A Report on

A COMMUNITY CENTER, DAY-SCHOOL AND CLINIC

FOR OLD LAGUNA, NEW MEXICO

BY

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Submitted in Partial Fulfillment of the Requirement for the Degree of Bachelor of Architecture from the

Massachusetts Institute of Technology Department of Architecture.

1934

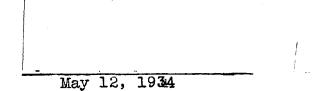


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1905 N. Street, N.W. Washington, D.C.

May 12, 1934

Dean William Emerson Chairman of Thesis Committee Architecture Department Mass. Institute of Technology.

Dear Sir:

As a partial fulfillment of the requirement for the Degree of Bachelor of Architecture at the Massachusetts Institute of Technology, I herewith submit the following Thesis entitled "A Community Center, Day-School and Clinic".

Respectfully submitted,

Nina Perera Collier

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LIST OF DRAWINGS SUBMITTED

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I. BACKGROUND.

The Keresan Indian village of Old Laguna is situated in western New Mexico. Its population consists of 500 individuals, while the whole Tribe of laguna has 2226 members. A study of the social background reveals a close knit community organization. The inhabitants of Old Laguna are divided into associations, the Water Clan, the Parrot, the Sun, the Corn, the Bear, the Lizard, the Oak, about 18 groups. Each clan has some special function in the community life with certain ceremonial duties. The strong sense of individual responsibility toward the collective welfare is a charecteristic of pueblo life. This highly developed communal attitude should be encouraged and preserved.

It is interesting to note that the government of the Tribe, that is, of the entire Pueblo has a form of written constitution, with a democratic election system, a Council, and a Governor.

About 100 of the children of Old Laguna attend school; 49 of these go to a day-school while others are sent to boarding schools or the Mission institution, and some few attend the local Public School. In 1933, the Bureau of Indian Affairs included in its

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list of new buildings to be constructed from Public Works funds, a projected school at old Laguna. Subsequently, the Council of the old Laguna tribe was misinformed by local politicians who feared that the "white" community would be taxed for the school and the Council rejected the proposal so that the project was abandoned and the funds applied to a school in another pueblo. It is obvious, however, that within a few years the need for a school will arise again when the natives realize their mistake and undoubtedly they will request the new buildings.

Until recently the Indian Bureau has been sending the Indian children far from their homes to boarding schools, dislocating them from their background and making the children lose contact with their origin and their native culture. This has been one of the factors which has lead to the demoralization and lack of self-confidence of the new generation of Indians who come back to their homes equipped with a useless "white" education which in no way relates to the particular community in which they live. They have lost respect

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for their customs and are ill fitted for the life which they will have to lead. As rapidly as possible this system is being supplemented by the establishment of many day schools in each locality where it is hoped that the work of the school will be closely related to community life.

II. THE PROBLEM

In what way can white civilization serve the Indian and enable him to meet the white world around him and develop his economic and spiritual independence? It can provide him with health training and good sanitation. The infant mortality of Laguna is far greater and the death rate double that of the average white community. Trachoma and tuberculosis are diseases which prevail with shocking frequency. The water supply and drainage system is totally inadequate. Secondly, white civilization can give the Indian special equipment and training for improved agriculture, the operation of machinery, the pursuit of building trades, carpentry, craft work, in order to solve the grave economic problem of his existence.

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It is assumed that at some time in the near future the Federal Government will establish a Community center, day school and Clinic which will meet these needs. Such a group of buildings would be a center to train the inhabitants to meet their economic, health and sanitation problems. The school would aim at adult education first of all. The teaching of the children is a second step.

The project herewith submitted represents an attempt to find a solution to the architectural problem involved.

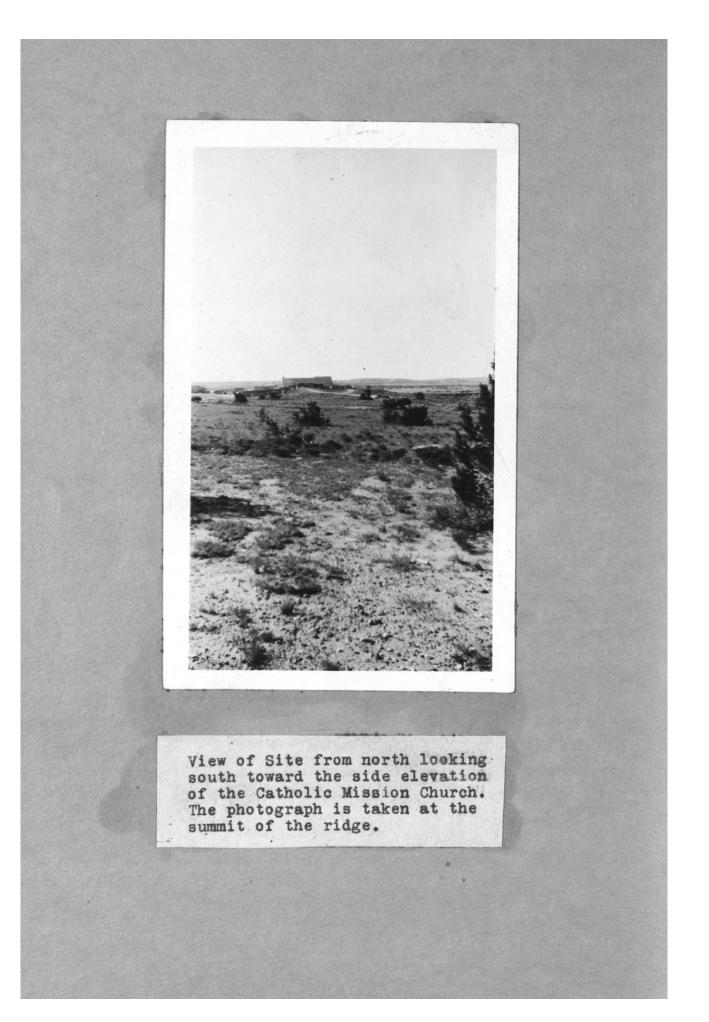
III. SOLUTION

The buildings of the proposed plant consist of a Community Center with provision for expansion, a Clinic or small Hospital, a Foreman's Cottage, Service Court and Garage, a Superintendent's Cottage and a Teachers' Quarters.

A. Location

Old Laguna consists of a cluster of buildings grouped around the Catholic Mission Church on the southeast slopes of a rocky hill. The facade of the Church dominates the silhouette of the village as one approaches the pueblo from the main highway. Between the Church on the south and the road on the north the ridge of the hill extends, forming an extensive flat space with the ground descending toward the east and west. On this ridge the Federal Govern-

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ment proposes to erect the Community Center.

B. General Layout

The site chosen for the proposed group of buildings permits a new road to run north and south from the main highway along the ridge on an axis directly in line with the existing foot path in front of the Church. The buildings of the plant will lie on either side of this road in a rambling fashion preserving the informal character of the Laguna dwellings and taking advantage of the topography.

The main building is the Community Center and Day School, which when completed will form a long structure to the west of the road. Opposite its southern extremity and on the other side of the road lies the Clinic at a slightly lower level. The intersection of the roads leading to the Service Courts of both buildings forms a circle at the main axis.

Opposite the north end of the Community Center and its entrance plaza is the Foreman's Cottage with the large Service Court and Garage while the small Superintendent's Cottage and Teachers' Quarters are situated on the west side of the road following the curve of the ridge and completing the composition.

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C. The Community Center or Day School.

This structure is expandable. The first unit of the Community Center to be built is its south most wing. The additions extend northward. The division takes place at the center of the building where the subsidiary door occurs in the east elevation. For the sake of clarity it will be simplest to consider the Community Center as a whole in its expanded form.

The long east elevation of the building is parallel to the road and a corridor forms the core of the structure joining the community lobby on the south with the main entrance lobby for the auditorium on the north.

The main entrance to the building under a porch is flanked by the stairtower on the left and the cloak room and combination library, art gallery on the right. Both these rooms are entered from the lobby which also gives access to the auditorium to the west. The auditorium $(30' \times 60')$ for 350 peoplehas a stage space 30' wide by 15' deep. The balcony over the lobby is reached from the stairtower. The large hall is a simply conceived spacious room illuminated by high windows in its south and north walls. By

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heightening the walls of the stage and admitting light through a clerestory window, the mysterious effect is achieved so characteristic of Mission Churches. The stage is served by a dressing room with special outside entrance and an opening into the auditorium. The auditorium has an extra exit at the north side near the stage and a large closet for storage. It is planned that the auditorium will be used also as a gymnasium.

Continuing from the entrance lobby down the corridor are found the superintendent's office on the east side and boys' lavatories and lockers on the west. Next to the office are two classrooms each 30' long and 22' wide.

Each classroom has a bank of five window units made up of horizontal pivoting sections. At the back of the room is a cupboard and a picture shelf while the wall opposite the windows contains a cork bulletin board and the front of the room a blackboard. Opposite the classrooms is a terrace where in the future more classrooms may be built.

Proceeding down the corridor we encounter the subsidiary childrens' entrance. On the west side of the corridor are the girls' lavatories and lockers, a hall staircase to the women's toilets and

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laundry below, and two (22' x 30') classrooms. The east side of the hall is flanked by the model living room or sewing room of the homeeconomics unit, by its experimental kitchen, the service entry-way and the main kitchen of the Community Center. The home-economics unit is the place where the women of the village congregate and the girls are trained. The experimental kitchen is equipped with two stoves, two sinks and drain boards, dressers and refrigerator. The service hallway between the experimental and the main kitchen has an outside entrance and contains a large storage closet and a stairway leading down into the basement. The kitchen has the needed equipment, stove, two refrigerators, sinks, dressers and tables.

The corridor leads directly into the community lobby with its separate entrance for the villagers and a staircase down to the basement. The east wall of the lobby admits entrance to the dining and meeting hall, built to accommodate 100. It is 26' x 46' in dimensions. South windows light the room giving a view of the Church and the village. The kitchen already described serves this hall.

From the south side of the lobby one descends to the shop on a lower level, by a flight of five steps. It is 22' wide x 49' long and its south wall

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contains large doors to allow passage of a car or tractor for repair. The shop will be fitted up with benches and machinery as required for pottery, basket work, metal work, carpentry and machine work. Light is supplied by east and west windows.

Returning to the lobby to the west is a small room for general science, or art work, with the desirable north lighting.

The basement of the Community Center extends only under the kitchen and under part of the west side of the building where the contours of the land make available ample light. Under the art or science room are the men's wash rooms, showers, toilets, etc., which can be reached by an outside path or from the inside by the stairs in the lobby. It is planned to have the boys use this staircase, keep their lockers in the basement, making use of the men's lavatory facilities. They have an exit to the play field from the locker room. The women will have their special entrance into the basement farther to the north in the middle of the west elevation where an entry way gives access to the laundry on one side (two rooms 22* x 30* each) fully furnished with the necessary apparatus and the women's toilets and showers. These are placed under the girls' toilets for simplification in plumbing.

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Under the kitchen are the storage and heating units and so placed that the chimney for the heating units also supplies the flue for the stove in the kitchen above. Entrance to this part is made through either the inside staircase from the kitchen lobby or the outside staircase at the service entrance where fuel can be delivered to the boiler room.

D. The Clinic

The small hospital situated at a short distance from the Community Center is related to it yet sufficiently separated to insure privacy. It lies horizontally parallel to the axis of the ridge.

One nurse is constantly in residence there and at regular intervals a doctor visits the infirmary. It is hoped that the nurse will be sufficiently enlightened to take into account the special attitude of the natives toward white medicine and that she will be wise enough to try to associate health measures with the actual life and customs of the inhabitants. She will find that trachoma, an infectious and contagious eye disease, is most prevalent here, while tuberculosis cases are also frequent. Maternity cases and infant care will form a large part of the

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nurse's duties. Besides teaching the women, she must train the Indians to take special precautions as they suffer from trachoma. It is hoped by the establishment of a clinic of this type with health classes she may be able to eradicate this disease so dangerous to the community and prevent it from spreading.

The hospital has an entrance porch which leads into a spacious corridor with the men's ward on the south and women's ward on the north. The patient enters the main corridor and finds directly opposite the entrance the consulting room and office with a small closet containing the wash stand for the nurse. Toge the left is the treatment or operating room with a door opening into the sterilizer room, containing the large and small sink and large and small sterilizer and a dresser needed as special equipment for this room. Next to each ward is a bath room accessible also to the corridor, one for men and one for women. Then, opposite the sterilizer room. is the nurses wing with her bedroom-sitting room, adequate closet space and bath. The kitchen conveniently supplied with long dresser space for trays, large icebox, large stove, fuel and storage closets, faces the corridor and lies along the

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women's ward. It is supplied by a service entrance on the court to the northwest, cut off from any connection with the women's ward by a high wall. The wards are of standard dimensions for three beds and contain the correct standard lighting. The windows of the men's ward face southward and in the east wall is a door sufficient to allow the passage of a bed. The women's ward has its main windows to the east with a door on the north. Both wards have veranda space where patients needing outdoor light may be placed. This building is heated by the central system of the Community Center. The only chimney flue needed is that of the stove in the Kitchen.

E. Foreman's Cottage, Service Court and

Garage.

Proceeding northward to the Foreman's Cottage and Service Court and Garage, we find this group on the east side of the road. The Foreman's cottage is placed in such a way as to have a good control over the entire plant and yet so as not to obstruct the view from the Community Center. The Service Court is accessible to the main building but nevertheless separated. A bus is housed in the garage and space is provided for

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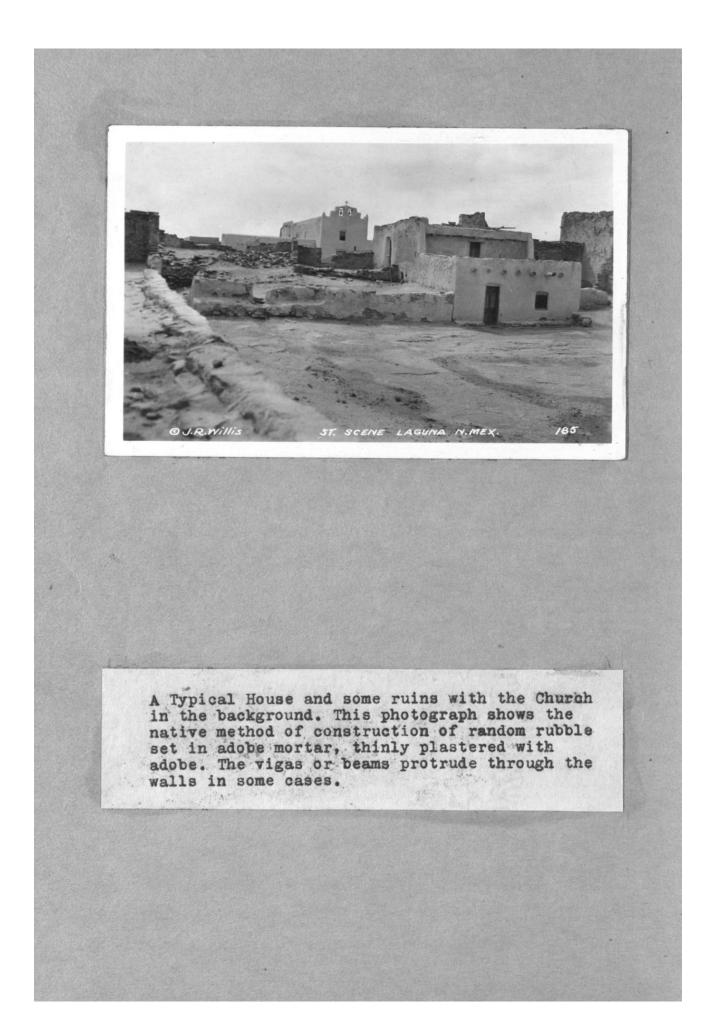
three extra cars. Probably a gasoline pump and such service needs will be placed in the court where visitors may park their cars. The house of the foreman contains two double bedrooms with their respective closets, the bath between the two rooms, a large living room with a corner fire place, a dining alcove and kitchen with its special entrance. There is a closet for fuel and supplies in the kitchen and a large hall closet for trunks. The unit heater in the hall, the stove in the kitchen and the fire place in the living room, all are served by the same chimney.

F. <u>Superintendent and Teachers Quarters</u>. The Superintendent and teaching staff of the school reside in the two houses apposite the foreman's house to the west of the road. The Superintendent's Cottage contains a one car garage, bed room, closet and bath, large hall closet for storage, living room, and kitchen, and is sufficiently large for one person or for a couple. It takes advantage of the site, having its rooms facing the south and west and its service area north and east. A veranda offers a pleasant view over the valley. The teachers' quarters, a long structure to the north of the

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Superintendent's Cottage has at its north extremity a large two-car garage with ample storage space. Its service entry gives access to kitchen. storage closet and garage. The main entrance leads into a small lobby with hall closet. This opens into the large living room, and dinette. A door leads out from the dinette to the veranda and a french window also provides access to the veranda from the livingroom. The bedrooms are reached from a long corridor from the lobby or from a special entrance at the south end of the building. Two small bedrooms use a common bath room and have adequate closet space while the third bedroom, large enough for two beds, is supplied by a bath with shower. A heater is placed at this end of the corridor with a small storage space for fuel, while another heater is situated in the main entrance hall with its flue in the chimney which also serves the stove and the main living room fire place. A hall closet adequate for trunk storage is at the end of the hall nearest the entrance lobby. All the rooms have access to the balcony.

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IV. CONSTSTRUCTION AND MECHANICAL EQUIPMENT.

In the past it has been the practice of the Bureau of Indian Affairs to disregard the native materials, often to build stuccoed frame houses with gabled roofs where the local material was stone or adobe calling for flat roofs. Even in Old Laguna we find the influence of the gable disturbing the horizontal lines of the dwellings. It is our intention to overcome this tendency by using native construction methods. These have not only the advantage of fitting their envirement aestheticly but are the most practical for insulation and durability. The climate is dry and has extremes of temperature with intense downpours of rain.

The Laguna practice of building construction is therefore to be maintained and the Indians themwill do the building under the direction of a white foreman. One of the objectives of the program is to train train native masons and builders.

The description of building methods which follows is in accordance with Standard Federal Specifications and is applicable to Indian Service Consir truction projects.

A. <u>Materials</u> The plantis to be built of native sandstone quarried from a neighboring hill, of adobe mud, and of vigas or exposed beams obtainable in the vicinity. The adobe used throughout is to be made of good local clay with the proper amount of clean straw chopped for a binder.

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B. Foundation. The footings are to be laid 3' below the grade. The foundation is to be 4" thicker than the bearing wall in order to support the plate on which the joist will rest. Below the grade and up to the first floor level the stone will be laid in Portland cement mortar, but above this level the stone is to be laid in adobe. There shall be vents in the exterior walls to the subfloor space. In the case of the auditorium heavy peirs set about 7' on center down the length of the auditorium, 2' square and 6' deep will support the heavy plate on which the floor joists rest. The stage and lobby floors also rest on plates supported by piers.

C. <u>Walls</u>. The walls, of stone to be laid in. adobe, are in general 1' 6" thick but in the case of the auditorium and the stair tower of the Community Center, 2' thick. They are to be plastered on the inside with adobe plaster and outside with a think coating of plaster bringing the wall flush with the surface of the larger projecting stones. The interior walls will receive two coats of calcimine paint. In the Clinic

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the sterilizer room, bath rooms and treatment or operating room, shall have walls constructed of metal lath and plastered, with tile wainscoting 6'6" up from the floor.

D. <u>Floors</u>. Most floors are to be made of wood with the usual practice of construction. In some cases linoleum is to be used, as in the kitchens, home economics room, hospital wards and hallway. In the basement, the shop, laundry, bath rooms, sterilizer room and operating room of the Clinic, the floor is to be made of cement.

E. <u>Chimneys</u>, <u>Fire Places and Hearths</u>. The boiler flue should be lined with fire brick laid in fire clay. Fire places will be made of adobe by the native women experts who use the parabolic openings and the curved backs. The chimneys are of stone laid in adobe mortar, the flue linings are set in cement with thimbles fitted into the flue linings. The range hearths are to be made of cement 3/16" above the finished floor level so as to be flush with the linoleum.

F. <u>Roofing</u>. Roofing will consist of a layer of rosin sized paper laid with lapped joists and 5 layers of roofing felt, etc., laid directly on

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sheathing which in turn rests on vigas or exposed At the intersection of the flat roof with beams. the parapet wall the tar and felt membrane is carried up to a point 6" from the level of the roof over a cant board to the parapet wall. This is then flashed with 3 ply tar and felt flashing insulation is obtained by superimposing on the built-up membrane at least 5" of adobe mud tamped down and smoothed off with a pitch toward the canales. Sufficient slope for drainage is procured by laying all of the butt end of the vigas at the side of the roof away from the canales or drain troughs. The roof is drained by these wooden canales, lined with copper, which project at least 3' out from the parapet wall and are care-The exact method of roofing profully flashed. cedure is shown in the isometric drawing and is as follows:

- 1. Over wood sheathing place rosin sized paper.
- 2. Lay 2 coats of felt and asphalt of pitch, turn up on cant as shown.
- 3. Canale copper flashing placed between 2nd and 3rd coat of roofing.
- 4. Finish roof with 3rd, 4th and 5th coat of felt and asphalt of pitch and turn up on cant as shown.
- 5. Prime bed for built up flashing.
- 6. Lay 3 coats of flashing felt and mastic cement turn flashing down along cant and at least 2" on flat roof.
- 7. Finish with final mopping on roof and cant with asphalt on pitch.
- 8. Lay adobe.

In the auditorium where the span is 30', vigas with 17" butt and 14" tip shall be used. The dining room 26' wide takes a viga 15" at butt, 13" at tip. These are to be carefully selected of native pine or red fir. Autumn cut and well seasoned, set with bottoms level topsoon line and sloping. In the classrooms with a span of 22', vigas with 13" butt and 11" tip are to be employed. Lesser spans require correspondingly smaller beams.

Frames of doors and windows G. Windows and Doors. are to be bedded in cement mortar and built in with the stone work. Joints between the frames and the exterior walls and the stone are to be filled solidly with mortar. The windows used throughout the construction are of the steel type, horizontally pivoting inward with each ventilator opening separately. A section of a typical class room window and door frame is shown in the present-The windows have steel frames sedured to ation. wooden subframes by screws. Weather bars are set in the bottom of all wooden window frames. The tops of all doors have a weather gap of 16oz. copper turned down 1/2" on both outer and inner face. The windows and doors are provided with insect

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screens. Window and door lintels are to be of wood as shown. Special carved doors will be made in the shop by native craftsmen. Other exterior and interior doors are stock types.

H. Heating. The heating system of the Community Center and Clinic is vapor, gravity return, two pipe upfeed system, with the boiler units in the basement under the Community Center kitchen. This boiler is a soft coal burning low pressure vertical, sectional, cast iron, steam heating boiler of the smokeless type and designed by the engineer for the requirements of the two buildings. When the Community Center is fully extended, additional sections can be added to boiler as needed. The boiler should be placed on a concrete base 6" high and not less than 3" beyond the bed. The conduits are made of sectional tile and have a continuous concrete mat 18" x 5" thick. The radiators are of the standard type.

In the case of the foreman's cottage, the Superintendent's Cottage and the Teachers' House, hot air heaters are to be used. These burn coal or wood. They are self-contained units 20" square, 47" high, made of heavy cast iron encased in enameled steel jackets with a smoke connection to the flue.

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I. <u>Electricity</u>. Electricity is supplied for the entire plant by a Diesal-power generating plant located in the basement of the Community Center.

J. <u>Water Supply</u>. This is not a problem to be undertaken in this project as the Sanitation and Water Supply Department of the Federal Government has special engineers who design the water supply and drainage systems. A special appropriation of funds will be made for this work.

V. Cost

It is difficult to estimate the exact cost of these buildings until advertisement is made for bids, but a rough computation can be made. At present in the locality of Laguna the cost of such a construction as is called for by this problem will be approximately 25 cts. per cubic foot. The total appropriation of funds needed for the construction alone is therefore \$ 89,329 based on a total cubic volume of 357,717 Cu. Ft.

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ACKNOWLEDGMENT

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The Firm of Mayers, Murray and Phillip, Architectsfor the Public Works Building Program of the Bureau of Indian Affairs for their assistance in supplying material, their cooperation and advice,

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The Education Department of the Bureau of Indian Affairs and Dr. W. Carson Ryan, Jr., Director of Education.

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