Council Meeting Date: November 15, 2004 **Agenda Item:** 7(a)

CITY COUNCIL AGENDA ITEM

CITY OF SHORELINE, WASHINGTON

AGENDA TITLE:	Interurban Trail – Pedestrian & Bicycle Crossing 60% Design Update
DEPARTMENT:	Public Works
PRESENTED BY:	Kirk McKinley, Aurora and Interurban Project Manager Kris Overleese, Capital Projects Manager

PROBLEM/ISSUE STATEMENT:

Policy T-39 of the Comprehensive Plan states: "Aggressively pursue construction of the Interurban Trail." Council Goal #1 states: "Work toward completing the Aurora Corridor & Interurban Trail Projects." In pursuit of these goals and policies, Council has included six segments of the Interurban Trail for construction within the next several years. Currently, the South Segment (N 145th Street to N 155th Street) and North Segment Schedule A (N 192nd Street to N 200th Street) are complete. Construction of the South Central Segment (N 160th Street to Top Foods at N 175th Street) and the North Segment Schedule B (N 200th Street to N 205th Street) began in late October 2004. The Interurban Trail Pedestrian & Bicycle Crossing project (N 155th Street to N 160th Street) is slated for construction in 2005 at the same time as the Aurora Corridor 145th to 165th project.

This staff report summarizes the 60% design for the Pedestrian Bridges. On July 12, 2004, staff presented the Council with the 30% design and asked for direction on alternatives. Council directed staff to assume funding of $4 million (which included an allocation of an additional $400,000 from federal sources (TEA-21)). Staff has developed a bridge package that meets the Council direction from the July meeting. Also included for your discussion is the ability to add enhanced missile barriers and non-structural arches for an additional $700,000 (approximate).

PROJECT BACKGROUND:

In 2003, the City performed an alternatives analysis for the Interurban Pedestrian & Bicycle Crossing between N 155th Street and approximately N 158th Street. The project team identified over 25 alternatives and Council authorized staff to pursue the "Loop Ramp Alternative" on October 20, 2003 (See Attachment A). Council awarded the design contract to CH2M Hill on February 23, 2004. At the time, staff committed to returning to Council at 30% design to discuss the cost estimate, design options, and 1% for Public Art process.

The design team reviewed three structure types: steel truss, steel arch, and concrete girder. A concrete girder structure was evaluated as the cost of steel has significantly increased in the last year and concrete structures are typically less expensive than steel

structures. However, because of the greater depth of the concrete structure, the ramps must be taller and longer as the structure sits higher.

Through the 1% for Public Art process, the Art Jury and Parks, Recreation and Cultural Services (PRCS) Board recommend: a bridge over Aurora Avenue N that has an arch, a sky garden in the west loop ramp of the Aurora bridge, artistic missile barriers on both bridges that are non-linear and made of mesh and glass, and the use of form liners to pattern the project's concrete walls. The Art Jury and PRCS Board had no preference as to whether the bridges are steel or concrete.

As the alternative bridge structures were being discussed, unsuitable soils were discovered (via deep soil borings) behind the Pershing abutment at the southwest corner of N 155th Street and Aurora Avenue and adjacent to Denny's on N 155th Street (west of Aurora Avenue N). These soils negatively impact the ability to construct the N 155th Street bridge and ramping structures in a cost effective manner. The north approach to the N 155th Street bridge was re-engineered to avoid the unsuitable soils. The soils in the vicinity of the Aurora Bridge are competent and simple spread footings may be utilized for this bridge and ramping structures as planned.

On July 12, 2004 staff presented the 30% design information outlined below.

30% DESIGN ALTERNATIVES ANALYZED:
The budget for this project presented at the July 12 Council meeting was $3.6 million dollars (an additional $412,000 was anticipated later in the year from TEA-21 and is discussed later in this report).

Alternative 1: $3.6 Million Dollars
This alternative consists of:
- 16 foot wide concrete deck bulb tee girder bridge over N 155th Street
- North approach to the N 155th Street bridge is stairs with an elevator/lift
- 18 foot wide concrete tub girder bridge over Aurora Avenue N
- Chain link missile barrier
- Asphalt trail and "orchard" (tree plantings) between the two bridges

Alternative 2: $4.0 Million Dollars
- This alternative consists of:
- 16 foot wide concrete deck bulb tee girder bridge over N 155th Street
- North approach to the N 155th Street bridge is a ramp that lowers to grade parallel to Aurora Avenue N
- 18 foot wide concrete tub girder bridge over Aurora Avenue N
- Upgraded missile barrier to inexpensive metal mesh
- Sky garden
- Form liners
- Asphalt trail between bridges

Alternative 3: $4.8 Million Dollars
This alternative consists of:

- 18 foot concrete tub girder bridge over N 155th Street
- North approach to the N 155th Street bridge is a ramp that lowers to grade parallel to Aurora Avenue N
- 18 foot concrete tub girder bridge over Aurora Avenue N with a non-structural arch
- Missile barrier of mesh and glass
- Sky garden
- Form liners
- Lighting
- Asphalt trail between bridges

At the 30% design milestone, Alternative #1 met the current budget, though the additional TEA-21 funds anticipated would allow for Alternative #2. Alternative #3 is supported by the project's Art Jury and provides a landmark Aurora Corridor bridge.

Council directed staff to move forward with Alternative #2 as the base bid on July 19 as it is a more aesthetically appealing project than Alternative #1. Council also recommended designing "additive alternates" to the base bid for the project in the hope that the funds could be identified to fund Alternative #3.

60% DESIGN UPDATE:
As staff moved from the 30% to 60% milestone (from the point of pre-design to actual 60% civil design drawings) designing Alternative #2, two things became clear:

- The 155th Street Bridge: an 18 foot wide concrete tub girder bridge could be constructed for approximately the same price is a 16 foot concrete deck bulb tee bridge. Therefore, both the Aurora and 155th Street bridges will be 18' wide.
- The Sky Garden (within west loop ramp of Aurora Bridge) with its plantings, railings, and mechanically stabilized earth (MSE) interior walls is more expensive than anticipated at 30% design.

It is not feasible to make the sky garden an "additive" item on top of the base bid as it impacts all aspects of the loop ramp design. To satisfy the budget requirements in pursuit of a base bid of $4.0 million dollars, staff has modified the sky garden by narrowing the loop ramp, removing several interior MSE walls. These changes result in the removal of the top plaza area. The area within the ramp will still be planted with vegetation and staff is working to design an area to sit within the center of the ramp. Please see Attachments A for a 60% design aerial view of the updated Aurora west loop ramp layout and Attachment B for a side view of the ramp cross section. This modification has saved approximately $150,000.

In addition to these changes to Alternative #2 at the 60% design level, staff recommends using the standard black decorative "Interurban" metal fencing on the N 155th Street bridge instead of a missile barrier as part of the base Alternative 2 bid. The Aurora Bridge would have the upgraded mesh missile barrier discussed at the 30% design update. Different colors and mesh density will be used to create the "window" look. Staff continues to research mesh options. Also included at the base bid level of

$4.0 million dollars are the anchor bolts to accommodate an upgraded missile barrier that could be installed at a later date.

FORM LINERS:
Form liners (concrete patterning) were included in all three alternatives as part of the 1% for Public Art component of this project. The project's artist, Vicki Scuri, created several form liner designs and the Art Jury and Parks, Recreation and Cultural Services (PRCS) Board has chosen the starfish/beach design (See Attachment C). The design includes three separate 5' by 5' panels that can be mixed and matched. Over the next two months, Ms. Scuri will continue to work on this concept and she has already begun creating the 3D models.

FINANCIAL IMPACT:
The adopted 2004-2009 Capital Improvement Program (CIP) includes an estimate of $3,634,292 for the Pedestrian & Bicycle Crossing Project. The funding currently available for the project is from five grant sources and the Roads Capital Fund and is $4,102,448. In addition to the CIP Budget, as we discussed in July, additional funds have been secured. The Puget Sound Regional Council (PSRC) Executive Board approved an additional $412,000 in TEA-21 funds on October 28, 2004. The TEA-21 funds will become available in the spring of 2005. The grants cover $3,529,117 and the Roads Capital Fund provides $573,331.

Washington State Dept of Transportation – Target Zero	$ 534,292	Design
Federal STP	$ 334,992	Construction
CMAQ	$ 666,060	Construction
IAC	$1,581,773	Construction
Roads Capital Fund	$ 573,331	Predesign (2003) and Construction
TEA-21	$ 412,000	Construction
Total:	$4,102,448	

The Aurora Corridor project will pay for the trail and vegetation between the two bridge ramps.

ALTERNATIVE #3:
The encouraging news is that at 60% design, the cost estimate for Alternative #3 remains $4.8 million dollars as presented at the 30% design milestone. Alternative #3 includes the glass missile barrier with an arch for the Aurora bridge. A matching missile barrier (no arch) on the N 155th Street bridge missile barrier would be made of mesh and glass. Staff is working to design the "additive bid" Aurora and 155th Bridge missile barrier elements. In essence, two sets of missile barriers must be designed within the plan set which results in a slightly higher design cost than anticipated.

SCHEDULE:
Design of this project is to be complete in 2004. Construction of the Interurban Trail Pedestrian & Bicycle Crossing project is to be joined with construction of the first Phase

of the Aurora Corridor project. Advertisement for a contractor is anticipated in early 2005.

RECOMMENDATION:
There is no recommended action at this time.

Approved By: City Manager City Attorney N/A

ATTACHMENTS

Attachment A: Aurora West Loop Ramp Layout
Attachment B: Aurora West Loop Ramp Cross Section
Attachment C: Starfish/Beach Form Liner

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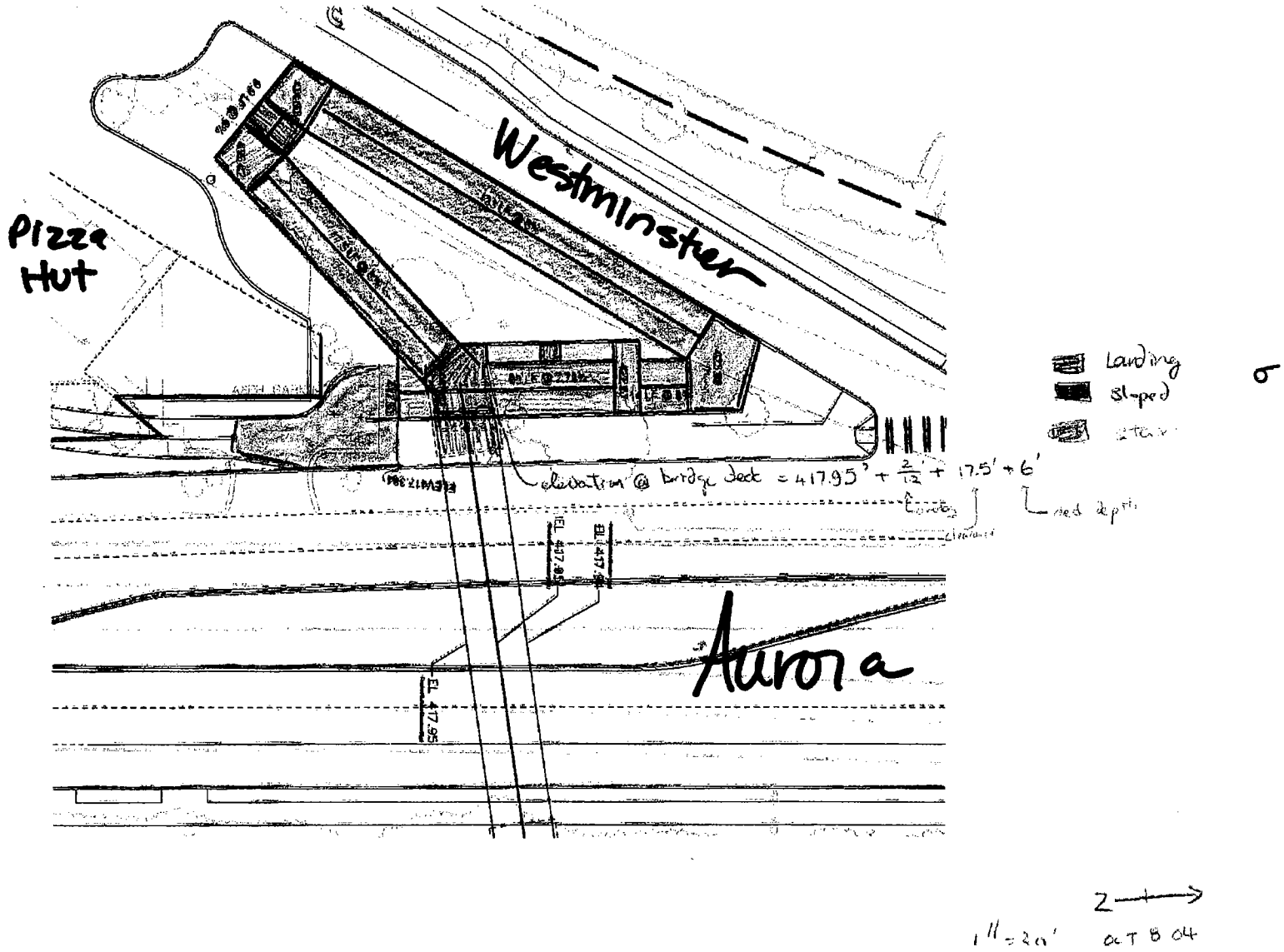

Attachment A – West Loop Ramp

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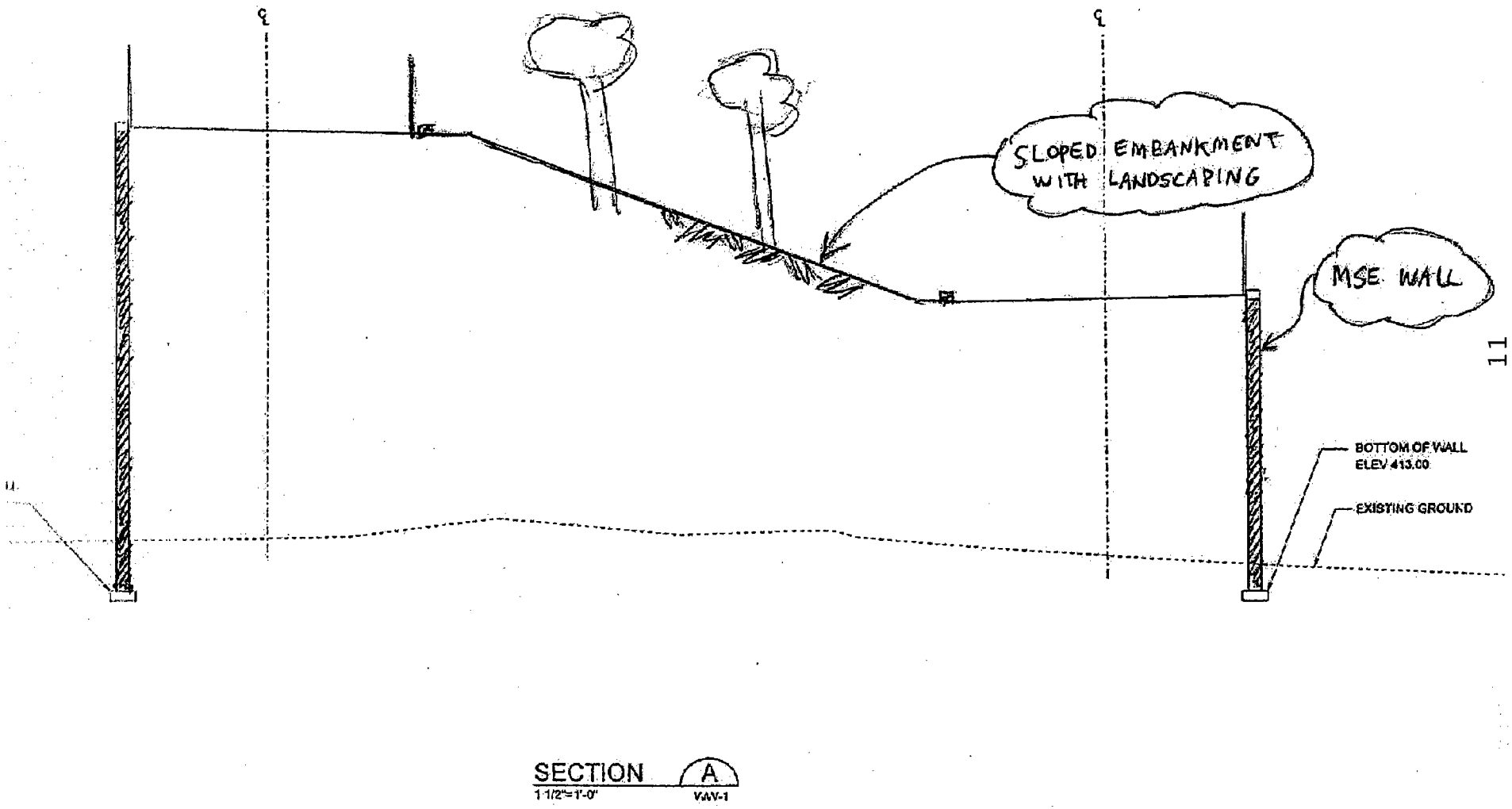

Figure 4 - Typical Section of Approach Ramp With Sloped Fill

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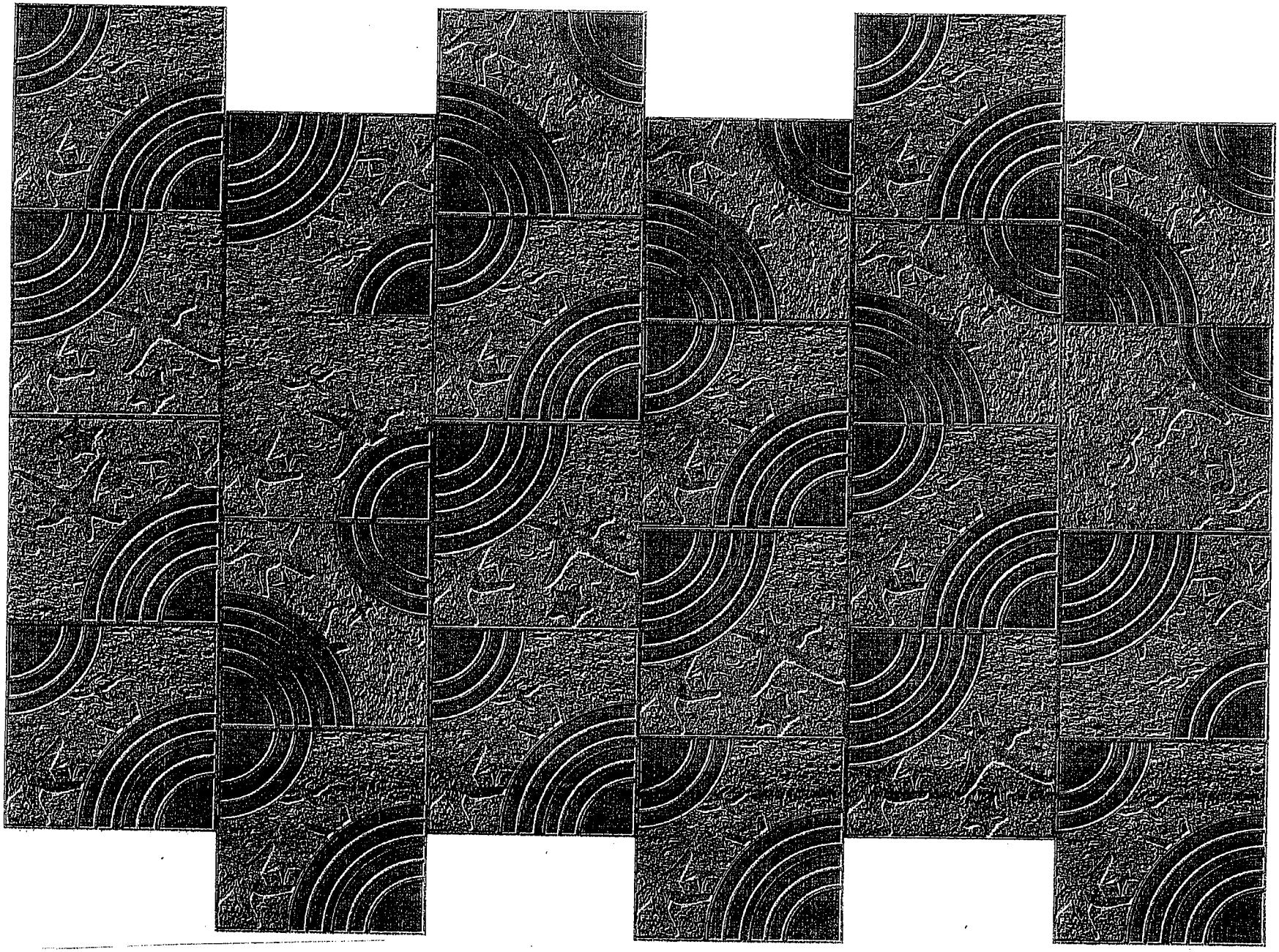

Attachment C – Starfish/Beach Form Liner

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