

INTERIM REPORT

on

"A Demonstration of New Techniques for  
Low-Cost Small House Construction"

Phase II

May 1952

Submitted in fulfillment of Article I, Part E,  
Sections 1, 2 and 3 of Contract Number H-75

## PLAN VARIATIONS

A series of plan variations of the demonstration house was designed to show its adaptability to the preferences of individual buyers. This phase of the project was based on the premise that a builder might elect to provide the basic house shell for a client who would then proceed to finish the interior himself. In such a case, there is a likelihood that the client might wish to make some changes in the interior layout to suit more accurately the space needs of his own family.

In designing the variations, an attempt was made to hold the location of some items constant, such as the furnace plenum chamber and plumbing lines, since these would be built permanently into the slab before the installation of any interior partitions. Otherwise, complete freedom of interior arrangement was possible, since there are no bearing partitions. However, as the design work progressed, it was found impractical, for space design purposes, to adhere rigidly to the limitation on heating and plumbing equipment locations. This requirement severely limited the possibilities for room sizes and locations. Therefore, some loosening of this requirement was made, and the variations were based on a total of four utility locations. These changes could be incorporated into the basic house shell at the time of construction at the request of the client.

The seven plan variations shown provide a series of accommodations designed to answer some of the more popular demands of the

current market, such as a separate study, separate dining room or alcove, kitchen pass-through, or children's bedrooms which combine into a play space.

Some variation also was made in the relationships between areas. For example, in some cases the dining area is merely an extension of the living area, while in others it is more closely tied to the kitchen area, either as a part of the kitchen itself or as a separate room. When the dining area is treated as a separate room, it is also intended as an indoor play space for children, easily supervised from the kitchen via a door or wide pass-through.

In most of the variations a laundry-bath arrangement is shown similar to that of the original scheme. However, in a majority of cases, a conventional bathroom can be used and the laundry equipment shifted nearer to the kitchen area if desired. This entails some adjustment in closet space but does not affect the design in any major way. Only in Variation Nos. 4 and 6 is the laundry-bath arrangement mandatory, while in Variation No. 7 a conventional bathroom is required.

Major circulation paths are kept as centralized and compact as possible. In most cases the circulation path area is 15% or less of the total floor area. The most compact circulation occurs in Variation No. 3 (11.7% of total floor area) which compares favorably with the 13.8% of the original scheme.

In all variations a generous amount of storage space is provided, in the form both of clothes closets in the bedrooms and of more specialized units elsewhere in the house.

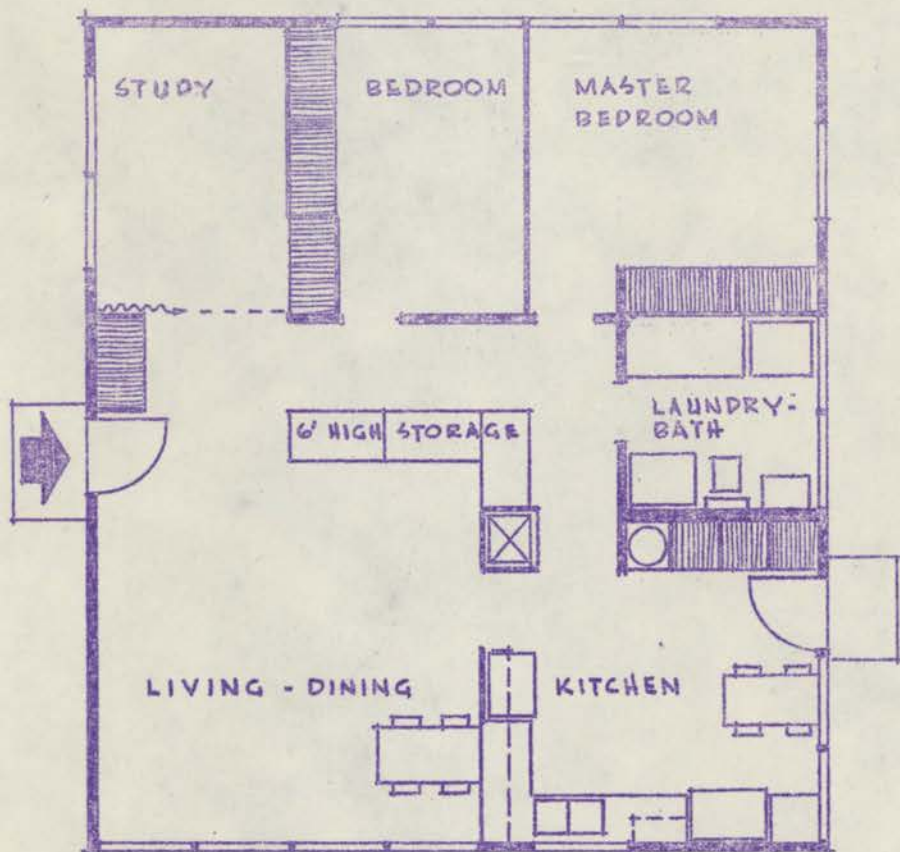


Variation #1 is similar to the original plan, but provides for two bedrooms and a separate study or hobby room instead of three bedrooms and a play area. The kitchen has been enlarged to provide a more generous eating area and play space for small children, and a more spacious living area is provided. This scheme might be used as a guide if the original plan must be varied in orientation or fenestration. The interior plumbing and heating layouts remain the same as in the original plan, but the circulation area is somewhat increased.

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## PLAN VARIATIONS

Variation No. 1



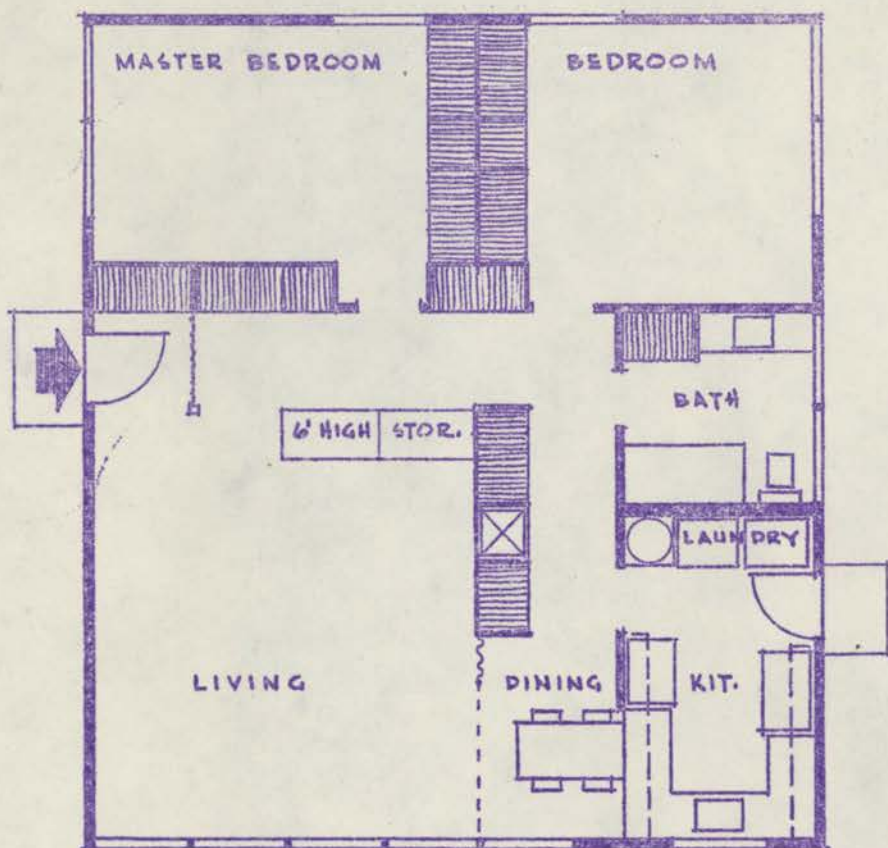
Variation #2 may be provided either with two large bedrooms with a dining alcove or with two smaller bedrooms with a study and dining room separated from the living area by tall storage cabinets. The kitchen becomes a workspace only, with no provision for eating. Variation 2A provides eating space in a small alcove which may be concealed from the living area by a curtain or folding door, while 2B permits a more formally enclosed dining area. The heating layout is the same as the original plan, and the basic plumbing layout is the same, although fixture locations are changed. Although both variations are shown with conventional bathrooms and laundry equipment in the kitchen, a laundry-bath arrangement can easily be incorporated, thus allowing more storage space in the kitchen. In Variation No. 2B, the closet space indicated in the study is diagrammatic only, and may be subdivided in many ways, depending on the ultimate usage of the room.



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PLAN VARIATIONS

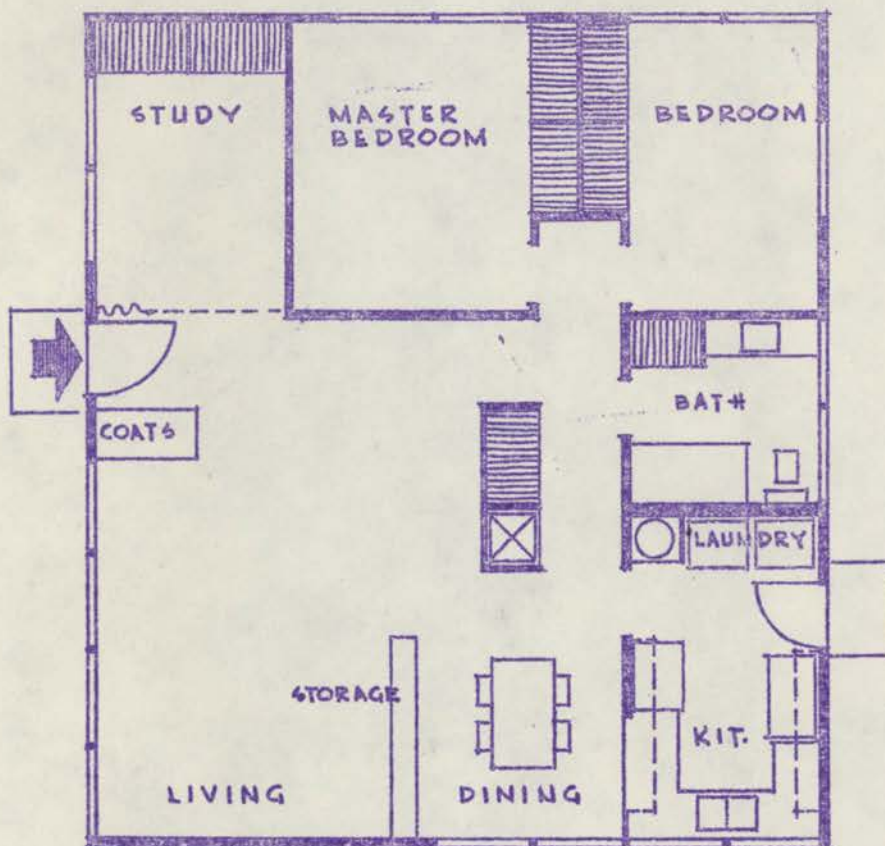
Variation No. 2 (A)



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PLAN VARIATIONS

Variation No. 2 (B)



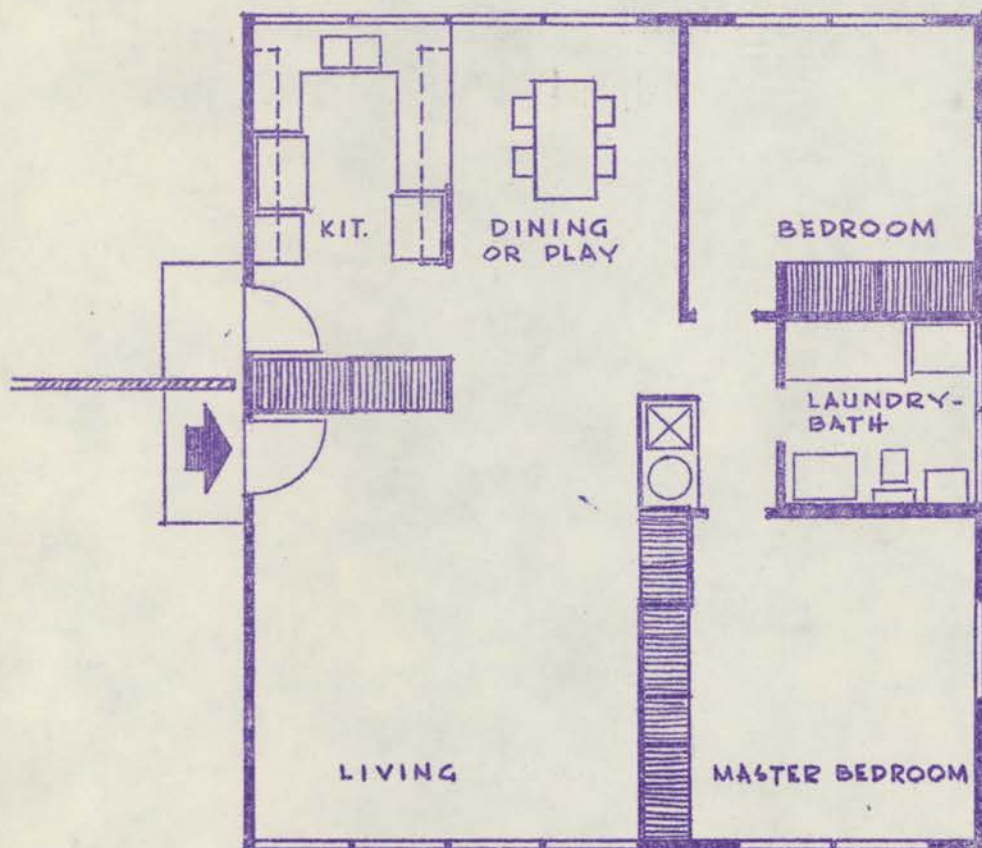


Variation #3 provides two large bedrooms and a separate dining-play area. The location of the kitchen has been changed, and a large open living area has been provided. Laundry equipment could be shifted to the kitchen area by utilizing the closet space adjacent to the rear entrance. Circulation space is compact, and all activity areas are dead-end areas with no through circulation.

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PLAN VARIATIONS

Variation No. 3



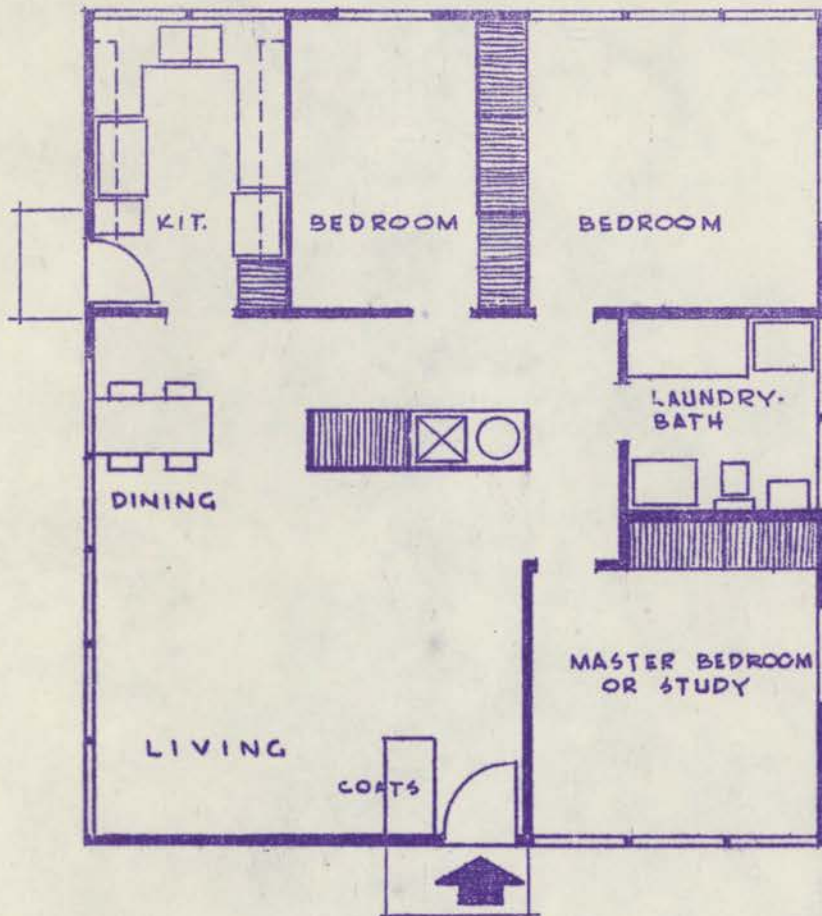
Variation #4 is similar to #3 in general arrangement. However, this variation may be used either as a three-bedroom house or as a two-bedroom house with a large study opening to the living area. The furnace and water heater are enclosed in a storage partition which marks off the bedroom hall. An open dining space is provided at the end of the storage partition, and there is no eating space in the kitchen. The laundry-bath arrangement is essential to the workability of the scheme. The orientation is the same as that of the original plan.



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PLAN VARIATIONS

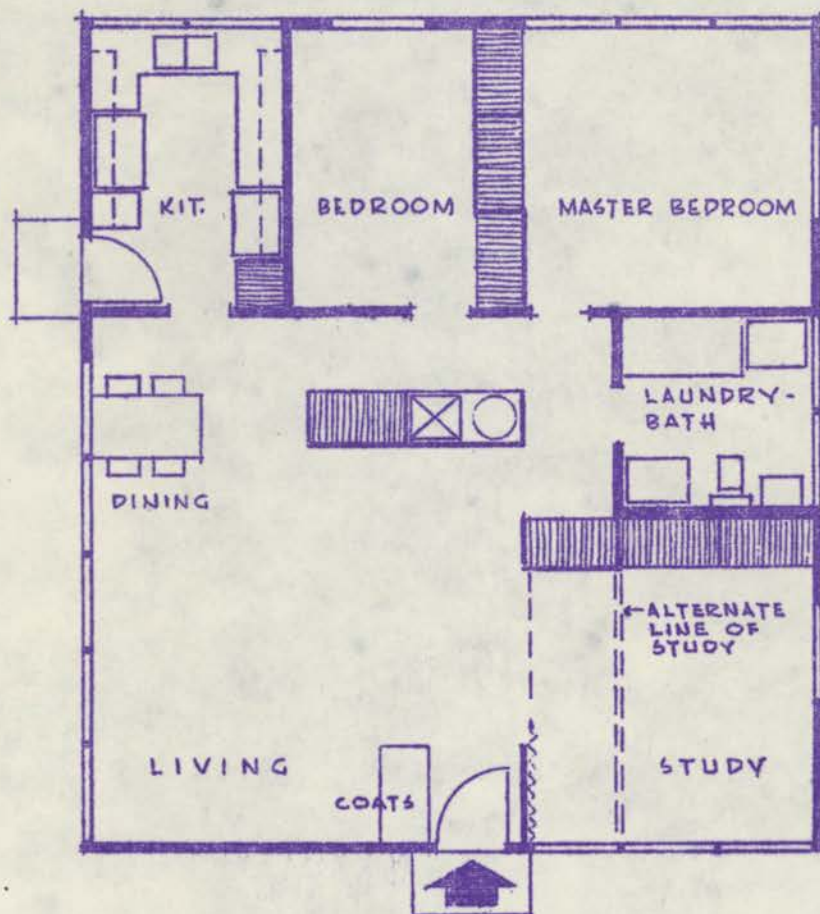
Variation No. 4 (A)



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### PLAN VARIATIONS

Variation No. 4 (B)



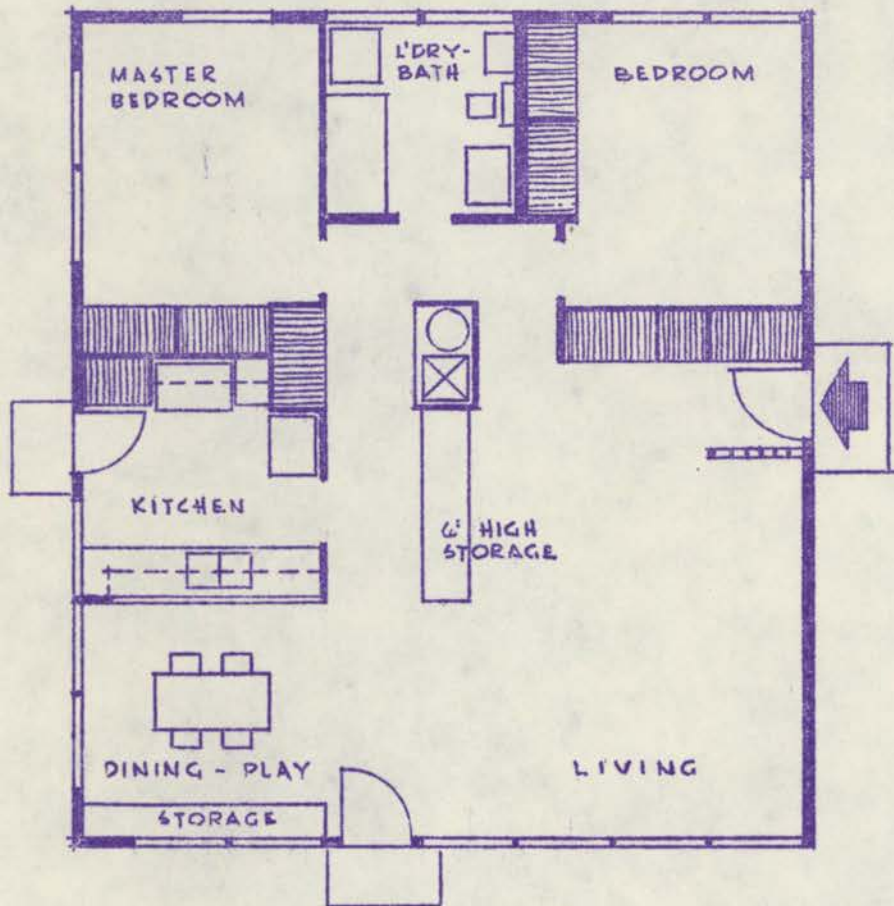
Variation #5 is a two-bedroom open plan. The only completely enclosed rooms are the bedrooms and bath. The kitchen opens, by means of a wide pass-through, to a generous dining-play area which, in turn, opens into the large living area. Dining area storage may be either 6' high units under transom windows or desk height units with counter space for children's drawing, writing, etc. A freestanding storage partition conceals the kitchen door from the front entrance and living area. Storage space is generous, including a 10-foot length of closet space for coats and living area storage.



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PLAN VARIATIONS

Variation No. 5



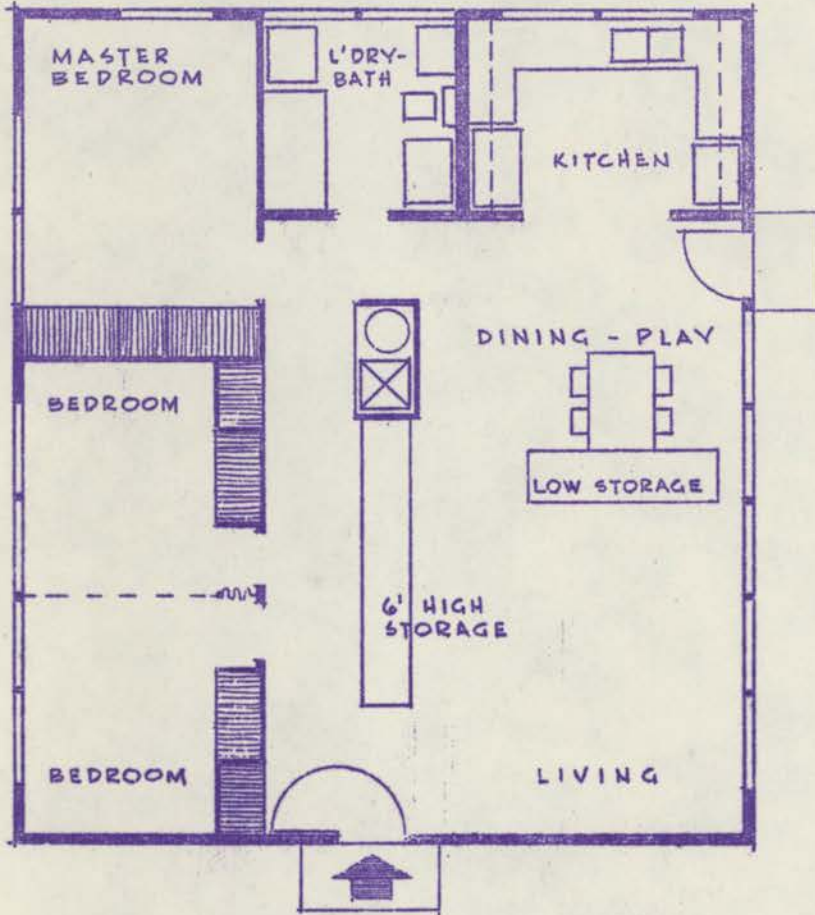
Variation #6 places even more emphasis on storage partitions and open planning. The only permanent stud partitions are those enclosing the bathroom and heater room. The remainder of the room demarcations are made by closet-walls, either freestanding or fullheight. The two children's bedrooms are actually one general play area which may be separated for sleeping by means of a folding partition. A freestanding storage partition is used to form the bedroom hallway, and another is used to mark off the dining area.

In Variation 6B, a different living-dining kitchen area arrangement is obtained by moving the storage partition. In this case the bedrooms have also been rearranged. The children's bedrooms are completely separate, and the master bedroom is a semi-open room off the living area, which can also be used as a study. It is conceded that this latter arrangement is not likely to become generally accepted in the near future, but it is included here as a possible type of interior design which should not be completely ignored. If a 2-bedroom scheme of this type is desired, the middle bedroom could be enlarged as a master bedroom, and the open master bedroom would become exclusively a study.

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PLAN VARIATIONS

Variation No. 6 (A)

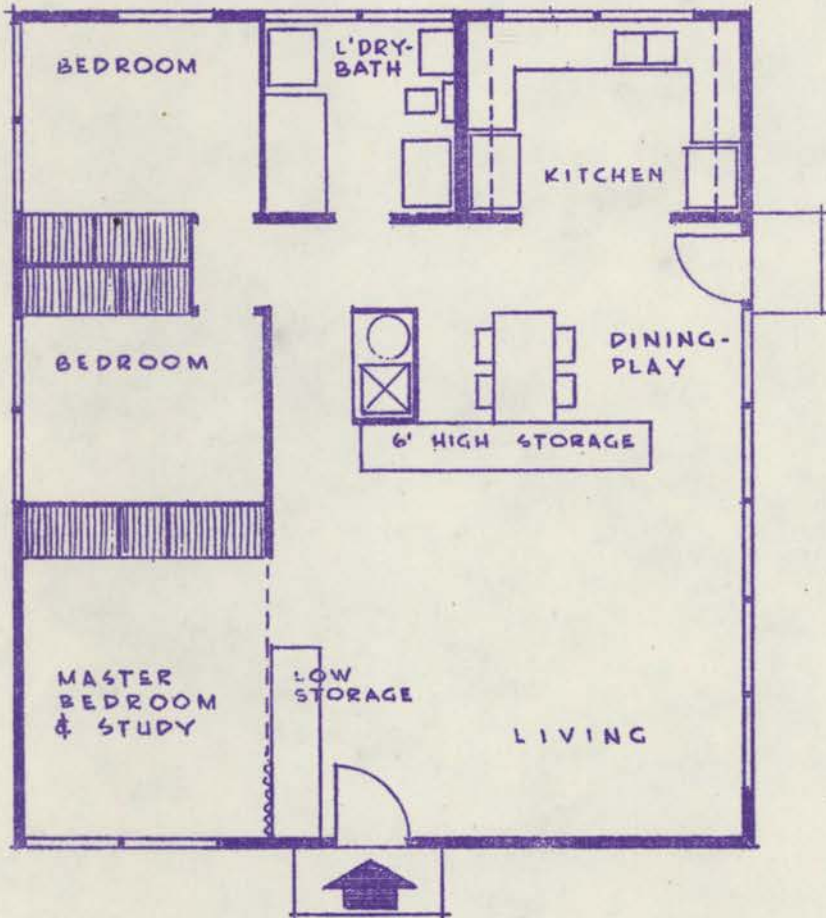




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PLAN VARIATIONS

Variation No. 6 (B)

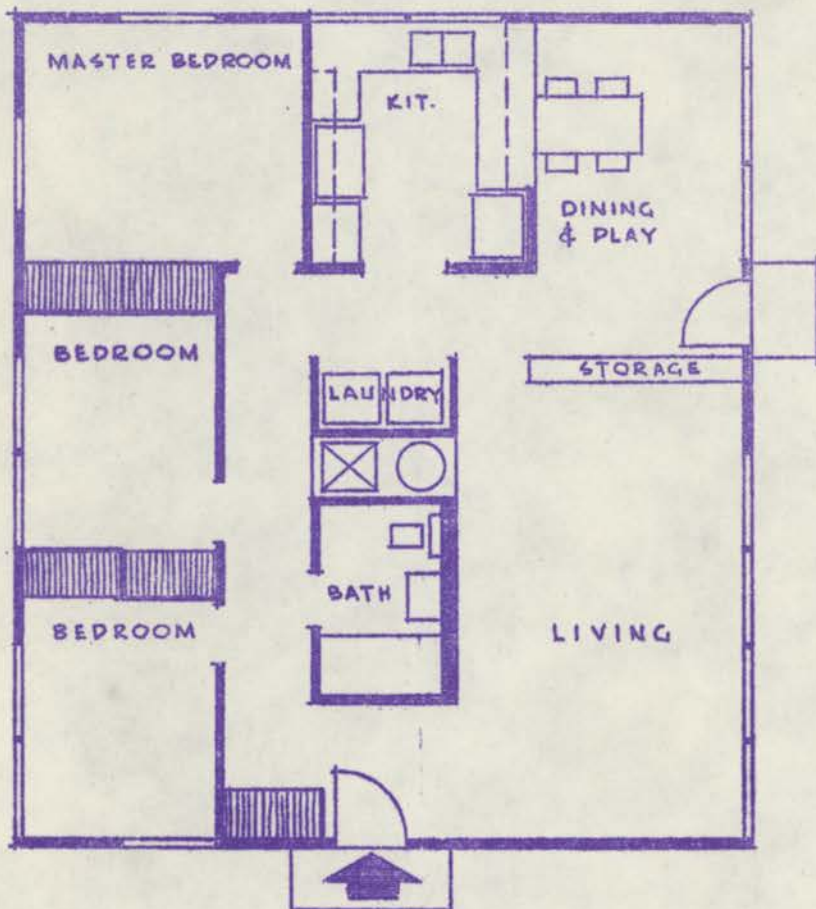


Variation #7 is a three-bedroom utility-core plan. All plumbing and heating equipment, with the exception of the kitchen sink, is included in a single central block. The bedrooms are arranged along one side of the plan, and the living and dining areas are on the opposite side, separated from each other by a 1-foot deep storage unit. The dining area is large enough to be used also as a play area, with easy access to outdoor space which can be supervised from the kitchen.

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### PLAN VARIATIONS

Variation No. 7





### SITE PLANNING

In order to demonstrate to builders the applicability of the demonstration house plan to a multiple house development, a theoretical subdivision of twenty houses was planned for a flat site with a street running east-to-west. This type of site was selected as presenting the most critical problems of orientation and variation of appearance.

A uniform lot size of 70' x 100' was chosen to provide adequate frontage and a reasonable depth without exceeding the gross area of a typical 60' x 120' subdivision lot. An arbitrary building setback line was set at 20' behind the front property line and 5' in from the side lines to represent typical building restrictions.

A limited number of possible variations was chosen to provide variety of exterior appearance without any basic changes in the house plan or structural details. These variations included: orientation and siting, garage or carport, fences and planting, types of siding, and roof pitch.

afternoon summer sun. Although shown only on north-or south-facing lots, the variations may easily be adapted to placement on east -or west-facing lots while still maintaining desirable orientation.

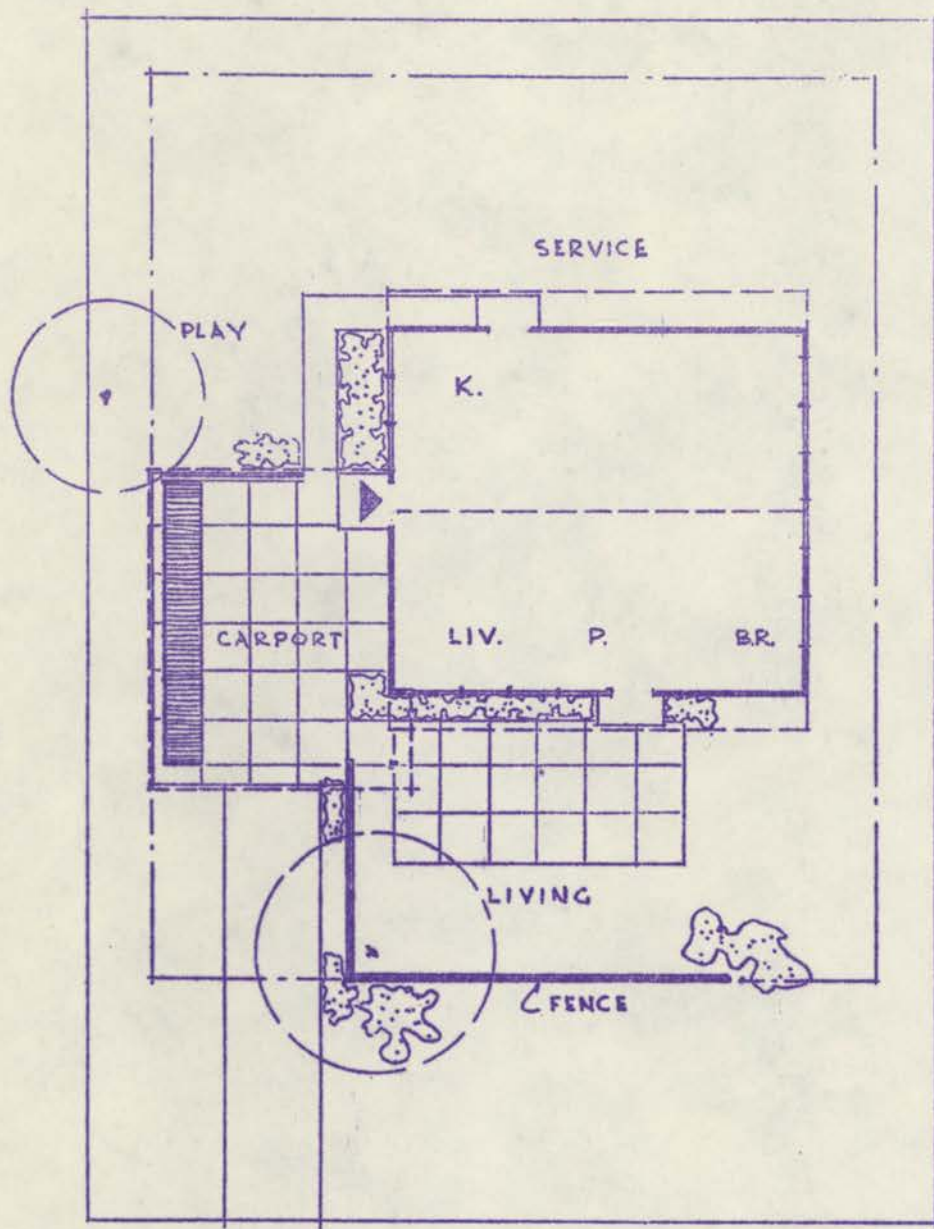
On the following pages are shown sketches of the basic variations. Fence and planting indications should be regarded as diagrammatic, subject to some variation in order to interrelate houses on adjacent lots. Where outdoor living areas occur at the rear of the lot no specific landscaping has been indicated, since this would not affect in any major way the development of adjacent properties.

In Variation N-1, for the north side of the street, the living area faces south towards the street. The house is set 20' - 24' behind the building setback line to allow for a private outdoor living area which is protected from view by a fence. The main entrance of the house is at the side, and the approach is covered by an extension of the carport or garage roof. The area behind the house is free for development as a children's play area with direct supervision from the kitchen and as a gardening or recreation area. The house is reversible, so that bedrooms may face either east or west.



SITE VARIATIONS

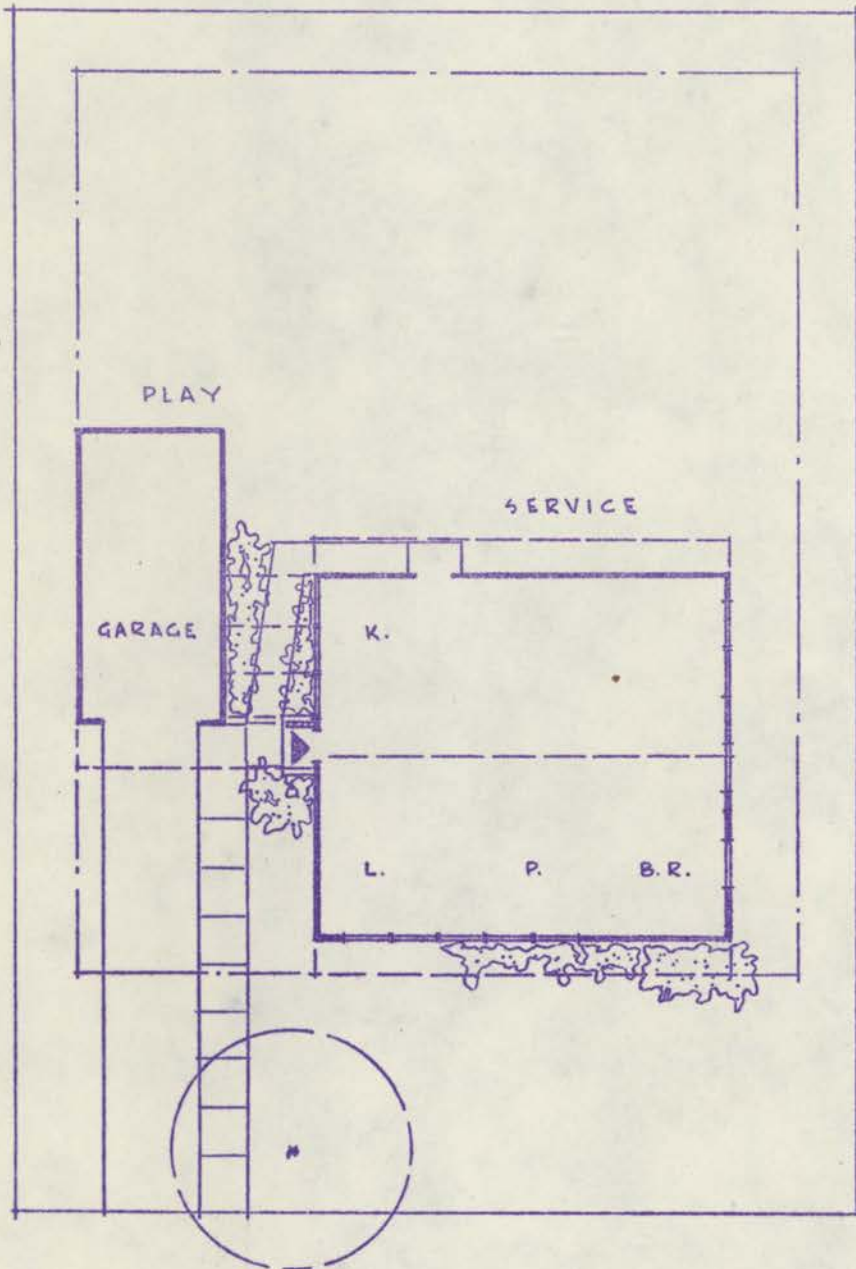
Variation N - 1



Variation N-2 is oriented in the same way as N-1, but in this scheme the garage or carport is placed towards the rear of the house, and the house is moved up to the building setback line. For the sake of privacy, the sill line of the south-facing windows is raised to 3'-4" above the floor.

SITE VARIATIONS

Variation N - 2

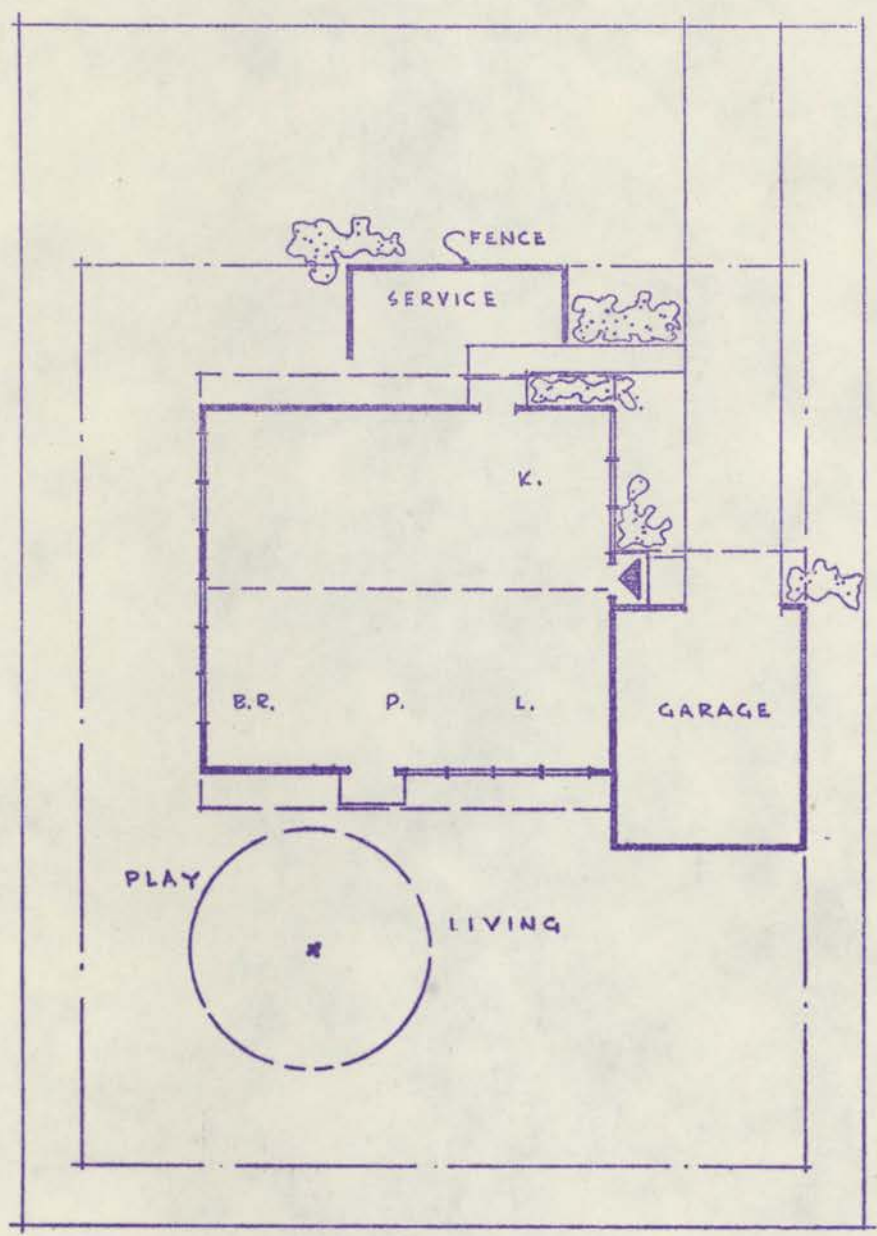




In Variation S-1, designed for the south side of the street, the living-play area faces south to the rear of the lot. The service entrance is located at the front of the lot, easily accessible from the driveway, and is protected from view by a fence. This requires that the house be located approximately twelve feet behind the building line. The main entrance is at the side of the house, and is protected from weather by a deep overhang in front of the garage. The bedrooms may face either east or west.

### SITE VARIATIONS

Variation S - 1

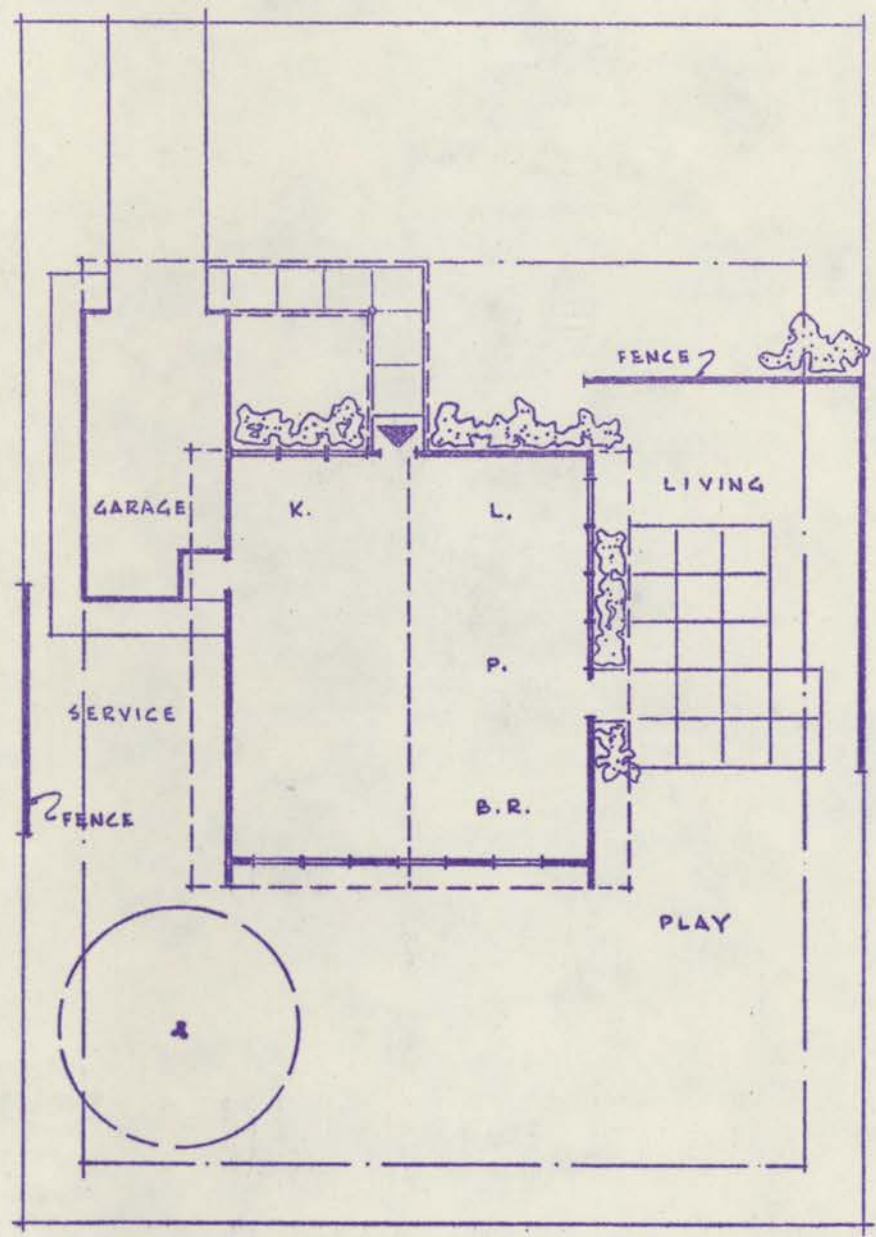


In Variation S-2 the garage projects in front of the house, and, as an optional feature, a covered walk is provided from the driveway to the house. The main entrance is at the front of the house, and the living area faces east, with an outdoor living area at the side of the lot. This plan variation should not be reversed since a western exposure, in conjunction with the large glass areas, would lead to discomfort. Bedroom areas face south to the rear of the lot.



S I T E   V A R I A T I O N S

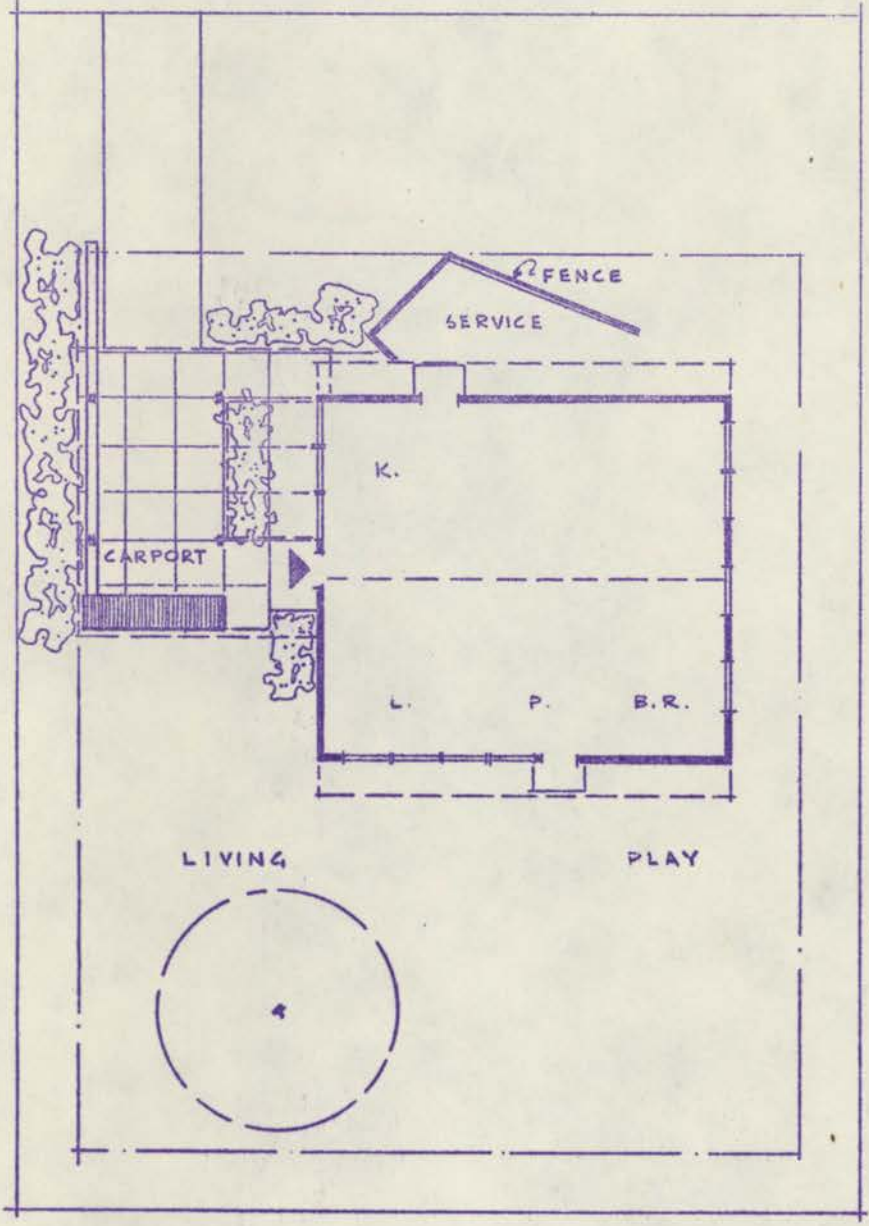
Variation S - 2



Variation S-3 has a service yard at the front of the house, and like S-1, is set back from the building line about twelve feet. The garage or carport projects in front of the house, and the roof should be left partially open to provide light and air for the kitchen windows. The living area faces south, and the bedrooms face either east or west.

S I T E   V A R I A T I O N S

Variation S - 3

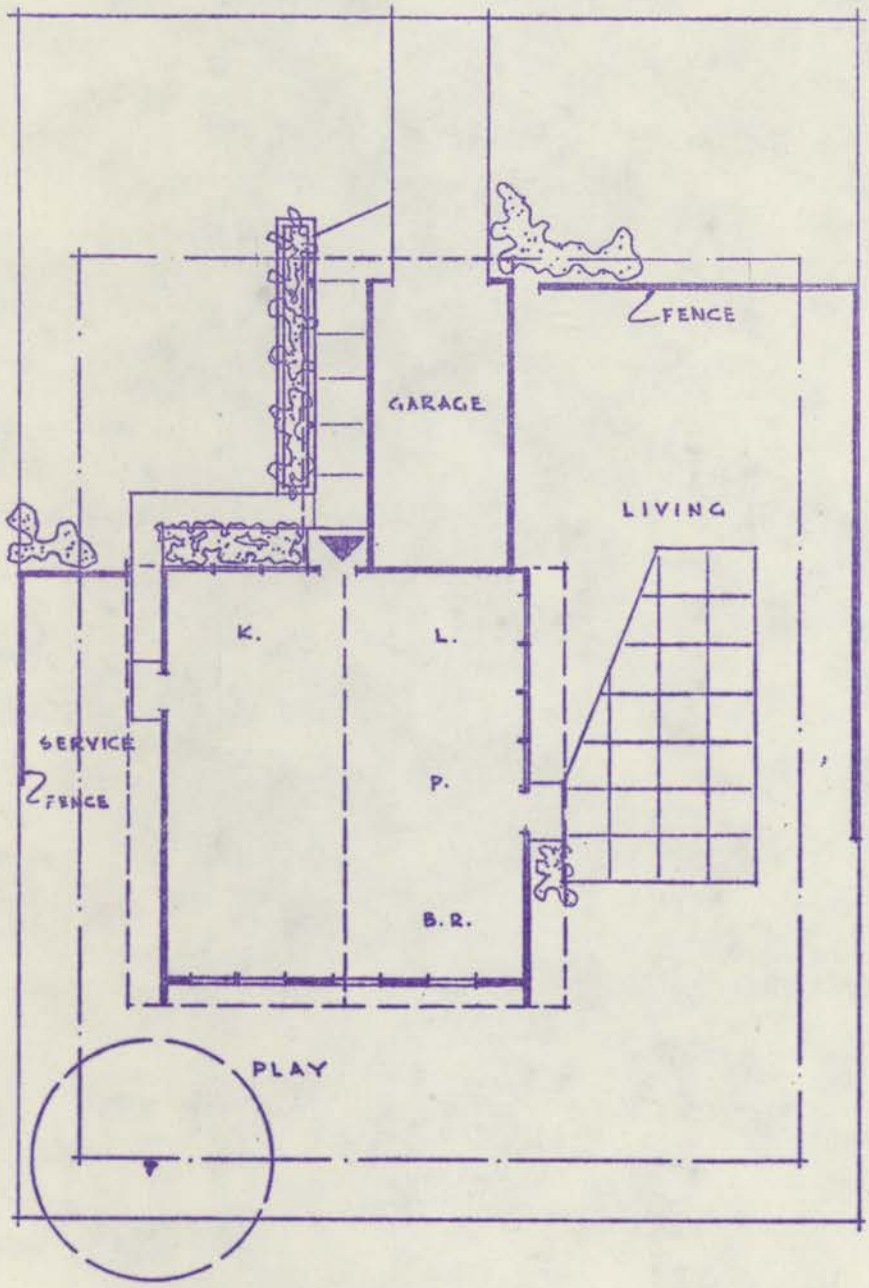




In Variation S-4 the garage or carport is placed in front of the house. The main entrance and kitchen windows face the street, and the living area faces east. A small service yard may be placed at the west side of the house, or the area in front of the kitchen windows may be enclosed to form a children's play yard. The bedrooms face the rear yard to the south.

SITE VARIATIONS

Variation S - 4



### Subdivision Planning

The objectives which were sought in site planning, both for individual lots and for the entire subdivision, were:

1. To provide maximum visual privacy from neighbors and passers-by for bedrooms and both indoor and outdoor living areas;
2. To permit fullest development of the lot for such outdoor activities as gardening, clothes drying, children's play and adult social activities;
3. To create a pleasant, unified street appearance, with sufficient variation to avoid monotony.

In order to accomplish these objectives, several devices were used, such as fences, planting and changes in siding materials, color and roof pitch. As mentioned before, no changes were made in shape, size, or interior arrangement. The only change in elevation design was the raising of window sill heights on the south elevation of Variation N-2.

Fences were used primarily to screen outdoor living areas and service yards from the street and from neighboring houses. Four fence types were chosen; vertical boards, horizontal boards, vertical louvers and grapetake fencing. Variation N-2 requires no fence. For each house the fence type was selected for its relationship to the lines of the house and the adjacent houses.

Lines of shrubbery were planned to augment the effect of fencing and to continue screening across property lines. Auxiliary plantings of shrubbery and small bushes were used to provide decorative accents. An allowance of one shade tree per lot was made, and these trees were placed mainly for protection from late afternoon summer sun.



Three types of siding were selected; asbestos board and batten, horizontal bevel siding and vertical siding. Of the twenty houses, 14 used asbestos board and batten, 3 used bevel siding (including one of redwood), and 3 were vertical redwood siding.

Five colors were used; 6 houses were painted white, 5 were gray, 4 redwood, 4 green, and one yellow. These were used with various combinations of trim and panel colors. To provide continuity, all roofs were black, either with a 3½ in 12 pitch using selvage roofing, or with a 5 in 12 pitch using asphalt shingles.

In general, an emphasis was placed on the relationship between houses rather than on any individual house. For this reason, some shade trees were placed on a lot to shield a house on an adjacent lot, and some shrubbery plantings continue across property lines to benefit two adjacent houses equally. Colors and materials also were planned to supplement adjacent houses.

The accompanying photographs show a section of the subdivision in model form. Each of the six variations is represented, with repeats on M-1 and M-2.

It is believed that this approach to site planning creates a more pleasant and useful over-all effect than the usual practice of treating each house and lot as an independent, isolated entity. It is also believed that this type of planning, where a greater (and, initially, more expensive) degree of landscaping is provided at the beginning of the development, will result in an ultimate saving to the homeowner over the cost of developing an individual lot without regard to its relationship with its neighbors.