



SECTION 6

NEIGHBORHOODS

ALL DEVELOPMENT GOES FORWARD
INCREMENTALLY, THROUGH
CREATION, PLANNING AND
CONSTRUCTION OF SMALL
NEIGHBORHOODS

6.1 CREATION OF NEW NEIGHBORHOODS

The development of Harbor Peak shall go forward neighborhood by neighborhood.

Construction of houses, pedestrian paths, roads, or other improvements, can take place only after the neighborhood has been designated, and its boundary and plan recorded on the state map, the tentative plan approved as a DDP, and the final plat recorded (see Section 9 for requirements).

It shall be the exclusive prerogative of the HPA to establish new neighborhoods. When chosen, the plat of a new neighborhood shall always adhere to the provisions and procedures of this master plan.

6.2 DEFINITION OF A NEIGHBORHOOD

A neighborhood is defined as a contiguous area of land which meets the following arithmetic restrictions, and has been selected by the HPA and designated by HPA as a neighborhood.

A neighborhood may contain as few as two houses, and as many as 20 houses, but not more.

In physical size a neighborhood may be as small as 1/4 an acre, or as large as 6 acres.

A neighborhood shall not be larger than 6 acres.

[Note: *A given neighborhood may be made up of a mixture of lots of widely different sizes, for example a mix of a few large lots and many small lots; so long as the above parameters and the density specification for the land upon which the neighborhood is located are not exceeded. For more detail see Section 4 and Section 7.*]

6.3 PERMISSIBLE DEVELOPMENT

New development may only happen in one of two ways:

(a) It may occur within an existing, previously defined neighborhood, in which case the possible construction of houses, lots, paths shall follow the platted neighborhood plan, together with the processes for modifying such plan, provided in Sections 1-8.

(b) If it is desired to build in an area that is not part of an established neighborhood, the area of intended new construc-

tion, or a larger area containing it, must first be established as a new neighborhood, by the process of this Section 6 and Sections 7-9.

The following exceptions to this constraint on development outside neighborhoods are permitted:

(c) Under the supervision of HPA, the possible activity of landscape work such as thinning trees, and planting new trees, are permitted in areas where a neighborhood has not yet been established.

(d) Under the supervision of HPA, and with careful advance warning and discussion, a temporary construction road may be built to reach a new neighborhood, if the plat for this neighborhood does not include full access as it stands.?? (needs discussion with Bill)

The initiation of development of a new neighborhood must be authorized by HPA. This may be done at the initiative of HPA itself, or of a prospective developer, or as a result of interest expressed by prospective lot owners who have shown a wish to purchase a certain area of land as the focus of their interest.

6.4 NEIGHBORHOOD INTERIOR, NEIGHBORHOOD BOUNDARY, AND INTERSTITIAL LAND BETWEEN THE NEIGHBORHOODS

Not all land in Harbor Peak will ultimately belong to a neighborhood. Some land will be interstitial land, lying between neighborhoods. Such land may be permanently protected natural land, and may also include areas of steep topography, and areas of geology unsuitable for construction (see Section 4). It may also include green areas given protection in the diagnosis, and dedicated as pedestrian rights of way. (And areas outside neighborhoods will of course include unmarked land which is to be built on in the future, but which has not yet been given approved subdivision plans for its neighborhoods.)

* Each neighborhood shall have two components, an interior area and a boundary area.

* The interior area shall be a piece of contiguous land which shall be part of no other neighborhood.

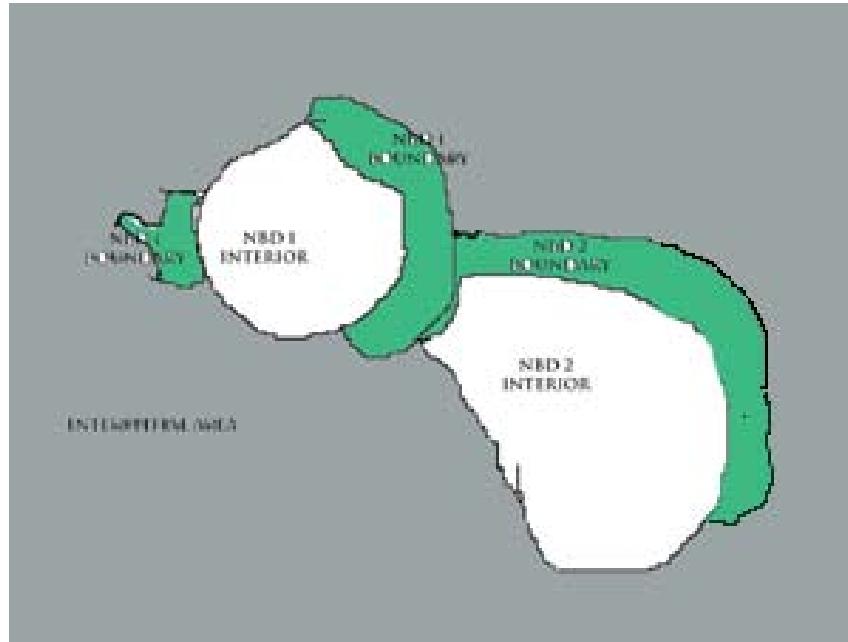
- * The boundary area shall consist of one or more areas contiguous with the perimeter of the neighborhood interior. These areas typically contain public land and public rights of way, and protected green land, and may lie contiguous with boundary areas of other neighborhoods or may lie directly contiguous with other neighborhoods. This will occur if, for example, two neighborhoods near each other, are both connected to, and make use of, the rights of way in their boundary areas. It will most typically occur when important pedestrian rights of way or roads serve more than one neighborhood, and are thus included in adjacent-lying boundary areas of two or more neighborhoods which abut them.
- * The total boundary area of a neighborhood shall be at least one third of the area of the neighborhood interior. This land shall be protected by deed covenant, and may not be built upon by private buildings. It may, with approval of HPA, be used for construction of public buildings. (Public buildings may be placed in several types of locations: within a neighborhood, within the boundary area of a neighborhood, or within the green setaside land that is not yet dedicated to any particular neighborhood).
- * All other land that is not the interior of a defined neighborhood, and is not the boundary area of some neighborhood, shall be called “interstitial” land.

The diagram on the page opposite summarizes the relationships:

6.5 CALCULATION OF GREEN BELT AREAS AND DEDICATION AS NEIGHBORHOOD BOUNDARIES

As stated in Section 4.8, when a new neighborhood of x acres is defined, the HPA has an obligation to create an additional area of $x/3$ acres, adjacent to the neighborhood, which is irrevocably dedicated to protection and conservation as natural land. The calculation which has to be made is complex, and must be done carefully.

- * The total area of developable land in Harbor Peak, that is to be built upon is 328 acres, at maximum.
- * The area of protected “green” belt land protected from development or construction, shall be, in total, a minimum of 109 acres.



Step 6.5. Neighborhood interiors, neighborhood boundaries, and interstitial spaces between neighborhoods.

- * All land marked as green and protected, under the diagnostic procedures of Section 2, shall be considered as a part of these 109 acres of green belt land.
- * All areas which are marked as green, under the procedures of Section 2, less the area of any vehicular roadways which may be placed in those areas, shall be considered part of the protected land.
- * Each time a new neighborhood is established, whose interior area is x acres, then adjacent to the neighborhood, and contiguous with it, a boundary area of $x/3$ acres shall be assigned to that neighborhood. This $x/3$ acres may include previously diagnosed “green” land, or otherwise unassigned green and natural land.
- * Green belt areas which contain local roadways for vehicles, may not be included in the calculation of protected $x/3$ acres that must be assigned to the neighborhood.

6.6 PUBLIC LAND WITHIN A NEIGHBORHOOD

Paths and public outdoor spaces within the neighborhood shall be accessible by all, for everyone's enjoyment, except as specifically set forth in the particular preliminary neighborhood plan. The public land within the neighborhood shall be owned by an

association made up of the residents of that neighborhood, or alternatively by the HPA. The lot owners shall be jointly responsible for maintaining and enhancing this public neighborhood space. Public land shall not be split up for anyone's exclusive use.

6.7 ILLUSTRATIVE EXAMPLE

At the time of drafting this master plan for submission, we decided that the first place to begin building, would be in the area just south and south-east of the Harbor Peak: an area of 4.3 acres, all told, shown in the following drawing.

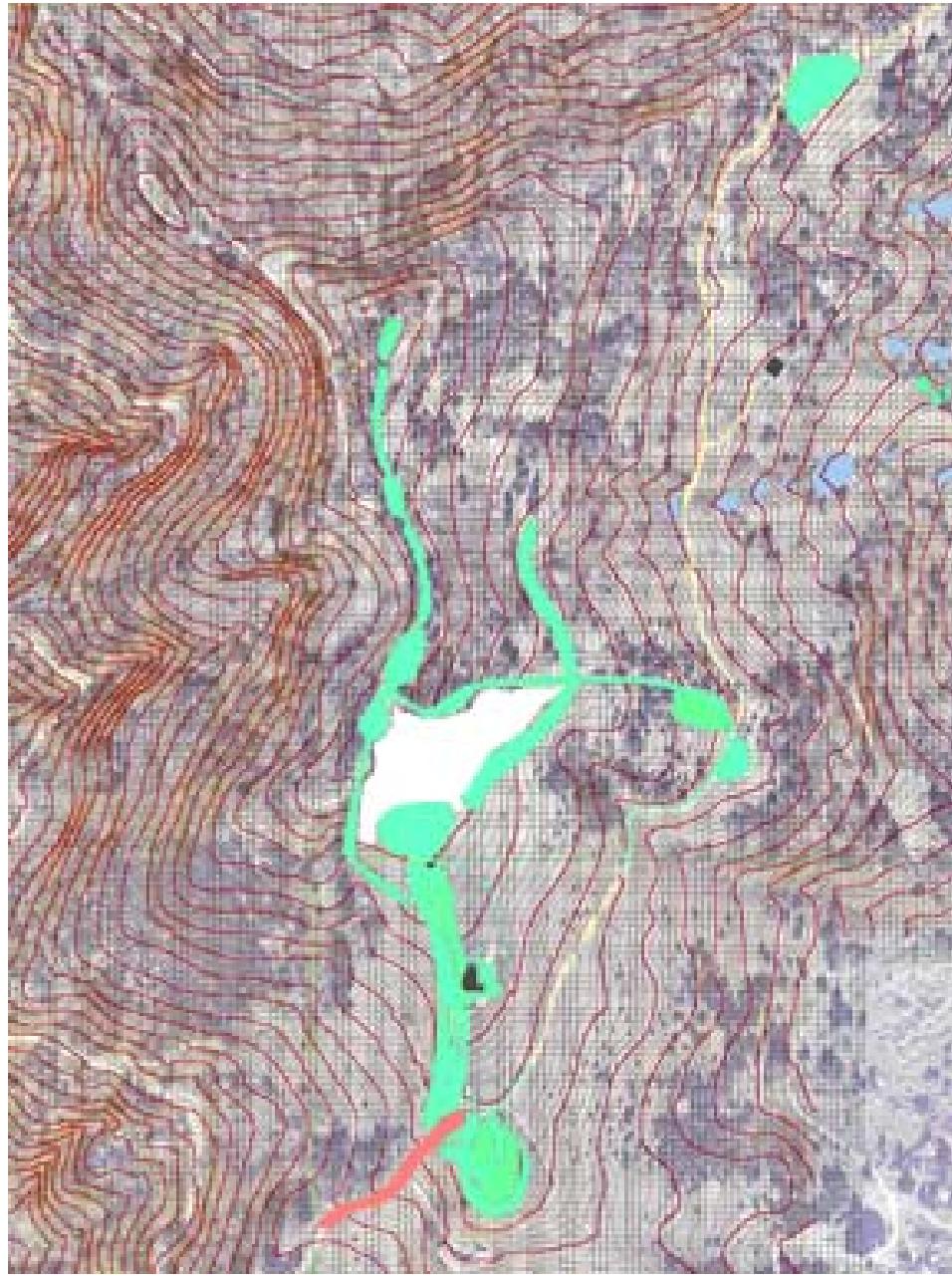
We decided that in this first neighborhood, we would build lots approximately 1/4 to 1/2 acre in size, or slightly larger. Removing internal paths and public land, and some small areas for conservation of woodland, we reckoned that this land would yield about 3.5 acres of net land, and so work out supporting some 14–15 possible quarter-acre lots in the new neighborhood, including a handful of small lots intended for cottages.

Definition of a new neighborhood. The white area is the interior of the neighborhood. The green areas are part of the neighborhood boundary.

6.8 LEGAL PROCESS OF ESTABLISHING A NEW NEIGHBORHOOD BY SUBMISSION OF A DETAILED DEVELOPMENT PLAN FOR THAT NEIGHBORHOOD

- * A new neighborhood shall be formally established when a detailed development plan or DDP for the neighborhood is submitted and finally approved by Curry County.
- * Land may not be sold until a DDP including that land and expressing its provisions, has been submitted and approved by Curry County planning department.
- * The information required in a DDP for acceptance by the county, shall be the following
 - * Neighborhood boundary.
 - * Tentative positions of houses.
 - * Tentative position of lots and lot boundaries.
 - * Position of public pedestrian rights of way giving access to the neighborhood.
 - * Position of internal pedestrian rights of way within the neighborhood.

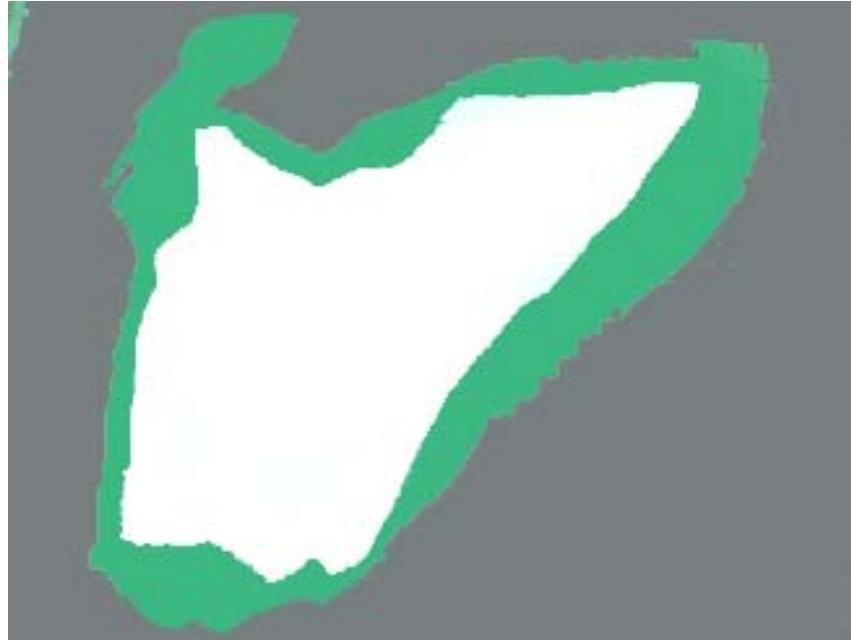
NEIGHBORHOODS



Choice of a new neighborhood. The area shown in white (4.3 acres) is the area selected for the first neighborhood, superimposed on the then current diagnostic map showing early and partial diagnosis of a few central areas of the Harbor Peak site.

- * Position of vehicular roadways within the public rights of way.
- * Location of parking spaces.

These features are further defined in Sections 7 and 8, where the processes to be used for determining them are set forth. De-



Neighborhood interior and neighborhood boundary. The interior (white) is building land which may be used for public space, house lots and houses, gardens, paths, parking. The boundary (green) is land which may not be used for house lots or house construction. It may contain protected wild land to be left natural, parks, pedestrian rights of way, and roads. It may, on occasion, also contain public buildings. The gray area is interstitial land.

tailed requirements for the DDP submission itself are then specified in Section 9.

6.9 CONSTRUCTION SEQUENCE IN A NEW NEIGHBORHOOD

Often in residential developments, the infrastructure is built first before houses are built, often before the houses are really even conceived or designed. Roads, sewers, light poles, power lines, are all in place, before the actual houses are begun. This is a huge mistake; by locking in all the geometry of the neighborhood as the very first act, this effectively prevents the houses from being fine-tuned in any meaningful way to the land and surrounding buildings. This master plan specifically eschews this approach, for one which is more reasonable, and allows for subtle adjustment of the geometry of the houses and the details of the neighborhood exterior works during construction, by not building the infrastructure too early.

No construction of buildings or infrastructure for a given neighborhood may begin until a final plat has been recorded.

In general, construction of the houses must begin first, before any infrastructure construction (sewer, water lines/wells, roads and so on) can begin. Once house locations have been fine-tuned prior to pouring footings, and then the footings have been poured, and framing is underway, then infrastructure construction for the neighborhood may begin. The house construction and infrastructure construction will then be happening roughly simultaneously.

The exception to this rule: in a very small neighborhood of three houses or less, it is permissible to undertake infrastructure construction before the house construction begins.

For details see the provisions of Section 8.

6.10 NOTE: FINANCING OF LARGE PARCELS

At any time after approval of the Master Plan, portions of the land, likely near the perimeter of the master plan area, may be divided into parcels of 10 acres or larger, primarily for financing purposes. These parcels may be held for financing purposes, but they shall not thereby constitute legal neighborhoods. For any of these parcels, or any part of these parcels, to be considered as a neighborhood or developed as a neighborhood, the development process must follow the provisions of Section 6, 7, 8, and 9 in their entirety, and all other applicable sections.

T H E B R O O K I N G S P L A N



SECTION 7

HOUSE LOTS
AND
HOUSE VOLUMES

PRELIMINARY SUBDIVISION

7.1 INTRODUCTION

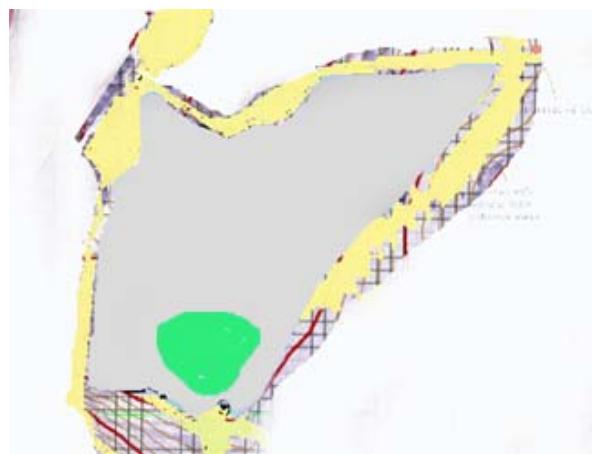
Houses and other buildings—their volumes—together with the shaped space they generate between them—are the raw material from which the life of the neighborhood, its public space, are made. They are active elements, whose volume, position and shape, play the largest role in generating the life of the neighborhood.

The placing of houses, and the choice of lots to support their positions, is therefore the most important task in laying the groundwork, and provides the skeleton, for the communal life of a neighborhood.

Bearing in mind this vital principle, the preliminary subdivision procedure for the neighborhood shall have the following steps.

7.2 DISCOVERING THE NATURAL CENTER OF THE NEIGHBORHOOD

Given the boundary of the neighborhood, it is necessary to discover the natural center of this neighborhood. That process should follow a process similar to the diagnostic process described in Section 2.



The natural center of the neighborhood. This spot of land is felt, and easily agreed, as the most natural place, the natural focus, as people feel it and agree.

Walking about the full extent of the proposed neighborhood area, the decision makers from HPA shall identify that place which—by account of its beauty, by account of its natural pull, and by the natural focus that it can provide to the houses within

the whole area of the neighborhood — has the greatest claim to be identified as the natural neighborhood center.

This decision resides in the land, and is almost independent of the number or density of houses which surround it, and lead to it.

7.3 DECIDING ON THE NUMBER OF HOUSES/LOTS WHICH ARE TO BE IN THE NEIGHBORHOOD

The next task, after the center is settled, is to reach a decision about the number of houses which are to be built in this neighborhood. The first input to this decision about number is likely to come from the density map. According to the current density map and the acreage of the neighborhood, the number of houses may be determined arithmetically.

However, an intuitive judgment about the desirability of land in this location, its value and suitability for sale, may now suggest an increase or decrease in the total number of houses for the neighborhood. In accordance with Section 4, and subsection 4.14, local increases must be compensated elsewhere, so that the total number of legal house lots inside the Harbor Peak boundary, remains below 1300 after the change is made (see wording of subsection 4.14).

The density map is then adjusted to keep the total allowed in Harbor Peak, the same as it was before.

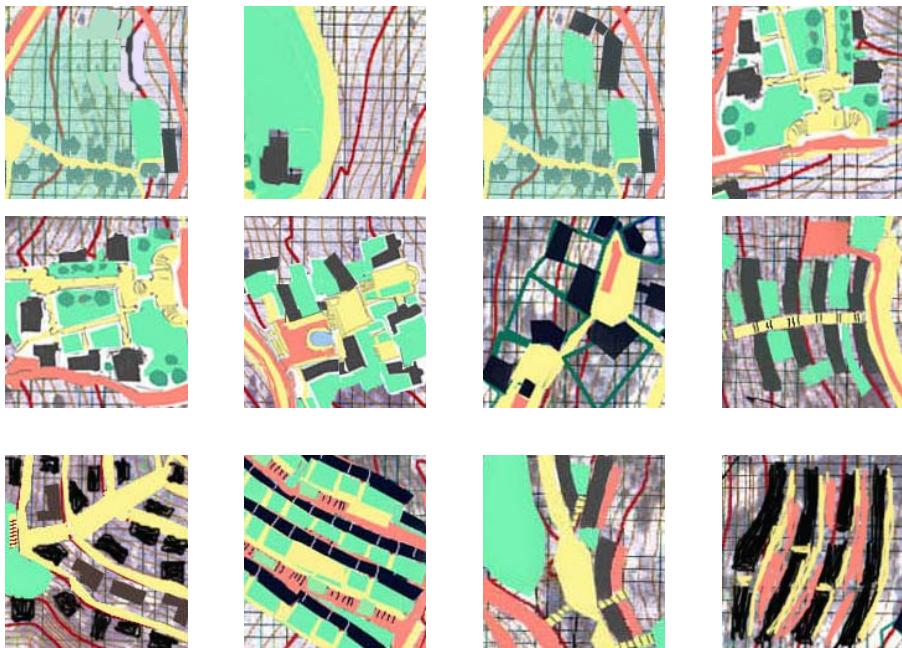
7.4 CONSIDERING VARIOUS POSSIBLE HOUSE-GROUP TYPES FOR THE NEIGHBORHOOD, ACCORDING TO THEIR DENSITY

As a rough guide, it may be useful to examine the suggested house group types, that are presented and discussed in Section 10. These types do not cover all possible kinds of arrangement, but they will help in the formulation of a suitable density pattern and an overall building footprint for the neighborhood.

HOUSE - GROUP TYPES

HOUSE TYPE	DENSITY	AVERAGE SF of LAND PER HOUSE
Very Large Lots, Gentle Slope	0.5 per acre	80,000 sf of land per house
Large Lots, Gentle Slope	1 per acre	40,000 sf of land per house
Single Family Houses	2 per acre	20,000 sf of land per house
Loose House Group	4 per acre	10,000 sf of land per house
Tight House Group	6 per acre	7,000 sf of land per house
Urban Center	6 per acre	7,000 sf of land per house
Stepped Terrace Houses	10 per acre	4,000 sf of land per house
Spanish Steps Ridge Terraces	12 per acre	3,500 sf of land per house
Row Cottages	13 per acre	3,000 sf of land per house
Ridge Top Houses	16 per acre	2,500 sf of land per house
Live-in Workshops	30 per acre	1,200 sf of land per house

7.5 ICONS OF THE DIFFERENT DENSITY TYPES

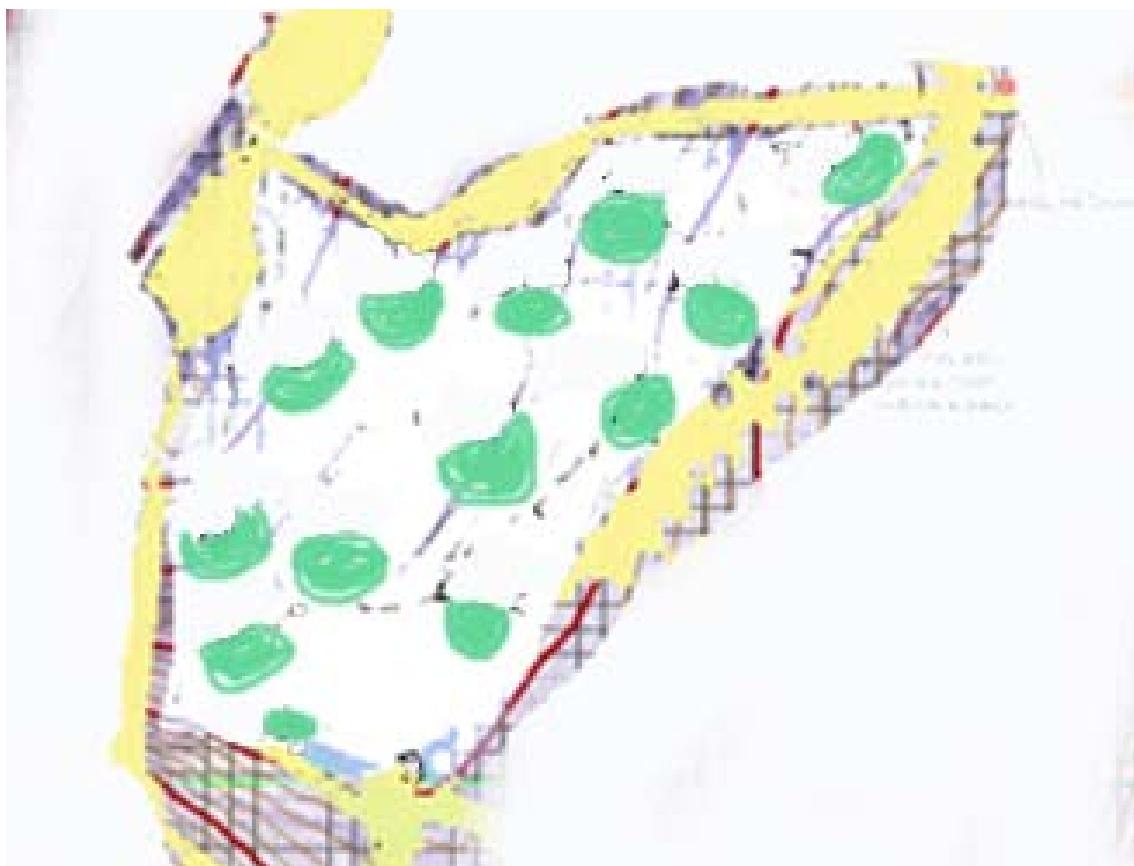


These icons describe different possible densities. Each represents a two acre area, 300 feet by 300 feet, and shows a possible configuration at a different density. Letters refer to the preceding table.

The twelve icons on this page may serve as a reminder of these different types. Please check Section 10 (in Part 2 of this Master-plan) for details. Once this information has been taken in, it will then be possible to formulate house positions, with a realistic sense of spacing between houses, and forms of aggregation for the higher density types. At higher densities, the possible forms of aggregation are more limited, and must be more carefully considered in advance. At lower densities, there is more freedom in the overall arrangement.

7.6 CHOOSING GARDENS FIRST

Before placing house volumes, the first thing to be located, for each house, shall be the position of its garden.

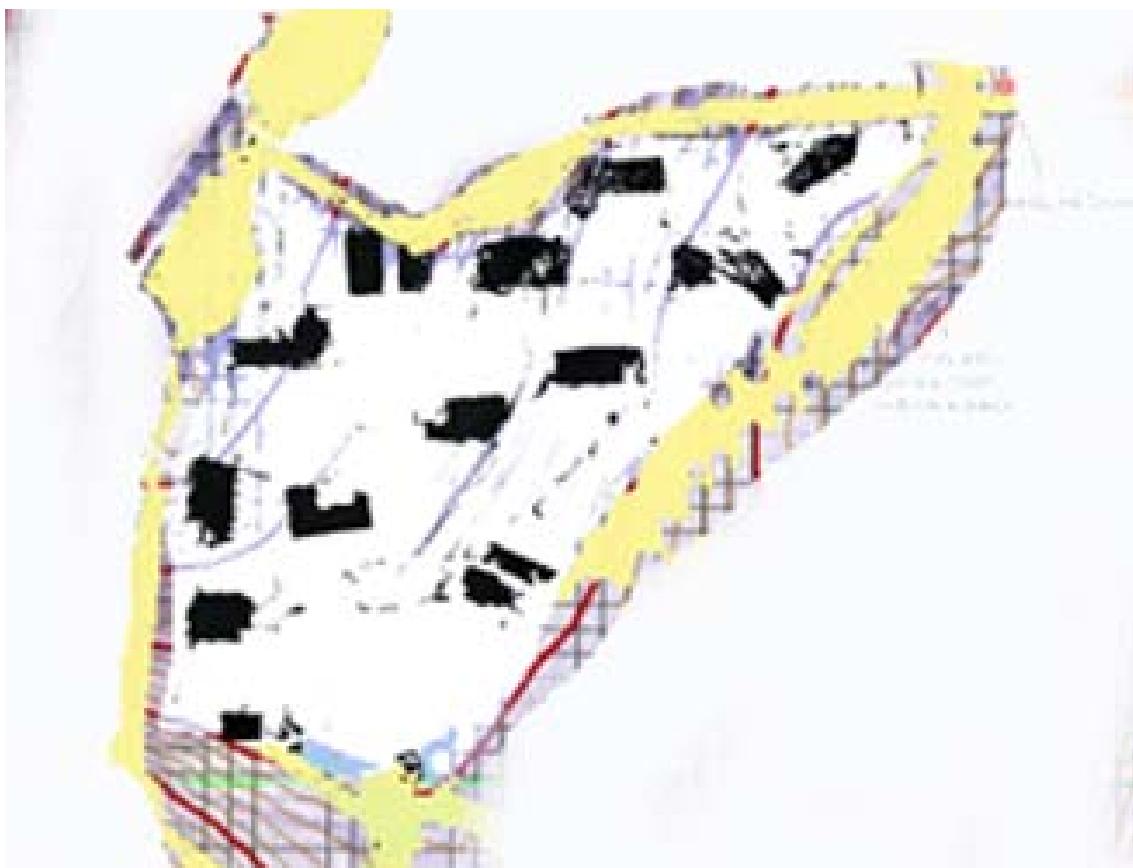


Garden positions. The gardens are placed by instinct, in those places where they contribute most to the well-being of the land, and are most beautiful and pleasant to be in. This is done while walking the land, not on the basis of a drawing or a map.

This seems to reverse common wisdom, which would normally believe in locating the house first, and then the garden. However, once the garden is chosen, for its aspects, orientation, view, sunshine, and trees, it is then possible to make this garden a positive and beautiful place, and a source of value to the house. The house volume may THEN be placed in such a way that it cradles and enhances the garden. The sequence of this procedure will make the house more valuable, and more livable. Although the house seems to be viewed as subsidiary in this sequence, in fact the house and its interior become more valuable because of it.

Note again: The house shall be placed after a decision has been made for a best position of the garden.

7.7 THEN LOOK FOR THE SPECIFIC POSITIONS OF THE INDIVIDUAL HOUSES WITH RELATION TO THE CHOSEN GARDENS AND THE LAND



House positions. The houses are placed by instinct, in those places where they contribute most to the well-being of the land. This is done while walking the land, not on the basis of a drawing or a map.

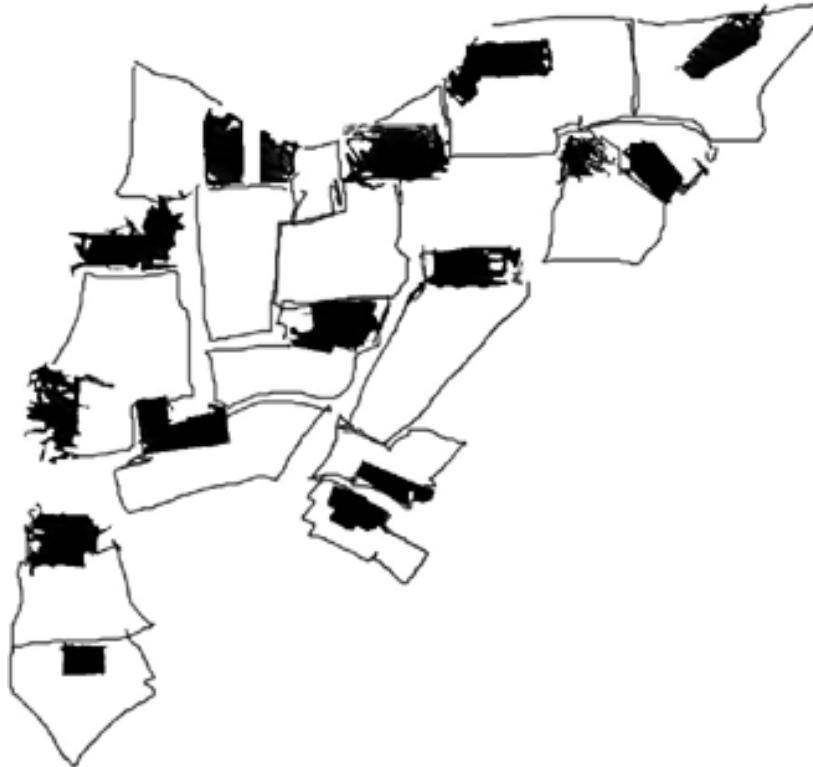
Approximate choices of positions for the houses (conceived as volumes) shall now be made by inspection of the land in the neighborhood. On a first rough map of the neighborhood, and without reference (at this stage) to any supposed street layout, possible and desirable houses are now placed on sites, and in positions, which have desirable sunshine, view, access, potential for a garden and so forth.

The resulting map will initially look something like the one shown on this page. Such a map shall then be fine-tuned under

the provisions of Section 8, by later processes having to do with placement of roads and utilities.

7.8 FIRST APPROXIMATE LOT-LINES AND SUBDIVISION OF THE NEIGHBORHOOD INTO LOTS

At the same time that houses are being located, each house is now assigned a very rough parcel of the approximate size indicated by the total number (Average lot size is Neighborhood-area/N, where there are N houses).



Lot lines. Next, each house is given a lot boundary that suits the house, the garden, and its position, and that gives the house at least one well formed and pleasant garden. This, too, is done while walking the land, not solely on the basis of a drawing or a map.

Certainly, the resulting lots need not be exactly equal in size, or similar in shape. Nor need they have any minimum or maximum dimension or proportion. The lots should merely form a continuous packing of space, so that the lots, paths, and houses, fill the space gently, and well.

7.9 TREE CLEARANCE: THE DELICATE PROCESS OF CHOOSING HOUSE POSITIONS, FELLING TREES, LOCATING HOUSE FOOTPRINT, AND REFINING LOT LAYOUT

In the presence of trees, the process of arriving at a preliminary layout for the neighborhood is of necessity an iterative process. The layout will be rough at first, and then fine-tuned, in several passes. A major reason for this necessarily iterative process: the difficulty of making successful judgments in a dense growth of trees.

Trees are one of the main sources of beauty in Oregon; within reason, many should be left standing. Yet, of course, in heavily wooded terrain many trees will typically need to be removed in order to place houses. Here we face a “chicken and egg” problem. The trees themselves make it difficult to see where one ought to place the house; and until one begins to clear the trees, it is hard to see the land well enough to make good decisions about where to place the house. On the other hand, if one begins to cut trees down, in order to see better, it may turn out that the trees cut down are (it later turns out after the house location has been judged and understood) the very ones which should have been left standing. Avoiding this catch-22, therefore requires an operation of great delicacy. Trees must be taken down one at a time, using the judgement and weighing the likelihood that a given tree is not likely to be worth keeping, and yet one which will make a useful contribution to clearing and opening the site so as to allow good judgments.

Successive iteration shall be used as the method best suited to hone in on appropriate and sensitively placed house locations while removing as few trees as reasonably possible. Over-clearing must be avoided, and in the built neighborhood the most beautiful and healthy trees must certainly be left standing (see discussion of structure-preserving transformations, in Section 2).

[Note: *First round of layout. The first round of layout for house volumes shall be done without removing any trees, and will therefore be rough, and will require further adjustment. Use short stakes for the garden position, and tall stakes for house footprints. Stake these out, at first, trying to be sensitive to the protection of major trees, and, in this first round, without actually felling any trees.*

The fundamental thing to keep in mind is that the building footprints should shape and support the outdoor garden space for each house, and the spaces between houses in general. The garden is the most important thing, the house is secondary.

The next day. Come back the next day, with fresh eyes, to see if this layout still seems roughly valid. First, if you immediately see adjustments you want to make at this point, do so, by adjusting the stakes and ribbons. Now, cautiously begin to fell trees carefully, one by one, from within the proposed garden, and within the proposed building footprint. After each tree is cut, you will be able to see more clearly what it the reality of what the stakes are proposing, and you may see some shortcoming in what you've done, some adjustment in position which may improve the house, the garden space, the neighborhood.

After EACH tree is cut, re-examine the staked positions, and adjust as necessary. This is delicate iterative work, and should be done carefully. It is as delicate as brain surgery; the mistakes are irreversible. One can always cut a tree later, but one can never put back a tree once cut; prudence and caution must be the rule.

Construction. Clear only enough trees to verify the stakeout you have done; you needn't clear all of the footprint, or all of the main garden. The preliminary subdivision plan for the neighborhood shall be based on these stakes.

Once the projects are under construction, final tree clearing may be done, and the layout may be further adjusted within the tolerances given in sub-section??.]

7.10 SMALL PEDESTRIAN PATHS PIERCING THE FABRIC, AND SOME DOUBLE FENCES BETWEEN ADJACENT LOTS

Some of the boundaries between adjacent lots shall now be configured as pedestrian paths, with the implication that each path lies between two fences (or walls or hedges).

These paths may vary considerably in width and uniformity, according to context and suitability. The narrowest paths would be (say) 5 feet wide. The widest might be as much as 15 or 20 feet wide or more along limited stretches.

It should be born in mind that these paths may, in certain instances, be used for parking, or for private vehicle access along their wider stretches.

The primary purpose of these paths, is to provide access to the lots, both for pedestrians and vehicles, where this is not already provided by access from large rights of way established previously. At this stage, this matter of access is being established as a matter of general feasibility. Detailed treatment of legal requirements for vehicles, is taken up in sub-section 8.x.



Here we see the rich composite configuration which arises from the mutual interaction of gardens, house-volumes, small paths, larger pedestrian rights of way at the periphery, parks and public land. Each neighborhood will become unique, in its own terms.

The paths of all the neighborhoods in Harbor Peak are for the access and mutual enjoyment of all. Residents of a given neighborhood may travel on and enjoy the paths of other neighborhoods.

Exceptions to the required paths will be granted where:

- * Slope along the property line makes even a stair unfeasible, i.e. slopes along the property line in excess of 30°,
- * attached building pattern where buildings are contiguous along the property line. (in this case a lot line path must occur every xoo feet.)
- * Very small lots (in this case a lot line path must occur every xoo feet.)

Paths on every lot line would be monotonous, never different or surprising. In our example, we have a reasonable number, but we don't have yellow paths on every lot line.

Also, in steep neighborhoods, placing stairs at every lot line would be expensive at the startup, and also perhaps strange. Expense might be dealt with in the following way, that stairs for essential paths are built at the time of constructing neighborhood, other non essential stairs are to be built later, to be paid by HPA from home-owner fees.

7.II FINE TUNING THE CONFIGURATION OF THE NEIGHBORHOOD AS A WHOLE

The configuration of the neighborhood as a whole must now be considered carefully. It is certainly not necessary that houses, or lots, or buildings, or paths, or path width should be uniform. The intention is that a viable and successful neighborhood can be built from this configuration. Where some feature is inappropriate or superfluous, it may be omitted.

The resulting neighborhood map, after fine tuning to take this large aspect into consideration, will look something like the drawing on the left.



SECTION 8

ROADS, PATHS, & PARKING

THE VEHICULAR AND PEDESTRIAN
SYSTEM IN THE NEIGHBORHOOD

8.1 INTRODUCTION

Once the definition of a new neighborhood has been achieved, a pattern of buildings and lots has been defined, and major pedestrian rights of way have been identified, (approximately), and marked on the land, and a tentative map has been made showing positions of buildings and rough designation of lots, the process of defining vehicular roads and parking begins.

This is a departure from current conventional practice, which usually places roads and sewers first. The Harbor Peak plan is based on the conviction that it is precisely the practice of starting with roads and sewers which has devastated the naturalness and human qualities of land and community.

*Instead, in this plan the roads, ranging from large to small, and including all emergency routes for fire and other emergency vehicles, and including all necessary provisions for parking, are generated **in relation to** the preliminary pedestrian plan and the preliminary major pedestrian rights of way, so as to **serve** the community structure, which is in essence pedestrian.*

Here is how it works.

8.2 CONTEXT OF PREVIOUS ACTIONS FOR THIS NEIGHBORHOOD

- * Global diagnosis done, major centers mapped (Section 2)
- * More detailed diagnosis for this neighborhood done, major centers mapped (Section 2)
- * Major pedestrian network staked out, entered in state map (Section 5)
- * Major pedestrian spaces and paths have stone pillars built, demarcating their rough edges (Section 5)
- * Neighborhood boundary staked out, entered in state map (Section 6)
- * Rough house and garden locations set within neighborhood (Section 7)
- * Local pedestrian ROW's set: small pedestrian spaces and paths within the neighborhood are staked out and entered in the state map (Section 7).

8.3 COLOR AND TEXTURE CODES TO BE USED IN DRAWINGS

See chart on the opposite page.

SYMBOLO TABLE

SYMBOL	CAPACITY	SURFACE
	All vehicles	Asphalt over 4 inches crushed rock
	Pedestrians and emergency vehicles	Pedestrian paving which is load bearing for heavy vehicles
	Pedestrians and emergency vehicles only	Grass over grass block on eight-foot shoulder of a local road
	Parking spots	Permeable load-bearing surface including crushed rock, gravel, compacted earth
	Low-volume pedestrian lanes	Narrow asphalt strip between earth, grass, or planted edges
	Mixed pedestrian allowing 5mph slow-moving cars and deliveries	Rolled gravel and clay over crushed rock
	Pedestrian paving, not capable of carrying heavy vehicles	Stone slabs, bricks, or pavers, laid over a light mortar base or sand, and compacted rolled clay and gravel.
	Pedestrians and animals only, alongside pedestrian paths; No vehicles at all	Grass and freely planted vegetation, for children, play, and enjoyment

8.4 ROAD LINK TO THE NEIGHBORHOOD

When making a new neighborhood, the first thing to decide is the primary road link providing vehicle access to this neighborhood.

The process for laying the neighborhood's local roadway(s) shall have the following steps:

First: HPA shall identify the neighborhood's principal point of access. This is the point on the existing road network outside the new neighborhood, which passes most closely to the new neighborhood, and which provides easy, and efficient access to the neighborhood while preserving the beauty of the land.

The highest priority criterion for locating this point of access and the new link, is that the location, among possible ones, shall be that one which is least disturbing to the landscape, and which does the least damage to diagnosed precious places on the current master plan diagnosis (Section 2). Occasionally, there may be more than one point of access. Mark the point(s) of access on the map (See illustration on opposite page).

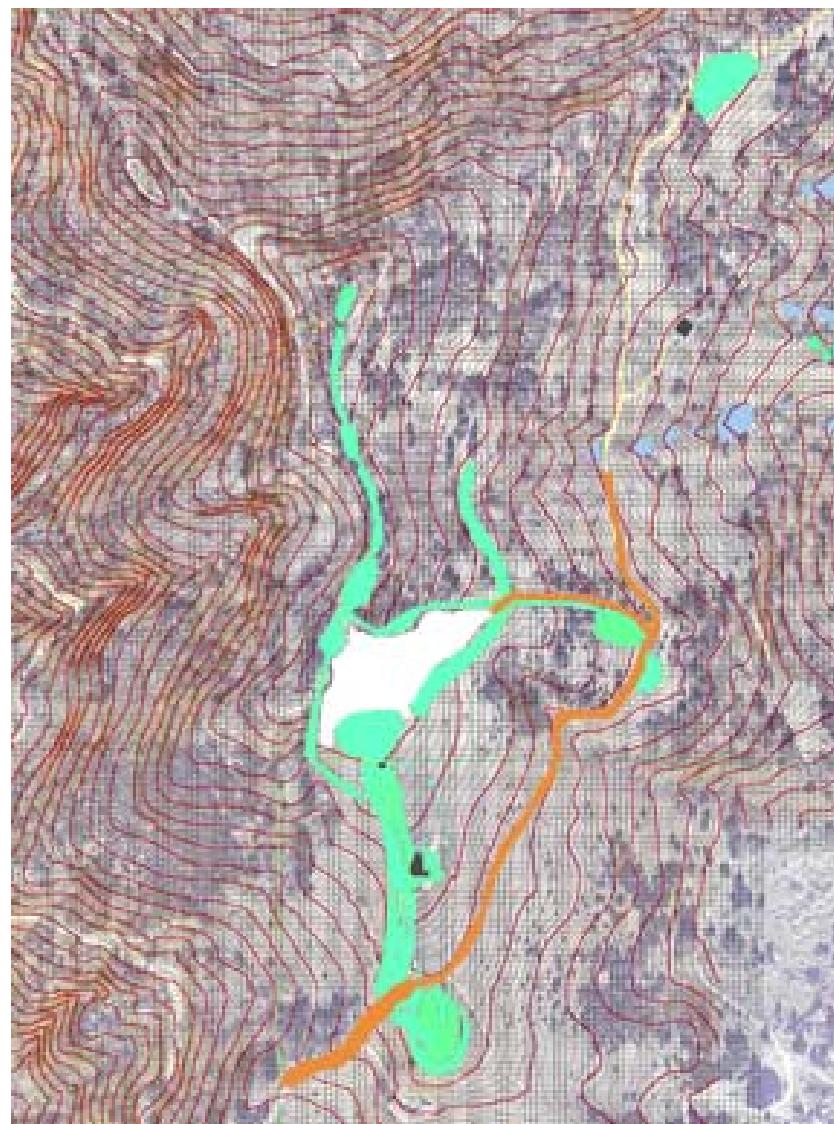
8.5 PLACING THE LOCAL ROADWAY INTO THE NEIGHBORHOOD



Each neighborhood shall have at least one local roadway. The local roadway shall be a 12 foot wide asphalt road, lying within the pedestrian right of way, and providing the main vehicular access to the houses in the neighborhood. It shall also be the primary path for emergency access to houses in the neighborhood. The local roadway shall follow these specifications:

The local roadway must reach to within 200' of at least 85% of the houses in the neighborhood.

15% of the houses in the neighborhood may be further than 200 feet from the local roadway.



Step 8.4. The principle point of access for the new neighborhood, shown in red. The upper right hand road comes in to the neighborhood from the major North-South collector, and requires the least new road construction, while preserving existing structure by using the alignment of a logging trail.

The design speed shall be 15 mph.

The gradient limitation shall be 15%, (and may be steeper, up to x% for y feet of length).

The minimum inner turning radius shall be 33 feet, with exceptions permitted on steep terrain.

The minimum width of the roadway shall be 12'.

The roadway may pinch down to 10' at certain points along its length, for lengths up to 50', especially at steep areas where greater width would cause prohibitively ugly cuts.



Step 8.5. Point of Access, showing the process of introducing local roads, shown in red, as they fan out from the point of access. The black bar shows the dimension of 200 feet, and allows one to see that in this neighborhood, only two houses (as permitted) are more than 200 feet from the local roadway.

The road surface shall be asphalt or concrete, or other surface such as pavers, cobbles, when if approved by HPA. The local roadway in its entirety shall be placed within the footprint of the already staked and built pedestrian right-of-way network.

Materials of asphalt and concrete shall be in accordance with material specifications of City of Brookings.

The process for choosing the alignments for the neighborhood's local roadway(s) shall have the following steps:

- * Starting from the principal access link, lay out a local roadway, lying within the neighborhood boundary areas identified as the pedestrian ROW network designated for the neighborhood, and chosen so that some part of the local roadway reaches to within 200 feet of 85% of the houses in the neighborhood. The local roadway may branch in order to achieve this aim. In addition:

- * The local roadway shall not be extended any further than is needed to meet the 200 foot specification for 85% of the houses. The roadway alignments in the neighborhood shall thus be chosen in such a way as to keep total area of asphalt surfaces to a reasonable minimum, while staying within designated pedestrian ROWs.
- * It is permissible to create additional short dead end “spurs” of the 12 foot local roadway, to achieve this objective, provided that any such spur is not more than 200 feet long.
- * Except for spurs, all other parts of the length of the local roadway in the neighborhood shall have a passing shoulder at least 8 foot wide. This passing shoulder shall be of a surface which is green and planted but suitable for heavy vehicle passing (See subsection 8.7).
- * Once the alignment of the main local roadway has been determined, the edges shall be staked, and recorded on the state map (shown in red, see example). Tolerance for later adjustment of position shall be 10'

Note: While grading the road, may need this degree of flexibility if for example a slide occurs, or bad soil is encountered.

Additional Note: The above gradient requirements and turning radii limitations for emergency vehicles may in certain instances force this road to step a bit outside the limits of the pedestrian ROW network, in order to not be too steep, or turn too sharply. This is acceptable, but keep this to the minimum possible: the maximum running length of a hairpin allowed outside the pedestrian network is 150 feet. (On occasion, with HPA approval, the hairpin may be longer, if needed) (Question: And does this then extend the ped ROW to include this area.?) Some re-grading may be done, but to the greatest extent possible, the existing contours shall be respected and protected.

It may be helpful, on wide pedestrian areas, to keep the local access road to one side of the pedestrian space, thus leaving the main width of the pedestrian right of way intact for pedestrians (see map).

[*Note: Permissible examples of variations of the Local Roadway type prepared by Bill Buchanan can be found in the Road Type appendix to Section 8. The types found there which are examples of Local Roadways are: F. Community Center Secondary, G. Community Center Tertiary, I. Neighborhood Street, and J. Secondary Neighborhood Street.]*

8.6 PROVIDING A SECOND ACCESS ROUTE FOR EMERGENCY VEHICLES



Road layout in the neighborhood shall follow a principle of secure redundancy. This shall provide for emergency access to every house by emergency vehicles, even when a portion of the local road is blocked by a stalled vehicle or other obstruction, while an emergency vehicle needs to enter the neighborhood. To achieve this result, there shall be a redundant secondary access from the existing road network, into the neighborhood, which connects with the local roadway, in such a way as to create a loop, whereby all houses can still be reached. The alignment and surface of the secondary access paths shall conform to the following specifications:

The gradient limitation is 15%. (May be steeper, up to x% for y' length. Bill will provide this)

The minimum inner turning radius is 33 feet.

The minimum width is 12'.

The road surface may be a combination of any of the following:
Heavy duty pedestrian paving, Grasscrete and others.

This secondary access, like the main access, shall be placed within the pedestrian right of way for the neighborhood.

The process to set the alignment of the Secondary Access Loop is as follows.

* First: Identify a secondary point of access from the existing road network, to the neighborhood. This shall be a point where the existing road network is near to the neighborhood, but a point different from the main Point of Access.

* Second: From this secondary point of access, extend a Secondary access to neighborhood, from the existing road network, to connect with all branches of the Main Access. This secondary access shall be used only by vehicles only in case of emergency access, it shall be primarily part of pedestrian space at all other times.



Step 8.6. The process of introducing a secondary loop of pedestrian hard paved surface capable of taking fire trucks and other emergency vehicles.

* Stake edges. Record on state map as green herringbone. Tolerance for later adjustment is 10 feet.

The secondary access route shall be used by vehicles only for emergency access, thus allowing emergency use to flow through spaces not normally accessed by vehicles. It can flow through a pedestrian space without really being a commonly used road, it can even flow through a section of small local pedestrian path. For instance this can occur through a large pedestrian plaza, no part of which need be demarcated as a roadway, yet providing

sufficient hard surfaces to be secure for the use of emergency vehicles.

- * Fine-tune and adjust these elements as needed, to give emergency vehicles redundant access to within 200 feet of all points of all structures. Record in the state map.
- * Locate fire hydrants as needed to serve fire vehicles coming on on these access paths.

8.7 PROVIDING AN 8-FOOT PASSING SHOULDER ALONGSIDE THE 12-FOOT ROADWAY



Except where roadway is 20 feet wide or more, and except for spurs less than 200 feet long, all parts of the length of the local roadway in the neighborhood, shall have a passing shoulder at least 8 foot wide.

This passing shoulder, for emergency use only, does not need a fully drivable roadway. It needs a structural surface capable of taking the weight of a fire truck or large construction vehicle. (Bill would like to include cobble, pavers, grasspave, perhaps others approved for firetruck load. Would like to do mockups to see what combinations feel ok and which do not. Perhaps its phrased as the aggregate 20' can be any combination of a list of approved materials. Also, he's concerned that the grasspave2 -the plastic ring one - won't wear well, cautious about using).

In order to avoid unnecessary use of non-permeable surfaces, it is recommended that a punctured structure, capable of supporting growing grass, but also capable of receiving a heavy vehicle load, be used. This may be on either side of the roadway, and immediately adjacent to it.

At pinch points in the local roadway, the passing shoulder is discontinued.

If the local roadway is 20 feet wide, the passing shoulder is not needed. In any case, the local road surface plus shoulder must be a minimum of 20 feet wide, all along the local roadway.



Step 8.7. The process of introducing grass block and reinforced turf along the shoulders of local roads as a breakdown lane, pleasant to look at and to walk on, but capable of taking the weight of firetrucks and other heavy vehicles in all weather conditions.

8.8 NARROW LOW-VOLUME PEDESTRIAN PATHS



Step 8.8. Recap of the pedestrian lanes and paths which form the neighborhood.



In Section 7, we have already identified a network of local narrow paths between lots, serving pedestrian movement inside the neighborhood (See subprocess 7.x). Before placing parking spots, we now reestablish, and check, and confirm, the positions of these narrow local paths.

Set grass in main pedestrian spaces: All large pedestrian spaces in the network shall have the default surface of grass, with small paths within it. Mark this on the state map, with a single hatched pattern. (see map.)

Locate low stone walls around major pedestrian spaces.

[Note: Permissible examples of variations of the Local Roadway type prepared by Bill Buchanan can be found in the Road Type appendix to Section 8. The

[types found there which are examples of Narrow Low Volume Pedestrian Paths are types: Q. Pedestrian Street, U. Close, W. Walk, X. Trail, and Y. Stair.]

8.9 ENUMERATION AND POSITION OF PARKING SPOTS



The intention of this plan is to take the emphasis away from parking as a major visible feature of the environment. Under the provisions of the plan, parking will be practical but not lavish, and it should not disturb the environment that people see, daily, around their houses and workplaces. Each house requires parking, but the parking spaces need not necessarily be immediately adjacent to the house.

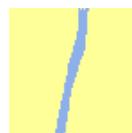
- * Each house shall be assigned two parking spaces, or one parking space if the house has less than 1000 sf of interior space.
- * In addition, the neighborhood shall provide a general pool of on-street parking, one for each house in the neighborhood.
- * The parking spots shall not necessarily be immediately adjacent to the house. For any house, the parking places shall be no less than 50 feet and no more than 250 feet from the house, positions chosen in such a way that the spots belonging to a given house are readily identifiable as such. Small parking lots may be used, but no lot shall be larger than five cars, and may be no less than 100 feet from any other similar parking lot.
- * Record parking spots on the state map, as blue rectangles.
- * The parking spots for the houses in the neighborhood shall be located while walking the land, in relation to the house position, and in such a way as to least harm to the beauty of the local pedestrian environment of the house.
- * They shall be located primarily on or near the local access roadway, and in addition along other small pedestrian paths in the pedestrian network, according to the foregoing criteria.



Step 8.9. Place the needed number of parking spaces, in the positions required by subsection 8.9. Some will be placed individually, some may be in small lots of no more than five cars. If any small lot is used it may not be visible from any other such lot. Location of parking spots is done while walking the land, not on the basis of a drawing or a map.

*** Commercial parking:** Those residents who build commercial space must provide one additional parking spot/1000sf of commercial construction, or alternatively contribute money to an HPA parking fund.

8.10 DRIVEWAY/PATHS WHICH ALLOW CARS TO REACH PARKING SPOTS



Local access paths or driveways shall be provided to allow cars to reach all parking spots. These car paths shall be of minimum dimensions, and provided with a modest surface of permeable materials.



Step 8.10. The drives and lanes needed to reach all those parking spaces not directly accessible from the local road, are shown as a yellow path with a thin blue line down the middle.

You may have located some parking spots not on the Local Roadway. For these spots, within the local pedestrian network, add in small local access vehicular paths, if necessary to extend from the main access to reach any parking location which can reach the parking locations determined above. These local car paths shall follow these specifications:

- * The design speed shall be 10 mph.
- * The surface shall be gravel (more variety: cobbles, grasscrete?)*
- * The minimum width shall be 8',
- * The gradient limitation shall be 25%
- * The minimum inner radius shall be 33'. (Note: this is the same as the AASHTO shared driveway specification.)

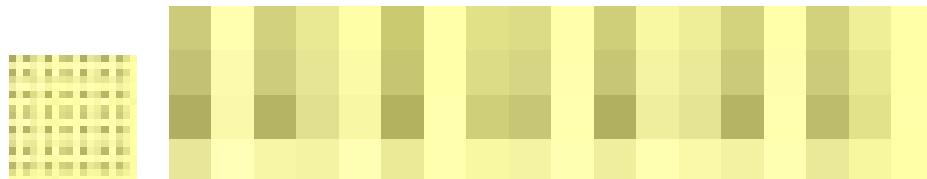
- * Record the location of the local access car paths on the state map, as a thin red line. Tolerance for later adjustment is 2'. You may also add a bit of purely pedestrian path to the network, to connect the parking spot to the house, if need be. Record this in yellow.
- 6. Set gravel pedestrian paths: all remaining paths in the pedestrian network shall have the default surface of gravel. Mark this on the state map, as a dotted

pattern. (see map.) An alternative you may choose is concrete pavers set in gravel (dotted pattern with diamonds.)

7. Set hydrant locations. Locate hydrants on the Main access and secondary access roads and the access spurs, such that no point of a house is more than 400 feet from a hydrant. Record on the state map as black dots.

[Note: Permissible examples of variations of the Driveway Paths type prepared by Bill Buchanan can be found in the Road Type appendix to Section 8. The types found there which are examples are the following: N. Shared Driveway, T. Minor Cul de Sac, V. Alley.]

8.II MODEST PEDESTRIAN PAVING FOR IMPORTANT SQUARES AND PATHS



On certain special places, places where people may perhaps congregate, or go for enjoyment and company, some paving—if possible, beautiful paving, with special designs in the surface—shall be used to mark the place, and give it a permanent quality.

[Note: Permissible examples of variations of the Modest Pedestrian Paving for Squares and Important Squares and Paths prepared by Bill Buchanan can be found in the Road Type appendix to Section 8. The types found there which are examples are the following: O. Woonerf, P. Piazza, Q. Pedestrian Street, U. Close.]

8.12 USE OF THICK AND NATURAL VEGETATION ALONG PEDESTRIAN WAYS



Step 8.12. Examples of paths enhanced by vegetation along either side.

8.13 SEWER LINES AND LEACH FIELDS

It has long been common practice in development to install all sewers at the same time as roads, long before the houses themselves are built. This expensive and wasteful procedure is not recommended. Instead, sewer lines are to be dug, placed, in a more flexible manner, thus able to tie in with house construction as it occurs, and without large upfront investments which cripple the developers ability to provide more essential amenities to the startup neighborhood.

The system is to be a STEP (septic tank effluent pumping) system. This system minimizes the size and cost of the lines, and thus will allow more responsive and incremental growth of the wastewater system, so that the septic system responds over time to the detailed final location and construction of houses, not the other way around.

In summary: each house has an underground tank and pump, and a 2" pvc line from this tank, through which liquid effluents are pumped away. The houses work in clusters, with each individual tank pumping to a common line that feeds a common treatment and disposal system. As lines in the system come together and accumulate, if the number of houses served by any one line increases to 70 houses, the diameter needs to be 3", (still far smaller than the typical 8" main needed in a conventional sewer system). The effluent is pumped from each house to a local gravel or textile filter serving the cluster of houses. Then from the filter, effluent flows to a local subsurface disposal field serving the cluster. (For more detail see the Infrastructure Appendix to the Master Plan.)

This system is globally decentralized, locally centralized. The lines are very small diameter, which minimizes line cost and trenching. The installation and expenditure for the sewer system keeps pace in a sensible manner with house construction, rather than being an enormous upfront cost.

These small lines are to be run within the network of pedestrian and vehicle paths, and are to be installed after the houses are built. Since the system is dosed with small pumps, the line layout can have some uphill runs if needed, which further minimizes trenching effort and cost.

As evidenced in the table below, the per-house cost of the STEP system is about 2/3 the cost of a conventional standard system. The STEP therefore places less load on municipal system, and avoids large upfront costs, instead spending the money more linearly as houses are built. Costs of the STEP system shown are 71% of the typical tract cost of a main-line sewer system for a similar group of houses.

T A B L E
C O M P A R I S O N O F S E W E R C O S T S F O R
A F I F T E E N - H O U S E N E I G H B O R H O O D

CONVENTIONAL SYSTEM	PER-HOUSE FIGURES		
4-inch house laterals, 795 feet	53 feet	\$ 20	\$ 1,060
8-inch mains, 2250 feet	150 feet	\$ 55	\$ 8,250
Manholes	0.25 ea	\$ 8,000	\$ 2,000
Two 8-inch mains to treatment plant, 2.5 miles each, \$100/ft (cost over 1000 houses)	1 ea	\$ 2,640	\$ 2,640
	Total cost per house \$ 13,950		
STEP SYSTEM	PER-HOUSE FIGURES		
1000 gallon tank with pump	1 ea	\$ 3,000	\$ 3,000
2-inch small diam pvc lines, 3045 feet	203 feet	\$ 10	\$ 2,030
Filter (cost over 15 houses)	0.067 ea	\$ 25,000	\$ 1,667
Field (cost over 15 houses)	0.067 ea	\$ 12,000	\$ 800
Two small 6-inch mains (if STEP system is connected to municipal system in future), 2.5 miles each, \$90/ft (cost over 1000 houses)	1 ea	\$ 2,376	\$ 2,376
	Total cost per house \$ 9,873		

Provided that sewers are placed within the system of paths defined in the neighborhood, most of them will require only trenching and fitting, thus greatly reducing the cost of cutting asphalt, replacing the surface, and so forth. This allows the sewers to be built as houses are built, changing crucial cash flow for the developer. In spite of the greater flexibility, the step system is cheaper. As the table shows, the total length of lines, many of them smaller than the typical 6 or 8-inch mains used in typical tract development, will reduce, not increase, the overall cost of sewer runs.

The procedure to be followed in laying out sewer lines and leach fields shall go like this:

- 1) Identify location of filter and disposal field. The area of the filter shall be about 90 square feet per house if a recirculating gravel filter, or about 9 sf per house if a textile filter is used. The subsurface field will be about 6000 sf per house (7.25 dwellings per acre of field). The filter and field may be placed slightly above the group of houses, or



Step 8.13. Sewer lines shown in red. The total cost per house of these small bore sewers is less than the cost of main sewer lines for a typical, conventional, group of houses in a tract.

preferably slightly downhill. If the filter is above some of the houses, the greatest height allowed from the lowest house up to the filter shall be about 100 feet in elevation gain but may be increased with engineered facilities to increase the lift.

- 2) Lay out a network of 2-inch lines which run in the pedestrian space, and connect to the filter location. Try to minimize length, and do not allow the line from any house to cross someone else's lot. The 2-inch lines shall be dug and placed incrementally, as houses are completed.
- 3) If any line serves more than 70 houses, the diameter of that line shall be increased to 3 inches.

8.14 NARRATIVE OF ILLUSTRATIVE EXAMPLE

On the basis of the procedures specified in this section, steps 8.2 to 8.12 were taken, and led to the road and path layout, including emergency vehicle access and parking lots, that is shown in the accompanying sketch. (We emphasize again, that these drawings are illustrative. They have not been given

ROADS, PATHS, AND PARKING



Step 8.14. The overall result of the steps in Section 8.

sufficient detail study, for actual correct placing of houses, roads and so on, but they show how the steps of the process are to be applied to an emerging neighborhood, to reach the result intended by this master plan.

Actual implementation shall then be done in the following sequence:

- * Place temporary construction roads, following the alignments established above for local roadways.
- * detailed design and build houses
- * Fine tuning then final building of pedestrian spaces, and the road surfaces within them.

8.15 GROWTH OF THE ROAD NETWORK OVER TIME

- * *(Bill would like somewhere to include a global statement about points of access for the project, like: Harbor Peak has one initial point of access. At least one more point of access will be added by the time that 150 lots have been recorded. Ultimately at full build-out, Harbor Peak will have 5 to 8 points of access. And show a drawing showing these places of access onto the project.)*
- * *Term our road types in terms of design speed, eg three categories: 25 mph, 15 mph, 10 mph.*
- * *"Roads shall be designed such that for emergency access vehicles to reach any house in Harbor Peak, they need not traverse more than 2000 feet in total of either the 15mph or 10mph types."*
- * *Further, can assert that the low speed roads can be truly mixed ped/vehicle, don't need separate sidewalks.*