

MINUTES

President and Board of Trustees
Village of Arlington Heights
Committee-of-the-Whole
Board Room
Arlington Heights Village Hall
33 S. Arlington Heights Road
Arlington Heights, IL 60005
December 14, 2015
7:30 PM

I. CALL TO ORDER

President Hayes called the meeting to order at 7:32 PM. The Pledge of Allegiance was recited.

II. PLEDGE OF ALLEGIANCE

III. ROLL CALL

BOARD MEMBERS PRESENT: President Hayes; Trustees: Blackwood, Farwell, LaBedz, Rosenberg, Scaletta, Sidor and Tinaglia

BOARD MEMBERS ABSENT: Trustee Glasgow

STAFF MEMBERS PRESENT: Randy Recklaus, Village Manager; Charles Perkins, Director of Planning & Community Development; Scott Shirley, Director of Public Works; Cris Papierniak, Assistant Director of Public Works; Mike Pagones, Deputy Director of Engineering; Eileen Hellstrom, Recording Secretary

IV. NEW BUSINESS

A. Paver Brick Study Presentation

Village Manager, Randy Recklaus, said the downtown area of Arlington Heights is the crown jewel of our community and a big part of the pedestrian experience is what people are walking on and that it connects all the different downtown areas. The downtown street scape is 30 years old and is beginning to show wear and tear. Now is the time to decide if the Village should continue with the current process or do something different. We want to look at aesthetics, costs of materials, maintenance costs, ADA compliance

and how to complete this in phases. The project team has looked at this thoroughly, while working with consultants. At this meeting we are going to be going through our initial findings, what we have learned looking at other Village's downtown areas and what some of the pros and cons are. Staff would like some feedback on the direction the Board would like to go. No materials were sent to the Board in advance since it was decided that it was better to show the Board the slide presentation with the help of the consultant team to answer any questions.

Mike Anderson, Vice President of Haeger Engineering, said when the Village sent out a request for proposal (RFP) for this project, Haeger Engineering responded since they have a long history with the Village providing land surveying and civil engineering services. He knew Randy Machelski, Associate Landscape Architect, from SmithGroupJJR, had lots of experience in the Chicagoland area designing urban streetscapes. He reached out to Mr. Machelski and they teamed up to respond to the RFP. The first phase of this project is the planning phase and he would like to have Randy Machelski give the slide presentation.

Mr. Machelski, Urban Designer, talked about the downtown area pavers being 30 years old and showing some wear. The Board can decide whether or not they choose to fix them, replace them with new pavers, or move to something else. The slide presentation is based on information they gathered on two group tours on separate days consisting of about 13 communities.

Mr. Recklaus asked if questions can wait until the end of the presentation since some of the questions may be answered during the slide presentation.

Mr. Machelski said the project team consists of himself, Mr. Anderson, and the following Village employees, Randy Recklaus, Village Manager; Scott Shirley, Director of Public Works; Cris Papierniak, Assistant Director of Public Works; Charles Perkins, Director of Planning & Community Development; and Jim Massarelli, Director of Engineering.

Phase one analysis consists of research that has been put together based on past project experience to help avoid mistakes that have happened in the past and not make those mistakes here.

There were concrete brick pavers on display for the Board to take a look at during the presentation.

Attachment A: Phase one slide presentation. The project team hopes to get some construction started in 2016.

On page 7 of the slide presentation, the yellow lines in the streetscape represent the areas that are in need of repair in the project area.

Mr. Machelski discussed cross sections and what they consist of. On top would be concrete pavers, then one inch of sand and compacted aggregate

beneath, or compacted base, sub-base, or drainage base, all used simultaneously.

On pages 8, 9 & 10 of the presentation some existing conditions were shown in downtown Arlington Heights. Fading has occurred over time to the pavers so when new pavers are brought in to replace the old, they look dramatically different. Functionally there is no problem; it is just an aesthetic issue. Some of the challenges are the settling of the sub base beneath the pavers and settling of the concrete bands. Another problem is as trees grow they pose a challenge in urban streetscapes as the trunk matures the area around the tree changes.

Concrete banding around the perimeter of the pavers provides substantial support for the brick paver area.

The existing streetscape is very charming. It is aesthetically pleasing and helps to differentiate the downtown area from the surrounding neighborhoods. Even though it is showing some wear after 30 years, it has done very well when you compare it to other installations in other communities.

During the slide presentation, you will see the name of each community in the upper left corner, and you will also see the approximate age of the installation in the upper right corner.

Northbrook shown on pages 12 & 13 shows that the intersection and cross walks have held up well. Darker color pavers or mottling in coloration tend to hide any spots vs. a monochromatic surface. On page 13 the concrete walk is used for pedestrians and the brick banding is the accent. The concrete paved surface is less prone to differential settling and problems navigating as a pedestrian.

In the cross section on page 14, a hard scape beneath the pavers, is shown, which is like a sidewalk beneath the pavers. What this does is minimize settling as much as possible but will also increase the cost of the installation.

The next slide shows Deerfield on page 16, with an interesting application of clay pavers on a compacted aggregate base. This installation is about 12 years old and one of the things you notice is the color intensity. They are not faded due to the fact they are a clay product. One of the other challenges that communities have with clay products is something called efflorescence, which is salt moving through a paver from deicing material used. Clay pavers store this material whereas concrete materials are more porous and salt moves through concrete and out the sub-base provided there is a satisfactory drainage base beneath. In this case, the clay pavers are very dense and the transmission is much slower, and the deicing materials are left on the surface. This does not have a hard scape or concrete sub-base, this is compacted aggregate.

Plastic edging along the brick pavers shown on page 19 is a challenge in high traffic areas to retain pavers successfully. In a commercial setting it has many challenges.

Ravina on page 22 shows permeable pavers in two parking areas. This is a concrete paver. The advantage of permeable pavers is they will allow water to transmit through to a sub-base and into a drainage system that is beneath the aggregate base and move on to a storm system. This type of paver is very durable and holds up to snow plowing in a parking area.

Highland Park shown on page 25 is one of the oldest installations completed 30 years ago and are clay pavers on a concrete base with a bitumen setting bed. Color is still very strong. They also have the deicing issue with clay pavers. There is minimal differential settling and one of the main reasons is the hard scape beneath the pavers is pinned to the concrete curb which is held in place vertically.

Highwood shown on page 30 has clay pavers on a concrete base with a bitumen setting bed, same as Highland Park.

Trustee Tinaglia asked if the difference between clay pavers and concrete brick pavers can be explained.

Mr. Machelski said understanding the difference between clay and concrete pavers is in the manufacturing process. Clay is actual material pulled from the ground then baked in an oven and concrete is poured then baked in an oven. Clay is a very dense material.

Trustee Rosenberg asked what it means when a brick is pinned.

Mr. Machelski said imagine a ½ inch dowel about 12 inches long, three feet on center, which pins the curb to the hard scape to keep from settling. By pinning, this secures a curb to the hard scape which prevents settling.

Libertyville on page 33 is a very similar installation to Arlington Heights. This is set on compacted aggregate with concrete banding. There is also banding that appears periodically horizontally. This is an advantage so if there is a need for repair you can repair the complete area within that band and it looks less obvious than if you repair a portion of the pavers in a walkway. The banding allows you to visually have areas of separation that work well for maintenance.

Elgin on page 37 shows clay pavers on a concrete base. The pavers on the driveway apron of the parking garage are discolored from vehicle tires. These pavers also show efflorescence on crosswalks.

Mr. Machelski talked about tinted concrete which is adding a coloration to the concrete other than typical gray concrete.

Mr. Machelski said one of the most interesting streetscapes they visited was in Batavia called Woonerf on page 41, which means a curbless street or a street for pedestrians. This is a complete street for all modes of transportation, separated by planters placed along the edges, which separates cars from pedestrians. He wanted to show a movement in streetscape design. What was determined after looking at this is it would be appropriate for certain streets that may have a festival area but to turn all streets into this is not the desire of the Arlington Heights project.

The Village of Lisle on pages 45-46 is a combination of clay pavers and tinted concrete. These pavers are on a concrete base. They used square edged pavers since it is available more readily. But, when you hit them with a snow shovel, even though the Village issued fiber-bladed snow shovels to every resident, some used metal shovels and caught the edge of the pavement, which caused chipping. This can be prevented by using a beveled paver.

Oakbrook Center shown on page 49 was visually interesting. This is not a streetscape but they wanted to show the design. Currently people are moving away from a traditional four by eight paver and moving to some very unusual shapes and color combinations.

Oak Park shown on page 51 are clay and stone pavers on a concrete base. One of the cons of this is the high cost of installation. They used very high quality materials, and there are no areas of exposed concrete in the entire streetscape shown on page 52, which is all covered with some type of stone material. They have blue stone on the walkways and granite curbs with a hammered surface. Even if a snow plow takes a chip out of the hammered surface it will never show due to the hammered surface. The pavers do have a weathered look and are clay pavers that were tumbled to look like an old cobblestone street. The crosswalks are two different colors of granite shown on page 53.

Shown on page 55 is a light ceiling which is a unique idea to bring ambiance to a downtown area.

On pages 59-60 it shows a summary of types of streetscape surfaces and the approximate costs, life expectancy and maintenance for comparison purposes.

Suggestions for consideration would be:

1. What percentage of the area should be brick? In other words, what is the preferred balance of concrete and brick in the streetscape? It was suggested by Staff that the Village should keep the concrete bands along the roadway and business facades but add a lateral concrete band at uniform distances to provide limits for future repairs.
2. What cross-section has the best value? It was suggested by Staff that we

maintain an aggregate base but change the aggregate size to improve drainage and pin the concrete bands to existing curb where possible.

3. What paver is recommended? It was suggested by Staff that either a face-mix concrete paver or clay paver be used to minimize color fading as shown on page 63.

4. How do we address the downtown ADA concerns? It was suggested by Staff that increased concrete usage at the corners will allow the Village more flexibility to meet the stringent slope regulations required and have a lower chance of differential settling.

5. How do we address the inconsistent longevity or premature failure of concrete in our downtown area? It was suggested by Staff that we seek out only qualified contractors through a RFP process. Concrete should last between 25-50 years without failures. Page 65 shows an example of the deterioration we have been experiencing downtown.

Mayor Hayes asked Mr. Recklaus what direction he is looking for from the Board this evening to focus the discussion.

Mr. Recklaus replied Staff would like some decisions on the materials. The suggestions given on the slide presentation where Staff recommendations.

Trustee Tinaglia thanked everyone for the presentation. He would choose a brick that would last for a long time and give a richer color, and he would like to do this with a brick that is not clay. The underlayment below should be something that is up to specifications. He agrees that it is hard to match colors 15 years later. He asked if tinted concrete would stand a better chance matching later on than with a fresh pour of concrete for a repair.

Mr. Machelski replied that his experience has been divided on that because the argument is new concrete and weathered concrete do not always match due to age. Same thing can happen to tinted concrete, even though you have a mix design, you can have challenges matching the color. In summary, tinted in theory can match better than plain finished concrete but both are challenging.

Trustee Tinaglia agrees that tinted concrete has that design mix that you can refer back to and would do a better job of matching.

Mr. Shirley wanted to add that a lighter tinting for concrete would have a better chance of matching opposed to choosing a red concrete which would cause the same issue as plain concrete. A crème color shown in the Elgin slide presentation would have a better chance of matching and not as much fading.

Trustee Tinaglia mentioned that the sun changes the color red and as the Board is thinking about colors, red is a tough one.

Trustee Scaletta said he was disappointed that the Board just saw this material for first time tonight, and he is trying to figure out what the Village

currently has and what is being recommended. He would have liked the information ahead of time so he would have been in a better place to start. Now he understands that the Village has concrete brick pavers and the base is one way for the sidewalks which is an aggregate base and for the crosswalks we have a concrete base.

Trustee Scaletta said everything he has seen tonight has to do with pavers. He wanted to know where the information is regarding stamped concrete, stained concrete and other options besides pavers.

Mr. Machelski replied that they looked at other options such as, stamped finished concrete and impression concrete but when they did the tours there were no communities that had either of those. This sent us a message and we found that there were such significant problems with those that they were not worth considering and taking the time to evaluate.

Trustee Scaletta asked what the problems were with the stamped concrete and stained concrete.

Mr. Machelski replied that with impression concrete as it wears, and snow or maintenance equipment scars the surface, it becomes very apparent. The other issue is with this type of concrete it's all about the craftsmanship. Unless you get a true craftsman who can work the surface of the concrete and stamp down the pattern onto the concrete, you can overwork the surface and cause flaking.

Mr. Shirley wanted to add that stamped concrete never looks like brick, it looks fake and not as aesthetically pleasing.

Mr. Recklaus mentioned the photo from the Village of Lisle on page 46 which shows the crosswalk and some of the problems Mr. Machelski is talking about. He feels it would not be up to Arlington Heights's standards to have concrete stamping.

Mr. Perkins added that there are two local shopping centers that have stamped concrete that has cracked showing big gaps within it, and the color is missing from the snow plows hitting it.

Mr. Perkins also wanted to mention that there are private developments in the downtown area that have the same brick pavers that the Village currently has. It would be very challenging to drastically change the product that the Village has currently.

Mr. Recklaus wanted to note that more concrete is recommended. How much more will not be known until we are further into the design phase. But we are suggesting some kind of lateral concrete band design that would assist with some of the issues discussed. The committee feels there is an advantage to doing that without losing the overall look.

Mr. Papierniak said the lateral concrete banding would give logical limits if there were a repair and would be easier for staff to do these repairs.

Trustee Scaletta said the presentation was a brick paver presentation and that was not what he made the motion for. I wanted to see what the streetscape opportunities were. If you are saying that the stamped concrete would not work, he understands that but it should have been part of the presentation. He asked for more information about tinted concrete.

Mr. Machelski said tinted concrete is considered to be an improvement, visually and ascetically. It has minimal cost and greatly influences the overall look. One of the things a tint color can do is it softens the look visually. When non-tinted concrete goes in, it can be very white. Tinted concrete can control the color and make it uniform and softer visually.

Trustee Scaletta would like to have something that does not have a continued maintenance cost that cannot be funded. It's costing so much money to continue to repair these brick pavers. The presentation talked more about color than the fact that the bricks do not line up. He is more concerned about people tripping than the color of the brick. His focus is how we get a nice streetscape where people can walk without worrying about the bricks moving, every freeze and thaw. He asked if the Village's pavers were installed correctly 30 years ago.

Mr. Machelski said he does not have any opinion on previous contractors, he is only speaking moving forward.

Mr. Shirley commented by saying the Village has gone with the low bid. Staff has had many different landscapers do all the brick replacements and it has been underfunded as far as maintenance. He feels we are getting what we paid for.

Trustee Scaletta replied that is not working.

Mr. Shirley said the means and methods of construction need to be better.

Mr. Recklaus agreed that this matters and a lot of the points being brought up are about methodology. The Village has gotten 30 years out of the current pavers and it is the logical time to review this and we think going forward Staff would be very careful about who we use and look at the selections process to make sure we are getting quality work as well as a quality product.

Mr. Papierniak talked about when they first started this paver project Staff went to look for fault in the brick pavers. When they walked through downtown they were surprised to see that it was the concrete that was failing and not the brick. The brick settles because the bottom of the paver is deteriorating due the salt. They found out improved sand and aggregate base can improve drainage and not deteriorate the bottom of the paver and

reduce settling. They also found out that pinning the edge of the curb into concrete bands will also reduce concrete settling. A lot of the trip hazards we have had downtown are over the tree grates. All the communities they looked at, they looked into the tree grates.

Trustee Scaletta thinks there are so many levels to this conversation over the type of materials for the base, whether or not to use tinted concrete, and to continue using pavers. He asked when they are talking about the concrete failing, if they are talking about the concrete base or the concrete banding next to the pavers.

Mr. Papierniak replied when they walked the downtown area they saw a lot of issues with the concrete banding cracking and they feel the Village should have a selection process with an RFP as opposed to a low bidder because concrete's longevity is directly related to the quality of installation.

Mr. Recklaus said the committee looked at the problems that the Village is currently experiencing in the downtown area and how they can be resolved. The committee is suggesting that the Village retain brick which will best reflect the aesthetic standards of the downtown area, but add some lateral concrete banding.

Mr. Recklaus mentioned that if the Board would like to get deeper into the discussion of replacing the bricks in the downtown area it can be done.

Mr. Perkins talked about other surrounding communities and what they have in their downtown areas. Mt. Prospect has brick pavers along Northwest Highway and from their downtown area all the way to Mt. Prospect Road. He said they are not suggesting this but our downtown has been successful and he wants to make sure the Village keeps on the cutting edge.

Trustee Scaletta thinks our downtown should look more like Lisle and Northbrook which are more appealing to him with less maintenance and a higher percentage of concrete. He did not like the Highwood look since he thought that was not enough brick pavers. There is no doubt that the Village's downtown needs to be upscale but he does not want to continue taking out all the brick pavers and replacing them area after area. He said the Village does need to look at the qualified bidders.

Mayor Hayes addressed Mr. Recklaus' concern about how involved the Board wants to get in this process and in other processes, and he does not think the Board should be involved in the nitty-gritty decisions in terms of what the base looks like and what it's composed of. He does not think the Board should get bogged down in those details.

Trustee Rosenberg asked about the cost difference between concrete and brick pavers.

Mr. Papierniak replied that brick pavers are approximately twice the cost of

concrete.

Trustee Rosenberg asked about the performance life of the concrete band.

Mr. Machelski responded by saying the life expectancy of concrete banding, if installed properly, is 25 years due to the increased opportunity for water penetration at different points vs. a plain concrete walk which would be 35-50 years.

Trustee Rosenberg asked if there were a compromise in something in-between an aggregate base and a concrete base.

Mr. Papierniak replied that there is something in Canada but nothing around here. The committee thinks to resolve the moisture problem they need to change the sand to a different size and increase the thickness of the aggregate base to handle heavier equipment.

Mr. Machelski said another consideration talked about was compacted aggregate base with a flexible paving surface on top called bitumen which is a single layer of asphalt and set the pavers on that surface. The challenge with this is if it did crack, water can get down underneath and there would be no way to know water was beneath there. So there can be a lot of freeze thaw action during certain years and this could be a problem. There is no perfect solution, depending on what the Board wants to spend you can buy some extra life in the durability of the streetscape.

Trustee Rosenberg asked if the Committee decides to do the aggregate base if pinning can be done.

Mr. Shirley said if the Village does the banding, the bands would get pinned to the curb.

Trustee Rosenberg asked what is the total square footage of the downtown area vs. the 50,000 square feet that needs to be redone.

Mr. Machelski replied the total square feet of parkway area is 117,513 and the square footage for the brick pavers to be redone is 54,051.

Mr. Shirley said that would be about 46% of brick, but reminded Trustee Rosenberg that is not the entire downtown just the area that is the scope of this project.

Trustee Rosenberg asked if this was redone, would it look good aesthetically and blend in with what exists today.

Mr. Perkins replied that was the challenge they talked about when they looked at the other towns and then looked at the Village's downtown area. If you look at the map on page 7, how would you change the street scape and make it work with what is already there. We talked about the perimeter

where you could possibly have a higher percentage of concrete, for example, on the east side of the north garage or the walkway north of the Jewel on Northwest Highway. Maybe we can integrate a little more textured or colored concrete and a little less brick but still make it work. It would be difficult to totally change the brick pavers in other areas such as Village Green, Arlington Town Square, or along Campbell Street downtown. We need to keep in mind that part of the downtown master plan was a series of focus groups and that asked customers that were walking downtown and the business community what they liked and disliked. The majority liked the brick paver sidewalks and crosswalks and felt they were attractive and part of the downtown.

Trustee Rosenberg liked the slide from Batavia on page 41 and 42 called Woonerf, a curb-less street which is used for a festival. He would be curious to find out the cost to have this done.

Mr. Perkins said they did talk about that and it would be a great application by Harmony Park and the intersection of Vail and Campbell depending on the cost. He thinks it's going to be expensive.

Mr. Recklaus replied that it is very expensive. He worked in Batavia during the design phase of this project but left before installation, but a difficult consideration was storm water management. They had to go with permeable pavers which are \$65 a square foot because you are eliminating curbs and gutters and rain water is a big consideration. From a design element having some concepts of this applied to different places in the downtown would be doable. There were other visual things we learned about from our tour such as the light ceiling that the committee liked.

Mr. Recklaus said adding the concrete banding to the pavers would not be such a drastic change but would provide additional stability.

Trustee Rosenberg asked Mr. Shirley when there is a water main break by the pavers does that affect the availability to get to the water main?

Mr. Shirley said that does not slow them down. The challenge is reconstructing the area back to how it looked before the water main break. Some of the challenges would be to find matching brick which goes back to one of the recommendations, to provide some periodic concrete banding that will give visual segments.

Trustee LaBedz said she would agree that there is a significant amount of cement deterioration and unevenness of bricks in a lot of places. She feels this has to do with the underlayment. Talking about the concrete banding and curbing how do we insure that the curbing part does not deteriorate.

Mr. Machelski replied that any concrete work requires a good contractor. Whether it be curbs or sidewalks this would apply equally. Also the pinning that fastens the hardscape will prevent settling.

Trustee LaBedz asked what the steps would be for the Village to follow to ensure that they get quality contractors.

Mr. Shirley said putting together a scope of work with larger contracts that would appeal to professional contractors.

Trustee Blackwood asked if the removal cost of the aggregate base or concrete base would be an additional \$10 or \$15 shown on page 59. She asked if the total removal cost would be \$20 for aggregate base and \$30 to remove concrete base per square foot.

Mr. Machelski replied yes, the amounts listed on the bottom of page 59 are in addition to the amounts listed per square foot. The reason for the variance is if you are moving pavers and doing any salvaging or you are moving concrete, it depends on what areas such as a tight area around businesses or in an open area next to a parkway.

Trustee Blackwood said it makes sense to her when they put the banding along the pavers and take up some of the bricks they should save them and use them when other bricks need replacing elsewhere. This would also help with the cost of this project. The idea of concrete on either side of the bricks makes sense but she would also like the lateral concrete paving bands breaking up the brick pavers to better match the sections that might need to be replaced.

Trustee Blackwood wanted to ask what the difference is between an aggregate base and a deep aggregate base.

Mr. Machelski replied that a deep aggregate base is about 24 inches deeper.

Trustee Blackwood said investing in a good base is what she would be looking for to ensure longevity. She asked why it is \$15 more per square foot to remove concrete than pavers.

Mr. Machelski said it is due to more disposal fees.

Trustee Farwell said he concurs with Trustee Scaletta and would have liked this information ahead of time and would have walked through downtown Arlington Heights to see some of the conditions. He is trying to catch up by reading the information now. In the future he would like the information before the meeting. He asked the project team during their tours if Highland Park or Libertyville was in better condition.

Mr. Papierniak said structurally Highland Park looked better. But, esthetically you can see the efflorescence on the clay pavers which cannot be washed off. At first the committee thought clay pavers would be a consideration but with the efflorescence it is a big concern. They did not see any trip hazards at Highland Park which is 30 years old due to the bitumen setting bed. He

mentioned that clay pavers are less impervious and in the spring and fall the morning dew could show up on the clay pavers and possibly freeze. This would require more salt and the longer clay pavers are down more salt comes back out. They did not see this happening early on in projects that were 5, 10 or 15 years old. They saw this on projects that were 20, 25 and 30 years old and it almost ruined a fantastic product.

Trustee Farwell asked if some of the slides were taken during the summer and others during the winter in regards to the clay pavers and in the summer they look great and the winter they look stained.

Mr. Recklaus replied they were taken at the same time of the year. It is staining that shows on the clay pavers permanently.

Trustee Farwell asked if there was a difference between salt staining and efflorescence.

Mr. Shirley said efflorescence is the salt coming out of the brick during the summer.

Mr. Machelski mentioned that older paving systems have this problem which makes us hesitate about clay pavers. Clay pavers hold their color, but with age could develop this efflorescence problem such as Deerfield and Highland Park. They are asking each of the maintenance groups in Lisle, Batavia, Deerfield and Highland Park what they are doing differently and better understand what materials they are using so perhaps there is a way to minimize the efflorescence problem with clay. It appears that what is maintained privately is having more efflorescence than what is maintained publicly.

Trustee Farwell is not willing to give up on the clay vs. concrete paver until we have the answer to the question concerning efflorescence. He prefers the clay over the concrete if we can satisfy the efflorescence issue.

Mr. Recklaus said what the committee is suggesting is a treated concrete paver without the textured top which does not lose its color.

Mr. Papierniak talked about a concrete paver that will last similar to a clay paver but would be approximately \$2 a square foot cheaper and the color will last much longer than the concrete pavers the Village currently has now.

Mr. Recklaus said the brick paver is \$10 and the treatment is \$2 whereas a clay paver is \$15. This would be \$12 vs. \$15 difference for the pavers.

Mr. Papierniak suggested this would be an in-between suggestion besides clay, a concrete face mix paver for \$19 a square foot whereas clay would be \$35 a square foot.

Trustee Farwell said when he was comparing Libertyville with Highland Park and seeing they are the same age, he liked the clay over the concrete pavers. He sees trip hazards in the pictures of Libertyville on page 33 and does not see that in Highland Park on page 25.

Trustee Farwell likes the look of Libertyville that has more concrete banding than the Village currently has. His opinion is he would like the concrete brick for \$19 a square foot that Mr. Papierniak talked about with tinted concrete and more lateral concrete banding.

Trustee Sidor concurs with Trustee Scaletta that he would have liked the information ahead of time including information about stamped concrete. He also likes Libertyville on page 33 with more concrete and less pavers which he feels will help with paver maintenance moving forward. It appears as though we are sticking with pavers in some way downtown. He asked about tree gates and wanted to know what the problem was with them.

Mr. Machelski replied that it's the tree and its growth and how to accommodate the area around the tree as the roots and trunk grow. Many communities have solved that issue by placing a tree in a raised planter that has plant material around it and not use tree grates. The challenge with this is it reduces the usable area of the walkway for pedestrians or dining. We are still trying to solve these issues and they are still under discussion.

Trustee Sidor said there are several areas in the downtown area that have outdoor dining and have just enough room for pedestrian traffic and he would be concerned with any space being taken away from the sidewalk.

Trustee Sidor asked what the material was that was put into the tree grates where the trees had been removed downtown.

Mr. Shirley said it is a temporary fix to cover up the absence of the tree and it is a recycled rubber material. It is just an experiment that Staff is currently evaluating.

Mayor Hayes likes the streetscape that the Village has currently. He likes the percentage of brick pavers vs. concrete. He would be in favor of additional concrete lateral banding but would like that kept to a minimum. He would prefer to essentially maintain the current streetscape. He did not like Woonerf in Batavia and thinks it's a safety hazard because there is no delineation between street and sidewalk.

Mr. Recklaus asked if it was the consensus of the Board to proceed in the direction that was laid out at this meeting or is there additional information that the Board would like.

Mayor Hayes said if we are going to go with these suggestions, we need some actual cost estimates.

Mr. Papierniak mentioned this would be included in the next phase of this project along with the design and estimates in more detail. At this time, it is more preliminary planning.

Mayor Hayes said we do need to make a decision on the concrete vs. clay pavers.

Mr. Recklaus replied that they can get a cost estimate of one vs. the other at a later date.

Mayor Hayes said the Board needs to have cost estimates on any of these variables to include the number of lateral banding and how this would affect the price.

Trustee LaBedz said she would be concerned about a product that would be more prone to people slipping on due to ice forming on the surface.

Mr. Papierniak said when he talked with the consultant and the staff from the municipalities they visited they both said there is a higher frequency of salting with clay pavers because any type of dew that occurs on cold pavers during the change of seasons can lead to slippery pavers. Currently in our downtown area we do not use a lot of salt. We brush with the equipment and are able to keep it environmentally friendly with less salt.

Trustee Tinaglia asked what the recommendation is for the base. Whether we chose concrete or clay pavers and how many square feet of banding can be made later as the plans are developed. The committee should come back with a plan that they feel is the best for the price.

Trustee Scaletta talked about the concerns of salt on the clay pavers and the fact that local businesses may use their own salt which may be different than what the Village recommends. This would then cause efflorescence.

Trustee Rosenberg asked the project team that when they look at the bases he wants to make sure they consider all the different kinds including the bitumen setting bed.

Trustee Farwell asked if there was a difference between broadcast staining or stain put into the concrete mixture at the time you are mixing the concrete. He asked if this could be highlighted when they talk about this plus the advantages and disadvantages.

Trustee Sidor said if the Village is going to invest in this project then consistency of maintenance would be as important as consistency of who is installing the project.

Mayor Hayes asked if Staff needs anything else from the Board.

Mr. Recklaus replied no.

*Editor's Note, presentation available upon request: contact rhume@vah.com for copy.

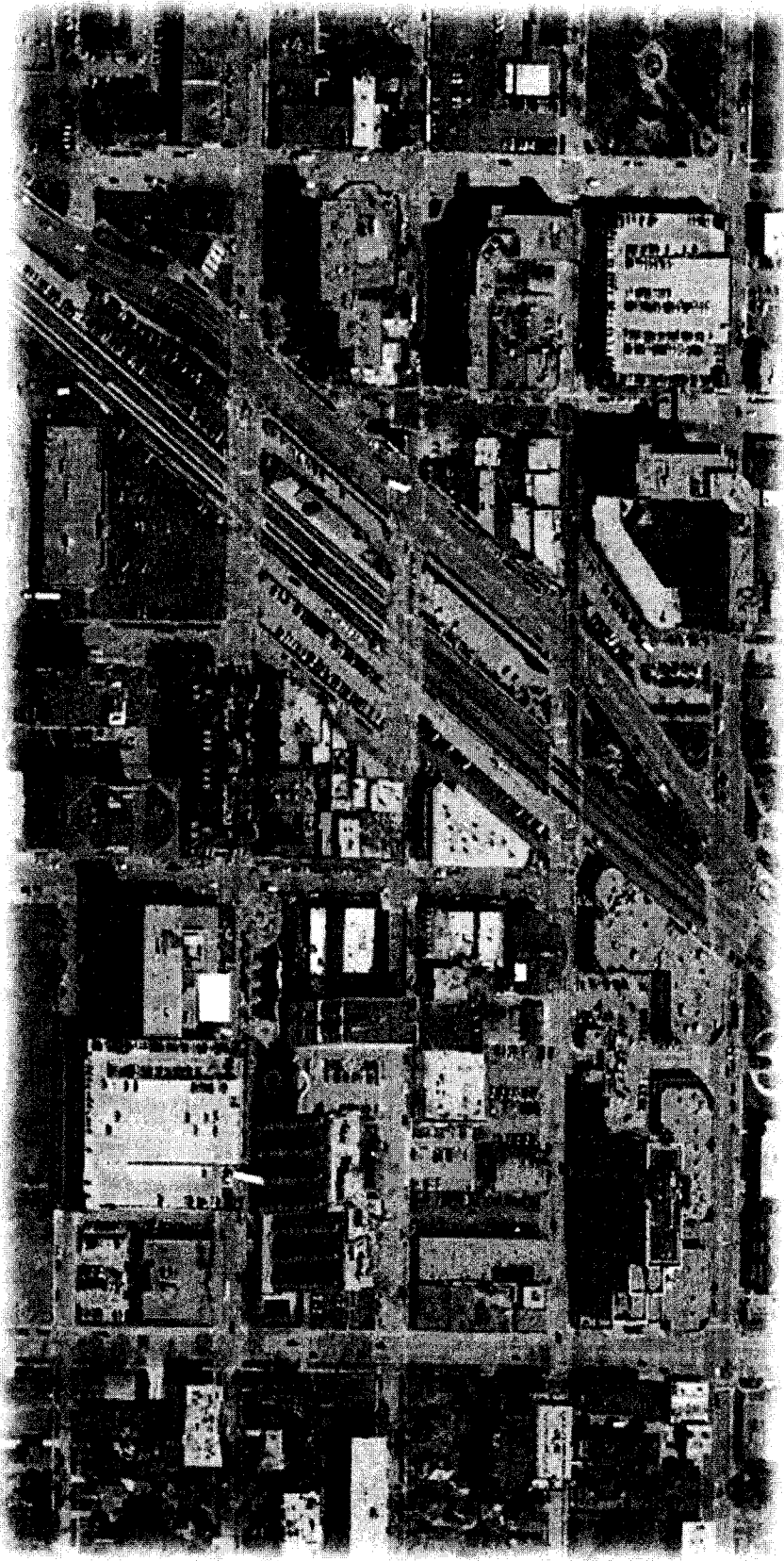
V. OTHER BUSINESS

VI. ADJOURNMENT

Trustee Tinaglia moved, seconded by Trustee Sidor to adjourn the meeting at 10:05 p.m. Upon a voice vote, the motion passed unanimously.

Village of Arlington Heights Downtown Streetscape Replacement Design Project

Update meeting 12-14-2015



HAEGER ENGINEERING
consulting engineers • land surveyors

304 N. 4th Street, Suite 200, Schaumburg, IL 60193 • Tel: 847.394.4500 Fax: 847.394.4508
www.haegerengineering.com

SMITHGROUP JJR

The Project Team

Village of Arlington Heights (Client)

Village of Arlington Heights - Village Manager

- Randall Recklaus - Director of Public Works
- Scott Shirley - Assistant Director Public Works Department
- Cris Papierniak - Director of Planning and Community Development
- Charles Witherington-Perkins - Director of Engineering
- Jim Massarelli - Director of Engineering

Haeger Engineering, LLC (Civil Engineering)

Haeger Engineering, LLC - Vice President

- Michael Anderson - Vice President

SmithGroupJJR (Landscape Architecture)

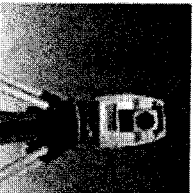
- Randall Machelski - Associate Landscape Architect

Consultants

Haeger Engineering

Arlington Heights Project Experience

- VAH ADA Sidewalk Ramp - Topographic Surveying (2014, 2015)
- VAH MFT Street Program – Topographic Surveying (2011, 2012, 2013)
- VAH Storm Sewer Project – Civil/Survey Services (2014)
- VAH Flood Control Project – Topographic Surveying (2013)
- VAH McDonald Creek Bike path – Topo Surveying (2012)
- VAH Watermain & Sewer Replacement – Civil/Survey (2009, 2010, 2011)
- Arlington Town Square – Original Civil/Survey Consultant (1995-2000)



HAEGER ENGINEERING consulting engineers • land surveyors

1304 N. Plum Grove Road, Schaumburg, IL 60173 • Tel: 847.394.6600 Fax: 847.394.6608
www.haegerengineering.com

Over the past 45 years, Haeger has provided civil/survey consulting services to a large range of public and private clients. Our present staff consists of over 20 engineers, land surveyors and technicians, including Professional Engineers, Professional Land Surveyors, Certified Floodplain Managers, Certified Erosion Control Specialists, LEED Accredited Professionals and SiteOps Certified Professionals.

At Haeger we provide a broad range of civil engineering and surveying services to assist municipalities with their consulting design needs. These services include:

Civil Engineering

- Site Improvements
- Watermain System Improvement
- Stormwater Management Systems
- Street Repair/Rehabilitation
- Storm/Sanitary System Improvements
- Park and Recreation Site Design

Land Surveying

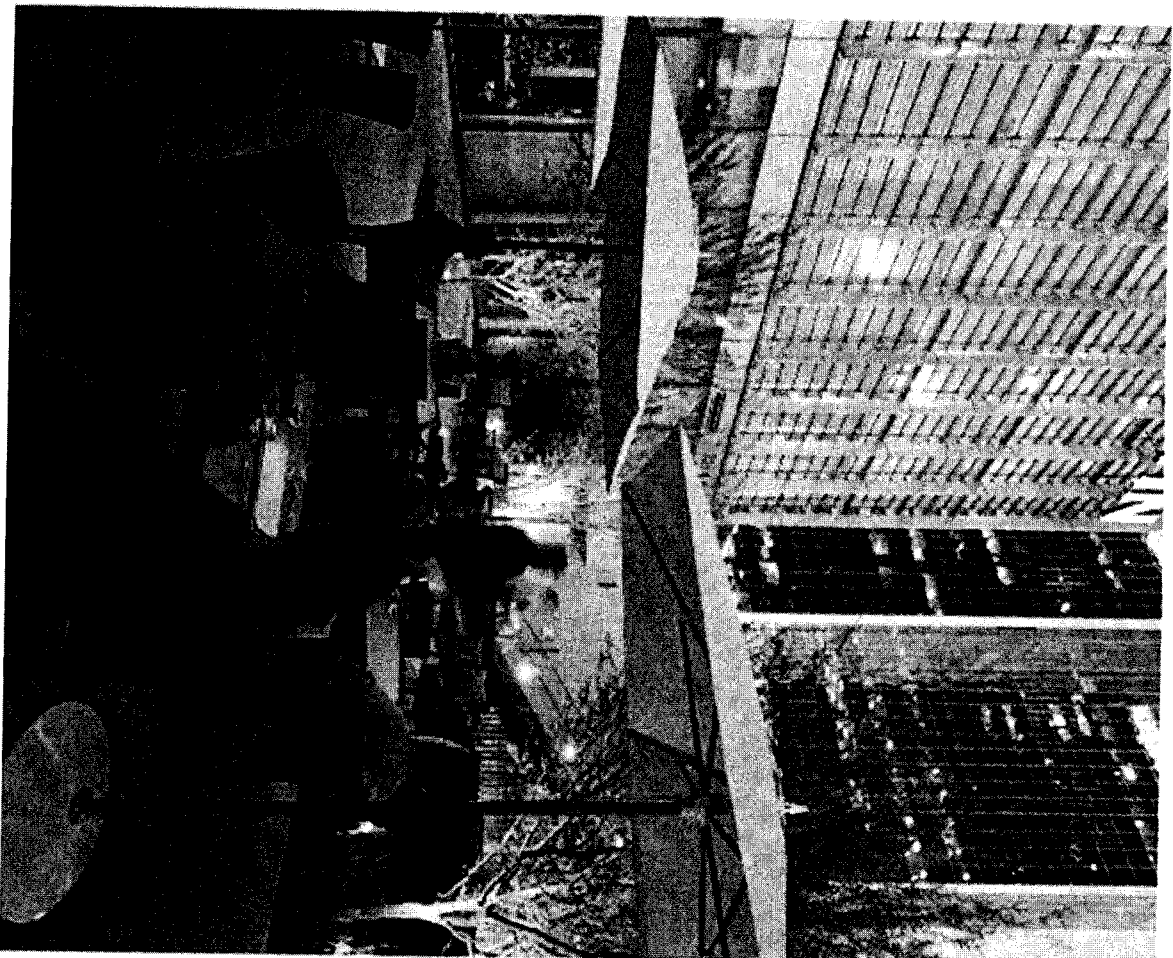
- Plats of Survey
- Plats of Dedication/Vacation
- Plats of Subdivision
- 3D and Vertical Subdivisions
- Easement Surveys and Plats
- Condominium Surveys
- ALTA/ACSM Land Title Surveys
- Control Surveys
- Topographic Surveys
- Bathymetric Surveys
- Settlement Surveys
- Digital Site Modeling

Construction Services

- Construction Staking
- Roadway/Utility Staking
- As-Built Drawings
- Resident Engineering

Illinois Professional Design Firm License No. 184-003152

SMITHGROUP JR



SmithGroupJR At-A-Glance

Locations

Ann Arbor
Chicago
Dallas
Detroit
Los Angeles
Madison
Phoenix
San Francisco
Shanghai
Washington, DC

Legal Status & Ownership

Privately Owned Corporation
Established: 1853

Employees

Firm wide: 820
Chicago: 60

LEED Accredited Professionals: 343

Services

Landscape Architecture
Urban Design
Planning
Architecture
Interior Architecture
Sustainable Design
Civil Engineering
Structural Engineering
Mechanical Engineering
Lighting
Security
Environmental Science

Specialties

Cities and Communities
Colleges and Universities
Healthcare
Museum and Archives
Property Development
Science and Technology
Transportation
Parks and Recreation
Waterfronts and Marinas
Workplace

The Project Facts

Goal

- Through research and evaluation, find and apply a streetscape solution that creates the maximum aesthetic appeal while balancing life cycle cost, maintenance, ADA compliance and phasing considerations.

Scope of Work

Phase One

- Analysis
- Design Alternatives/Cost Benefit Analysis

Phase Two

- Acquire field data
- Construction Bidding Documents/Cost Estimate

Phase Three

- Construction Engineering Services

Schedule

- Survey and cost estimation phases in 2015 with first phase of design in the first quarter 2016 and construction following in Spring of 2016.

Phase One - Analysis

Research

- Past project experience
- Past project Architecture/Civil Professionals
- Colleagues and Landscape Architects
- Product Representatives and Manufacturers
- Product Representatives with Village of Arlington Heights staff
- Conversations with Village of Arlington Heights staff

Tours of existing metro area streetscapes

Tour #1 -

- Northbrook
- Deerfield
- Ravinia Festival Park
- Highwood
- Highland Park
- Libertyville

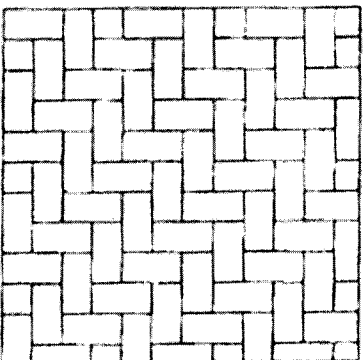
Tour #2 -

- Elgin
- St. Charles
- Batavia (Woonerf)
- Lisle
- Oakbrook Center
- Forest Park
- Oak Park

Tour of Arlington Heights

- Walked project area

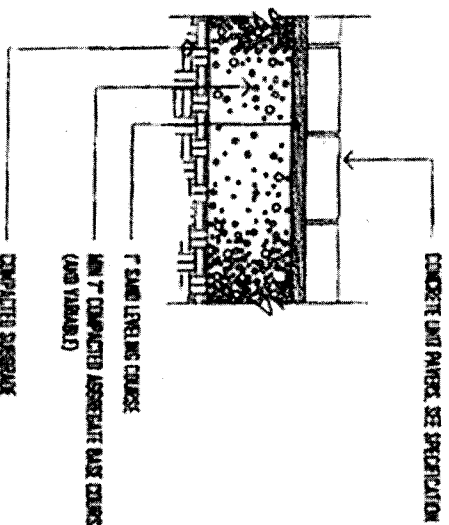
VAH project area



CONCRETE UNIT PAYER 90° HERRINGBONE PATTERN

UNIT PAYER PATTERN (Typical)

(Not to Scale)



CONCRETE UNIT PAYER SEE SPECIFICATION

7" SAND LEVELING COURSE

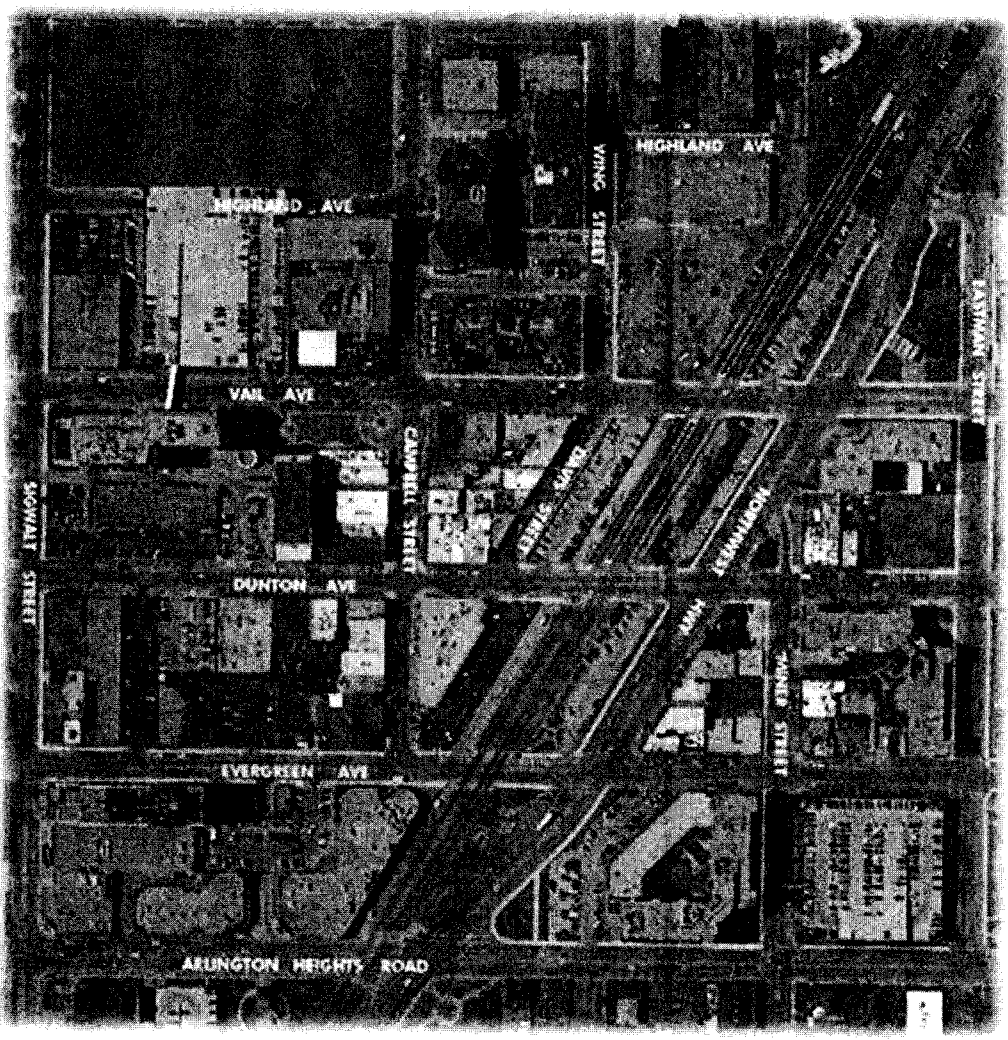
4 IN 7" COMPACTED AGGREGATE BASE COURSE (CA-5) 2.15 FT

COMPACTED SUBGRADE

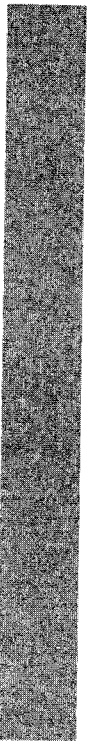
"HOLLAND" CONCRETE UNIT PAVERS

(Not to Scale)

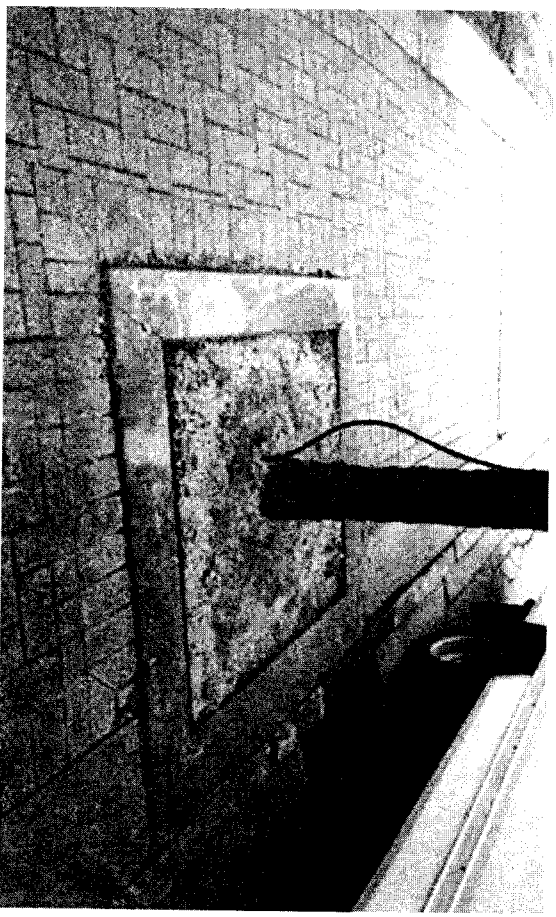
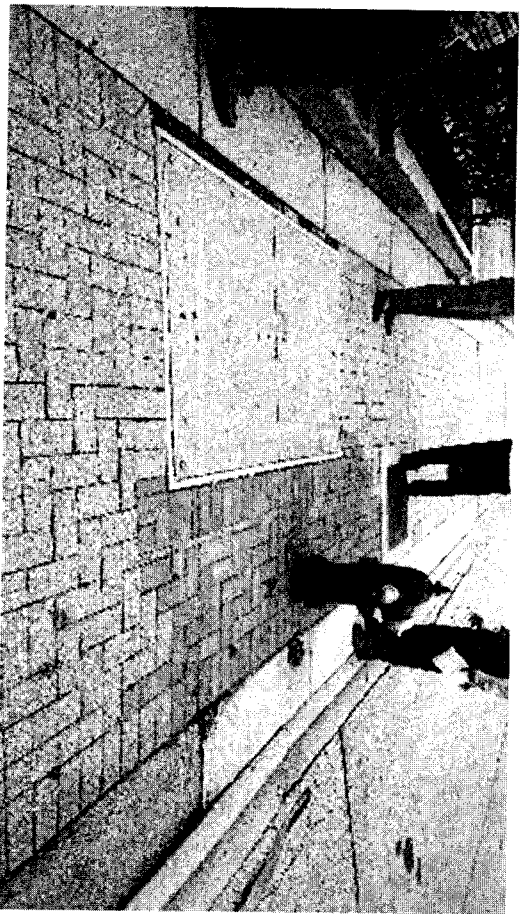
117,513 sf total parkway area
54,051 sf brick paver area



Original brick sections in need of repair

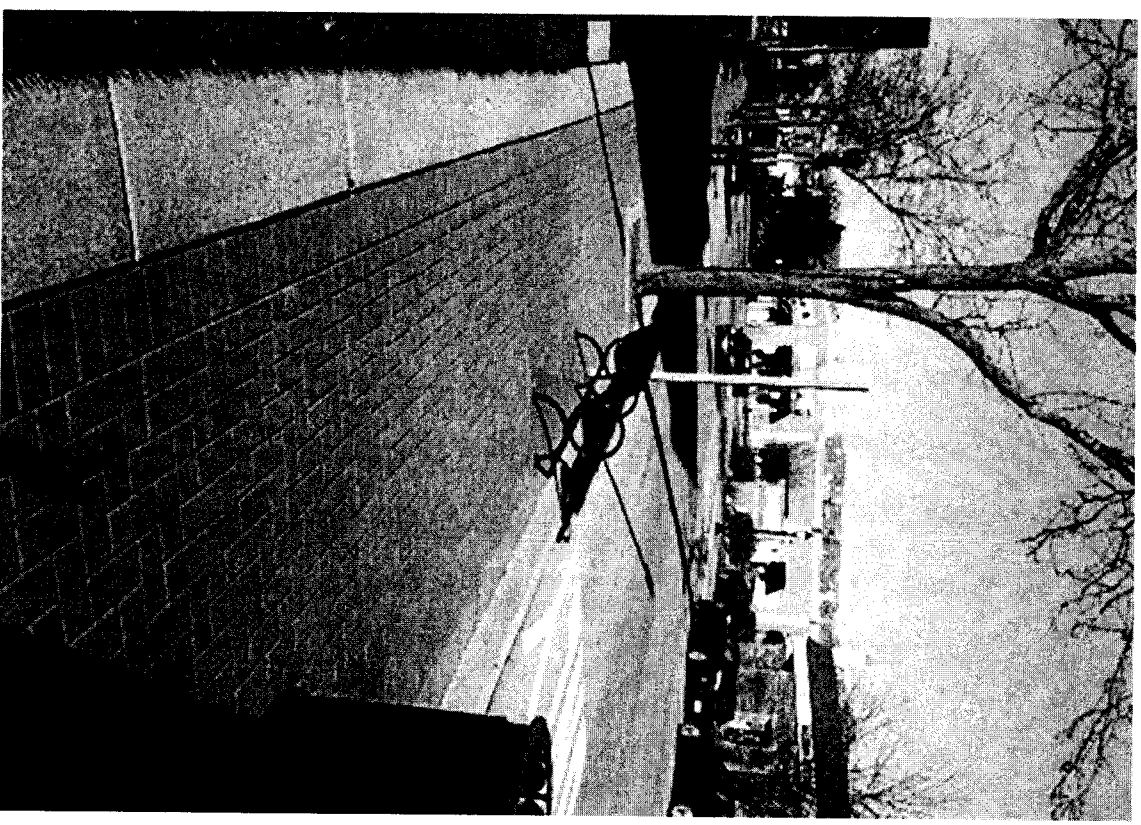
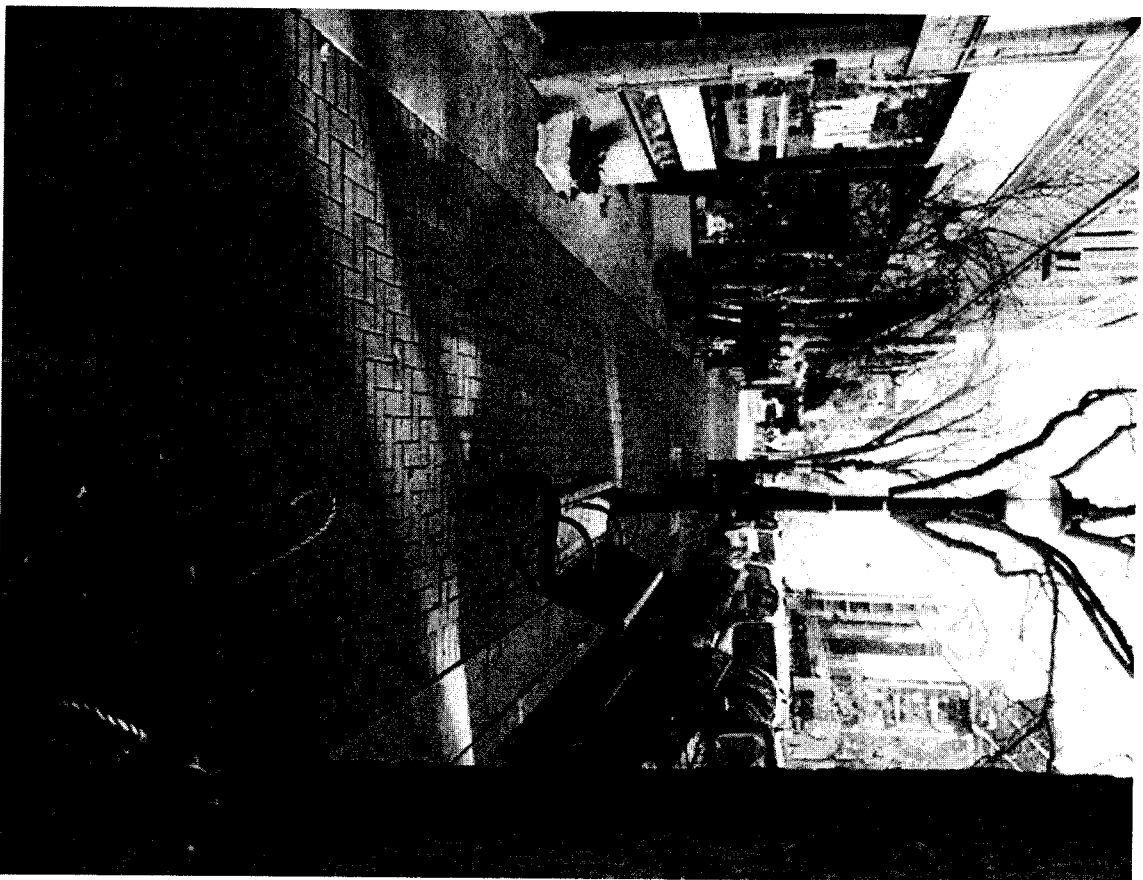


VAH existing conditions



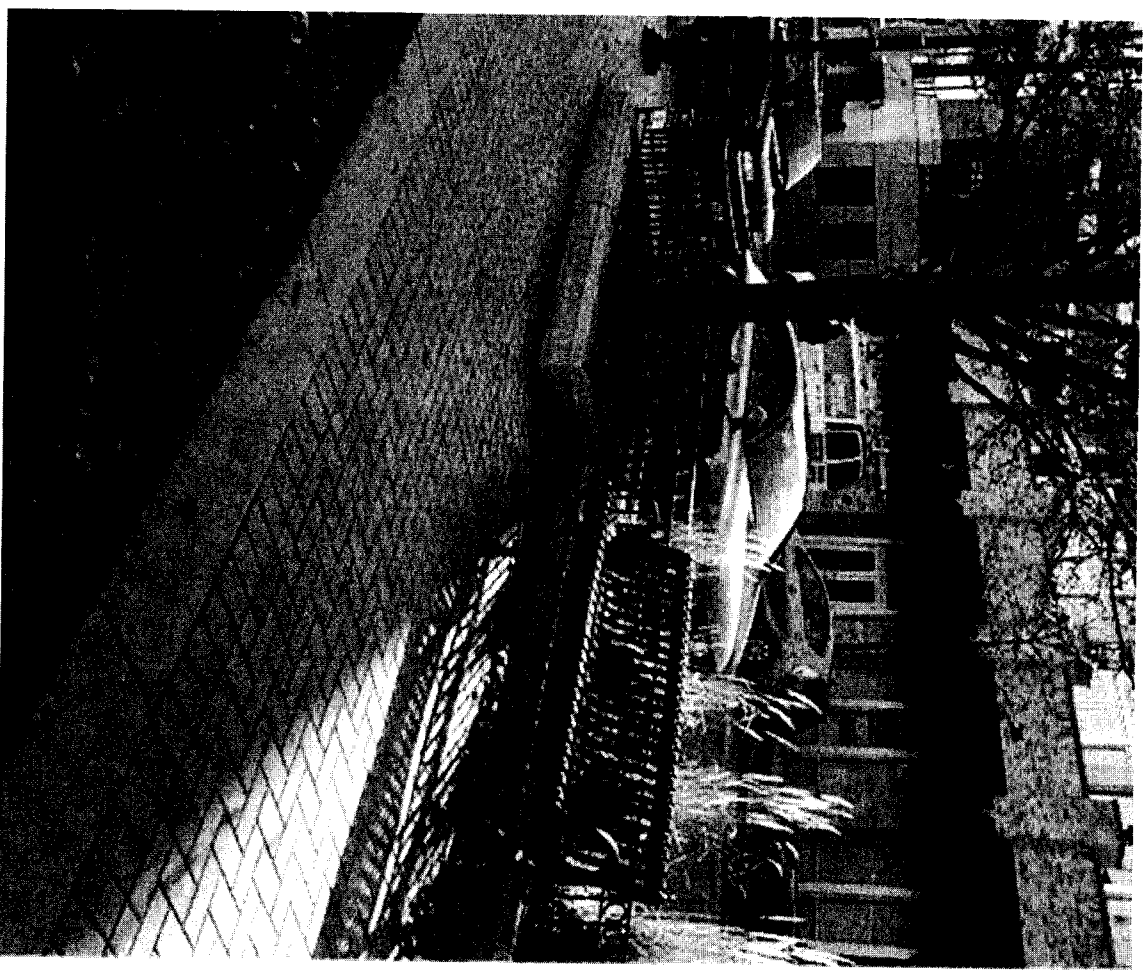
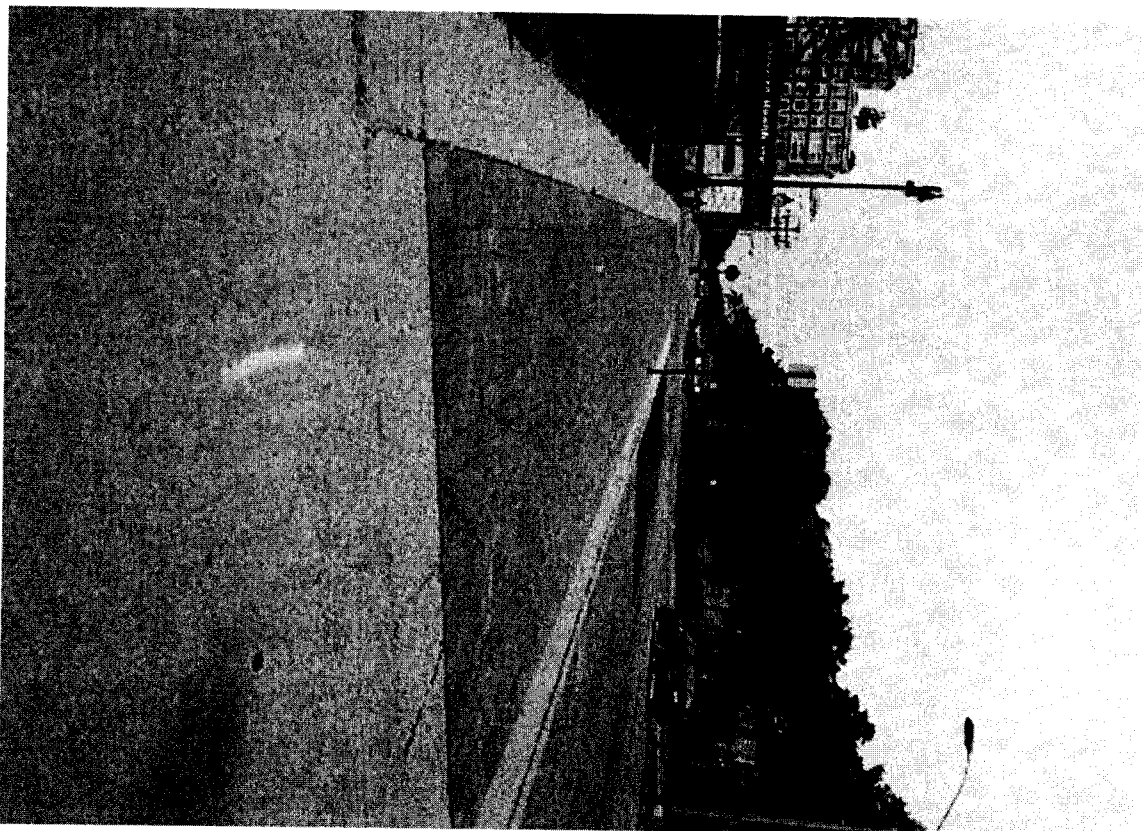


VAH existing conditions





VAH existing conditions



Findings

Village of Arlington Heights walkthrough

PROS:

- The existing VAH streetscape design is economical with a balance of pavers and concrete.
- Aesthetically pleasing.
- Brick design is uniformly placed in the downtown from the adjacent Single Family residential neighborhoods.
- Differentiates the downtown from the adjacent Single Family residential neighborhoods.
- Lasted 30 years and brick crosswalks have held up well.

CONS:

- Street trees in tree grates are a problem as trees mature.
- Concrete pavers lose their color.
- Concrete settling occurs when pavers are placed on aggregate subgrade.
- Differential settling occurs when pavers are placed on aggregate subgrade.
- Patching with either pavers or concrete has aesthetic challenges.
- Current ADA requirements are difficult to comply with using materials other than concrete.
- Inconsistency in quality and duration of concrete.

Northbrook

- Concrete pavers on concrete base

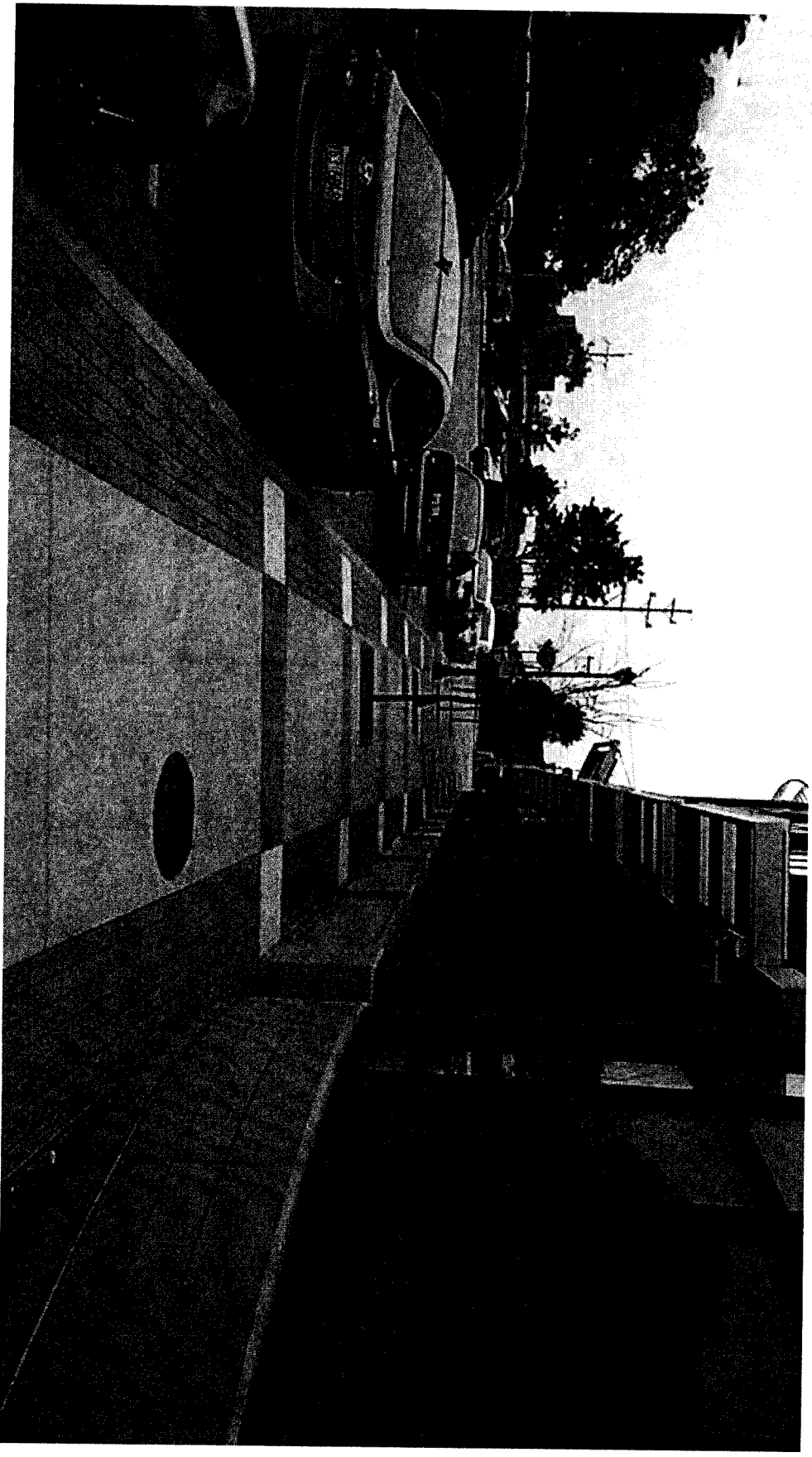
25 years



Northbrook

- Concrete pavers on concrete base

25 years



Section - Concrete pavers on concrete base - Northbrook

Notes:

1. FIRST POUR MINIMUM PRIOR
2. DRIVE APPROX ALL SHALL BE

4" THICK 'TINTED' CONCRETE PAVING



Observations:

PROS:

- Intersection and crosswalks held up well.
- Concrete field with paver banding (used sparingly) provided a well maintained appearance.
- Darker colored pavers hide vehicle tire markings and staining.
- Pavers at back of curb did not settle (most likely pinned subbase to curb).
- 2' x 2' precast concrete pavers offered less possibility of differential settling between them as the layout has fewer joints than smaller sized pavers.

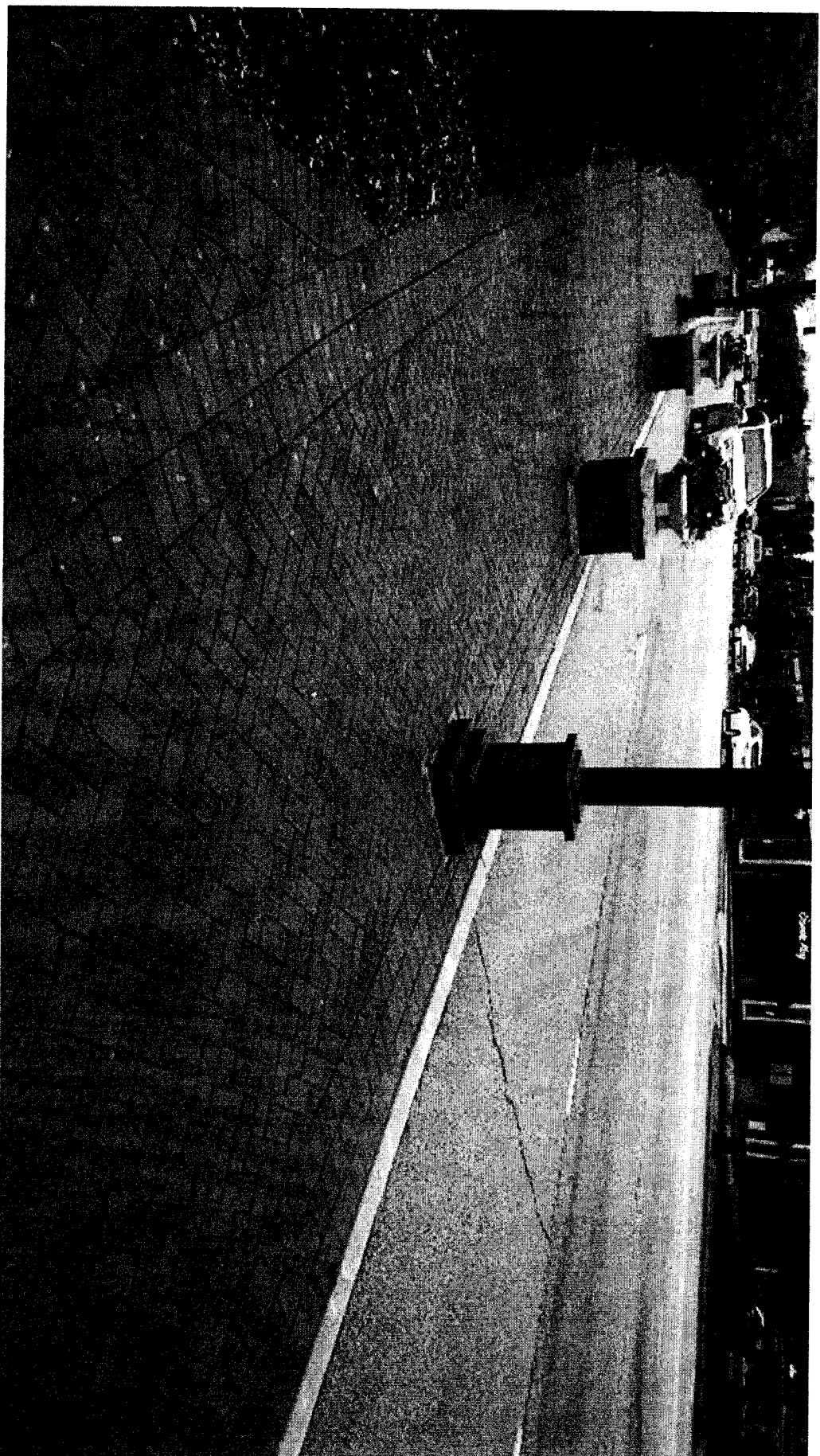
CONS:

- Many different paving materials and paver sizes are used.
- Metal rails in middle concrete planter curb rusting and caused concrete planter curb to deteriorate.
- Plastic edging at perimeter of pavers was unsuccessful at retaining pavers.
- Intersection and crosswalk pavers had surface damage from snow plowing.
- Concrete pavers lose their color intensity.

Deerfield

12 years

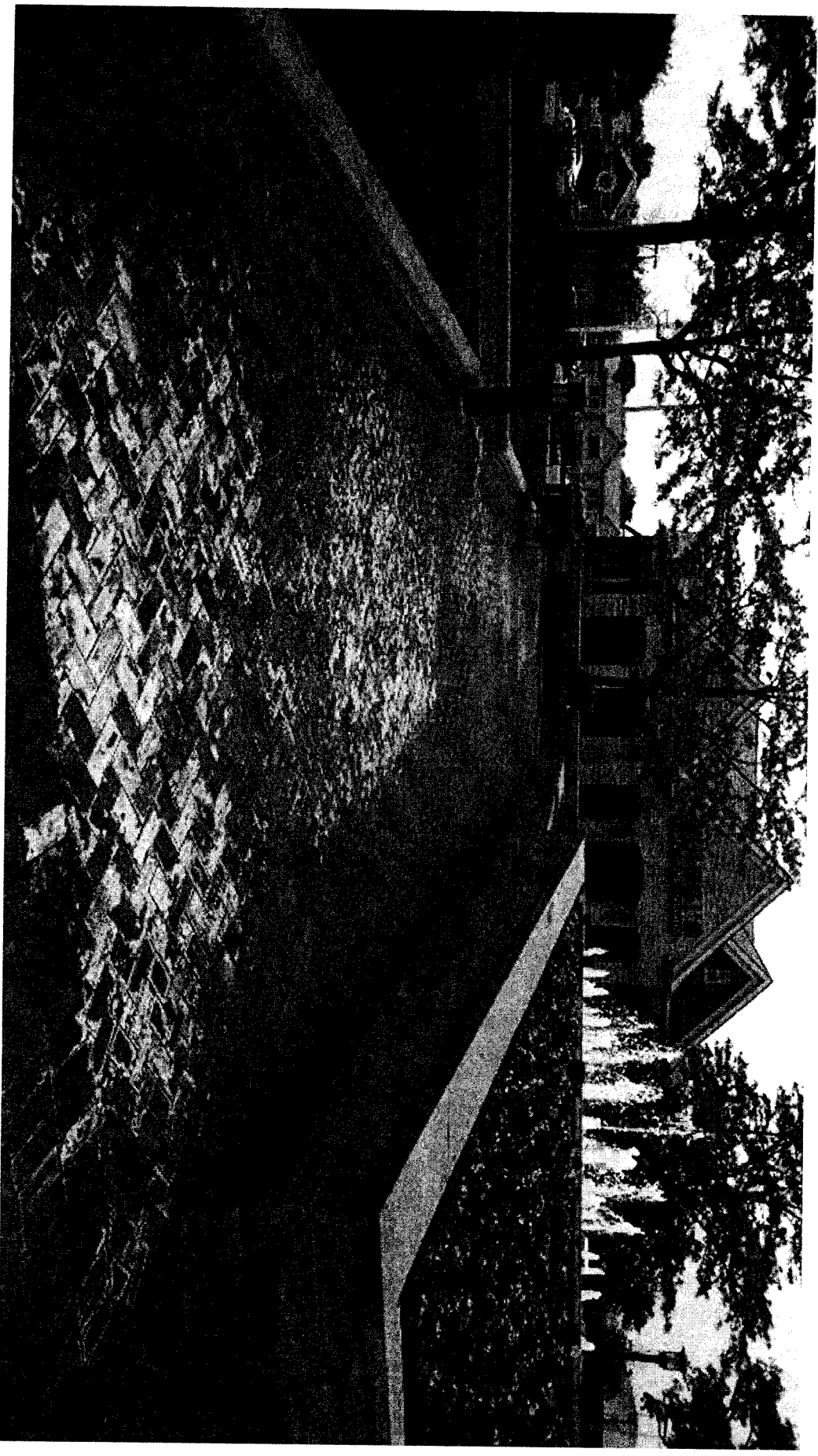
- Clay pavers on compacted aggregate base



Deerfield

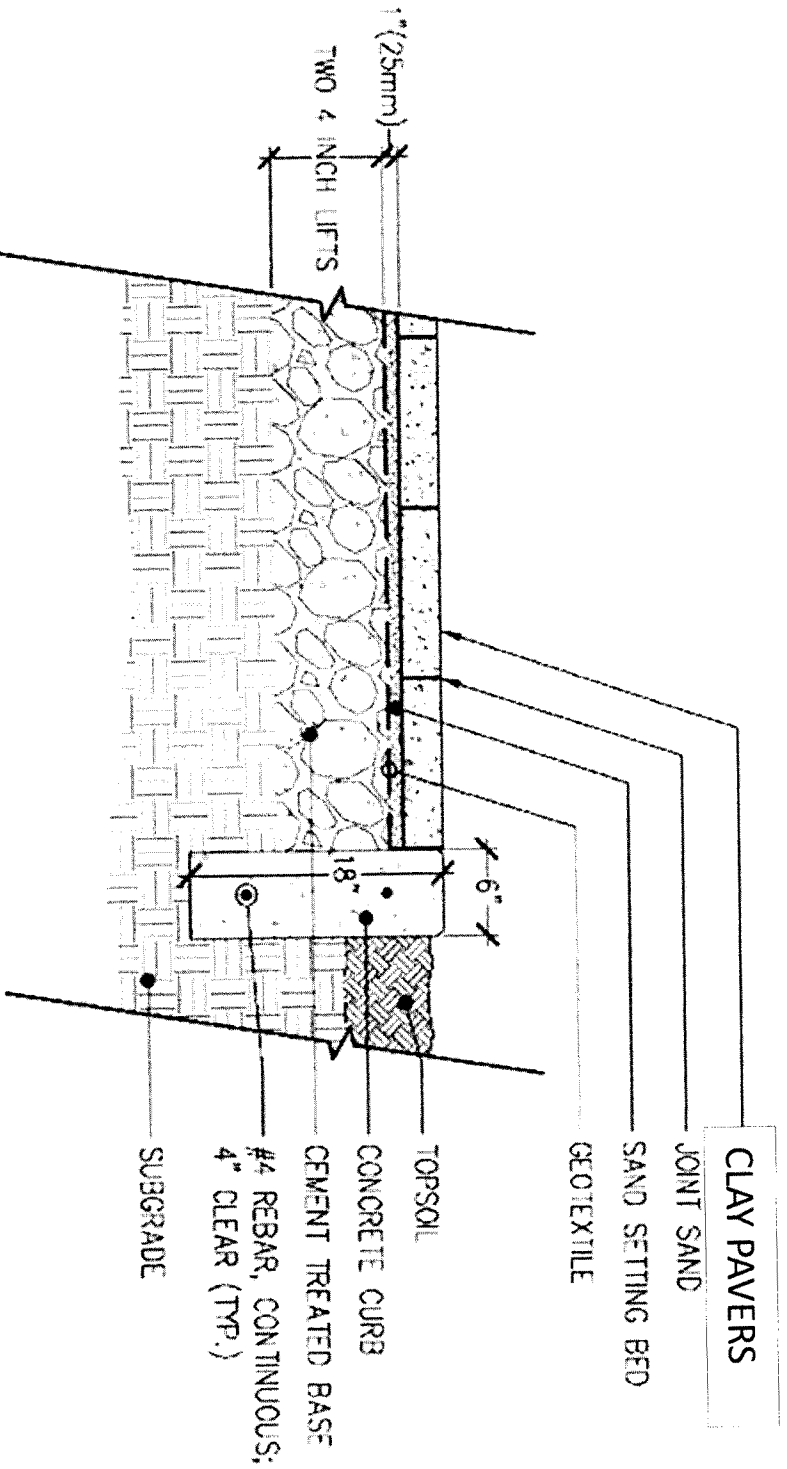
12 years

- Clay pavers on compacted aggregate base



Deerfield

- Clay pavers on aggregate base - Section at curb



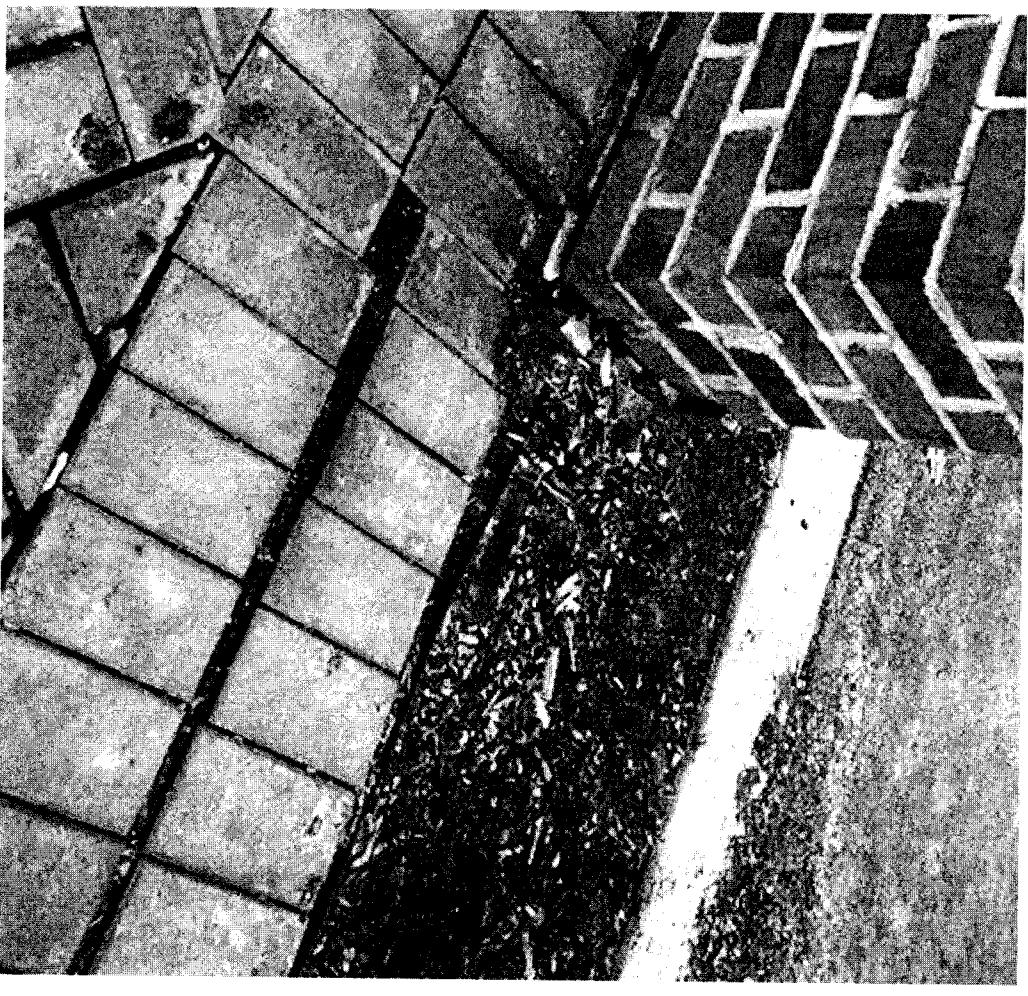
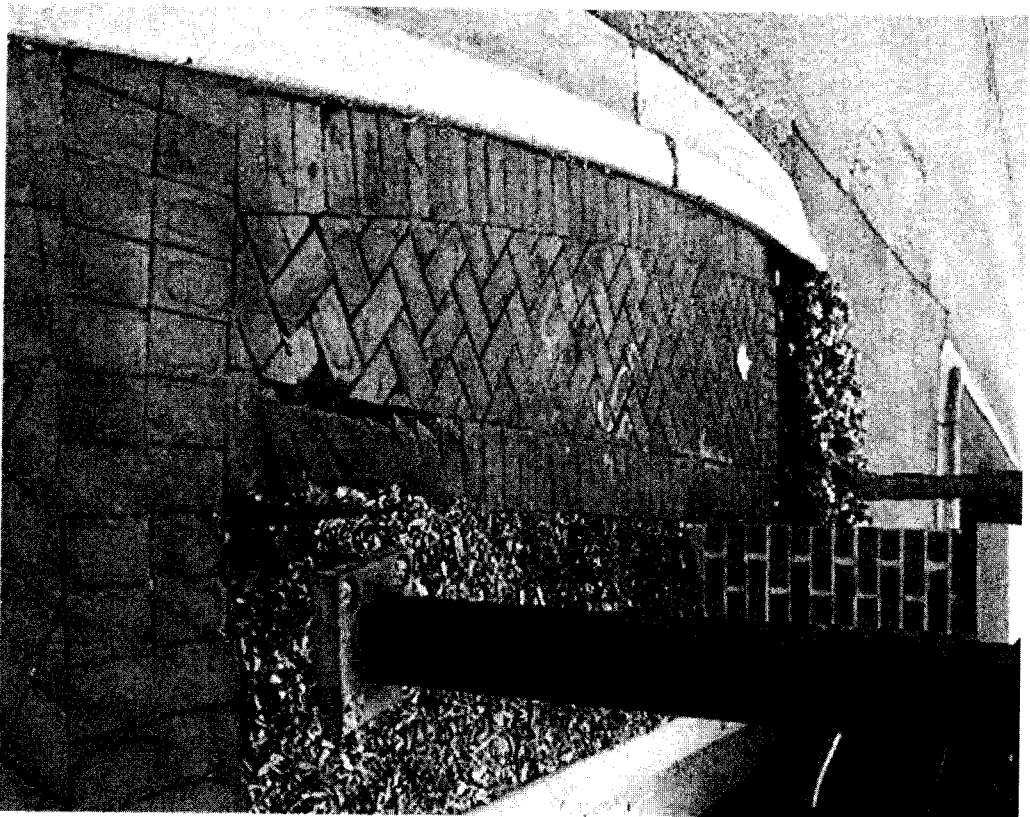
CROSS SECTION

SCALE 1"=1'-0"

Deerfield

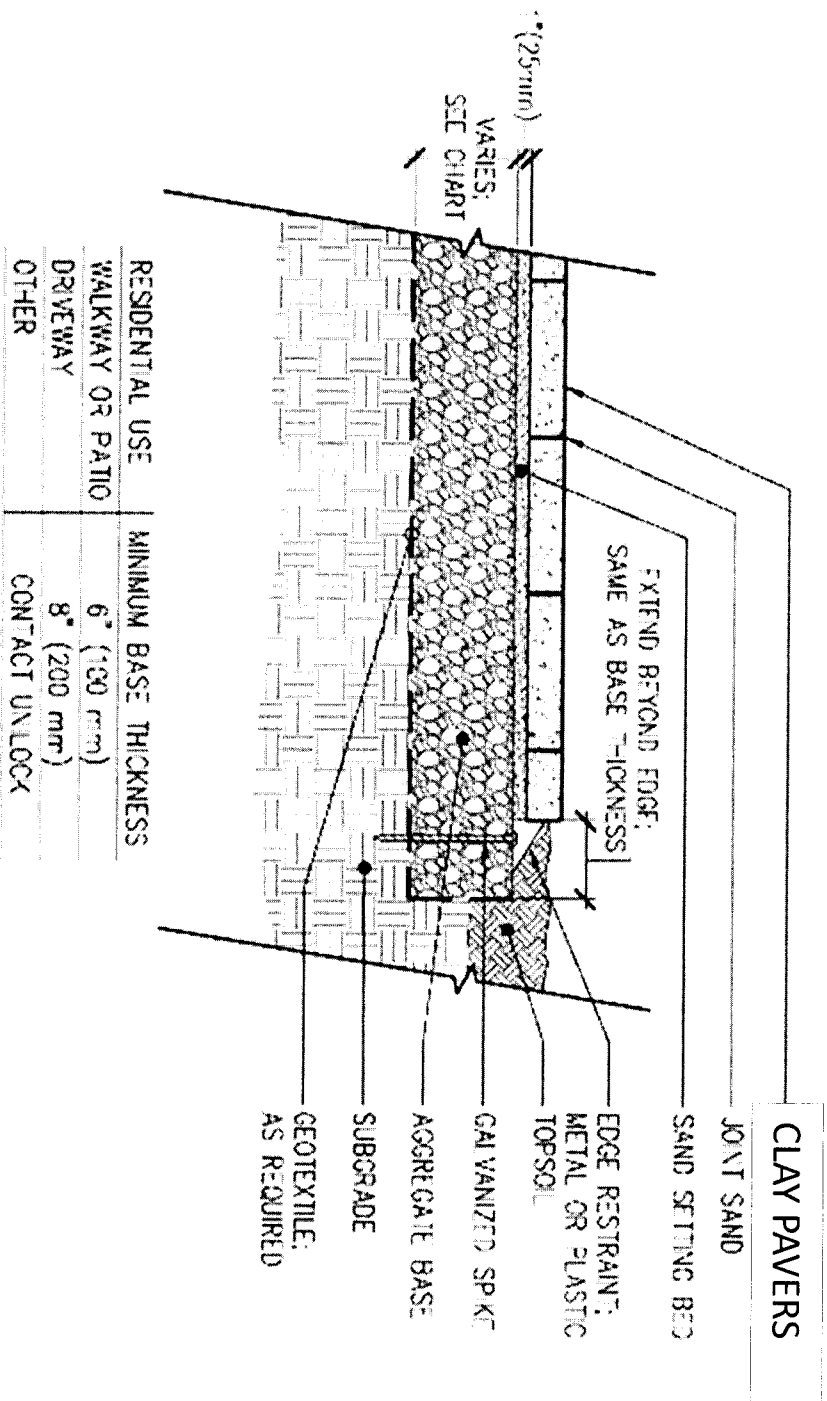
- Clay pavers on compacted aggregate base

12 years



Deerfield

- Clay pavers on aggregate base - Section at edge restraint



CROSS SECTION

SCALE 1"=1'-0"

Observations:

PROS:

- Clay pavers hold the color well.
- Sidewalks are predominantly pavers curb to building, creating a pedestrian friendly character.
- Bollard planters along roadway provided a sense of security for pedestrians.

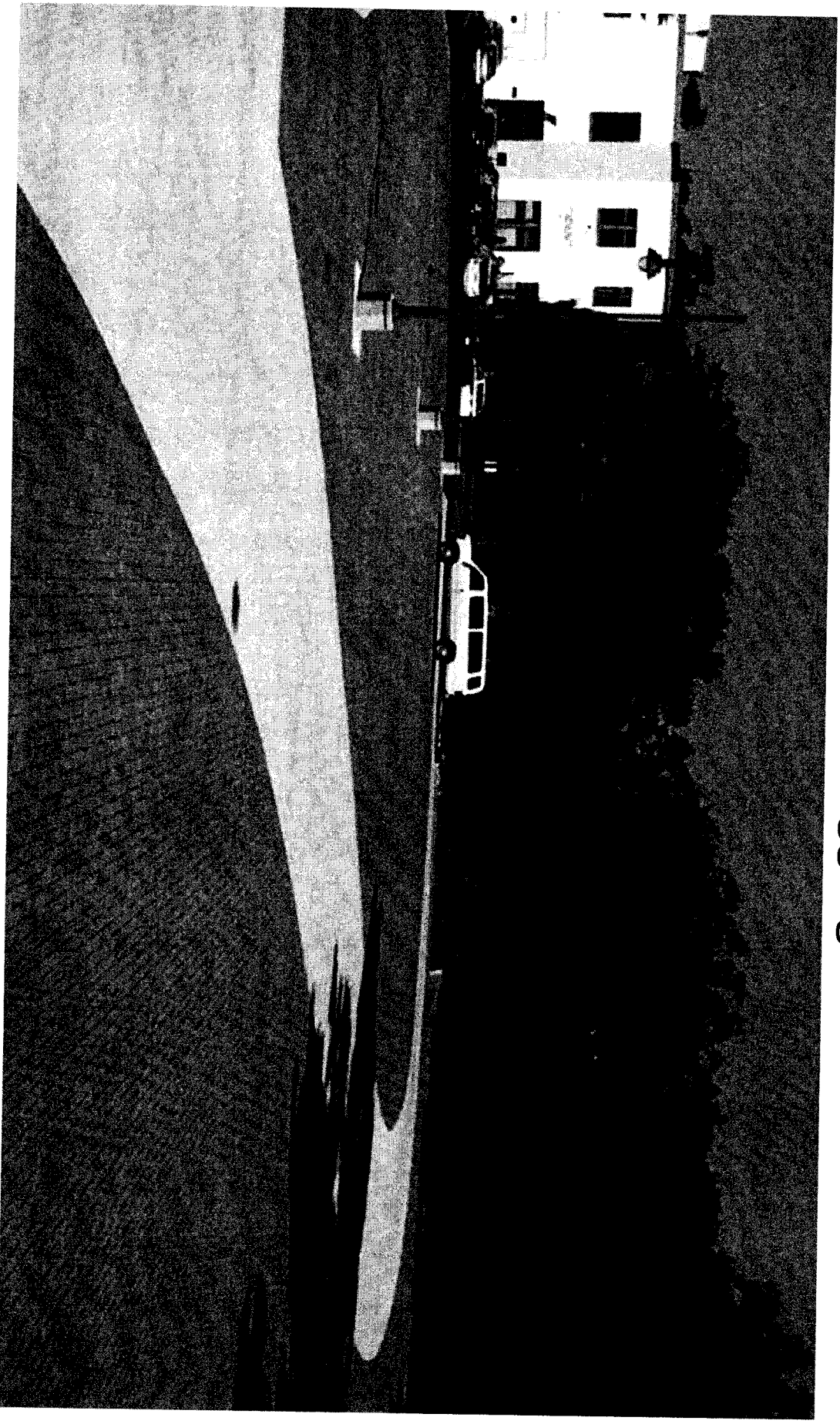
CONS:

- Efflorescence on clay pavers – deicing material the suspected cause.
- Significant differential settling of pavers on aggregate base.
- Plastic edging restraint unsuccessful at retaining pavers.

Ravinia

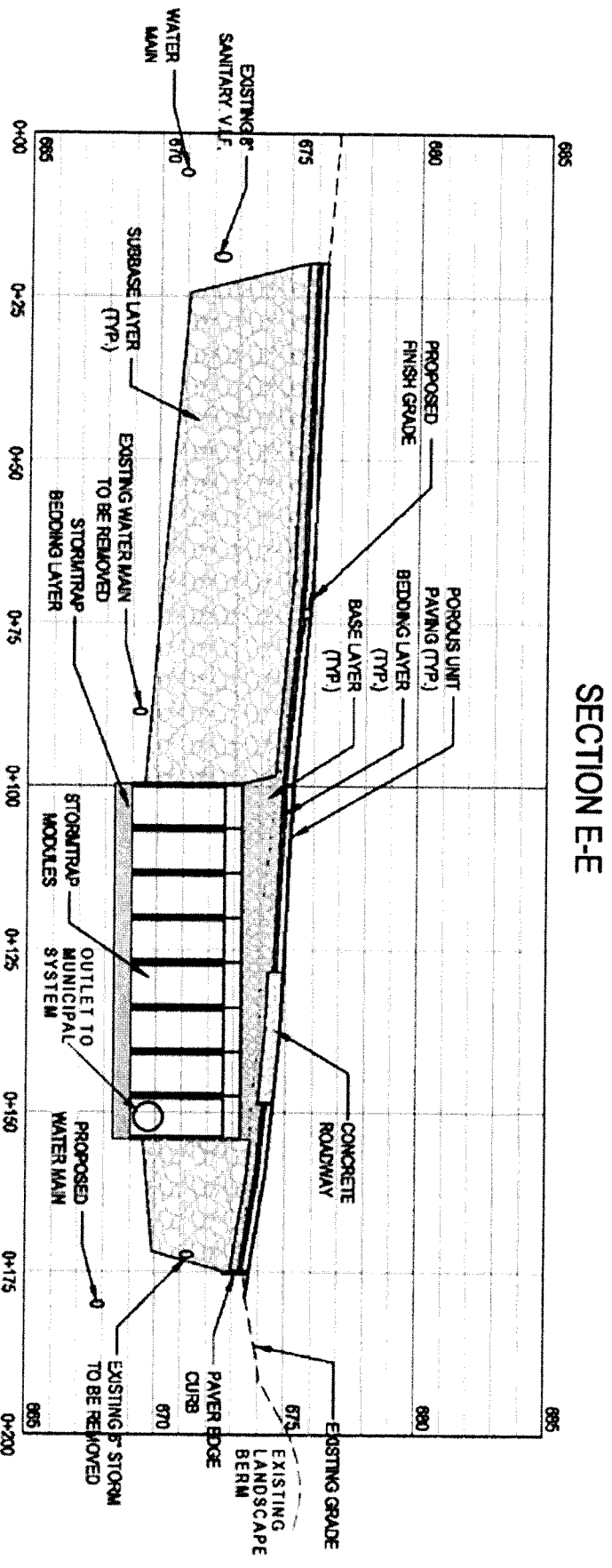
7 years

- Permeable concrete pavers on aggregate base.



Ravinia

- Permeable concrete pavers on aggregate base – Section



5

SECTION E-E

SCALE: 1" = 20' HORIZONTAL, 1" = 5' VERTICAL

Observations:

PROS:

- Concrete 'Premier Finish' pavers hold the color well – better than non-face mix pavers.
- The surface of the 'face mix' pavers hold up against snow removal equipment (and retain color better than non face mix concrete pavers.
- Permeable pavers with granite joints – narrow joint (1/4" wide) – exclusive to Unilock Eco-Priora paver.
- Darker colored 'mottled' pavers do not show vehicle tire marking or oil spot/stains.
- Useful solution for storm water detention in limited space.

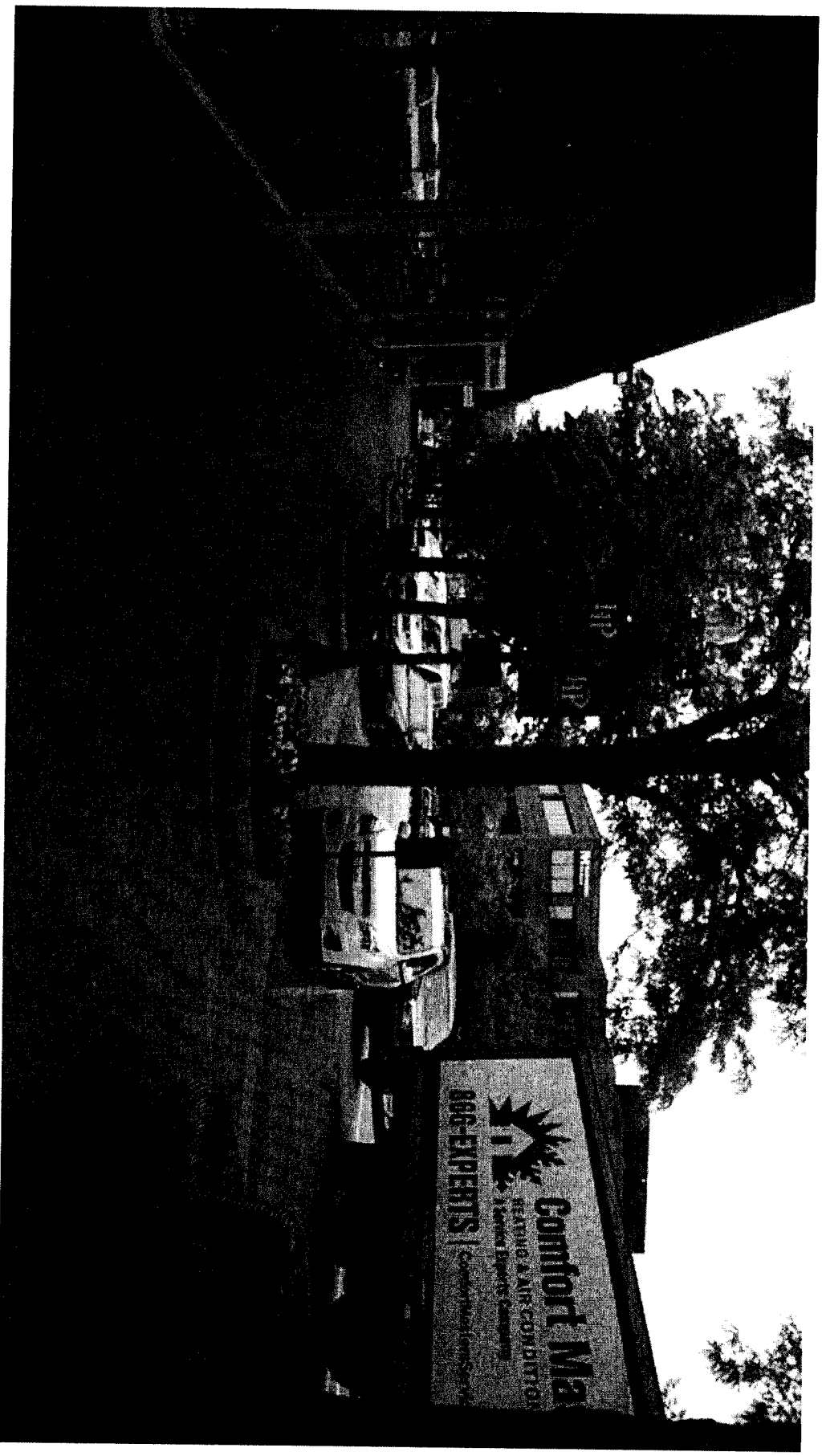
CONS:

- Requires deeper excavation than standard paving for subbase and drainage systems, which may not be feasible in all urban streetscape applications.
- When used for parking areas as retention, Storm Trap systems and enhanced sub base cost may be not be as economical as other best management practice solutions.

Highland Park

30 years

- Clay pavers on concrete base (bitumen setting bed)



Highland Park

30 years

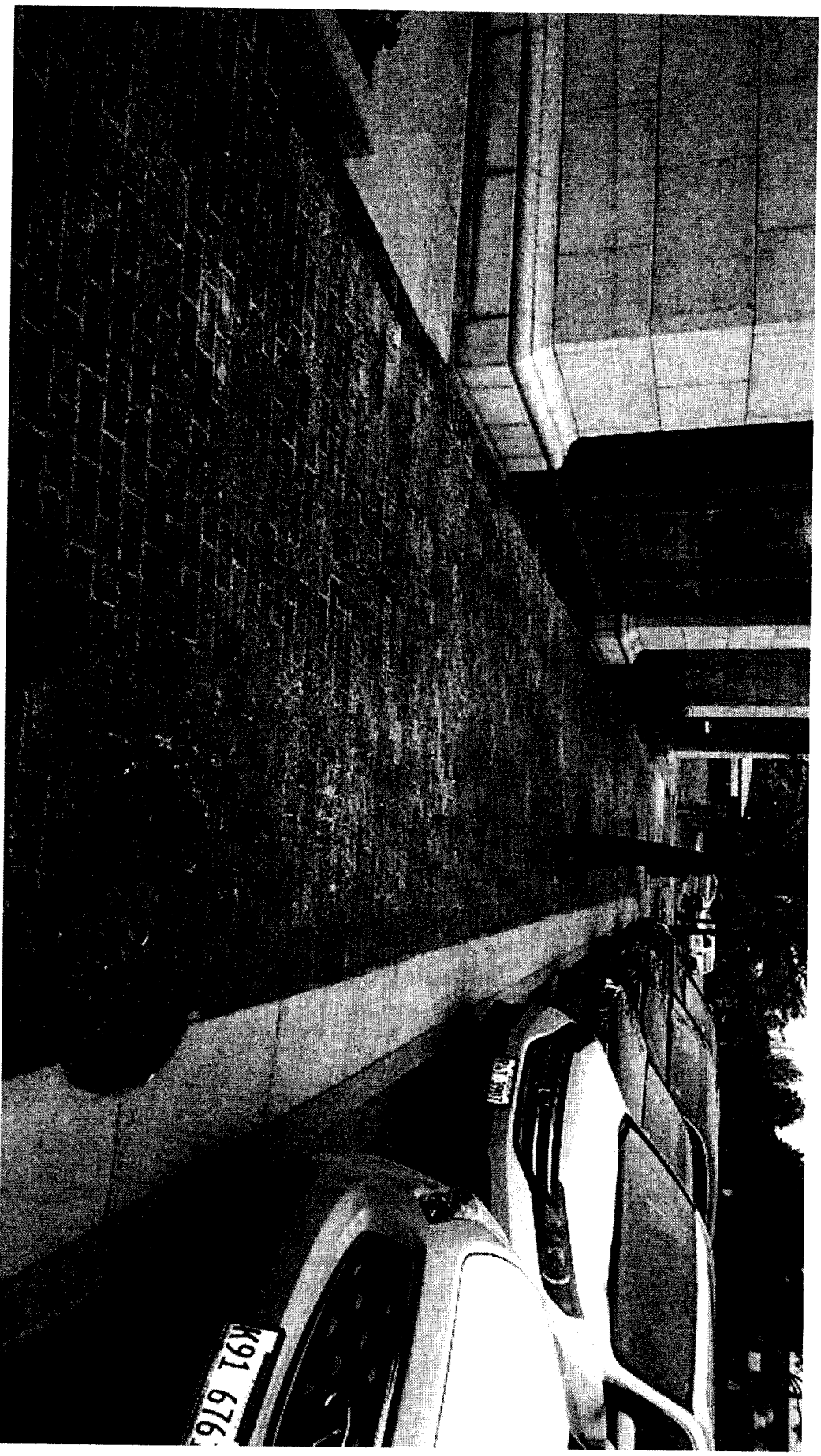
- Clay pavers on concrete base (bitumen setting bed)



Highland Park

30 years

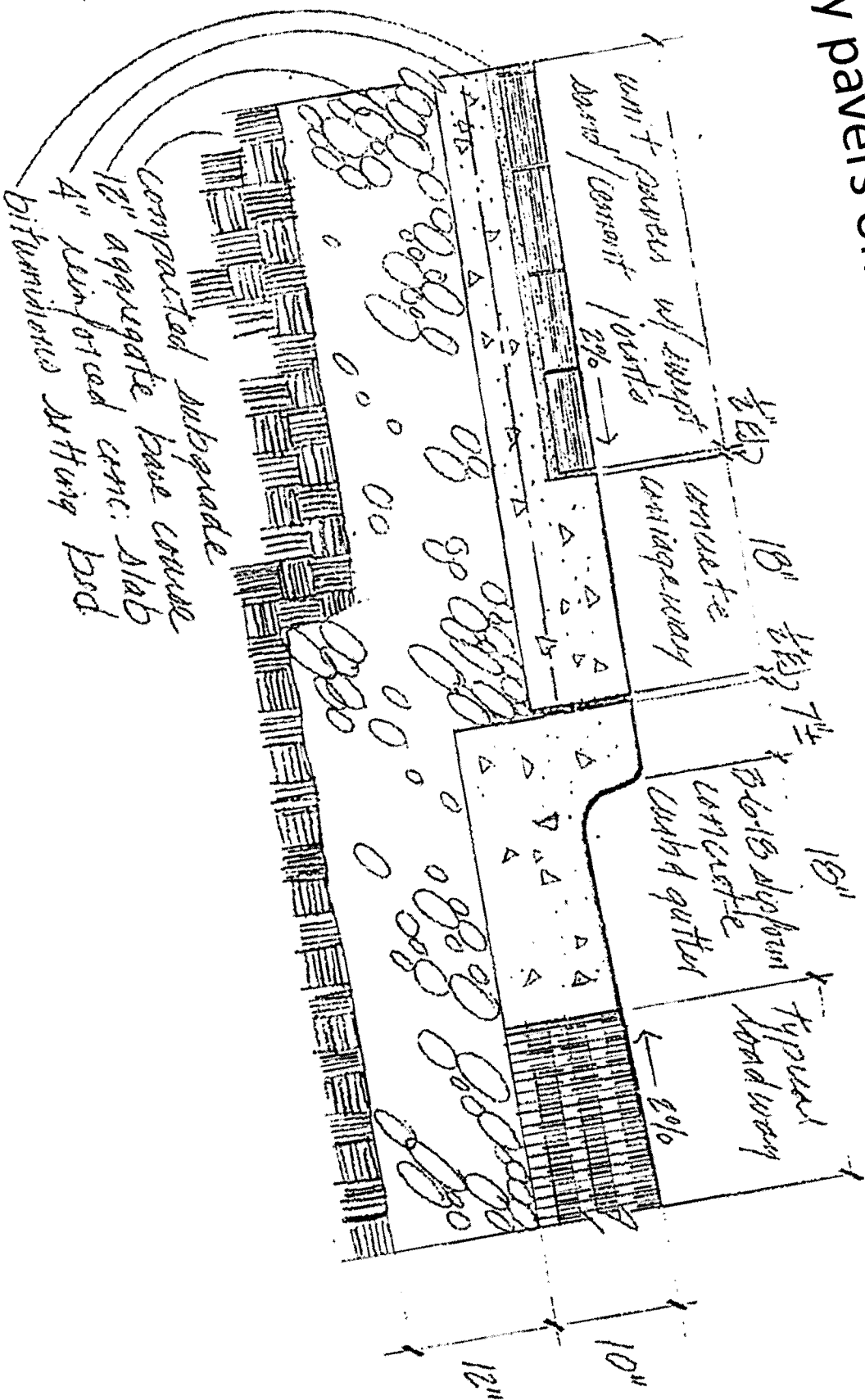
- Clay pavers on concrete base (bitumen setting bed)



Tour #1

Highland Park

- Clay pavers on concrete base (bitumen) - Section



TOUR #1 – HIGHLAND PARK

Observations:

PROS:

- Clay pavers hold the color well.
- Unique use of paver patterns.
- Brick pavers are in excellent condition.
- Minimal differential settling.
- Mature trees are not causing a problem in sidewalk or planters.

CONS:

- Stamped asphalt crosswalks have deteriorated considerably.
- Efflorescence observed on walkways.

Highwood

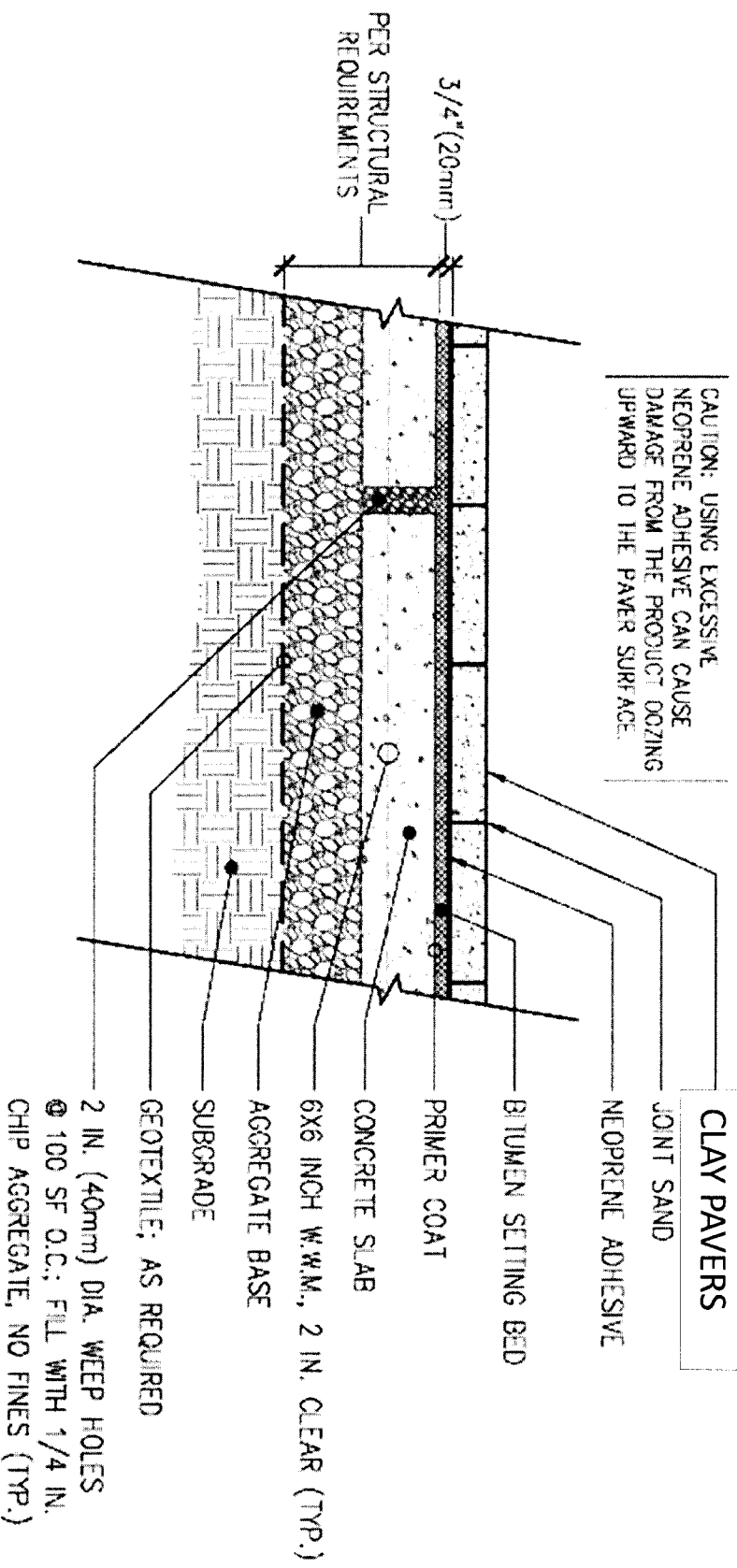
11 years

- Clay pavers on concrete base (bitumen setting bed)



Highwood

- Clay pavers on concrete base w/bitumen – Section



UNIT PAVER CROSS SECTION(LIGHT DUTY)

SCALE 1"=1'-0"

Observations:

PROS:

- Straight forward simple design approach that places pavers out of the pedestrian travel path.
- Clay pavers hold the color well.
- Pavers are in excellent shape.
- Minimal differential settling due to concrete subbase and bitumen setting bed installation.

CONS:

- Problem with mature tree growth and tree grates – tree grates compromise tree health through bark damage as trunk diameter increases.

Libertyville

- Concrete pavers on aggregate base

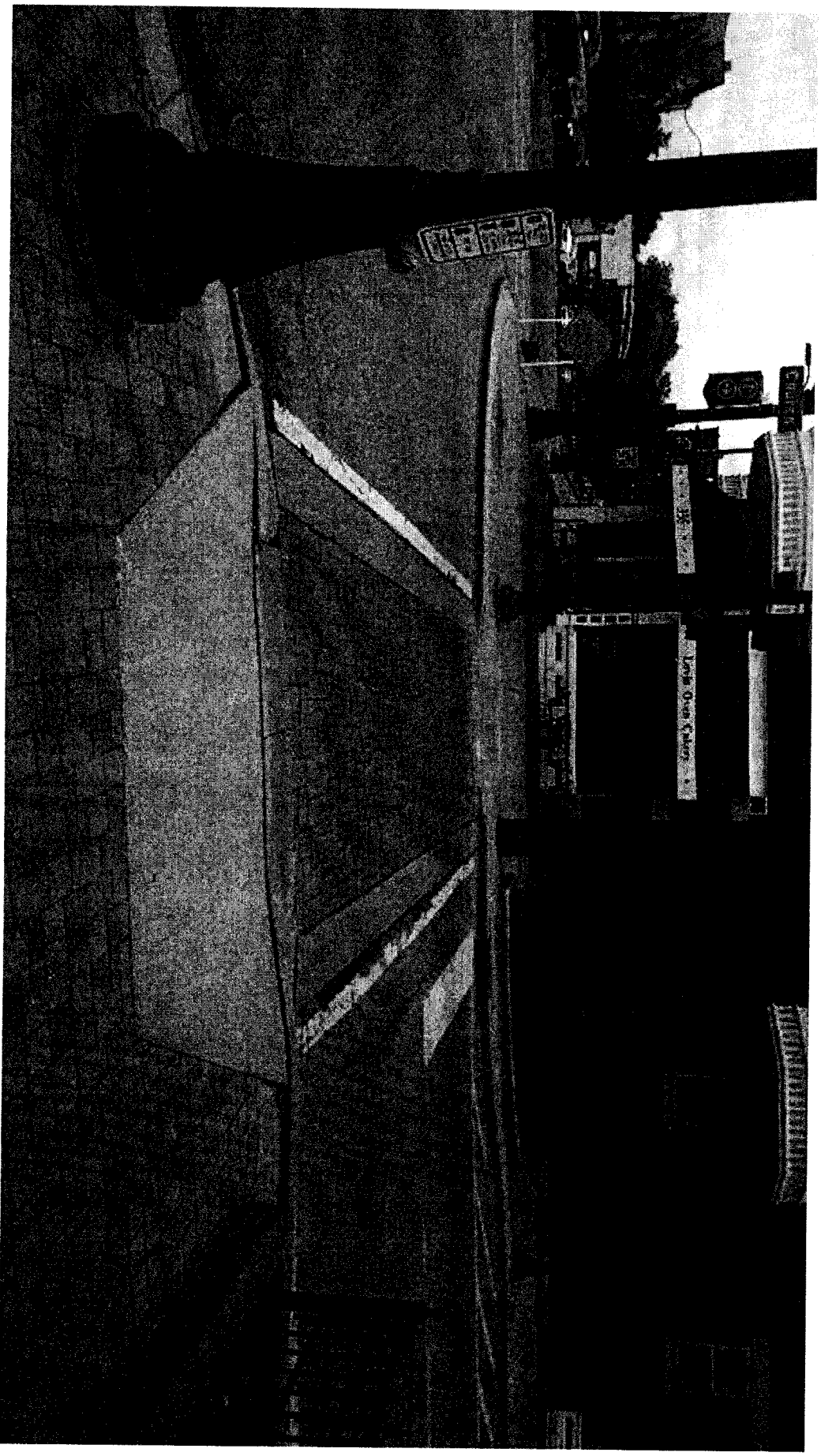
30 years



Libertyville

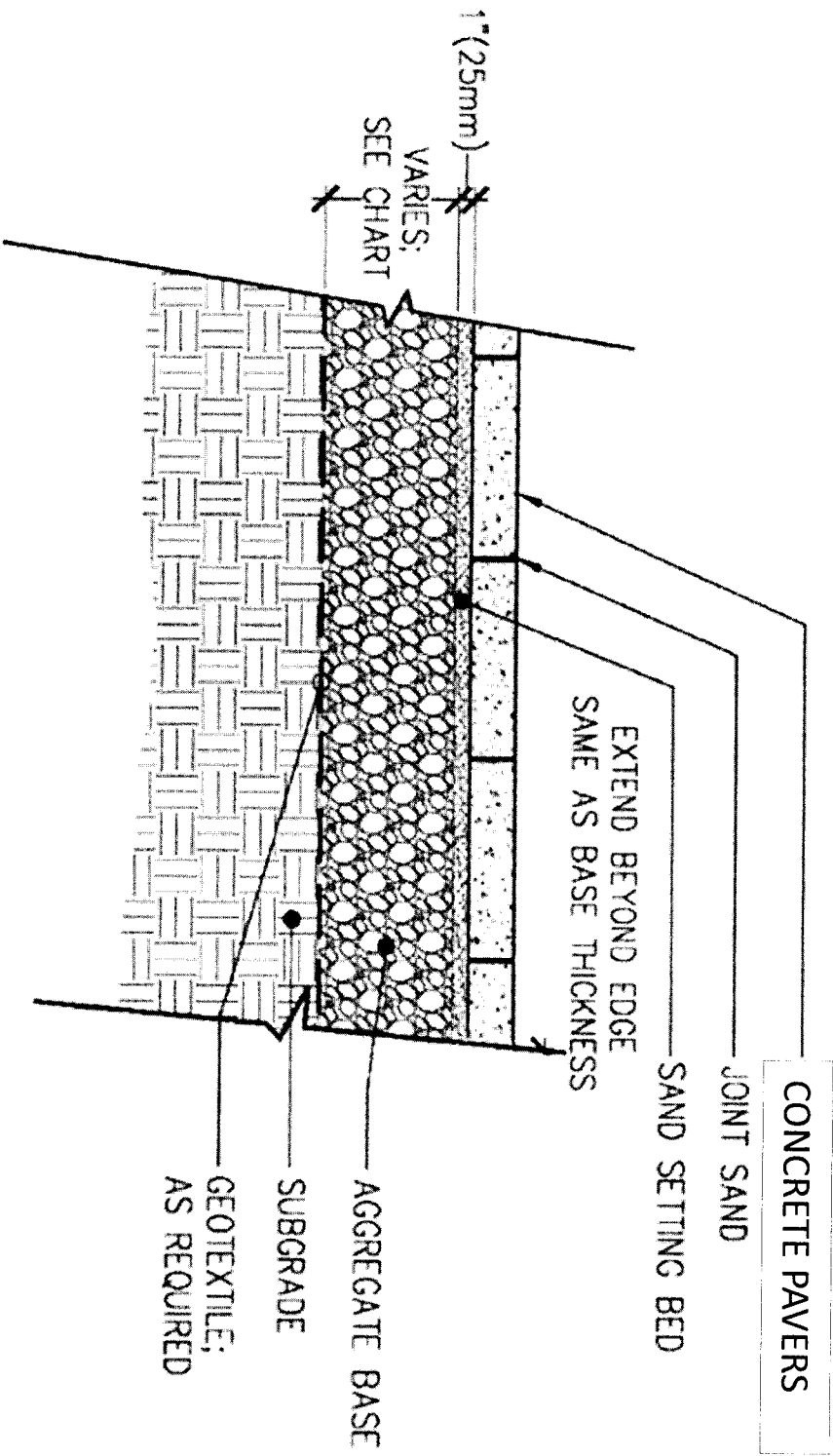
- Concrete pavers on concrete base

30 years



Libertyville

- Concrete pavers on aggregate base - Section



RESIDENTIAL USE	MINIMUM BASE THICKNESS
WALKWAY OR PATIO	6" (100 mm)
DRIVEWAY	8" (200 mm)

TOUR #1 – LIBERTYVILLE

Observations:

PROS:

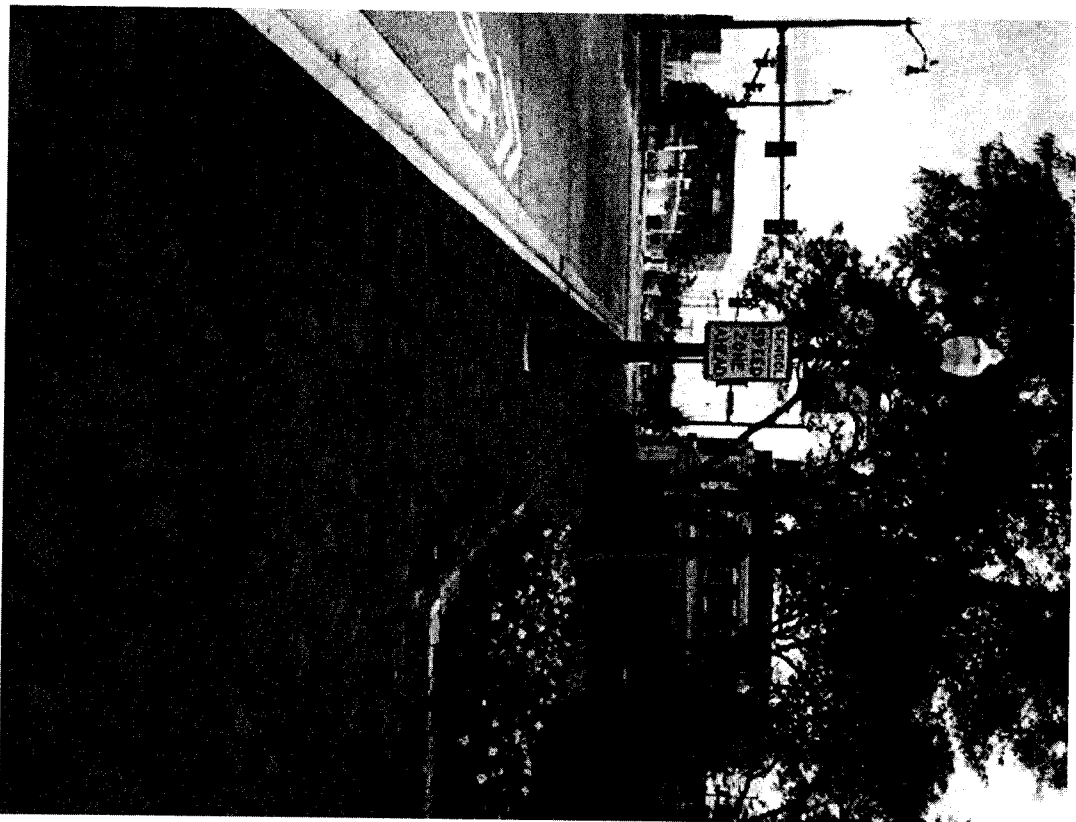
- Pedestrian pathway is primarily concrete at commercial building streetscape with pavers used as an accent.
- Intersection and crosswalks held up well.
- Intersection are of concrete.
- ADA ramps were used on walk primarily at intersections were concrete.
- Concrete pavers were used between intersections 'bands' provide logical limit for repairs.
- the sidewalks between concrete paving 'bands' provide logical limit for repairs.
- Frequent lateral concrete paving

CONS:

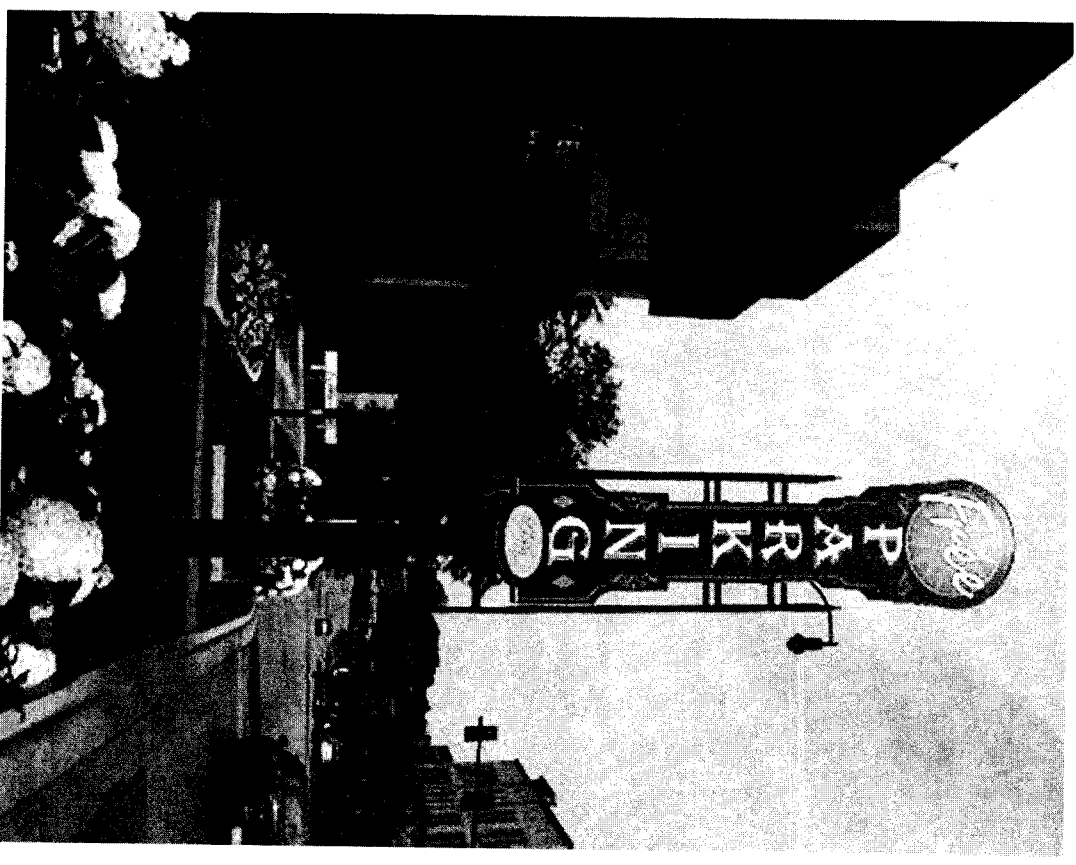
- Concrete pavers lose their color intensity.

Elgin

- Clay pavers on concrete base



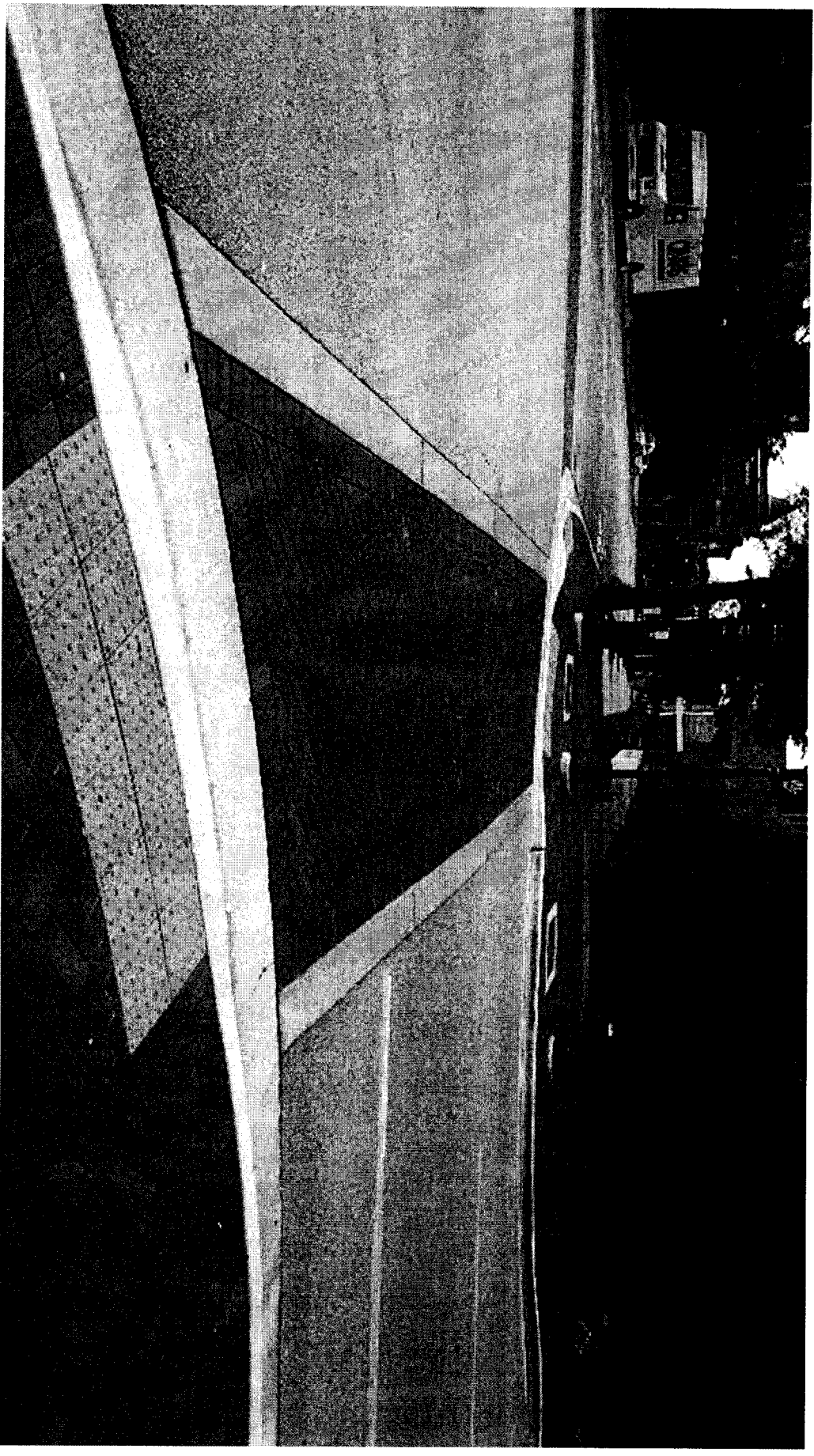
8 years



Elgin

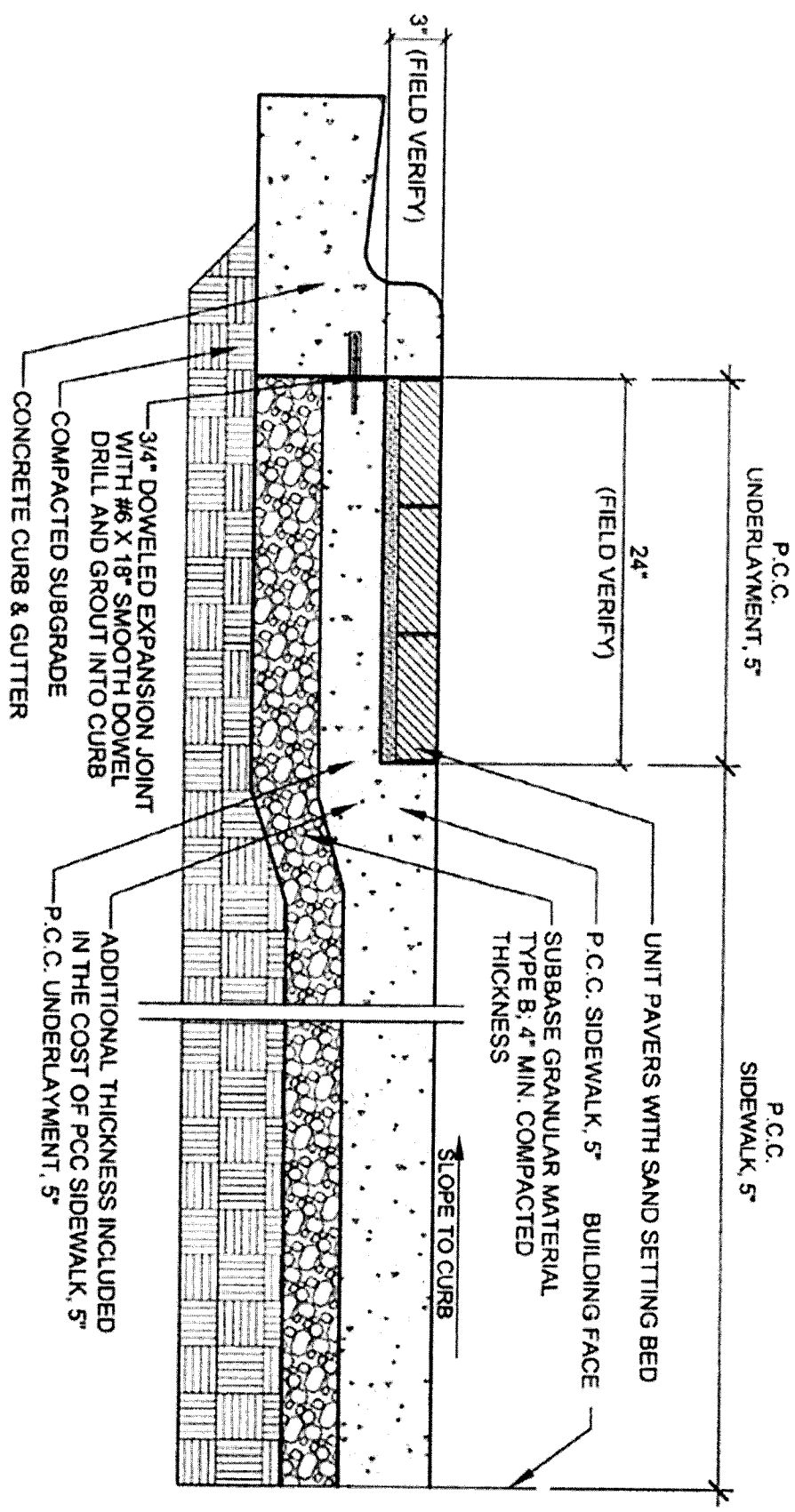
- Clay pavers on concrete base

8 years



Elgin

- Clay pavers on concrete base - Section



Observations:

PROS:

- Brick paver location focused on intersection – economical approach.
- Some minor efflorescence on crosswalks.
- Clay pavers overall look nice.
- 30" saw cutting joints on concrete sidewalks a clean look.
- No differential settling apparent.
- Planter fences bolted to back of the planter walls and no cracking of planter curb.
- Unique graphic sign at parking deck.
- Intersection and crosswalks held up well.
- Dark colored pavers hide staining from vehicles.
- Planter curb is precast tinted concrete and holding up well.
- Graphic wayfinding/signage is well designed.

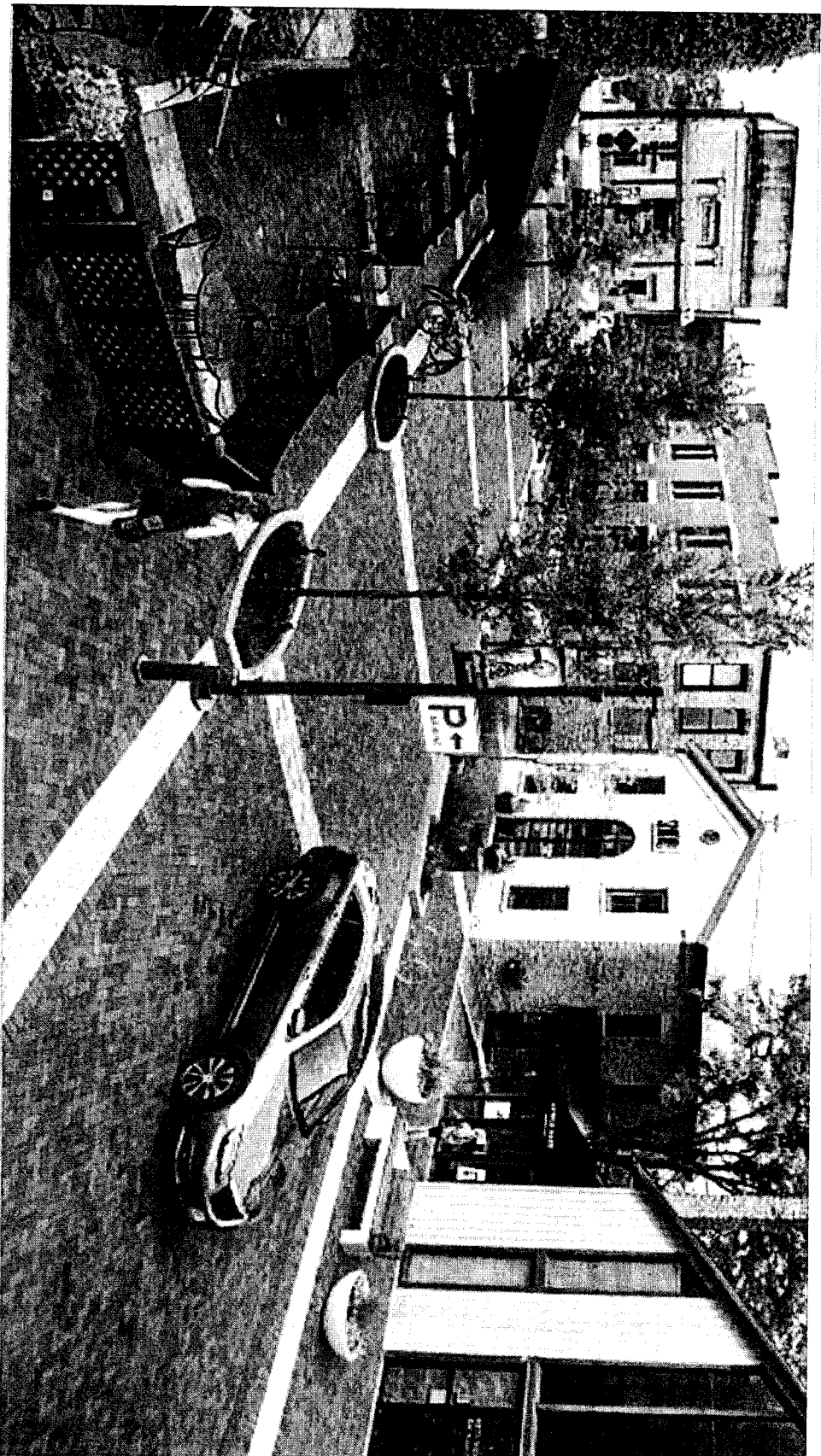
CONS:

- Brick pavers on crosswalks show abrasion from snow removal.
- Problems with detailing of tree grate – safety issue.
- Clay brick paving at driveway apron discolored from vehicle tires.

Batavia - Woonerf

- Clay pavers on concrete base

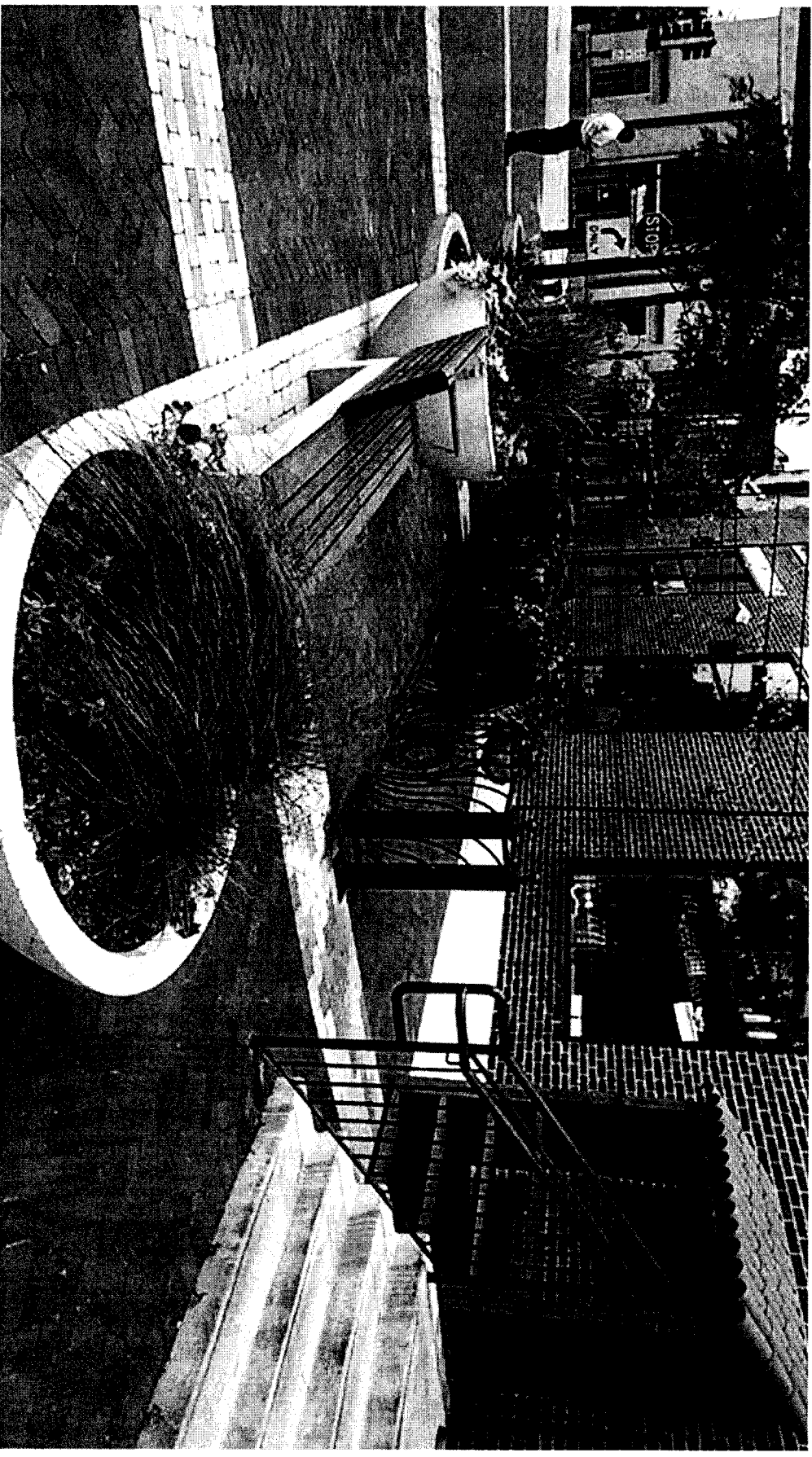
3 years



Batavia - Woonerf

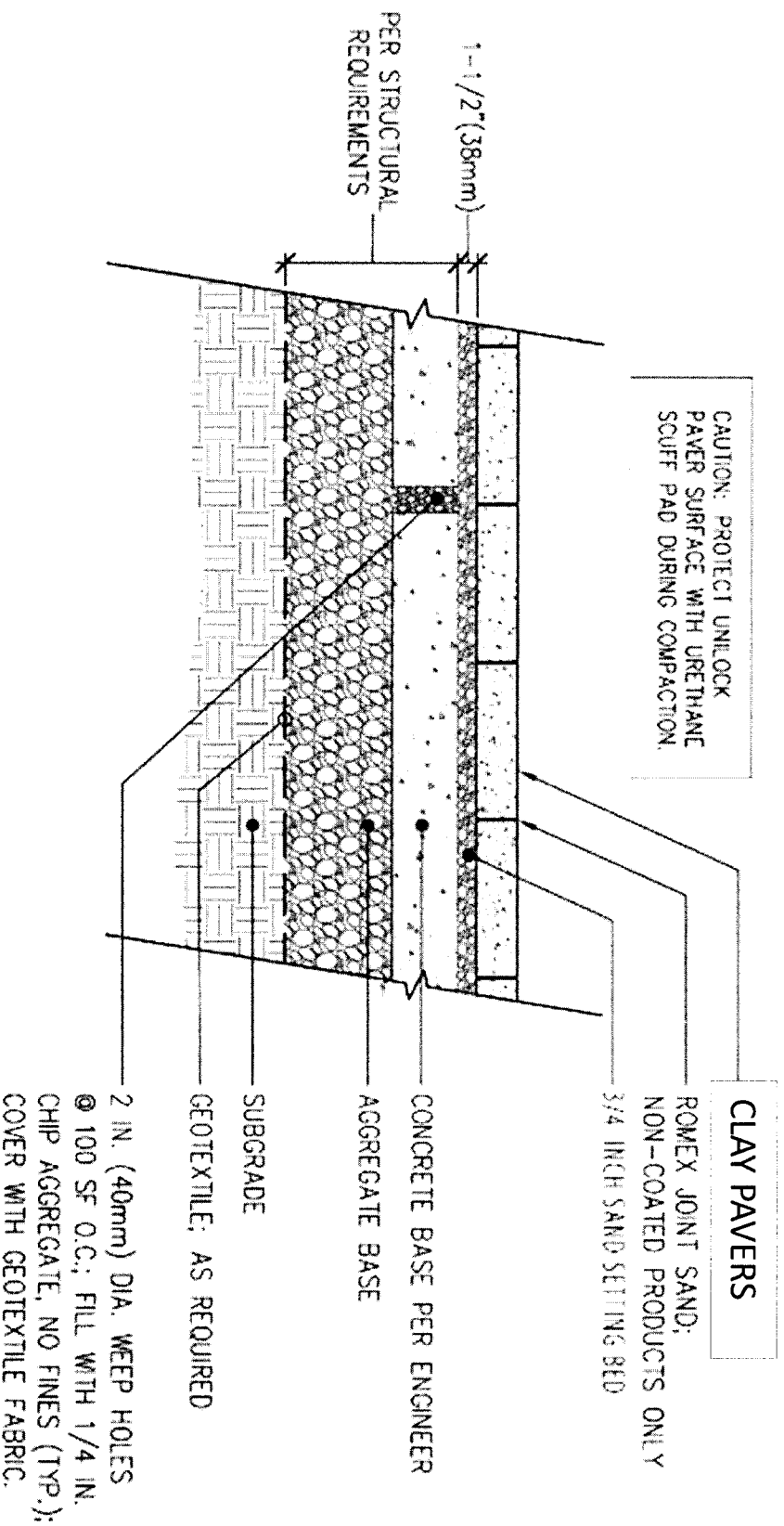
3 years

- Clay pavers on concrete base



Batavia

- Clay pavers on concrete base



Observations:

PROS:

- Very different approach to design – combining pedestrians and vehicles together.
- Woonerf (curb-less street) creates a unique streetscape character.
- Architectural gateway define the entrance and provides identity
- Permeable pavers, used along with trench drains, to solve surface drainage is unique.
- Parking garage scale and design are compatible with scale and character of streetscape.

CONS:

- Combining pedestrians and vehicles has a potential safety problem.
- Same color and type of clay pavers used on roadway and sidewalks confusing to a pedestrian/driver of a vehicle.
- Parking for vehicles unmarked and therefore not well defined.
- Many different materials used.
- Removable bollards a design and detail problem – loose – no foundation apparent.

Village of Lisle

- Brick pavers on concrete base w/tinted concrete paving

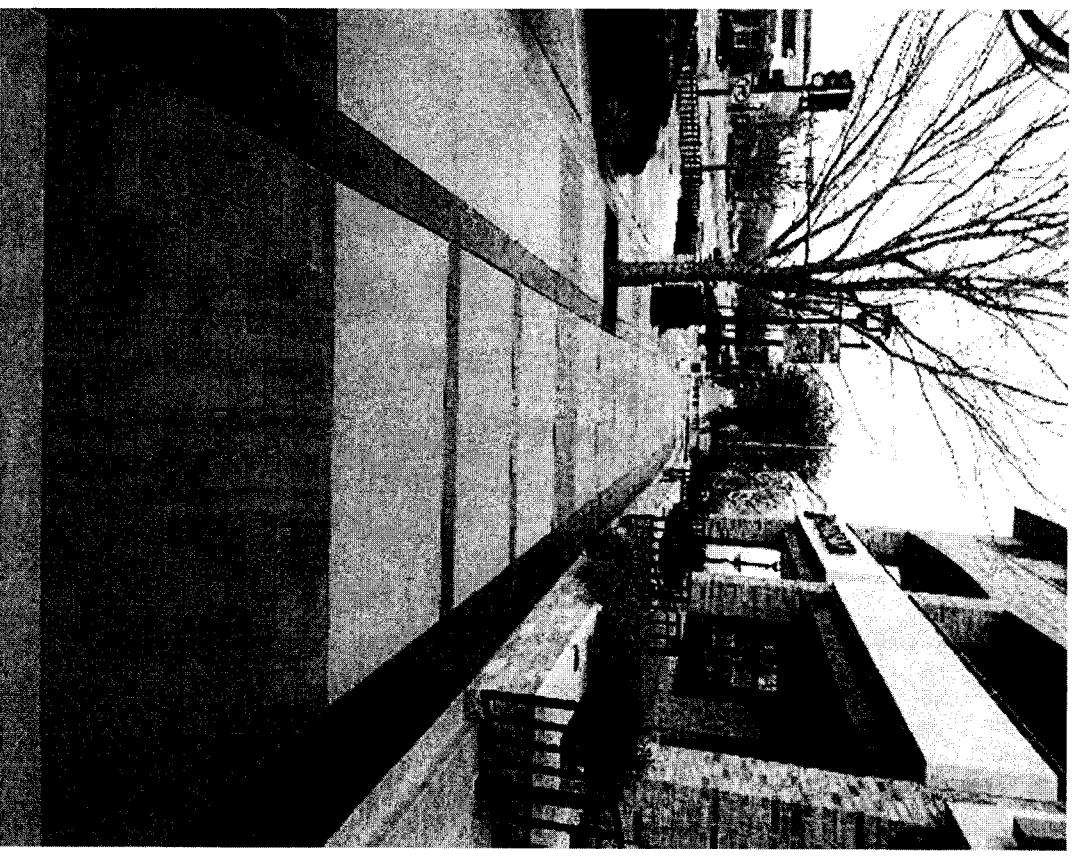
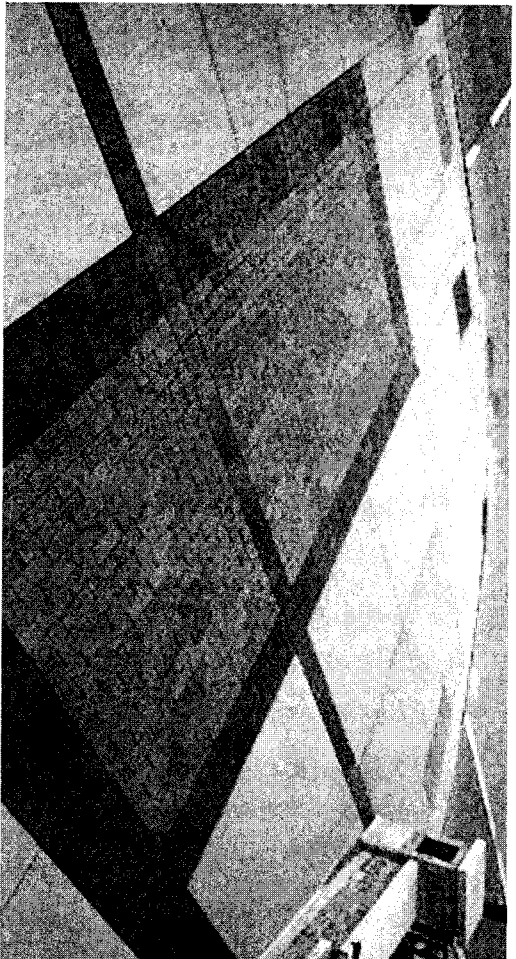
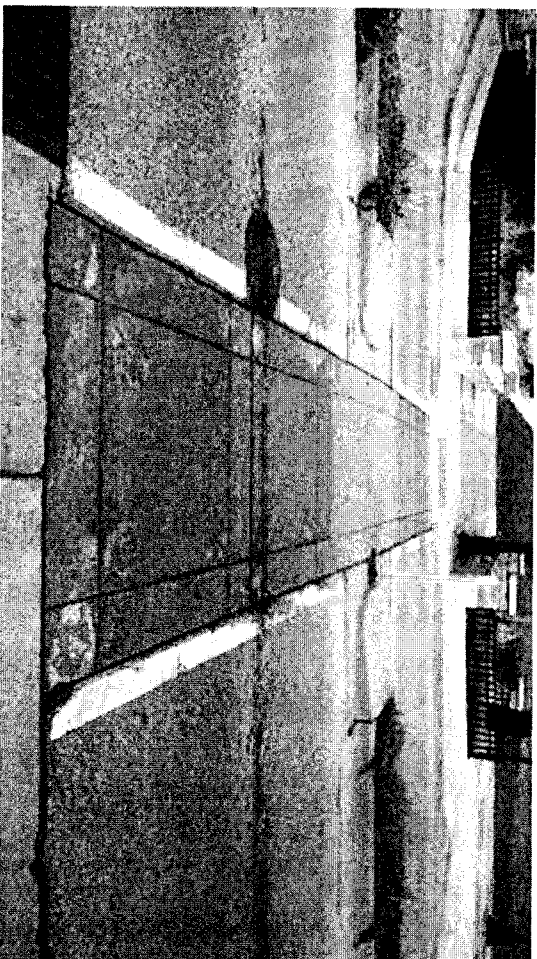
6 years



Village of Lisle

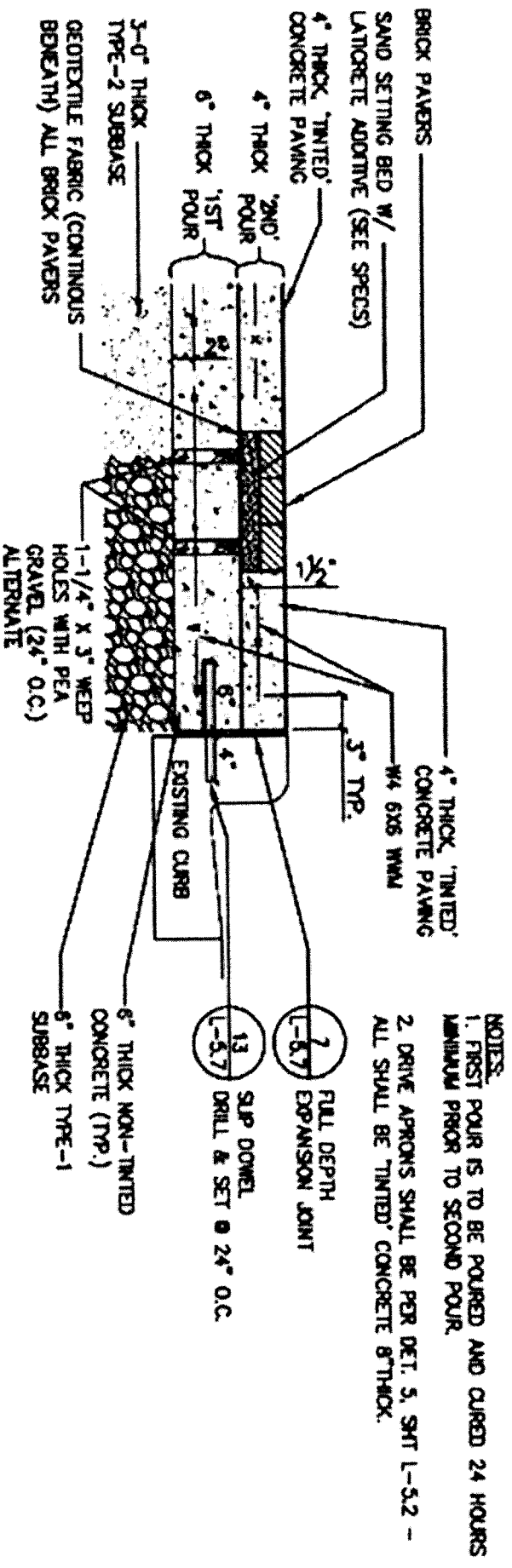
- Brick pavers on concrete base w/tinted concrete paving

6 years



Village of Lisle

- Brick pavers on concrete base - Section



Observations:

PROS:

- LISLE
- ## servations:
- PROS:**
- Tinted coloring added to concrete was unique and visually soft to view.
 - Clay pavers have held the color very nice — same paver as Highland Park.
 - Landscape of prairie perennial plant materials is appealing from maintenance and character standpoint.
 - Aluminum railings do not rust and are fastened on back of precast curb versus cast into or set in planter curbs — no cracks in curb.
 - Setting tree down 6" in tree grates and filling with peastone noted as a successful solution.
- ate paving — requiring deicing early than
- removal equipment.

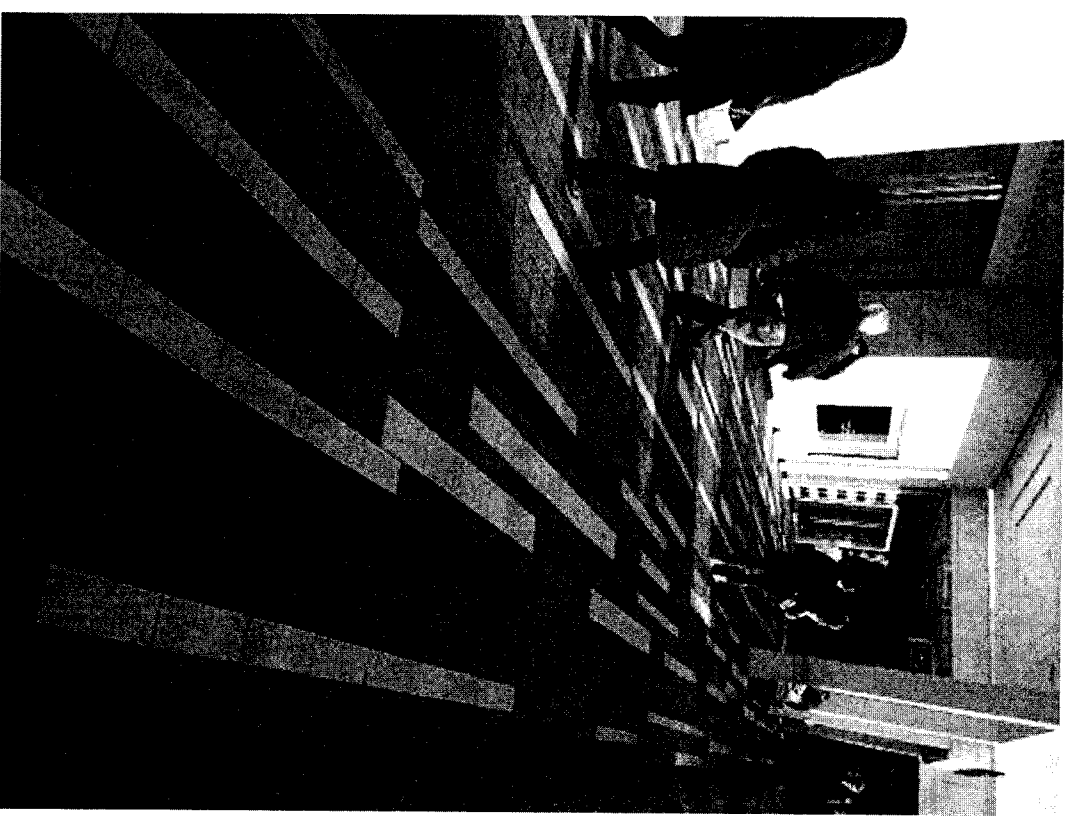
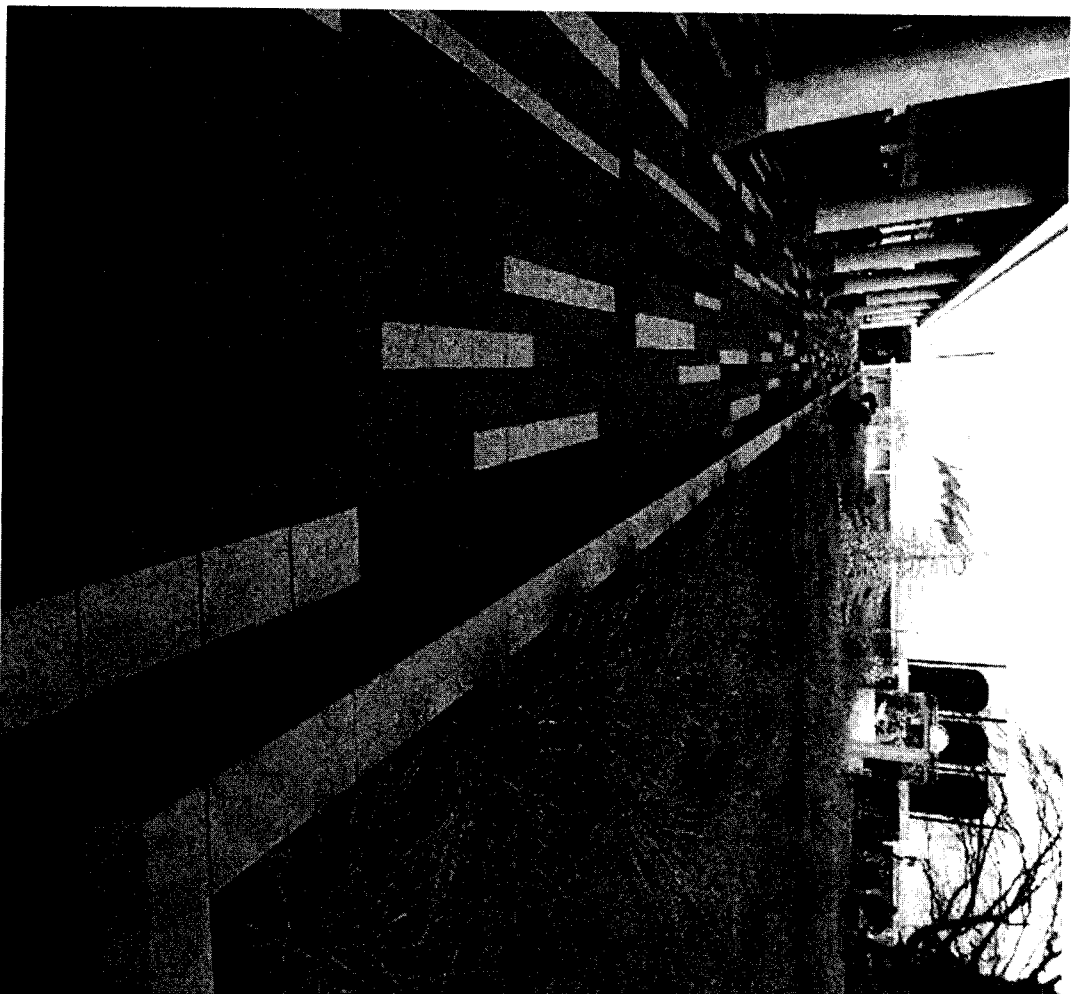
CONS:

- CONS:**
- Clay pavers frost over before concrete.
 - Concrete walkway paving easily chipped and discolored by snow plows.
 - Concrete planter curb chip easily – use eased edge.
 - Stone edged pavers chip easily to avoid looking aged and dirty.
 - Square edged pavers is contemporary looking.
 - The ‘prairie’ theme needs cleaning annually.
 - Natural stone curbs need cleaning annually.

Oakbrook Center

2 years

- Face Mix Concrete pavers on compacted aggregate base



Observations:

PROS:

- Very different approach to design – long, narrow pavers with lighting and paver edge trench drains are a unique solution to surface drainage.
- Concrete paver finish is holding color well and looks upgraded – sparkle of granite chips in pavers is attractive.
- LED strip lighting in paver interesting.
- Water feature was very unique and engaging to visitors.

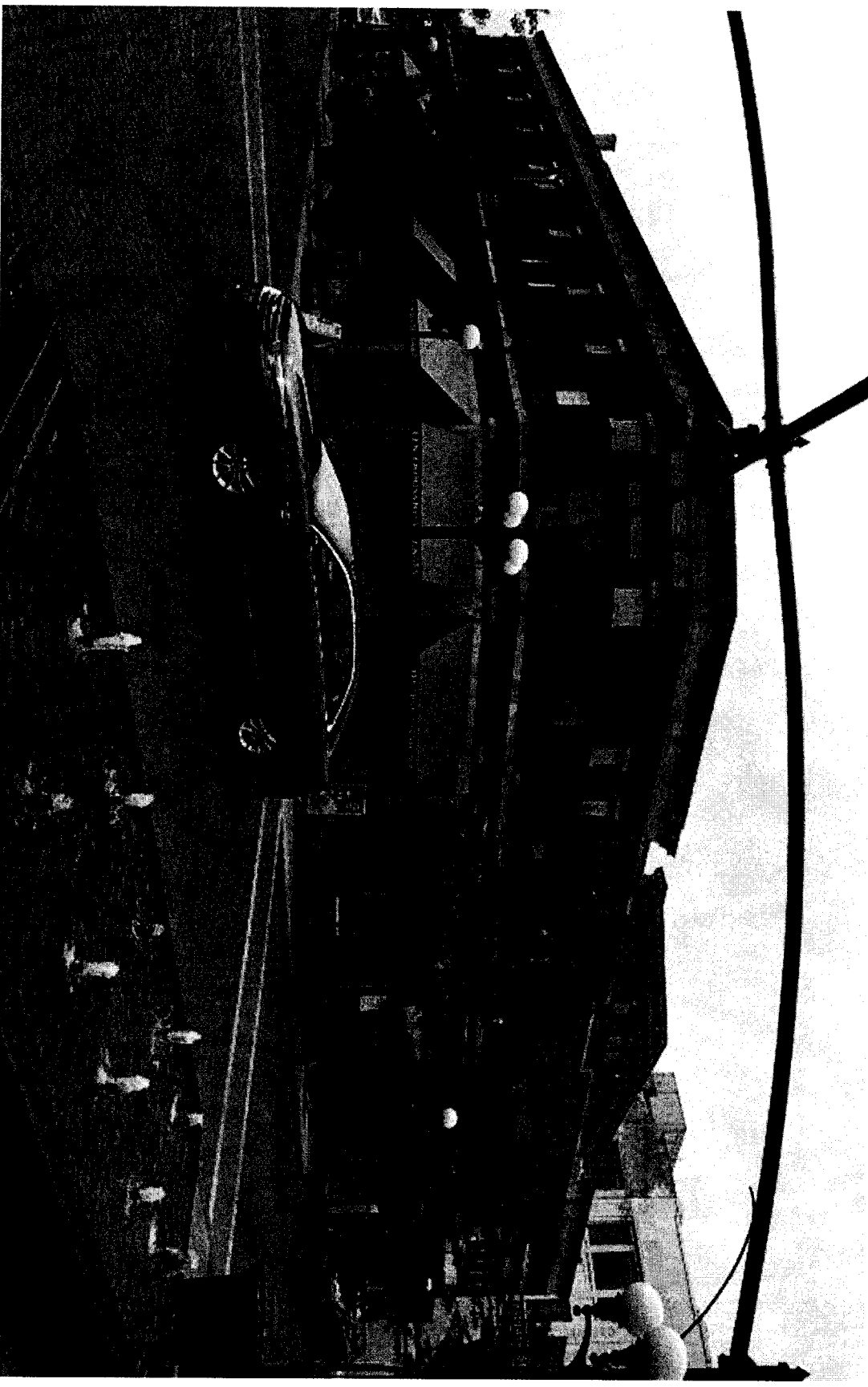
PROS:

- Paver shape and color trendy versus timeless.
- Pavers metal edge restraint unsuccessful.
- Decomposed aggregate filled with weeds, lost to snow removal and migrates.
- Trench drains at edge of pavers filled with debris – very difficult to clean out.

Oak Park

- Clay and stone pavers on concrete base

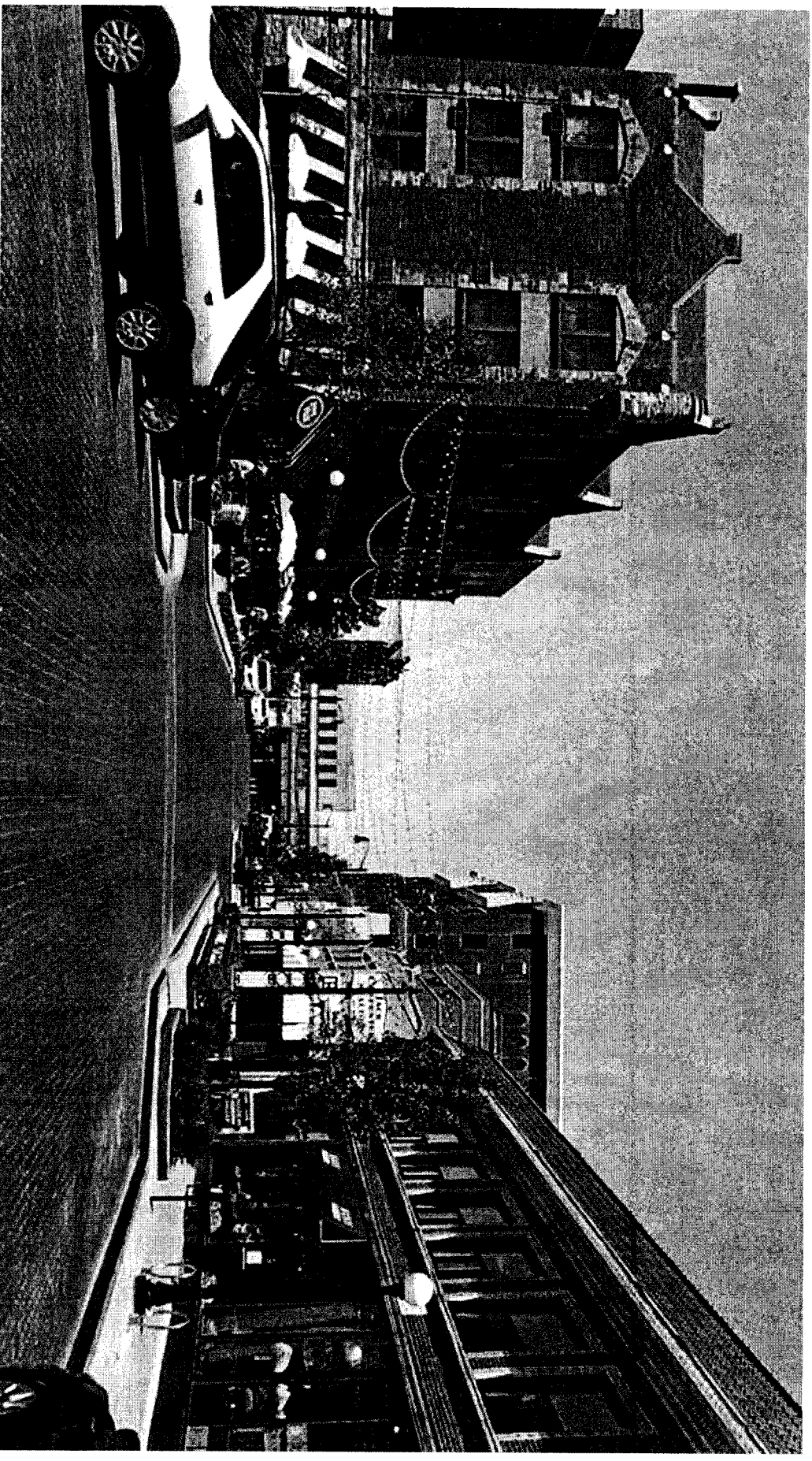
5 - 7 years



Oak Park

5 - 7 years

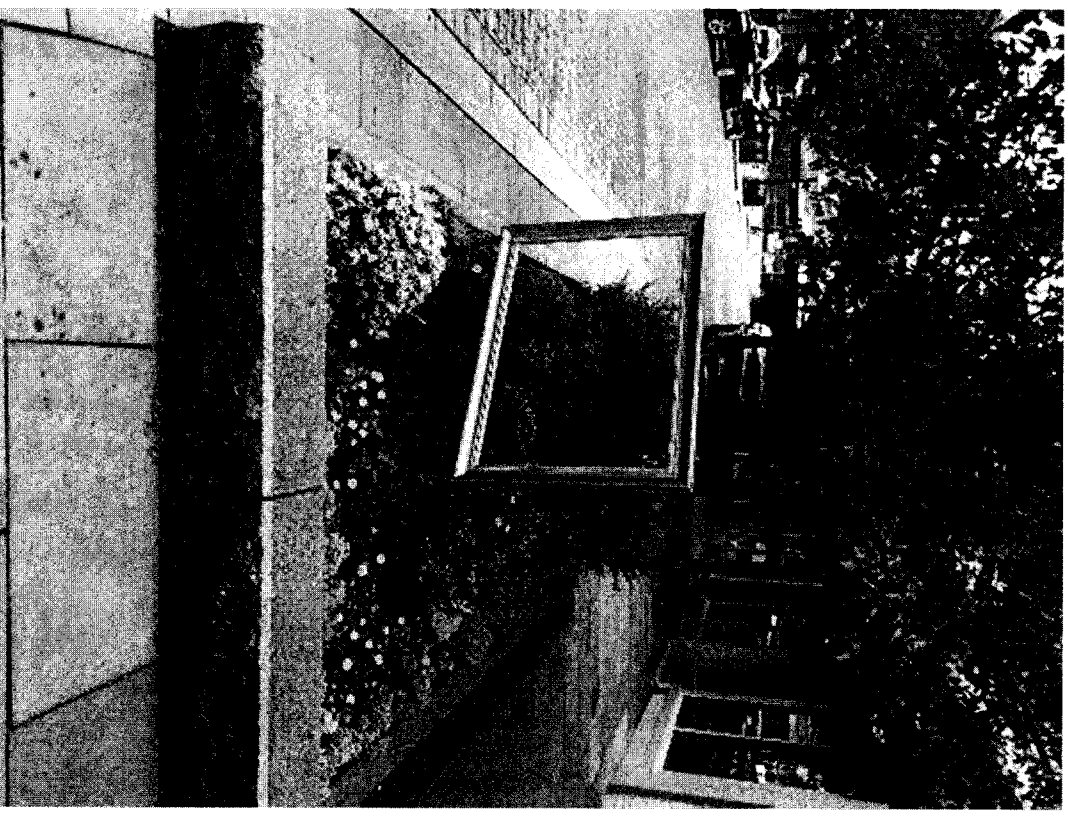
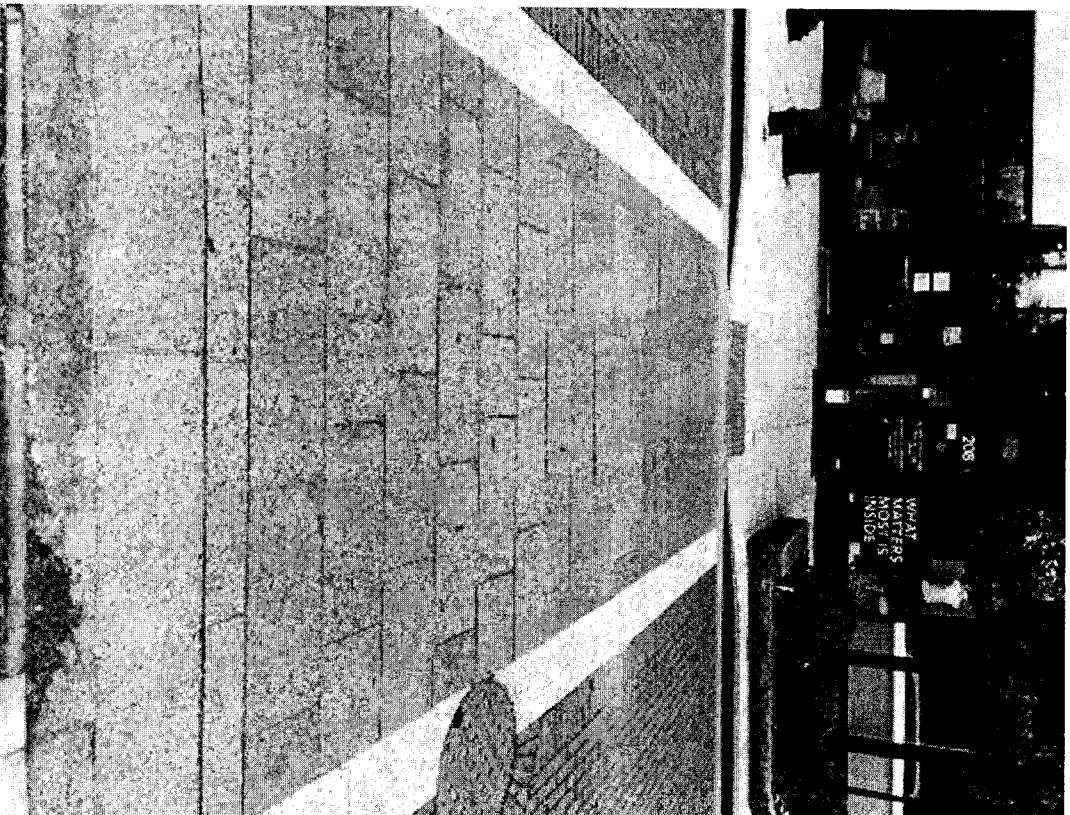
- Clay and stone pavers on concrete base



Oak Park

- Clay and stone pavers on concrete base

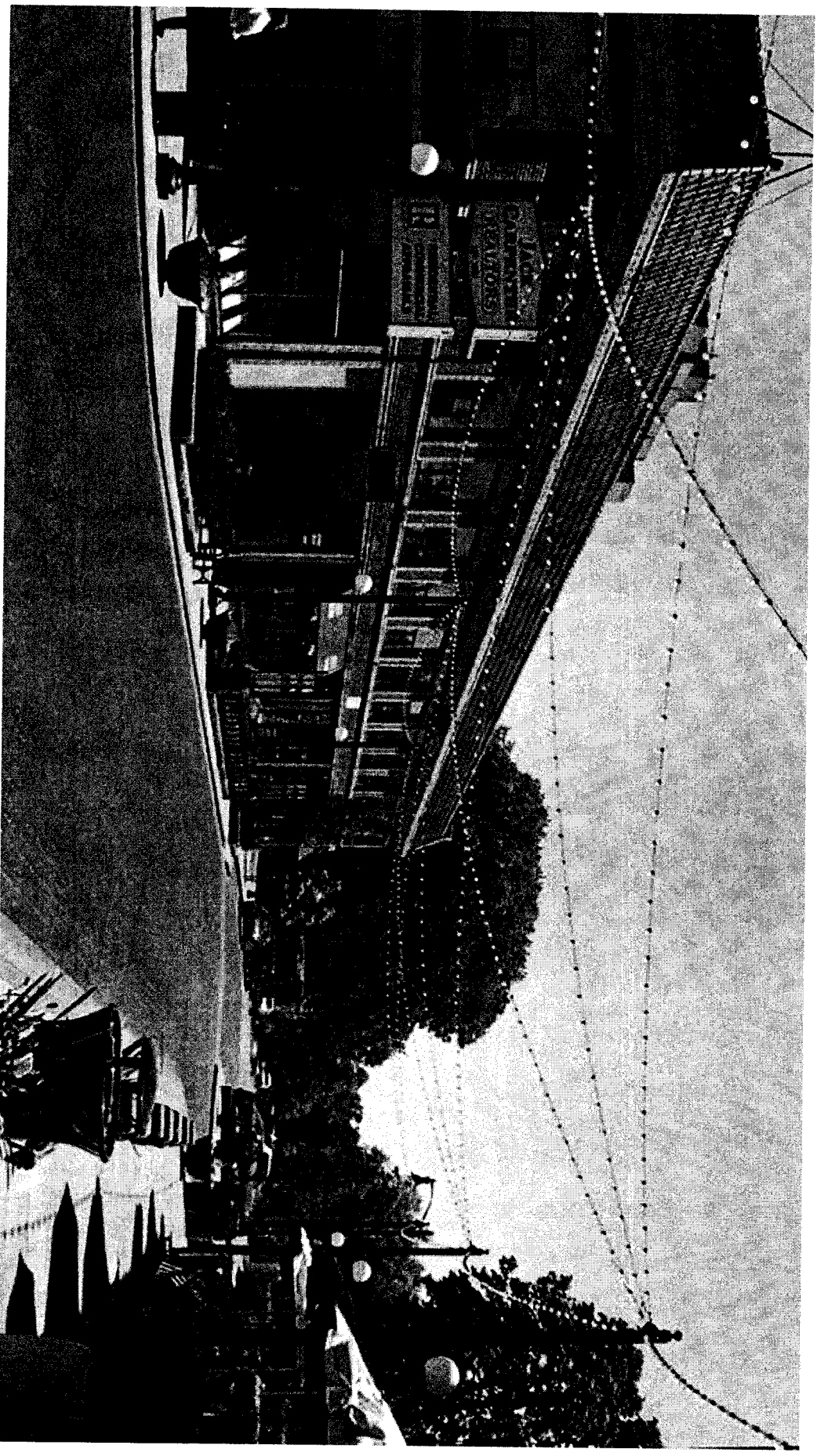
5 - 7 years



Oak Park

- Clay and stone pavers on concrete base

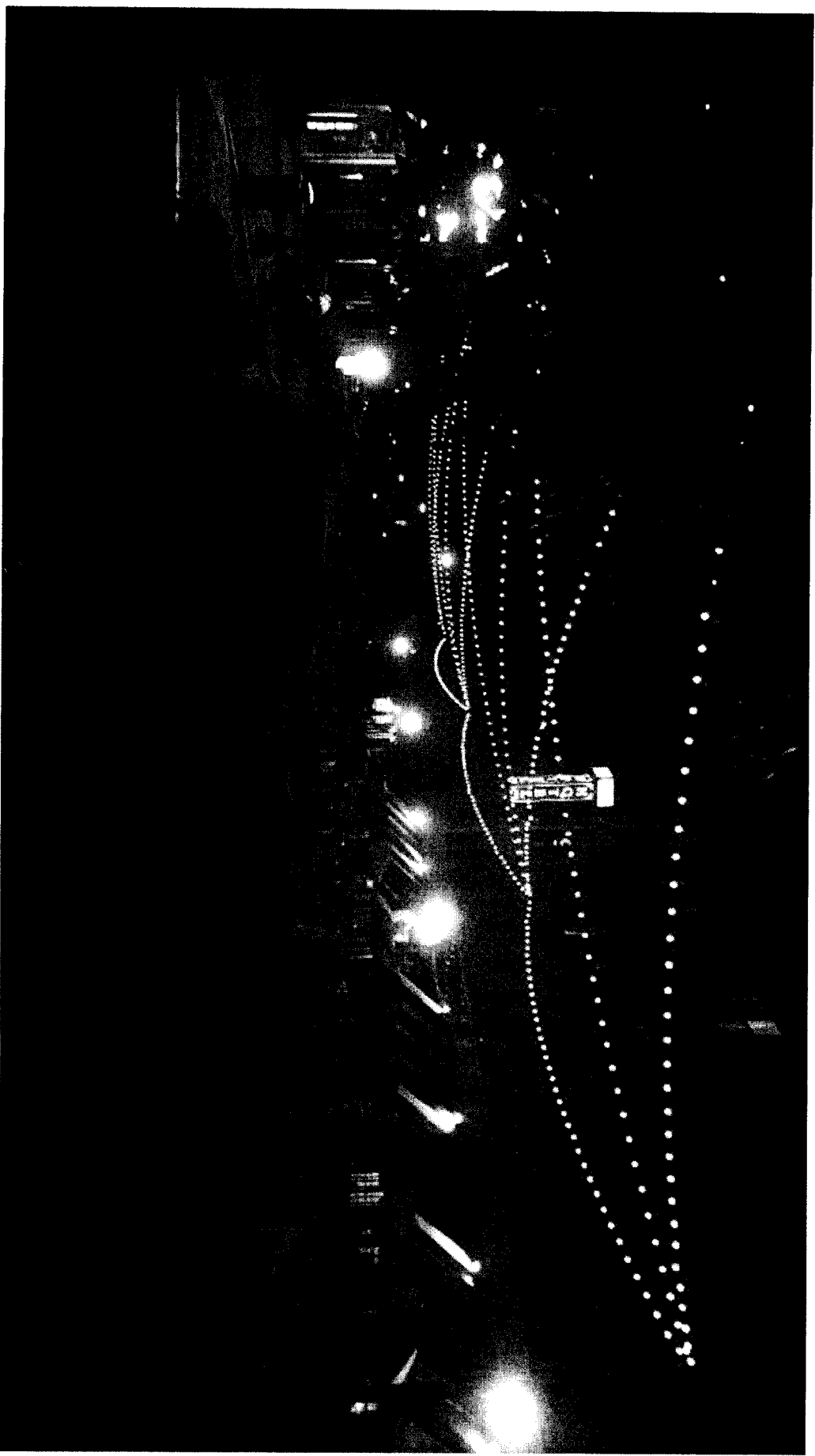
5-7 years



Oak Park

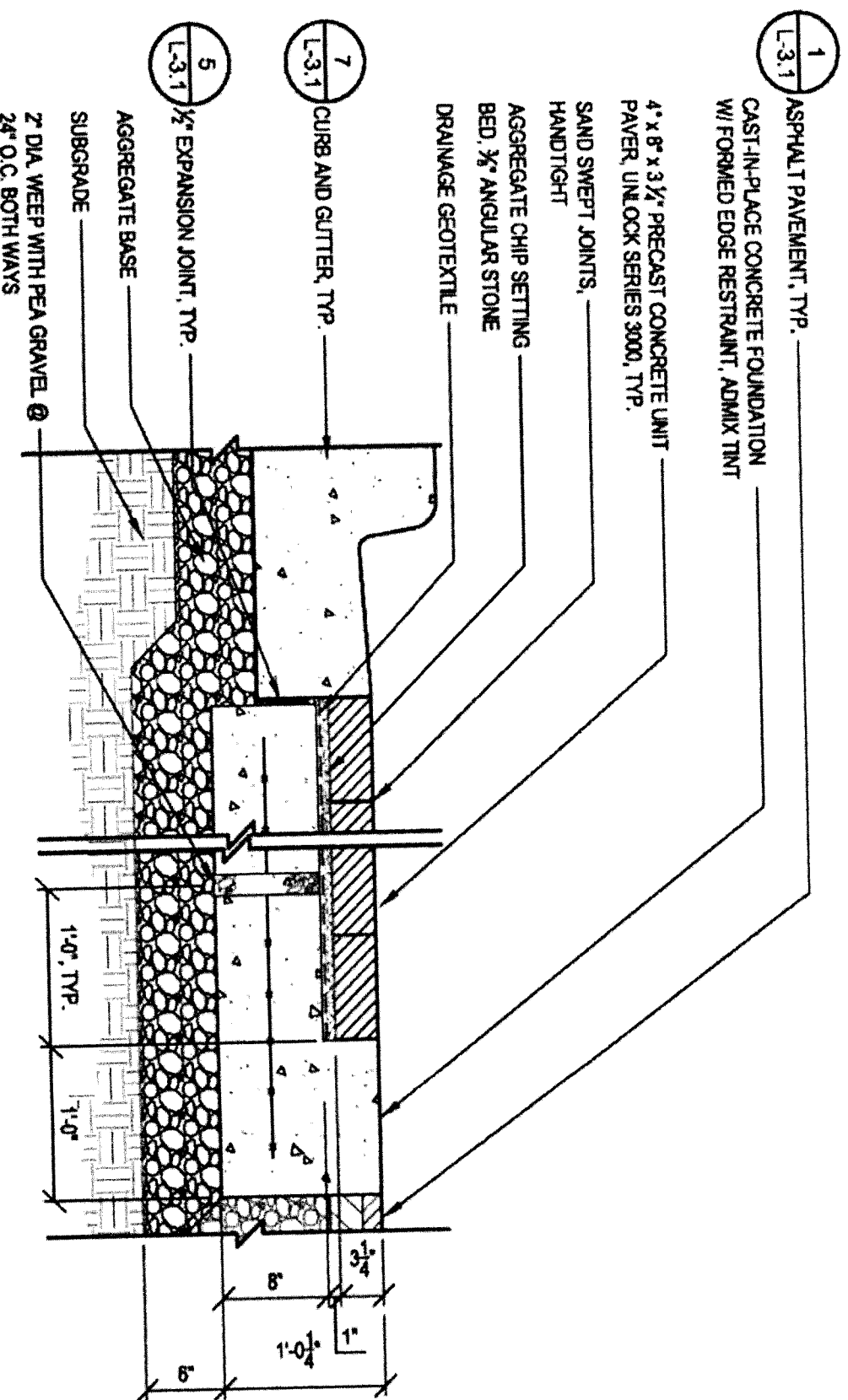
- Clay and stone pavers on concrete base

5-7 years



Oak Park

- Clay & stone pavers on concrete base – Roadway Section



ations:

Tour #2 – OAK PARK

hammered curb face forgiving of snow

Observations:

PROS:

- [illegible]

CON:

- CON:**
- Very different approach to design
 - Intersection and crosswalk bluestone paving
 - Material and construction cost are high.

Tour #1 and #2

Summary of Streetscape Observations

PROS:

- [illegible]

CONS:

- CONS:**
- Clay pavers have an efflorescence issue
 - Concrete paver surface color will be impacted by soil
 - Concrete paver material surface are subject to differential settling
 - Crosswalk material base are subject to differential settling
 - pavers on aggregate base
 - pavers on aggregate base

Summary Types of Streetscape Surfaces

CONCRETE PAVERS

- Arlington Heights (walk)
- Libertyville (walk)
- Forest Park

Concrete Paver \$10/sf

Aggregate Base \$5/sf

Seal/Stain \$2/sf

Total: \$17/sf

Life Expectancy 25yrs

Maintenance Fair

PERMEABLE PAVERS

- Arlington Heights(crosswalk)
- Libertyville (crosswalk)
- Oakbrook Center
- Northbrook

Concrete Paver \$10/sf

Concrete Base \$15/sf

Premium Finish \$10/sf

Seal/Stain \$2/sf

Total: \$37/sf

Life Expectancy 35yrs

Maintenance Better

- Ravinia
- Batavia (intersection/road)

Concrete Paver \$10/sf

Deep Aggregate Base \$25/sf

Subsurface Drainage \$25/sf

Premium Finish \$5/sf

Total: \$65/sf

Life Expectancy 25yrs

Maintenance Good

Cost are per square foot(sf) and does not include removal of existing pavers (\$10/sf) and/or concrete (\$15/sf).

Summary Types of Streetscape Surfaces

Clay Pavers

- Deerfield

- Lisle
- Elgin
- Highland Park
- Oak Park (road)
- Highwood
- Batavia
- St. Charles

Stone/Porcelain

- Oak Park (walk)
- St Charles (plaza)

Clay Paver

\$15/sf

Clay Paver

\$15/sf

Granite/Blue Stone

\$50/sf

Aggregate Base

\$5/sf

Concrete Base

\$15/sf

Concrete Base

\$15/sf

Premium Finish

\$5/sf

Cleaning/De-icing

\$5/sf

Cleaning/De-icing

\$5/sf

Heated Sidewalks

\$35/sf

Total:

\$30/sf

Total:

\$35/sf

Total:

\$100/sf

Life Expectancy

25yrs

Life Expectancy

35yrs

Life Expectancy

50yrs

Maintenance

Better

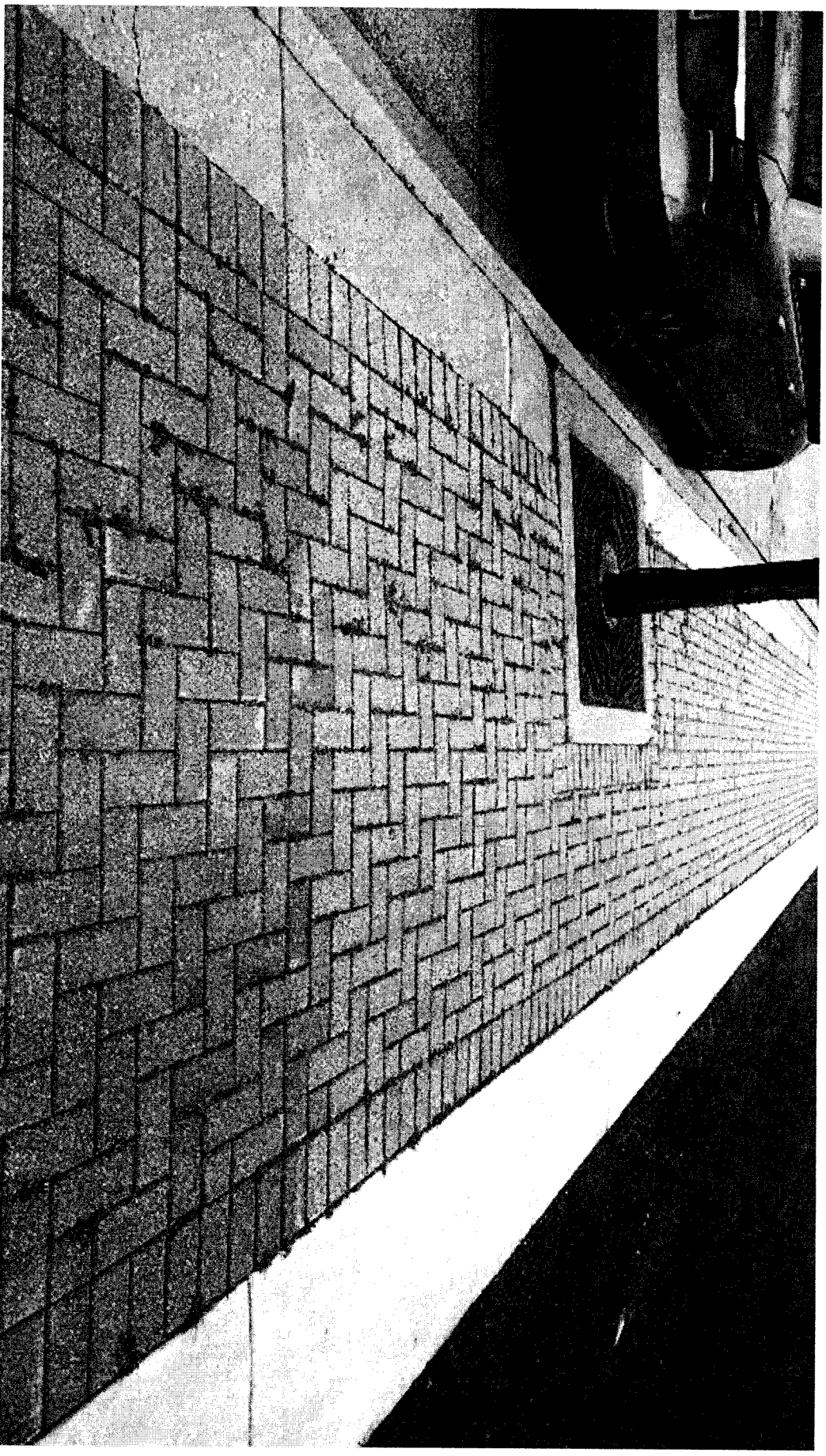
Maintenance

Best

Maintenance

Better

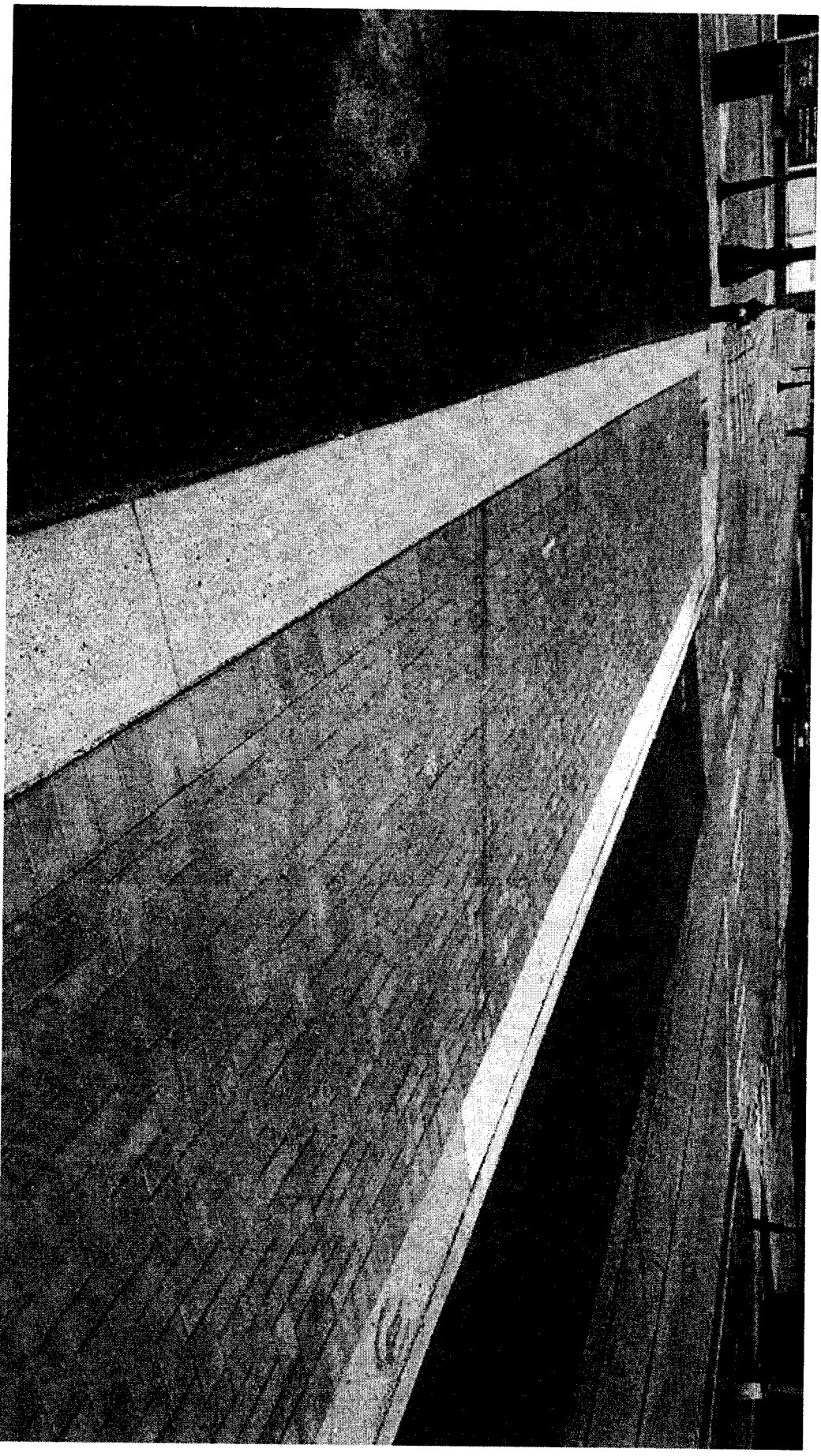
Cost are per square foot(sf) and does not include removal of existing pavers (\$10/sf) and/or concrete (\$15/sf).



Decision: What percentage of the area should be brick?

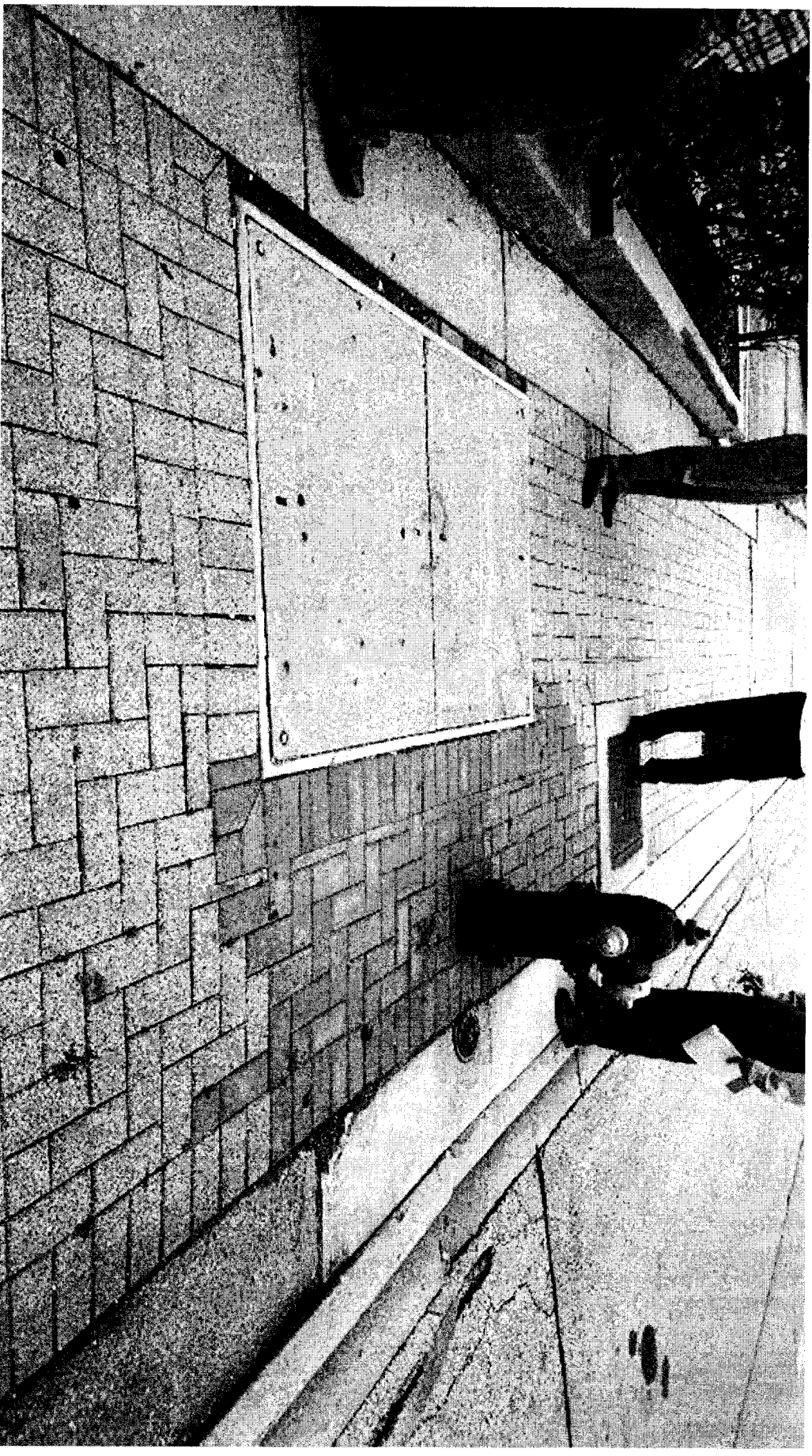
Suggestion: Keep concrete band along roadway and business façade adding a lateral concrete band at a frequency to be determined.

Solutions for Consideration



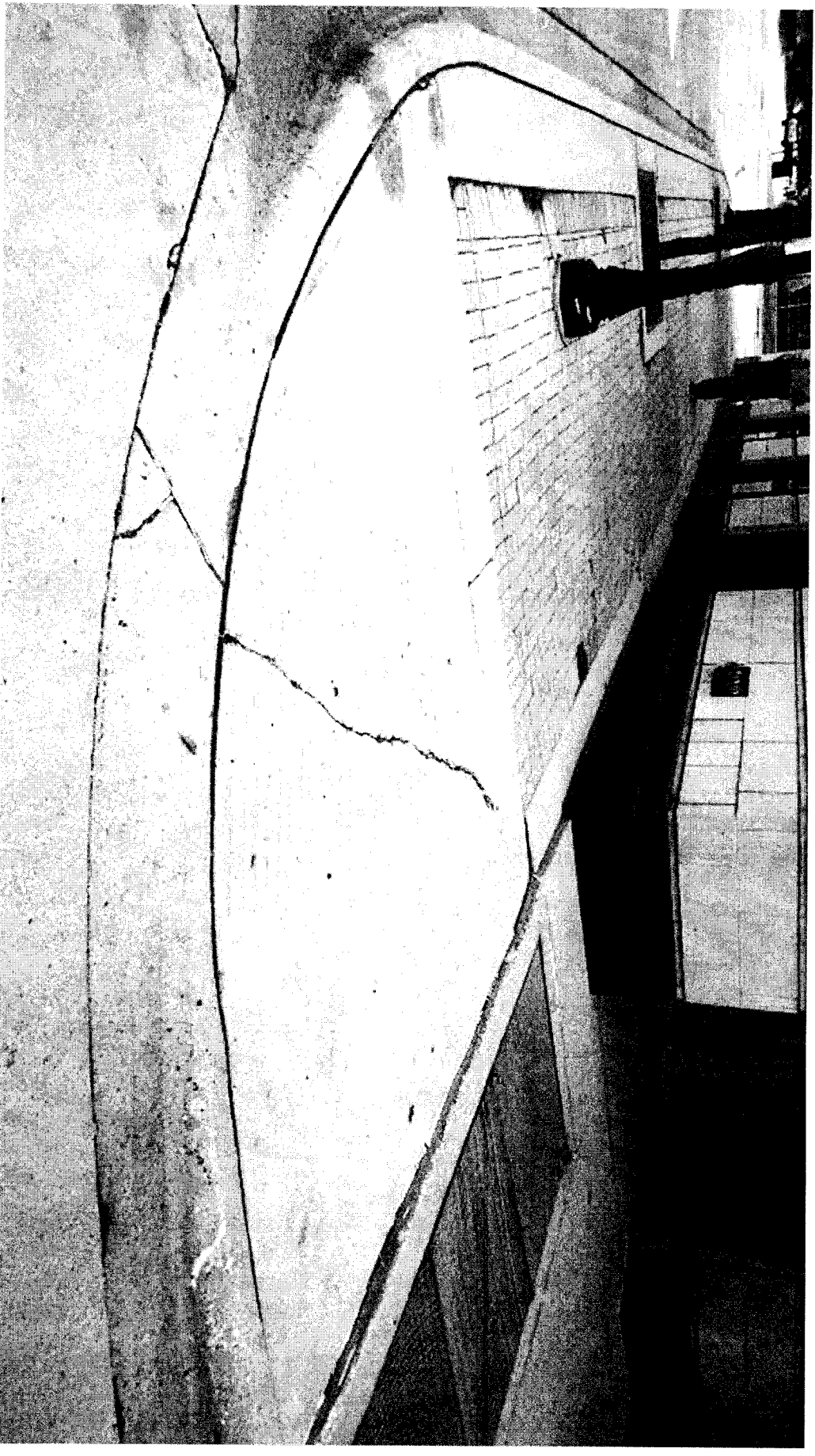
Decision: What cross section has best value?

Suggestion: Pavers on aggregate base. Pin concrete bands to curb to eliminate settling.



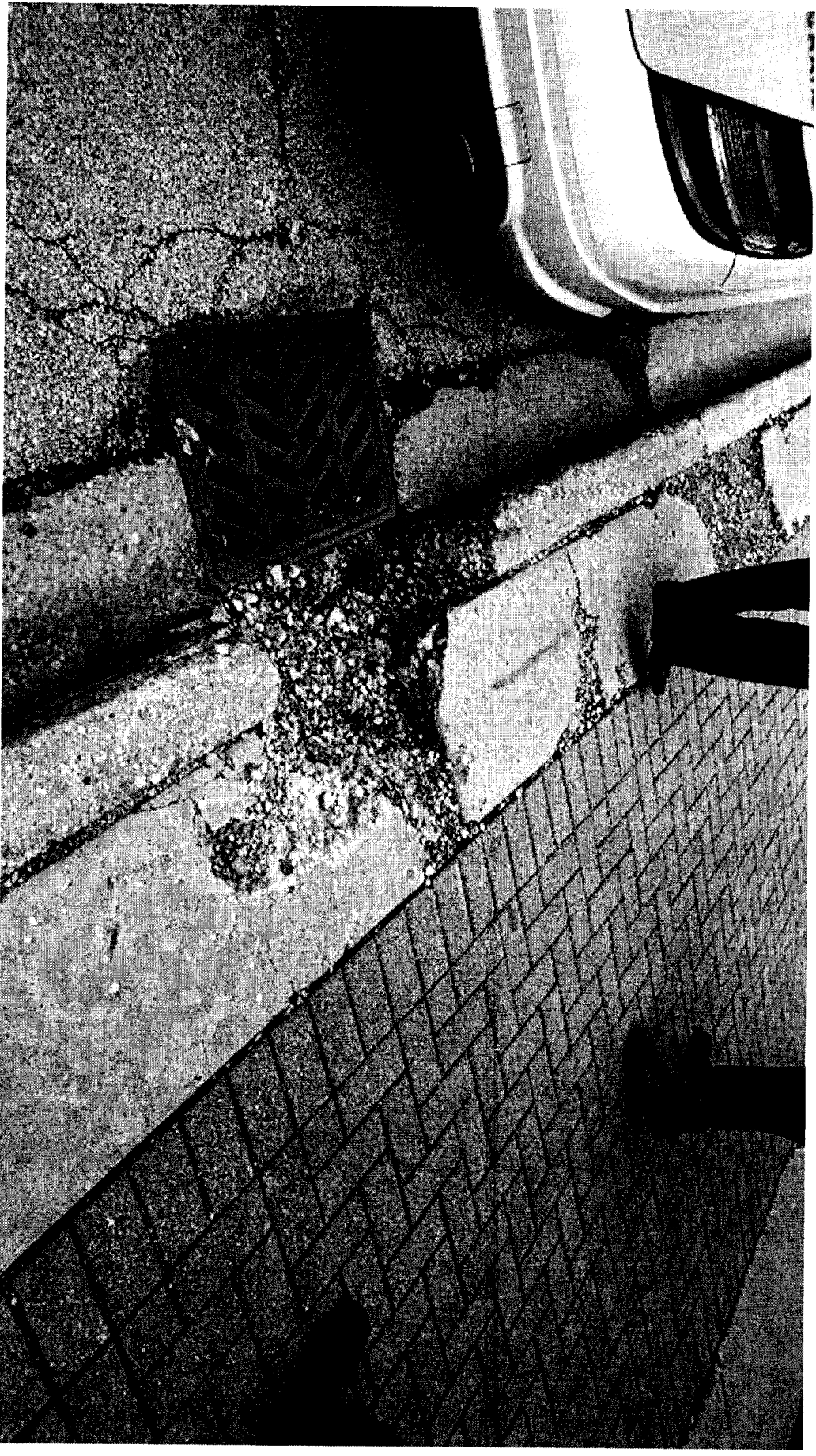
Decision: What paver is recommended?

Suggestion: Face mix concrete paver or clay should be considered for enhanced color retention.



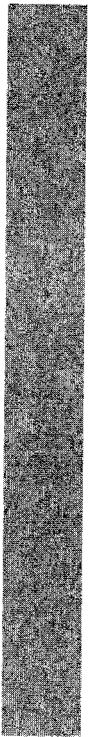
Decision: How do we address the downtown ADA concerns?

Suggestion: Utilize concrete and detectible warnings for handicapped ramps at intersections.



Decision: How do we address the inconsistent or premature failure of concrete in the downtown?

Suggestion: Change contractor selection process to a Request for Proposals.



Thank you...

