

# *General Specifications and Directions for "Community School Plans"*

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## Foreword

First locate a good site, containing two acres or more, well drained, but level enough to serve all the needs for the buildings, playgrounds, agricultural plot, etc.; then determine the number of children to be served, the direction the building is to face and select the plan accordingly. A plan designed to face east or west would not be suitable to face north or south, and vice versa. If care is taken in selecting the plan and facing it according to directions, every classroom will receive either east or west light. No classroom should receive north or south light.

## General Conditions

The board reserves the right to reject any and all bids and to require satisfactory bond from the contractor or foreman for the faithful execution of the contract.

The contractor will be required to supply all labor and material of every kind necessary for the completion of the building in strict accordance with the plans and specifications. (If the building is to be erected by furnishing the material and employing a foreman, he should be required to do the work exactly according to plans and specifications, and be held responsible for any errors in construction.)

All materials must be the best of their respective kinds, as herein specified, the work executed in the best, most thorough and workmanlike manner.

The contractor shall lay out the work and be responsible for its correctness. Should any error appear on the plans, it must be reported at once to the board for correction, otherwise it will be done at the contractor's risk.

The plans are a part of the specifications and should anything be shown on the plans and not mentioned in the specifications or vice versa, the same is to be considered a part of the contract and carried out in full.

Wherever free labor, material or anything of value is contributed as a part of the contract price, accurate account of this should be kept in detail, including the estimated value, and reported to the school authorities.

The contractor will be held responsible for the safety and good condition of the work and materials until completion and final acceptance and he shall make good any defects due to improper workmanship or material which may appear in the work either before or after final acceptance of same.

The board of education and their authorized representatives at all times have access to all parts of the work for the purpose of inspection and may reject any or all workmanship and material not in accordance with the contract. Upon notice of poor workmanship or material, the contractor shall promptly remove same and replace according to plans and specifications without additional cost.

Any extra work, not called for in the contract, must be authorized in writing by the board and the cost agreed upon before such work is begun, otherwise the board will not be obligated to pay the extra charge.

Upon completion of the work the contractor is to remove all scraps of material and other rubbish from the grounds and buildings and leave the premises "broom clean." If paint is dropped on the floor, windows, etc., it must be cleaned off by the contractor before the building can be accepted as completed.



### Excavation

Excavate for the basement, foundation walls, piers and chimneys to the depth shown on the plans. Excavate underneath the building to clear joists and girders 12 inches. The bottom of the footings shall be level and the difference of level must be made by horizontal stepped courses. All bases and trenches must be kept clear of water. Surplus dirt is to be used to fill in around new walls and for grading the lot as may be directed.

### Foundation

The foundation, footings and piers may be built of brick, stone or concrete, perfectly true and plumb, in accordance with dimensions shown on plans.

All brick must be good, red, hard-burned, common brick, thoroughly wet when laid in dry weather. The mortar for the brick should be one part Portland cement to three parts clean sharp sand; 15 per cent of lime in putty form may be added after the cement, sand and water have been thoroughly mixed.

When concrete is used for the foundation a skilled workman should be employed and the materials should be of good quality. Portland cement, clean sand, and broken stone or gravel are to be used in the following proportions: one part cement, three parts sand and five parts of broken stone or gravel.

Native stone makes a desirable foundation and will be accepted if well done by a skilled mason.

### Flues

Flues are to be built from the ground up according to the size and location shown on the plans and are to be lined with fireclay or cement troweled smooth to insure safety and service.

That part of the flue exposed between the floor and ceiling is to be plastered, and painted to harmonize with the interior of the room.

### Framing Timber

All framing timbers, including sills, girders, joists, studs, plates, rafters, etc., are to be No. 1 pine, or equivalent, of sizes shown on the drawings.

All work is to be framed, braced and pinned in the best manner, perfectly true and plumb and in accordance with the drawings.

Bridge all joists with continuous rows of cross bridging, using 1x3 inch material with 2 nails at each end. Bridging shall not be over 8 feet apart. Bridge all bearing partitions twice and others once.

Partition studs will be either 2x4 or 2x6 as shown on plans. Form all angles solid by blocking and spiking together. Double the studs at all openings and truss over openings wider than 3 feet between studs. All timber not otherwise specified shall be of good grade merchantable timber free from any defects that will impair its strength and durability.

### Sheathing

Cover the sidewalls, gables and roof with  $\frac{7}{8}$  inch No. 2 sheathing, put on diagonally and securely nailed on each bearing.

### Weatherboarding

The building is to be weatherboarded with well seasoned No. 1 siding, jointed only on bearings and well nailed. Knot holes, large knots, and other defects are to be cut out.



## Exterior Finish

Exterior finish, cornice material, outside baseboard, corner boards, etc., are to be well seasoned No. 1 material. Knot holes, large knots, and other defects are to be cut out. All exterior work is to be well done, and put up to line and substantially nailed.

## Ceiling

Note: The interior of the building may be finished with plaster or T. & G. ceiling. Brief details of both are given and the school board may take choice.

### 1. Wood Ceiling:

All interior walls and overhead ceiling are to be ceiled with No. 1 well seasoned T. & G. ceiling not over  $3\frac{1}{4}$  inches wide and not less than one-half inch thick, secret nailed on each bearing and well driven up. Avoid hammer scars.

## Wainscoting

Entrance vestibules and halls should be wainscoted 4 feet high complete with wainscoting cap, base and shoe.

It would add to the beauty and utility of the classrooms without additional cost if wainscoting should be used up to the bottoms of the windows. In placing wainscoting under the blackboards, the carpenter will be guided entirely by the height of the blackboard shown on the plan.

### 2. Interior Plastering:

The interior is to be lathed with good quality of pine lath, (or equivalent) well seasoned, free from sap, bark or dead knots, and of uniform thickness, laid  $\frac{3}{8}$  of an inch apart, with four nailings or more to the lath. Joints are to be broken every 18 inches. Before being put on the laths are to be thoroughly wet. If metal laths are used a standard grade should be bought.

Note: Generally it is much better, especially in the smaller frame buildings, to use T. & G. ceiling, or metal ceiling for the overhead, plastering only from the wainscoting to ceiling. The school board is to determine the kind of ceiling to be used and specify it in the contract.

At least two coats of standard quality of plastering is to be put on by a skilled workman and in a workmanlike manner. The last coat is to be sand finish, floated to an even surface, with a texture corresponding to No. 1 sand paper.

## Flooring

Every building is to have a sub-floor and a finished floor. The sub-floor is to consist of  $\frac{7}{8}$  inch No. 2 pine, laid diagonally across the floor joists driven closely together and securely nailed on each bearing.

The finished floor shall be No. 1 well seasoned pine flooring, or equivalent, not more than  $3\frac{1}{4}$  inches wide, secret nailed and well driven up. Avoid hammer scars. No two end joints shall occur together. After completion the floors shall be carefully planed to a smooth surface.

## Roof

The building is to be covered with wood shingles of good quality dipped in green preservative stain, or with the best quality of composition shingles, guaranteed for fifteen years. In either case the shingles are to be put on in a workmanlike manner.

Note: The Board of Education is to decide which roof is to be used, specifying this in the contract.



If composition shingles are used the sheathing should be laid close. The exposed side of all sheathing for roof extending outside the walls at the eaves and gables is to be smoothly dressed.

Roof valleys and chimneys are to be flashed with ample tin of good quality painted on both sides.

Ridges may be covered with galvanized iron or hip roll. In case of wood shingles either the iron or 1x6 inch ridge saddle boards might be used.

### Windows

Window sizes and location are to be the same as shown on the plans. Windows are to be double hung with standard cords, weights, and pulleys. Window sash is to be 1 $\frac{3}{4}$  inch thick, check rail, made of good grade of pine, cypress or poplar glazed with D. S. glass and accurately balanced over pulleys so that they will run smoothly. The weight boxes should be so constructed that access may be easily had to the weights and cords. Window fasteners and lifts are to be put on each window.

### Doors

All doors are to be the same as that shown in schedule of doors on plans. The doors throughout are to be made of B grade yellow pine, cypress, or equivalent, hung with three 4 inch loose pin butts and furnished with good mortise locks.

### Frames for Doors and Windows

Window frames are to be made of No. 1 well seasoned lumber, built according to details for check rail windows and must fit sash accurately. Set window frames exactly as shown on plan under window details, being careful to have mullions no wider and windows no lower than shown on plans.

Door frames are to be substantially made of No. 1 well seasoned material, carefully put together and set plum in openings.

### Breeze Windows

The location and size of breeze windows are to be the same as that shown on the plans. The sash is to be 1 $\frac{3}{4}$  inches thick, pivoted with heavy cast iron pivots and provided with transom lifts or other satisfactory means of opening and closing. Outside breeze windows should be screened to prevent excessive cross light.

### Interior Finish

All interior finish is to be No. 1 well seasoned material closely jointed and put up with casing nails. No hammer scars must be shown.

The baseboard shall be No. 1 material beveled at top with quarter round or shoe mold at the bottom, extending all the way around the room.

Put quarter round in all corners and angles. Where picture mold is used it should be placed about 18 inches below the ceiling and painted the same color as the other interior trim.

Built-in bookcases and cabinets are to be made of material to match the interior trim and located as shown on plan. Every regular size class room is to have approximately 40 lineal feet of standard grade blackboards, located as shown on the plan, set 28 inches above the floor for primary grades, 30 inches for intermediate and about 34 inches for upper grades.

### Movable Partitions

Where movable partition is desired for auditorium purposes it is suggested that a standard make of folding doors be bought and installed ac-



according to directions given by manufacturers. Care must be taken to truss and support the folding doors overhead to prevent sagging. Or, where there is a scarcity of money, the blackboard partition with blackboard on both sides of the frame should be installed according to details shown on plans. (This latter method seems to be a satisfactory device for movable partitions.)

#### **Privies**

The school must have two sanitary privies, built according to a plan approved by the State Board of Health and painted to harmonize with the schoolhouse. (See special plan and directions for privies elsewhere in this bulletin, and also Pamphlet No. 15.)

#### **Painting**

The building is to be painted inside and outside by a skilled workman, according to directions and color chips shown on blue print and in Pamphlet No. 14. All paint dropped on floors, walls, or windows must be removed by the contractors.

#### **Cleaning**

After the building is completed all rubbish, scraps of material, etc., are to be removed from the building and grounds.

Every building should be furnished with a good type of modern, patent desks, and other necessary equipment.



## *General Directions for Painting Community Schools*

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Every schoolhouse should be attractively painted on the inside and outside.

The priming coat should be put on as early as possible to preserve the lumber.

The interior of the building should be painted for the four following reasons, any one of which will fully justify the outlay:

- (1) It will materially increase the amount of light in the classroom.
- (2) It will add beauty to the interior and will be more pleasing and restful to the eyes.
- (3) It will better the sanitary conditions.
- (4) It will increase the durability of the building.

As one of the reasons for painting the interior of the school is to increase the amount of light, great care should be given to see that non-gloss paint is selected and that the color and character of the paint are such as not to injure the eyes of the teacher and pupils who must remain inside the classrooms for six hours or more each day.

The floors should be oiled when the building is completed and as often thereafter as is needed. This will make the school more sanitary and increase the life of the floors. None but high grade light oil should be used.

One of the approved color schemes shown on the opposite page should be selected and the colors matched exactly in every "Community School" if aid is expected. The Fund will not aid in the construction of any building improperly lighted and painted.

COLOR SCHEME NO. 1—Cream ceiling, buff walls and walnut wainscoting or dado—is very desirable for the interior of a classroom, as it is pleasing to the eye and reflects an abundance of light.

COLOR SCHEME NO. 2—Ivory cream ceiling, light gray walls and walnut stain wainscoting or dado—if the paint is properly mixed and applied, is generally satisfactory.

Unless a skilled painter can be employed who understands thoroughly well how to mix paint, it is generally better to buy a good quality of paint already mixed. The painter should be cautioned not to mix lamp black with white paint in order to make a gray for the interior walls, as such a mixture will reflect very little light. A warm gray, prepared by mixing red and green with white, has high reflective properties and should be used instead of the lamp black mixture.

For the exterior, white trimmed in gray or gray trimmed in white would be attractive. If it is desired to use a wood preservative stain, a nut brown trimmed in white or cream would be satisfactory.

Wherever wood shingles are used it is best to dip them in a green preservative stain. This will add to the life of the roof and the beauty of the building.



# *Suggestions for Beautifying School Grounds*

Leaflet No. 2, July, 1923

In selecting a site for a schoolhouse, care should be taken to secure a plot with a gentle slope, containing rich, black loam soil that can be plowed readily. But if the building is already constructed on a site containing poor soil, it should be well manured before beginning to beautify the grounds.

## **Grading and Surfacing**

As soon as the building is completed the surface must be cleared of all building debris, rubbish, rocks, or other materials which would interfere with plowing. Grade the top by plowing and scraping off any high bumps and filling in low places so as to leave the surface of a gentle, harmonious appearance. Carefully measure and stake off the walks leading from the public road to the building, from the school to the privies and the well, etc. Plow all the area which is to be planted to grass, shrubs, trees, and vines.

## **Principles in Laying Out Roads and Walks**

Very short walks should usually be straight. Longer ones should have gentle, graceful curves. Make walks wide enough so that two persons can comfortably walk side by side on them. Driveways should be wide enough so that two vehicles can pass if necessary. Definite edgings should be made for walks and driveways. These may be of rocks, bricks, or concrete curbs. Place the walks and roads where they will be most convenient and usable. Make the surfaces of the most durable materials available, considering economy and funds; cinders, broken stone, gravel, sand-clay, brick, or concrete.

## **Starting Lawns**

Grass should be started on all areas not to be used for agricultural purposes or particular parts of playgrounds where it would be objectionable. Tennis courts and basketball courts should be left free from sod. Grade the edgings near roads and walks to blend harmoniously with the grades of said roads and walks. Hand rake the surface and clear away any litter left by the plowing. Any steep slope or terrace should be sodded with blue grass sod or Bermuda grass sod, carefully placed, tamped, and pegged. If such sod is not too expensive, it may be used on much of the surfaces; but usually seeding is satisfactory and economical. Seed at the rate of about one pound of good grass seed per square rod. The grass mixture for most Southern States should include perennial rye grass. The mixture should consist of three pounds of perennial rye grass, one pound of Kentucky blue grass, one-half pound of white clover, and one-half pound of lespedeza. Mix the seeds together before sowing. Rake the grass seed in with a hand rake as soon as it is sown. Never cover it very deep. When the grass is up six inches or so, mow it with a hand blade and after the finer grasses have established themselves use the lawn mower frequently to prevent seeding. Spread top dressing of well-rotted manure on lawns every winter, and let that remain until early spring.

## **Planting of Shrubs**

Shrubbery of a number of kinds should be chosen for planting at suitable places. Among the best kinds for Southern school grounds are the following: Native—raspberries, blackberries, roses, sumac, dogwood, buck



bush, small cedars or pines, hazelnut or elderberry. Common shrubs from home yards—lilac, sweet syringa (mock orange), bush roses, Japanese barberry, hydrangea, snowball, hibiscus (Althea), golden bell (Forythia), dentzia, privit, spirea, weigela, bush honeysuckle, azalea, rhododendron, laurel, small arbor vitae, small spruces, and other smaller evergreens.

### Places for Planting Shrubs

They should be planted at the angles and curves and near the ends of walks and roads; along foundations and corners of the building; as borders or screens to hide shop buildings, privies, wood houses, etc., and in the corners of the grounds, suiting the shrubs to the places.

Plant low shrubs along low foundations, near the ends of walks, and under windows, and higher shrubs to serve as a screen or to occupy a conspicuous place in the back corners of the grounds. Always mass the shrubs in a natural way, never in formal manner. Imitate nature in this regard.

Flowers may often be planted around clumps of shrubbery. There are so many varieties of flowers suitable for all parts of the South that no teacher will have any trouble in selecting several beautiful kinds in any community.

### Uses of Vines

Perennial vines which will endure many years should be planted where their growth will add to the beauty of the situation. Grape, honeysuckle, clematis, wisteria, Virginia creeper, and bitter sweet grow best on fences and trellises.

Quick effects are secured by planting annual vines for a single season, but perennials should eventually be used. Good annuals are morning-glory, cypress, Japanese bean, and other flower beans—gourds, etc.

### Tree Planting

Avoid the destruction of large shade trees as far as possible, unless they obstruct the light in classrooms, or needed space in playgrounds, etc. Walks or roads may be curved around them to save them.

Plant rows of trees along the public road 20 to 40 feet apart; along the outer lines of the school ground, and scatter a few in places where shade will be desirable, as on the sunny side of the main building, near edges of the playgrounds and near the sides of the front lawn. Never plant trees close enough to classroom windows to cut off the sky light.

Along the roads plant permanent trees, such as native oaks, hackberry, elm, gum, ash, spruce, pine, cedars, magnolia, etc. For quick effects, good kinds are walnut, pecan, hickory, maple, etc.

### Transplanting Trees

When native trees are to be transplanted, select those which have no other trees near them. More roots can then be secured. When a tree is dug with an abundance of root, it should be replanted as quickly as possible. Dig a hole larger than the expanse of the roots and deep enough so the tree may be planted a few inches deeper than before. Trim the top of the tree abundantly, so as to more than balance the pruning of the roots caused by the digging. Fit the roots into the hole nicely. Then place plenty of good rich dirt next to the roots and tramp it in well. Proceed to fill the hole with other dirt, tramping it firmly. The surface should be well dressed with loose soil.

Trees of all kinds may be planted in late fall, winter, or early spring, but not during the growing season.

For further information, consult the Farm Demonstration Agent, the State Agricultural College, Hampton Institute, Tuskegee Institute, or your State Department of Education. (See bird's eye view on front cover.)