are not graveled and may have to be improved to satisfy the requirements.

Introduction or Improvement of Public Utilities

It is expected that the public utilities required for a Reception Center can probably be met without any major changes. It is known that they are available on the proposed tract, but the unused capacity is unknown.

Post War Value of Project

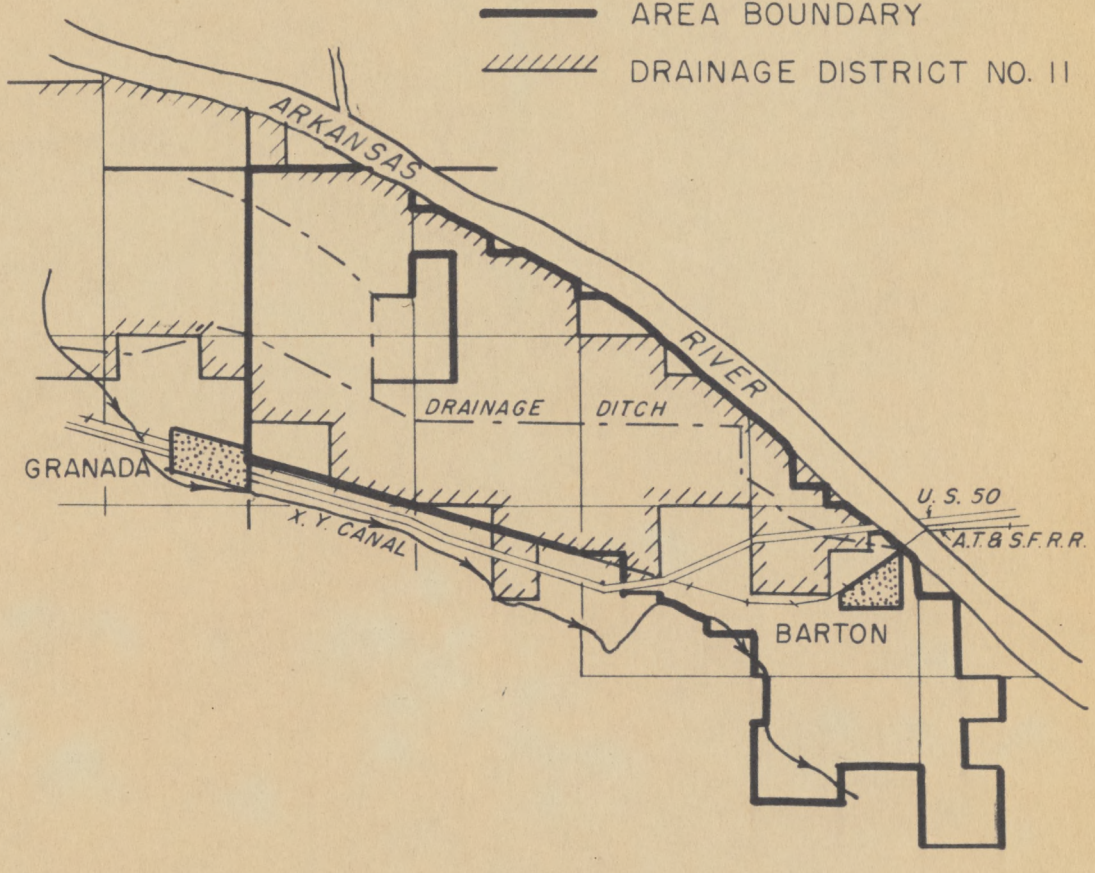
If the area is set up on an efficient basis, it should be possible to continue it after the present emergency and to integrate it effectively into the economy of the surrounding area.


MONTANA
NORTH DAKOTA
SOUTH DAKOTA
WYOMING
NEBRASKA
COLORADO
KANSAS
NEW MEXICO
OKLAHOMA
TEXAS
LEGEND
1. PECOS AREA
2. MULESHOE AREA
3. S.D. R.& I. CO. AREA
4. MARSHALL RANCH
5. CAMBRIDGE AREA
6. LAMAR FLATS AREA
7. KILPATRICK RANCH AREA
8. BROADACRES AREA
9. XY RANCH AREA
10. LIETER ESTATE AREA
11. FORT KEOGH AREA
MAP I
GREAT PLAINS STATES
PREPARED FOR
WAR RELOCATION AUTHORITY
BY
U.S. DEPARTMENT OF AGRICULTURE
WATER UTILIZATION PLANNING SERVICE
BUREAU OF AGRICULTURAL ECONOMICS

MAP 2

X. Y. RANCH

PROWERS COUNTY, COLORADO



PREPARED FOR

WAR RELOCATION AUTHORITY

BY

WATER UTILIZATION PLANNING SERVICE

APRIL 1942

BUREAU OF AGRICULTUAL ECONOMICS U.S. DEPT. OF AGRICULTURE

Early center cost

June 8, 1942 C1.07

STANDARDS AND DETAILS - CONSTRUCTION OF JAPANESE EVACUEE RECEPTION CENTERS

(As agreed upon 6-8-42 by Lieutenant General John L. DeWitt and Colonel L. R. Groves from the Office of the Chief of Engineers)

1. For the purpose of providing uniformity of construction and in order to obviate the necessity of miscellaneous correspondence in connection with construction of Reception Centers in Relocation Areas, it is requested that the following standards and details be observed in all future construction and to the extent possible in current construction of Japanese Evacuee Reception Centers.

2. In general facilities to be provided by the U.S.E.D. will include the following:

a. Shelter for evacuees arranged in rectangular block units each containing mess, recreation or vocational building, baths, latrines, and laundry.

b. Hospital facilities based on minimum 150 beds for 10,000 population and 250 beds for 20,000.

c. Warehouse facilities based on one (1) 20' x 100' refrigerated storehouse and twenty (20) 20' x 100' storage warehouse or equivalent in floor space per 5,000 population.

d. Administrative facilities, including store and post office buildings, and one shop building.

e. Quarters for administrative personnel including messing facilities.

f. Shelter and facilities for MP units.

g. Utilities to include:

(1) Adequate water for culinary, sanitary and fire protection purposes.

(2) Water-born sewage disposal conforming to minimum health requirements.

(3) Electric Power and Light.

(4) Necessary access and service roads.

h. Adequate fire protection.

3. Layouts should be made conforming to recommendations supplied by the Civil Affairs Division of the Western Defense Command and Fourth Army. Schools, churches, theaters, stores and shop facilities will be constructed by the operating agency, but space and basic utilities must be provided for these items in layouts made by the engineers.

4. The typical block should be designed to house not to exceed 300 persons. General standards to be as follows:

a. Barracks to be T/O type construction modified to include partitions for family groups, asphaltic roofing weighing more than 45 lbs. per square, interior lining where warranted by climatic conditions, concrete floors, and electrical service to include one drop outlet in each apartment, with circuit capacity to permit future installation of one convenience outlet in each apartment.

b. Bath and Toilet facilities will generally conform to mobilization type requirements and will provide bath and toilet fixtures on the following basis per 300 persons, or per block.

(1)

MEN	WOMEN
Showers - 12	Showers - 8
Bath Tubs - 0	Bath Tubs - 4
Lavatories - 12	Lavatories - 14
Toilets - 10	Toilets - 14
Urinals - 4	Urinals - 0
Slop Sink - 1	Slop Sink - 1

Showers will be individually controlled for women, but with central thermostatic installation for men, and control valve for maximum hot water temperature will be provided.

Individual control valves for showers will be placed low enough so as to permit operation by a person of 5'- 0" height. Foot baths will be installed in the entrance to each shower room. Showers and toilets will be spaced sufficiently far apart and for women provided with separate partitions to allow reasonable degree of privacy.

c. Laundries will contain 6 tubs with hot and cold water and six ironing boards per 100 persons. Standard benches in the laundry and tables in the ironing room should also be provided.

Convenience outlets for ironing, laundry tubs and ironing boards should be installed lower than usual due to small stature of users.

d. Kitchen and Mess Hall to be of modified T/O construction, with concrete floor, if practicable, otherwise double wood floor.

Refrigerator of suitable capacity will be installed.

Ranges should be provided on the basis of 1 standard No. 5 Army Range or suitable substitute per 100 persons served. Certain No. 5 Army and other ranges will be supplied upon request to Headquarters Western Defense Command and Fourth Army, from evacuated Assembly Centers or from available Army stocks. When fuel other than coal and wood is to be used, the construction engineer will supply necessary type of range and advise this Headquarters so that the shipment of No. 5 ranges will not be made. When oil is to be used as fuel, suitable conversion units may be provided for the No. 5 ranges by the Engineer. Ranges will be installed with insulation to protect floors and adjacent walls, also with ventilated hood. Hot water facilities will include storage tanks of not less than 160 gallons capacity and booster heaters in addition to water jackets in ranges. Dishwashing facilities will be arranged so as to have scullery directly connected with mess hall and will include not less than two 3-compartment or one two and one three-compartment sinks with necessary drainboards and counters. Standard sit down, wooden mess tables will be provided, tables to be covered with pressed wood or plywood and varnished.

e. Recreation Building to be modified T/O type construction with concrete or wood floor. Ten convenience outlets will be installed along walls to permit use of sewing machines, etc.

5. Hospital Facilities

Hospital to be modified mobilization type construction. Instructions for layout and equipment will be provided by the Civil Affairs Division, Western Defense Command and Fourth Army.

6. Warehouses

a. Warehouse to be improved T/O type construction with heavier roofing and concrete floor. Refrigerated storehouse to be designed according to local conditions.

b. Railroad siding should be provided in connection with warehouse area when possible, but no spurs for branch lines will be constructed. Some toilet facilities pit, chemical or

flush type and drinking water should be provided in warehouse area if such facilities are not immediately adjacent.

7. Administrative Facilities should include the following:

a. On the basis of 10,000 population two (2) 40' x 120' buildings, one (1) 20' x 100' warehouse, garages for emergency vehicles, one shop building approximately 40' x 100', and buildings to house post office, store and fire station. Construction to be of T/O type. Suitable electric outlets and necessary plumbing to be provided in administrative buildings, post office and fire station.

8. Quarters for Administrative Personnel

On the basis of 10,000 evacuees provide modified T/O type, four dormitories, for minimum 40 persons, divided into 8' x 12' cubicles and equipped with bath and toilet facilities. Wiring should include one drop and one convenience outlet in each cubicle. One central Mess and one recreation building to be provided for a capacity of about 100 persons.

9. Shelter and Facilities for MP Personnel to be provided for a strength of a minimum of one company of four (4) officers and 126 enlisted men. Actual strength will be indicated in specific directives. Officers quarters should provide individual cubicles for sleeping quarters with bath and toilet facilities in the same manner as for administrative personnel quarters. One 20' x 100' building will be provided for each of the following: Administrative Headquarters and Unit Supply, Guard house, Recreation Room and Post Exchange, and one 20' x 30' equipped with hot water and sanitary facilities to be used as a dispensary. Garage or shed (depending on climate) to house emergency vehicles of the Unit.

10. Utilities

a. Water supply should be designed on the basis of 100 gallons per capita per day with sufficient pressure to give adequate fire protection, and should have necessary standby supply facilities.

b. Sewage Disposal. Sewer capacity should be based on approximately 75 gallons per capita per day. Complete sewage treatment should be provided where indicated by local conditions.

c. Electric Power & Lighting. Installations should be designed on the basis of 2000 KVA per 10,000 population, so as to handle a reasonably ample load for all needs and with sufficient capacity of individual building circuits to prevent constant blowing of fuses. In lieu of street lighting, one (1) light at each end of all main buildings (one for warehouses) should be provided.

11. Fire Protection, Generally to be the same as provided for mobilization type Army Camps. Barrels and buckets to be provided on the basis of one set for every four (4) buildings. Fire hydrants should be located throughout area. Two (2) trucks equipped with pumping equipment, hose and ladders to be stationed in each Center (on the basis of 10,000 evacuees.)

12. Access and Service roads should be properly graded and drained and provided with a simple type of surfacing material, preferably bituminous. A reasonable amount of surfacing material will be left at the Center by the Engineer to be used for maintenance.

13. General

a. Space heating in suitable form depending on climate and fuel most easily and economically obtained, to be provided in accordance with zone requirements established by the Chief of Engineers.

b. Standard mobilization type plumbing fixtures to be provided in hospital, administration and MP installation.

c. Electrical installation to provide for special requirements for equipment in hospital and warehouses as well as refrigeration, should be installed in accordance with good building practice and should have a central cut-out switch for blackout needs if the center is located within an air frontier zone. Separate circuits to be provided for central storage refrigerator and hospital installations to permit operation during blackout.

d. Adequate refrigeration consistent with local climatic conditions to be provided in all kitchens. Meat Blocks will be provided, one for each kitchen.

e. Suitable shelving will be constructed in kitchen store rooms and M.P. supply room, post exchange and barracks.

f. All buildings will be screened unless local climatic conditions dictate otherwise and in any case hospitals, messes and latrines will be screened.

g. Materials for interior lining of barracks, and screening for windows may, when not installed during normal course of construction, be left at the Center by the Engineer for installation by Camp Manager with Japanese labor.

14. Special Items

a. Watch towers of a height commensurate with terrain conditions and equipped with searchlights as required shall be constructed around outside of Camp in locations and numbers requested by local M.P. Commander or Center Managers, but not more than eight to each Center without approval by this Headquarters.

b. Standard stock fence will be built around the occupied area, excluding M.P. area. Materials may be left for construction with Japanese labor. Military Police area should be located to provide easy access to main highway serving the Center without having to pass through evacuee area.

c. A 90' flag pole to be erected in suitable location of the M.P. area.

d. One (1) T/O type barrack-building equipped with benches and tables and a receiving counter to be constructed near entrance to Center to be used for visiting purposes. Adequate parking space for visitors also to be provided.

e. When required, suitable coal bins will be provided for each kitchen and in such other locations as may be indicated. Materials to be provided by the Engineer, and left with Camp Manager for construction with Japanese labor. Screened garbage racks will be provided in connection with each kitchen, to be constructed in same manner as coal bins.

15. The Engineer will submit to Civil Affairs Division, W.D.C. and Fourth Army for approval the following:

a. Site plan.

b. Hospital plans.

c. Kitchen and mess layout (floor plan).

d. Bath, toilet and laundry building floor plans.

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STANDARD LIST OF MINIMUM REQUIREMENTS for WAR RELOCATION PROJECT OF 10,000 POPULATION

RECREATIONAL EQUIPMENT

Quantity	Unit	Description	Unit Price	Total Cost
5	doz.	Bats, baseball, assorted lengths, Wilson #A324 or equql	6.82	34.10
10	doz.	Balls, soft, 12" diameter, Voit #C-212	10.22	102.20
2	doz.	Balls, soft, 10" diameter, Voit #C-110	10.22	20.44
1	doz.	Balls, soft, 9" diameter, Voit #C-109	9.00	9.00
8	ea.	Balls, foot, Voit #CF1	5.07	40.56
8	ea.	Balls, basket, Voit #C-B-2	5.39	43.12
8	ea.	Balls, soccer, Voit #CS3	5.07	40.56
8	ea.	Balls, volley, Voit #CV4	5.07	40.56
4	ea.	Balls, basket, Wilson 30 VW or equal	5.81	23.24
4	ea.	Balls, foot, Wilson #21 RL or equal	3.88	15.52
4	ea.	Balls, soccer, Wilson #54 RV or equal	4.31	17.24
4	ea.	Balls, volley, Wilson #69 RW or equal	4.40	17.60
6	ea.	Gloves, catcher's, softball, Goldsmith M-30 or equal (Wilson #532)	3.09	18.54
6	ea.	Gloves, First baseman's, softball, Goldsmith #M-18 or equal (Wilson #592)	2.62	15.72
16	ea.	Gloves, Fielder's, softball, Goldsmith SB-10 or equal (Wilson #658)	1.90	30.40
6	ea.	Mask, catcher's, softball, Wilson M-351 or equal	1.63	9.78
8	ea.	Nets, volley ball, Goldsmith #120 or equal, (Wilson W90)	2.00	16.00
10	pr.	Goals, basketball, Wilson B-3-40 or equal	3.50	35.00
12	pr.	Nets, basketball, 60 thread, Wilson B-3-48 or equal	.65	7.80
4	ea.	Inflator, Goldsmith #9 or equal (Wilson B330)	.85	3.40
2	ea.	Balls, medicine, 9 lb., Wilson or equal	7.00	14.00
2	ea.	Balls, medicine, 6 lb., Wilson or equal	5.68	11.36
2	ea.	Balls, medicine, 4 lb., Wilson or equal	4.59	9.18
24	ea.	Balls, sponge, Wilson or equal	.15	3.60
3	ea.	Watch, stop, Wilson W742 or equal	3.25	9.75
3	ea.	Tapes, cloth, 100' length Wilson or equal	1.00	3.00
12	ea.	Quoits, Wilson A-49 or equal, if supply still available	.65	7.80
3	ea.	Shot, iron, 12 lb., Wilson or equal	1.90	5.70
3	ea.	Shot, iron, 8 lb., Wilson or equal	1.20	3.60

Quantity	Unit	Description	Unit Price	Total Cost
12	ea.	Whistle, plastic, Wilson B424 or equal	.15	1.80
60	ea.	Paddles, table tennis (ping pong) Wilson W8 or equal	.23	13.80
15	ea.	Bracket and net combination, table tennis, (ping pong) Wilson #W-10 or equal	.55	8.25
20	doz.	Balls, table tennis (ping pong) Goldsmith tournament or equal	.72	14.40

STANDARD LIST OF MINIMUM REQUIREMENTS
for
WAR RELOCATION PROJECT OF 10,000 POPULATION

AUTOMOTIVE EQUIPMENT

Quantity	Description & Size	Unit	Estimated Unit Price	Total Cost
2	Five Passenger Sedans	ea.	1100.00	2,200.00
12	Station Wagons	ea.	1400.00	16,800.00
25	Pickups ½ Ton	ea.	850.00	21,250.00
10	3½ cu. yd. Dump Trucks 5 Ton chassis	ea.	3500.00	35,000.00
10	1½ cu. yd. Dump - 1½ Ton chassis	ea.	1500.00	15,000.00
1	5 Ton Low bed trailer	ea.	3000.00	3,000.00
50	1½ Ton long wheelbase Stake side trucks	ea.	1350.00	67,500.00
3	Tank trucks, water, 1000 gal. capacity, equipped with Go Devil Pump (Pumping Unit), Flusher nozzles	ea.	3500.00	10,500.00
2	Tank Trucks, fuel & oil distributing trucks, equipped with 2 - 500 gal. tanks, complete with delivery pump, meter, hose, and other standard equipment	ea.	3500.00	7,000.00
		TOTAL		$ 178,250.00

The above list should be carefully checked after considering any peculiar needs of the Relocation Center this equipment is being ordered for.

STANDARD LIST OF MINIMUM REQUIREMENTS
for
WAR RELOCATION PROJECT OF 10,000 POPULATION

HEAVY CONSTRUCTION EQUIPMENT

Quantity	Description & Size	Unit	Estimated Unit Price	Total Cost
1	Motor Patrol-46 H.P. Tandem Drive	ea.	5863.00	5863.00
1	Tractor 7-D Wide Gauge #22 Shoe - Bull-dozer equipped to operate 8 yd. Model LS Carryall	ea.	7020.00	7020.00
1	Tractor 6RD 74" Gauge - #18 Shoes Bull-dozer equipped to operate 8 yd. Model LS Carryall	ea.	6225.00	6225.00
2	Tractors RD4 - #16 Shoes - 35 H.P. Bull-dozer equipped to operate 4 yd. Carryall	ea.	3150.00	6300.00
2	Tractors RD4 - #16 Shoes - 35 H.P. with double drum hoists	ea.	4500.00	9000.00
1	Dragline, Shovel 3/4 or 1 yd. - 60 ft. boom equipped with Page bucket	ea.	19,500.00	19,500.00
1	Carryall-8 yd. Model LS	ea.	4233.00	4233.00
1	Carryall-4 yd.	ea.	4233.00	4233.00
1	Tumblebug-Serial #20-D-2	ea.	239.00	239.00
1	Road-drag - 12 ft.	ea.	150.00	150.00
1	Pull Grader-8 ft. blade, 5980 lbs.	ea.	1250.00	1250.00
1	Roller Tamper (Sheepsfoot) 4 ft. roller H	ea.	1143.00	1143.00
1	Ripper	ea.	1415.00	1415.00
1	Ditcher (Gangplow) Killefer 3 ft. top, 1 ft. bottom, attachments included, depth 16"-KQ 1370-8A	ea.	300.00	300.00
1	Low Bed trailer with Gooseneck for transporting heavy equipment (15 tons) on State highways, etc. equipped with winch Frehaus Trailer Company	ea.	4000.00	4000.00
1	Tow truck with winch	ea.	2800.00	2800.00
2	Portable Air compressors, pneumatic tires - One - #105	ea.	3000.00	3000.00
	One - #210	ea.	3585.00	3585.00
2	Rock Drills (Jackhammers)	ea.	225.00	450.00
	Accessories, Hose & Drills	ea.	75.00	75.00
6	Pumps (Whirlies) and Small truck-1-6" Throw	ea.	400.00	400.00
	1-4" "	ea.	375.00	375.00
	4-2" "	ea.	150.00	600.00
4	Concrete Mixers (with power operated skip)			
	2-2 sack	ea.	1750.00	3500.00
	1-½ "	ea.	400.00	400.00
	1-1 "	ea.	850.00	850.00
1	Speed-Crane 40' boom, 10 ton capacity mounted on truck chassis, complete with ½ yd. Page bucket and 3/4 yd. Owens Clamshell	ea.	12,000.00	12,000.00

The above list should be carefully checked after considering any peculiar needs of the Relocation Center this equipment is being ordered for.

WRA-20-D
6-0110

STANDARD LIST OF MINIMUM REQUIREMENTS
For
WAR RELOCATION PROJECT OF 10,000 POPULATION

GASOLINE AND DIESEL STORAGE AND DISPENSING

Quantity	Description	Unit	Estimated Unit Price	Total Cost
1	1½" Granco Model DV Rotary Pump 1 H.P. Motor, explosion proof	ea.	226.20	226.20
1	Shields Harper Special Pedestal pump Model #10, complete with meter, 12' synthetic hose, nozzle, electric switch, line strainer and pipe.	ea.	112.50	112.50
3	Erie #99 Meter Pumps	ea.	202.65	607.95
3	Fill Caps, 4" brass, Buckeye #654	ea.	3.90	11.70
3	Manholes, 12" Buckeye #717	ea.	3.00	9.00
3	Check valves, 2" Buckeye #454	ea.	3.51	10.53
3	Union Elbows, 2" x 2" Buckeye, #582	ea.	1.97	5.91
3	Bushing, double tapped, 3½" x 2" Buckeye #441	ea.	.54	1.62
3	Vents, 2" Buckeye #785	ea.	1.33	3.99
2	Valves, vertical check, 1½" Buckeye #750	ea.	6.86	13.72
3	Storage tanks, each 12,000 gal. capacity, horizontal, tapped for 2" vent and 3½" suction, and on opposite end tapped for 4" fill pipe	ea.	3000.00	9000.00
	Indentification numbers taken from catalogue supplied by Shields, Harper & Co., Oakland, Calif.	TOTAL		$ 10,003.12

STANDARD LIST OF MINIMUM REQUIREMENTS
FOR
WAR RELOCATION PROJECT OF 10,000 POPULATION

SMALL TOOLS - GARDEN, FARM AND GROUNDS

(Prices and lot numbers taken from Dunham-Corrigan & Hayden Catalog)

Community Garden Tools

Description and Size	Lot Number	Unit	Quantity	Estimated Unit Cost	Total Cost
Seeder & Cultivators	No. 9	ea.	3	25.70	77.10
" "	No. 2	ea.	6	11.20	67.20
Planters Hoe	No. P 54½	doz.	3	19.20	57.60
Spading Forks	No. 0544	doz.	½	42.40	21.20
Rakes	No. B14	doz.	1	25.60	25.60
Trowels Garden	No. 215	doz.	1	3.60	3.60

Small Tools for Farm Unit

Field Hoes	No. 906	doz.	5	11.20	56.00
Planters Hoes	No. P-54½	doz.	5	19.20	96.00
Beet Hoes	No. B-512	doz.	10	12.40	124.00
Rakes	No. B-14	doz.	3	25.50	76.50
Irrigating Shovels	No. 45-BP	doz.	8	30.70	245.60
" "	No. 45-BPS	doz.	3	35.60	106.80
Beet Forks	No. 0378	doz.	2	54.40	108.80
Boot rubber	No. 1441	doz.	5	7.60	38.00
Forks Hay	No. 044½ B	doz.	3	32.00	96.00

Lawn and Ground Maintenance Tools

Lawn Mowers 16"	No. PS16	ea.	24	17.50	420.00
Grass Catcher	No. 100	doz.	2	13.60	27.20
Lawn Roller	No. 5	ea.	1	21.50	21.50
Oilers	No. 14AA	doz.	2	4.80	9.60
Sprinkler	No. Model G	ea.	20	4.15	86.00
Sprinkler	No. 335	ea.	12	1.50	18.00
Wheelbarrow	No. M-4	ea.	6	13.90	83.40
Scythestone	No. TS-4	doz.	1	1.20	1.20
Grass Shears (Cosmos)	No. 5600	doz.	1	20.00	20.00
3/4" Garden Hose		100-ft.	2000	12.00	240.00
3/4" Hose, couplings	No. 25	doz.	4	2.12	8.48
Lawn Rakes	No. D-18	doz.	2	20.00	40.00
Trowels Garden	No. 215	doz.	2	3.60	7.20
Spading Forks	No. 0544	doz.	1	42.40	42.40
Scythes	No. 153-R	doz.	1½	25.00	12.50
Scythes Snaths	No. 50	doz.	1½	34.00	17.50
Nozzles Hose 3/4"	No. 22	doz.	4	8.40	33.60
3/4" Gasket, Garden Hose		doz.	6	.60	3.60

STANDARD LIST OF MINIMUM REQUIREMENTS
For
WAR RELOCATION PROJECT OF 10,000 POPULATION

SMALL TOOLS AND SUPPLIES - CONSTRUCTION

(Prices and lot numbers taken from Dunham, Corrigan & Hayden Catalog)

Description and Size	Lot Number	Unit	Quantity	Estimated Unit Cost	Total Cost
Hacksaw (18 tooth #V-1018)		Gro.	1 Gro. ea.	15.00	$15.00
24" " -1024					
Coping Saw	#190	doz.	60 only	.30	1.50
14" Pruning Saw	#114	doz.	60 only	20.00	14.50
Boots, rubber		pr.	20 pr.	7.60	152.00
Linseed oil, boiled	Fuller	can	5 Gal. can	2.14	11.70
Saw handles	#395	pr.	7 pr.	3.00	21.00
Saw handles	#30	doz.	12 doz.	4.80	4.80
Tarpaulin, waterproof, 22 oz. after treatment, 14' x 16' with eyeletts FOB S.F.		ea.	24	19.50	468.00
Handles, file	#ID	doz.	5	1.10	5.50
Handles, single bit ax, Comstock		doz.	5	11.00	55.00
Handles, double " " , " oval 36"		doz.	5	9.30	46.50
Handles, R.R. pick, Comstock		doz.	4	13.00	52.00
Handles, sledge	#Q	doz.	8	11.00	88.00
Handles, adze eye hammer, Comstock turned		doz.	5	3.00	15.00
Handles, post aul, oval eye		doz.	1	6.80	6.80
Mattocks, Handle		doz.	10	13.00	130.00
Handles #Q-Comstock turned 15" Adze eye		doz.	5	3.00	15.00
Red Lumber Crayons	#33R	Gross	1	12.00	12.00
Carpenters Pencils	#709S	Gross	1	16.00	16.00
Chalk Line in banks, 50 ft. #28		doz.	12	1.60	1.60
Blue, Carpenter Chalk		gross	1	3.20	3.20
Soap Stone Crayons	#3F	gross	1	3.50	3.50
Locks, with chain	#8C	doz.	10	14.40	144.00
Master Keys		ea.	25	.70	17.50
Mill Bastard, Files, square edge, 12"		doz.	1	7.50	7.50
Slim Taper, clean cut files 8"		doz.	1	4.50	4.50
Blunt Band Saw 8"		doz.	1	6.70	6.70
Flat Bastard Files 12"		doz.	1	9.70	9.70
Half Round Bastard 12"		doz.	1	11.80	11.80
Cross Cut Files 10"		doz.	1	9.10	9.10
6 in. Pruning Saws 10"		doz.	1	6.60	6.60
Round Bastard 6"		doz.	1	3.50	3.50
" " 12"		doz.	1	7.50	7.50
Auger Bit #Kearney		doz.	1	4.80	4.80
Cal. Cotton Rope, ½ in.		coil	1	65.00	65.00
4 d steel wire nails		keg	1	7.50	7.50
6 d " " "		keg	1	7.50	7.50
8 d " " "		kegs	2	6.50	13.00
10 d " " "		kegs	2	6.50	6.50
20 d " " "		keg	1	6.00	6.00

SMALL TOOLS AND SUPPLIES -- CONSTRUCTION, cont'd

Description and Size	Lot Number	Unit	Quantity	Estimated Unit Cost	Total Cost
40 d steel wire nails		keg	1	6.00	6.00
10 d scaffold nail		keg	1	8.00	8.00
3/4" wire brads, 16 ga.	1#pkg.	lb.	5	.50	2.50
7/8" " " " "	"	lbs.	10	.69	6.90
1" " " " "	bulk	lbs.	100	.39	39.00
1½" " " " "	1# pkg.	lbs.	10	.64	6.40
2" " " " "	bulk	lbs.	100	.34	34.00
Iron-wood Screws, Flat head--Gross					
½" x 4		Gross	5	1.60	8.00
½ x 4		Gross	5	1.80	9.00
3/4" x 7		Gross	5	2.50	12.50
1" x 8		Gross	10	5.80	58.00
1½"x 10		Gross	10	8.60	86.00
1-3/4" x 10		Gross	5	4.80	24.00
2" x 10		Gross	10	11.00	110.00
2¼" x 10		Gross	5	5.75	28.75
2½" x 10		Gross	10	12.50	125.00
Staples-1½"		keg	1 Gal.	8.00	8.00
Wellwood Glue, waterproof D100		doz.	3	16.00	48.00
1 lb. Putty Tins		Case	100 lb.	16.00	16.00
Hinges, 3" x 3"	#808, size	doz.	5	2.70	13.50
Hinges 2" x 9/16"	284F	doz.	5	3.00	15.00
Hinges 3" x 8/16"	284F	doz.	5	4.50	22.50
Silk Light Mantles	#21 Junior	doz.	5	1.30	6.50
Wood Soldering Handles	#20	doz.	1	1.20	1.20
Kester Acid Core, 1 lb.		lb.	10 spools	1.30	13.00
Clinton Half & Half 1½ lbs.		lb.	10 bars	.15	1.90
Varnish Brushes, 1½", metal bound,med. grade		doz.	5	2.00	10.00
Paint Brushes 2" " bound, " grade		doz.	5	10.00	50.00
" " 3" " bound,med. grade		doz.	2	12.00	24.00
" " 4" " bound,med. grade		doz.	2	12.00	24.00

Note: All numbers and net prices were taken from Dunham, Corrigan & Hayden Company's General Catalog as a reference only.

STANDARD LIST OF MINIMUM REQUIREMENTS
For
WAR RELOCATION PROJECT OF 10,000 POPULATION

SHOP EQUIPMENT, TOOLS AND SUPPLIES

(Prices and lot numbers taken from Dunham, Corrigan & Hayden Catalog)

Carpenter Shop - Hand Tools

Description and Size	Lot Number	Unit	Quantity	Estimated Unit Cost	Total Cost
Hand screws, wood, set	3/0 to 5	set	6	$ 30.00	$ 30.00
Clamps		doz.	12	4.50	4.50
Vise-bench		ea.	1	15.00	15.00
Nail set assortment	11A	set	1	1.60	1.60
Cold chisels and punch	#2198	set	1	1.00	1.00
Combination square		ea.	1	6.60	6.60
Bevel sq.		ea.	1	2.25	2.25
24" steel sq.		ea.	1	6.50	6.50
Level, metal, 30"		ea.	1	8.00	8.00
Level, wood, 3'		ea.	1	5.40	5.40
Planes, block		ea.	1	5.60	5.60
Planes, rabbet		ea.	1	5.40	5.40
Block-Bull		ea.	1	14.80	14.80
Saw Clamps or Vise		ea.	1	2.50	2.50
Saw sets		ea.	1	1.50	1.50
Saw set block		ea.	1	2.50	2.50
Saw gauge		ea.	1	3.00	3.00
Combination oil stone, No. 1 Grade		ea.	1	2.50	2.50
Plumb bobs	#12 Stearns	doz.	2 ea.	4.80	1.20
Miter box	#75A	ea.	1	45.00	45.00
Fibre bd. cutter	#193A	ea.	1	19.00	19.00
Saw Clamps	#0std.	ea.	2	3.00	6.00
Plane, Rabbet	#45 Stanley	ea.	1	25.00	25.00
Plane, Jack, smooth bottom 2"	#605	ea.	1	7.30	7.30
Plane, 8" smooth bottom	#3	ea.	1	6.20	6.20
Jointer, 22", Bailey 7-C		ea.	1	12.70	12.70
Woodworker's router	#71	ea.	1	6.80	6.80
8" Dade cutter 1/4"	#39	ea.	1	5.40	5.40
" " 1/2"		ea.	1	5.40	5.40
" " 3/4"		ea.	1	5.40	5.40
Vise, bench	#624½ swivel base	ea.	1	3.00	3.00

STANDARD LIST OF MINIMUM REQUIREMENTS
For
WAR RELOCATION PROJECT OF 10,000 POPULATION

EQUIPMENT, TOOLS AND SUPPLIES

(Prices and lot numbers taken from Dunham, Corrigan & Hayden Catalog)

Plumbing Shop

Description and Size	Lot Number	Unit	Quantity	Estimated Unit Cost	Total Cost
Soldering Iron	#350 elec.	ea.	1	$ 11.50	$ 11.50
Stanley Corner Brace	#993	doz.	1	168.00	17.00
Electrician's bit #114-Ex. 18, size 20/36		doz.	1	17.75	2.00
Hand oil cans			6		
Lead joint runner with clamp		ea.	2	3.25	6.50
Lead-pot, Coiltrol	#44A	ea.	1	13.80	13.80
Blow torch		ea.		6.50	6.50
Hand pipe cutters, with #2 T Reed Roller		ea.	1	8.50	8.50
Pipe stocks and dies		ea.	1	30.00	30.00
Burr-reamer		ea.	1	3.00	3.00
Pipe vise		ea.	1	35.00	35.00
Pipe tongs or chain SLC		ea.	1	14.00	14.00
Files, assorted (flat)		doz.	12	6.50	6.50
Tinners Snips		ea.	1	4.00	4.00
Cold chisels set		set	1	3.20	3.20
Calking chisel set		set	1	3.50	3.50
Soldering iron	#350	ea.	1	11.50	11.50
Combination pot	#101	ea.	1	18.00	18.00
Vise-swivel base	#62A½	ea.		35.00	35.00
Vise-pipe	#1 T	ea.	1	13.00	13.00
Vise-pipe	#0	ea.	1	18.80	18.80
Pipe wrench, Stillson 10"	#S4-10	ea.	2	2.85	5.70
" " " 18"	#S4-18	ea.	2	5.50	11.00
" " " 24"	#S4-24	ea.	2	9.50	19.00
" " , 36"	#S-536	ea.	1	20.00	20.00
" " , 48"	#S-548	ea.	1	30.00	30.00
Wrenches, general purpose	set #6	ea.	2	5.92	11.84
Hammers, claw	#11	doz.	1	27.60	27.60
Mallets, wooden	#60	doz.	4	25.20	100.80
Hammers, cross pein	#352	doz.	4	28.80	115.20
White lead		lbs.	5	.30	1.50

Electrical Shop Hand Tools

Wrenches - 4" Crescent	A-14	doz.	1/6	12.00	3.00
" - 10" "	A-110	doz.	1/6	18.00	3.00
Oil stone	#IE-8	ea.	1	1.75	1.75
Elec. Soldering Iron	#350	ea.	1	11.50	11.50
Hand tube bender	#364-F	ea.	1	7.50	7.50

STANDARD LIST OF MINIMUM REQUIREMENTS
For
WAR RELOCATION PROJECT OF 10,000 POPULATION

EQUIPMENT, TOOLS AND SUPPLIES

(Prices and lot numbers taken from Dunham, Corrigan & Hayden Catalog)

Electrical Shop Hand Tools

Description and Size	Lot Number	Unit	Quantity	Estimated Unit Cost	Total Cost
Stanley corner brace	#993	ea.	1	$ 14.00	$ 14.00
Electrician's bit	#114-Ex 18, 20/38	doz.	1	17.75	17.75
Pipe wrench, Stillson 10"	#S4-10	ea.	1	2.85	2.85
" " " 18"		ea.	1	5.50	5.50
" " " 24"		ea.	1	9.50	9.50
Pliers, slip joint, side cutting	#950	doz.	3	19.88	59.64
" , long thin nose		doz.ea.	3 doz.	1.00	36.00
" , diagonal cutting 4½"	#4501	ea.	3 "	2.00	70.00
" , Klein Linemen's	#212-8	ea.	2 "	3.00	6.00
Screw Drivers, spiral, ratchet	#135	ea	2	4.50	9.00
" , sq. blade 3/16x3	#3018	ea.	2	5.80	11.60
" , round blade 3/16x3	#3008	ea.	2	5.80	11.60
Screwdrivers cabinet ¼ x 8	#45-8	ea.	2	11.20	22.40
Goggles, safety	#TAW-10	pr.	6	3.30	19.80
Belts, safety	#5204	ea.	2	9.00	18.00
Straps, safety	#KL-5233	ea.	2	8.50	17.00
Vise, swivel base	#624-½	ea.	1	35.00	35.00
Vise, Toledo pipe		ea.	1	13.00	13.00

Plumbing Shop Supplies

Lead, calking	lb.	100#	14.20	14.20
Cakum (Plumbers Spun)	bale	1 bale	11.00	11.00
Solder (Kester Acid Core)	lb.	5#	1.25	6.25
Solder Clinton Half and Half	lb.	2 bars	.10	.30
½" assorted black nipples	box	1 box	7.00	7.00
3/4 " " "	box	1 box	8.00	8.00
Bibb washers (assorted) #1500	carton	1 carton	4.00	4.00
½" gauge glass gaskets #120	doz.	1 doz.	2.40 gross	.20
5/8" " " " "	doz.	1 doz.	2.88 gross	.24
3/4" " " " "	doz.	1 doz.	3.60 gross	.30
½" slip joint washers #4	ea.	25 only	1.90/100	.48
Size ½", 3/4", 1" 90° Ells, black	ea.	20		12.00
1¼", 1½", 2" " " "	ea.	10		17.00
½", 3/4", 1" 45° Ells, black	ea.	20		15.40
1¼", 1½", 2" " " "	ea.	10		20.40
½", 3/4", 1" Tees black	ea.	20		16.00
1¼", 1½", 2" " "	ea.	10		22.20
½", 3/4", 1" Unions G.J. Black	ea.	10		19.00
1¼", 1½", 2" " " " "	ea.	10		50.50

STANDARD LIST OF MINIMUM REQUIREMENTS
for
WAR RELOCATION PROJECT OF 10,000 POPUIATION

EQUIPMENT, TOOLS AND SUPPLIES

(Prices and lot numbers taken from Dunham, Corrigan & Hayden Catalog)

Plumbing Shop Supplies

Description and Size	Lot Number	Unit	Quantity	Estimated Unit Cost	Total Cost
Size ½", 3/4", 1", 1¼", 1½", 2" pipe black		ea.	100 ft.		$124.50
Size ½", 3/4". 1", 1¼', 1½", 2" plugs black		ea.	1 doz.		3.62
Globe valves ½"		ea.	6	$ 2.40	14.40
" " 3/4"		ea.	6	3.00	18.00
" " 1"		ea.	6	3.60	21.60
" " 1¼"		ea.	6	5.00	30.00
" " 1½"		ea.	6	7.00	42.00
" " 2"		ea.	6	10.00	60.00
Hose Bibs 3/4"		ea.	12	2.25	27.00

Electrical Shop Supplies

Tape, Friction #6B		rolls	10	22.00/100	2.20
Tape, Rubber #IXL		"	5	50.00/100	2.50
" Weatherproof					
Solder - Bar Clinton ½ x ½		lbs.	5	82.00/100#	4.10
Solder Rosin Core (Kester)		lb.	5	1.24	6.20
Cord, heater #PHD-18		ft.	250	27.00/1000 ft.	6.75
Conduit 1", rigid		ft.	50	146.00/1000 ft.	7.50
" 3/4" "		ft.	50	106.00/1000 ft.	5.30
" ½" "		ft.	50	84.00/1000 ft.	4.20
Nipples, 6" conduit, rigid 1"	#16325	ea.	10	24.30/100	2.43
Nipples, 6" conduit, rigid 3/4"	#16324	ea.	10	19.00/100	1.90
" " " , rigid ½"	#16323	ea.	10	15.30/100	1.53
" , short" , rigid 1"	#16225	ea.	10	12.20/100	1.22
" , " " , " 3/4"	#16224	"	10	9.50/100	.95
" , " " , " ½"	#16223	"	10	7.30/100	.73
" , close" , " 1"	#16205	"	10	10.60/100	1.06
" , " " " 3/4"	#16204	"	10	8.30/100	.83
" , " " , " ½"	#16203	"	10	6.10/100	.61
Conduit bushings of each size 1", 3/4", ½"			10	50.00/1000	.50
" , locknuts of each size 1", 3/4", ½"			10	18.00/100	.18
#12, #8, #6, R.C. wire		coil	1		
#12, #8, #6, Weatherproof wire		coil			
Braidoz wire 2/#12		ft.	500	42.40/1000'	21.70
" " 3/#12		ft.	500	69.20/1000'	34.60
Braidax connectors		ea.	100	.04	4.00
" straps			150	.0½	.75
Insulators, split knob #12 d			250	42.00/1000	10.50
" , solid #4½			250	55.00/1000	13.75
Leather nail heads		lb.	1	0.80	.80
Porcelain tubes 5/16" x 4"			1000	13.80/1000	13.80
500' #12 R.C. wire		coilft.	1	9.40/1000	4.70

STANDARD LIST OF MINIMUM REQUIREMENTS
For
WAR RELOCATION PROJECT OF 10,000 POPULATION

EQUIPMENT, TOOLS AND SUPPLIES

(Prices and lot numbers taken from Dunham, Corrigan & Hayden Catalog)

Electrical Shop Supplies

Description and Size	Lot Number	Unit	Quantity	Estimated Unit Cost	Total Cost
500' #8 R.C. Wire		ft.	1 coil	22.95/1000'	11.48
" #6 " "		"	1 coil	37.30/1000'	18.65
#12 Weatherproof wire		lbs.	35#	38.00/100 lbs.	13.30
#8 Weatherproof wire		lbs.	75#	35.00/100 lbs.	26.25
#6 " "		lbs.	112#	33.00/100 lbs.	36.96

Carpenter Shop Supplies

Universal Woodworker, equipped with 28 x 38 inch saw table, 32" band saw 12" jointer, and borer	ea.	1	$1900.00	$1900.00
Wood lathe, 4' bed, with accessories, 1 H.P. motor, Crescent L-14 or equal	ea.		450.00	450.00
Sander, disc, with 3/4 H.P. motor	ea.		350.00	350.00
Accessory sand paper 0 to 1½			5.00	5.00
Universal tool grinder, 8", 1/3 H.P. motor Mummurt Dixon or equal	ea.		220.00	220.00
Skilsaw, electric Model 87-8" Blade	ea.		140.00	140.00
Drill, electric, ½" H.D. complete with bench stand. Sioux $1550 or equal.			81.00	81.00
Drills, high speed, taper shank, one ea: 1/8", ¼", 3/8", ½", 5/8" and 3/4"	doz.	½	16.00	8.00
Wood-working vises, quick acting	ea.	3	15.00	45.00
Dado set, 1/8" to 1" diameter 12"	ea.	1	38.00	38.00
Rotary Saws	ea.	2	8.50	17.00
Band saws: 2¼, 2-3/4", and 4-1"	ea.	6	2.50	15.00
Rotary saw, 14" with 2½ H.P./table portable motor	ea.	1	350.00	350.00
Band saw 24" with ¼" to ½" blades, 1 H.P.	ea.		150.00	150.00

STANDARD LIST OF MINIMUM REQUIREMENTS
For
WAR RELOCATION PROJECT OF 10,000 POPULATION

EQUIPMENT, TOOLS AND SUPPLIES

(Prices and lot numbers taken from Dunham, Corrigan & Hayden Catalog)

Lumber Shop Supplies

Description and size	Lot Number	Unit	Quantity	Estimated Unit Cost	Total Cost
Scroll Saw		ea.	1	125.00	125.00
Hand Sander - Skilsaw Model B		ea.	1	135.00	135.00
#3 d bright shingle nails		cwt.	2	8.20	18.40
1/8 lb. packages two point tacks		doz	12	.40	4.80
½ lb. packages carpet tacks		doz.	12	.40	4.80
Kg. 3/4" Roofing nails		kg.	1	8.90	8.90
½ wire brads		pkg.	100 pkgs.	.08	8.00
½ wire brads		"	100 "	.05	5.00
6.D wire nails		kg.	4 kgs	7.50	30.00
8 D " "		"	5 "	7.00	35.00
16 D " "		"	6 "	7.00	42.00
20 D " "		"	2 "	7.00	14.00
Roofing 35 lbs.		rolls	10	1.80	18.00
Lin. ft. 36" 14 mesh wire cloth		sq. ft.	500	.05	7.50
One Drum. Dry glue		lb.	25	.65	16.25
17½ lbs. roofing felt block		ea.	25 rolls	1.10	27.50
3" strap hinges		doz.	24 pr.	1.30	2.60
6" strap hinges		doz.	24 pr.	3.00	6.00
33" T hinges		doz.	24 pr.	1.30	2.60
6" T hinges		doz.	24 pr.	3.00	6.00
6" hasps		ea.	36 pr.	3.00	9.00
Pieces ½ x 4 x 8 plywood		ea.	5 pr.	2.56	12.80
" 3/4 x 4 x 8		ea.	5 pr.	3.20	16.00
White lead		lb.	150 lbs.	.30	45.00
Linseed oil		gal.	10 gal.	.70	7.00
Turpentine or paint thinner		gal.	5 gal.	.45	2.25
Lumber crayon No. 361 black		ea.	1 box	1.00	1.00
Chalk lines, yellow #27, 100 ft.		doz.	12	3.10	3.10
Chalk, blue, "Old Faithful" (3.20 gross)		½ gross	1	1.60	1.60
Carpenters Pencils		doz.	12	1.60	1.60
Lead		CWT	50#	16.00	8.00
Spool, solder, Kester Acid 5#		lb.	1	1.25	6.25
Bars, metal solder, Clinton half and half		lbs.	40	.10	4.00
Tape, friction, 3/4" width #4B		100	100	15.00	15.00

STANDARD LIST OF MINIMUM REQUIREMENTS
For
WAR RELOCATION PROJECT OF 10,000 POPULATION

SURVEYING AND DRAFTING EQUIPMENT AND SUPPLIES

(Lot Numbers and Prices Taken From K & E Catalog 38,Edition; and Dietzgen Catalog #389)

Engineer Equipment

Description and Size	Lot Number	Unit	Quantity	Estimated Unit Cost	Total Cost
Light Mountain Transits Complete with tripods and cases		ea.	2	$450.00	$900.00
Wye level complete with tripod, case		ea.	1	245.00	245.00
Dumpy " " " " & case		ea.	1	245.00	245.00
Range Poles, 8' sectional (KE.N 62905)		ea.	4	1.50	6.00
Philadelphia light ex-tending level rods ft. & 10ths complete with targets and canvas cases 12'		ea.	4	15.00	60.00
Abney hand levels complete with cases		ea.	4	8.00	32.00
3/8" x 100' steel survey tapes compete with frame (above to be graduated to ft. and 10ths)		ea.	5	6.00	24.00
Plane table complete with tripod and case board 24" x 31" (KE 5197C)		ea.	1	25.00	25.00
Alidade similar (KE 5189A) complete with case		ea.	1	250.00	250.00
14" folding Stadia rods (KE6278)		ea.	3	12.00	36.00
Heavy Surveyor's machetes		ea.	3	2.00	6.00
Belt axes and cases		ea.	6	2.00	12.00
Reading glasses with handles 2-3/4		ea.	2	1.50	3.00
Irregular curves 1 ea. Dietzgen	#13	ea.	3	.25	.75
" " " " "	#17B	ea.	3	.25	.75
" " " " "	#24	ea.	3	.40	1.20
T-squares 36" "	#2077	ea.	2	3.20	6.40
Drafting table lights adj.		ea.	2	6.00	12.00
Erasing shields, Dietzgen #3392		ea.	4	.25	1.00
30° x 60° x 6 lettering triangles		ea.	2	1.00	2.00
Plain triangles 2- 30°x60° Dietz. #2016A-12"		ea.	8	1.40	11.20
Plain triangles 2-45° x 60° Dietz. 2017A - 12"		ea.	4	1.40	5.60
Plain triangles 2 - 30° x 60° Dietz. 2016A-6"		ea.	4	.35	1.40
Plain triangles 2 - 45° x 45° Dietz. 2017A-6		ea.	4	.40	1.60
Fett stubs 3/8"-½"-3/4" Assorted		doz.	1	1.00	1.00
Ruling Pens, 1 Dietzgen #6181H		ea.	3	2.25	6.75

Engineer Equipment - cont'd

Description	Unit	Quantity	Estimated Unit Price	Total Cost
Ruling Pens, 1 Dietzgen #619H	ea.	3	2.25	6.75
" #647	ea.	3	2.25	6.75
Drop spring bow pen " #764K	ea.	1	4.00	4.00
Curve Pen " 689	ea.	1	3.00	3.00
Proportional dividers 992½	ea.	1.	5.00	5.00
Drawing sets " 1037 oz.	ea.	2	26.00	52.00
Eng. Triangular Scales 12" 1667B	ea.	6	4.00	24.00
Arch Triangular Scales 12 1656B	ea.	2	4.00	8.00
Steel straight edges 2½" x 42"	ea.	2	10.00	20.00
Plainimeter (Polar)	ea.	1	25.00	25.00
14" paper shears	ea.	1	1.25	1.25
Dusting brushes	ea.	2	1.00	2.00
Loose lead binders - for field book leaves	ea.	6	1.50	9.00
Leaves to fit above K & E 374L level		1000	5.00	5.00
Blue Print Frame 20" x 24" with glass & frame	ea.	1	43.00	43.00
Blue Print frame 30 x 42 with glass & frame	ea.	1	70.00	70.00
Adding machine	ea.	1	100.00	100.00
Monroe Calculating Machine	ea.	1	350.00	350.00
Plumb bobs - 16 oz. brass	ea.	6	2.50	15.00
Circular Protractor 10" ½° divisions	ea.	1	4.35	4.35
Semi-circular Protractors 6" ½° Divisions	ea.	4	1.65	6.60
Eng. tape mending tool complete with 1000 eyelets & 1 doz. pos. 3/8" sheet tape similar to K & E #7410	ea.	1	8.50	8.50
Mannheim Slide Rule 20" with case	"	1	17.00	17.00
" " " 10" " cases	"	3	3.50	10.50
Leroy lettering set complete with cases similar to KE #N3245-6	"	1	38.00	38.00
Handy pen-filling ink stands Dietzgen #2745)	"	6	2.25	13.50
Map Measure Dietzgen Co. #1718	"	1	4.50	4.50
Electric erasing machine 25 watt 110 Volt AC	"	1	7.00	7.00
Erasers to fit above	Gross	6 doz.	2.00	12.00
Blue lumber crayons 4-3/4" x ½"	Box	4	1.00	4.00
Red " " " "	Box	4	1.00	4.00
Sheets-heavy buff plane table	doz.	3	2.00	6.00
Red erasers	doz.	2	.60	1.20
¼ oz. bottles drawing ink, black	doz.	1	3.00	3.00
¼ " " " , red	doz.	1	3.00	3.00
¼ " " ",,blue	doz.	1	3.00	3.00
¼ " " ",orange	doz.	1	3.00	3.00

Engineer Equipment - cont'd

Description and Size	Unit	Quantity	Estimated Unit Price	Total Cost
2H,3H,4H and 5H drawing pencils	Box.	2 doz. ea.	.90	1.80
6H drawing pencils	"	1 " "	.90	.90
Box mixed colored pencils	Box	1	1.50	1.50
Roll 50 yds. 36" buff detail paper	Roll	1 roll	5.00	5.00
Rolls 50 yd. 36" tracing paper	Roll	2 rolls	2.50	5.00
Doz. ea. Fett stubs 3/8" - ½" - 3/4"	doz.	1	1.00	1.00
Assorted		2		
Rolls 24 yds. x 36" tracing cloth	roll	2	20.00	40.00
Cans Pumice Powder	doz.	12	5.60	5.60
Doz. pcs. art gum 1"x1"x3"	doz.	1	.70	.70
Leaves to fit above K & E #361L transit		500	2.50	2.50
Roll 26" x 50 yd. 10 x 10 tracing paper		1	5.00	5.00
Roll 22" x 50 yd. Plate A Profile paper orange	roll	1	5.00	5.00
Doz. Rolls 1" x 10 yd. Scotch tape	doz.	1	3.00	3.00

STANDARD LIST OF MINIMUM REQUIREMENTS
For
WAR RELOCATION PROJECT OF 10,000 POPULATION

FURNISHINGS FOR STAFF QUARTERS

(Based on Estimate of 120 Persons occupying Quarters)

	Quantity	Unit	Unit Price	Amount
DRAPERIES, CRASH, "SANTAFE" - RUST Size 7' x 36"	108	pr.	3.49	376.92
BARS, Towel, 18", enamel, w/screws	180	ea.	.23	41.40
DISHES, Soap, heavy duty	150	ea.	.30	45.00
LINOLEUM, kitchen, color #3 Standard gauge, Jaspe backing, including installation.	108	sq.yd.	2.25	243.00
RUGS, Broadloom, approximately 4' x 6'6". To be furnished in various colors to harmonize with Monterey Style, desert dust finish.	120	ea.	9.00	1080.00
PILLOWS, Standard 21" x 27", with 8 oz. heavy cover, stuffed with ½ chicken and ½ duck feathers.	60	pr.	4.50	270.00
CABINETS, Medicine, hang on wall type, white, with mirror, approximately 12" x 18", all metal...	60	ea.	2.90	174.00
TABLE, Extension, 32" x 48", extending to 66". Monterey style, desert dust finish, #2705.	30	ea.	10.75	322.50
CHAIRS, Straight, for use with above tables, wood seat, Monterey style, desert dust finish #2705.	120	ea.	3.50	420.00
BEDS, Twin, size 3-3; Monterey style, desert dust Swite No.3310, size 39" x 76"	120	ea.	8.50	1020.00
DRESSER, with mirror, 3-drawer, top approximately 38 18"; height approximately 32", Monterey style, desert dust finish #3310.	30	ea.	13.50	405.00
CHEST, 4-drawer, height approx. 43". top approximately 34 x 19", Monterey style, desert dust finish No. 3310.	90	ea.	9.50	855.00

FURNISHINGS FOR STAFF QUARTERS

(Based on Estimate of 120 Persons occupying Quarters)

	Quantity	Unit	Unit Price	Amount
CHAIR, Bedroom, #2705, Monterey style, desert dust finish	30	ea.	3.50	1020.00
TABLE, Lamp, approx. 26" high, Monterey style, desert dust finish	60	ea.	5.50	330.00
TABLE, Night stand, approx. 26" high. Top 15" x 16", 1-drawer, Monterey style, desert dust finish	30	ea.	4.00	120.00
LAMP, Floor, reflector, type, complete with shade and reflectors, desert dust finish, Lot No. 3955.	60	ea.	7.95	477.00
LAMPS, Table, height approx. 24", catalog No. 39-45	30	ea.	3.95	118.50
LAMPS, Table height approx. 24", desert dust finish, catalog No. 39-85	30	ea.	3.95	118.50
DIVAN, Sofa bed type, over-all length 36"; height 35"; seat 72" x 23"; Monterey type, desert dust wood finish, Cover No. A-1181, Green, Catalogue #385	30	ea.	32.50	975.00
CHAIR, Club type, non-adjustable, Monterey style, wood finish desert dust, Cover No. A-1101, Green, Catalogue #385	90	ea.	15.00	1350.00
CHAIR, Occasional, seat 20 x 12½; width 27", height approx. 34", Monterey style, wood finish desert dust. Covering A-1102, Rust, Cat. #176	30	ea.	7.25	227.00
TABLE, Coffee, octagonal, top approx. 24", height approx. 16", desert dust wood finish	30	ea.	5.50	165.00
TABLE, End, top approx, 15½" x 24", height approx. 22". desert dust wood finish	90	ea.	4.90	441.00
SPRINGS, Bed, box type, 39" x 76", "Grand Hotel" type	120	ea.	13.15	1578.00
MATTRESSES, Coil, 209 coil, 39" x 76" "St. Francis type"	120	ea.	13.15	1578.00

STANDARD LIST OF MINIMUM REQUIREMENTS
For
WAR RELOCATION PROJECT OF 10,000 POPULATION

OFFICE SUPPLIES AND EQUIPMENT

Description and Size	Unit	Quantity
Bands, Rubber 16 (1/16 x 2½)	lb.	5
" " 32 (1/8 x 3)	"	5
Binders, Stiff Back, 11 x 8½	No.	48
Cards, Guide, Blue Color, 3x5	Pkgs.	5
" " " " , 5x8	"	10
" " Buff " , 3x5	"	5
" " " " , 5x8	"	10
" , Index, Medium Weight Ruled, White 3x5	"	25
" , " " " " , " 5x8	"	50
Cases, Storage or Transfer with follower Block 3x5	No.	12
Cases, " " " " " Block 5/8	No.	24
Cleaner, Type, Typewriter	Botts	24
Clips, Paper, Wire, Class A, large	Boxes	100
Clips, Paper, Wire, Class B, small	Boxes	100
Clips, Paper, Wire, Class B, medium	"	50
Covers, Binder, Size inches 8½ x 11, Capacity inches 1	No.	100
Covers, Binder, Six inches 8½ x 11, " inches 2	No.	100
Eradicator, Ink, Small size, 2 botts to set	Sets	6
Erasers, Pencil--rubber, oblong, Red, similar or equal to Roby No. 112	Doz.	24
Erasers, Typewriter, Circular, with brush	Doz.	12
Fasteners, metallic flexible Distance between prongs 2-3/4" Capacity Inches 2	Box	20
Folders, File, 9½ x 11 3/4	C	25
Ink, Fountain Pen Use, Blue-Blk, 1-qt. Bott.	Botts	6
Ink, Writing Fluid, Red, 8 oz.	"	6
Inkstands, Automatic, circular screw top, Black, 2½ inch diameter, Songbush, No. 62		
Labels, 3-12/16 x 1½, 50 to box	Boxes	5
Machines, Paper fastening, Medium Duty Bostitch ¼ Staple leg inches, ½ inch between legs of staple	No.	24
Moisteners, Envelope (for sealing)	No.	6
Mucilage, 2½ oz. bottle with self closing top and spreader	Botts	36
Oil, Typewriter	"	24
Openers, Envelope, Steel, Nickleplated, 9" length app.	No.	24
Pads, Finger, Type II, Medium	Doz.	1
Pads, Finger, Type II, Small	Doz.	2
Pads, Memorandum, white, unruled, 3x5	"	50

OFFICE SUPPLIES AND EQUIPMENT

Description and Size	Unit	Quantity
Pads, Memorandum, white, unruled, 5x8	Doz.	50
Pads, Memorandum, white, unruled, 8x10	"	72
Pads, stamp, Black, $2\frac{1}{2}$x$3\frac{1}{2}$	No.	24
Pads, stamp, Blue, $3\frac{1}{4}$ x $6\frac{1}{4}$	Nos.	12
Pads, stamp, Red, $3\frac{1}{4}$ x $6\frac{1}{4}$	No.	12
Paper, stamp, Red, $3\frac{1}{4}$ x $6\frac{1}{4}$	No.	12
Paper, blotting, white, 4x$9\frac{1}{2}$	Pkgs.	50
Paper, Computing Machine, White, 2-5/16	Rolls	1000
Paper, Mimeograph, 8x10$\frac{1}{2}$	Reams	100
Paper, Typewriting, Bond, White, 8x10$\frac{1}{2}$	Reams	50
Paper, Manifold, White, 8x10$\frac{1}{2}$	Reams	100
Paper, Manifold, Blue, 8x10$\frac{1}{2}$	Reams	50
Paper, Manifold, Yellow, 8x10$\frac{1}{2}$	Reams	100
Paper, Manifold, Pink, 8x10$\frac{1}{2}$	Reams	50
Paper, wrapping, Kraft, 36" wide	Rolls	2
Pencils, Blue	Doz.	12
Pencils, Green	Doz.	12
Pencils, Red	Doz.	12
Pencils, Yellow	Doz.	3
Pencils, Black lead, No. 2	Doz.	72
Pencils, Black lead, No. 3	Doz.	72
Pencils, Stenographers, Grade 2	"	72
Pens, steel, long nib, elastic,	Gro.	4
" " " "	"	1
" " , fine point, Medium	"	2
Penholders, Wood Black	Doz.	12
" " Red, Cork Tip	"	12
Perforators, Paper Desk Type I, Adjustable, 3 hole	No.	2
Perforators, Paper Desk " II, Nonadjustable	No.	12
Receptacles, Wastepaper, fiber, Olive Green	No.	42
Reinforcements, Eyelet, White gummed cloth $\frac{1}{4}$" hole 9/16 inches, Commercial No. 2	Boxes	10
Ribbons, Computing Machine Type B, Black and Red for Sundstrand	"	2
Ribbons, Typewriter, Heavy Inked, Black-Record $\frac{1}{2}$ Royal 10	No.	24
Ribbons, Typewriter, Heavy Inked, Black-Record $\frac{1}{2}$ Smith, L. C.	No.	24
Ribbons, Typewriter, Heavy Inked, Black-Record $\frac{1}{2}$ Underwood	No.	24
Rulers: Type III, brass edging size 18 inches	No.	24
Sharpeners, Pencil, Type II, General writing, plain	No.	12
Shears, 9-inch length	Prs.	24
Shields, Erasing Celluloid, ap.3-3/4" x 2-3/8"	No.	36
Stamps, Dating, Rubber, band metal frame, Commercial No. 0	No.	
Staples, for Bostitch Stapler $\frac{1}{4}$ x $\frac{1}{2}$ inches	Boxes	48

OFFICE SUPPLIES AND EQUIPMENT

Description and Size	Unit	Quantity
Tabs, strip form without celluloid strips projection width 1" length 6"	Doz.	6
Tacks, Thumb ½"	Boxes	10
Tape, Paper, Gummed, Grade B, 2" in 600' Rolls	Rolls	12
Twine, Cotton, Seine, Commercial No. 18, in ½ lb. balls	Lbs.	16
Varnish, Stencil, Duplicating (Correction fluid), 2 oz. bottles	Botts.	12
Carbon Paper, Black, Light Weight 8 x 12"	Box	100
Pullers, Staple,	Doz.	2
Notebooks, Stenogs. (Spiral bound, T.P.S. Stock	Gro.	2
Memo. Books, Pocket Size	Gro.	1
Columnar Pad	No.	50
Numbering Machines, T.P.S. Stock	only	2
Dating Machine	only	1
Mimeo. Stencils 8½ x 18"	Boxes	10
Carbon Paper, 14 x 17	Boxes	10
Desks, Office, Single 32"x60"	Each	20
Typewriter Desks	Each	3
Tables, Typewriter, Dropleaf stand type	Each	24
Tables, Desk size, with drawer 32" x 60"	Each	12
Chairs, Desk, Swivel	Each	20
Chairs, Typist, Adjustable	Each	20
Chairs, Office	Each	12
Cabinets, filing standard letter size, 4-drawer sections	Each	30
Trays, desk, (single)	Each	60
Files, Card, 5"x8", 6 units ea.	Each	2
Files, card, 5"x8", 4 units eac.	Each	6
Files, card, 3"x5", 4 units	Each	3
Cabinets, stationery, desk type	Each	24
Typewriters, Standard, 14"	Each	24
Typewriter, Standard, 18"	Each	1
Typewriter, Standard, 24"	Each	1
Machine, Calculator, Frieden Model T-10	Each	1
Machines, Adding, Remington Desk Type, Elec.	Each	2
Machine, Adding, No. 93100-5	Each	1
Machines, Sundstrand, Desk Type, Elec.	Each	2
Machine, Adding, Underwood-Sundstrand, Dble. Reg/ w/stand	Each	1
Safe, Iron	Each	1

STANDARD LIST OF MINIMUM REQUIREMENTS
For
WAR RELOCATION PROJECT OF 10,000 POPULATION

GARAGE AND MACHINE SHOP STOCK ROOM SUPPLIES

Description	Unit	Quantity
Cable, battery 0 gauge	Ea.	8
Cable, battery 00 gauge	Ea.	4
Cable, high tension, Sterling #75 or equal	Ft.	100
Cable, low tension, Sterling #25W or equal	Ft.	
Cable, low tension, Sterling #24W	Ft.	100
Cable, low tension, Sterling #22W	Ft.	50
Cable, low tension, Sterling #21W	Ft.	50
Cable, charging, acid proof, Sterling #55W	Ft.	50
Battery, 2H, passenger car and light truck	Ft.	2
Battery, 4H, heavy duty	"	4
Bolt, battery terminal	"	12
Clip, wiring, Sterling #T-184	"	100
Fuses, IAG, 15 amp. $\frac{1}{4}$" x 5/8" (5 in box)	Boxes	3
Fuses, 3AG, 6 amp. "	"	3
Fuses, 3AG, 10 amp. $\frac{1}{4}$" x $1\frac{1}{4}$" "	"	5
Fuses, 3AG, 15 amp. " "	"	5
Fuses, 3AG, 20 amp. " "	"	5
Fuses, 3AG, 30 amp. " "	"	3
Fuses, 4AG, 30 amp. 9/32" x $1\frac{1}{4}$" "	"	3
Fuses, 40 amp. generator	"	2
Kit, terminal, with crimper. Sterling	Ea.	1
Lamp, #51, instrument, 6-8 volt, SC,MB base, 1CP	doz.	1
Lamp, #53, parking, " " " " " , $1\frac{1}{2}$"	doz.	1
Lamp, #63, rear , " " " ,BC " , 3 CP	doz.	1
Lamp, #1130, stop , " " , DC,BC " , 21 CP	doz.	1
Lamp, #1176, tail and stop, 6-8 volt, DC, BC base, 21 CP	doz.	1
Lamp, #1116, 6-8 volt, 32-21 CP, DC base, headlight depressible	"	2
Plugs, spark, 10 mm, T-30 or Y4, cold	"	2
Plugs, spark, 14 mm, F-40 or J-10, very cold or equal	"	6
Plugs, spark, 14", F-60 or H-10, cold or equal	"	6
Plugs, spark, 18", F-80 or J-S, cold or equal	"	6
Plugs, spark, 7/8", SH-110 or Champion 2, common cold	"	4
Tape, friction, 3/4", black ($\frac{1}{2}$lb. rolls)	rolls	6
Tape, rubber insulated, 3/4", 30' roll	rolls	4
Terminals, wiring, solderless, Sterling #T-1	doz.	2
Terminals, solderless snap, Sterling #T-4	doz.	2
Terminals, primary eyelet, Sterling #T-12	doz.	2
Terminals, battery, 0-00, Sterling #436-U	doz.	1
Terminals, snap, Sterling #T-70	doz.	1
Cork, sheets, 12" x 36" x 1/16"		12
Cork, sheets, 12" x 36" x 18"		6
Cork, sheets, 12" x 36" x $\frac{1}{4}$"		6
Clamp, hose, adjustable 1" - 3"	doz.	3
Hose, radiator, rubber, 3' lengths, $1\frac{1}{4}$" ID		3

GARAGE AND MACHINE SHOP STOCK ROOM SUPPLIES

Description	Unit	Quantity
Hose, radiator, rubber, 3' lengths, 1½" ID	Ft.	3
Hose, radiator, " " " , 2" ID	"	4
Hose, radiator, rubber, 3' lengths, 2¼" ID	"	4
Paper, gasket, 36 x 48, Vellumoid, 1/64"	Sht.	6
" " " " , .021	"	6
" " " " , 1/32	"	6
Packing, asbestos, 1/32" x 31½" x 54"	"	5
" , " , 1/16" x 31½" x 54"	"	5
Disc, sanding, 7" x 7/8" hole, 50 grit	Doz.	1
Disc, sanding, " , 80 grit	"	1
Disc, sanding, " ,120 "	"	1
" , " " ,150 "	"	1
Wool, steel, #0, #1, #3	Ea.	2#
Pins, taper (steel) #0,1,3,4,6,7, and #8	"	5
PINS, COTTER, SPLIT, STEEL, FOLLOWING SIZES:-		
1/16" dia. x ¼", 1/16" x 1" (total 1000)	Ea.	500
3/32" dia. x ½" x 1", x 1½" and x 2" (total 8000)	"	2000
1/8" dia. x ½", x 1" x 1½", x 2" andx3" (" 5000)	"	1000
5/32" dia. x 3/4" x 1½" x 2" and x 3" (" 1000)	"	250
3/16" dia. x 3/4" x 1½" x 2" and x 3" (" 1000)	"	250
¼" dia. x 1" x 1½" x 2" and x 3" (" 1000)	"	250
5/16" dia. x 1" x 2" (total 200)	"	100
BOLTS, CARRIAGE, SQ. NECK. BUTTON HEAD, WITH NUTS		
¼" x ½", 1, 1½, 2,3,4, and 6" (total 175)	Ea.	25
5/16" x ½", 1, 1½, 2, 2½, 3, 4, 6, and 12" (total 225)	"	25
3/8" x 3/4", 1½, 2, 2½, 3,4, and 6" (total 175)	"	25
½" x 1", 2, 3, and 5" (total 100)	"	25
5/8" x 1", 2, 3, 5 and 6½" (total 50)	"	10
BOLTS, HEX, HEADS, WITH NUTS, MACHINE		
3/16" x 1", 1½" and 4", (24 thread) (total 150)	"	50
¼" x 3/8", 9/16, 3/8, 1, 1½, 2, and 3" (20 thread) (total 350)	"	50
5/16" x ½", 1, 1½, 2,3, and 4" (18 thread) (total 300)	"	50
BOLTS, STOVE, FLAT HEAD, WITH NUTS.		
1/8" x 1"	"	50
3/16" x 1, 1½, and 2" (total 150)	"	50
¼" x 1½, 2, 2½, and 3¼ (total 250)	"	50
5/16" x 1, 1½, and 2" (total 150)	"	50
BOLTS, STOVE, ROUND HEAD WITH NUTS		
3/16" x 2", 2½, and 3½" (total 150)	"	50

GARAGE AND MACHINE SHOP STOCK ROOM SUPPLIES

Description	Unit	Quantity	
1/4" x 2"	Ea.	50	
3/8" x 1½"	"	50	
NUTS, BLIND, STEEL			
#10 - 24 thread	gross	1	
1/4" - 20 "	"	2	
5/16" - 18 "	"	2	
3/8" - 16 "	"	2	
7/16" - 14 "	"	2	
1/2" - 13 "	"	2	
9/16" - 12 "	doz.	6	
NUTS, HEX., CASTELLATED			
1/4" - 20 thread	doz.	3	
5/16 - 18 thread	doz.	3	
3/8 - 16 thread	doz.	6	
7/16 - 14 "	"	6	
1/2" - 13 "	"	3	
9/16" - 12 thread	"	3	
5/8" - 11 "	"	3	
3/4" - 10 "	"	3	
7/8" - 9 "	"	3	
1" - 8 thread	"	3	
1-1/8" - 7 thread	"	3	
NUTS, JAM HEX.			
1/4" - 20 thread	"	3	
5/16" - 18 thread	"	5	
3/8" - 16 thread	"	6	
7/16" - 14 "	"	6	
1/2" - 13 "	"	3	
9/16" - 12 "	"	3	
5/8" - 11 "	"	3	
7/8" - 9 "	"	3	
1" - 8 thread	"	3	
1-1/8" - 7 thread	"	3	
3/4" - 10 thread	"	3	
NUTS, MACHINE SCREW, HEX. STEEL.			
#8	gross	1	
#10 - 32 thread	"	1	
#12 - 28 "	"	1	
NUTS, MACHINE SCREW, HEX. STEEL			
1/4" - 28 thread	"	2	
5/16" - 24 thread	"	2	
3/8" - 24 "	"	2	
1/2" - 20 "	"	1	WRA-20-D
9/16" - 18 "	"	1	6-0110

GARAGE AND MACHINE SHOP STOCK ROOM SUPPLIES

NUTS, MACHINE SCREW, HEX. STEEL (cont'd)

Description	Unit	Quantity
5/8" - 18 thread	gross	1
7/16" - 20 "	"	2

NUTS, MACHINE SCREW, SQUARE, STEEL

#10 - 32 thread	"	1
$\frac{1}{4}$" - 28 thread	"	2
3/8" - 24 thread	"	1

NUTS, HEX. STEEL REGULAR

3/16" - 24 thread	Ea.	200
$\frac{1}{4}$" - 20 thread	"	500
5/16" - 18 "	"	500
3/8" - 18 "	"	500
7/16" - 14 "	"	300
$\frac{1}{2}$" - 13 thread	"	200
9/16 - 12 thread	"	100
5/8" - 11 thread	"	100
3/4" - 10 "	"	50
1" - 8 thread	"	25
1-1/8" - 7 thread	"	25
$1\frac{1}{2}$" - 6 thread	"	25
#10 - 24 thread	"	200
$\frac{1}{4}$" - 20 thread	"	400
5/16" - 18 thread	"	500
3/8" - 15 thread	"	200
7/16" - 14 thread	"	200
$\frac{1}{2}$" - 13 thread	"	200

RIVETS, COPPER, FLAT HEAD, SOLID

1-3/16" x 3/8	Lb.	1
$1\frac{1}{4}$" x 5/8	"	1

RIVETS, COPPER, ROUND HEAD, SOLID

#10	"	1
1/8" x $\frac{1}{2}$"	"	1
5/32 x 3/4	"	1
3/16 x 5/8	"	1

RIVETS, STEEL, COUNTERSUNK HEAD

1/8", 3/16, $\frac{1}{4}$, 5/16, 3/8 and 7/16 (total 300)

GARAGE AND MACHINE SHOP STOCK ROOM SUPPLIES

RIVETS, STEEL BUTTON HEAD

Description	Unit	Quantity
1/8" x 1-1/8	Ea.	1 lb. ea.
3/32 x 1"	"	1 lb. ea.
3/16" x 1", 2" (total 2 lb.)	"	" "
$\frac{1}{4}$" x 1,2" (total 4 lb.)	"	" "
5/16" x $\frac{1}{2}$, 1, 2" (total 6 lb.)	"	2 " "
3/8" x $\frac{1}{2}$, 1, $1\frac{1}{2}$, 2 and 3" (total 15 lb.)	"	3 " "
7/16 x 3/4", $1\frac{1}{2}$, and $2\frac{1}{4}$" (total 6 lbs.)	"	2 " "
$\frac{1}{2}$" x 1", $1\frac{1}{2}$, 2, and $2\frac{1}{4}$" (total 8 lbs.)	"	2 lb. ea.
5/8" x 1, $1\frac{1}{2}$ and 2" (total 6 lbs.)	"	2 lb. ea.

RIVETS, BRAKE LINING

Brass, tubular, 2/16", #5-6, #5-7, #5-8 (total 1500)	"	500
" " , 3/16", #7-5, #7-6, #7-7, #7-8, #7-10 (total 5000)		

RIVETS, CLUTCH FACING

Brass, tubular, 1/8" #1-5, "2-6 (total 400)	Ea.	200
" " , 9/16" #3-4, #3-5, #3-6, #3-7, #3-8 (total 1000)	"	200

SCREWS, MACHINE, STEEL, ROUND HEAD.

#6, $\frac{1}{4}$", $\frac{1}{2}$", 1" and $1\frac{1}{2}$" (total 4 gross)	gross ea.	1
#8, $\frac{1}{4}$", $\frac{1}{2}$", 3/4", 1" and 2" " 5 ")	" "	1

SCREWS, MACHINE, STEEL, ROUND HEAD.

#18, 3/8", 3/4", $1\frac{1}{2}$" (total 3 gross)	gross ea.	1
$\frac{1}{4}$" - 5/16", $\frac{1}{2}$", 7/8", $1\frac{1}{2}$", 2" (total 5 gross)	" "	1

WASHERS, LOCK, SPRING STEEL

#6, #8, #10, #12 (total 800)	Ea.	200
$\frac{1}{4}$"	"	300
5/16"	"	400
3/8", $\frac{1}{2}$", 9/16" (total 1500)	"	500
7/16	"	600
5/8", 11/16", 3/4" (total 600)	"	200
7/8", 1" (total 200)	"	100
1-1/8", $1\frac{1}{4}$", 1-3/8", $1\frac{1}{2}$" (total 200)	"	50
Coupling, half union, thread sleeve, brass, 7/16 x 20 x 1/8 for $\frac{1}{4}$" copper tubing	"	10
Coupling, half union, inverted, flared, 7/16 x 24 x 1/8 for $\frac{1}{4}$" copper tubing	"	10

GARAGE AND MACHINE SHOP STOCK ROOM SUPPLIES

WASHERS, LOCK, SPRING STEEL

Description	Unit	Quantity
Coupling, half union, ball sleeve, ½ x 20 x 1/8 for 5/16 copper tubing	Ea.	10
Coupling, half union, thread sleeve, 5/8 x 18 x ¼ for 3/8 copper tubing	Ea.	10
Cups, oil and grease, ¼" hinge lid.	"	5
Cups, oil and grease, ¼" pipe #000	"	5
ELBOWS, BRASS, BALL SLEEVE, BRASS		
3/8" x 21 x 1/8 for 3/16" copper tubing	Ea.	2
7/16 x 24 x 1/8 for ¼" copper tubing	"	4
ELBOWS, BRASS, FLARED TUBE, BRASS		
3/8" x 24" x 1/8" for 3/16" copper tubing	"	3
7/16" x 24" x 1/8" for ¼" copper tubing	"	3
Elbow, flared brass, inverted, 7/16" x 24" x 1/8" for ¼" copper tubing	"	4
ELBOWS, FLARED, BRASS		
½" x 24" x 1/8" for 5/16" copper tubing	"	2
9/16" x 24" x 1/8" for 3/8" copper tubing	"	2
11/16 x 20 x 3/8 for ½" copper tubing	"	2
ELBOWS, THREAD SLEEVE		
½" x 24 x 1/8" for 5/16 copper tubing	"	2
9/16" x 24 x ¼ for 3/8 copper tubing	"	2
FITTINGS, LUBRICATION, ALEMITE		
1/8" - #1610, 1611, 1612, 1613, 1688, 1795	"	10
¼" - #1636, 1641	"	10
5/16" - #1648, 1711	"	10
3/8" - 1710	"	5
NIPPLES, THREAD SLEEVE, BRASS		
3/16" - for 1/8" OD tube	"	5
7/16" - for ¼" OD tube	"	10
9/16" - for 3/8" OD tube	"	10
NIPPLES, BALL SLEEVE, BRASS		
3/8" for 3/16" OD copper tube	"	10
7/16 for ¼" OD copper tube	"	10
5/8" for 7/16" OD copper tube	"	10
11/16" for ½" OD copper tube	"	10
Nipples, flared, brass, 1" for 5/16 OD copper tubing.	"	10

GARAGE AND MACHINE SHOP STOCK ROOM SUPPLIES

NUTS, BRASS, CONNECTING, THREAD SLEEVE

Description	Unit	Quantity
5/16" for 1/8" tubing	Ea.	4
3/8" for 3/16" tubing	"	4

NUTS, BRASS, CONNECTING BALL SLEEVE

3/8" for 3/16" tubing	Ea.	4
7/16" for $\frac{1}{4}$" tubing	"	6
5/8" for 7/16" tubing	"	6
11/16" for $\frac{1}{2}$" tubing	"	6
$\frac{1}{2}$" for 5/16" tubing	"	6

NUTS, BRASS, CONNECTING, INVERTED FLARE

3/8" for 3/16" OD tube		4
7/16" for $\frac{1}{4}$" OD tube	Ea.	6
$\frac{1}{2}$" for 5/16" OD tube	"	4
Nuts, connecting brass, flared type, 7/16" for $\frac{1}{4}$" tubing	Ea.	6
Plugs, pipe, counterrank, 3/8", $\frac{1}{2}$ 3/4, 1" (total 20)	Ea.	3
Plugs, pipe, headless slotted, 1/8", $\frac{1}{4}$, 3/8, $\frac{1}{2}$, 3/4, 1" (total 12)	Ea.	2
Plugs, pipe, hex head, 1/8", $\frac{1}{2}$", 5/8", 3/4"(total 10)	Ea.	2
Plugs, pipe, sq. head, 1/8", $\frac{1}{4}$", 3/8, $\frac{1}{2}$, 3/4, 1", 1$\frac{1}{4}$", 1-5/8" (total 40)	Ea.	5

METAL IN BARS, INGOTS, ETC.

Brass, bar, round, half hard, $\frac{1}{2}$", 3/4", 1" dia.

BUSHING STOCK, BAR, CORED, CAST BRONZE

1" I.D. x 2$\frac{1}{2}$" OD x 18"	Ea.	2
1" I.D. x 3" " 18"	Ea.	2
1$\frac{1}{2}$" I.D. x 3$\frac{1}{2}$" O.D. x 24"	"	2
2" I.D. x 4" O.D. x 24"	"	2
2$\frac{1}{2}$ I.D. x 5" O.D. x 24"	"	2
Bushing stock, bar, solid cast bronze, 13" long; $\frac{1}{2}$" and 2" (6 bars)	Ea.	2
Bar, round bronze, phosphor, 12 feet: 5/8", 7/8", 1-1/8" (total 3 bars)	Ea.	1
Lead, pig	lb.	50
Solder, silver, Grade #1, 1/16" wire, 1 oz. spool	spool	2
Solder, acid core, 3/32" dia. 5 lb. spool	spool	2
Solder, bar	lb.	10
Solder, rosin core, 3/32" dia., 5 lb. spool	spool	2
Steel round, cold roll, 12' bar: 1/8", 3/16, $\frac{1}{4}$", $\frac{1}{2}$", 5/8", 3/4", 7/8" and 1" dia. (total 24 bars)	Ea.	3
Steel, round cold roll, 6' bar: 1$\frac{1}{2}$" and 2" dia.	Ea.	2
Steel, round cold roll, 3' bar: 3" and 4" dia.	"	1

GARAGE AND MACHINE SHOP STOCK ROOM SUPPLIES

Steel, Flat Bar, Gold Roll

Description	Unit	Quantity
1/4" x 1 1/2" x 12'	Ea.	6
1/2" x 2 1/2" x 12'	"	3
3/4" x 3" x 12'	"	2
Steel, round drill rod, 3'length: 1/8", 1/4", 3/8", 1/2", 3/4", and 1" (total 24 pcs).	"	4

ANGLE, STEEL, HOT ROLL, 20' LENGTHS

1 1/2" x 2" x 3/16"	"	2
2" x 2 1/2" x 1/4"	"	2
3" x 3" x 3/8"	"	1

ANGLE, STEEL, BLACK, GRADE M, 20' LENGTHS

1" x 1" x 1/8"	Ea.	3
1 1/2" x 1 1/2" x 3/16"	"	3
2" x 2" x 3/16"	"	2
Acid, hydrochloric, SG 1.16	Lb.	5
Acid, sulphuric, SG 1.835 (5 gal. carboy)	"	75
Alcohol, ethyl denatured	gal.	5
Ammonia, aqua, bottle	Botts.	4
Ammonia, chloride	Lb.	1
Compound, grease cleaning, self emulsifying	gal.	55
Compound, valve grinding, fine, 2 oz. cans	can	8
Compound, valve grinding coarse, 2 oz.	can	8
Flux, brazing, anti-borax, 1 lb. cans.	can	2
Flux, soldering, 2 oz. cans	can	8
Flux, welding, aluminum Morley, 1 lb.	can	2
Flux, welding, anti borax, 1 lb. cans.	can	4
Hydraulic brake fluid, Lockheed #21, 1 gal. cans	can	10
Shock Absorber fluid, 1 gal cans	can	5
Solvent, metal cleaner (Hollingworth)	gal.	2
Water, distilled (5 carboys)	gal.	25
Fan belts, assorted, 30 belts, Gates assortment #WD	lot	1
Cement, gasket, Permatex #1, 8 oz. tube	tubes	8
Cement, gasket, Permatex, #2, 8 oz. tube	"	16
Cement, rubber, non vulcanizing	qt.	1
Compound, machine rubbing, Black and Decker, 1 gal can	can	1
Compound, tinning, for solder, Tin-U-Wik 1/2 lb. jars	jar	4
Patch, tube repair, 50 in pkg. #1 small	pkg.	2
" " " , 50 " " #2 small		
" " " , 25 " " #3 large	pkg.	2
" " " , 25 " " #4 " "	pkg.	2
X C Fuel Pump parts kit #705	kits	3
A C Fuel Pump parts kit #705	kits	3
A C Fuel Pump diaphragm kit #751	kits	3
Carter master carburetion service	kits	2

GARAGE AND MACHINE SHOP STOCK ROOM SUPPLIES

ANGLE, STEEL, BLACK, GRADE M 20' LENGTHS

Description	Unit	Quantity
Ford master carburetion service	kits	2
Stromberg " " "	kits	2
Delco Brake repair kits, master cylinder #5450598	"	2
Delco Brake repair kits, wheel cylinders, #5450434	"	2
Bendix cleaner, 5 gal. can	can	2
Lining, brake, 1-3/4" x 3/16" x 50', Johns-M or equal	roll	1
Lining, brake, 1½" x 3/16" x 50', " " " "	roll	1
Lining, brake, 2" x 3/16" x 50' , " " " "	roll	1

Estimated value of total under $1000.00

STANDARD LIST OF MINIMUM REQUIREMENTS
For
WAR RELOCATION PROJECT OF 10,000 POPULATION

MESS EQUIPMENT

(To be supplied by the Quartermaster without requisition)

Item	Requirements per 1000 Units
(Blankets, W.O.D. or (Comforters	1050
(Covers, Mattress or (Sacks, Bed	1000
Cots, Steel	1000
Axe, S.B.	20
Buckets, G.I.	60
Can, G.I. 32 Gal.	40
Can, G.I. 10 Gal.	40
Bowl, Sugar	165
Boat, Gravy	165
Shaker, Pepper	165
Shaker, Salt	165
Dishes, Pickle	80
Dishes, Vegetable	330
Pitchers, Syrup	165
Pitchers, Water	165
Platters, Meat	80
Pot, Mustard	165
Cleaver, Butcher	5
Dippers	40
Forks, Meat	20
Graters	10
Gridles	10
Knives, Butcher	15
Knives, Paring	30
Ladles, Soup	30
Machine, Grinder	5
Masher, Potato	10
Measure, Qt.	5
Opener, Can	10
Pan, Bake, Large	20
Pan, Dish	40
Pan, Frying	5
Pan, Cake or Pie	125
Pin, Rolling	5
Pot, Stock 10 Gal.	10
Pot, Stock, 15 Gal.	10
Pot, Stock, 20 Gal.	5
Saw, Butcher	5
Scraper, Dough	5
Sieve, Flour	5
Skimmer, Large	10

MESS EQUIPMENT-cont'd

(To be supplied by the Quartermaster without requisition)

Item	Requirements per 1000 Units
Spoon, Basting	10
Turner, Cake	20
Whip, Wire	10
Pick, Ice	5
Tongs, Ice	5
Range, Army #5	10
Damper, RA	10
Poker, RA	10
Scraper, RA	10
Pipe, Tie Joint RA	10
Pipe, Stove, FI, RA	10
Pipe, Stove, Jt. RA	10
Cup, Coffee	350
Plate, Dinner	350
Saucers, Coffee	350
Bowl, Soup	350
Knives	350
Fork	350
Shakers, AR #5	10
Spoons	350
Cans, Meat	350
Fork, M-10	350
Knives, M-10	350
Spoons, M-10	350
Cups, Aluminum	350

STANDARD LIST OF MINIMUM REQUIREMENTS
For
WAR RELOCATION PROJECT OF 10,000 POPULATION

HOUSEHOLD EQUIPMENT AND SUPPLIES

Description and Size	Unit	Quantity
Brooms, Household	ea.	2400
Brushes, Sweeping, floor w/o handle 18"	ea.	1000
Brushes, Scrubbing, floor, hand, palmetto fiber	ea.	2400
Candles, Issue (pound)	lbs.	2000
Cleaner, Toilet bowl and Urinal - can	cans	400
Clothes Line, cotton, heavy weight	ft.	160000
Cord (1/16 in dia.) 60 ft. balls	balls	250
Handles, Brush, sweeping floor 72"	ea.	1000
Handles, Mop, spring lever type	ea.	1000
Hose, water, braided 3/4" (50 ft. length)	ea.	500
Insecticide (gal.)	gal.	1000
Lime, Chlorinated (pound)	lbs.	1000
Matches, safety (box)	boxes	400
Mops (cotton, 12 pounds per doz., Type I, Class A, w/o handles	ea.	1000
Paper, fly, 100 ribbons to box	boxes	300
Paper, toilet, (rolls of 1000 sheet)	rolls	16000
Polish, stove, cake	cakes	600
Skins, Chamois (13x17 in. ea.) or substitute chamois	No.	1200
Soap, Grit (cake) for use hand	cakes	4000
Soap, laundry, ordinary (issue) (pound)	lbs.	12000
Straw (for bed sacks) (pound)	lbs.	300000
Waste cloths, wiping, white (pounds)	lbs.	1000
Wool, steel (Federal Grade I) (pound)	lbs.	900
Aprons, Bakers: Butchers: & Cooks: with bib - cook's type	No.	1400
Barber Equipment -		
Clippers, hair hand 2" head	No.	50
Combs, Hair, Barber 10	No.	200
Shears, Barber 6"	No.	50
Basins, wash, enamel ware, 14" diam.	No.	3000
Brushes, paint, metal bound, flat, medium grade, 2 inch	No.	1500
Chinese bristle, 4 inch	No.	1500
Buckets, general purpose, Galv. w/o lip, 24 gauge, 14 qt.	No.	2000
Caps, cooks	No.	1000
Canvas, 72" width	Yds.	2000
Carts, 2 wheel, garbage	No.	60
Chambers (Night pots) enameled 6 or 8 qt.	No.	2000
Clothes pins, spring, snap on type	No.	10000
Disinfectants, for dish washing, liquid, 5 gal. containers	Gals.	1500
Flags, Garrison, about 72"	No.	12

Description	Unit	Quantity
Flashlights, hand, with batteries, size 8 to 10"	No.	300
Flour sack, cotton, yardage, 36"	Yds.	4000
Hooks, coat and hat, wire	No.	10000
Jackets, cooks	No.	1000
Lantern, kerosene, Army	No.	1000
Mirrors, wall, glass, size approx. 8" x 12"	No.	200
Paper, Napkins, approx. 16", 1000 in pkg.	No.	2000
Rakes, garden, steel 14 teeth	No.	1000
Receptacles, (for used paper towels, metal square with automatic closing covers)	No.	400
Salt tablets, for internal use, 100 tablet containers	Pkgs.	6000
Soap powder, dish washing compound, 50 lb. boxes	lbs.	15000
Wash boards, heavy, institutional type	No.	500
Wash tubs, #2 galv. heavy wt.	No.	500

STANDARD LIST OF MINIMUM REQUIREMENTS
For
WAR RELOCATION PROJECT OF 10,000 POPULATION

OFFICE FORMS AND STATIONERY

Form		
OEM-32	Office Memorandum	5000
OEM-61	Transfer of Property	500
OEM- 2	Application and Personal History Statement	300
OEM- 3	Current Payroll Deductions	300
OEM-7a	Request for Compensation for Per Diem Personnel	500
OEM- 8	Application for Leave of Absence	500
OEM-11	Notice of Resignation	100
OEM-17		300
OEM-27a	Position Description	200
OEM-28	Request for Personnel Action	200
OEM-33	Office Memorandum	500
OEM-53	Statement of Official Matter Mailed Free	50
OEM-381	Contract Information Card	100
OEM-382	Transportation Request Accountability Record	100
OEM-383	Tax Exemption Certificate Accountability Record	100
OEM-384	Identification Card Accountability Record	100
OEM-386	Voucher Record Card	500
OEM-390	Requisition	1000
OEM-389	Purchase Order (sets)	500
	Telephone Bid - Tabulation	200
OEM-392	Check Transmittal Slip	500
OEM-393	Issue Slip	500
OEM-394	Inventory Card (or similar)	1000
OEM-395	Stamp Record	50
OEM-396	Attendance Report	100
OEM-397		300
OEM-534	Leave Record	300
OEM-85		100
OEM-40		300
	Travel Memo	100
	Request for Travel Authorization	300
	Travel Regulations	50
	Travelers Guide	50
	Handbooks for New Employees	50
	Travel Authorization	500
OEM-511	Telephone Bid Tabulation	500
OEM-508	Report on Condition of Allotments and Limitations	100
OEM-501	Report on Limitations	100
OEM-385	Administrative Suspension Statement	500
OEM-378	Miscellaneous Obligation Record	500

OFFICE FORMS AND STATIONERY

Form		
Standard Form	22	Instructions to Bidders 300
Standard Form	14	Telegram 1000
" "	14A	" 1000
" "	33	Invitation, Bid and Acceptance 300
" "	36	Continuation Schedule 300
" "	8	Oath of Office 100
" "	47	Personnel Affidavit 100
" "	40	Contract for Telephone Service 50
" "	1012	Voucher for Per Diem 100
" "	1012 a	" " " " 400
" "	1012 b	Continuation Sheet 100
" "	1012 c	" " 400
" "	1012 d	Receipt for Cash 100
" "	1012 e	Statement of Travel by Motor Vehicle 500
" "	1098	Schedule of Canceled Checks 100
" "	1096	Schedule of Voucher Deductions 100
" "	1081	Schedule of Adjustments 100
" "	1095	Summary Statement of Disbursements and Collections 100
" "	1080 a,b,c,	Voucher for Adjustments 100
" "	1058 a	Government Bill of Lading 100
" "	1044	Schedule of Collections 100
" "	1039	Statement of Advance of Funds for Travel Expenses 100
" "	1038	Application for Advance of Funds 100
" "	1036	Statement and Certificate of Award 100
" "	1035	Public Vouchers (Continuation Sheet) 100
" "	1035 a	" " " " 400
" "	1034	Public Voucher 300
" "	1034 a	" " 1200
" "	1017-G	Journal Voucher 300
" "	1015 A	Allotment Ledger 100
" "	1016 B	Distribution Ledger 100
" "	1013	Payroll 100
" "	1013 a	" 300
" "	1013 b	" 100
" "	1013 c	" 300
" "	1074	" 100
" "	1074 b	" 400
GAO Form 2093		Earning Record 500
Treasury Form	6570	Power of Attorney 100
" "	1	Purchase Authority 100
" "	7	Requisition for Procurement Division Stock 100
C S C "	375	300
" "	3267 a	100
" "	2413	100
" "	2390	100

OFFICE FORMS AND STATIONERY

Form		
C S C Form	1992	300
" "	1890	100
" "	3257 b	300
" "	2806-1	100
" "	2968	20
" "	14	50

Form		
Q M C Form	400 Requisition	1000
" " " "	401 Requisition (extra sheet)	1000
" "	489 Tally Sheet, Incoming	3000
" "	430 Receiving Report	1000
" "	445 Over, Short and Damaged Report	1000
" "	490 Tally Sheet, Outgoing	1000
" "	434 Shipping Ticket	1000

CA - 1	100
CA - 2	100
CA - 3	100
CA - 4	100
CA - 16	100
CA - 17	100

Standard Form #26	Driver's Report - Accident	100
Standard Form #27	Investigating Officer's Report - Accident	100
Standard Form #28	Claim for Damages	100

C1.04

3/31/42

SUGGESTIONS FOR EVALUATING RECEPTION CENTERS

General Considerations

The term "Reception Center," as used herein, refers to an area with accommodations to take care of from 5,000 to 10,000 evacuees until more permanent accommodations can be provided. In some cases Reception Centers may house evacuees for the duration.

Whenever possible, it will be advisable to settle evacuees on projects so well chosen that they will remain there throughout the war. However, it is recognized that, due to the rapidity with which placements must be made, many of the evacuees will have to first go to a Reception Center.

Factors to Consider in Chosing a Site

No site should be considered which is in a zone restricted by the Army.

1.* No comment.

2. Give all names, agency, etc., so that information can be followed up if necessary.

3. Give as accurately as possible. Give State and county.

4. If possible give the number of acres of different types of land such as: 10,000 acres of arable land, 15,000 acres of grazing land, and 10,000 acres of timber land.

5. No comment.

6. No comment.

7. No comment.

8. If people located near the site of the proposed project are particularly favorable or antagonistic toward the project, be sure to give details. It is also important to give as clear a picture as possible of the kind and extent of evacuee labor which could be used outside of the project. Discuss distance necessary to travel to work, transportation problems, seasonality of work, contribution to the Food for Freedom Program, etc.

9. Give any special problems concerned with transporting supplies to or products from the project.

10. No comment.

11. No comment.

12. No comment.

---

* Numbers refer to those used in outline entitled "Suggested Reception Center for Evacuees."

13. Note if there are any extremes of climate, such as long cold winters or extremely hot summers as these will affect the type and cost of housing, and how continuously evacuee labor can be utilized.

14. Give all the information possible which will assist in forming an estimate of the type and quantity of products that can be produced by evacuees. Particular consideration should be given to products that will sustain evacuees and will contribute to the war effort.

15. Only consider improvements that are necessary.

16. This is more or less a summary of sections 14 and 15 and should be in harmony with the information given therein.

17. In all probability it will be necessary to move large numbers of evacuees from Reception Centers to more permanent projects. Therefore, it is important to know the number, type, and capacity of all favorable sites near a proposed Reception Center.

18. Some Reception Centers, such as Owens Valley, will have to be abandoned after the war. In such a case, indicate if there would be any salvage value to the project. If the work done on a project has permanent value, such as leveling land and installing an irrigation system, give as many details as possible.

19. No comment.

Eisenhower

Date _____.

SUGGESTED RECEPTION CENTER FOR EVACUEES

(See "Suggestions for Evaluating Reception Centers")

1. Name of proposed project* _____

2. Suggestion submitted by _____

_____

3. Location _____

4. No. of acres _____ Type of land _____

_____

_____

5. List any improvements on the land _____

_____

_____

_____

_____

_____

6. Ownership status _____

_____

7. Acquiring control of the land.

   a. Can land be leased _____ Terms _____

   _____

   b. Can land be purchased _____ Terms _____

   _____

   c. How quickly can control be acquired _____

   _____

   _____

_____

* If space is insufficient use reverse side of page.

8. Relation of proposed project to adjacent areas.

a. Nearby communities.

Name _____ Distance _____

Population _____

Name _____ Distance _____

Population _____

b. Would local people look with favor on project. (Give details).

_____

_____

_____

_____

_____

c. Opportunities for outside labor. (Give details).

(1) Agriculture _____

_____

_____

_____

_____

(2) Other: _____

_____

_____

_____

_____

9. Transportation facilities _____

_____

10. Domestic water supply.

    a. Source _____

    b. Adequacy _____

    c. Quality _____

11. Availability of electric power _____

_____

12. Any special problems of sewage disposal _____

_____

13. Climate from the standpoint of living conditions _____

_____

14. Productive possibilities of the area.

    a. Agriculture:

        (1) Soils _____

        _____

        (2) Water for irrigation

            (a) Source _____

            (b) Adequacy of supply _____

            (c) Quality _____

            (d) Water rights _____

        (3) Climatic characteristics

            (a) Growing season _____

            (b) Rainfall _____

        (4) Type of farming and crops _____

        _____

        _____

        _____

        _____

        _____

(5) Problems of getting land in crops.

(a) Construction work necessary _____

_____

(b) Equipment needed _____

_____

(c) How long will it take _____

_____

(d) Cost of preparing the land _____

_____

(e) How much work can be done by evacuees _____

_____

_____

(f) How much food can be produced in the 1942 season

_____

_____

b. Other productive possibilities:

(1) Special opportunities for industrial production

(a) Type of enterprise _____

_____

(b) Availability of supplies _____

_____

(c) Availability of markets _____

_____

(d) How well adapted is enterprise to using labor of evacuees _____

_____

(e) Remarks: _____

_____

_____

15. Estimate amount of evacuee labor that could be used in improving Reception Center _____

_____

16. Estimate the number of evacuees that can be gainfully employed in:

a. Agriculture within the project _____

b. Agriculture adjacent to the project _____

c. Other pursuits within the project _____

d. Other pursuits adjacent to the project _____

17. What possibilities are there for establishing settlement projects nearby _____

_____

_____

_____

_____

18. Value of project after the war.

a. Will it be necessary to abandon project after the war _____

_____

b. If project can be continued, state basis _____

_____

_____

19. Remarks and recommendations: _____

_____

_____

_____

_____

_____

_____

_____

_____

GRANADA

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS

A REPORT ON

GRANADA, COLORADO, AREA

FOR THE

WAR RELOCATION AUTHORITY

BY

WATER UTILIZATION PLANNING SERVICE
IN COLLABORATION WITH
CLYDE W. LINVILLE, SITE SELECTOR
WAR RELOCATION AUTHORITY

May 1942

To: R. B. Cozzens, Assistant Regional Director
War Relocation Authority

From: Clyde W. Linville, in collaboration with
Water Utilization Planning Service
Bureau of Agricultural Economics

Subject: Granada, Colorado, Area

This area was originally proposed by the Water Utilization Planning Service; the preliminary investigation of the area was made by personnel of this organization. The final investigation was made May 16 to 20, by Mr. Clyde W. Linville, of the War Relocation Authority, and Mr. Earl W. Parsons, of the Water Utilization Planning Service.

A REPORT TO THE WAR RELOCATION AUTHORITY UPON THE FEASIBILITY OF THE GRANADA AREA, COLORADO AS A SITE FOR EVACUEE RESETTLEMENT

Authorization

The War Relocation Authority solicited the aid of the Water Utilization Planning Service of the Bureau of Agricultural Economics in making field investigations and reporting such findings which would assist the Authority in selecting areas suitable for the establishment of evacuee Reception Centers.

Purpose and Scope

The purpose of this report is to present certain data and analyses which will assist the War Relocation Authority in selecting an area for the location of an evacuee Reception Center.

The scope of the report is limited to a generalized description of the characteristics of the area, both physical and economic, adjustments which appear will be necessary in the establishment of an evacuee Reception Center, and a statement concerning the post-war value of the project.

Geographical Description

The Granada area is located in the Arkansas Valley in Prowers County, Colorado, and includes approximately 10,150 acres. Maps accompanying this report illustrate the location of the project, grades of land with respect to irrigability, and the ownership pattern. Table 1 presents names of land owners.

Climatic Conditions

The growing season at this project location averages about 165 days. The average annual precipitation is 15 inches, of which 12 inches occur during the growing season. The average annual temperature is 54 degrees F., with an average daily maximum during June through August of 91 degrees F., and an average daily minimum during December through February of 15 degrees F. The average annual snowfall is about 14 inches.

Present Status of Lands

There are about 10,150 acres of land included within the boundaries of the area. Of this acerage, approximately 5,500 acres are now under irrigation and an additional 1,000 acres, primarily Class B lands, could be improved and irrigated to produce good crop yields.

Nearby Population Centers

Holly, Colorado, (population 864) is about six miles east of the area; Lamar, Colorado, (population 4,445) is about 13 miles west of the area; Las Animas, Colorado, (population 3,232) is about 50 miles west of the area; and La Junta, Colorado, (population 7,040)

Table 1*

Tract	Owners
1	American Beet Sugar Company
2	Elbert S. Rule
3	Union Central Life Insurance Company
4	Jessie C. Wilson
5	Dezie G. Noble
6	George B. Merrill
7	Fred and Vera Kennedy
8	L. R. Dickason
9	George R. McCartney
10	Maude Morris
11	Warren E. Blazier
12	Bessie D. Hayden
13	W. H. Hayden
14	Mabel Overstreet

*See map for location of ownership.

is about 70 miles west of the area. These are the only towns of any zize that are near the project. Denver with a population of about 400,000 is located 200 miles northwest.

Transportation Facilities

The main line of the Atchison, Topeka & Santa Fe Railroad traverses the project from east to west. There are a station and ample side track facilities at Granada, located at the south central boundary of the project. There are also side tracks at Koen in Section 10, Township 23 South, Range 44 West, within the westerly portion of the project.

U. S. Highway No. 50 closely paralles the railroad, traversing the project from east to west. There are also several graveled county roads serving the project.

Power and Telephone Service

The transmission lines of the southeast Colorado Rural Electrification Administration pass through the property. The line which is three phase, carries 7,200 volts and the Rural Electrification Administration states that the present load represents only a third to a half of the capacity of the transmission line. The area is served by adequate telephone service.

Public Reaction

It is believed that outside of the tenants to be displaced, there will be little, if any, opposition to the project.

Problems of Acquiring Control

The major portion of the area is in cultivation, and is now or

was last year under irrigation. Of the total 10,150 acres in the proposed project area, 8,188 acres are included in two ownerships: (1) the X-Y Ranch with 4,668 acres, and (2) the American Beet Sugar Company with 3,520 acres. The remaining 1,962 acres are made up of small ownerships.

The X-Y Ranch lands are owner-operated and no problem would be presented in acquiring immediate possession of these lands. However, the lands of the American Beet Sugar Company are all tenant operated, with about 20 white families and 3 Mexican families involved. Most of these tenants have been on this property for several years. Generally the leases are on a year to year basis, but some are for as long a period as three years. It is believed these operators are generally well satisfied with their present leasing arrangement and will be unwilling to have their leases terminated and would no doubt find it difficult to relocate themselves as advantageously as they are now situated. The American Beet Sugar Company has stated they are not willing either to lease or sell their lands located within the proposed project, but if necessary to cooperate with the present emergency would rather sell than lease. It is believed the remaining small tracts within the area can be acquired without difficulty.

The owner of the X-Y Ranch asks $144,500 for the land. The American Beet Sugar Company declined to name a price on the land they own. The small tracts included in the area, amounting to 1,962 acres, can, it is believed, be bought for an average price of about $30. per acre.

Opportunities for Work Off the Project

The entire area surrounding the land proposed for acquisition is in heed of agricultural labor. Beet labor will be needed badly in the general area this year. There are no opportunities for industrial work in the area.

Sewage Disposal

Sewage disposal will present no problem if standard disposal plants are installed.

Fuel

There is a matural gas line through the town of Granada. This is a branch of the line that runs from Hugoton, Kansas, to Lamar, Colorado. The operating company is the Colorado Gas and Utilities Company. The additional capacity that this line could carry is unknown.

Legal Description

Twp. 22S., Rge. 44 W

SE 1/4 Sec. 35; S 1/2 Sec. 36;

Twp. 23S., Rge, 44 W.

Sections 1, 10, 11, and 14; E 1/2, SW 1/4, S 1/2 of NW 1/4, NE 1/4 of NW 1/4 Sec. 2; S 1/2, S 1/2 of N 1/2 Sec. 3; SE 1/4 Sec. 4; NE 1/4 Sec. 9; E 1/2 of E 1/2 Sec. 12; E 1/2, E 1/2 of W 1/2 Sec. 15;

Twp. 22S., Rge. 43W.

W 1/2 of SW 1/4, SE 1/4 of Sw 1/4, SW 1/4 of SE 1/4 Sec. 31;

Sections 6,8,9, and 15; S 1/2 of SW 1/4, SW 1/4 of SE 1/4 Sec. 4; S 1/2, S 1/2 of NW 1/4 Sec. 5; N 1/2 of S 1/2, and that part of the S 1/2 of S 1/2 lying north of the A. T. & S. F. Railroad right of way, in Sec. 7; SW 1/4 of NW 1/4, W 1/2 of SW 1/4, SE 1/4 of SW 1/4 Sec. 10; W 1/2 of SW 1/4 Sec. 14; NE 1/4, N 1/2 of SE 1/4, SE 1/4 of NW 1/4, NE 1/4 of NW 1/4, all north of railroad in NW 1/4 of NW 1/4 in Sec. 16; that part of N 1/2 of NE 1/4 north of A. T. & S. F. Railroad right of way in Sec. 17; NE 1/4, N 1/2 of SW 1/4, S 1/2 of NW 1/4, NE 1/4 of NW 1/4, all of NW 1/4 of NW 1/4 east of X-Y Ditch in Sec. 22; SW 1/4, W 1/2 of NW 1/4, NE 1/4 of NW 1/4 Sec. 23.

All located in Propers County, Colorado.

Soils and Crops

The principal soil types found in this area are the Manvel silt loam, Las Animas silty clay loam, and Las Animas clay loam. The Manvel silt loam is one of the most productive soils of this region. The Las Animas soils are mostly heavy textured, affected by high water table and alkali accumulations in some places. The Granada Drainage District has improved the condition of much of these heavy textured soils. For the type of crops that can be grown on this project an average of 4 acre-feet of water per acre is believed to be adequate.

The irrigated and irrigable soils have been designated on an attached map as Class A and Class B. The Class A. lands are in most cases silt loam in texture, with good moisture-holding capacity, and good sub-surface drainage. The Class B. lands, which are heavy textured

for the most part, have been improved in many instances by drainage and incorporation of organic material in the surface. Class D. lands are range lands or lands unsuited to irrigation.

Crops well adapted to this area include sugar beets, alfalfa, small grains and truck crops such as cucumbers, onions, tomatoes, beans, peas, cabbage, potatoes, sweet potatoes, and melons. Average yields on the best soils are: sugar beets 12 to 14 tons per acre; alfalfa 3 to 4 tons per acre; and barley 50 to 60 bushels per acre. Average yields of truck crops cannot be given as very little commercial production of these crops has been attempted in this locality.

There has been some damage to sugar beets by infestations of nematodes and leaf spot but this damage has been limited under a rotation system of farming.

Water Supply and Water Rights

Water Supply

Ground water is available over practically all of this area at depths of not more than 30 feet. The ground water occurs in alluvial gravels and is replenished, to a large extent, by surface discharge of the Arkansas River and rainfall. The permeability of the alluvial gravels is high and wells in them will yield a large volume of water. This water is rather hard and therefore not too desirable for domestic uses although it can be used for those purposes. Water of good quality is also available in lower strata (Dakota Sandstone) and can be obtained in sufficient quantities for domestic purposes from a depth of about 250 feet.

The X-Y Irrigation Ditch Company

This company was incorporated in 1889 with a capital stock of $15,000 divided into 150 shares of $100 par value. In 1933 the company was advertised as defunct and inoperative for failure to file annual reports as required by law.

The ditch has Priority No. 11, dated July 22, 1889, for 69.0 cubic feet per second of water, or 0.46 c.f.s. per share. Water Commissioner records for the period 1924 through 1941 show an average of 2,491 acres irrigated and an average of 6,442 acre-feet diverted annually for a gross diversion duty of 2.59 acre-feet per acre. In order to divert a gross amount of 4 acre-feet per acre it would be possible to irrigate only about 1,350 acres on the basis of diversions during 1940 and 1941. These years are used as a basis since the indications from snow surveys and present water conditons are that 1942 will be comparable to them. The condition for 1943 is unpredictable.

Operation and maintenance charges on the system are not readily available.

The Graham Ditch Company

This company was incorporated in 1889 with a capital stock of $10,000 divided into 100 shares at $100 par value. Its corporate life is being maintained even through the ditch is not being used at present. This ditch is operated under Priority Order No. 17 for 61.0 c.f.s., dated August 24, 1891.

This ditch has not been in operation since 1936. For the period 1924 through 1936 the Water Commissioner's records show an average of 756 acre-feet of water diverted annually for application

on an average of 1,240 acres. This is a gross system duty of 0.61 acre-feet per acre. In order to have about 4 acre-feet available for each acre, it would be possible to irrigate only about 200 acres of land, which would require one share of stock for each two acres irrigated; however, very little of the land in the proposed project could be served by the Graham Ditch.

The Lamar Canal and Irrigation Company

This is a mutual irrigation company with 26,000 shares outstanding. The ditch is operated under the following adjudicated rights:

Priority Number	Date	Amount c.f.s.
3	11/30/75	15.75
6½	11/4/86	72.09
7½	4/16/87	13.64
13	7/16/90	184.27

Water Commissioner records show that for the period 1924 through 1941 an average of 30,415 acre-feet of water were diverted annually for application on 7,128 acres. This is an average gross system duty of 4,27 acre-feet per acre. In order to maintain the present average conditions it would be necessary to have about 146 shares of stock in the company for each 40 acres of land which is irrigated.

Average operation and maintenance charges have been 25 cents per share of stock. The company has no indebtedness.

The Manvel Canal and Irrigation Company

This company was first incorporated March 18, 1912, for a capital stock of $54,000. This is divided into 5,400 shares with a par value of $10. The ditch is operated under Priority Order No. 15 for 54.0 c.f.s., dated October 14, 1890.

Water Commissioner records for the period 1924 through 1941 show that an average of 4,057 acre-feet have been diverted annually for application on an average of 1,393 acres. This is a gross system duty of 2.91 acre-feet per acre. In order to provide each irrigated acre with about 4 acre-feet it would be possible to irrigate about 1,000 acres on the basis of averages. This would require about 216 shares of stock in the company for each 40 acres irrigated.

The present financial condition of the company and its annual operation and maintenance charges are unknown.

Condition of Works

The X-Y Ditch is in a run-down condition. Many farm turnouts on the X-Y Ranch are in need of repair or replacement. The main diversion of the X-Y Ditch at the river was washed out this spring by flood waters and no attempt has yet been made to replace it. The river diversion for the Manvel Ditch was also washed out this spring and has not been replaced, but the ditch, including the headgate and farm turnouts is in good condition. The Lamar Canal is in good condition throughout its length.

Granada Drainage District

There is a legally organized district within the boundaries of this project which has at the present time some outstanding bonds. The bond issue was originally for $90,000 in 1923. The first bonds were to be due in 1929 and to run ten years. The last series was due in May of 1938. At present there is still $14,000 of this issue outstanding. Under drainage district laws the entire district is not held responsible for the issue but only for the proportion that attaches to each acre of the district. Therefore, much of the land must be free of this bonded indebtedness while some few acres still are in default. The location of the land that is still encumbered has not been determined but it is recommended that the land be appraised and acquired on a debt-free basis.

Camp Site

All of Section 14, Township 23 South, Range 44 West, has been selected as an evacuee camp site. This area lies somewhat higher than the remainder of the project. The soil is quite sandy. The topography is sloping to gently rolling.

Cost of Project

It is believed the various tracts could be acquired as follows:

American Beet Sugar Company	3,520 acres	$650,000
X-Y Ranch	4,668 "	144,500
Small tracts	1,962 "	60,800
	Total	$855,300

Post War Value of Project

It is believed that if the lands owned by the American Beet Sugar Company should be acquired at the present fair market value they will have only about that same value after the present emergency because of their present improvement and high state of fertility. The remainder of the project lands, through improvement of the irrigation facilities and increase in the soil fertility, will be materially enhanced in value. If these lands should be acquired and improved through intensive cropping use it is believed that the government could dispose of these lands to advantage as desirable small farm units after the present emergency no longer exists.

Recommendations

It is the recommendation of the site appraiser that a Reception Center be established in the Granada area, to house approximately 5,000 evacuees. It is recommended that the land outlined on the attached map, with necessary water rights, be acquired; that with the exception of the land owned by the American Beet Sugar Company, the lands be acquired by purchase, as much improvement of these lands will be required. The lands owned by the American Beet Sugar Company should be acquired either through lease or purchase, as no particular amount of improvement could be accomplished.

X Y RANCH

PREPARED

FOR THE USE OF

J. H. JENKINS

OLIN HOTEL

DENVER, COLORADO

March 20, 1942.

LOCATION

The X Y Ranch is located in Prowers County, Colorado, between the towns of Granada and Holly, about 10 miles from the Kansas state line.

It is about 250 miles from Denver, 140 miles east of Pueblo, and about 480 miles from Kansas City, Missouri.

This is an area of few people and has no industries vital to the war program.

It is traversed by U. S. Highway No. 50 and the Santa Fe railroad.

RANCH HISTORY

It is one of the historic spots of the West. This Ranch was developed by Mr. Fred Harvey, of the famous Fred Harvey eating house system of the Santa Fe railroad, and used by him to produce milk, butter, eggs, meat, melons, vegetables, etc., for his eating houses prior to the year 1900.

Mr. Harvey started to develop this ranch in the 70s, at or soon after the time when the Atchison, Topeka & Santa Fe Railroad was built to old Granada, which is now Barton Switch or the headquarters of this Ranch. The Ranch was sold soon after the turn of the century by Mr. Harvey's heirs, but has principally been held intact and operated as one unit since that time, the different houses on the Ranch being used as homes for farm laborers working on the Ranch.

This Ranch was acquired by Mr. Elbert S. Rule of Wichita, Kansas about the first of March, 1933, from receivers of a defunct bank in Quincy, Illinois, at a time when it was in a badly run down condition and since that time he has spent considerable money bringing it back to its present state of cultivation.

IMPROVEMENTS

At the headquarters there are four houses, the main dwelling is a seven room, one and one-half story frame, modern, except for heat, "fire place in living room" with screened porches, cement sidewalks, etc.; one five room stucco; one four room frame; and one two room stucco; one five car garage; one barn 48 x 150 feet, numerous out-buildings, feeding corrals, granaries, etc. Farm lighting plant furnishes electricity for lighting and household necessities.

There are a number of sets of improvements at convenient points throughout the ranch where employees and their families live.

Photographs of the above are attached. omitted

At the ranch house there is a soft water well, 250 feet deep, drilled, cased and formerly flowed, but which at the present time is powered by a windmill, with an elevated storage tank, supplying domestic water for the houses at the headquarters. There are also nine shallow wells which are pumped by windmills, four of which are equipped with 250 barrel galvanized iron storage tanks providing water for livestock, along with the water from the Arkansas River. An abundance of water can be had on the entire ranch at a depth of from five to thirty feet which is the level of the Arkansas River.

F E N C E S

There is something like fifty miles of fence of three and four wire with cedar and steel posts one rod apart, and there has been three miles of woven wire fence with steel posts built on the Ranch in the past eighteen months and more fence is being built almost daily. At this time the pasture and dry land has been divided into six parts so that it can be and is used for the breeding of registered Hereford cattle, and we believe the finest registered Hereford cows in the Arkansas Valley are owned and kept on this Ranch by Mr. Rule. You will find in the photographs some views of these cattle. omitted not yet available

S O I L S

Attached is a map prepared by the Bureau of Soils showing, in appropriate colors, the soils on this Ranch and adjoining lands. omitted only have one copy. will have supply in few days

It will be noticed that a large portion of this Ranch is designated as Manvel silt loam, as shown in the report contained in Bulletin 24, Series 1926, of a soil survey of the Arkansas Valley area of Colorado, compiled by the United States Department of Agriculture, Bureau of Chemistry and Soils, in cooperation with the Colorado Agricultural Experiment Station. available in S.F. if desired

At Page 33 of their report it is said, "Drainage of a large part of this soil is good, and little alkali is present. Moisture requirements are low. This is one of the most productive soils of this region. Alfalfa, sugar beets, corn, and small grains are grown".

The western part of the Ranch is designated by the survey as Las Animas Clay Loam, of which the report states at Page 30, "If well drained it should be productive". It since has been drained and is very productive.

Lands near the River on the Ranch, which is natural hay land, have been designated in said report as Las Animas Silty Clay Loam, similar to other low lying lands in the Arkansas Valley. Of this land at Page 30 the report says, "This soil gives good yields of sugar beets, alfalfa, corn, and small grains, it is

extensively and successfully used near Pueblo for growing cauliflower and other crops.

TOPOGRAPHY

All of the irrigable land is of an almost level nature, sloping from west to east with a fall of five feet to the mile, making this ranch ideal for irrigation, and on account of the Drainage Ditch it all drains exceedingly well. The lands lying south of the headquarters improvements slopes from south to north a little faster, however, it has been leveled until it irrigates excellently, and is of a more sandy nature and requires less irrigation water to raise a crop.

C R O P S

The present owner has proven, within the past season, that all of the land in cultivation is adapted to the raising of alfalfa, corn, all of the small grains, melons, onions, truck and garden farming, but since Mr. Rule is in the livestock business he confines his crops to alfalfa, wheat, barley, corn and sorghums, he feeds all but the wheat to cattle and hogs. This year, 1942, he has 200 acres of alfalfa, 800 acres of wheat, 600 acres of barley, and about 800 acres in corn and sorghum crops. The barley & Corn land could be devoted to Beets & melons & Oats if planted soon

There is approximately fifteen hundred acres of native hay and pasture land lying between the Drainage Ditch and the Arkansas River which is very productive, and after the hay is out in the fall there is an abundance of fall pasture for livestock. However, most of this land is or would be good farm land if put in cultivation, as there is an abundance of irrigation water available that can be applied on this land with very little expense. water rights ?

IRRIGATION

Main Water Supply

The principal water supply for the Ranch is derived from the Arkansas River through the headgate and canal of the X Y Ditch, being under priority No. 11, under decree of July 22nd, 1889 for sixty-nine second feet of water, which for the purpose of administration, was divided into one hundred thirty-eight water rights, each presumed to be sufficient for forty acres of land, of which number the owner of this Ranch is the owner of one hundred twenty-seven water rights conveyed and distributed over the cultivated and irrigated portion of said Ranch.

Supplemental Water Supply

In addition to the main water supply, which has proven sufficient under all ordinary circumstances, the owner of the Ranch is also the owner of a supplemental water supply derived from pumps.

The principal pumping plant is located in the Town of Granada at a point where water so produced may be distributed to any portion of the Ranch, this pump being twelve inch centrifugal type, powered by a twenty-five horse power natural gas engine furnishing ample power at a cost of eight cents per hour for fuel, delivering eight second feet of water indefinitely, which may be used

instantaneously at any time for as long a period as needed to supplement the main water supply.

In addition to this main pump, just below where the two Drainage Ditches join is a second pumping plant deriving its source of supply from the Drainage Ditch, which delivers approximately six second feet of water, which can be increased to fifteen second feet by a larger pump, which water supply may be delivered to all lands lying east and north of the point of the plant, irrigating approximately seven hundred acres.

Potential Water Supply

All of the Ranch is under-layed with an abundant underground water supply, which may be contacted at depths from eight to fifteen feet, and will supply an unlimited amount of water for irrigation purposes, for which natural gas power may be secured from gas lines in the Town of Granada, at the west edge of the Ranch, or may be powered by installing Deisel Engines. The pumping plant located just west of Granada proves beyond a doubt there is an unlimited supply of water at this level which can be used for irrigation purposes when pumped, and as this sub-surface water is almost entirely free of alkali there is no danger of it souring the land.

The depth of these wells is twenty-one feet from surface, forty feet total depth, and the draw-down never

more than thirty-five feet from surface, twenty-one feet being on a level with the base of The Arkansas River.

In ordinary seasons the X Y Ditch water would be sufficient if economically handled to serve all of the tillable land on this ranch.

Owing to the national drouth that has occurred over the western states during the past five or six years, the present owner developed the above referred to pumping plants to supplement any shortage of water by reason of this drouth. 1941 being a more normal year, little use was made of these pumps.

The John Martin dam, which is being constructed by the army engineers (and which will likely be completed in 1942) on the Arkansas River immediately west of Lamar, is intended to, and will, stabilize the flow of water to the ditches along the lower Arkansas River in Colorado, thus permitting the water supplied by pumps to be carried to adjacent lands that can be acquired at this time at a very low cost.

Granada Drainage District

The Granada Drainage District has done a very effective job of draining all of this land embodied in the District, and is said to be one of the best Drainage systems in the State, having been constructed in 1923. Maintenance expense is very low. The owner states this

Drainage Ditch develops about twenty second feet of water at all times, which can be pumped onto this land and used for irrigation.

We are inclosing two photographs of sections of the Granada Drainage Ditch, showing the flow of water at this time, and if you will refer to these and to the maps showing the Granada Drainage Ditch you will note this Ditch is mostly of a straight nature, and on account of the fall the expense of keeping it cleaned is small and it drains the land very effectively.

Will have all these photos developed in few days -

TIMBER

There is considerable small timber and brush, together with quite a little large cottonwood saw timber skirting this land on the north along the bank of the Arkansas River, affording the finest of wind break for livestock and crops protection that can be found in the Valley; there is also a considerable amount of wood for fuel and saw timber to be used for building purposes.

NATURAL GAS

The Colorado Gas & Utilities Company has a natural gas pipe line from the Hugoton, Kansas, fields to Holly, Granada, and Lamar, and other southeastern Colorado towns. It is piped to within one quarter of a mile of the west end of the Ranch.

ELECTRICITY

The Municipal owned Light and Power Plant, located at Lamar, has an electric highline furnishing the towns of Holly and Granada, and these lines run directly through the Ranch, and electricity can be obtained at any point desired. For the first year after the irrigation pump, located at the west edge of Granada was installed, electricity was used for power, but as the present owner realized Deisel Engines to be much more economical in operation he found he could install these engines and pump the water for irrigation at a cost of ten cents per hour for fuel, this was approximately one-third of the cost of the electricity, and this ten cents per hour will develop eight second feet of water, or about thirty-seven hundred gallons of water per minute.

The Main Toll and Exchange Line of The Mountain States Telephone and Telegraph Company extends through the property, easterly and westerly, providing the best of facilities and service to all points on the property.

TRANSPORTATION AND MARKET

The Santa Fe Railroad skirts this Ranch, they have a switch at the headquarters known as Barton, with livestock shipping pens, sugar beet dump, and other loading facilities. The west end of the Ranch is within one quarter mile of the Granada depot. U. S. Highway No. 50 crosses the Ranch which gives bus line accommodations as well as an excellent truck market. There is a pickle shipping point at Granada, an alfalfa mill at Bristol, which is four miles away, also an alfalfa mill at Holly, six miles to the east. Holly also has two elevators. Lamar, 20 miles west, has one of the largest flour mills in the State.

SCHOOLS

The schools are located at Granada, one-half mile west of the west end of the Ranch, being Prowers County Consolidated School District No. 8, and Prowers County High School District No. 1. The grade schools teach all the lower eight grades and the High School the regular four year courses. The School District operates school busses and picks up the children at their own door and delivers them home in the evening, thereby affording all the children on the Ranch the same school facilities as children living in town. Lamar, 20 miles west, has a Junior College.

TRADING POINTS

Granada, the nearest town, joins the Ranch on the west, it has about 350 population and is an excellent trading point for that size town. Holly is about five miles east of the Ranch, it has a population of about 1,000 people, complete stocks of nearly all kinds of merchandise, electric lights, natural gas, water and sewer systems, five or six churches, excellent schools, etc.

Lamar, the County seat, is about 20 miles west, it has a population of about 5,000 people and is one of the real good towns of the State.

MAP OF RULE X-Y LANDS

PROWERS COUNTY ——— COLORADO

SCALE 1" = 800'. NOVEMBER-1935.

4668 acres

SWOPE-BRADY INC. Grass Pasture and Meadow land. Cultivated land irrigated approximate 2388 acres. 2280

2200 Cult. 2466 Gross 4666

SWOPE-BRADY INC.

Arkansas River.

E. End of A.B.S. Ranch 7 5100 acres.

X-Y Canal

← 17 mi. to Lamar.

Main Line Santa Fe Ry

Santa Fe Trail - Route 50.

Headquarters

5 mi. to Holly.

OPEN CHANNEL

GRANADA DRAINAGE DITCH

BUFFALO CREEK

AMITY DYKE

ARKANSAS RIVER

CANAL

SWOPE-BRADY INC.

Basin

T. 33 S.

R. 44 W. R. 43 W.