4/23 (10)

Christine Joyce

From: Roland Bartl
Sent: Tuesday, April 17, 2012 10:53 AM
To: Christine Joyce
Cc: Steve Ledoux; Janet Adachi
Subject: RE: Stuff for Monday the 23rd
Attachments: BFRT Rt 2 Cost Comparison Matrix 101311.pdf; 10-13-11 Bruce Freeman Rail Trail Bridge - Town Coordination Meeting (Final).ppt; 05-25-11 QM-140 BFRT Bridge Concept Slides - BFRT Square Align- compressed format girder & truss.ppt

Here is additional info/materials for agenda item 10 (Bruce Freeman Rail Trail):

A more recent cost estimate of alternative designs

Two ppt presentations with Photoshop images of various design options

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Planning Director
472 Main Street
Acton, MA 01720
(978) 929-6631

From: Christine Joyce
Sent: Wednesday, April 11, 2012 11:47 AM
To: Roland Bartl; Scott Mutch
Cc: Steve Ledoux
Subject: Stuff for Monday the 23rd
Importance: High

I trust you are working on the stuff you wanted on the agenda as well as giving any new link for 40 Sudbury Road and Knox Trail materials for those two projects for the packet.

Please do not use this agenda for public consumption as it is in a draft format so I could get all of you guys moving on getting me materials for next week .

BFRT PH 2B OVER RTE 2 BRIDGE CONCEPTUAL ALTERNATIVE RECOM PREPARED BY: FST 10/13/11

Cost Comparison

Steel Stringer Bridge | Skew v. Revised Perpendicular Alignment

Item	Skew	Revised Perpendicular
Bridge over Route 2	$2,636,666	$1,506,666
Bridge over Nashoba Brook	$470,833	$94,167
Retaining Walls	$1,957,421	$1,940,735
Fill	$137,460	$199,838
Trail	$809,100	$850,500
Sub-Total	**$6,011,480**	**$4,591,906**
25% Contingency	$1,502,870	$1,147,977
Total	$7,514,350	$5,739,883

Prefabricated Truss Bridge | Skew v. Revised Perpendicular Alignment

Item	Skew	Revised Perpendicular
Bridge over Route 2	$922,833	$527,333
Bridge over Nashoba Brook	$470,833	$94,167
Retaining Walls	$1,957,421	$1,940,735
Fill	$137,460	$199,838
Trail	$809,100	$850,500
Sub-Total	**$4,297,647**	**$3,612,573**
25% Contingency	$1,074,412	$903,143
Total	$5,372,059	$4,515,716

Note: All costs besides bridge are assumed the same for both options

Please note that these conceptual cost estimates are approximate and only based on the different bridge type estimated average square foot cost.
Preliminary cost estimates for the multi-use trail bridge and approaches will be developed as part of the Bridge Type Study which will determine the bridge type and be shown in the Bridge Sketch Plans as part of the Phase 2B 25% Design.

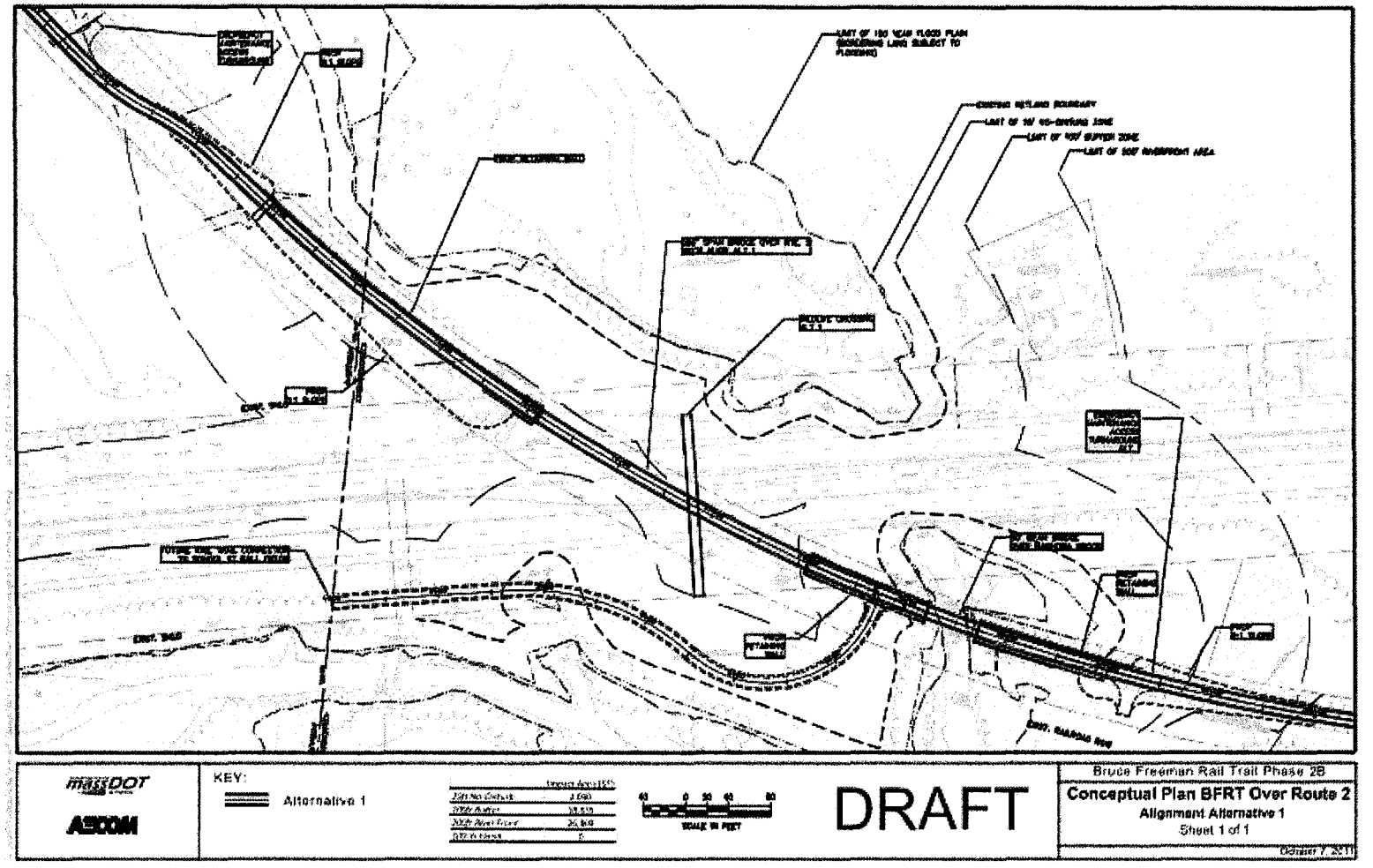
BRUCE FREEMAN RAIL TRAIL OVER ROUTE 2

October 13, 2011

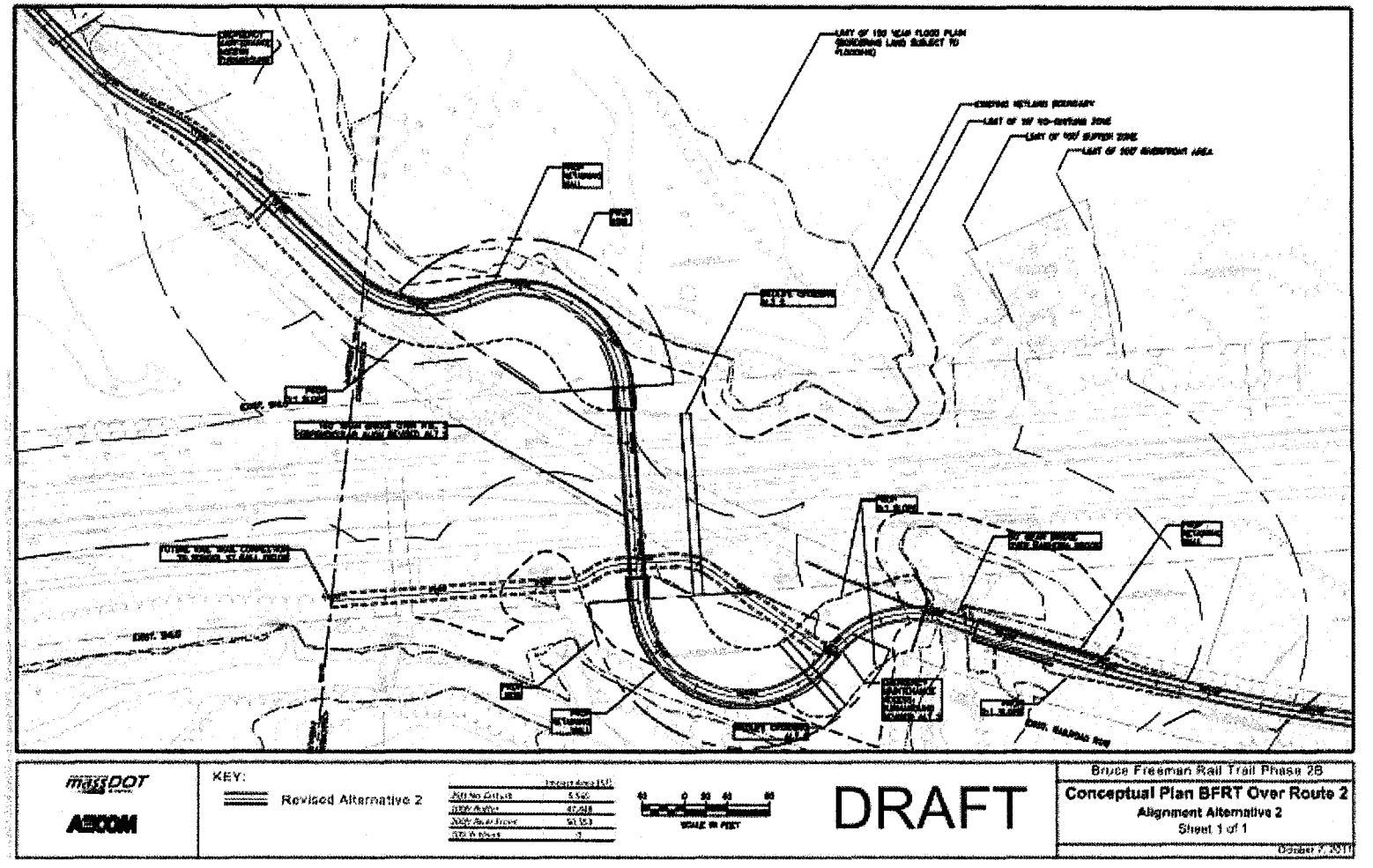
MEETING OUTLINE

1. Introductions
2. Background
3. Conceptual Plan Alignment Alternatives – Approximate Environmental Impact Comparison
    1. Alternative 1 – Skew Alignment
    2. Revised Alternative 2 – Perpendicular Alignment
4. Rail Trail Crossing Bridge Type Alternatives
    1. Conventional Steel Girder
    2. Prefabricated Steel Truss
5. Example – Eastern Trail Pedestrian Bridge
6. Discussion

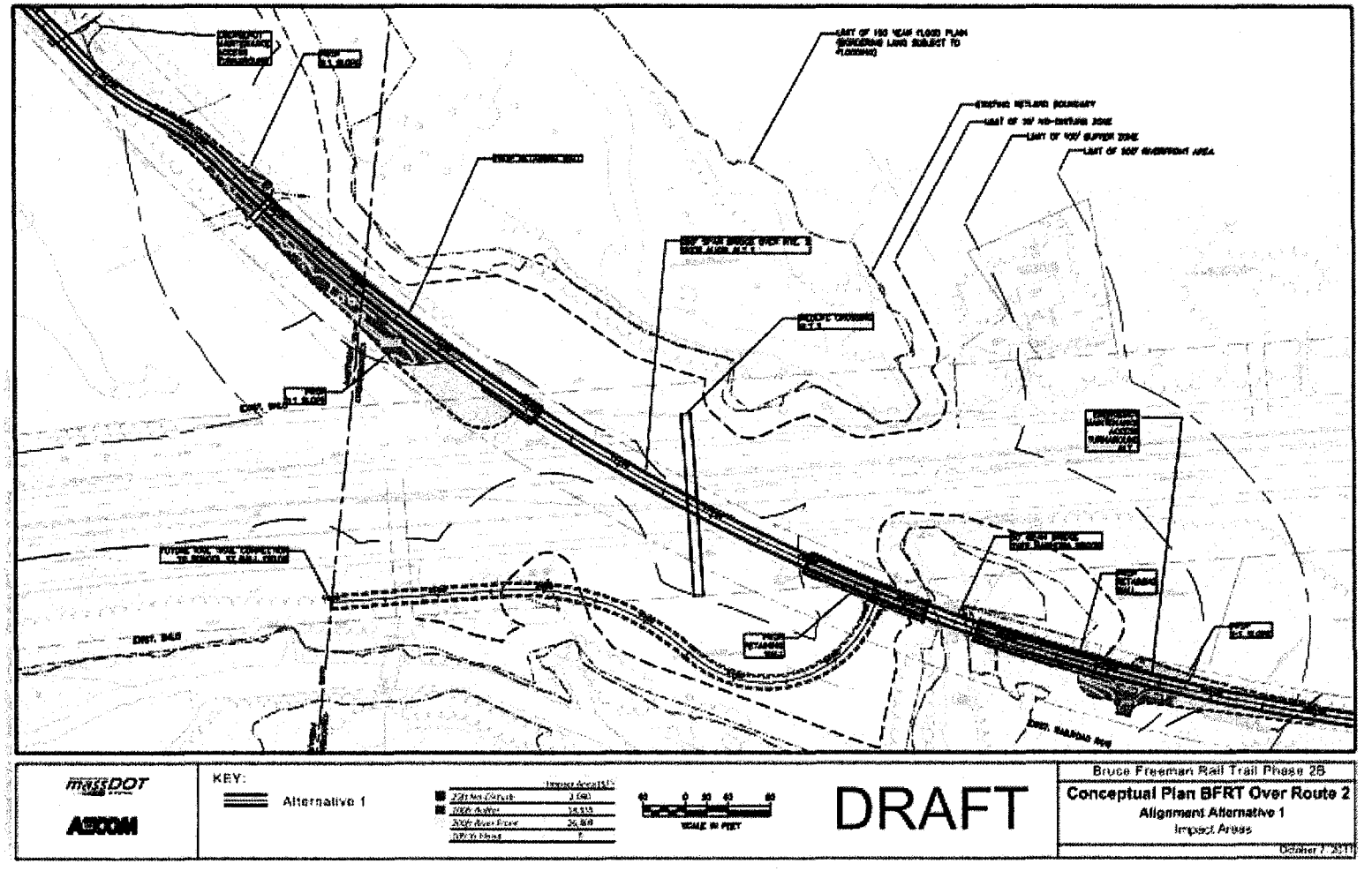
ALTERNATIVE 1



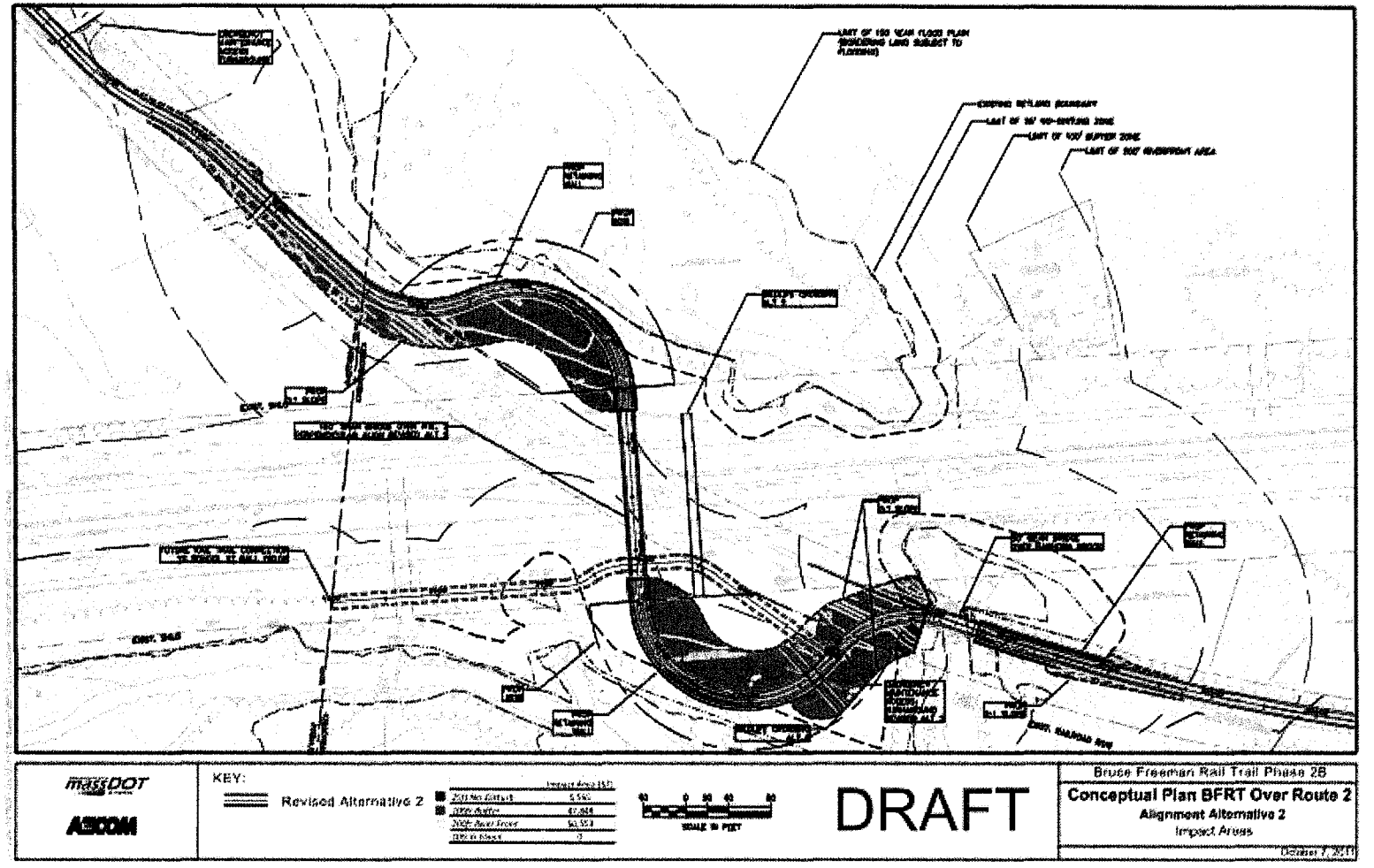
REVISED ALTERNATIVE 2



ALT. 1 – IMPACT AREAS



REV. ALT. 2 – IMPACT AREAS



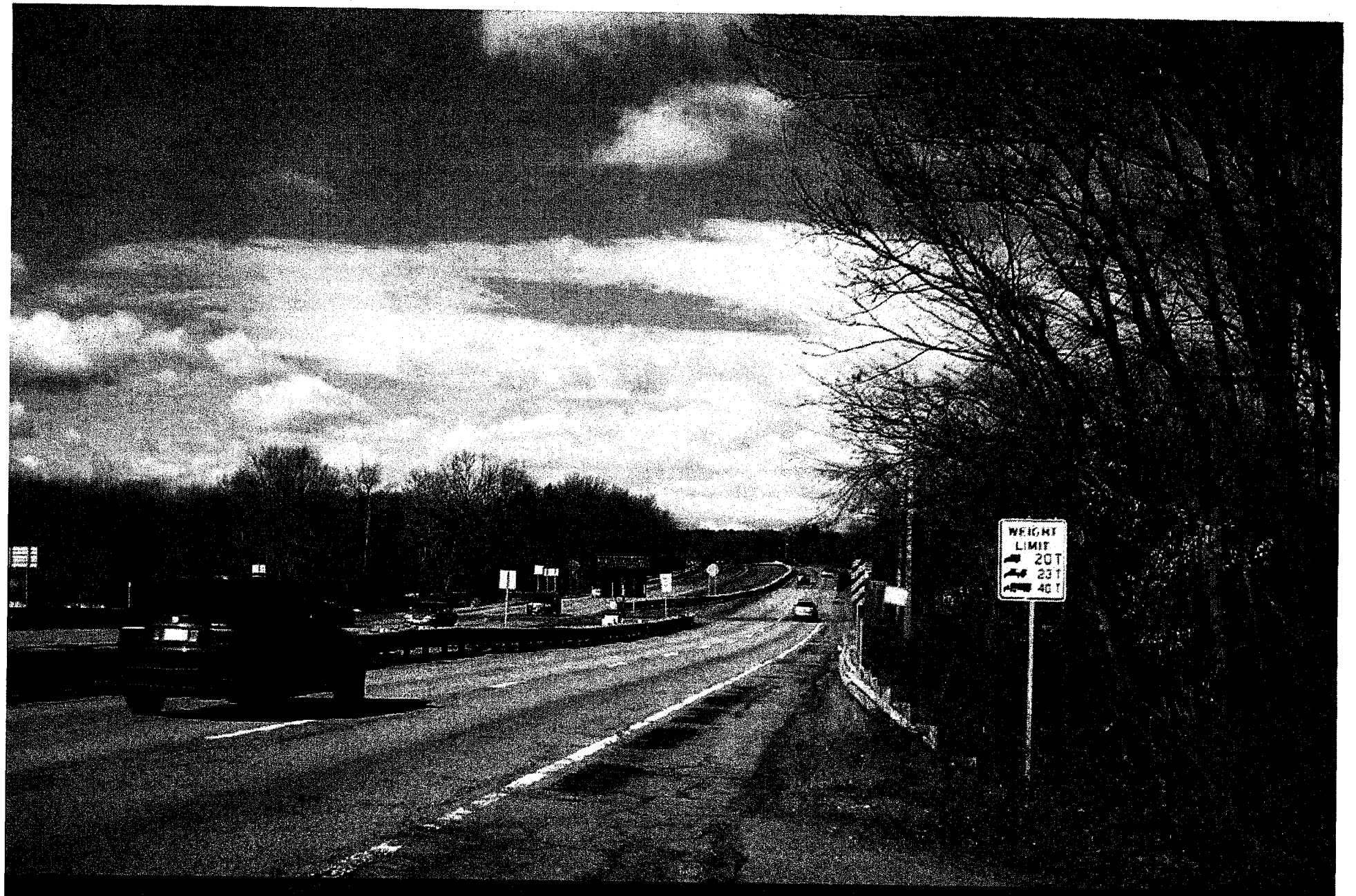
COMPARISON MATRICES

Alignment	Safety	Right of Way	Design Criteria	25 ft. No-Disturb Zone	100 ft. Buffer Zone	200 ft. Riverfront Zone	100 yr. Flood Zone
Skew Alignment (Alt. 1)	Tangent	No Additional Required	Meets Standards	2,100 SF	18,700 SF	26,900 SF	0 SF
Perpendicular Alignment (Revised Alt. 2)	"S" Curves	24,500 SF North of Route 2, 29,300 SF South of Route 2	Meets Standards - Radius "S" Curves (20 MPH)	5,700 SF	47,900 SF	50,600 SF	0 SF

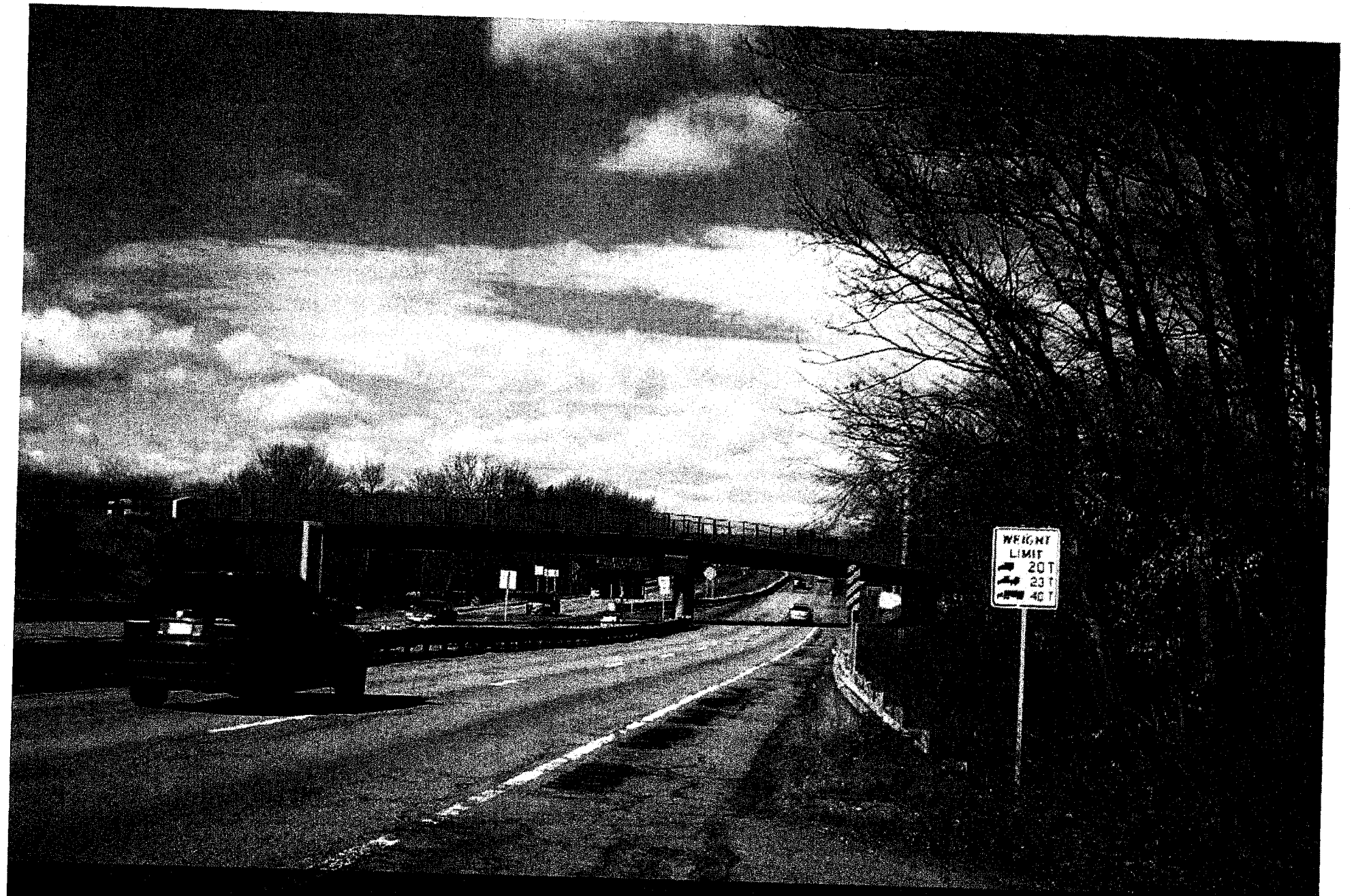
Alignment	Bridge Length	Bridge Type	Construction Cost
Skew Alignment (Alt. 1)	280 ft.	Steel Girder	$7.5 Million
		Prefabricated Truss	$5.4 Million
Perpendicular Alignment (Revised Alt. 2)	160 ft.	Steel Girder	$5.8 Million
		Prefabricated Truss	$4.5 Million

BRIDGE ALTERNATIVES

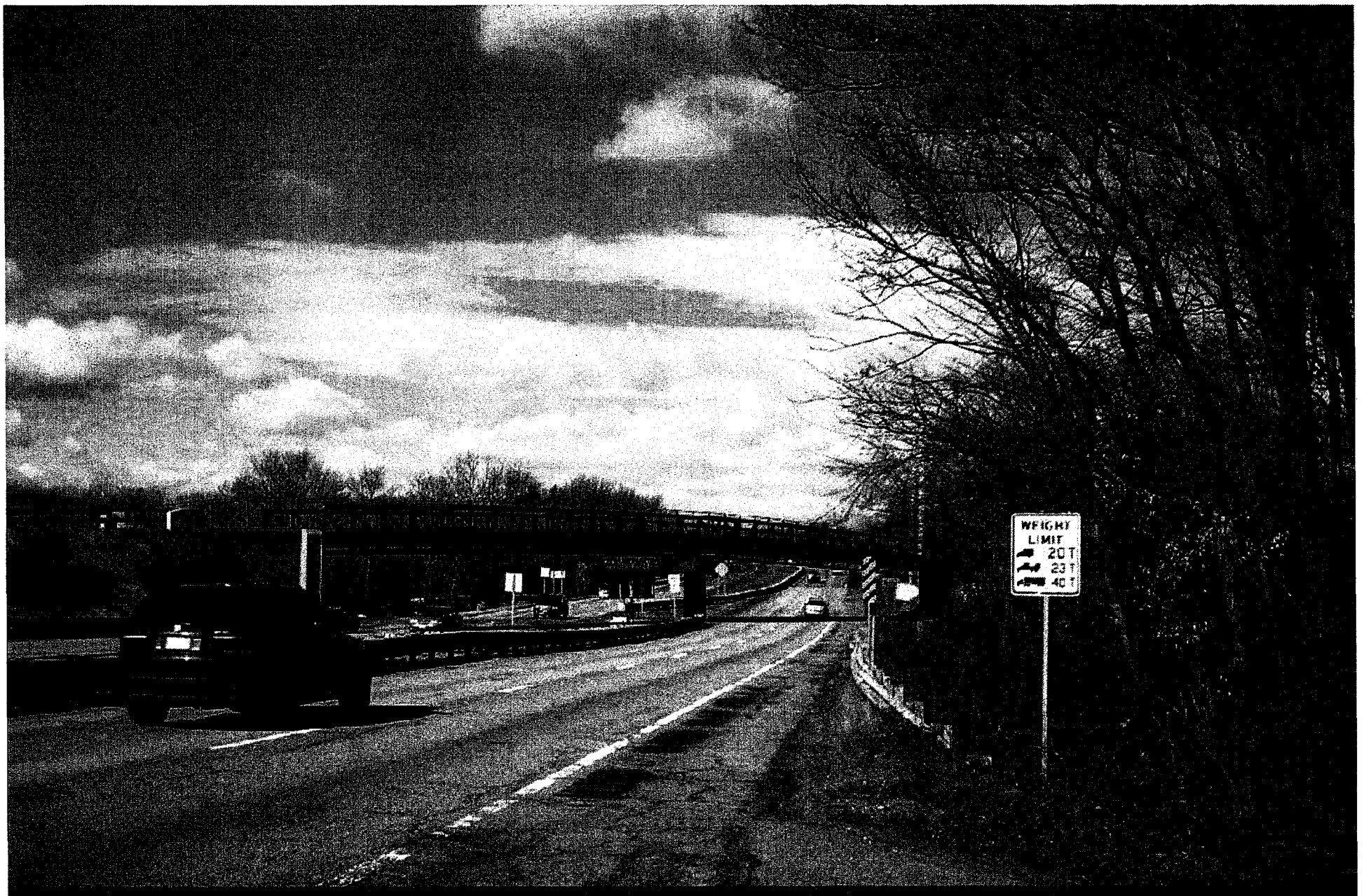
- Conventional steel girder bridge
- Prefabricated truss bridge
  - Various types



EXISTING CONDITIONS



STEEL GIRDER BRIDGE



PREFABRICATED TRUSS BRIDGE

PREFABRICATED TYPES

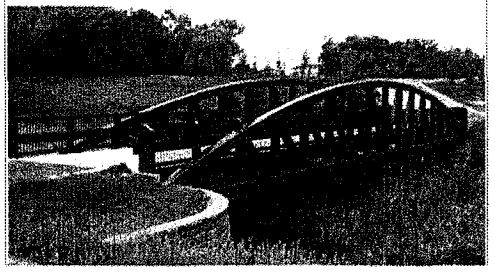
Pedestrian Truss Styles*

Connector®

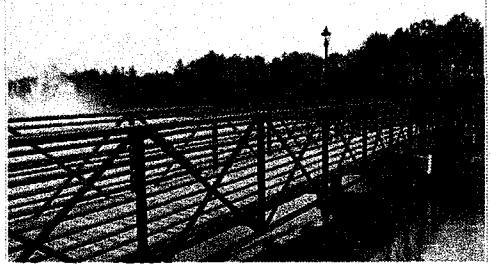
Archway®

Capstone®

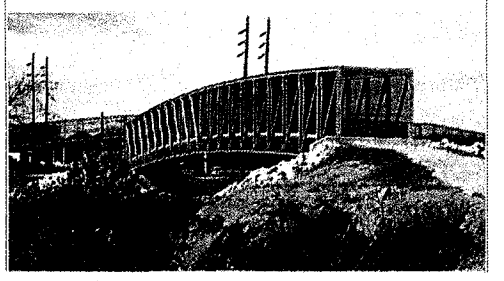
Keystone®



Link®

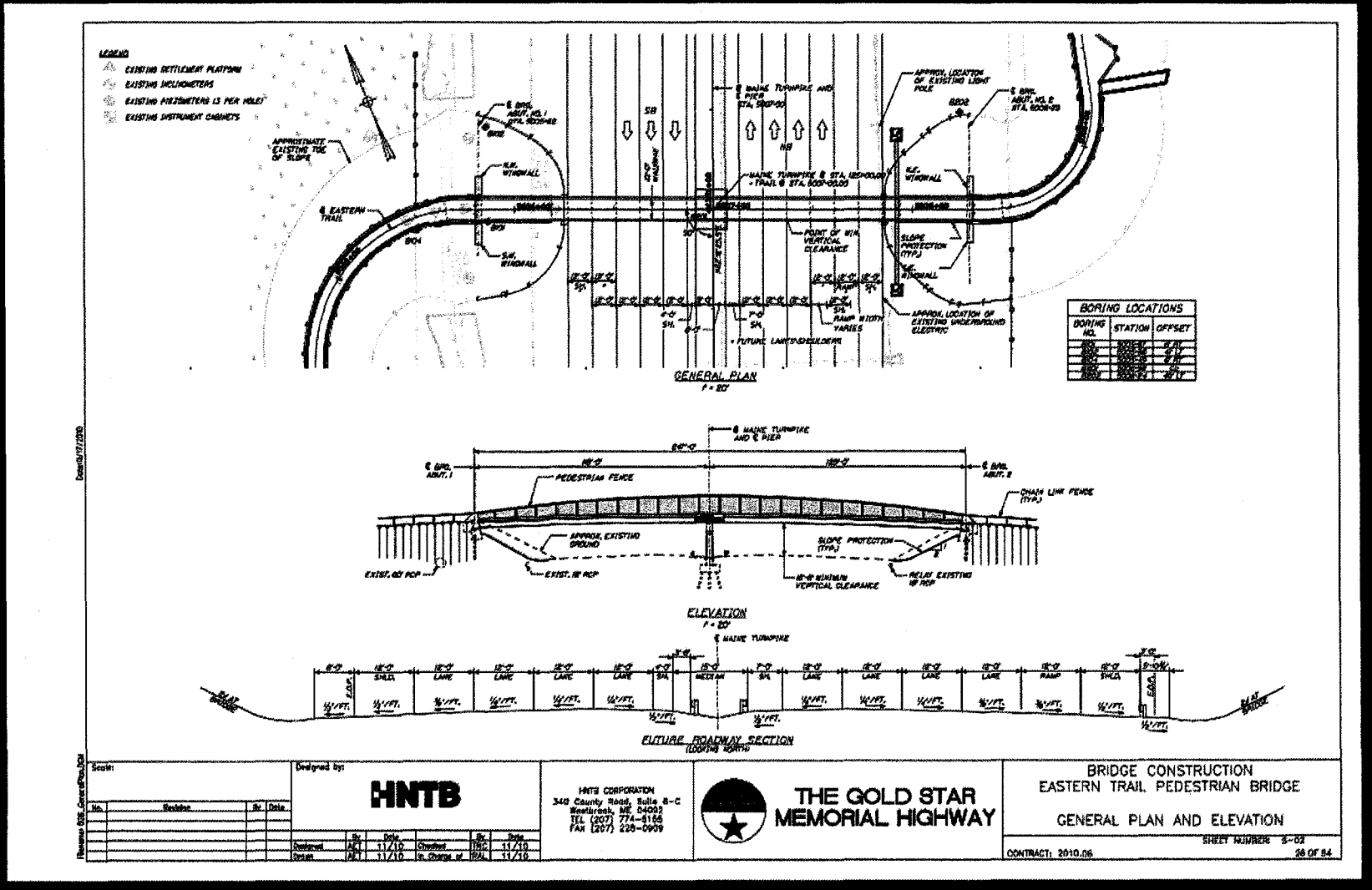


Gateway®



**Custom styling is available to make your project a reality (e.g. skywalks, cable-stayed bridges).*

EASTERN TRAIL PEDESTRIAN BRIDGE



EASTERN TRAIL PEDESTRIAN BRIDGE

EASTERN TRAIL PEDESTRIAN BRIDGE

Bruce Freeman Rail Trail Bridge | Concord & Acton, MA

DISCUSSION