Planning to Improvise:
Design for the Boynton Yards Industrial Area

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May, 1984

Submitted to the Department of Architecture in partial fulfillment
of the requirements for the degree Master of Architecture
at the Massachusetts Institute of Technology, June, 1992

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Abstract

Planning to Improvise: Design for the Boynton Yards Industrial Area

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Abstract

Assuming the need to transform industrial culture, one might begin with an attempt to re-value the industrial environment itself. While mistrusting those practices that left behind derelict sites and structures, we inherit these artifacts with the obligation to improvise new forms on the themes they establish. Reoccupation of an abandoned industrial area becomes then, a project of recuperation specific to a particular site and culture.

The area under investigation is known as the Boynton Yards in Somerville Massachusetts. From the early 19th century until recently it had been a vital industrial district. Today, the site is largely abandoned.

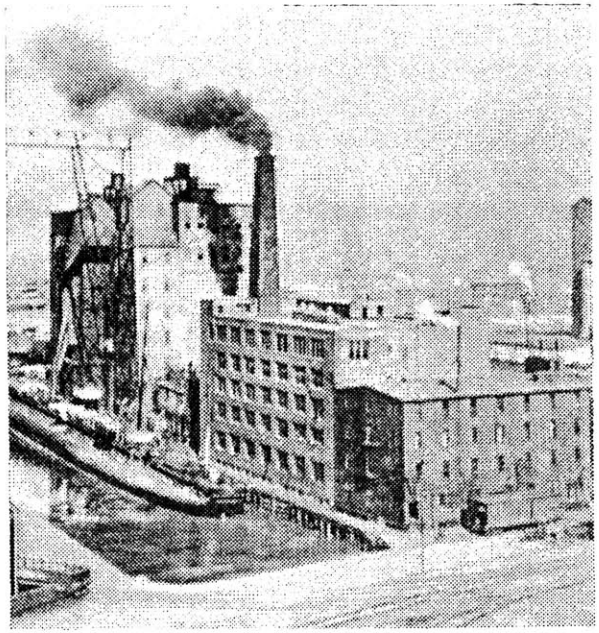
This project proposes to make a gesture of recognition to those physical and cultural norms that formed the site, with the intention of re-valuing its current status. Its potential to function as a zone of spatial and social orientation is exploited in a design for a series of loading docks at the edge the Yards.

Thesis Supervisor: Imre Halasz
Title: Professor of Architecture

Section One: Premise

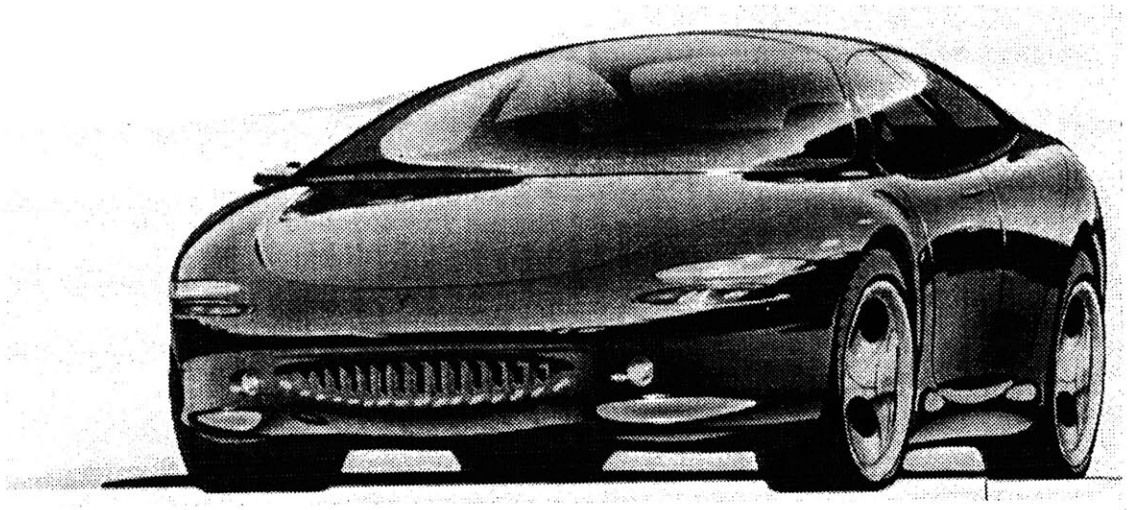
Lee Iacocca appears in his trench coat, the empty floor of a concrete frame factory building recedes behind him as he speaks to us about America's lost competitive edge. The scene changes. Now Lee is standing in front of a computer generated image of a factory building - heavy brick bearing walls, narrow arched windows, saw-tooth skylights, smokestack, a typical 19th century rust belt edifice. He speaks about Chrysler Corporation's new attitude and as he speaks, the factory implodes, destroyed from within as dust and smoke rise to cover all but Lee and his mackintosh. Lightning and thunder rage inside the clouds as we catch glimpses of a new building which rises phoenix-like from the dust of the old factory. This is it: alternating bands of mirror glass and pink stone veneer panels appear against an azure sky and as the camera pans across those shining facades, Lee tells us that his company is building a new "technology center."

Then we see the new products. Like the new building they presumably emerged from, we see only surfaces. Head lamps, door handles, bumpers, glass moldings, radio antennas, all are contained within a sleek, never interrupted continuous profile. They seem toy like, weightless, like the new technology center, alloys of quicksilver and sky. The commercial ends.

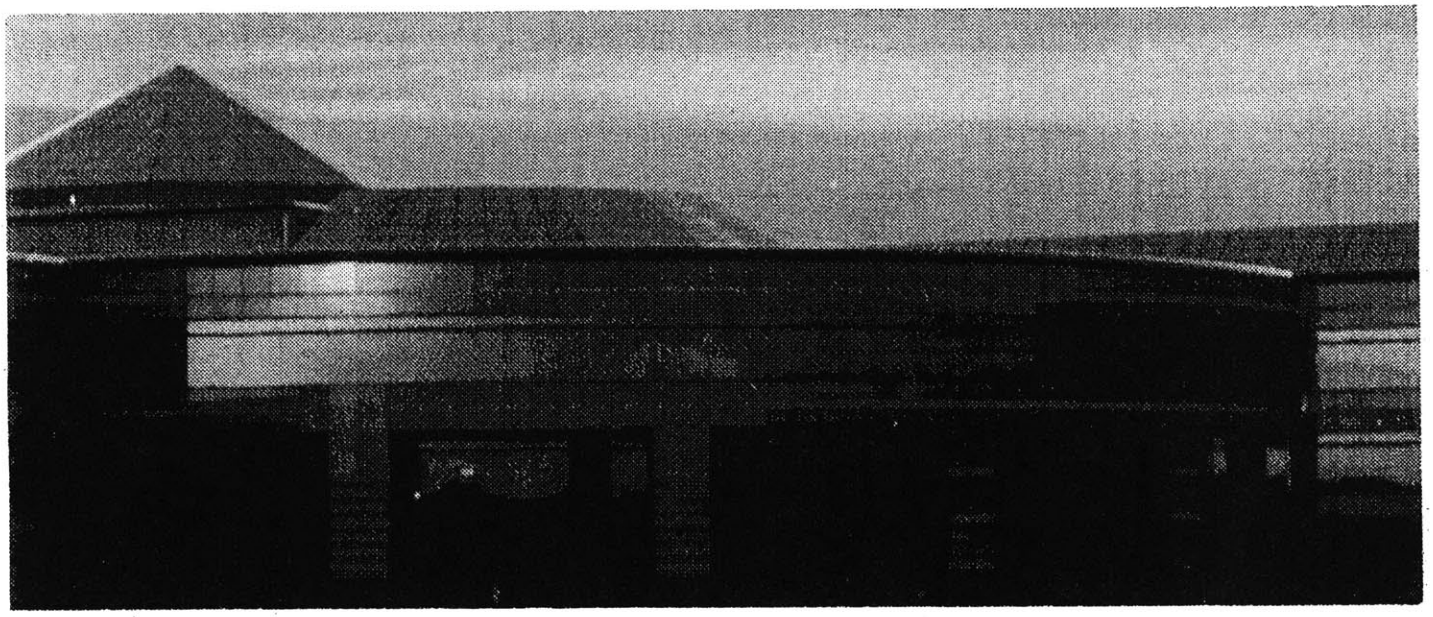


Lee is trying to sell both cars and a new image for American industry as the equal of any in the world. Familiar argument. Familiar images. But, what was most interesting and perhaps redeeming about the commercial was Lee's trench coat. Unlike the sleek surfaces of the cars and the building, Lees coat positively bristled: epaulettes, buttons, pointed lapels, the belt buckle flapping in the breeze. Formally speaking, Lee's old highly articulated coat was unlike the slick continuous surfaces of both new cars and new building. Lee stood apart from the scene, (matted-in actually) wrapped in a garment derived from World War One military garb. Lee's coat retained all the historical resonance and formal richness that his new industrial image lacked.

Now, instead of Lee we might have been presented with a completely different spokesperson: a desexed athlete, perhaps, muscles rippling under a shiny skintight one-piece spandex running outfit. The glistening facades fenders and thighs would have presented a version of industry, products and people all producing and consuming in sync, smoothly, seamlessly - a chilling vision.



What saves us from that sort of future is betrayed by Lee's trench coat: an unwillingness to barter tradition for the latest version of modernity to come down the pike. By this I don't mean to advocate nostalgia by opposing industrial modernization with sartorial conservatism, only to point out that of all the images Chrysler appropriates to assemble its advertisement, the trench coat could not be fully integrated. It resists by virtue of an integrity of form achieved over 70 years of constant transformation. By comparison, any integrity attributed to the new technology center is undercut by the claim that it represents progress when, in fact, it is the very image of a suburban office building, circa 1985. Nothing new here. What makes this kind of false advertising frightening is that Lee Iacocca is the fellow who once claimed that, "What's good for Chrysler is good for America." I tend to disagree.



Two issues present themselves at this point, for consideration with respect to architecture. First, is the inadequacy of image appropriation to achieve transformation of our environment. To imply that a suburban office building is heir to a tradition of American industrial workplaces is absurd and misleading. Secondly, is the mistrust of so called "experts" to supply us with the means to effect environmental or social transformation. Architecture "professionals" seem no better positioned to do this than corporate CEO's. On the one hand is the fully autonomous position - architecture as art - associated with a post avant-garde stance which, while seeking to ground the discipline in a social, political, or economic context has, simultaneously, abandoned the possibility for evolving cultural norms outside its elevated specialized discourses. It is so enamored of ideas that the things it makes become at once entirely too complex and disappointingly shallow. On the other hand, is the fully engaged position - architecture as service industry - so absorbed in problems of technological efficiency, marketing strategies and business management that things become devalued, mere vehicles in a race to the bottom line.

Chrysler Plymouth

*Excludes normal maintenance, adjustments and wear items. Plymouth Laser, Eagle Talon, Eagle Summit 4-door and vehicles imported for Chrysler also include a 5-year or 60,000-mile Power Train Limited Warranty. †See limited warranties, restrictions and details at dealer. Excludes vehicles covered by the Crystal Key Owner Care Program, Chrysler Imperial and Chrysler Fifth Avenue.

This discussion leads to the first premise of the thesis: that there is a need to transform the physical and cultural milieu industry has created for itself and that current institutions are either too reluctant or too inept to effect necessary changes. How then, can industrial culture develop institutions that have the wherewithal to produce artifacts for a meaningful existence? What role can an architect play in the attempt?

One might begin to answer these questions by examining the industrial environment itself.

Beauty or Business: Shall We Have Parks or Factories?

- Somerville Journal, March 3, 1896

This newspaper headline articulates what, for its time, was in obvious opposition. Industrial environments, violently polluted and unhealthy contrast with their antidote, the leisure environment of landscape parks. Today, the opposition is not so clear. One thinks of the oxymoronic "industrial park." Or, one might compare Somerville recreational parks, dangerous and polluted, with the Boynton Yards area, largely abandoned to a state of nature. The Yards have, in fact, assumed some of the qualities of a 19th century urban park, though with a touch more of the "Sublime " than the "Beautiful." In any case, the values in place during the development of the Boynton Yards no longer obtain. New intentions must be applied in order to re-value the site.

The demand for raw expediency, the efficient flow of materials goods and services remains the ultimate test of a project's viability (at least in this culture). We may, however, deplore the physical by-products of such an extreme attitude. Abandoned dump sites, piers and railroad sidings map the empty promises of an ever expanding economy. Functioning efficiently is no longer sufficient. But to start from scratch seems to be equally exploitative, to be another case of curing the disease by killing the patient.

Reoccupation of an abandoned industrial site must, instead, become a project of recuperation on a body of past excesses. And this brings me to the second premise: that despite the suspect foundation of previous development, the artifacts it produced constitute an accumulated body of experience within which to practice. They represent our tradition, and demand a degree of adherence to the conventions they establish, to the collective agreements they embody. Such an attitude might allow a new proposal to take its place, to fit in, and thereby to register culturally at a deeper level than something created with no regard for convention. This premise provides the overall aim for the project - site and cultural specificity.

To summarize: assuming the need to transform industrial culture one might begin with an attempt to re-value the industrial environment itself. While mistrusting those practices that left behind derelict sites and structures, we inherit these artifacts with the obligation to improvise new forms on the themes they establish.

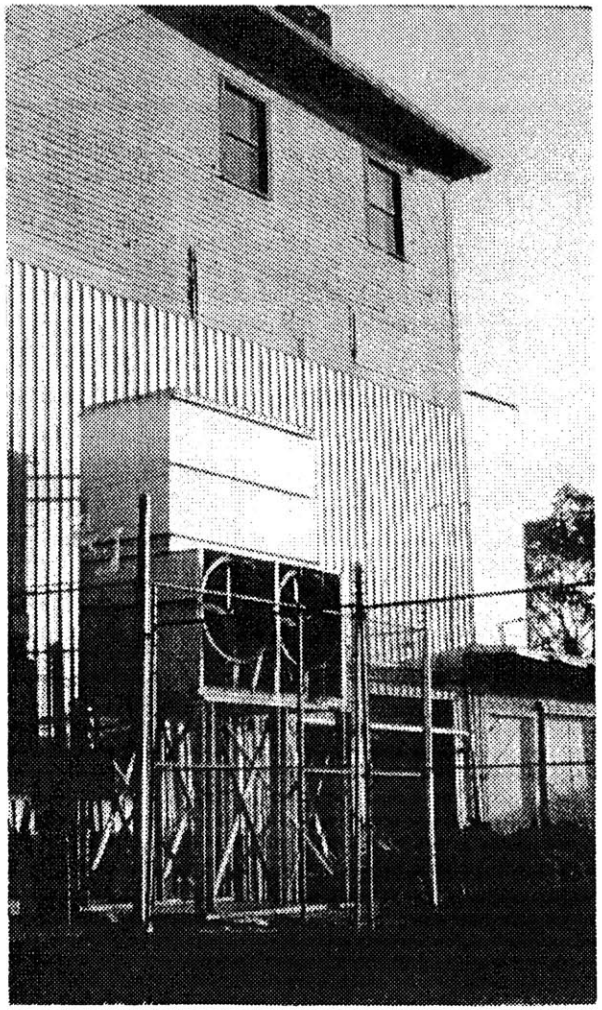
Section Two: Precedent

J.B. Jackson, while describing his conception of the vernacular landscape, wrote that,

> "...its spaces are usually small, irregular in shape, subject to rapid change in use, in ownership, in dimensions...that there is always a vast amount of "common land" - waste...areas where natural resources are exploited in a piecemeal manner; that its roads are little more than paths and lanes, never maintained and rarely permanent..."

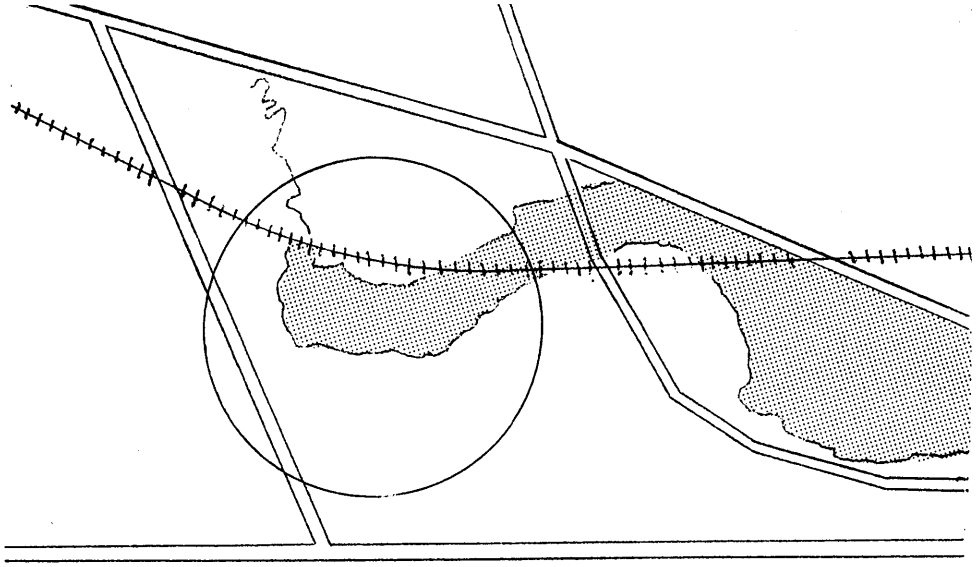
It could easily be a description of the site, formed piecemeal, with expediency as its guiding principle.

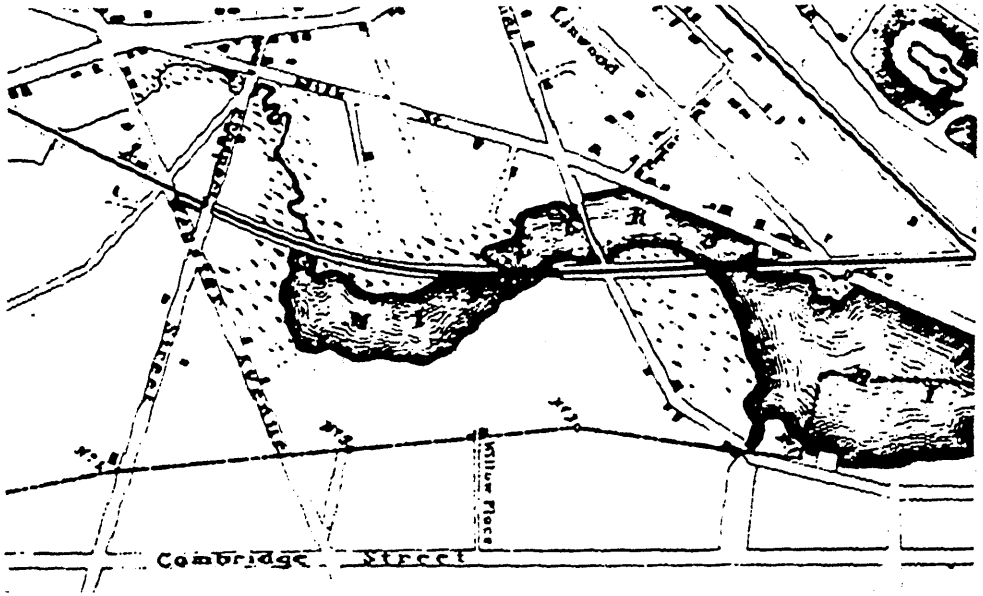
The images in this section document some of the physical and cultural norms that gave rise to the Boynton Yards area. From these, a set of intentions will be derived that guide the work of the final section.



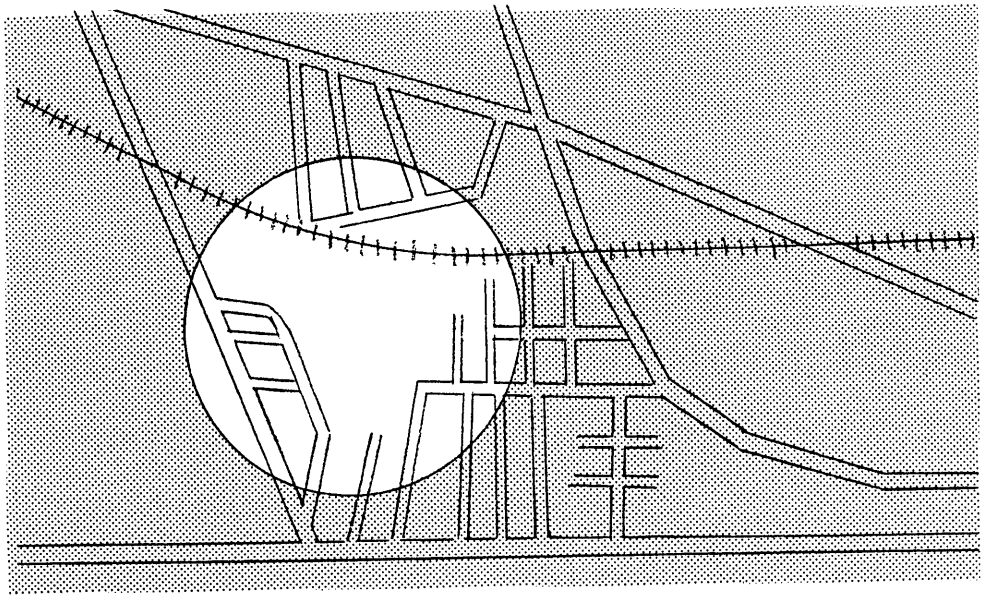
The Open Center

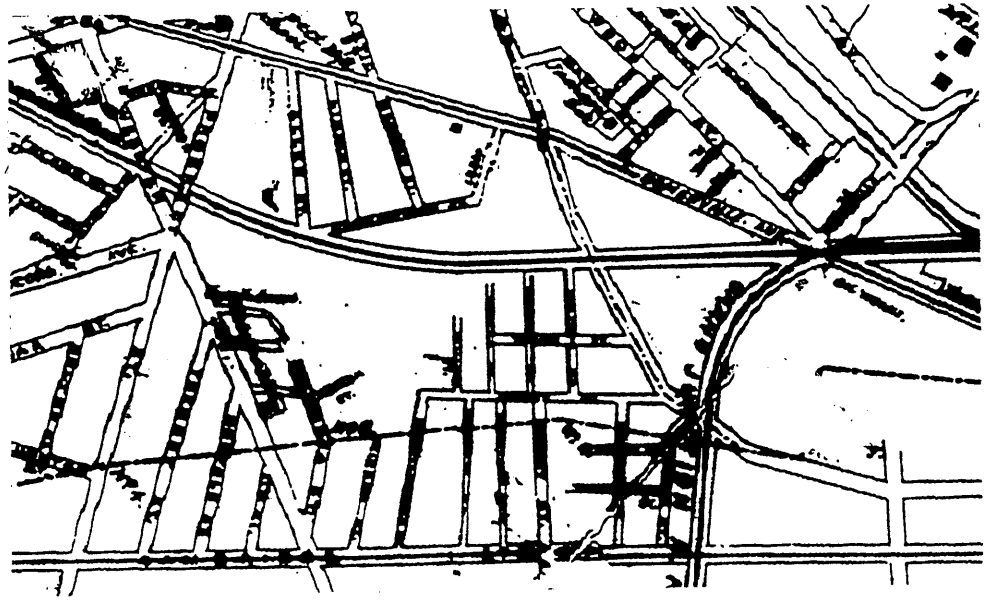
The site currently exists as a large gap in an otherwise dense, albeit fragmented fabric. Although recent demolition has widened the gap, the center has not always been as formless or as useless.



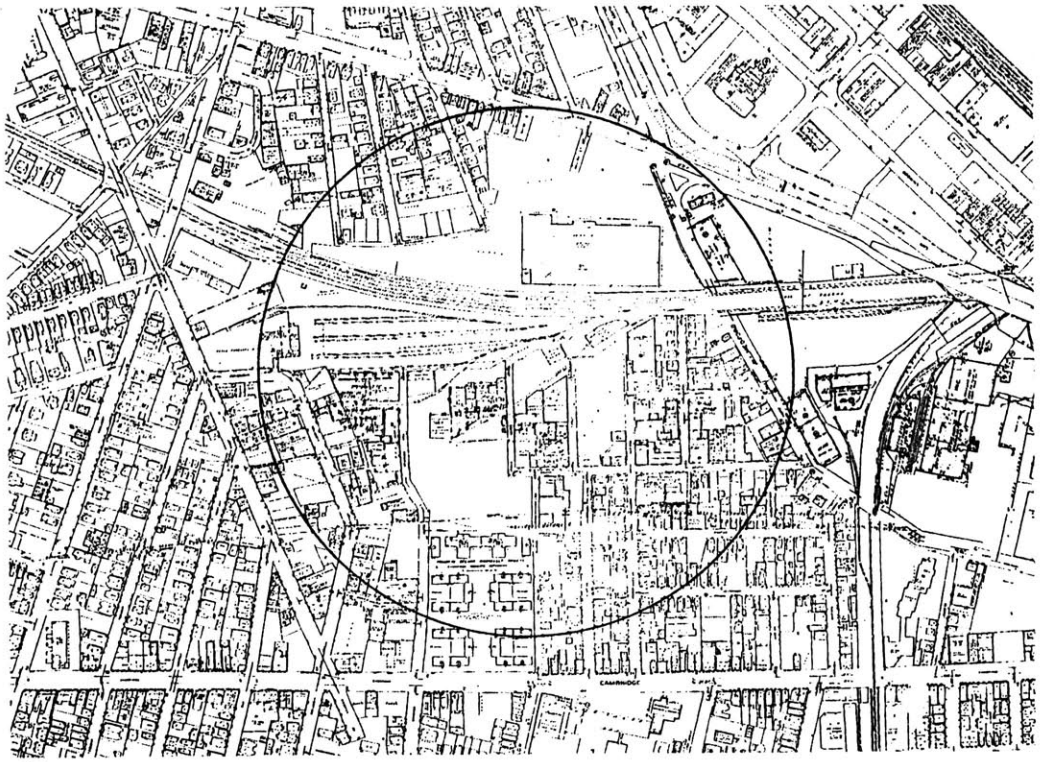


A map from 1852 shows the Millers River located midway between Milk Street (currently Somerville Avenue) and Cambridge Street. Medford Street and Webster Avenue mark the east and west edges of the area under consideration. The Fitchburg Railroad slices through the center. Initial definition comes both from the lines of rail and road and from the plane of the river.

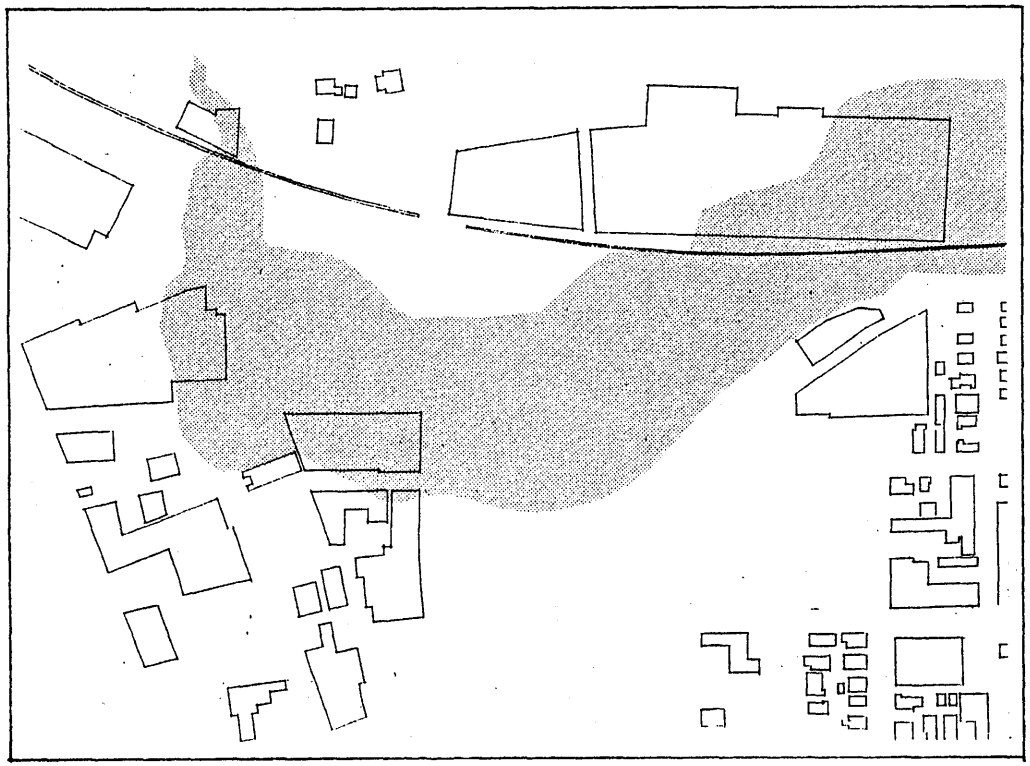




A map drawn 27 years later shows that the river had been filled in while residential grids encroached up from Cambridge Street and down from Somerville Avenue. The center is rendered blank. Roads into the site dead end. The territory once clearly defined by the river becomes ambiguous.



An assemblage of insurance maps from 1962 shows the center occupied by railroad sidings and surrounded by industrial buildings. The entire area has been turned to productive use while remaining open at the center.



Footprints of existing buildings overlaid on an enlarged version of the Millers River show that during 150 years of development the form of the open land has roughly derived from the original river bed.

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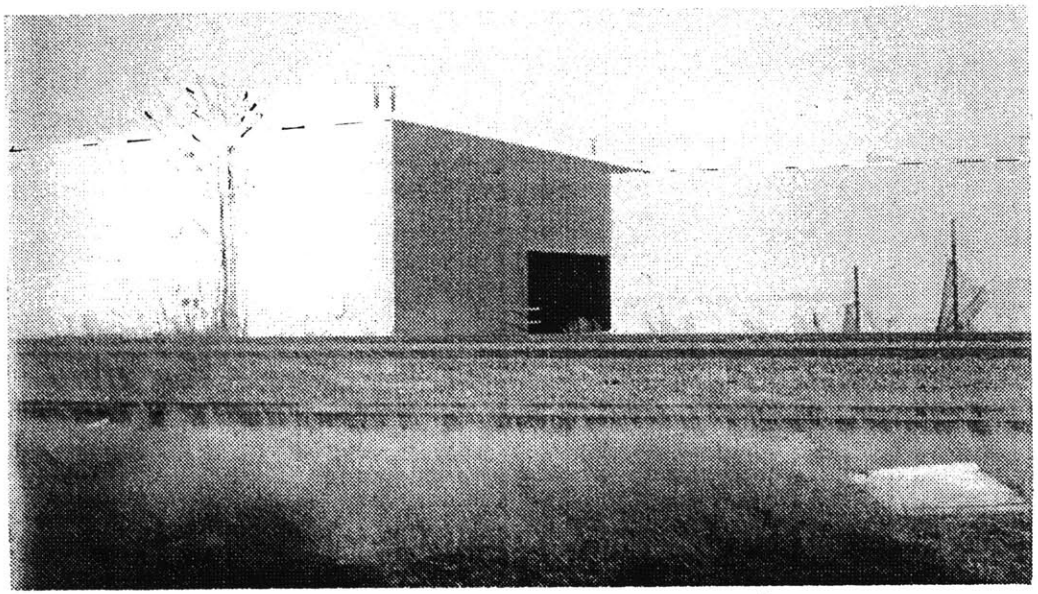
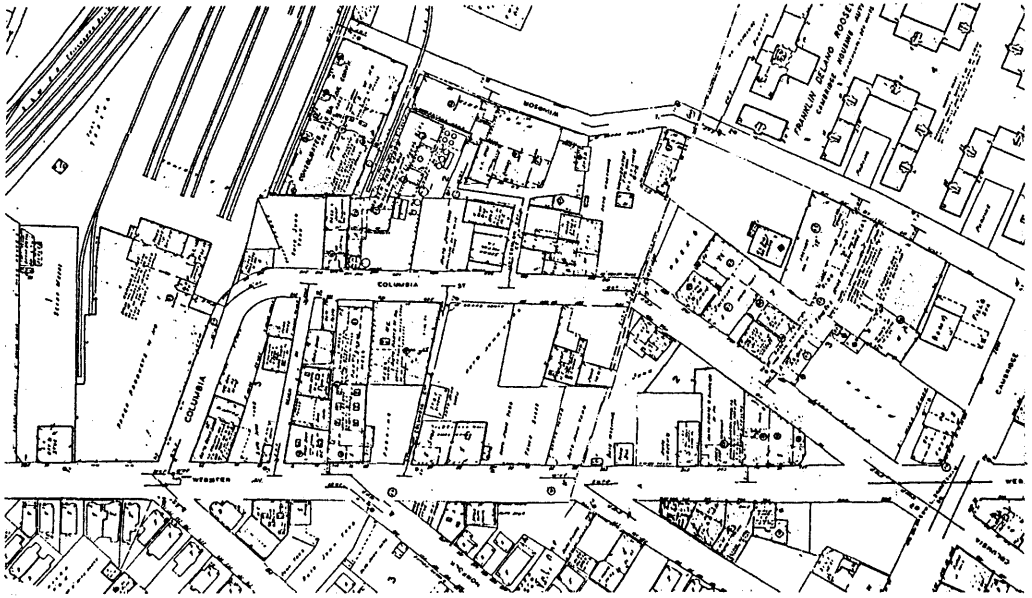
The open center is now literally a wasteland, unproductive and filled with tons of illegally dumped excavation rubble. It is territorially ambiguous, due largely to its ill-defined southern edge.



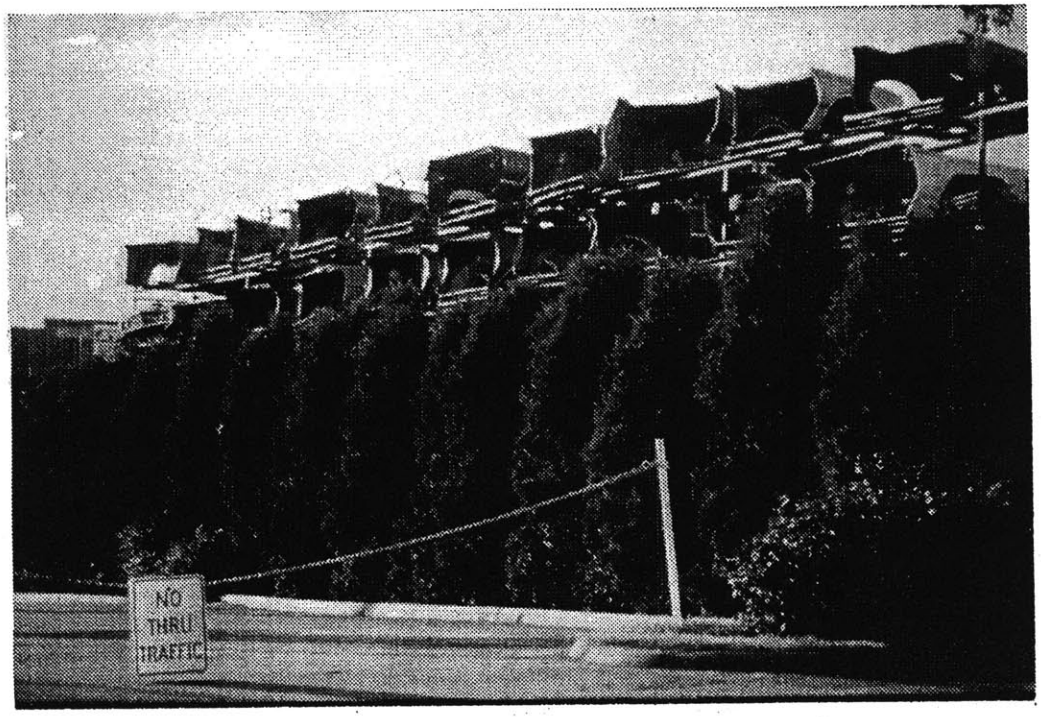
One notices that small changes in elevation make a large impact here. The superelevated railroad tracks both conceal the base of this building and subtly layer the ground plane away from it.



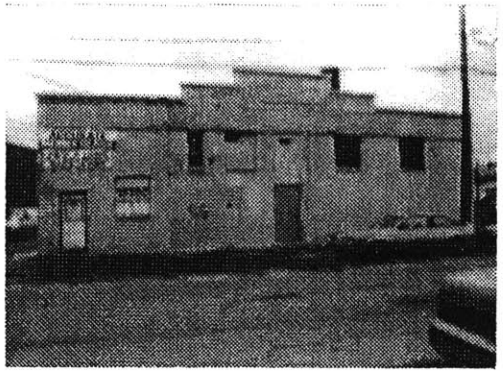
The Auto Service Neighborhood

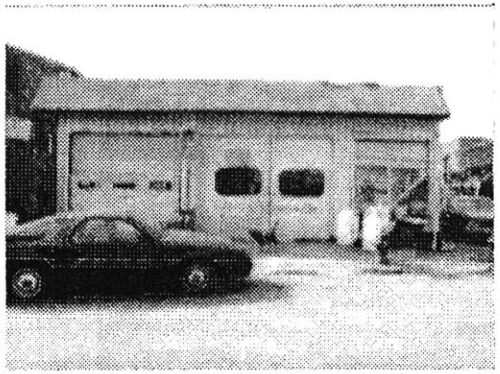
Along Columbia and Webster Streets, immediately adjacent to the open land, a mix of small businesses operates on the basis of mutual support. The sale, repair, customization, storage, rental, and even recycling of automobiles carries on as expertise, parts and services are shared.

A figure\ground drawing of the buildings shows that the territory between them is as important for the overall plan definition as the buildings themselves. It is difficult to discern Columbia Street because access is defined more by fences and sidewalks than buildings. Much of the work carried on here takes place in the yards, next to or even in the street.

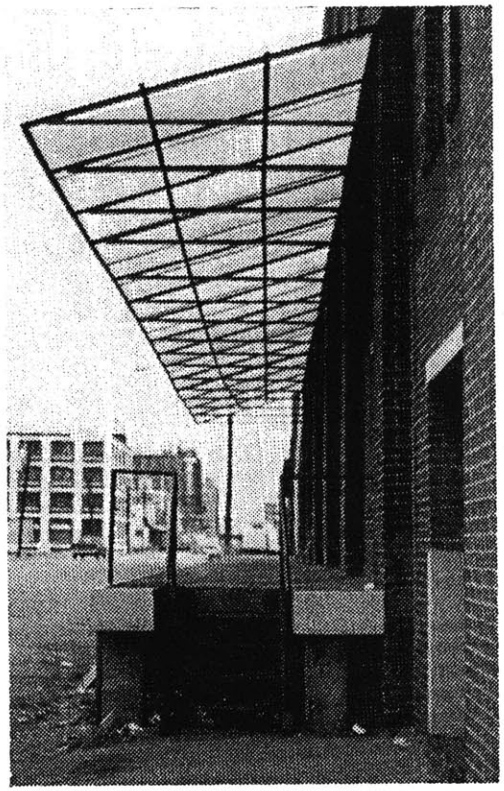


Many businesses in the neighborhood store auto parts in racks at the edges of their property. Rows of fenders, windshields, and tailpipes help to define the street edge and publicly advertise services offered behind them.



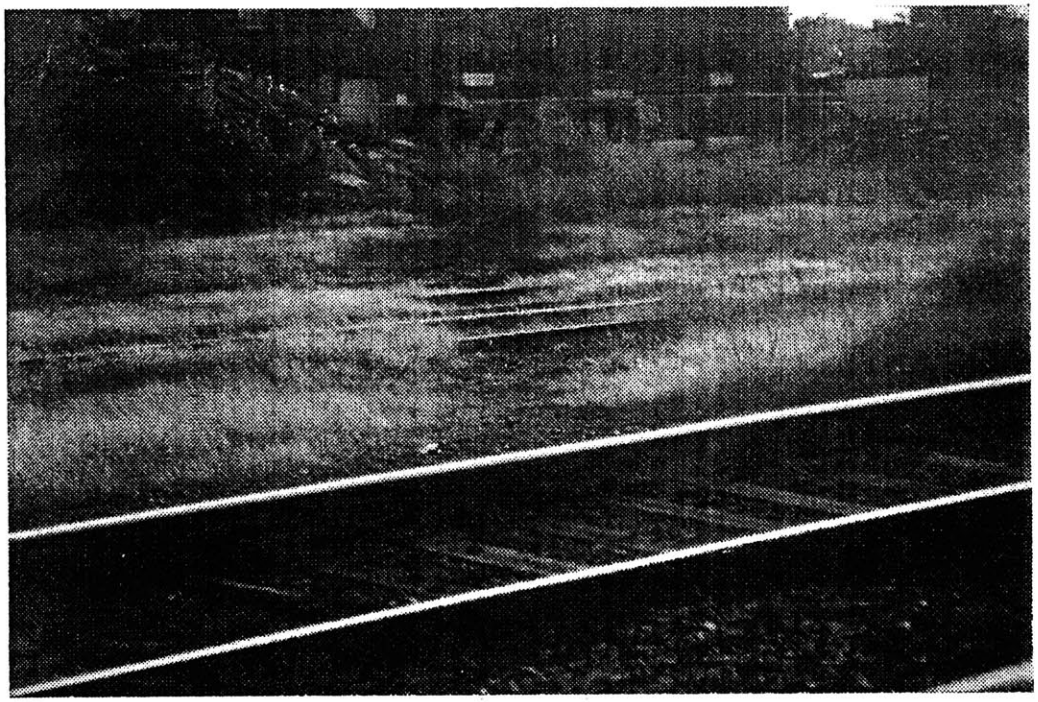


Most buildings have a similar structure: masonry walls enclose steel frames which support flat roofs. These are typical examples of the commercial vernacular of their time.



Loading Docks

The zone of exchange between public and private territories determines to a large extent the form of these buildings. The work of loading and unloading is often carried out in public.



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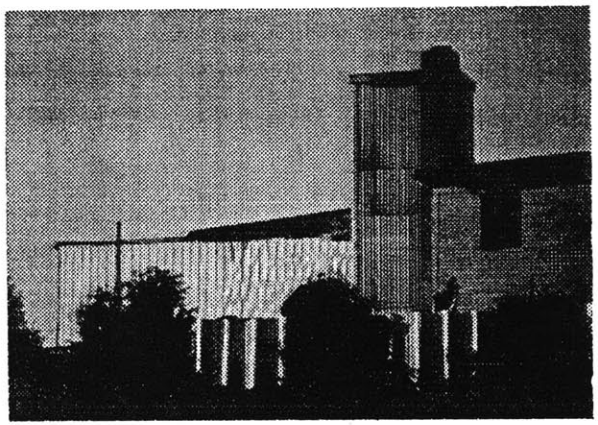
Crossing the Tracks

A path is worn in the grass by people who regularly cross the tracks. Use here is determined by need, its form defined by a patient adjustment to local conditions.

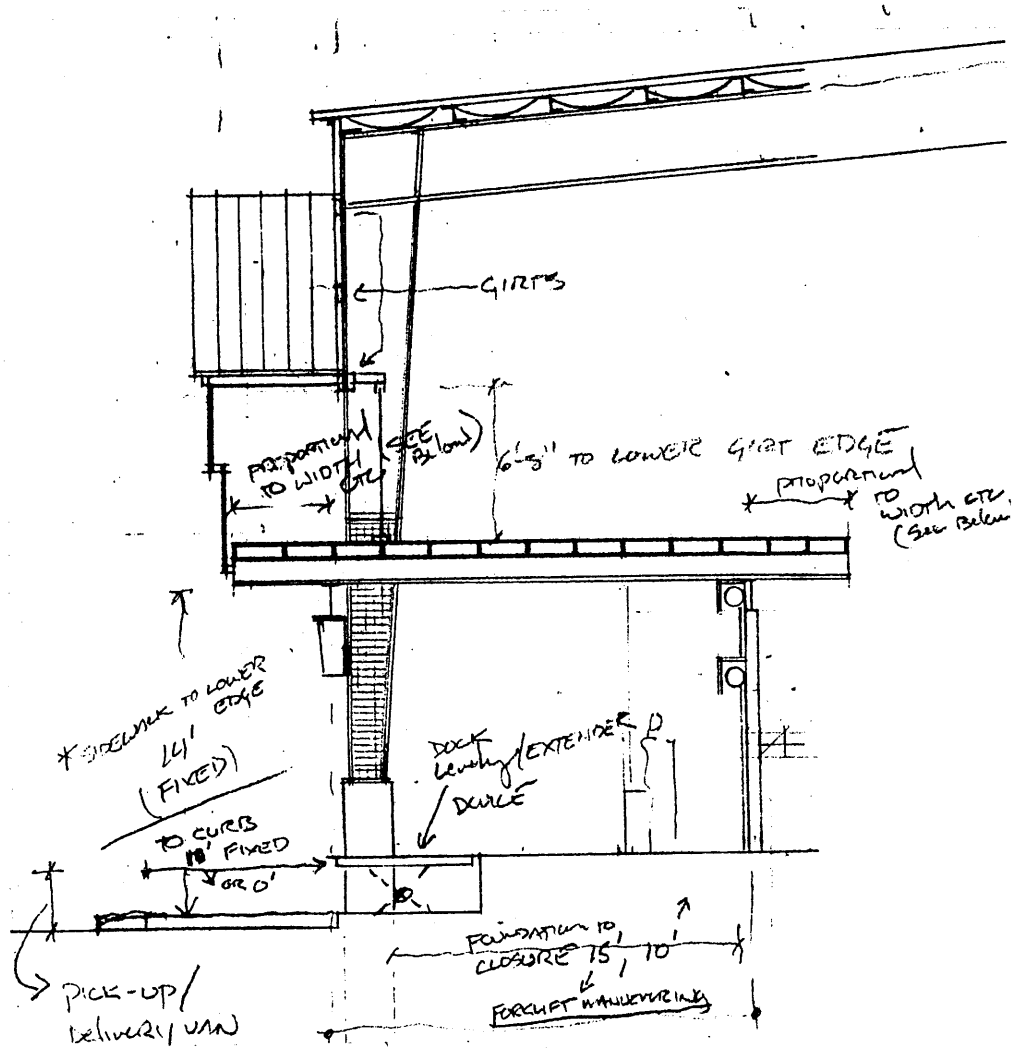
It is difficult to make sense of this environment because larger intentions, formal unity, for instance, or anything that might signify some purposeful historical continuity have been absent from the start.

And yet, this environment is not without its virtues. Lack of unity, of a larger intention guarantees a welcome neutrality. The individual is free to construct for himself a position in the environment, to improvise sense from unintended serendipidous relationships. On the other hand, one is never far from the all too familiar. From within the open center one gains vantage over the surrounding city. To stand in it is to be at once inside and outside the larger system. Seen this way, the site functions as a zone of orientation among the fragmented and competing orders surrounding it.

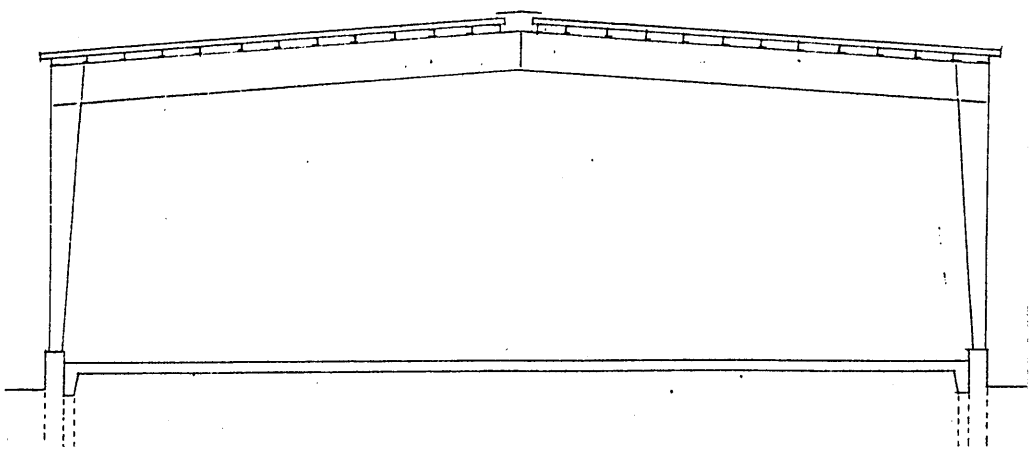
Intentions become apparent: With the ultimate aim of re-valuing this site one might begin to see it as a zone of orientation both spatially and culturally. By making a gesture of recognition to those physical and cultural norms that form the site, we ultimately come down on the side of stability and permanence while attempting to preserve something of the neutrality inherent in its vernacular state.



Section Three: Project



What follows is intended to show how a limited set of parts may aggregate to form a room, a building, a neighborhood. The diagrams illustrate parts which combine to form other, more complex parts. The diagrams are projections, not propositions, and so, while elevations are projected from a building plan and the plan can, in turn, be found in the site diagram, no specific program is satisfied. The project, instead represents a series of improvisations, variations on the themes established in the previous chapter.

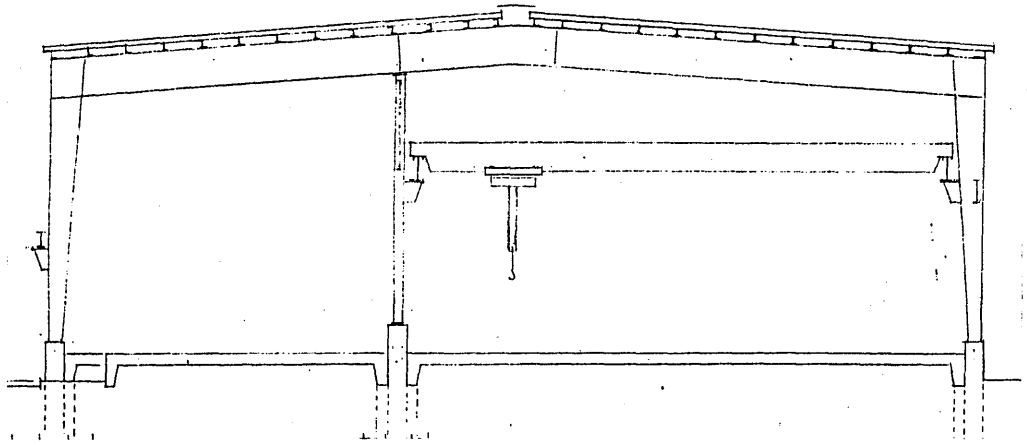


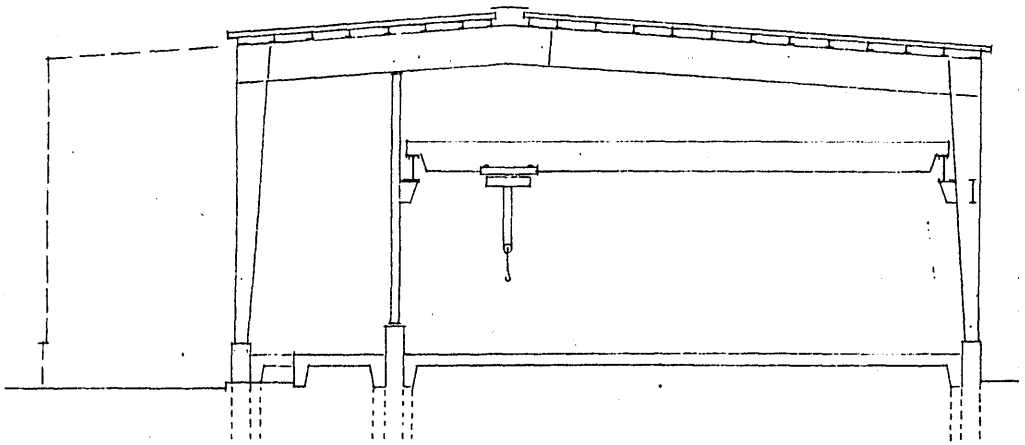
Part #1

The primary structure is a pre-engineered rigid steel frame. From Architectural Record, October, 1991:

"By offering economies of scale, speed of erection, and already-proven details, pre-engineered buildings allow architects to use scarce dollars to create a distinctive structure or add specialized spaces and details. According to the Metal Buildings Manufacturers Association, some 50 percent of the square footage of one- and two-story nonresidential construction in this country involves pre-engineered components."

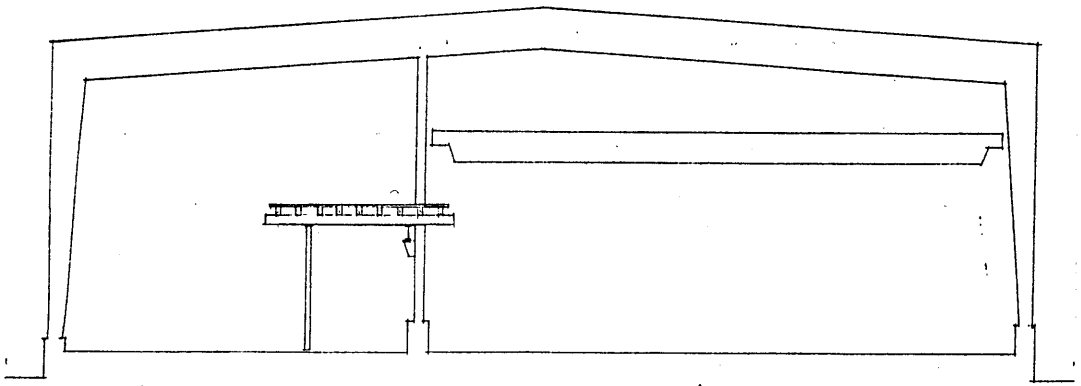
This seems to constitute the current vernacular. By building many buildings at once, the opportunity arises to construct an industrial neighborhood with the same cohesion as the adjacent industrial neighborhood.

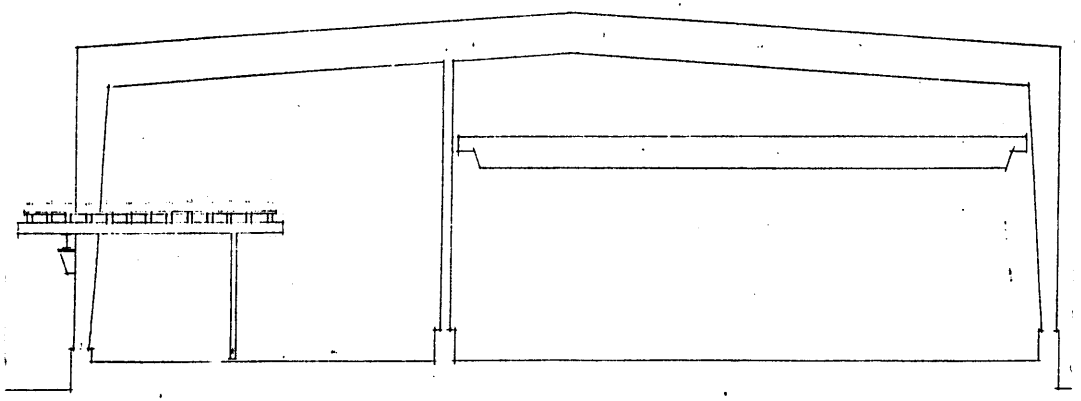




Variations of the primary structure may include:

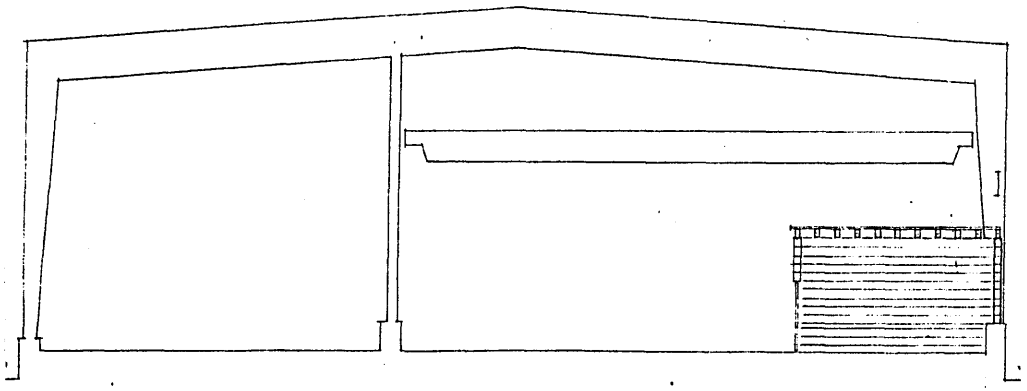
- an intermediate support to help support tracks for a crane system
- side girts, spandrel beams, or wide-flange sections supported by corbels, in order to achieve lateral stability.
- uprights which displace inward from the building line.

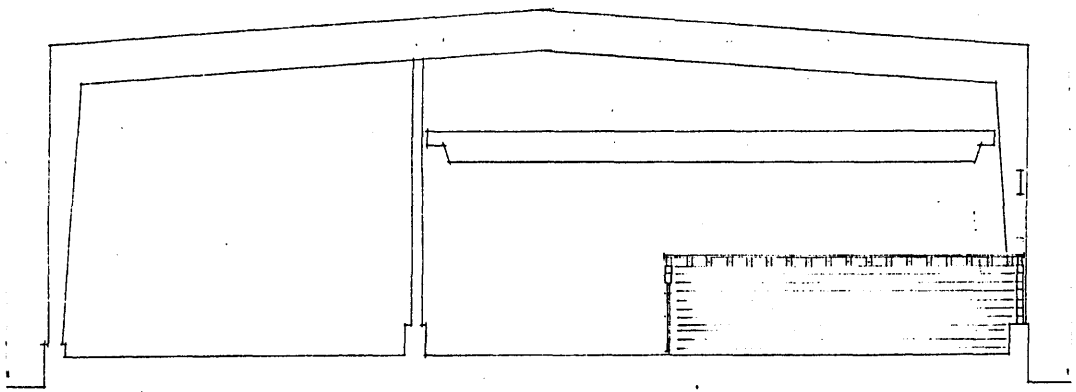




Part #2

A mezzanine system of pipe columns support steel beams gluelam joists and wood planking. This secondary system may project beyond the building line and/or engage an intermediate support.



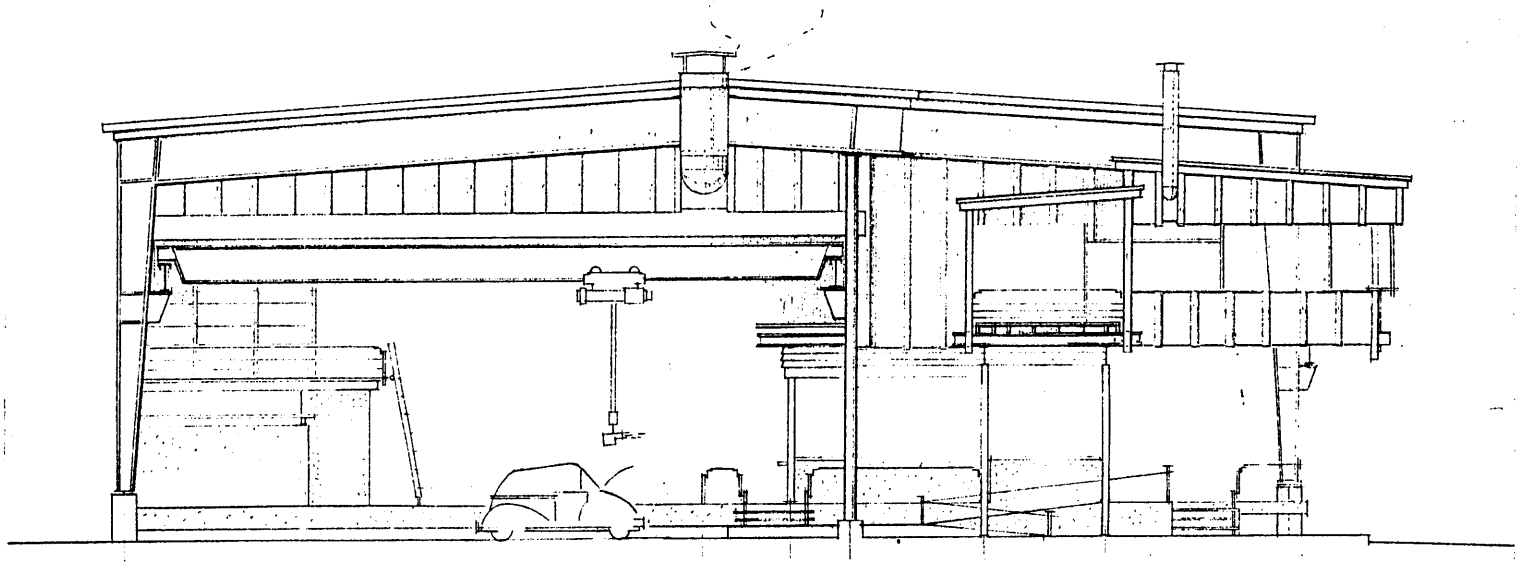


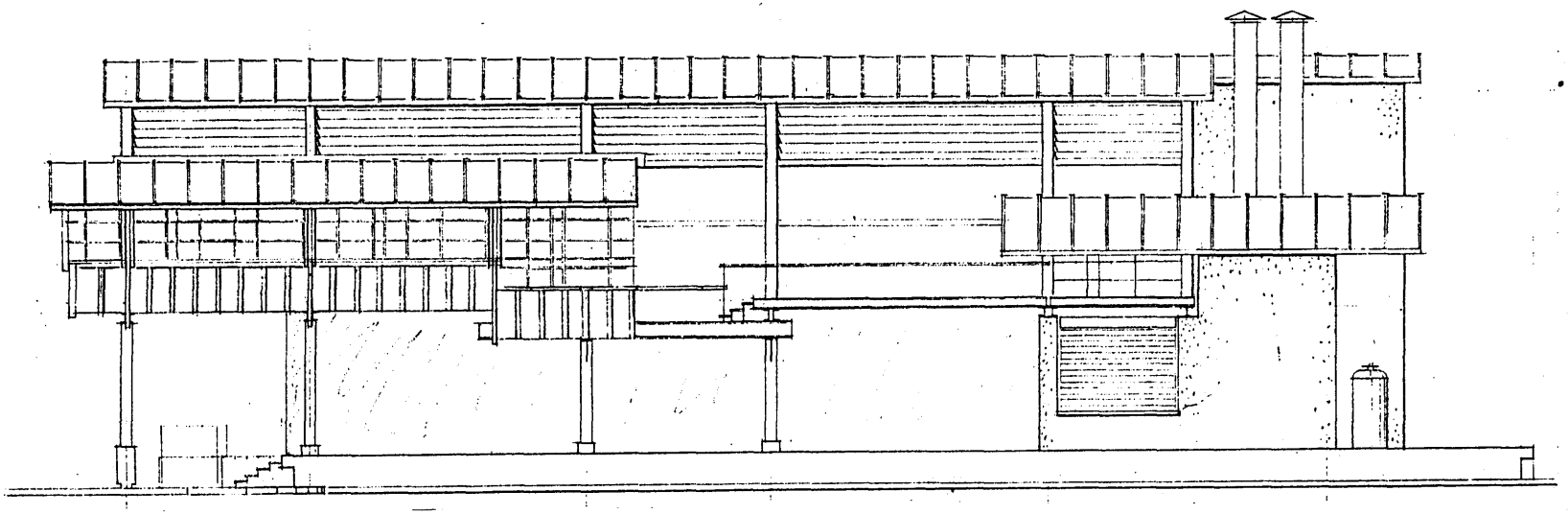
Part#3

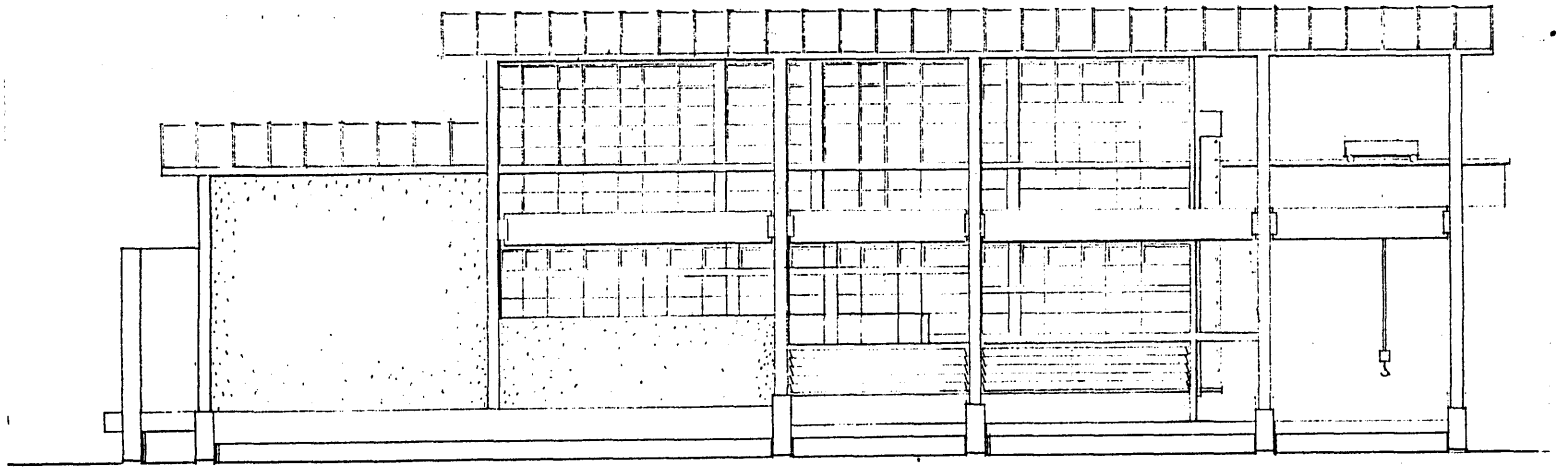
Another secondary structure: c.m.u. walls support gluelam joists and wood planking. Its width and height vary, registering from the foundation and the building line.

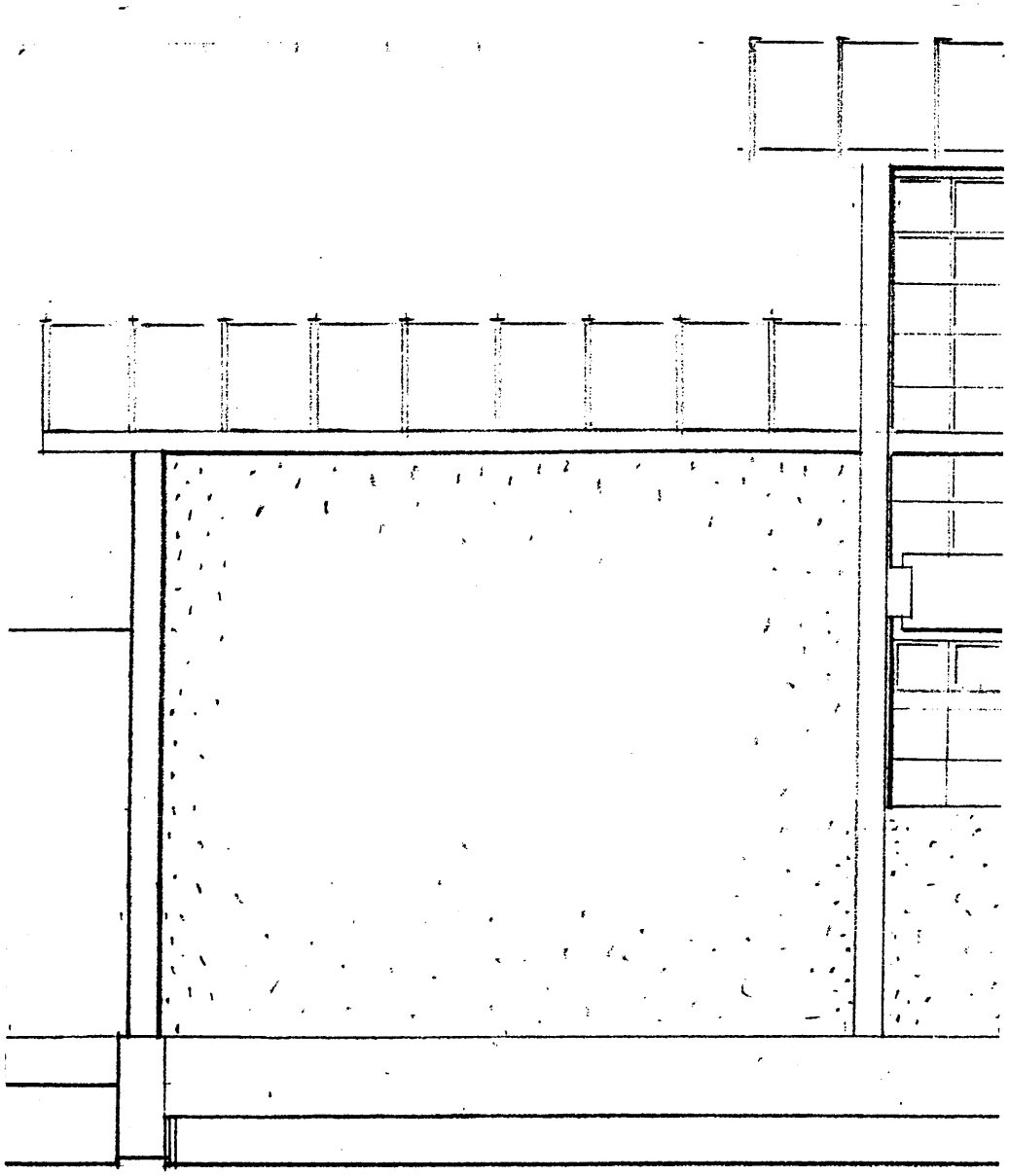
Both secondary structures permit occupancy separations to occur independantly of the primary structure. But more importantly, these systems may help to define zones of transition from inside to outside or from the bottom to top of a building. This is an alternative to the continuous surface of steel siding normally supplied in a pre-engineered building system. This is where an architect can intervene in an industry controlled by manufacturers, suppliers and installers.

Parts one, two, and three represented building components which aggregated to form building systems: the primary and secondary structures. The following elevations illustrate ways in which those structures might aggregate to form parts at room size to building size.

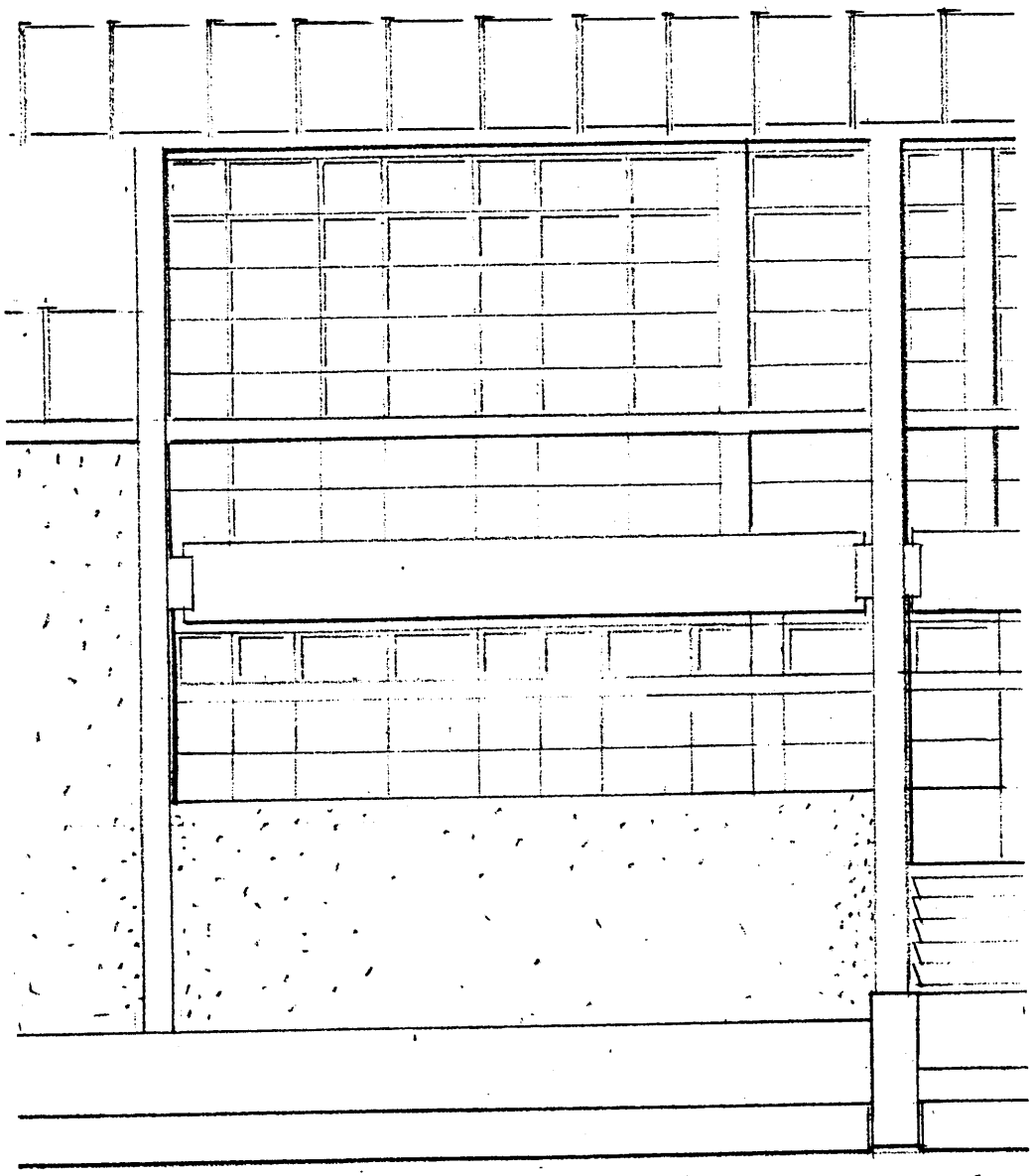




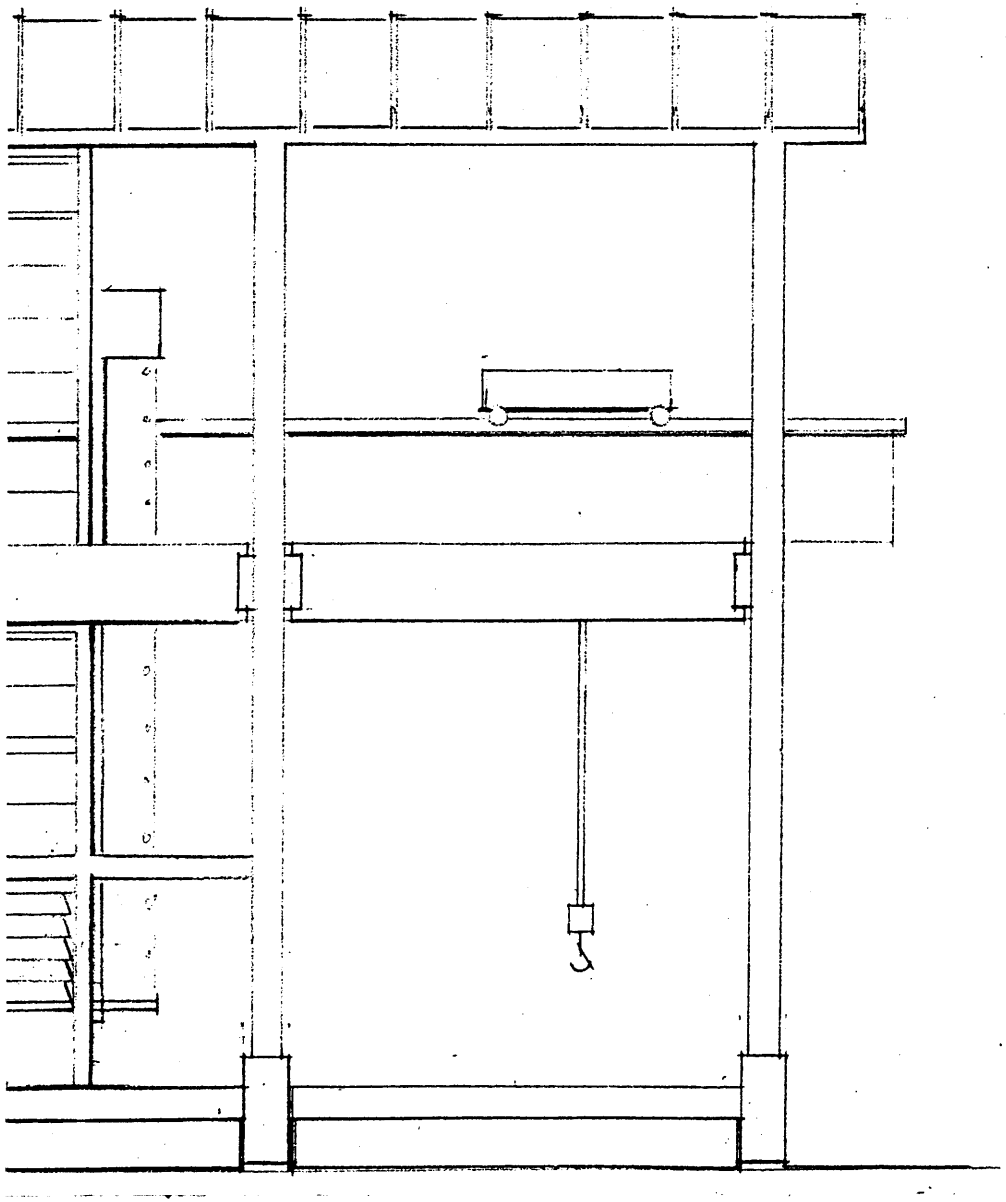




Part 4
Fully Closed Bay

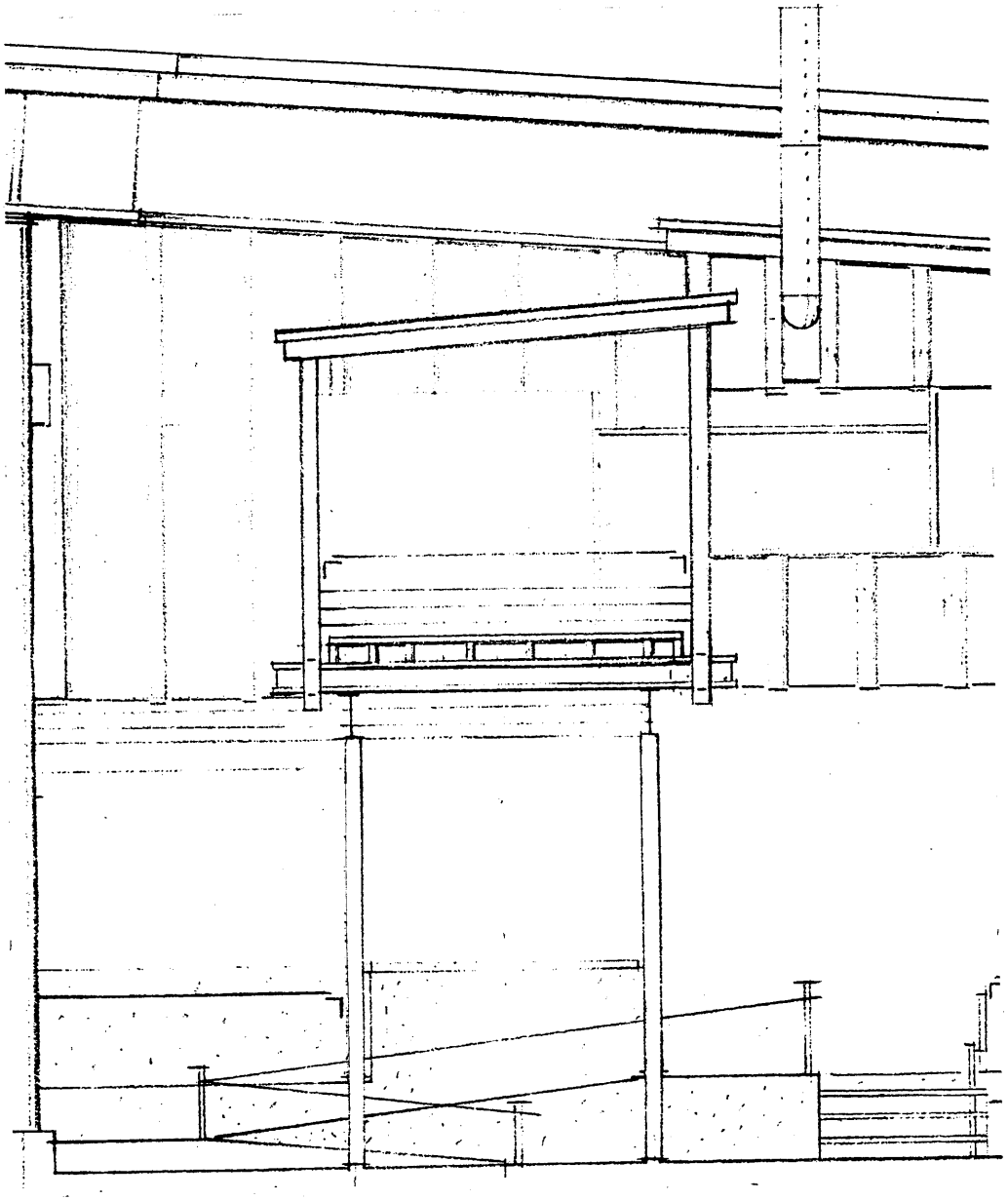


Part 5
Transitional Bay

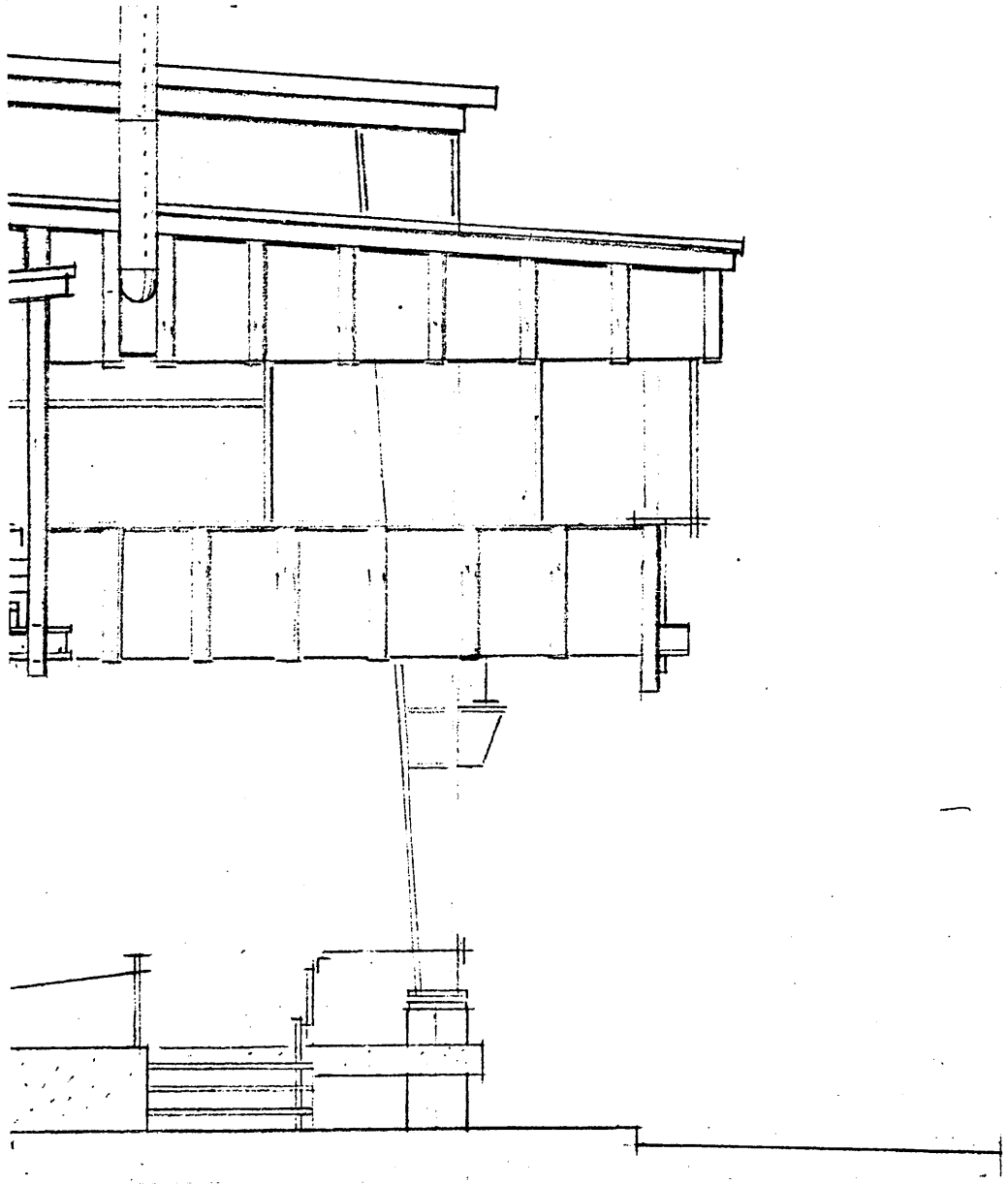


Part 6
Fully Open Bay

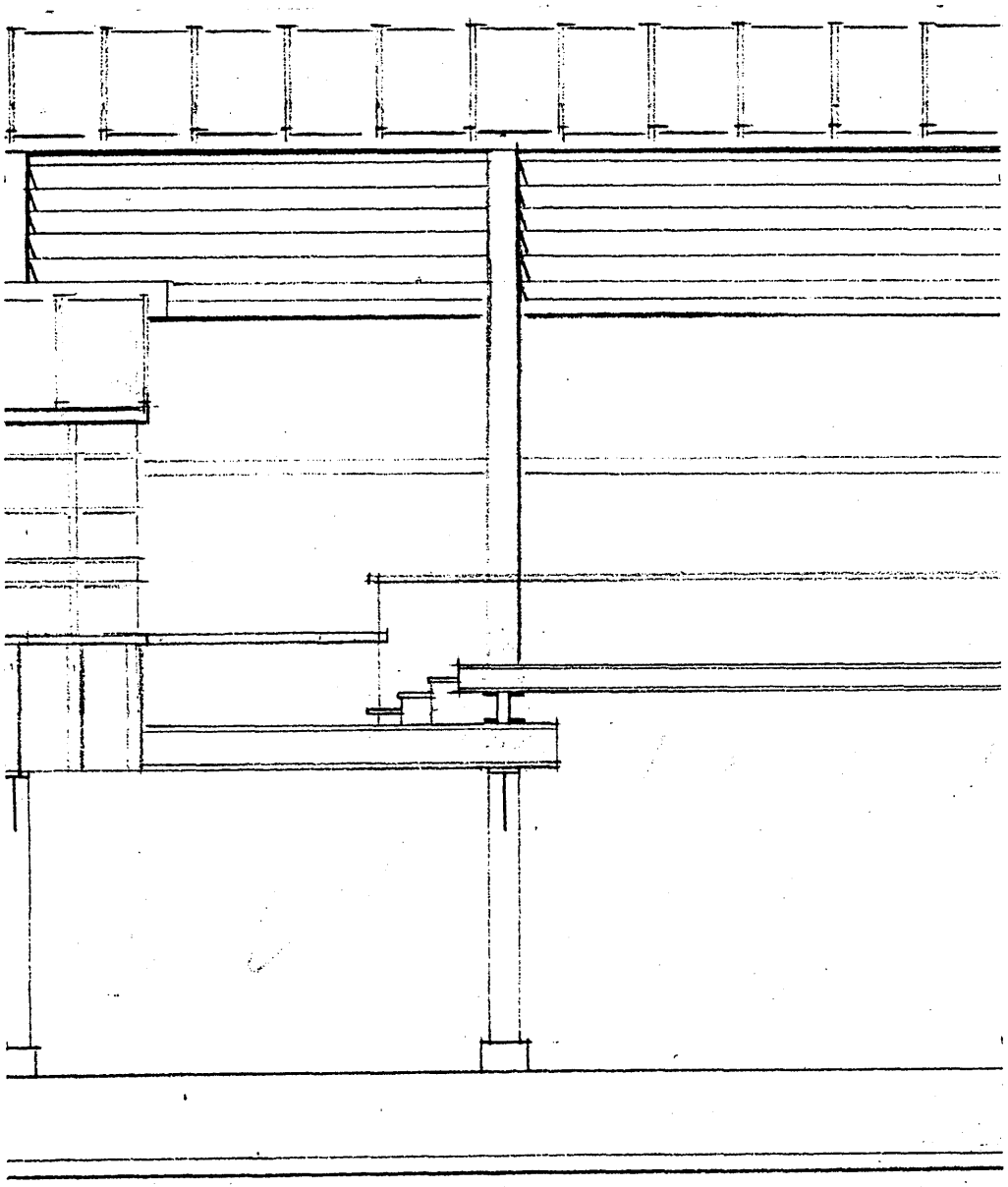
The three bays show the intersection of the masonry secondary system with the primary frames. They illustrate a transition in degree of closure from top to bottom. In the elevation they are taken from, a transition from open to closed occurs as the bays aggregate along the street. Other variations might occur both vertically and laterally.



Part 7
Second Floor Open Porch

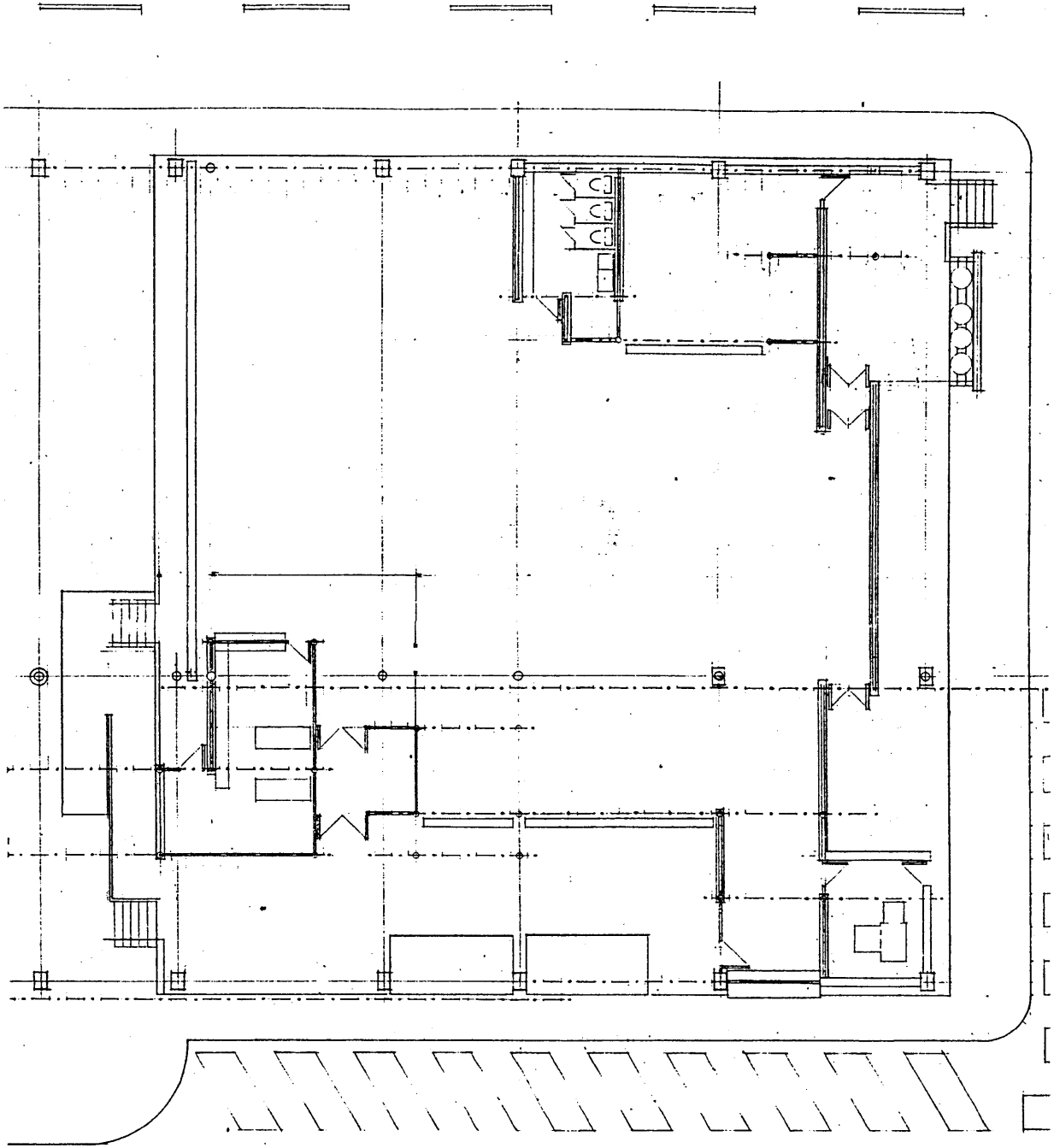


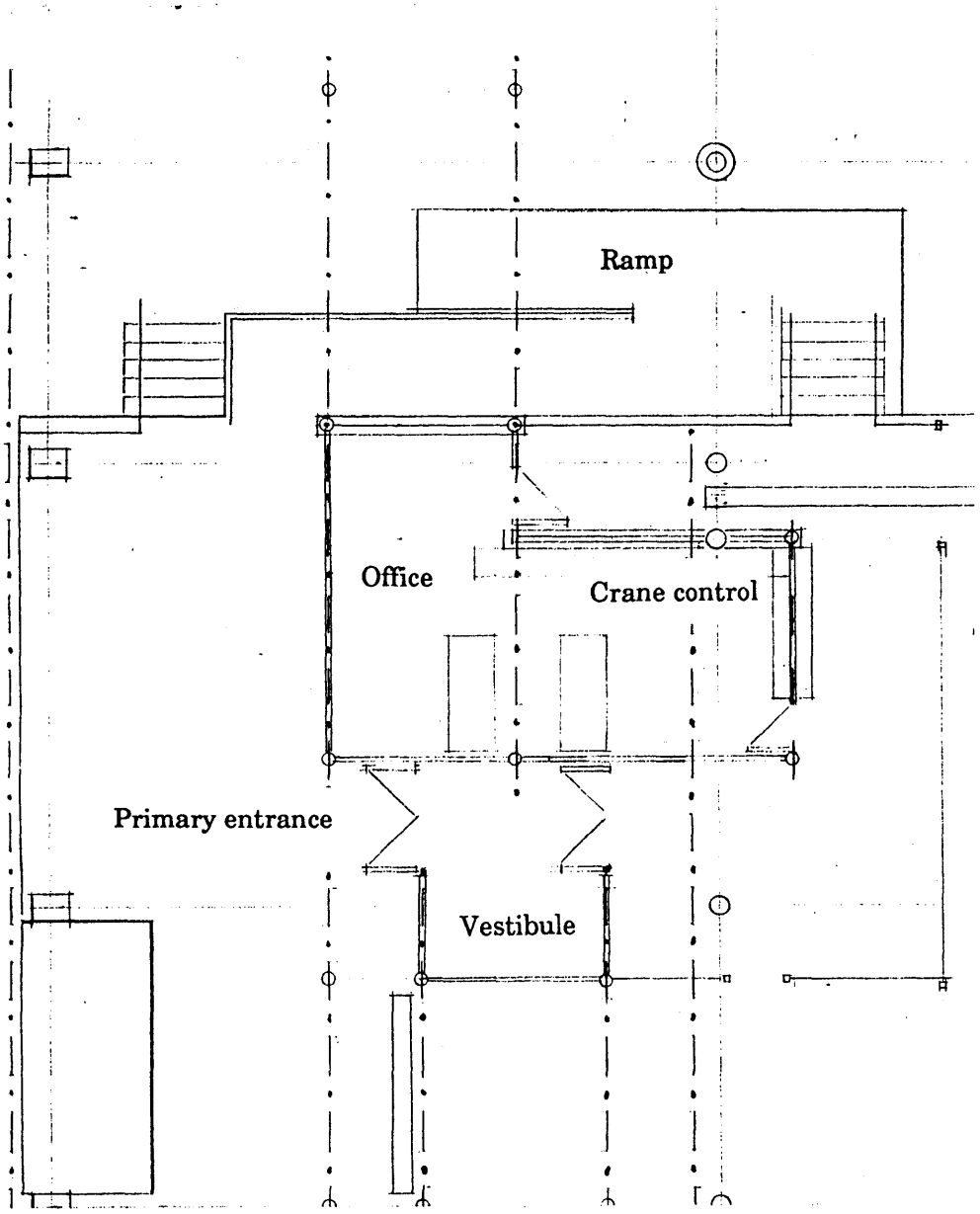
Part 8
Second Floor Closed Porch



Part 9
Two Level Deck

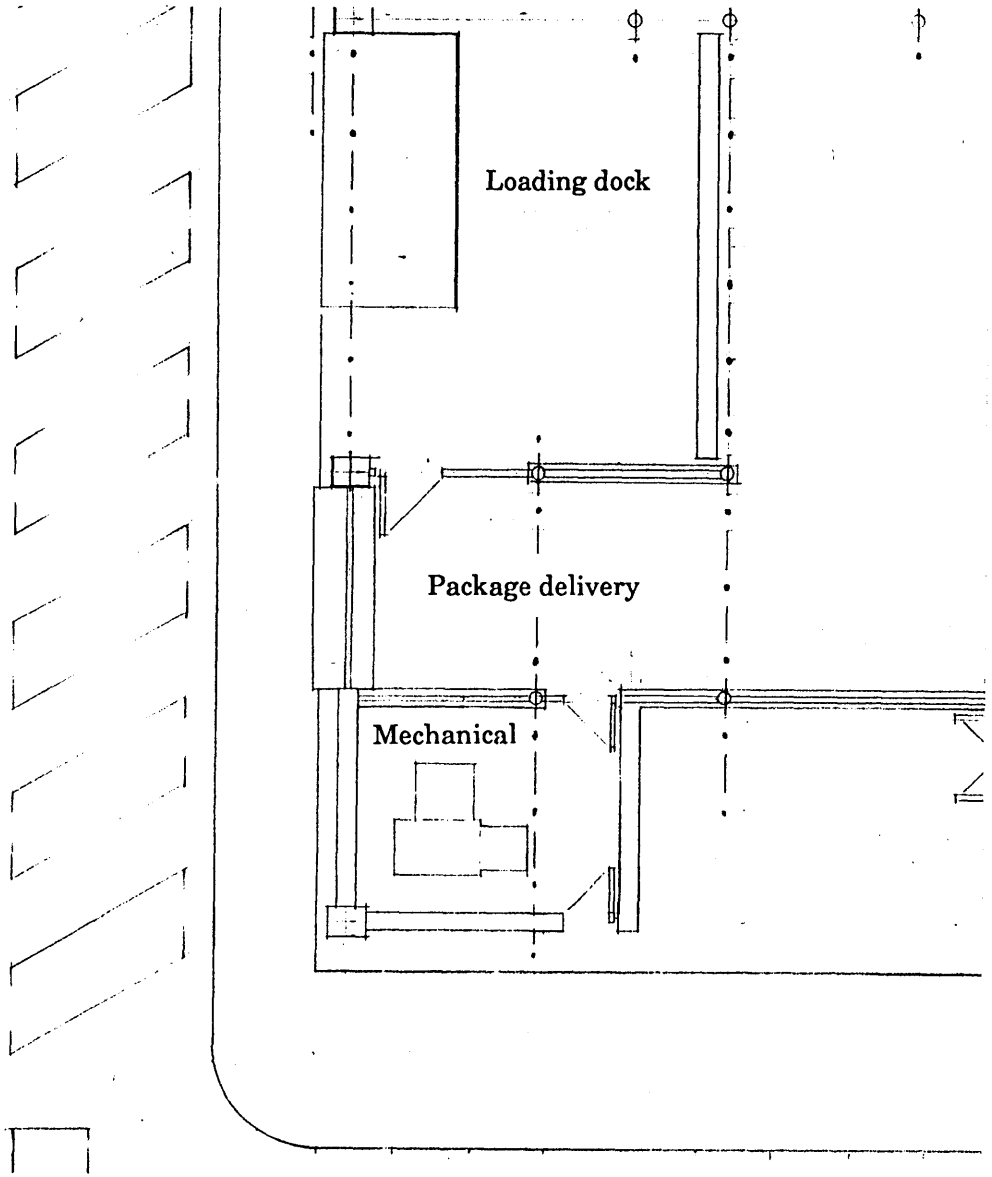
Parts seven, eight, and nine show the intersection of the mezzanine system and the primary frames. Like the open bay (part 6), they have the possibility of forming porches, decks, arcades - those areas where work may go on next to or in the public territory.



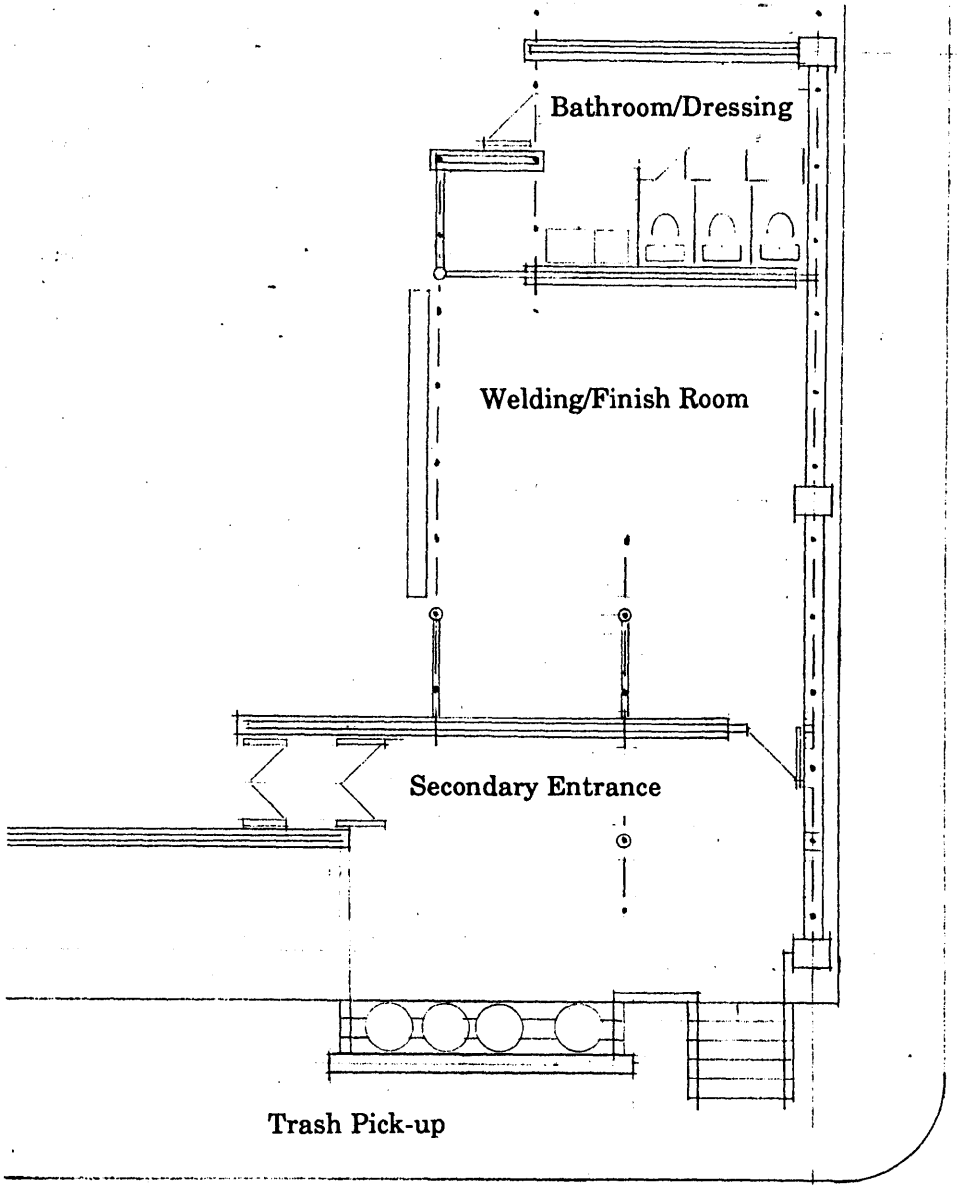


Part 10
Room Cluster

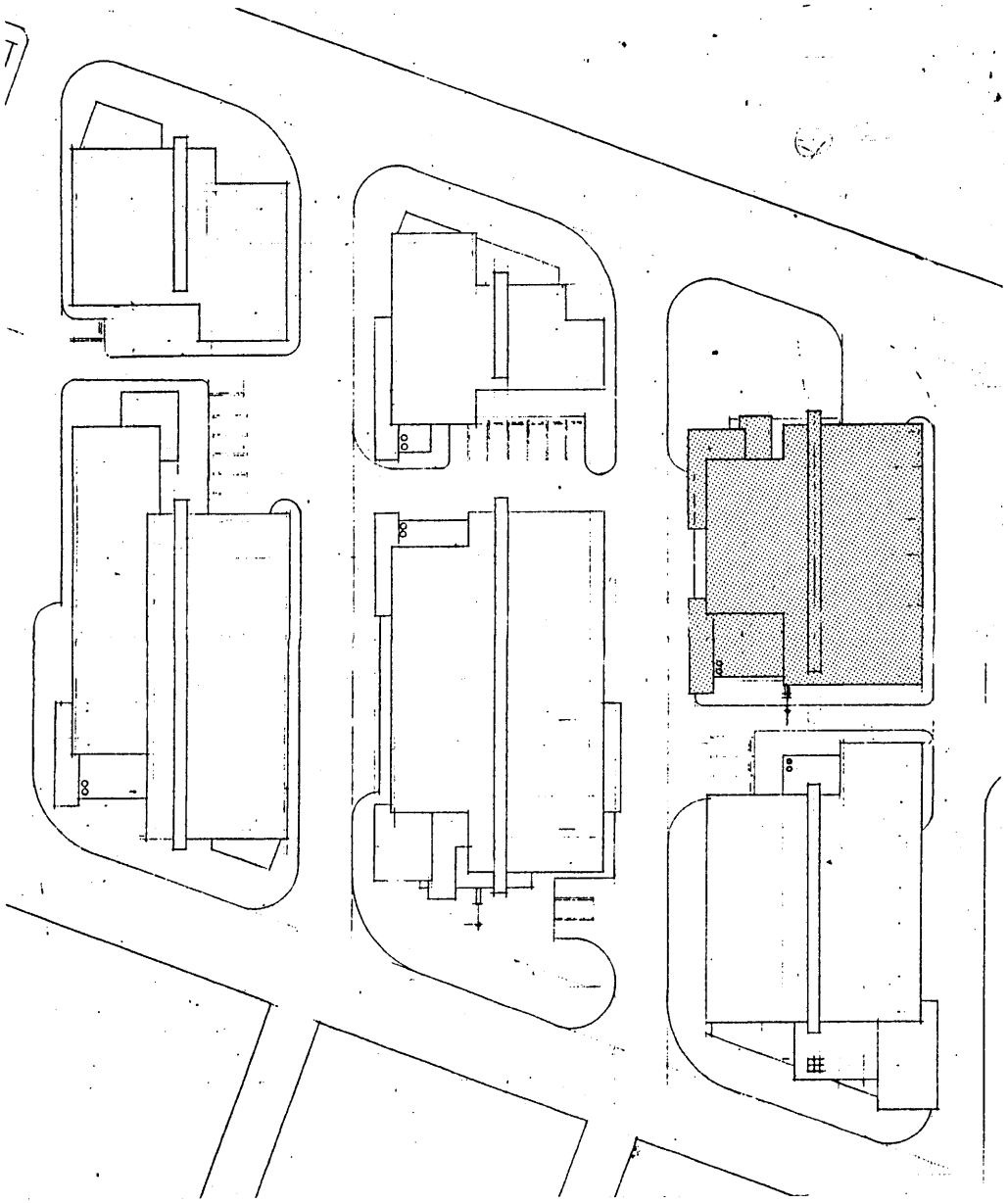
The plan is configured as a series of special purpose room clusters organized around a central work area - a generic production or storage facility scheme. Parts of the plan are defined by the primary and secondary structure. The width of the loading dock, for instance, is generated by the distance from the line of frame uprights at the edge of the building and the line of pipe columns supporting the mezzanine at the other edge. Once again, the building system parts aggregate in varying ways to form the parts of the plan.



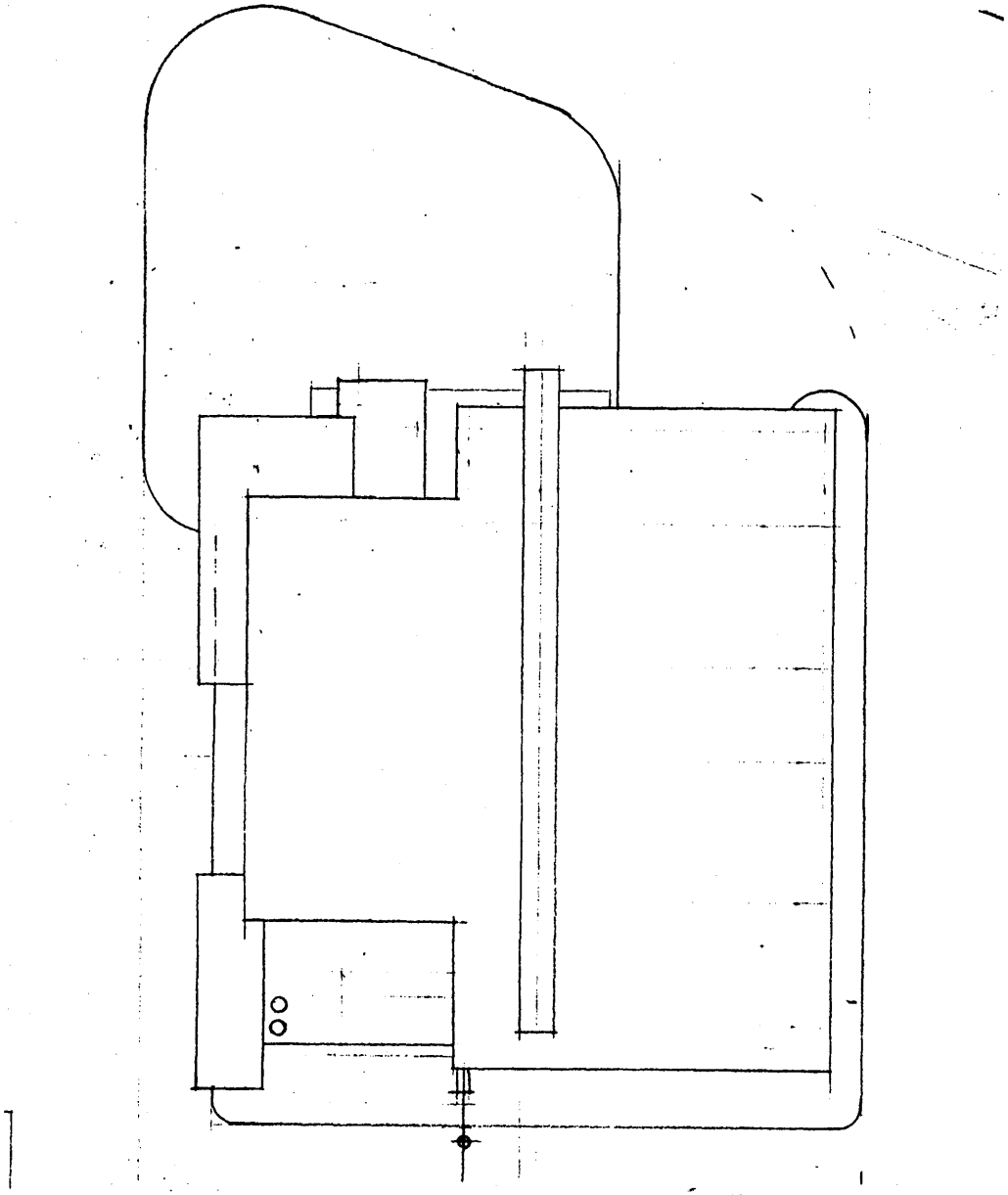
Part11
Room Cluster



Part 12
Room Cluster

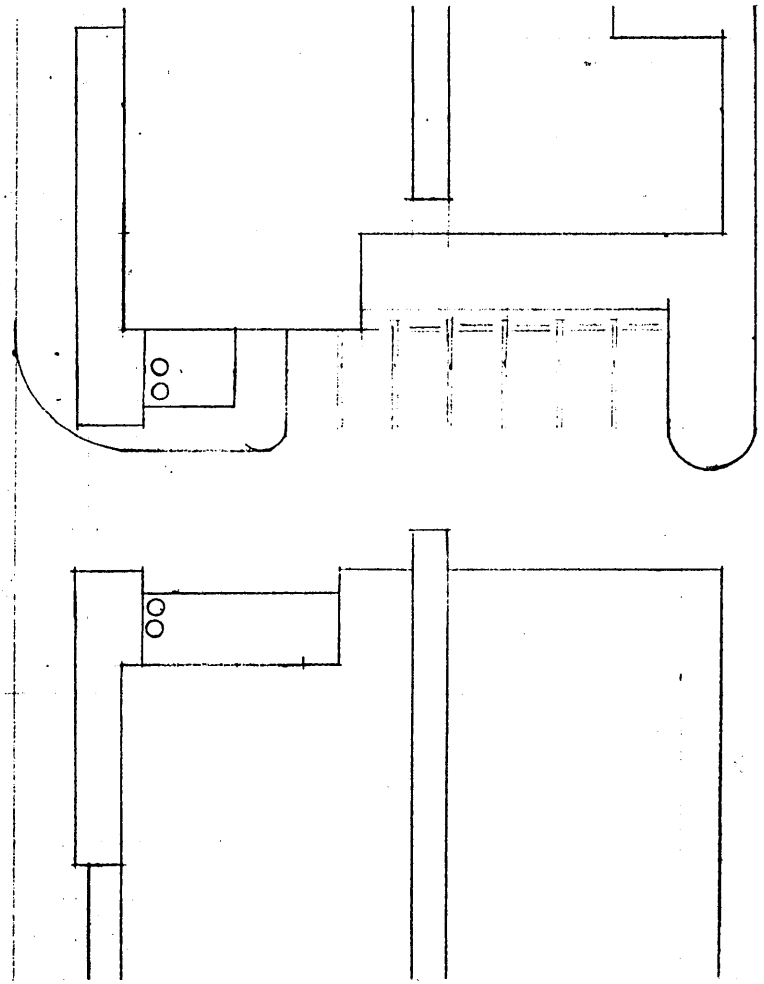


At the site level, each of the above parts aggregates to form a network of buildings, alleyways, streets, and work yards. The shaded roof plan at the left corresponds to the plan shown previously. By associating the roof planes with the room clusters described above one may notice a repeating, but variable pattern over the entire site.



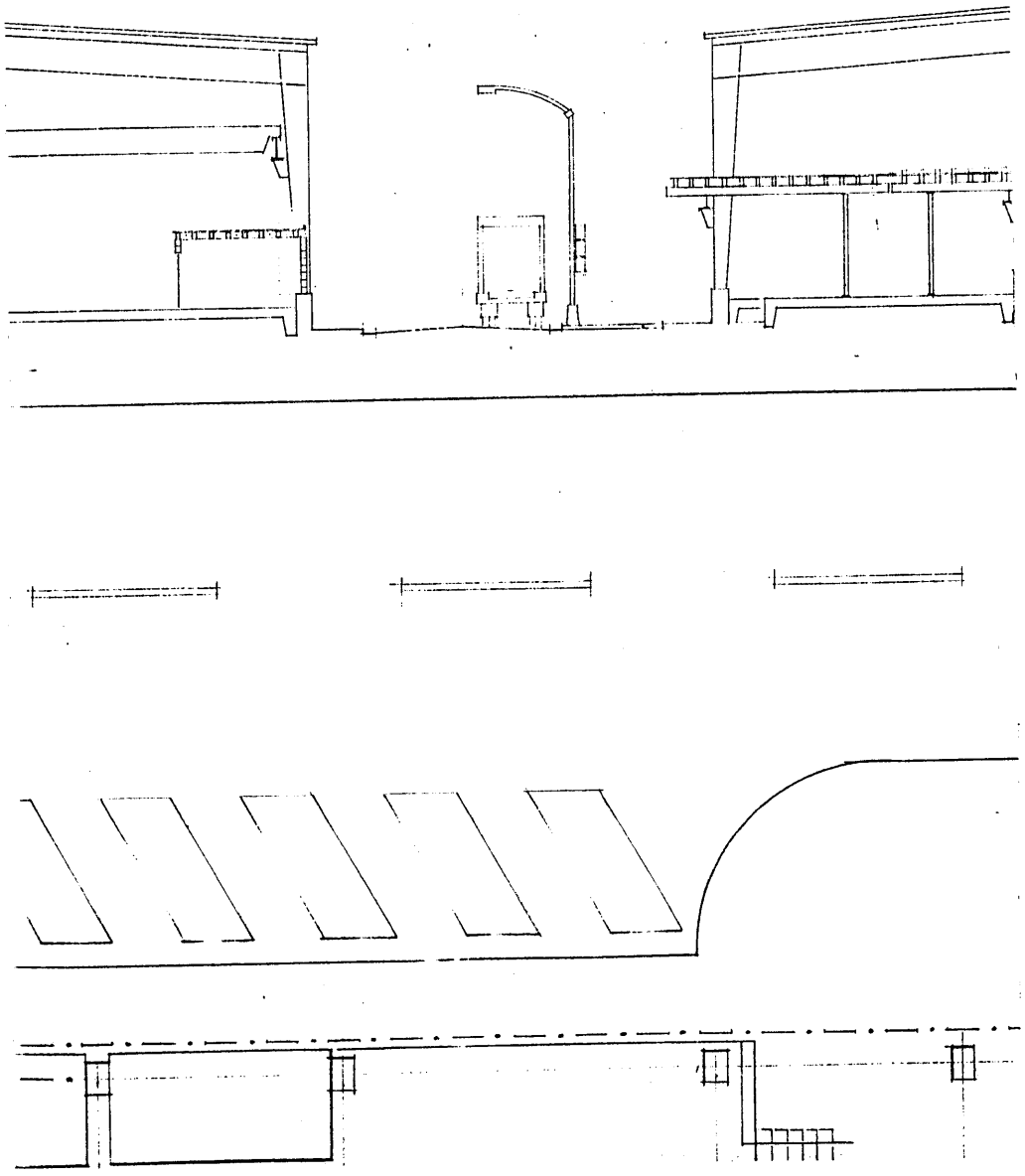
Part 13

A single building is framed from the site plan. One may associate it with a single business or with a collective of smaller businesses. In any case, one should be able to recognize the single building within the overall homogenous fabric.



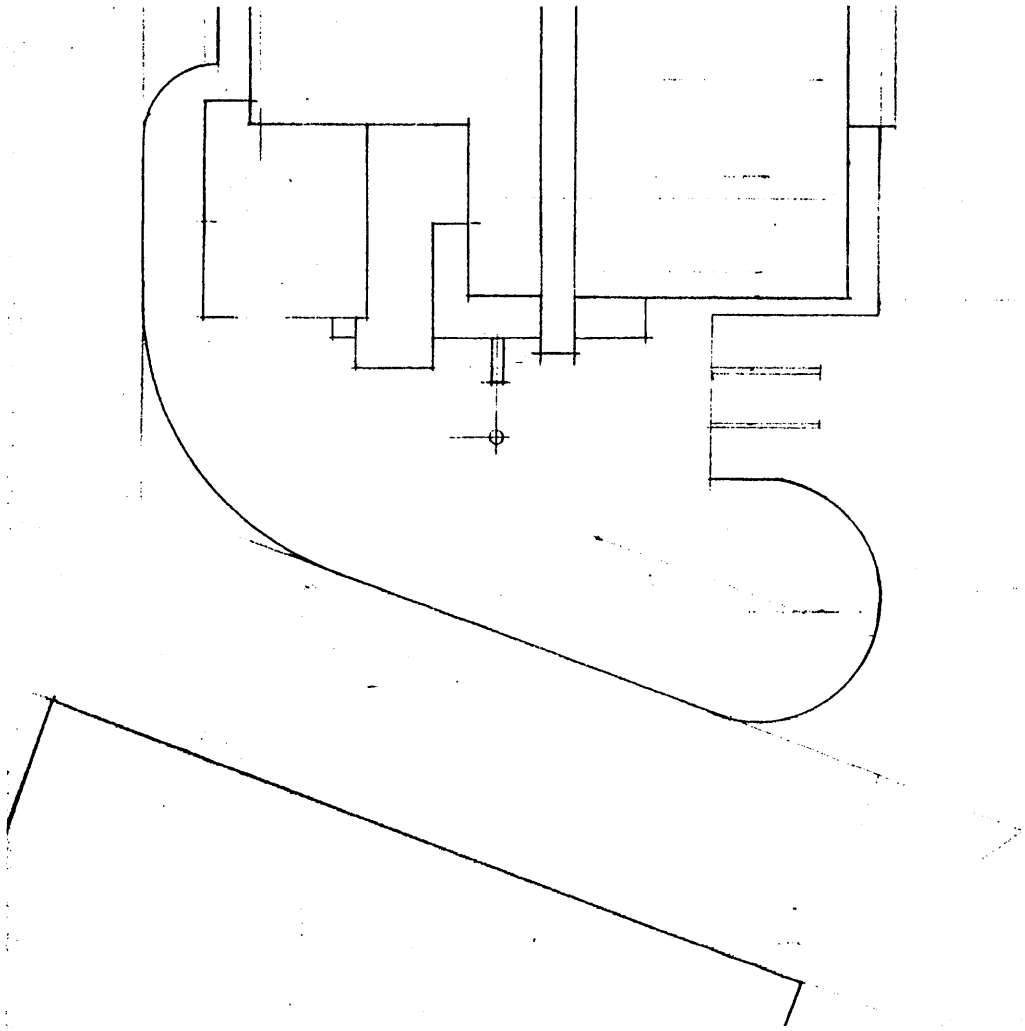
Part 14

Two mechanical room clusters frame an opening into an alleyway in which parking and a loading dock are accommodated.



Part 15

Two 12' traffic lanes and an optionally deployed parking/loading lane create an asymmetrical street section. Traffic lanes are generally against the masonry wall side of the buildings.



Part 16

As in the auto service neighborhood, work yards are not just leftover space, but are given form by the buildings and streets surrounding them.

Summary

To wrap up, a few words about process need to be said. This series of diagrams has been presented roughly in the order in which they were produced, starting with sections and building systems on up to the site plan. At each stage the effort focused on learning a system of parts and then improvising on them - in other words, making projective drawings, diagrams of possible configurations. This way of working makes the drawing/diagram less a description of what the represented thing is and more a description of how to make it: drawing in an active voice.

And this brings me back to the title of the thesis: Planning to Improvise. What I've come up with through the improvisational diagrams is a set of parts based on observations of a specific site. Having learned the basic system of parts, the planning is finished. Now the real work can begin...

Sources

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p. 4, Kellogg Elevator ca. 1917, from Reyner Banham, A Concrete Atlantis, p.161.

pp. 8,9,10, from a Crysler Co. advertising circular recently mailed to graduating students.

p.35, from Star Building Systems, Oklahoma City, advertising literature.

All other photographs taken by Cynthia Linton or the author.

People

I would like to thank those whose advice and criticism has been and, I hope, will continue to be helpful and stimulating: Imre Halasz, Donald Knerr, Shayne O'Neill, Sean McDonnell, Julie Chang and especially Cynie Linton.

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