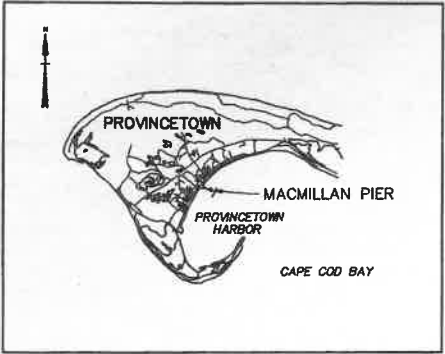


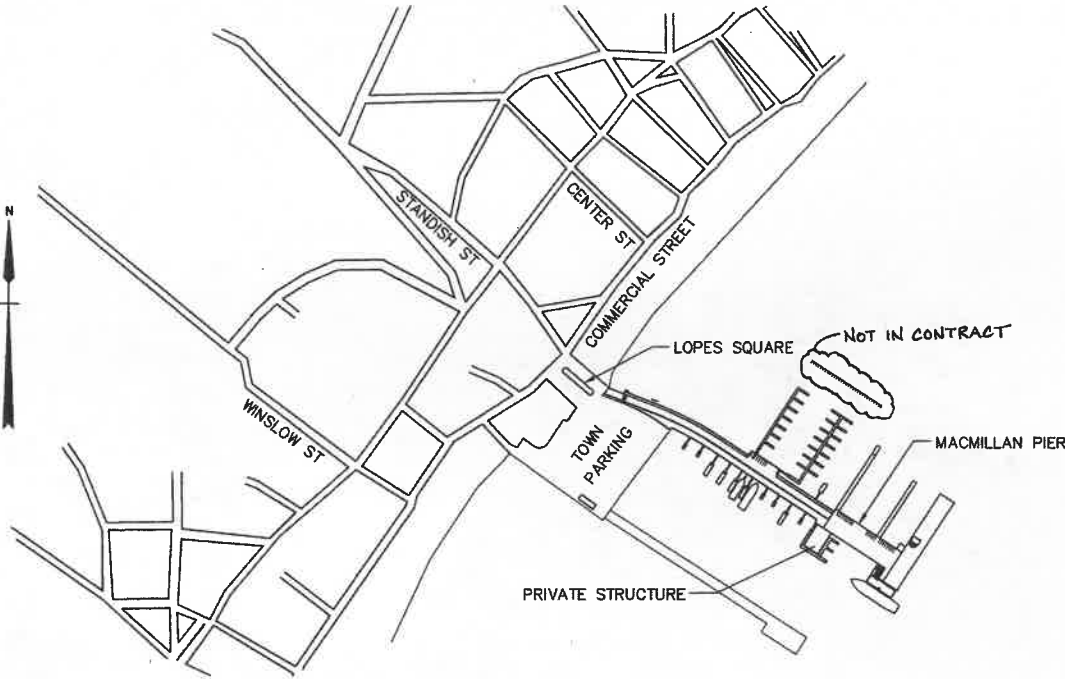
TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS

MACMILLAN PIER
RECONSTRUCTION



VICINITY MAP

0 1 2
SCALE IN MILES



SITE PLAN

SCALE: 1" = 300'

INDEX TO DRAWINGS

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2.	GENERAL SITE PLAN
3.	GENERAL PLAN - PIER
4.	PIER GENERAL SECTIONS
5.	EXISTING PIER DEMOLITION PLAN - PART 1
6.	EXISTING PIER DEMOLITION PLAN - PART 2
7.	CONSTRUCTION PHASING - PART 1
8.	CONSTRUCTION PHASING - PART 2
9.	CONSTRUCTION PHASING - PART 3 - ELECTRICAL
10.	PILE PLAN - PART 1
11.	PILE PLAN - PART 2
12.	NORTH SEAWALL MODIFICATION AND PILE CAP ELEVATIONS
13.	FRAMING PLAN - PART 1
14.	FRAMING PLAN - PART 2
15.	PART FRAMING PLAN AND MISCELLANEOUS BEAM DETAILS
16.	PRESTRESS BEAM DETAILS
17.	DECK PLAN - PART 1
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19.	DECK GRADING AND DRAINAGE PLAN - PART 1
20.	DECK GRADING AND DRAINAGE PLAN - PART 2
21.	SECTIONS AND CONCRETE DETAILS, PIER APPROACH - PART 1
22.	SECTIONS AND CONCRETE DETAILS, PIER APPROACH - PART 2
23.	SECTIONS AND CONCRETE DETAILS, PIER MAIN AREA
24.	SECTIONS AND CONCRETE DETAILS, PIER TEE
25.	MISCELLANEOUS DETAILS
26.	FINGER PIER EXTENSION PLAN, SECTIONS AND DETAILS
27.	NOT USED
28.	NOT USED
29.	HARBORMASTER'S BUILDING FOUNDATION PLAN, SECTIONS AND DETAILS
30.	HANDICAP RAMP - BEACH ACCESS
31.	FENDER SYSTEM - PLAN AND DETAILS
32.	FENDER SYSTEM - MISCELLANEOUS DETAILS
33.	FLOATING DOCKS - PLAN AND DETAILS
34.	COURTESY DOCK PLAN, ELEVATION AND DETAILS
35.	HANDICAPPED ACCESS FLOATS - PLAN, ELEVATIONS AND SECTIONS
36.	HANDICAPPED ACCESS FLOATS - MISCELLANEOUS DETAILS
37.	~~WAVE BARRIER AND VESSEL GROUNDING FRAME~~
38.	SHORESIDE DRAINAGE DETAILS
39.	SHORESIDE DRAINAGE PLAN AND PROFILES - PART 1
40.	SHORESIDE DRAINAGE PLAN AND PROFILES - PART 2
41.	WATER UTILITIES - PLAN AND DETAILS
42.	SITE PLAN - ELECTRICAL

SHEET NO.	TITLE
43.	ELECTRICAL DEMOLITION PLAN
44.	ELECTRICAL DECK PLAN - PART 1
45.	ELECTRICAL DECK PLAN - PART 2
46.	ELECTRICAL - FLOATING DOCKS, PLAN AND DETAILS
47.	FLOATING DOCKS - ELECTRICAL DETAILS
48.	ELECTRICAL HEAT TRACE PLAN AND DETAILS
49.	ELECTRICAL HEAT TRACE DETAILS
50.	ELECTRICAL DETAILS 1
51.	ELECTRICAL DETAILS 2
52.	ELECTRICAL DETAILS 3
53.	ELECTRICAL DETAILS 4
54.	ELECTRICAL DETAILS 5
55.	ELECTRICAL ONE-LINE DIAGRAM
56.	ELECTRICAL PANEL SCHEDULES
57.	ELECTRICAL PLAN - LOPES SQUARE
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59.	EXISTING SURVEY - PART 1
60.	EXISTING SURVEY - PART 2
61.	EXISTING SURVEY - PART 3
62.	HYDROGRAPHIC SURVEY PLAN
63.	DREDGING PLAN AND TYPICAL SECTIONS
64.	NOT USED
65.	BORING LOCATION PLAN
66.	BORING LOGS

* AS-BUILT REVISIONS IN THIS DRAWING SET
ARE FROM INFORMATION PROVIDED BY THE
GENERAL CONTRACTOR, AGM MARINE
CONTRACTORS, INC.

REV.	DATE	DESCRIPTION	AS-BUILT *	RWT	DWN
				BY	CHK. APP'D.



TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS

MACMILLAN PIER
RECONSTRUCTION

LOCATION PLAN
AND INDEX TO DRAWINGS

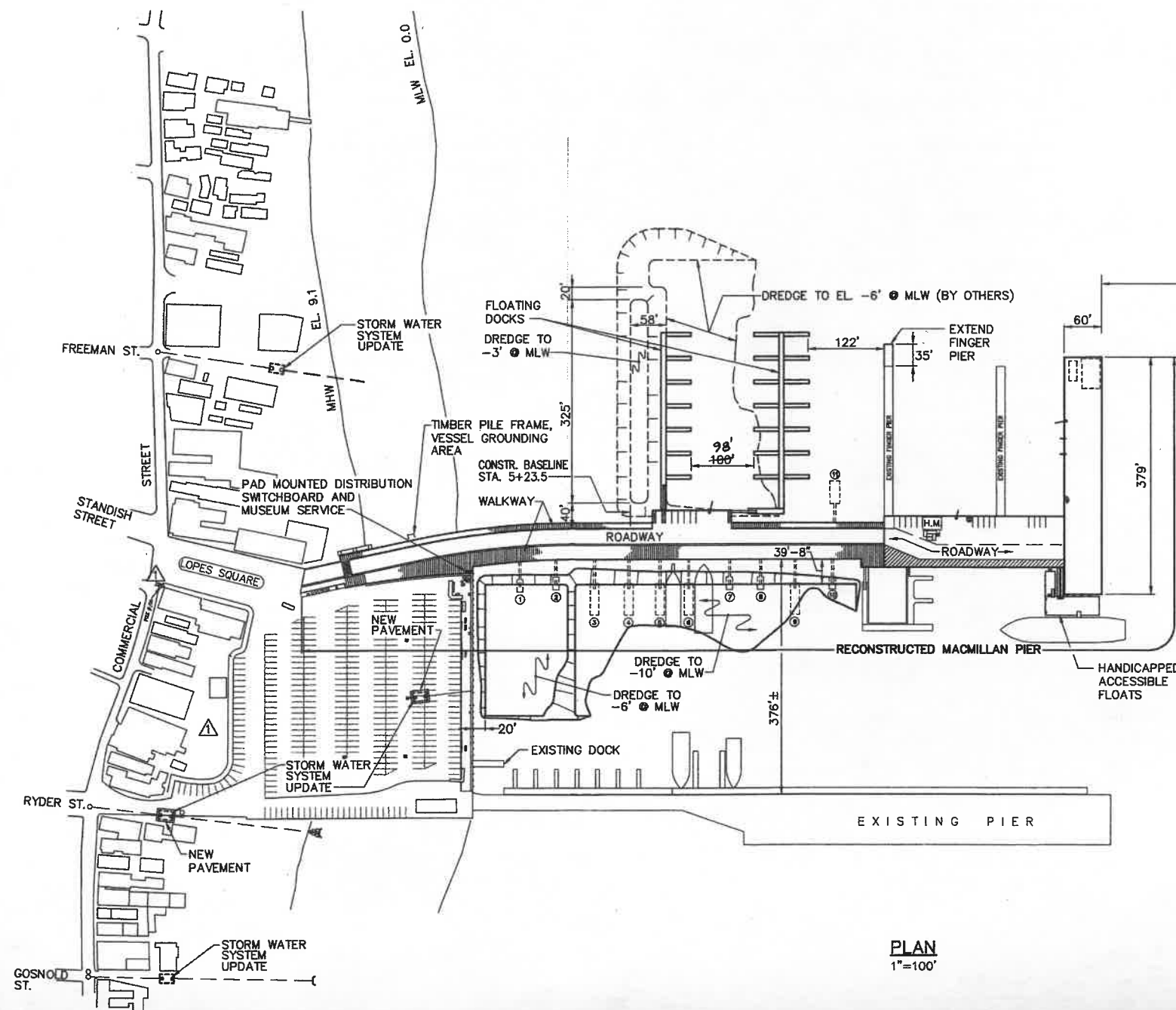
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

FS&T DRAWING NUMBER	SCALE: AS NOTED	DES. RWT	CHK. DPA	APPROVED
TP-090	DATE: DECEMBER 1999	DR. RWT	PROJ. ENGR. DPA	

PROVINCETOWN HARBOR

LEGEND AND ABBREVIATIONS

- FEATURES TO BE PROVIDED UNDER THIS CONTRACT SHOWN THUS
- EXISTING FEATURES SHOWN THUS
- ⊙ EXISTING POLE LIGHT TO BE RESET
- ⊙ 50' LIGHT POLE AND FLOODLIGHTS
- ⌋ JIB CRANE
- MLW MEAN LOW WATER
- MHW MEAN HIGH WATER
- H.M. HARBOR MASTER'S BUILDING
- EL ELEVATION
- DAVIT



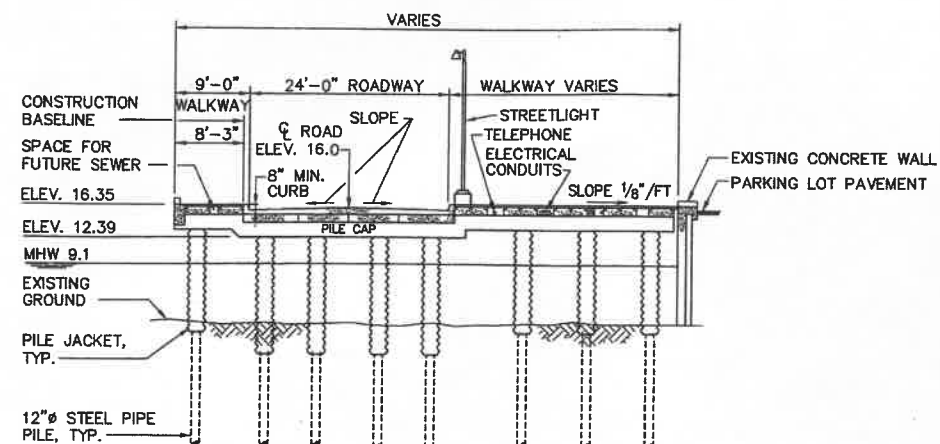
PLAN
1"=100'



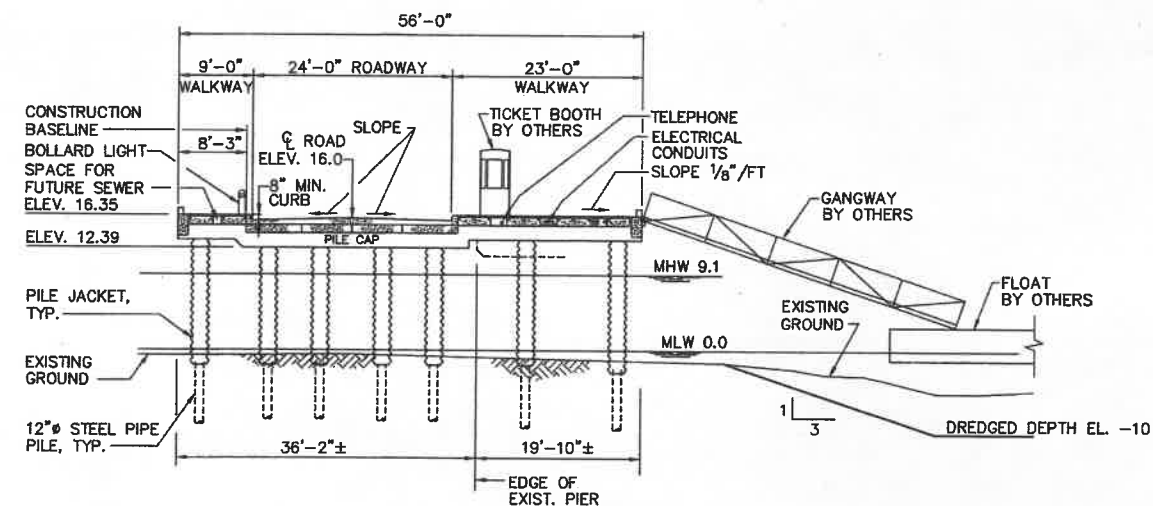
OCT. 03	REVISED, AS-BUILT	RWT	DWH
5/09/01	REDUCED SCOPE OF WORK	RWT	JA
REV.	DATE	DESCRIPTION	BY

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS			
MACMILLAN PIER RECONSTRUCTION			
GENERAL SITE PLAN			
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS			
DES. DPA	CHK. DWH	APPROVED	
DR. RWT	PROJ. ENG. DPA		

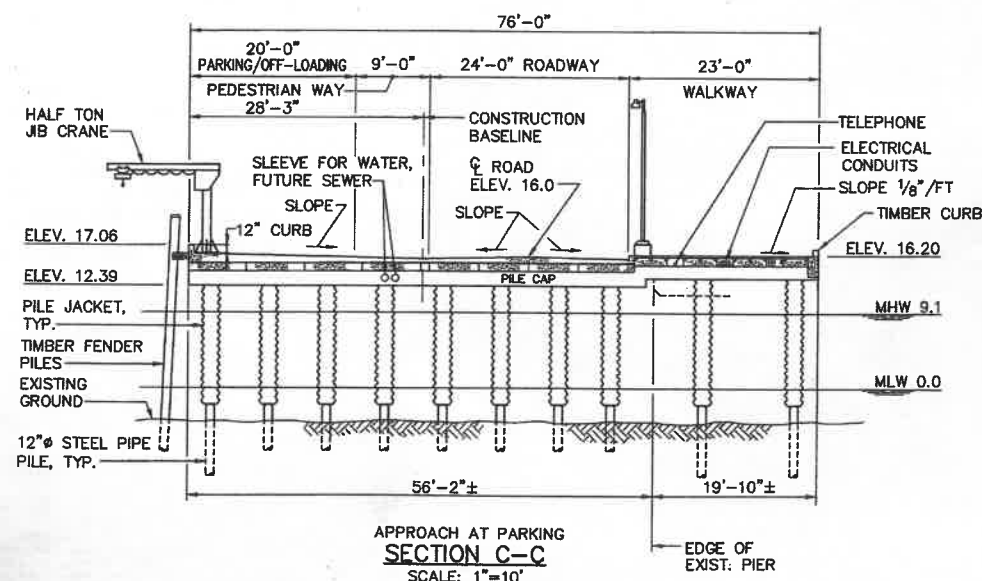
FS&T DRAWING NUMBER
TP-090
SCALE: 1"=100'
DATE: DECEMBER 1999



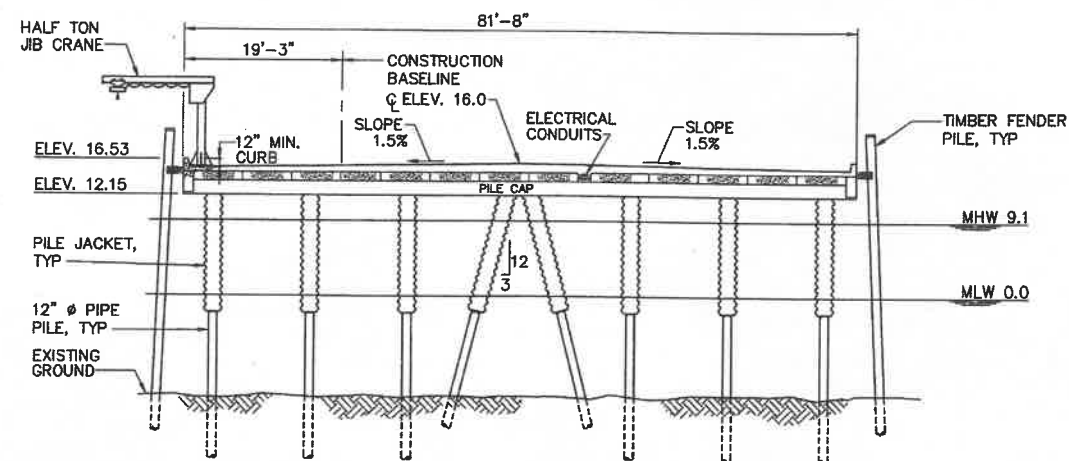
APPROACH AT TOWN PARKING LOT
SECTION A-A
SCALE: 1"=10'



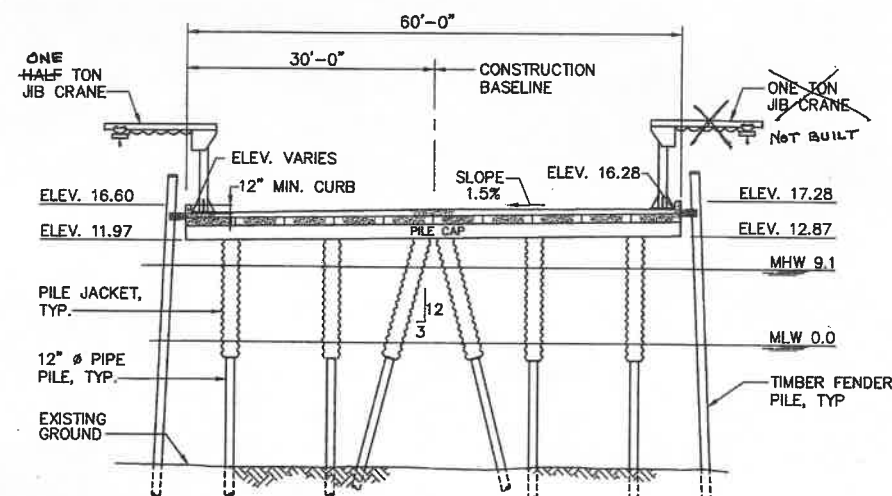
APPROACH
SECTION B-B
SCALE: 1"=10'



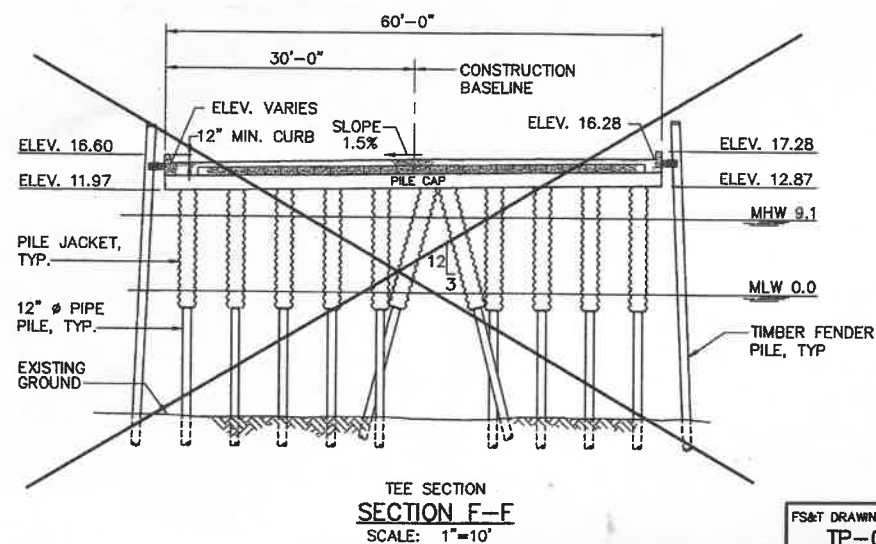
APPROACH AT PARKING
SECTION C-C
SCALE: 1"=10'



PIER AT MAIN AREA
SECTION D-D
SCALE: 1"=10'



TEE SECTION
SECTION E-E
SCALE: 1"=10'

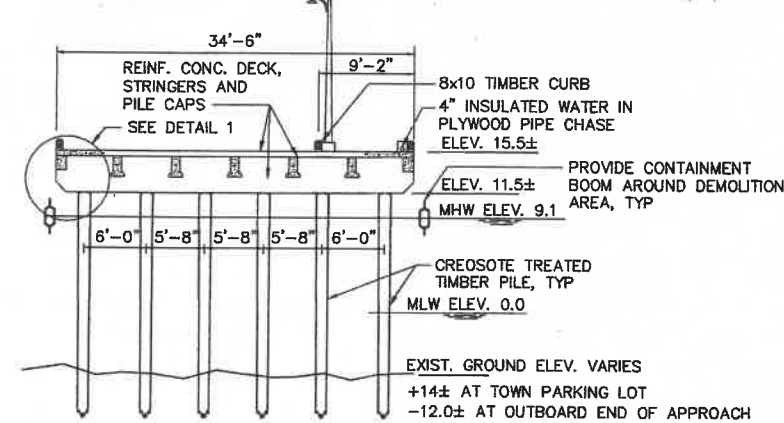
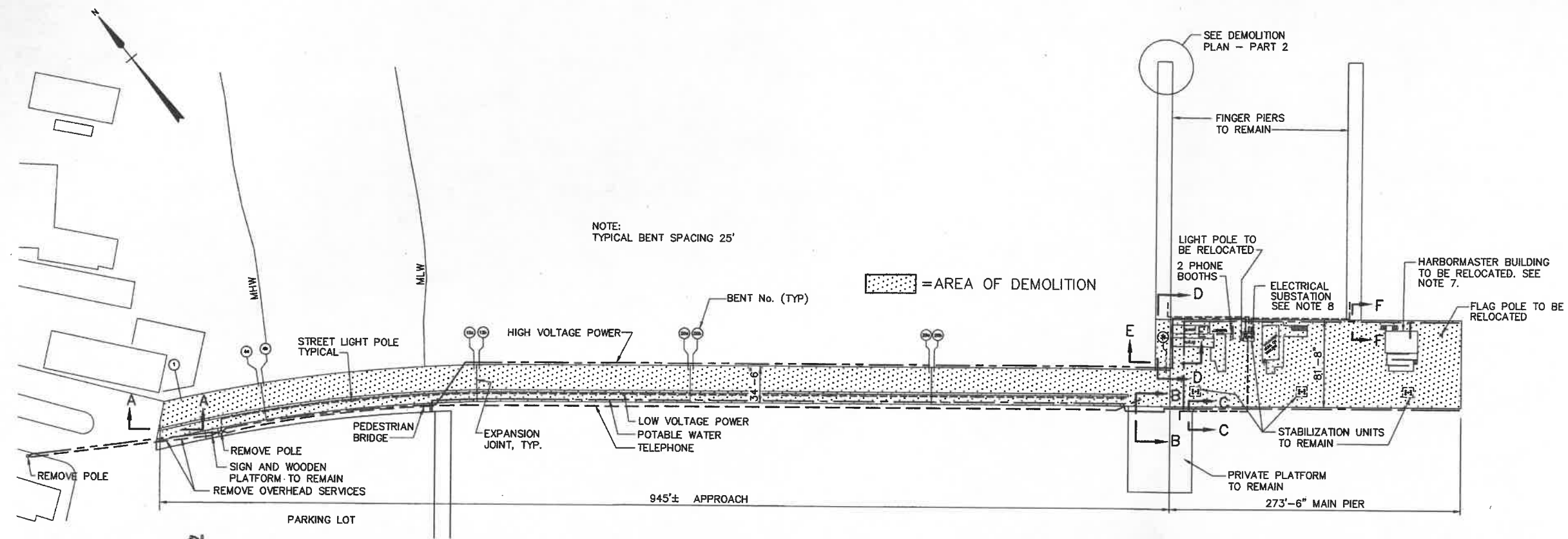


TEE SECTION
SECTION F-F
SCALE: 1"=10'

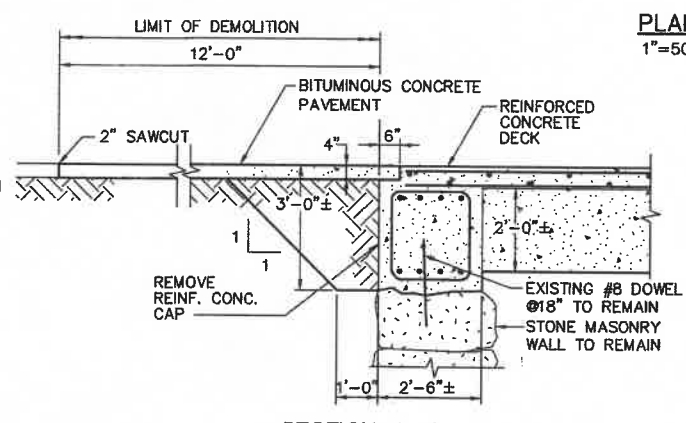
NOTE: SECTIONS ARE TAKEN ON SHEET NO. 3

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
001	03	REVISED, AS-BUILT	RWT	DWH	

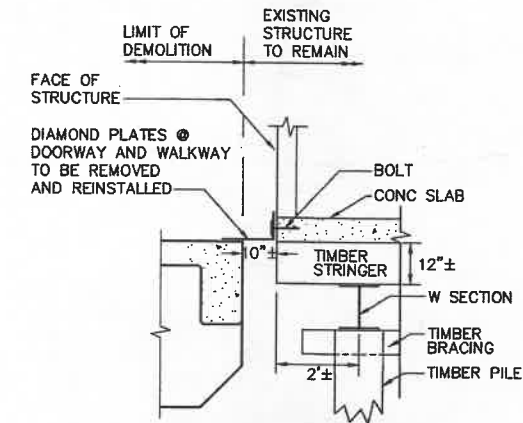
TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS					
MACMILLAN PIER RECONSTRUCTION					
PIER GENERAL SECTIONS					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
FS&T DRAWING NUMBER	SCALE: AS NOTED	DES. DWH	CHK. DWH	APPROVED	
TP-090	DATE: DECEMBER 1999	DR. RWT	PROJ. ENGR. DPA		



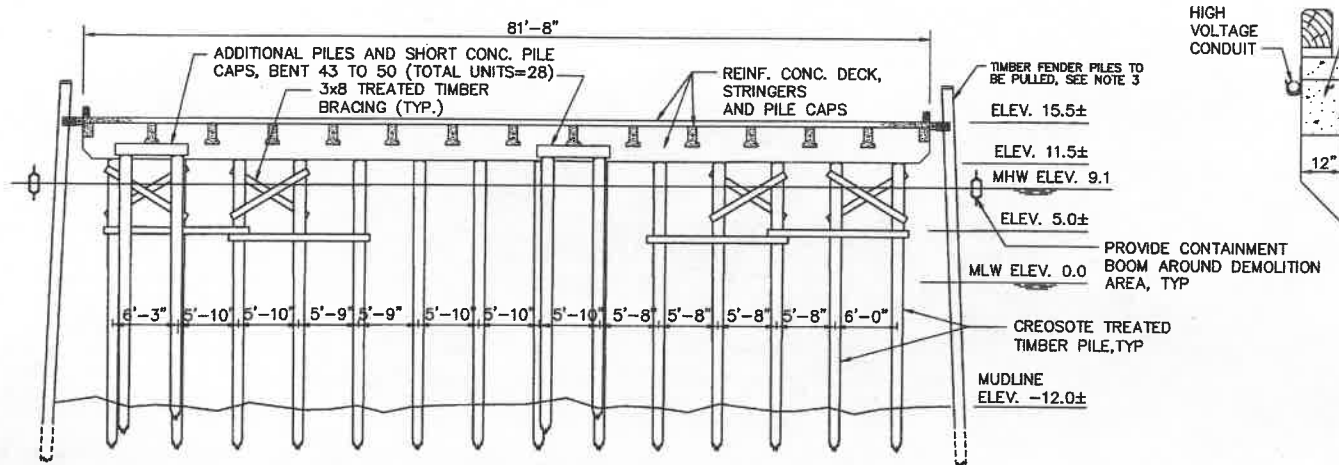
SECTION AT APPROACH
SCALE: 1/8"=1'-0"



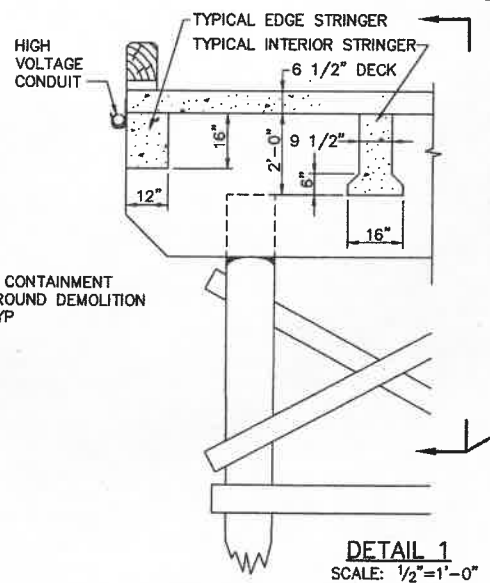
SECTION A-A
SCALE: 1/2"=1'-0"



SECTION B-B
SCALE: 1/2"=1'-0"



SECTION AT MAIN PIER
LOOKING OUTBOARD
SCALE: 1/8"=1'-0"



DETAIL 1
SCALE: 1/2"=1'-0"

GENERAL NOTES:

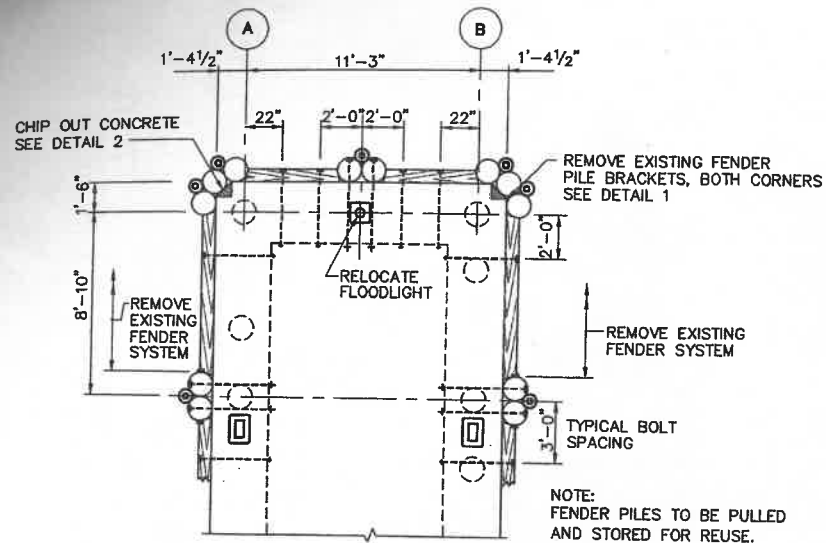
1. NO MATERIAL WILL BE ALLOWED TO BE DROPPED INTO THE WATER.
2. ALL TIMBER FOUNDATION PILES SHALL BE CUT AT THE MUDLINE.
3. EXISTING TIMBER FENDER PILES SHALL BE SALVAGED FOR OWNER AS DIRECTED.
4. ALL DEMOLISHED MATERIAL SHALL BE DISPOSED OF OFF SITE, BY THE CONTRACTOR, UNLESS NOTED OTHERWISE.
5. FOR SECTIONS C-C THRU F-F, SEE SHEET NO. 6
6. FOR DETAILS OF DEMOLITION AT STABILIZATION UNITS, SEE SHEET NO. 6
7. UTILITIES LEADING TO THE HARBORMASTER'S BUILDING INCLUDE ELECTRICITY, POTABLE WATER AND TELEPHONE. ALSO INCLUDED ARE A PROPANE TANK AT THE REAR OF THE BUILDING AND A SEWAGE HOLDING TANK BELOW THE BUILDING.
8. ELECTRICAL SUBSTATION CONSISTS OF TRANSFORMER, PANELBOARDS AND METER CABINETS. SUBSTATION SHALL REMAIN IN SERVICE DURING CONSTRUCTION. SEE CONSTRUCTION PHASING PLANS AND NOTES, SHEETS 7 THRU 9.

	OCT. 03	AS-BUILT	RWT	DWH	
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.

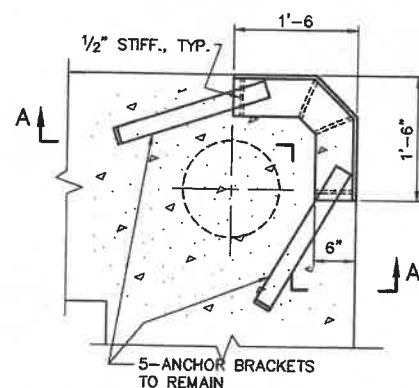
TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS					
MACMILLAN PIER RECONSTRUCTION					
EXISTING PIER DEMOLITION PLAN – PART 1					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
DES. MN		CHK. DWH		APPROVED	
DR. RWT		PROJ. ENGR. DPA			

FS&T DRAWING NUMBER
TP-090

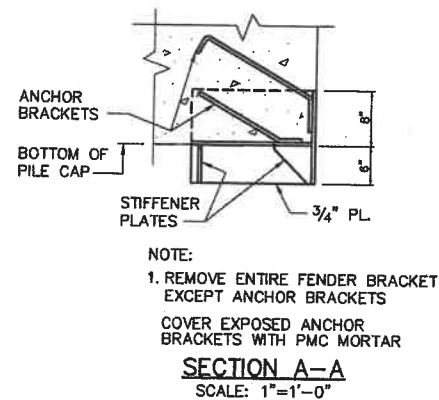
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DATE: DECEMBER 1999



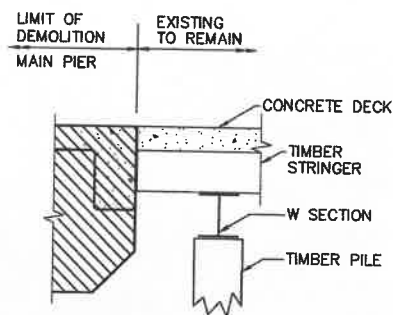
REMOVALS PLAN - END OF EXISTING NORTH FINGER PIER
SCALE: 1/4"=1'-0"



DETAIL 1 FENDER PILE BRACKET
SCALE: 1"=1'-0"

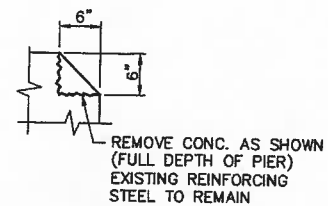


SECTION A-A
SCALE: 1"=1'-0"

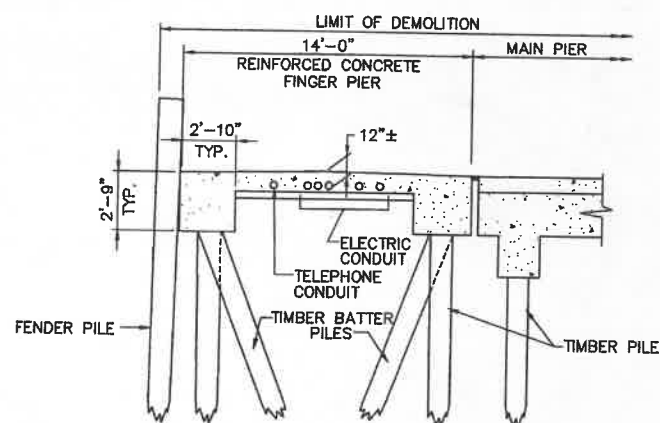


NOTE:
SECTION C-C CUT ON SHEET NO. 5

SECTION C-C
NOT TO SCALE

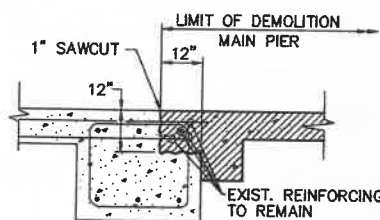


DETAIL 2
SCALE: 1"=1'-0"



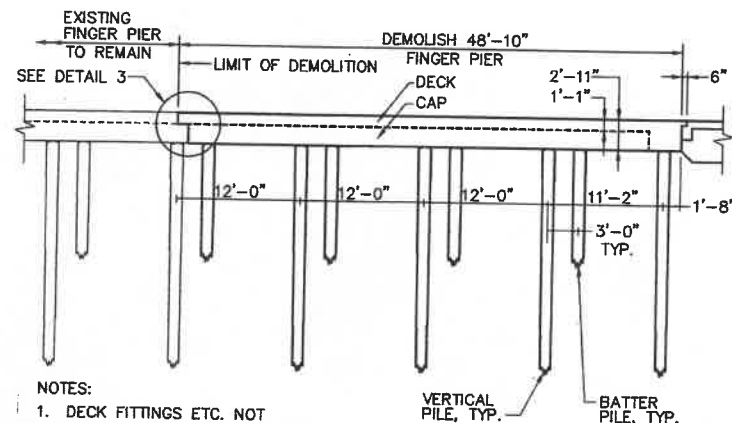
NOTE:
SECTION E-E CUT ON SHEET NO. 5

SECTION E-E
SCALE: 1/4"=1'-0"



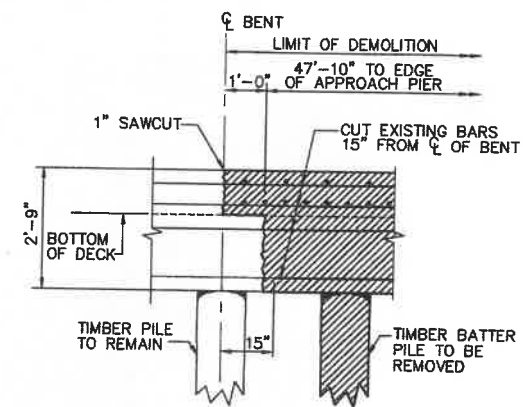
NOTE:
SECTION F-F CUT ON SHEET NO. 5

SECTION F-F
SCALE: 1/2"=1'-0"

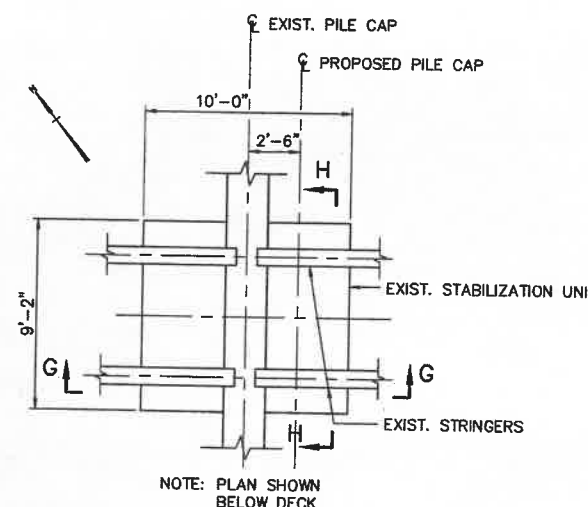


NOTES:
1. DECK FITTINGS ETC. NOT SHOWN FOR CLARITY
2. SECTION D-D CUT ON SHEET NO. 5

SECTION D-D
SCALE: 1/8"=1'-0"

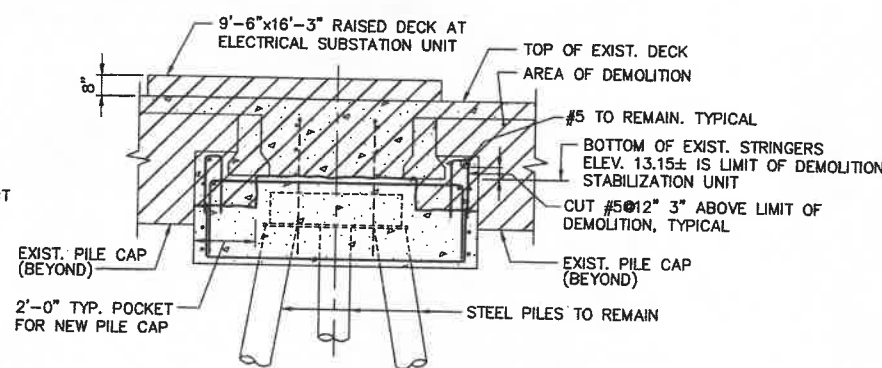


DETAIL 3
SCALE: 1/2"=1'-0"

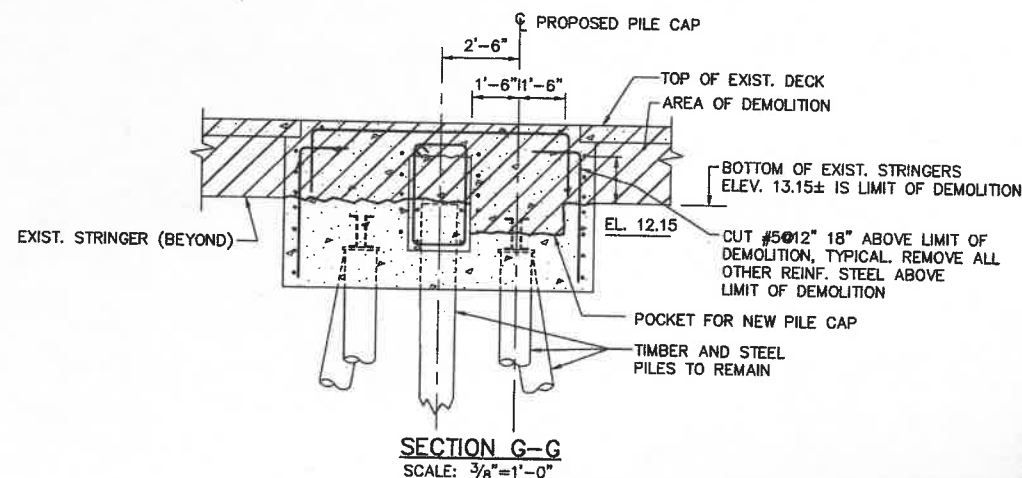


NOTE: PLAN SHOWN BELOW DECK

PLAN - EXISTING STABILIZATION UNIT
SCALE: 1/4"=1'-0"



SECTION H-H
SCALE: 3/8"=1'-0"



SECTION G-G
SCALE: 3/8"=1'-0"

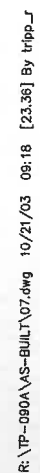
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
OCT. 03		AS-BUILT	RWT	DWH	

TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS
MACMILLAN PIER
RECONSTRUCTION

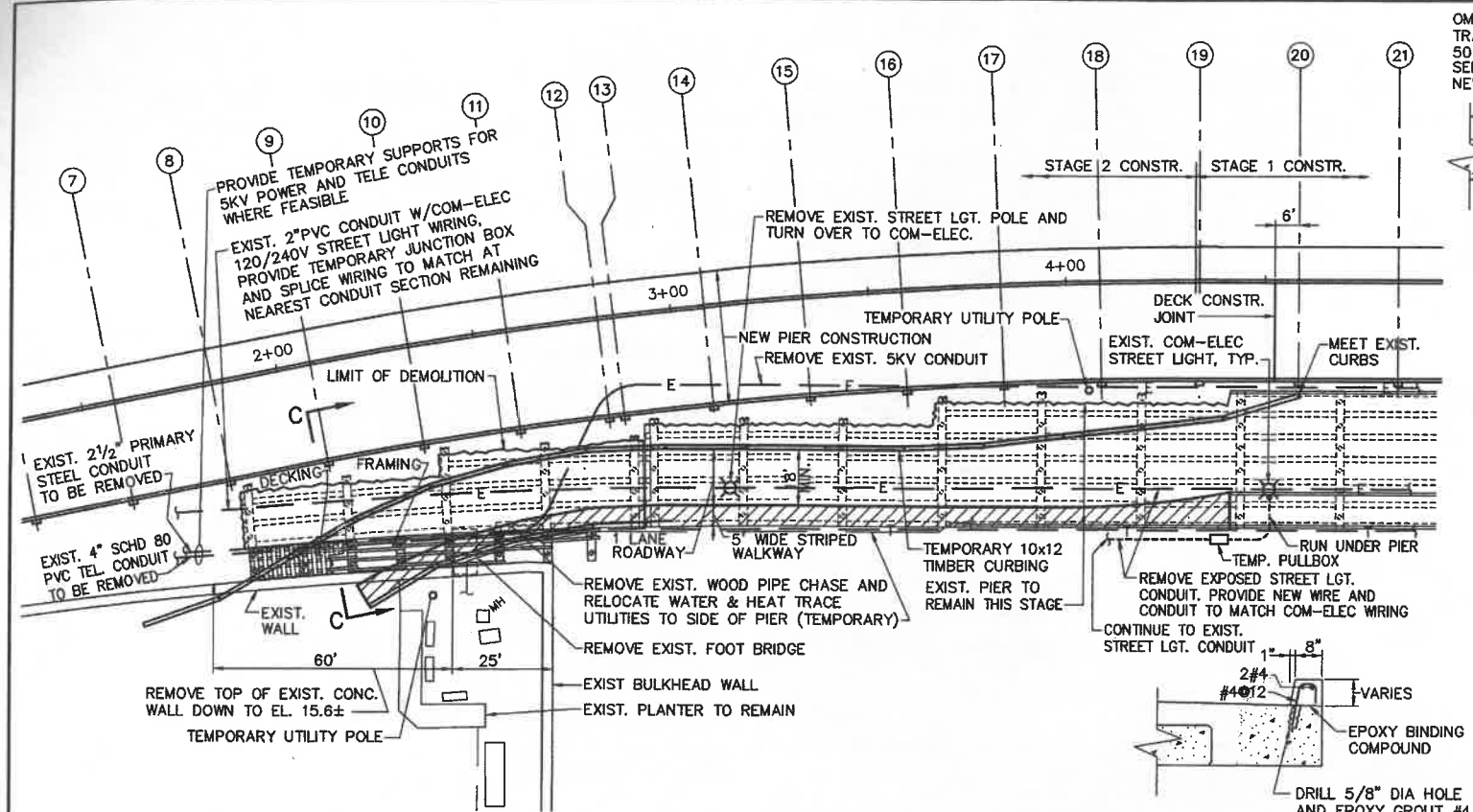
**EXISTING PIER
DEMOLITION PLAN - PART 2**

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

FS&T DRAWING NUMBER	SCALE: AS NOTED	DES. DWH	CHK. MN	APPROVED
TP-090	DATE: DECEMBER 1999	DR. RWT	PROJ. DPA	

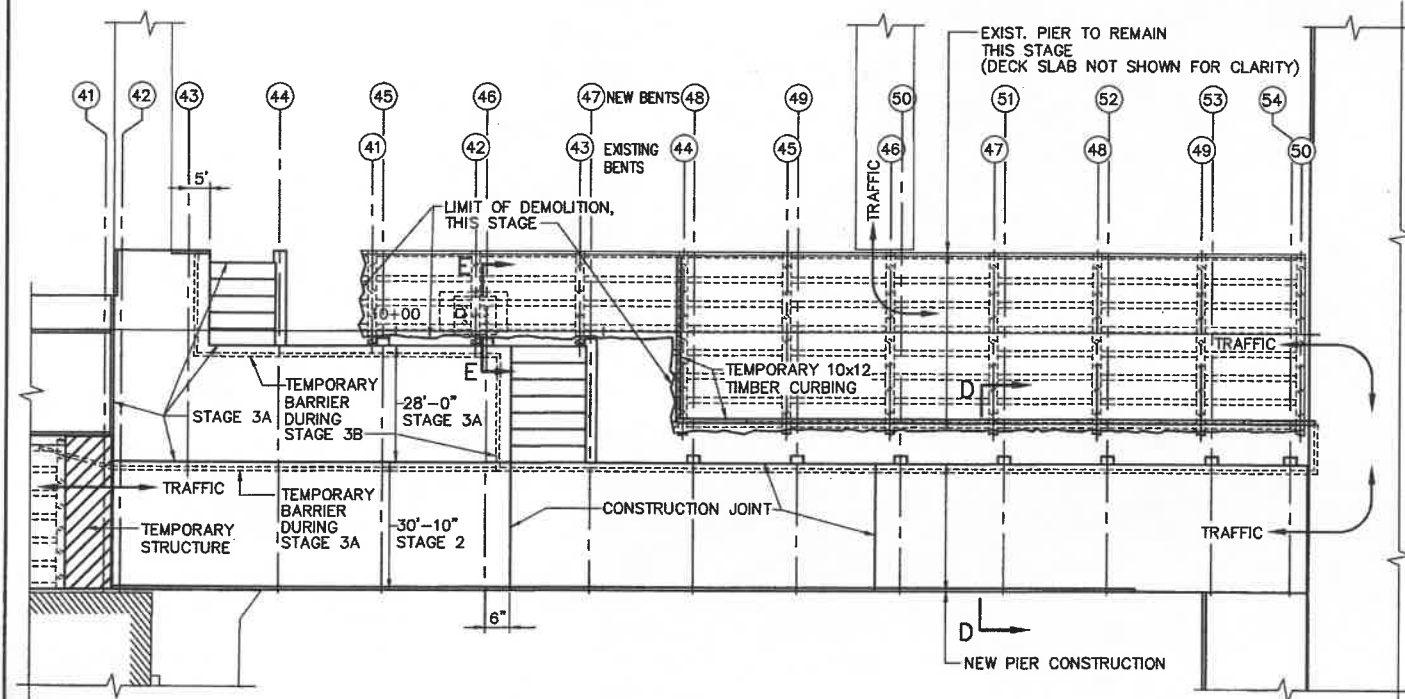


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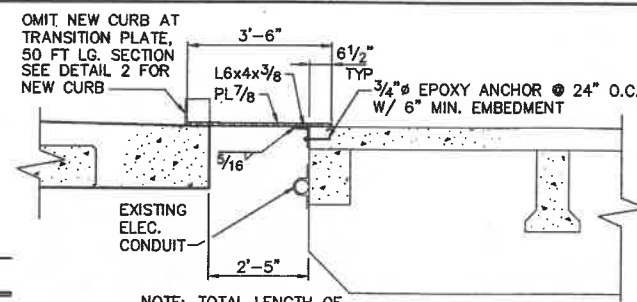


PART PLAN - STAGE 2
SCALE: 1"=20'

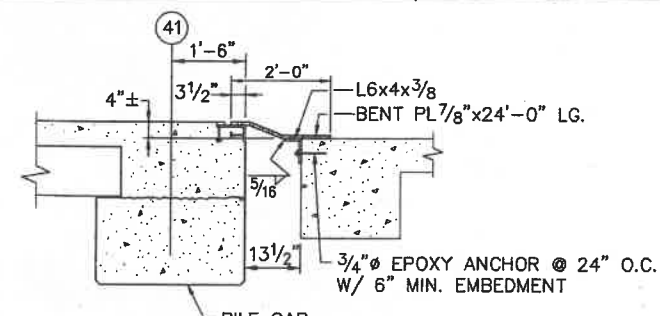
DETAIL 2-NEW CURB @ STAGE 4
SCALE: 1/2"=1'-0"



PART PLAN - STAGE 3A
SCALE: 1"=20'

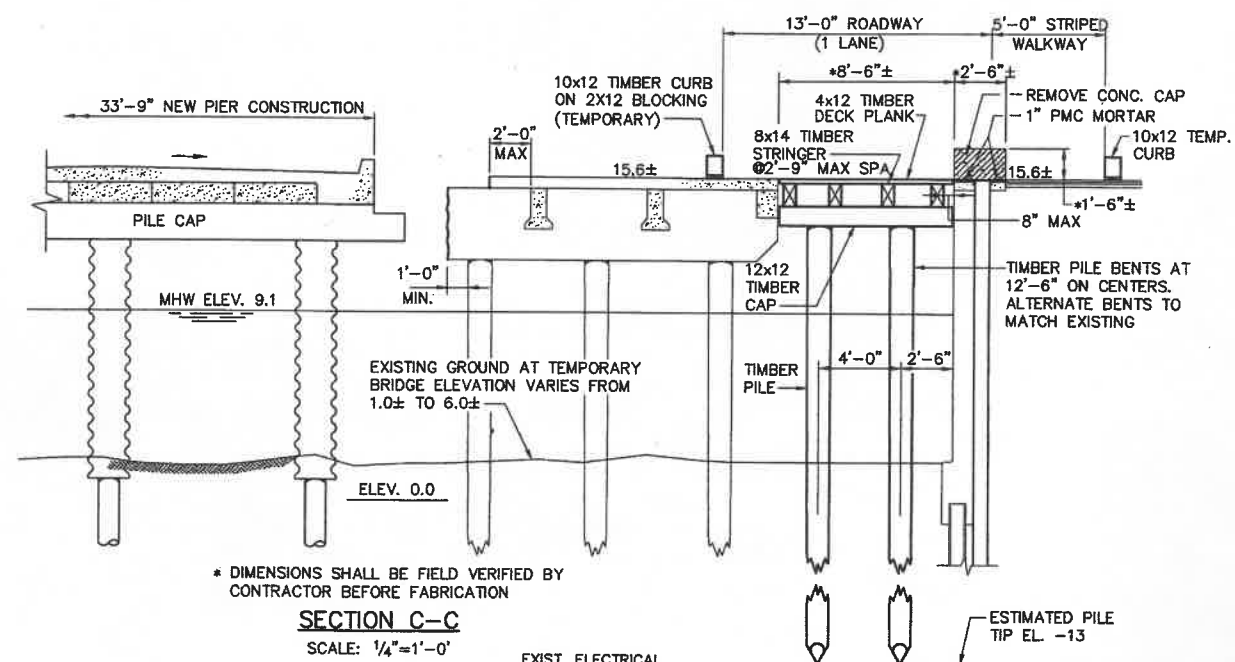


SECTION A-A
SCALE: 1/2"=1'-0"

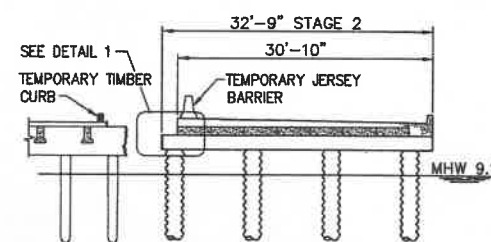


SECTION B-B
SCALE: 1/2"=1'-0"

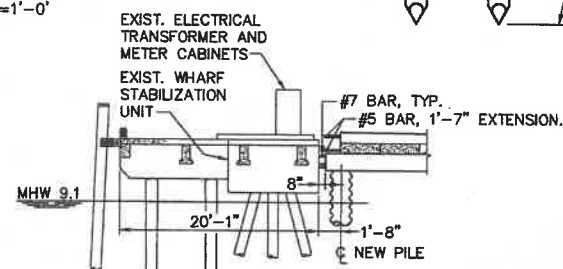
NOTE: SECTIONS A-A AND B-B ARE CUT ON SHEET NO. 7



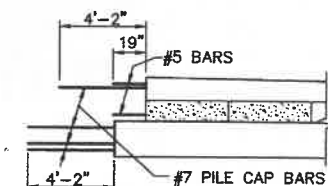
SECTION C-C
SCALE: 1/4"=1'-0"



SECTION D-D
SCALE: 1"=10'



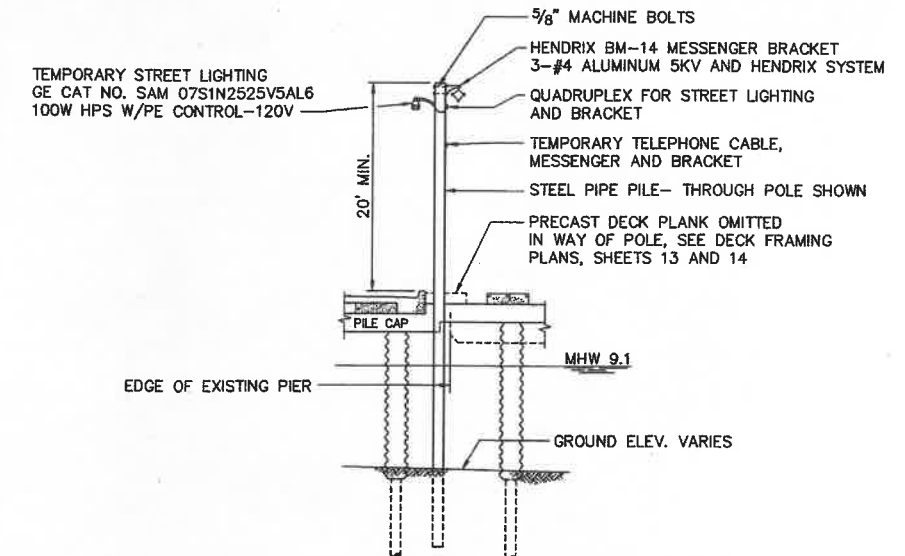
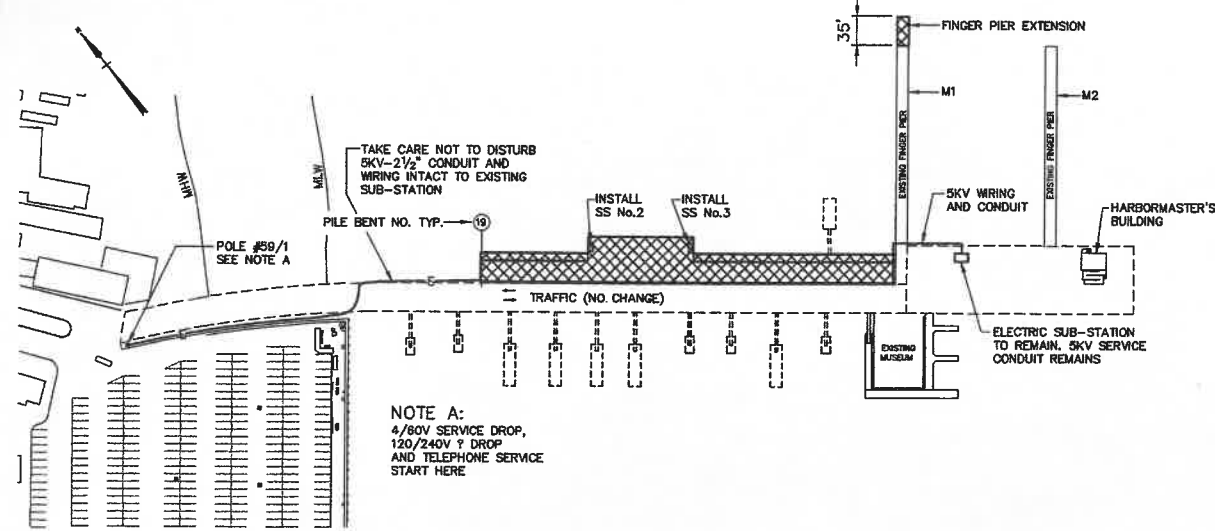
SECTION E-E
SCALE: 1/8"=1'-0"



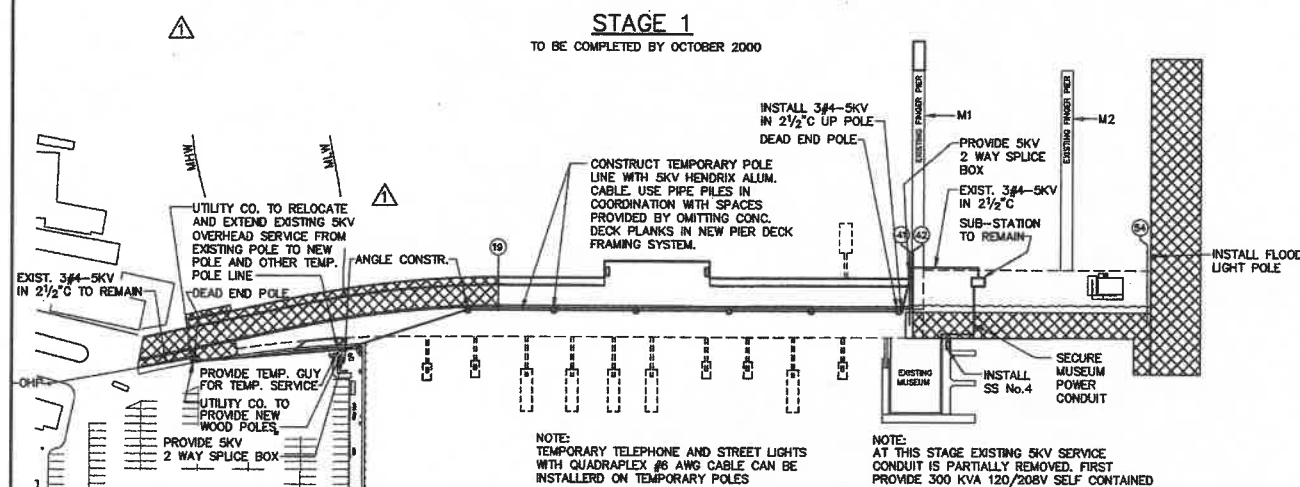
DETAIL 1
SCALE: 1/4"=1'-0"

REV.	DATE	AS-BUILT DESCRIPTION	RWT	DWH
OCT. 03				

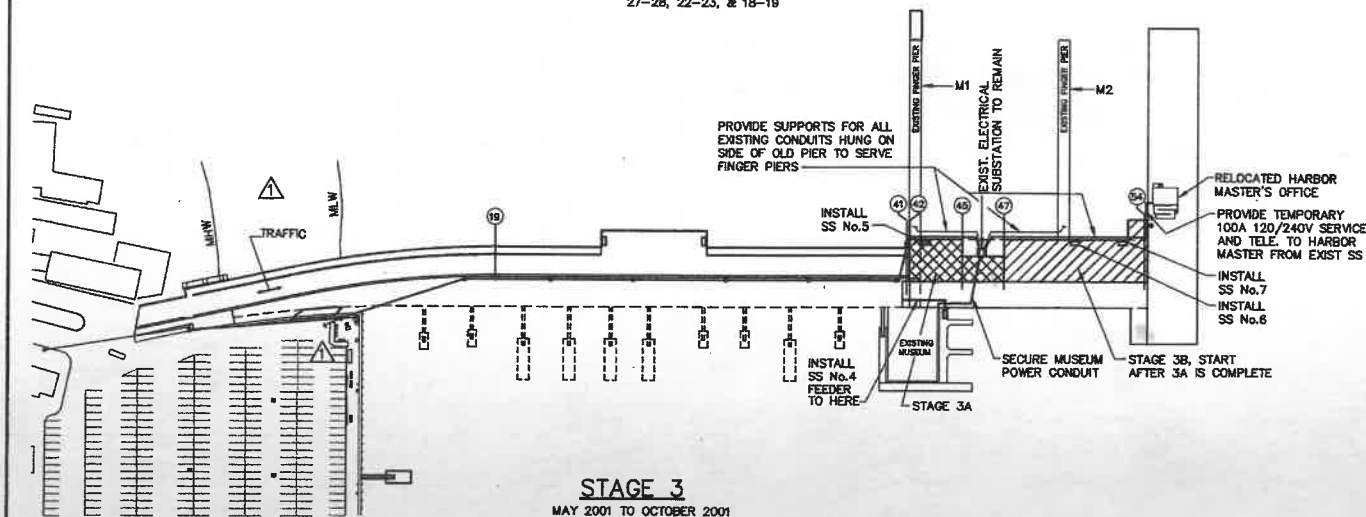
TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS			
MACMILLAN PIER RECONSTRUCTION			
CONSTRUCTION PHASING PART 2			
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS			
DES. DWH	CHK. DWH	APPROVED	
DR. RWT	PROJ. DPA		



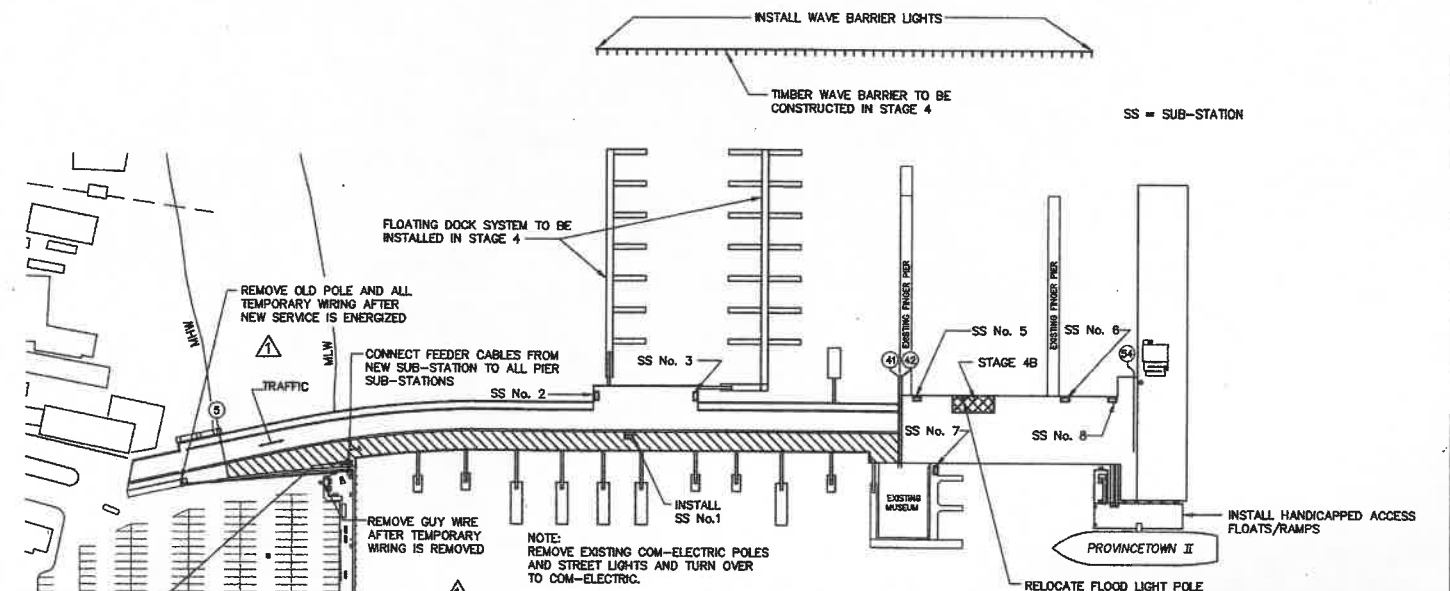
SECTION
TYPICAL TEMPORARY PIER POWER POLE
SCALE: 1/8" = 1'-0"



STAGE 2
OCTOBER 2000 TO MAY 2001
TEMPORARY POLE LINE POLES TO BE LOCATED BETWEEN BENT NOS. AS FOLLOWS:
40-41, 38-37, 32-33
27-28, 22-23, & 18-19



STAGE 3
MAY 2001 TO OCTOBER 2001

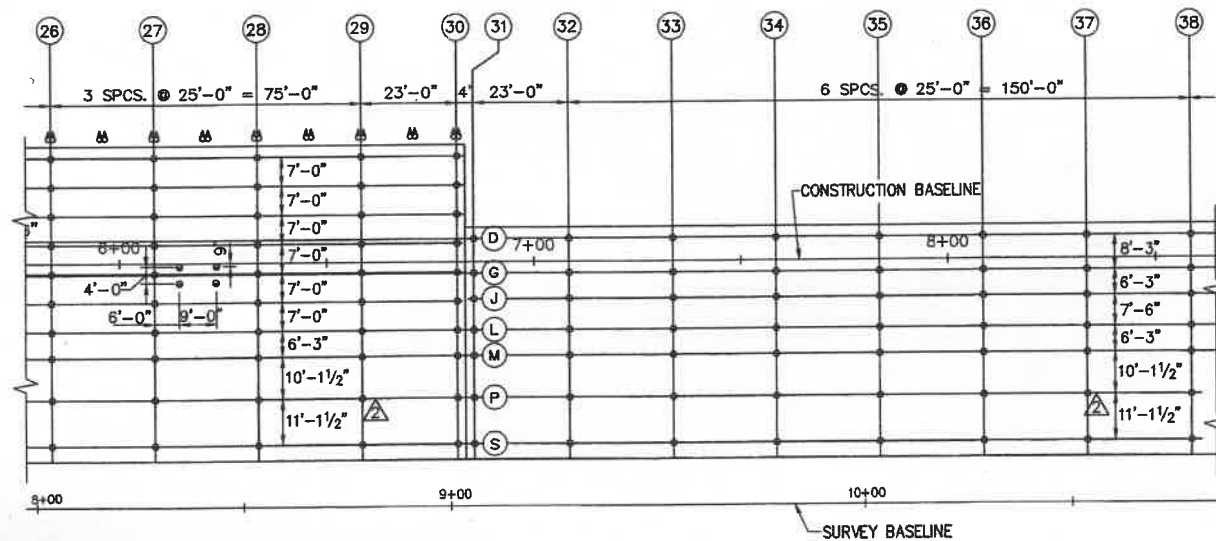


STAGE 4
OCTOBER 2001 TO MAY 2002

NOTE:
FOR STAGE CONSTRUCTION NOTES SEE SHEET 7

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03	AS-BUILT	RWT	GCN	
	5/09/01	REDUCED SCOPE OF WORK	RWT	JA	
		DESCRIPTION			

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS					
MACMILLAN PIER RECONSTRUCTION					
CONSTRUCTION PHASING PART 3 - ELECTRICAL					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
FS&T DRAWING NUMBER TP-090	SCALE: 1"=100'	DES. GCN	CHK. GCN	APPROVED	
	DATE: DECEMBER 1999	DR. RWT	PROJ. ENGR. DPA		



BENT

6"

3'-0"

PILE CAP

2-#6, TYP

12" Ø STEEL PIPE PILE

16" Ø PIPE JACKET, PROVIDE SUPPORT ON PILE

FILL ANNULAR SPACE WITH CONCRETE

MLW O.O

2'-0", TYP

CLOSURE FOR CONCRETE

Diagram illustrating the connection of a steel pipe pile to a backing ring. The diagram shows a cross-section of the pile and ring. Labels include: BACKING RING, STEEL PIPE PILE, TACK WELD UNDER EACH PIN, and BACKING RING. A note specifies: MIN. 3 PINS $\frac{3}{16}$ " DIA. OR $\frac{3}{16}$ " SQ.

NOTE:
FOR LAYOUT OF EXISTING SURVEY BASELINE
SEE BASELINE NO. 1, SHEET NO. 59

	OCT. 03	AS-BUILT	RWT	DWH	
	11/12/01	REVISED STAGE 2 AND 4 APPROACH PIER PILE LAYOUT	RWT	DWH	
	4/10/01	REVISED STAGE 1 APPROACH PIER PILE LAYOUT	RWT	DWH	
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.

TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS

MACMILLAN PIER
RECONSTRUCTION

PILE PLAN - PART 1

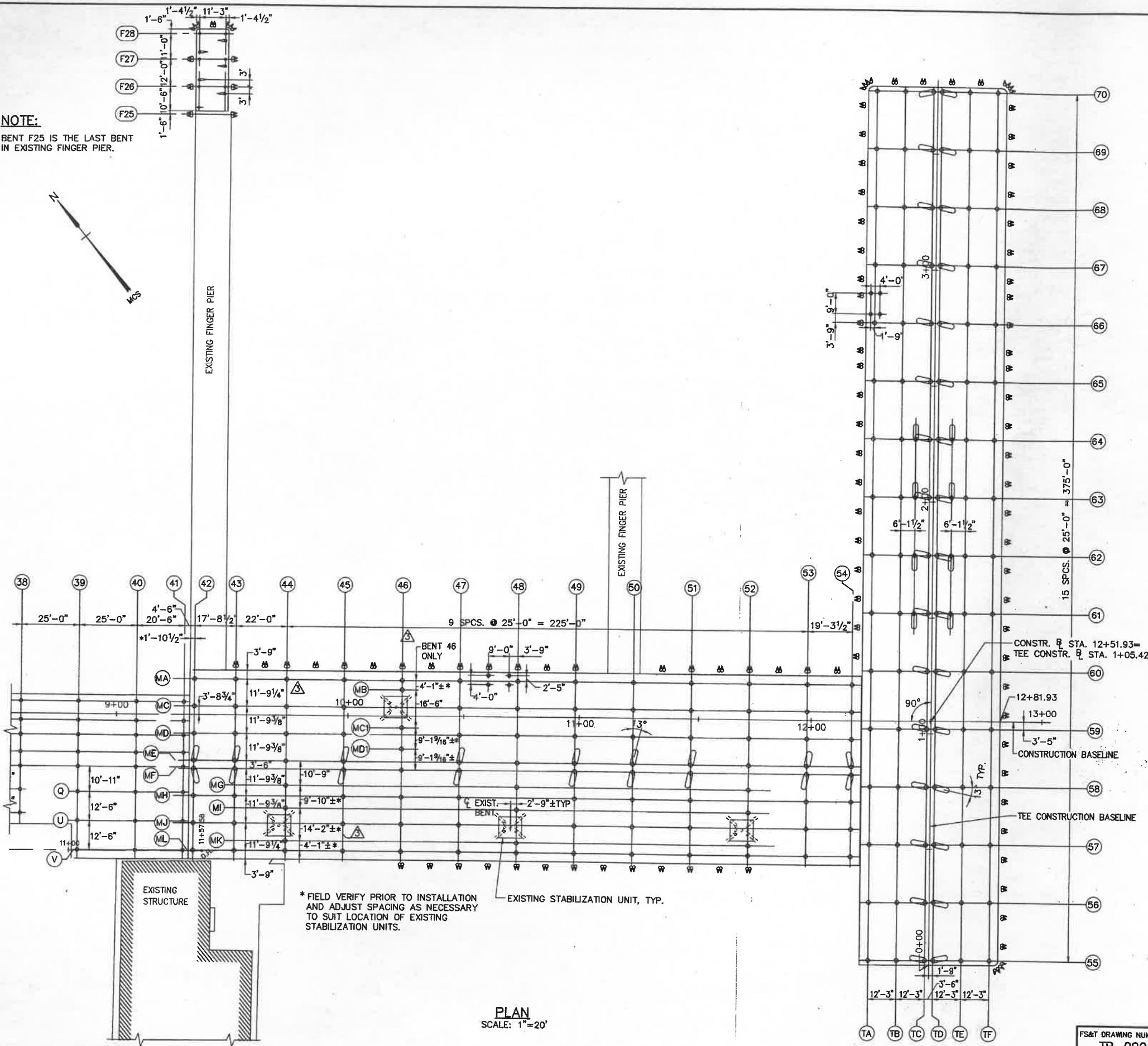
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

FS&T DRAWING NUMBER TP-090	SCALE: 1"=20'	DES. DWH	CHK. MN	APPROVED
	DATE: DECEMBER 1999	DR. RWT	PROJ. ENGR. DPA	

SHEET NO. 10 OF 66

NOTE:

BENT F25 IS THE LAST BENT IN EXISTING FINGER PIER.



PLAN
SCALE: 1"=20'

SCHEDULE OF ESTIMATED PILE TIP ELEVATIONS:

DESCRIPTION	BENT NO.	TIP ELEVATION
12.75" OD STEEL PIPE FOUNDATION PILES	1-3 4, 5 & 6 ROWS D, N & R	-15
12.75" OD STEEL TAPERTUBE FOUNDATION PILES	4 & 6 ROWS G & M	-30
14" OD STEEL TAPERTUBE FOUNDATION PILES	4 & 6 ROW K BENT 5 ROWS G, K & M	-25
12.75" OD STEEL PIPE FOUNDATION PILES	7-8 9-12 13-18 19-32 33-38 39-41	-20 -25 -30 -32 -34 -36
14" OD STEEL TAPERTUBE FOUNDATION PILES	42-51 52-62 63-70	-44 -55 -57
TIMBER FOUNDATION PILES	F25 - F28	-30
TIMBER FENDER PILES	ALL	-23

SEE
SHEET 11A

THE INTENT OF THIS SCHEDULE IS TO PROVIDE A BASIS FOR BIDDING ONLY. THE PILES SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS TO THE REQUIRED DESIGN CAPACITIES. DUE TO VARYING SOIL CONDITIONS, ACTUAL TIP ELEVATIONS WILL DEVIATE FROM THIS SCHEDULE.

LEGEND:

- STEEL PIPE PILE, 12.75" OD, 11.75" ID, PLUMB
- ◇ STEEL TAPERTUBE PILE, 14" OD, PLUMB
- ◇ STEEL TAPERTUBE, 14" OD, BATTER 3H, 12V
- ◇ STEEL TAPERTUBE PILE, 14" OD, BATTER 5H, 12V
- ◇ TIMBER FENDER PILE
- TIMBER FOUNDATION PILE, PLUMB
- ◇ TIMBER FOUNDATION PILE, BATTER 4 1/2H, 12V
- STEEL PIPE PILE, 10.75" OD, 10.02" ID, PLUMB

D.H. SURVEY DRILL HOLE ON EXISTING PIER

PILE DESIGN LOADS:

A. APPROACH PIER

MAXIMUM COMPRESSION:

BENTS 1 TO 3 & 7 TO 41 ... 42 TONS

BENTS 4, 5 & 6 ... 42 TONS

ROWS D, N & R ... 42 TONS

BENTS 4, 5 & 6 ... 60 TONS

ROWS G, K & M ... 60 TONS

MAXIMUM TENSION 0 TONS

MAXIMUM LATERAL LOAD 1 TON

B. MAIN AREA AND TEE SECTION

MAXIMUM COMPRESSION 75 TONS

MAXIMUM TENSION 0 TONS

C. FINGER PIER EXTENSION

MAXIMUM COMPRESSION 15 TONS

MAXIMUM TENSION 1.6 TONS

NOTE:

FOR HANDICAPPED ACCESS FLOAT SPUD PILES SEE SHEET 35.

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
1	11/12/01	REVISED STAGE 2 AND 4 APPROACH PIER PILE LAYOUT	RWT	DWH	
2	5/14/01	REVISED TO CHANGE PILE TYPE, SPACING AND DESIGN LOAD AT MAIN PIER AND TEE	ARC	DWH	
3	4/10/01	REVISED STAGE 1 APPROACH PIER PILE LAYOUT	RWT	DWH	

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS	
MACMILLAN PIER RECONSTRUCTION	
PILE PLAN - PART 2	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS	
DES. DWH	CHK. MN
PROJ. ENGR. DPA	APPROVED



FS&T DRAWING NUMBER
TP-090

SCALE: 1"=20'
DATE: DECEMBER 1999

DES. DWH
DR. RWT

CHK. MN
PROJ. ENGR. DPA

APPROVED

R:\TP-090\AS-BUILT\PILE TIP.dwg 10/21/03 09:21 [100.41] By: lupp_j

ROW BENT	APPROACH PIER AS BUILT PILE TIP ELEVATIONS (FEET BELOW MEAN LOW WATER)															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
1							-11.3		-16.4		-16.6	-16.6	-17.4			
2							-17.1		-17.9		-19.6	-18.4	-15.9			
3				-15.1			-15.9		-15.9		-15.4	-16.6		-16.0	-15.3	
4																
5				-16.0			-15.6			-18.4		-17.6		-13.2	-11.3	
6				-17.6			-18.1		-16.1	-16.4		-16.1		-14.5	-14.1	
7				-13.2			-14.6		-13.9		-10.9	-10.7		-11.1	-12.5	
8														-13.5		-13.4
9				-12.7			-18.7		-18.7		-18.7	-15.7		-21.1	-21.2	-21.8
10				-22.8			-21.8		-21.8		-19.8	-20.8		-21.2	-21.2	-18.2
11				-22.5			-22.5		-21.5		-20.5	-20.5		-23.4		-22.4
12				-24.5			-23.5		-23.5		-25.5	-21.5		-23.0		-21.0
13				-22.7			-22.7		-23.7		-23.7	-20.7		-24.0		-24.0
14				-25.0			-24.0		-25.0		-24.0	-25.0		-26.4		-26.4
15				-25.0			-25.0		-25.0		-25.0	-25.0		-26.6		-26.6
16				-25.4			-25.4		-24.4		-24.4	-25.2		-26.1		-26.1
17				-26.2			-25.2		-25.2		-25.2	-25.2		-26.3		-26.3
18				-29.5			-29.5		-29.5		-29.5	-25.5		-26.0		-26.0
19				-28.7			-28.7		-26.7		-27.7	-26.7		-27.6		-26.6
20				-28.8			-28.8		-28.8		-28.8	-27.3		-28.5		-27.5
21				-28.1			-28.1		-28.1		-29.1	-32.1		-27.1		-27.1
22				-29.7			-28.3		-28.3		-28.3	-28.3		-23.4		-24.4
23				-31.1			-29.1		-28.6		-29.1	-26.8		-25.4		-26.4
24				-28.7			-28.2		-28.0		-28.0	-28.0		-27.8		-27.8
25								-32.5			-32.5	-32.5		-28.6		-26.6
26											-32.2	-32.2		-30.5		-29.5
27		-32.3	-32.3						-32.3					-27.9		-27.9
28									-30.3		-28.3	-28.3		-28.5		-26.5
29	-29.6	-28.6	-28.6		-28.6	-29.1		-28.6			-27.6	-24.6		-28.7		-26.7
30	-28.2	-32.2	-28.2		-28.2	-28.2		-29.2			-28.2	-28.2		-28.1		-29.1
31				-27.7			-27.7		-27.7		-27.7	-26.7		-29.1		-32.1
32				-28.0			-28.0		-28.0		-28.0	-27.0		-28.9		-29.9
33				-32.7			-29.7		-30.7		-31.0	-29.7		-32.6		-30.6
34				-33.0			-31.0		-31.0		-30.0	-30.0		-30.9		-30.0
35				-35.0			-35.0		-34.7		-35.0	-35.3		-30.3		-30.5
36				-34.4			-34.4		-34.4		-34.4	-34.4		-31.5		-32.5
37				-35.5			-34.5		-34.5		-35.0	-35.2		-32.2		-31.2
38				-34.0			-34.3		-33.9		-34.8	-35.3		-31.8		-30.8
39														-31.0		-30.0
40														-33.7		-31.7
41														-30.5		-31.5

ROW BENT	MAIN PIER AS BUILT PILE TIP ELEVATIONS (FEET BELOW MEAN LOW WATER)											
	MA	MB	MC	MC1	MD	MD1	ME	MF	MG	MH	MI	ML
42	-36.4		-35.4		-34.4		-33.8	-35.7		-31.2		-27.2
43	-36.7		-35.7		-34.7		-34.2	-31.3		-30.6		-27.6
44	-34.7				-33.7		-35.7		-33.6		-32.6	-31.6
45	-36.4		-34.4		-34.4		-32.9	-32.7		-35.0		-36.0
46	-36.5	-35.5		-36.5		-35.5		-35.5		-36.7		-35.7
47	-32.1		-39.1		-36.1		-36.4	-38.3		-37.9		-37.9
48	-37.8		-37.8		-38.8		-40.8		-37.2		-37.2	-37.2
49	-39.0		-40.0		-40.0		-36.4	-38.1		-37.9		-38.9
50	-38.8		-38.8		-39.8		-38.2	-37.2		-38.9		-36.9
51	-38.9		-39.9		-41.9		-36.4	-38.3		-43.4		-43.4
52	-40.3		-40.3		-41.3		-42.3		-43.6		-40.6	-39.6
53	-42.4		-40.4		-41.4		-38.8	-38.8		-43.0		-42.0
54	-42.3		-39.3		-38.3		-38.7	-41.6		-43.6		-41.6

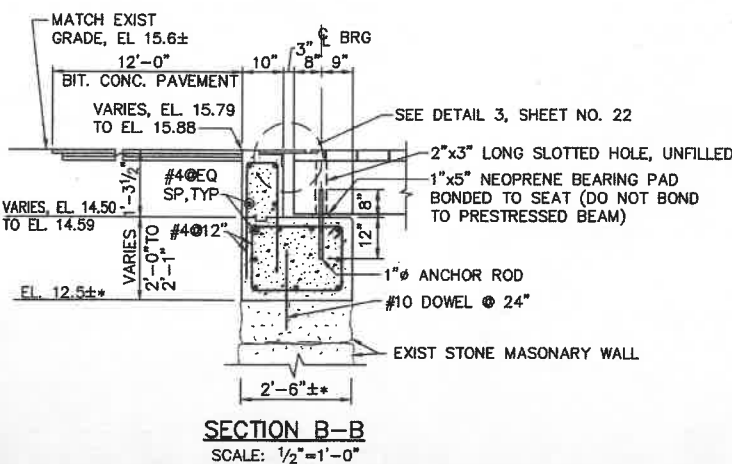
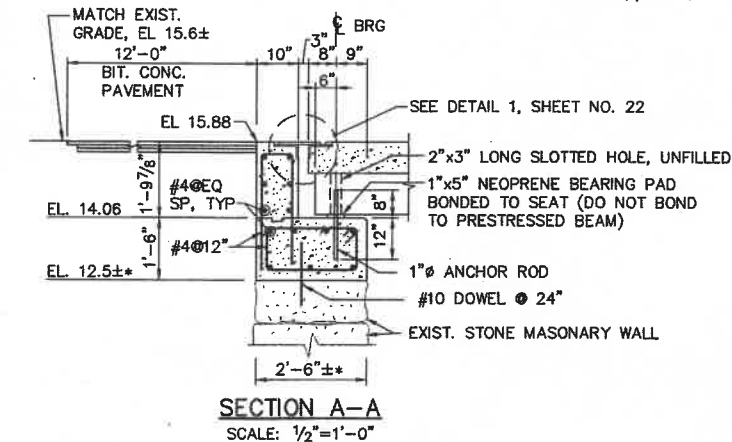
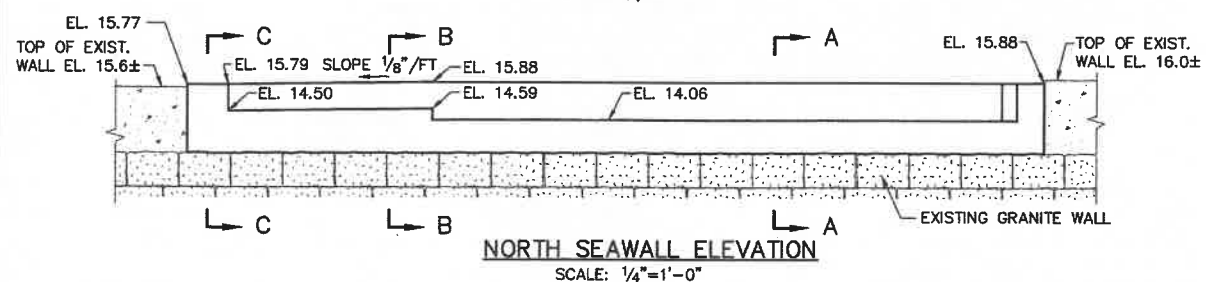
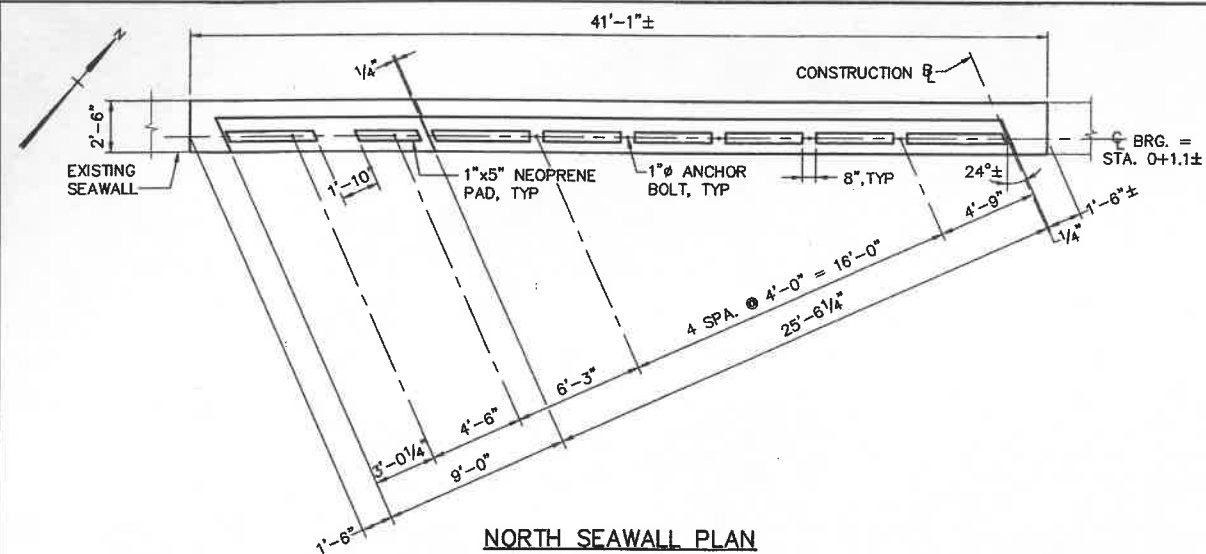
ROW BENT	TEE PIER AS BUILT PILE TIP ELEVATIONS (FEET BELOW MEAN LOW WATER)						
	TA	TB	TBC	TC	TD	TDE	TE
55	-45.7	-43.7		-43.0	-43.0		-45.7
56	-42.6	-44.6		-44.8	-42.9		-44.6
57	-55.3	-55.0		-45.0	-42.3		-48.0
58	-62.0	-50.0		-46.0	-39.4		-46.0
59	-44.4	-50.1		-39.5	-39.8		-44.1
60	-41.0	-42.0		-38.2	-37.4		-42.0
61	-40.4	-39.4	-35.7	-36.6	-39.7	-38.0	-40.4
62	-41.6	-40.6	-41.2	-37.9	-38.0	-43.0	-41.6
63	-41.2	-42.2	-39.6	-40.6	-45.5	-36.8	-42.3
64	-41.9	-42.9	-38.9	-40.3	-42.2	-38.9	-43.9
65	-39.5	-41.5		-38.9	-41.8		-42.5
66	-41.8	-41.8		-40.2	-44.1		-43.8
67	-44.2	-44.2		-42.5	-42.5		-45.2
68	-46.0	-41.0		-45.2	-44.3		-45.0
69	-48.8	-46.8		-44.1	-46.0		-48.8
70	-48.2	-48.2		-45.6	-45.6		-49.2

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03	AS-BUILT	RWT	DWH	

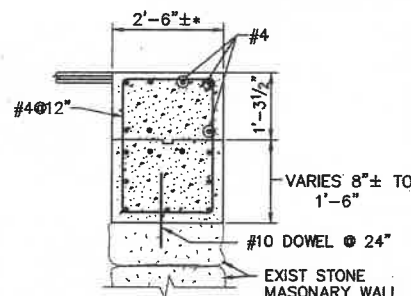
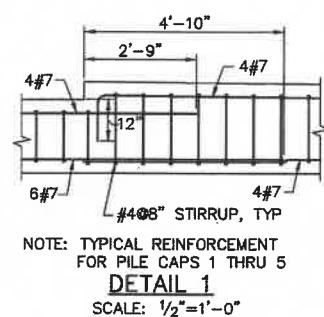


TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS
MACMILLAN PIER RECONSTRUCTION
AS-BUILT PILE TIP ELEVATIONS
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

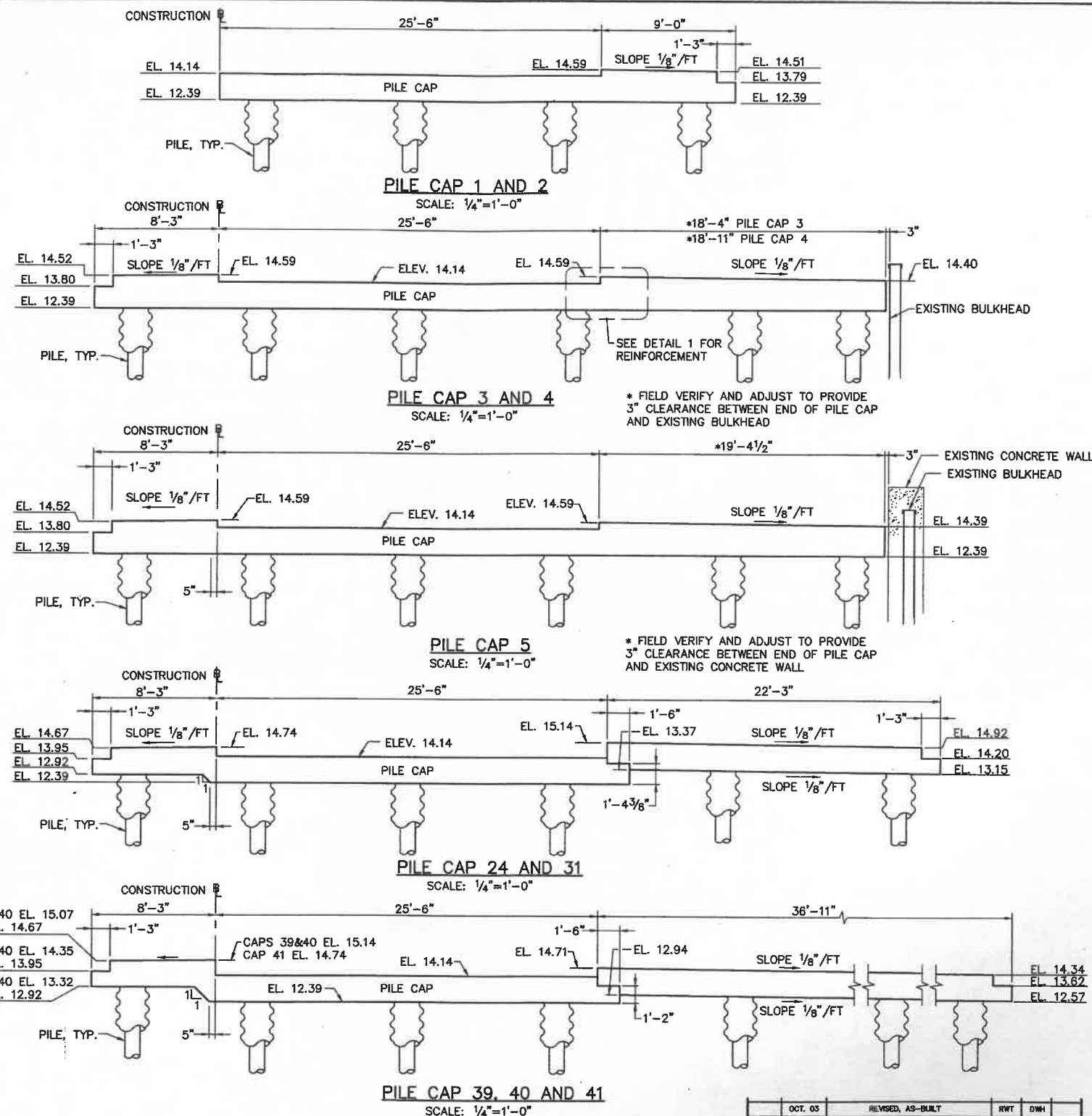
FS&T DRAWING NUMBER	SCALE: NONE	DES. RWT	CHK. DPA	APPROVED
TP-090	DATE: -	DR. RWT	PROJ. ENG. DPA	



* CONTRACTOR SHALL VERIFY EXISTING ELEVATION AND DIMENSIONS PRIOR TO FABRICATION



NOTE: ALL REINFORCEMENT SAME AS SECTION B-B EXCEPT AS NOTED

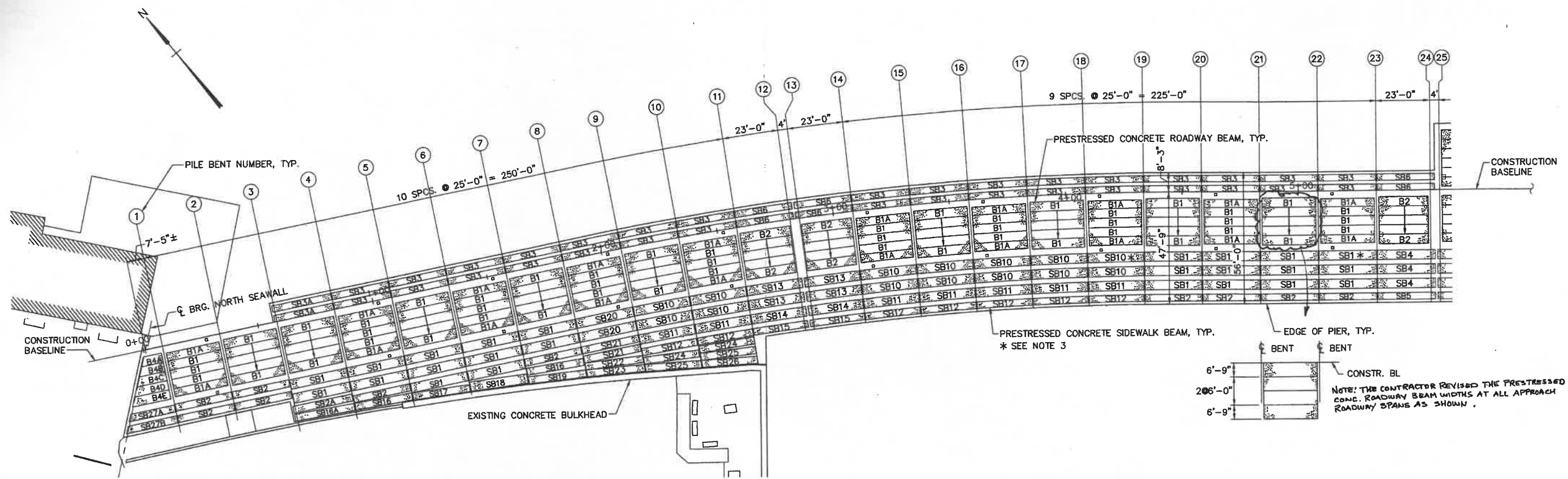


NOTE:
FOR REINFORCEMENT AND PILE CAPS NOT SHOWN, SEE SECTIONS AND CONCRETE DETAILS, SHEETS 21 TO 25



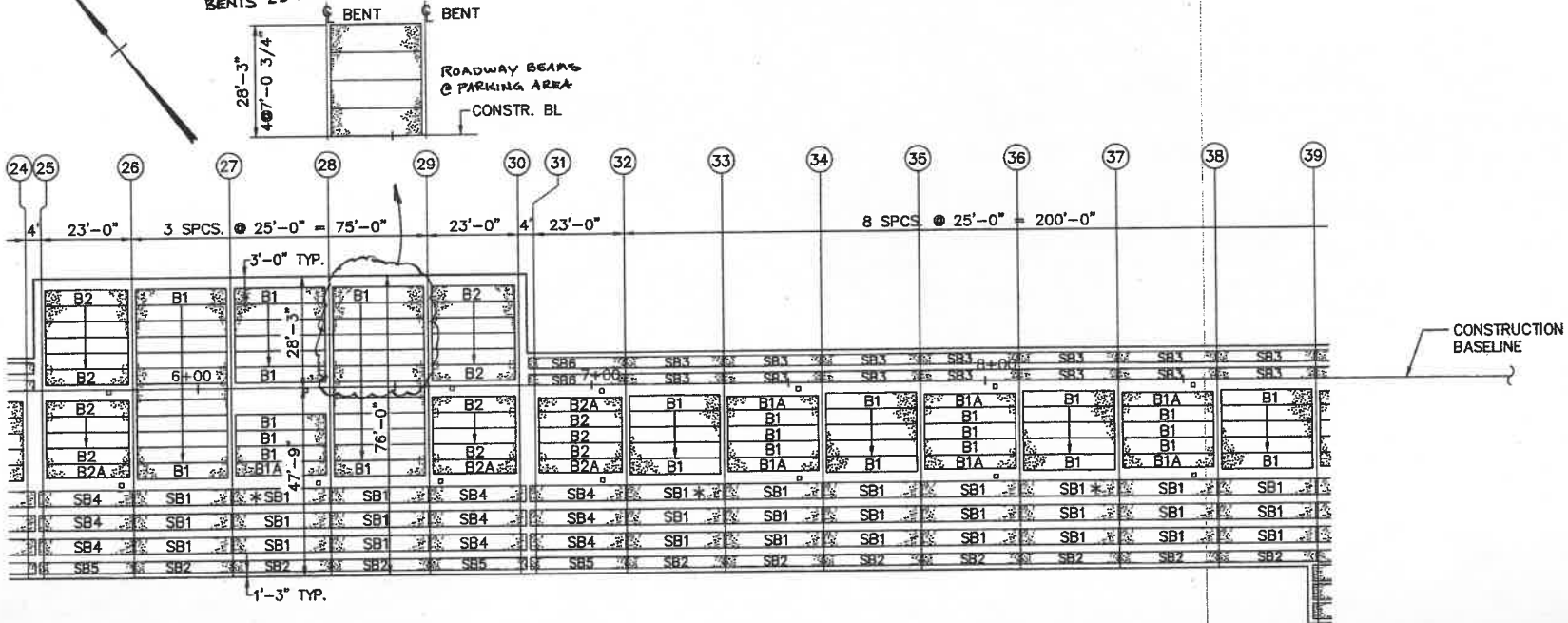
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
OCT. 03		REVISED, AS-BUILT	RWT	DWH	

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS					
MACMILLAN PIER RECONSTRUCTION					
NORTH SEAWALL MODIFICATION AND PILE CAP ELEVATIONS					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
FS&T DRAWING NUMBER	SCALE: AS NOTED	DES. DWH	CHK. DWH	APPROVED	
TP-090	DATE: DECEMBER 1999	DR. RHL	PROJ. ENGR. DPA		



PLAN
SCALE: 1"=20'

NOTE: THE CONTRACTOR REVISED THE PRESTRESSED CONC. ROADWAY BEAMS AT THE PARKING AREA, BENTS 25 TO 30 AS FOLLOWS:



PLAN
SCALE: 1"=20'

NOTES:

1. FOR DETAILS, NORTH SEAWALL TO BENT 12, SEE PART FRAMING PLAN AND MISCELLANEOUS BEAM DETAILS, SHEET NO. 15
2. FOR PRESTRESSED CONCRETE BEAM DETAILS AND SCHEDULES SEE SHEET NO. 16
3. BEAMS MARKED * CANNOT BE INSTALLED UNTIL TEMPORARY PIER POWER POLES HAVE BEEN REMOVED. SEE CONSTRUCTION PHASING, SHEET NOS. 7, 8 & 9.

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.



TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS	
MACMILLAN PIER RECONSTRUCTION	
FRAMING PLAN - PART 1	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS	
DES. DWH	CHK. MN
DR. RWT	PROJ. DPA
APPROVED	

FS&T DRAWING NUMBER
TP-090

SCALE: 1"=20'
DATE: DECEMBER 1999

DES. DWH
DR. RWT

CHK. MN
PROJ. DPA

CAST-IN-PLACE CONCRETE NOTES

- CAST-IN-PLACE CONCRETE SHALL DEVELOP MINIMUM 4,000 PSI COMPRESSION STRENGTH AT 28 DAYS, CONSTRUCTION SHALL CONFORM TO ACI 318-95.
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60 AND SHALL BE EPOXY COATED.
- REINFORCING STEEL SHALL HAVE THE FOLLOWING CLEAR COVER, FACE OF CONCRETE TO FACE OF STEEL, UNLESS NOTED OTHERWISE:
 - CONCRETE CAST AGAINST EARTH OR EXPOSED TO SALT WATER = 3" **
 - ALL OTHER LOCATIONS = 2"
- REINFORCING LAP SPLICES SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE, UNLESS NOTED OTHERWISE. ALL SPLICES SHALL BE STAGGERED WHERE POSSIBLE. TABULATED VALUES SHALL BE MULTIPLIED BY 1.3 WHEN BAR SPACING IS LESS THAN 6 BAR DIAMETERS OR COVER IS LESS THAN 3 BAR DIAMETERS (1.05 FOR TOP BARS).

BAR SIZE	#4	#5	#6	#7	#8	#9
TOP BAR* (INCHES)	33	41	49	62	82	104
BOTTOM BAR (INCHES)	24	29	35	45	59	74

PRESTRESSED DECK BEAM NOTES

CONCRETE:

- MINIMUM ULTIMATE COMPRESSIVE STRENGTH = 6,000 PSI
- MINIMUM COMPRESSIVE STRENGTH AT TIME OF TRANSFER OF PRESTRESSING FORCE = 4,000 PSI

PRESTRESSING STEEL:

- ALL PRESTRESSING STEEL TO BE 1/2" DIA UNCOATED, SEVEN-WIRE, LOW RELAXATION STRAND FOR PRESTRESSED CONCRETE, GRADE 270.
- INITIAL PRESTRESSING FORCE = 30,980 LBS PER STRAND.

REINFORCING STEEL:

- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60 AND SHALL BE EPOXY COATED.

BEARING PADS:

- BEARING PADS FOR TYPE 'B' BEAMS SHALL BE PLAIN NEOPRENE DUROMETER 50, 5" WIDE x 1/4" THICK.
- BEARING PADS FOR TYPE 'SB' BEAMS SHALL BE PLAIN NEOPRENE DUROMETER 60, 5" WIDE x 1" THICK.

TRANSVERSE TIE NOTES

- TRANSVERSE TIES SHALL BE COVERED BY A SEAMLESS POLYPROPYLENE SHEATH (W/ CORROSION INHIBITING GREASE BETWEEN THE STRAND AND SHEATH) FOR THE FULL LENGTH OF THE STRAND EXCEPT AT THE ANCHORAGE LOCATION.
- AFTER ALL BEAMS HAVE BEEN ERECTED, TENSION EACH TRANSVERSE TIE TO 5,000 POUNDS.
- FILL ALL KEYWAYS WITH MORTAR. IF THE KEYWAYS ARE NOT FILLED WITHIN FIVE DAYS AFTER THE BEAMS ARE ERECTED, THE CONTRACTOR SHALL COVER AND PROTECT THE KEYWAYS FROM THE WEATHER AND DEBRIS UNTIL THEY ARE FILLED.
- AFTER THE MORTAR HAS CURED, TENSION EACH TRANSVERSE TIE TO 30,000 POUNDS. NO TRAFFIC OR HEAVY EQUIPMENT WILL BE PERMITTED ON THE BEAMS UNTIL ALL THE TIES HAVE BEEN PROPERLY TENSIONED.

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03	REVISED, AS-BUILT	RWT	DWH	

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS	
MACMILLAN PIER RECONSTRUCTION	
FRAMING PLAN - PART 2	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS	
DES. DWH	CHK. MN
DR. RWT	PROJ. ENGR. DPA
APPROVED	

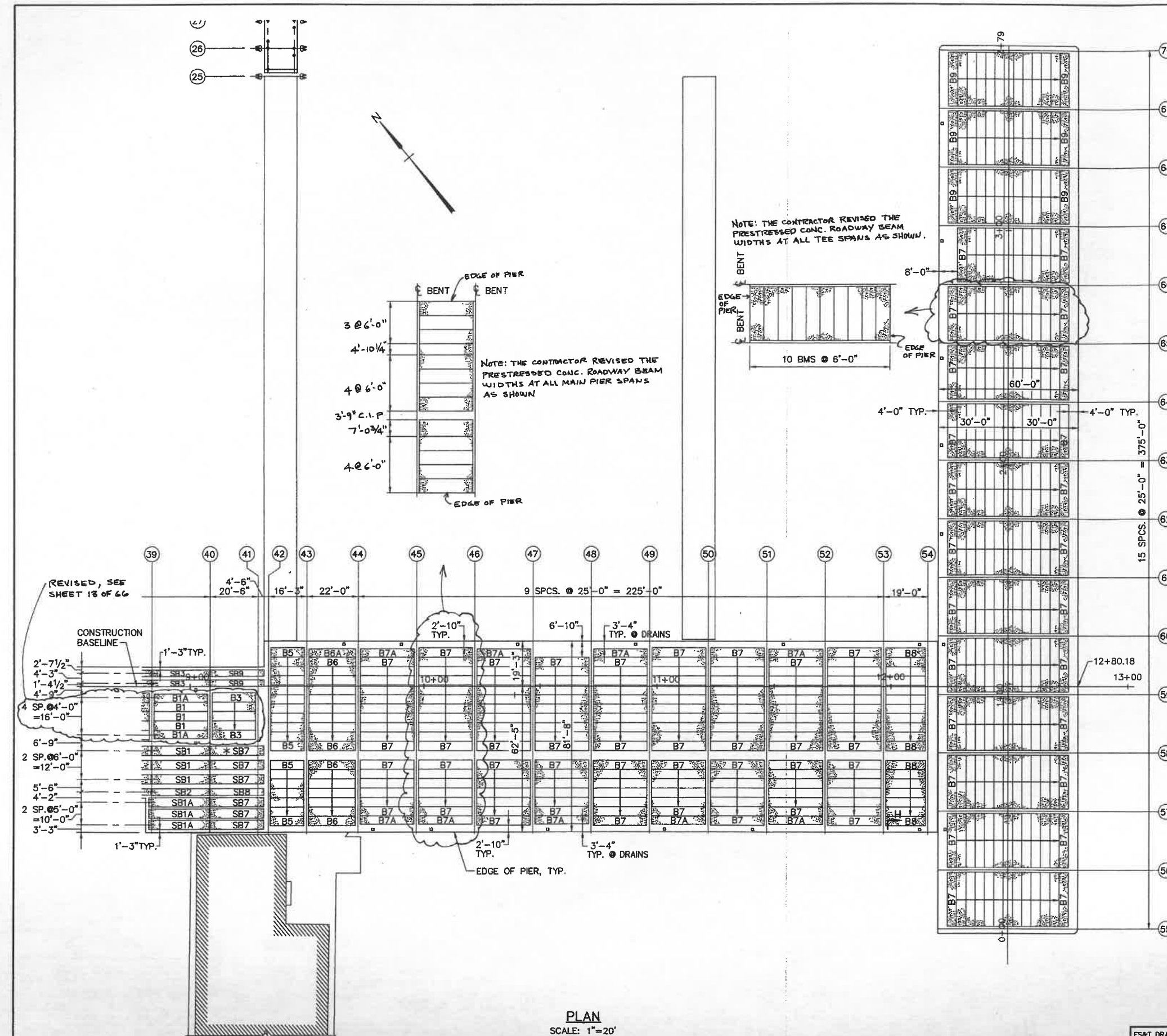


FS&T DRAWING NUMBER
TP-090

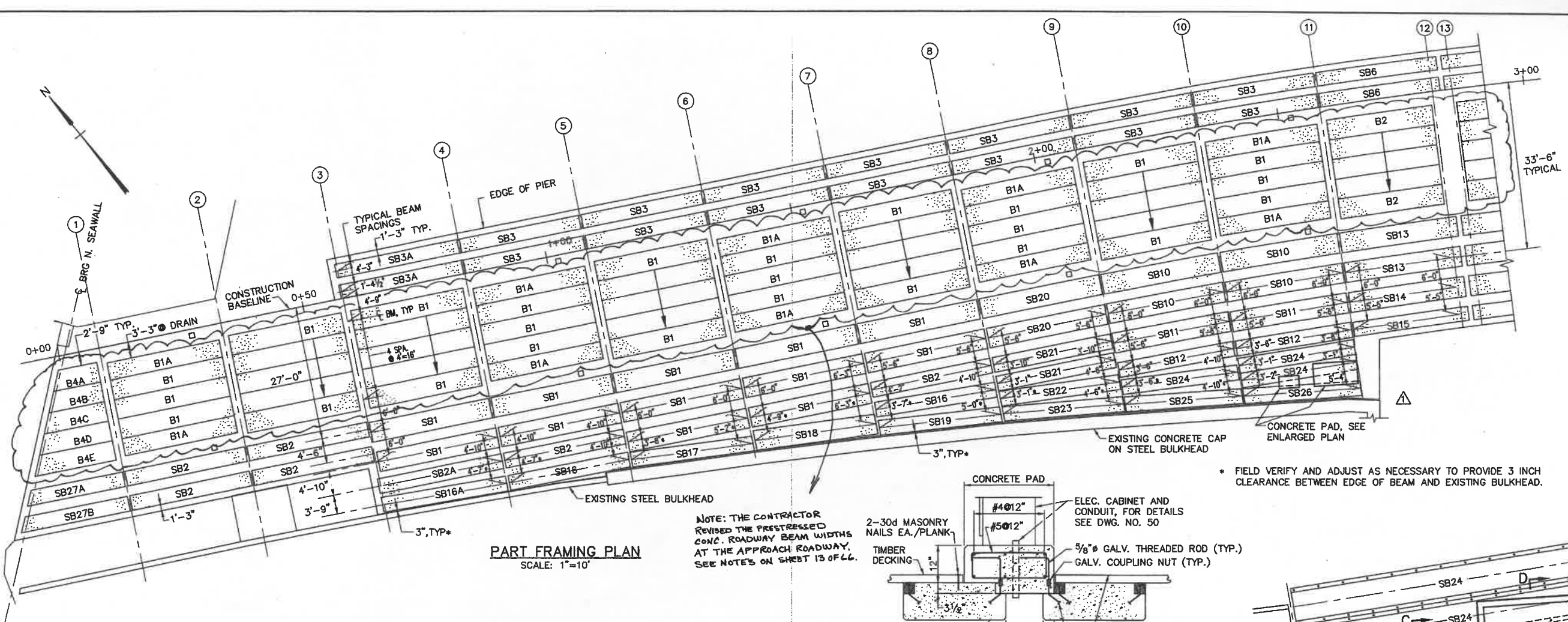
SCALE: 1"=20'
DATE: DECEMBER 1999

DES. DWH
DR. RWT

SHEET NO. 14 OF 66



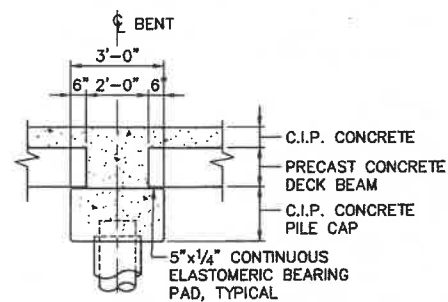
PLAN
SCALE: 1"=20'



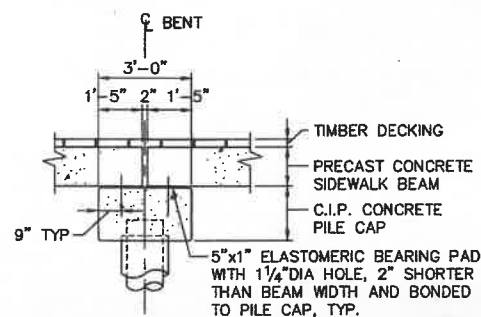
PART FRAMING PLAN
SCALE: 1"=10'

NOTE: THE CONTRACTOR REVISED THE PRESTRESSED CONC. ROADWAY BEAM WIDTHS AT THE APPROACH ROADWAY. SEE NOTES ON SHEET 13 OF 66.

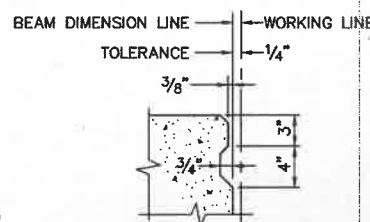
* FIELD VERIFY AND ADJUST AS NECESSARY TO PROVIDE 3 INCH CLEARANCE BETWEEN EDGE OF BEAM AND EXISTING BULKHEAD.



TYPICAL SECTION AT PILE CAP TYPE 'B' BEAM
SCALE: 3/8"=1'-0"

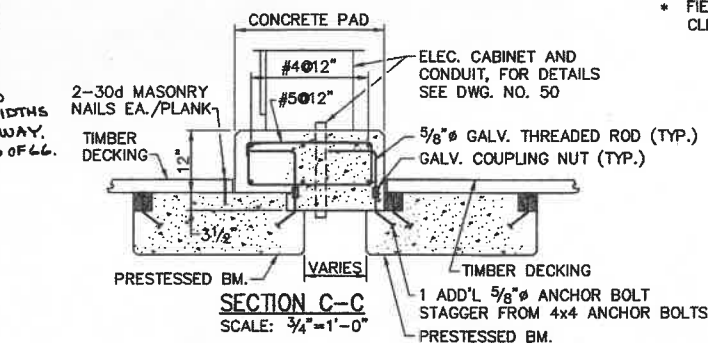


TYPICAL SECTION AT PILE CAP TYPE 'SB' BEAM
SCALE: 3/8"=1'-0"

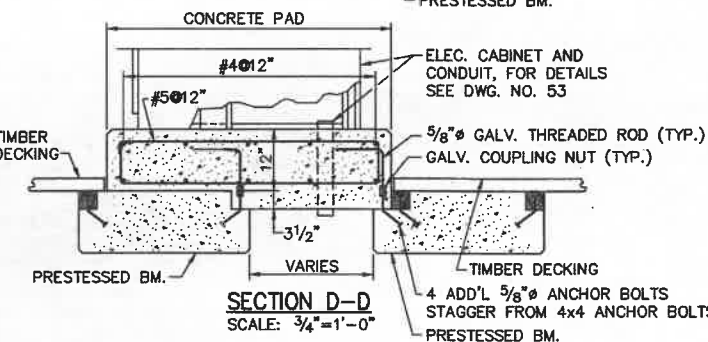


PROVIDE KEY AT TYPE 'B' BEAM. NO KEY AT TYPE 'SB' BEAM.

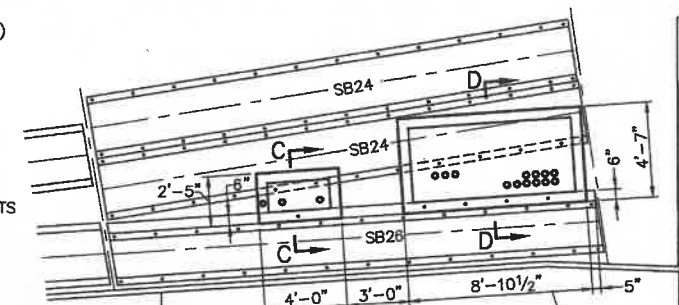
KEY DETAIL
NOT TO SCALE



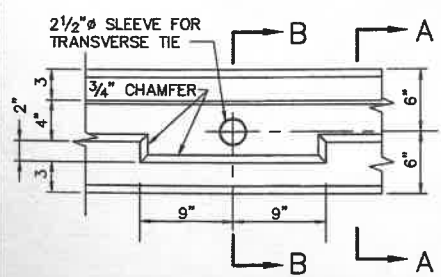
SECTION C-C
SCALE: 3/4"=1'-0"



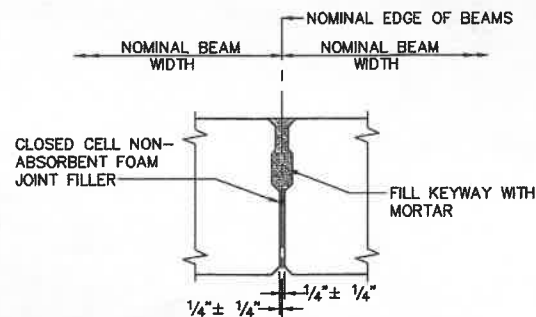
SECTION D-D
SCALE: 3/4"=1'-0"



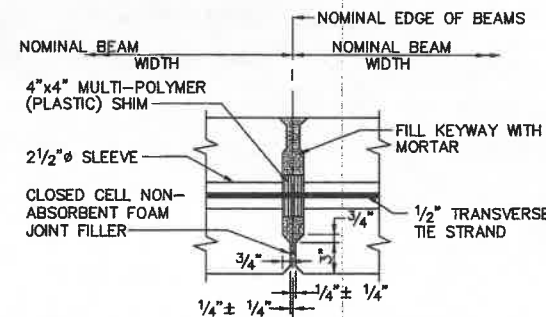
ENLARGED PLAN
SCALE: 1/4"=1'-0"



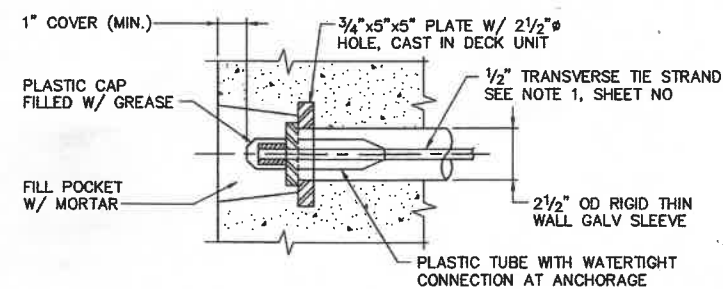
TYPICAL TYPE 'B' BEAM ELEVATION AT TRANSVERSE TIE LOCATIONS
NOT TO SCALE



SECTION A-A
NOT TO SCALE



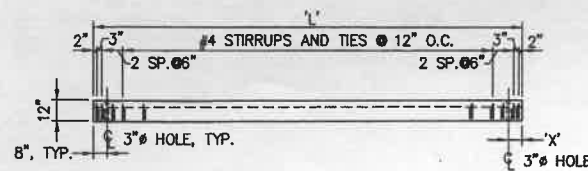
SECTION B-B
NOT TO SCALE



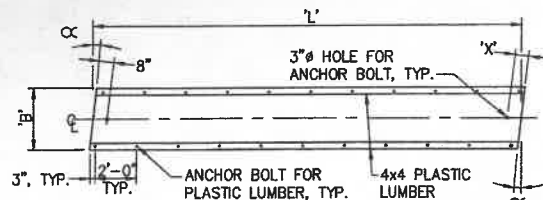
TRANSVERSE TIE POCKET DETAIL
SCALE: 3"=1'-0"

	OCT. 03	AS-BUILT	RWT	DWH	
	5/08/01	ADDED CONC. PADS FOR ELEC. EQUIPMENT	RWT	DWH	
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.

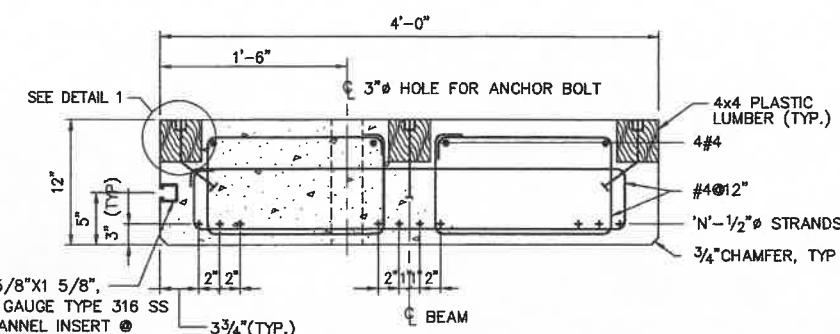
TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS. MACMILLAN PIER RECONSTRUCTION PART FRAMING PLAN AND MISCELLANEOUS BEAM DETAILS FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
DES. DWH	CHK. MN	APPROVED			
DR. RHL	PROJ. DPA				



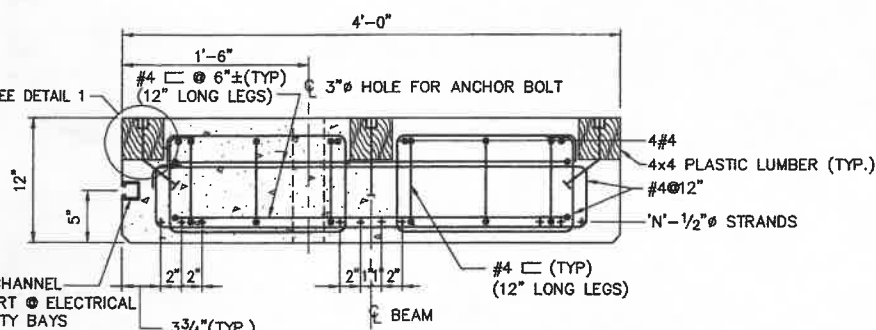
LONG. SECTION - TYPE "SB" SIDEWALK BEAM
SCALE: 1/4"=1'-0"



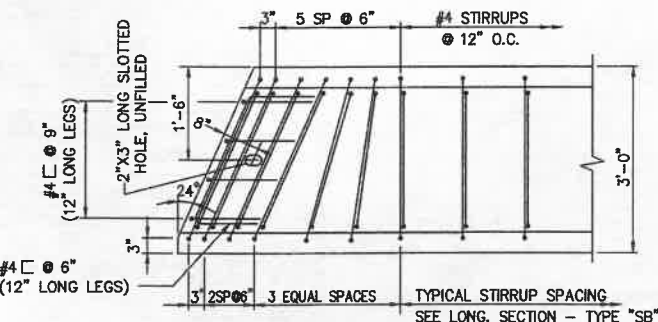
PLAN - TYPE "SB" SIDEWALK BEAM
SCALE: 1/4"=1'-0"



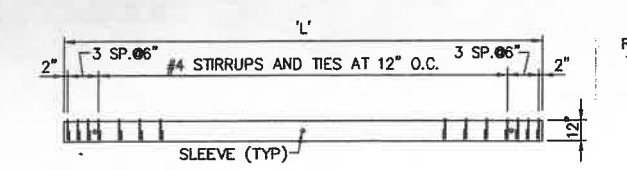
TYPICAL SECTION - TYPE "SB" (4'-0") BEAM
SCALE: 1 1/2"=1'-0"



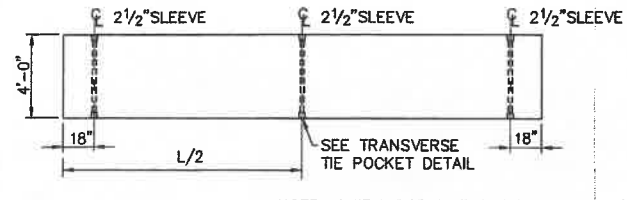
END OF BEAM SECTION - TYPE "SB" (4'-0") BEAM
SCALE: 1 1/2"=1'-0"



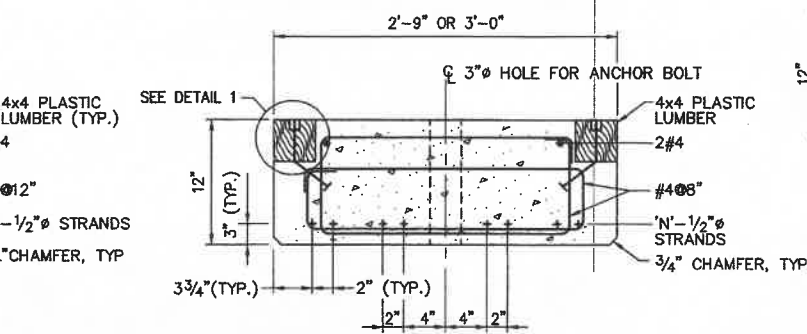
SKewed END BEAM PLAN - TYPE "SB27" (3'-0") BEAM
SCALE: 3/4"=1'-0"



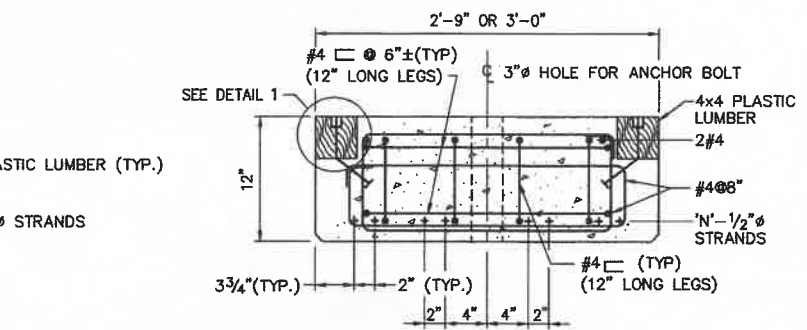
LONG. SECTION - TYPE "B" ROADWAY DECK BEAM
SCALE: 1/4"=1'-0"



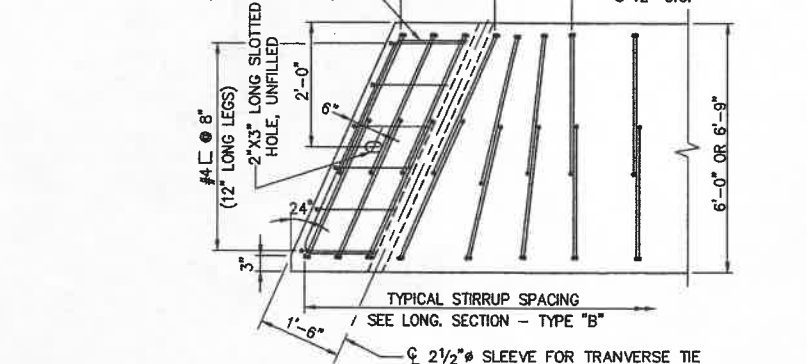
PLAN TYPE "B" BEAM
SCALE: 1/4"=1'-0"



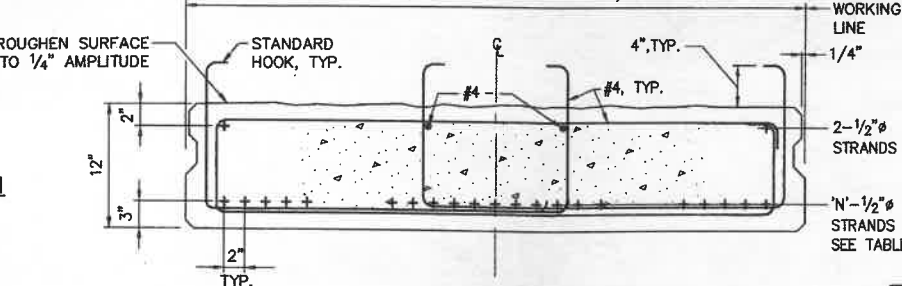
TYPICAL SECTION - TYPE "SB" (2'-9" OR 3'-0") BEAM
SCALE: 1 1/2"=1'-0"



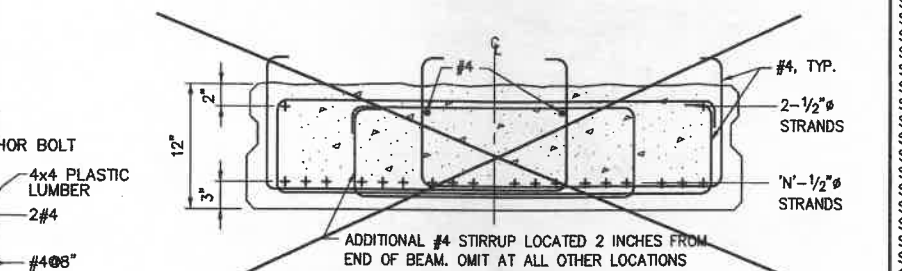
END OF BEAM SECTION - TYPE "SB" (2'-9" OR 3'-0") BEAM
SCALE: 1 1/2"=1'-0"



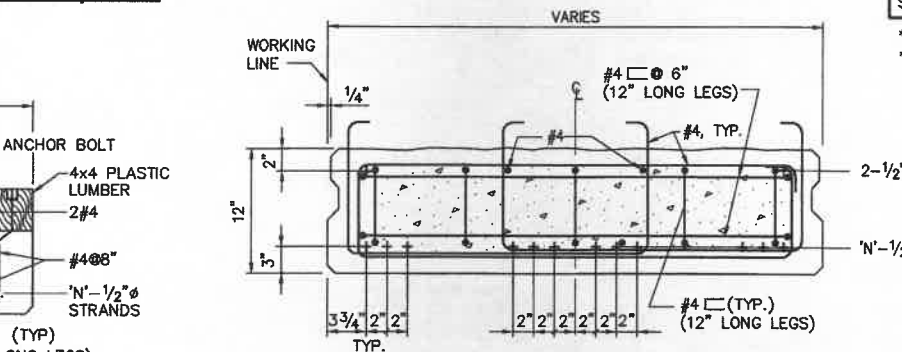
SKewed END BEAM PLAN - TYPE "B" BEAM
NOT TO SCALE



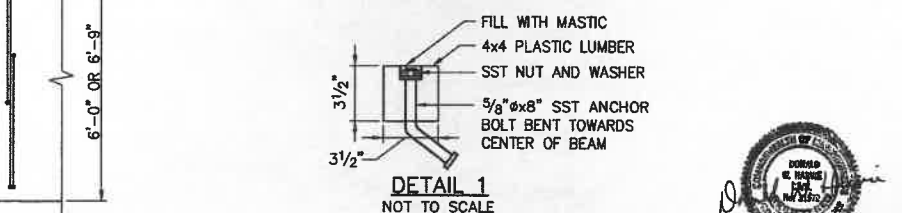
TYPICAL SECTION - TYPE "B" BEAM
NOT TO SCALE



TYPICAL SECTION AT BEAM B9
SCALE: 1 1/2"=1'-0"



END OF BEAM SECTION - TYPE "B" BEAM
NOT TO SCALE



DETAIL 1
NOT TO SCALE

TYPE "B" ROADWAY BEAM TABLE	
BEAM WIDTH	NUMBER OF BEAM STRANDS 'N'
4'-10 1/4"	16
6'-0"	21*
6'-9"	23**
7'-0 3/4"	23

* 19 STRANDS @ SPANS 11-12, 13-14, 23-24, 25-26, 29-30, 31-32
** 20 STRANDS @ SPANS 40-41
21 STRANDS @ SPANS 0-1, 11-12, 13-14, 23-24

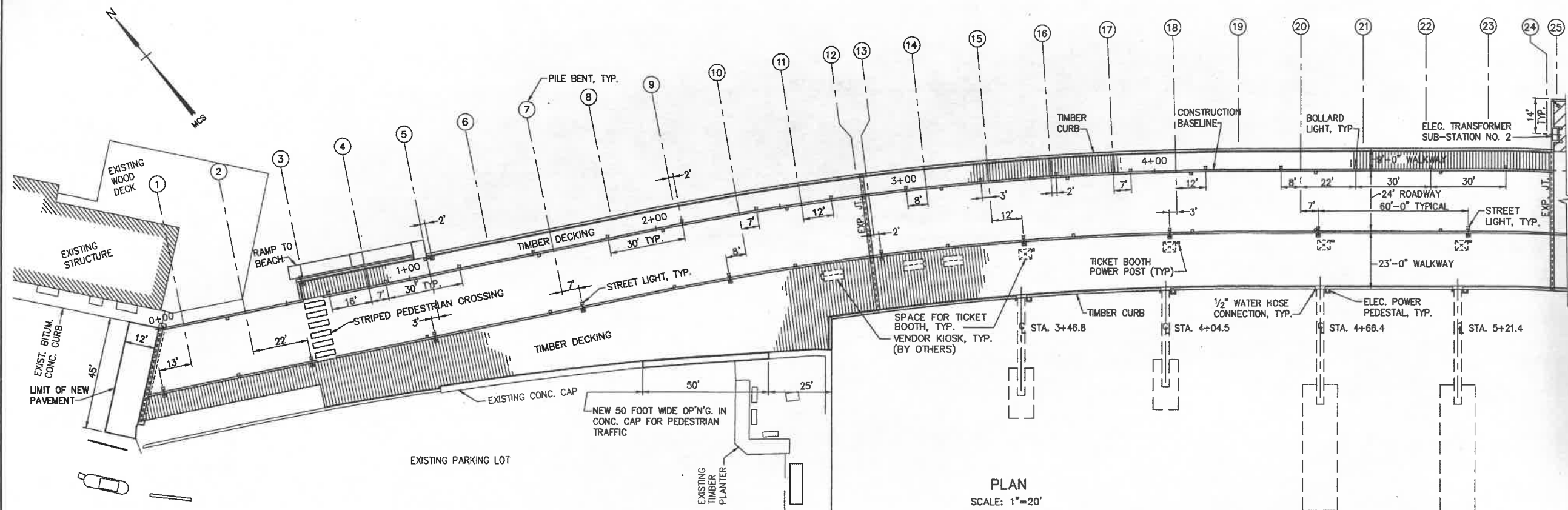
TYPE "SB" SIDEWALK BEAM TABLE					
BEAM	LENGTH 'L'	WIDTH 'B'	SKEW ANGLE 'CX'	NUMBER OF STRANDS 'N'	DIST. TO ANCHOR BOLT HOLE 'X'
SB1	24'-10"	4'-0"	0°	10	8"
SB1A	25'-7"	4'-0"	"	10	8"
SB2	24'-10"	3'-0"	"	8	8"
SB2A	25'-7"	3'-0"	"	8	8"
SB3	24'-10"	2'-9"	"	6	8"
SB3A	25'-7"	2'-9"	"	6	8"
SB4	24'-9 1/2"	4'-0"	"	10	1'-10 1/2"
SB5	24'-9 1/2"	3'-0"	"	8	1'-10 1/2"
SB6	24'-9 1/2"	2'-9"	"	6	1'-10 1/2"
SB7	21'-11"	4'-0"	"	8	1'-6"
SB8	21'-11"	3'-0"	"	6	1'-6"
SB9	21'-11"	2'-9"	"	5	1'-6"
SB10	24'-2"	4'-0"	"	10	8"
SB11	24'-0"	4'-0"	"	10	8"
SB12	23'-11"	3'-0"	"	8	8"
SB13	24'-1 1/2"	4'-0"	"	10	1'-10 1/2"
SB14	23'-11"	4'-0"	"	10	1'-10 1/2"
SB15	23'-10"	3'-0"	"	8	1'-10 1/2"
SB16	21'-10"	3'-0"	1°-30'	8	8"
SB16A	22'-7"	3'-0"	1°-30'	8	8"
SB17	24'-10"	3'-0"	3°-40'	8	8"
SB18	24'-10"	4'-0"	4°-15'	10	8"
SB19	24'-11"	3'-0"	5°-0'	8	8"
SB20	24'-7"	3'-0"	0°	8	8"
SB21	24'-6"	4'-0"	0°	10	8"
SB22	24'-6"	4'-0"	3°-30'	10	8"
SB23	24'-6"	3'-0"	7°-0'	8	8"
SB24	23'-10"	3'-0"	3°-30'	10	8"
SB25	23'-10"	3'-0"	6°-45'	8	8"
SB26	23'-9"	3'-0"	5°-30'	6	8"
SB27A	**19'-0"	3'-0"	24°*	4	8"
SB27B	**21'-2 1/2"	3'-0"	24°*	6	8"

* SKEW AT NORTH END ONLY
** FIELD VERIFY BEFORE FABRICATION

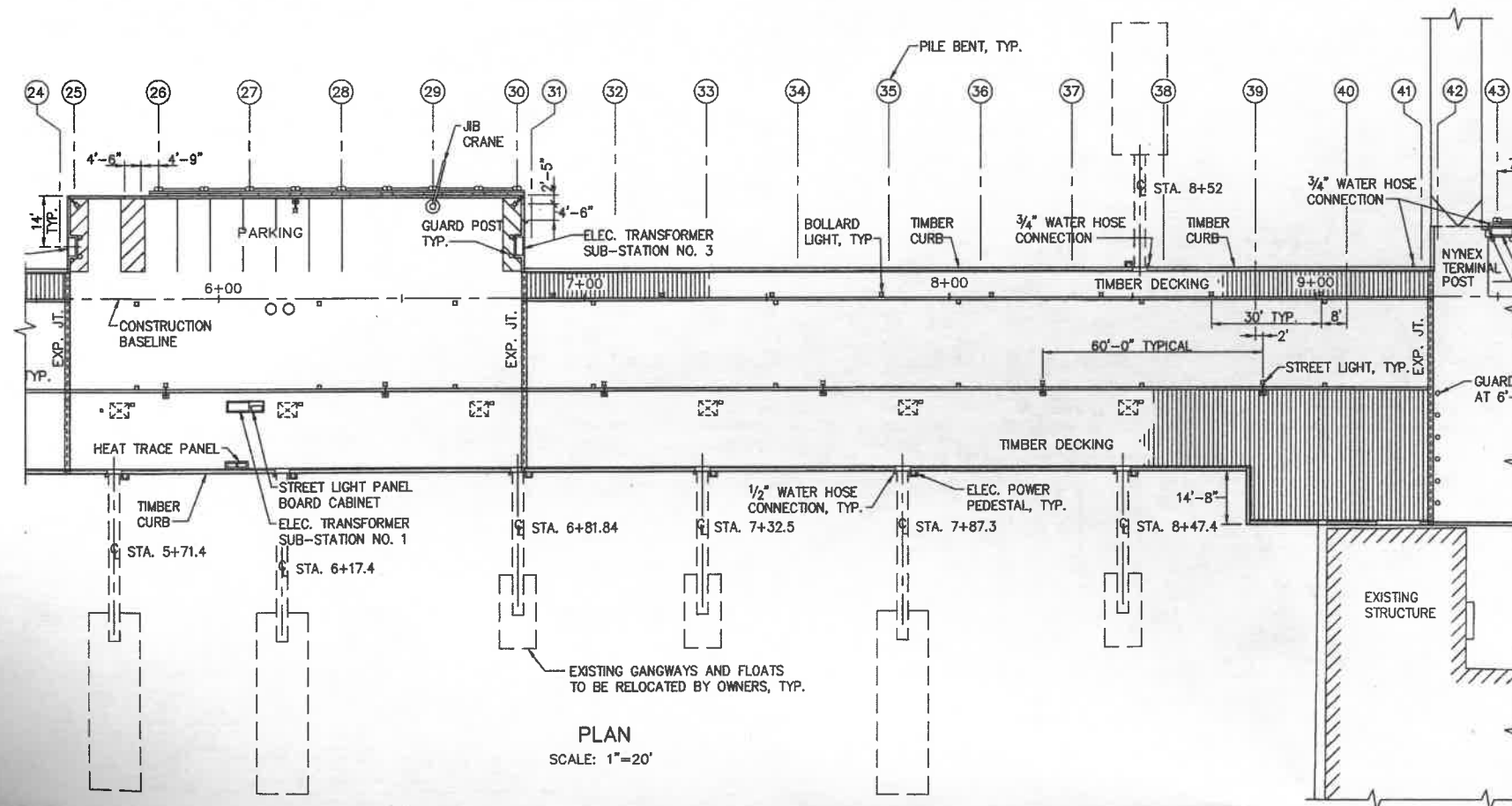
NOTES:
1. BOTTOM STRANDS FOR DECK BEAM B1 AND SIDEWALK BEAMS SB1 AND SB2 SHOWN, SEE TABLE FOR OTHER BEAMS.
2. STRANDS TO BE SYMMETRICAL ABOUT CENTER LINE.
3. PROVIDE STAINLESS STEEL THREADED INSERTS FOR UTILITY SUPPORT BRACKETS AND PROTRUDING DOWELS FOR LIGHT POLE FOUNDATIONS AS REQUIRED.

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
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TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS MACMILLAN PIER RECONSTRUCTION					
PRESTRESS BEAM DETAILS					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
FS&T DRAWING NUMBER	SCALE: AS NOTED	DES. DWG	CHK. REB	APPROVED	
TP-090	DATE: DECEMBER 1999	DR. RHL	PROJ. ENGR. DPA		



PLAN
SCALE: 1"=20'



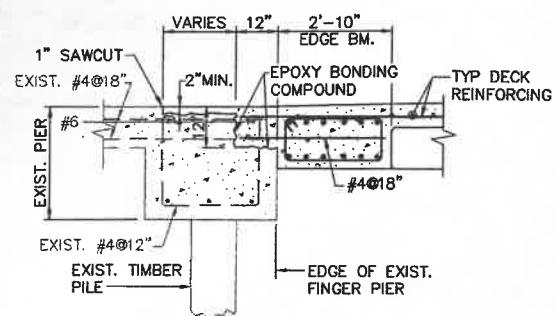
PLAN
SCALE: 1"=20'

NOTES:

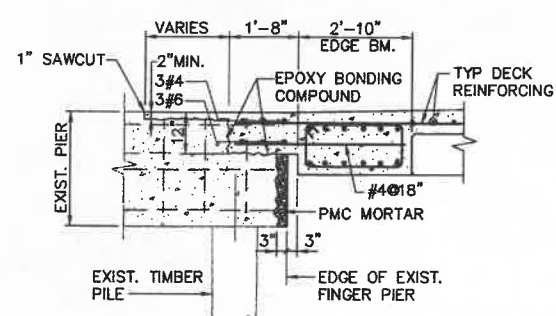
1. JOINTS ON TIMBER DECKING SHALL BE STAGGERED UNLESS OTHERWISE NOTED.
2. DECK AT HORIZONTAL CURVE MAY BE CONSTRUCTED ON CHORDS NOT TO EXCEED 12'-6" LONG.



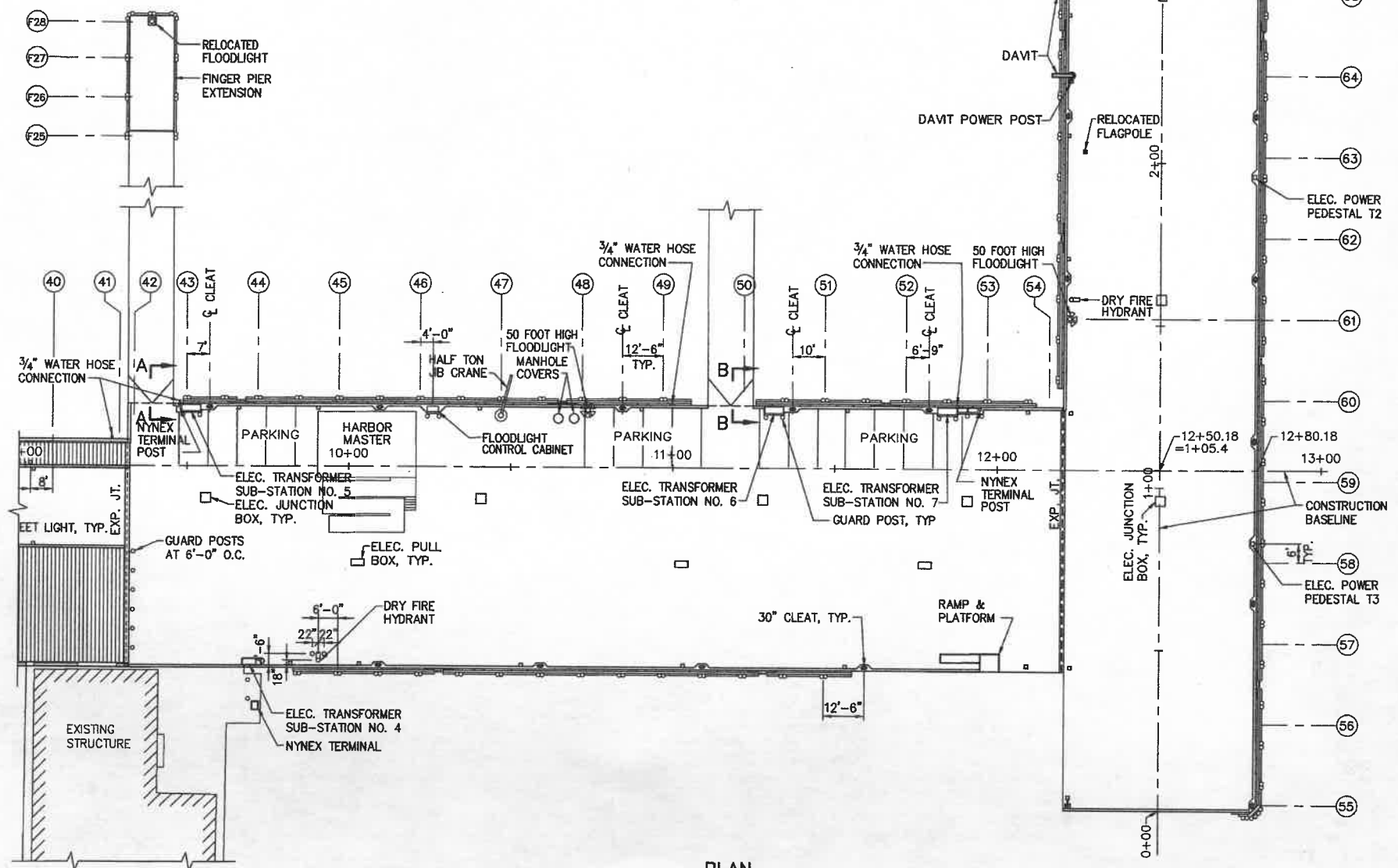
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
OCT. 03		REVISED, AS-BUILT	RWT	DWH	
TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS					
MACMILLAN PIER RECONSTRUCTION					
DECK PLAN - PART 1					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
APPROVED					
FS&T DRAWING NUMBER	SCALE: 1"=20'	DES. DWH	CHK. DPA	SHEET NO. 17 OF 66	
TP-090	DATE: DECEMBER 1999	DR. RWT	PROJ. DPA		



SECTION B-B
SCALE: 1/2"=1'-0"



SECTION A-A
SCALE: 1/2"=1'-0"



PLAN
SCALE: 1"=20'

DESIGN LOADS:

A. APPROACH PIER

1. VERTICAL LOADS AT ROADWAY

UNIFORM LIVE LOAD	100 PSF
VEHICLE:	HS20-44
AASHTO STANDARD HS 20-44 TRUCK	
WHEEL LOAD - LBS.	

2. VERTICAL LOADS AT PEDESTRIAN WALKWAY & SIDEWALK

UNIFORM LIVE LOAD	100 PSF
CONCENTRATED LIVE LOAD (ON AREA 30"x30")	2000 LB.
VEHICLE WHEEL LOAD	1500 LB.

3. HORIZONTAL LATERAL LOAD

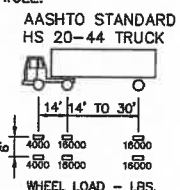
A. WIND ON PIER-100 MPH VELOCITY = 300 PLF	300 PLF
EQUIVALENT FORCE = 300 PLF/1.25 ALLOW	
STRESS INCREASE = 240 PLF	

B. AASHTO MINIMUM DESIGN LOAD = 300 PLF

B. MAIN AREA AND TEE SECTION

1. VERTICAL LOADS

UNIFORM LIVE LOAD (TYPICAL)	300 PSF
UNIFORM LIVE LOAD (BENTS 68-70)	700 PSF
VEHICLE:	HS20-44



2. HORIZONTAL LATERAL LOAD

A. 70 MPH WIND ON PIER AND VESSELS	
WIND ON PIER SUPERSTRUCTURE =	125 PLF
WIND ON VESSELS (RAFTED TWO EACH SIDE) =	300 PLF
WAVE = 1/3 WIND ON VESSELS =	100
CURRENT (2 KNOTS) =	200 PLF
	725 PLF

EQUIVALENT FORCE = 725 PLF/1.40 ALLOW STRESS INCREASE = 520 PLF

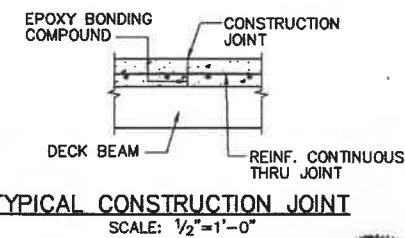
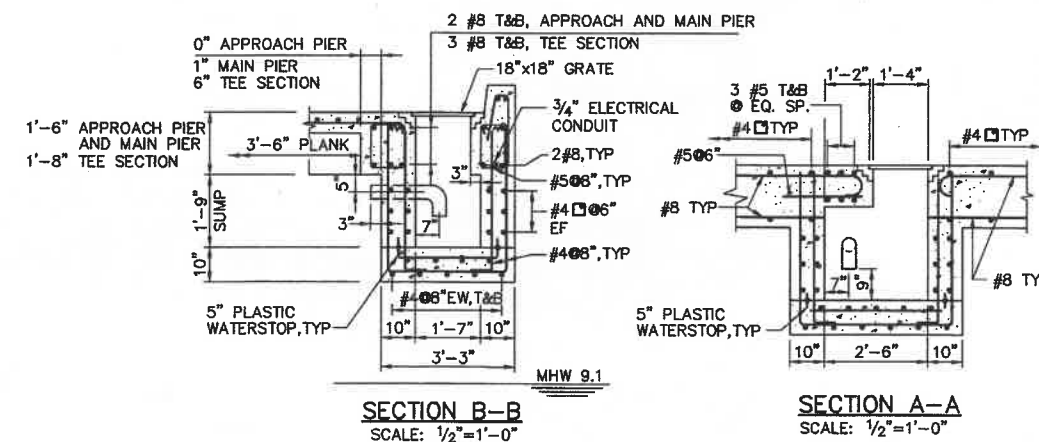
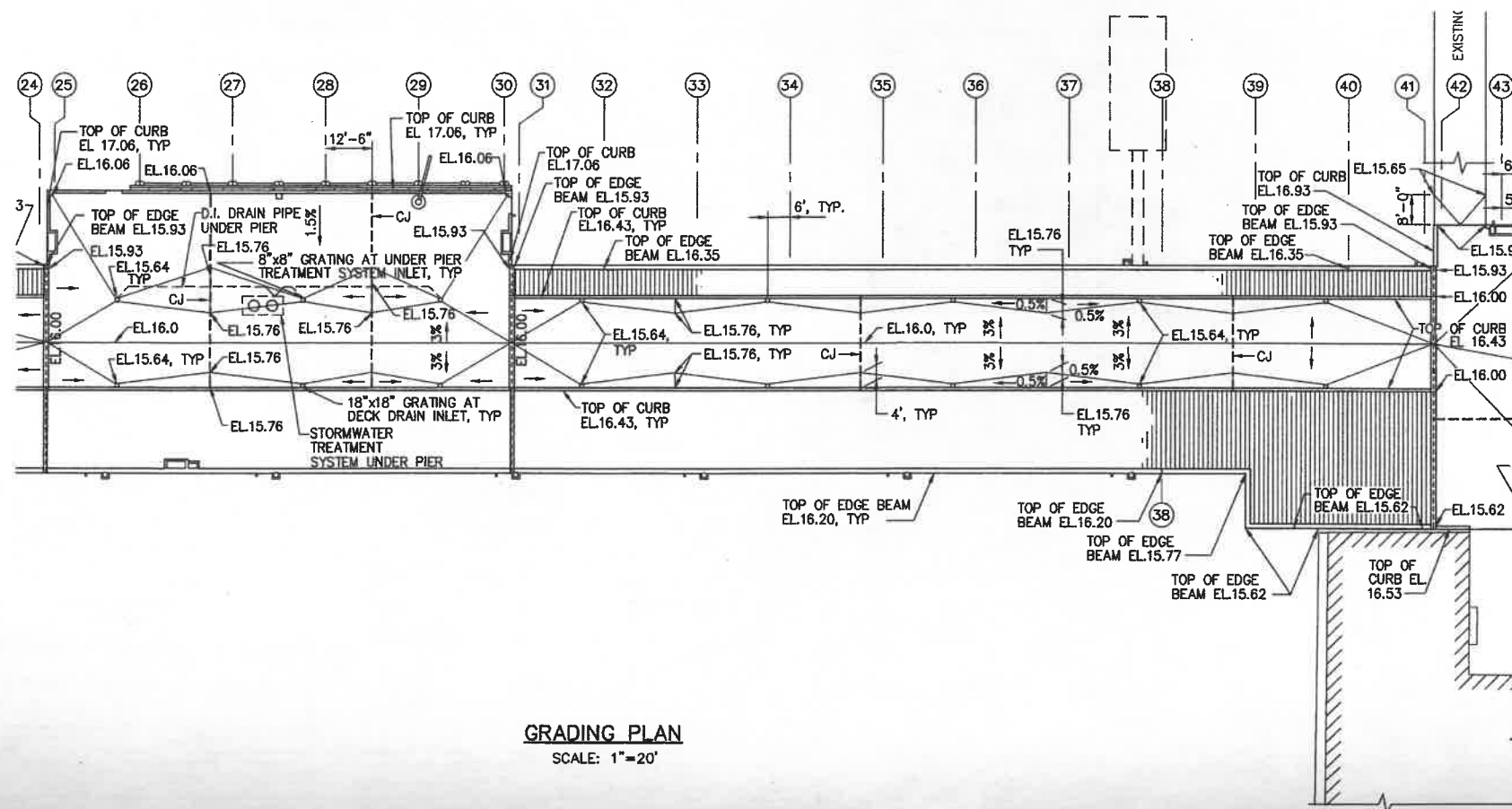
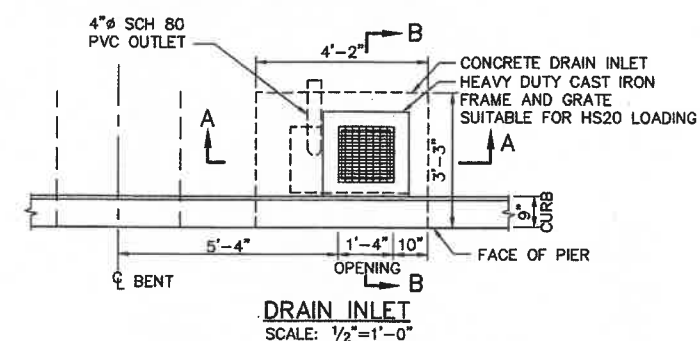
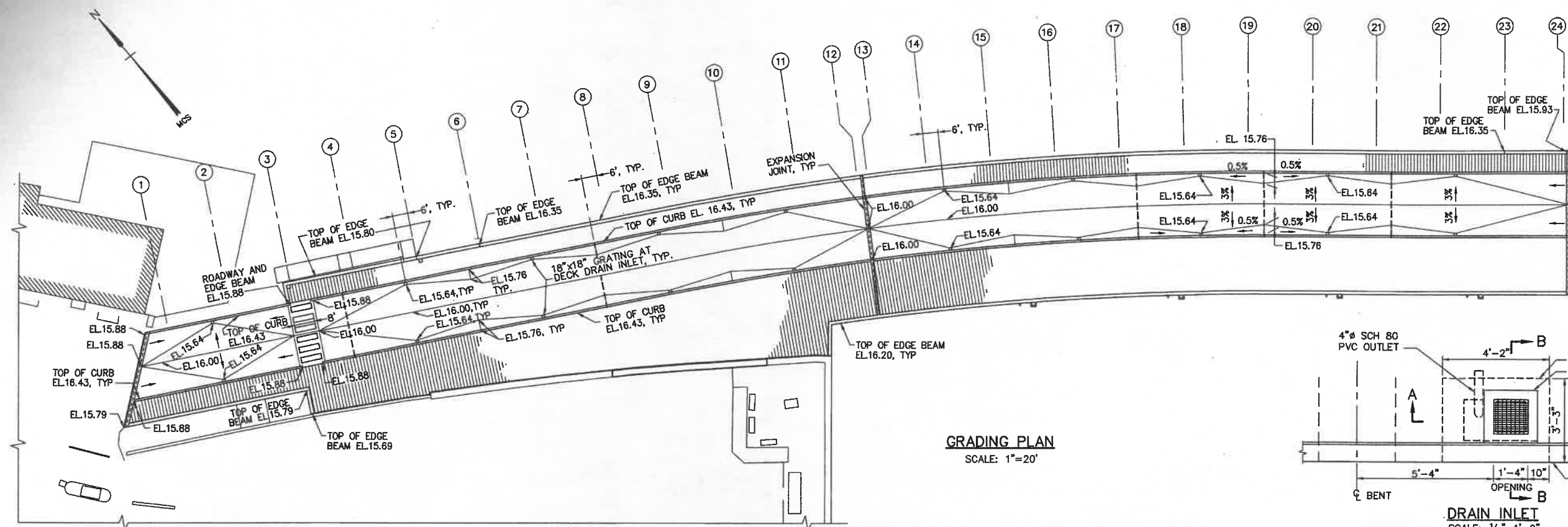
B. 100 MPH WIND LOAD ON PIER = 400 PLF
EQUIVALENT FORCE = 400 PLF/1.25 ALLOW STRESS INCREASE = 320 PLF

C. AASHTO MINIMUM DESIGN LOAD = 300 PLF

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
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TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS					
MACMILLAN PIER RECONSTRUCTION					
DECK PLAN - PART 2					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
FS&T DRAWING NUMBER TP-090	SCALE: 1"=20'	DES. DWH	CHK. DPA	APPROVED	
	DATE: DECEMBER 1999	DR. RWT	PROJ. ENGR. DPA		





	OCT. 03	REVISED AS-BUILT	RWT	DWH	
REV.	DATE	DESCRIPTION	BY	CHK.	APP.

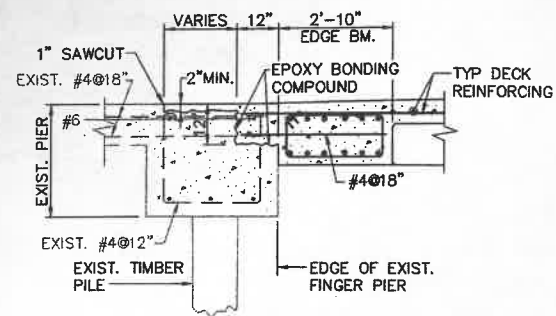
TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS

MACMILLAN PIER RECONSTRUCTION

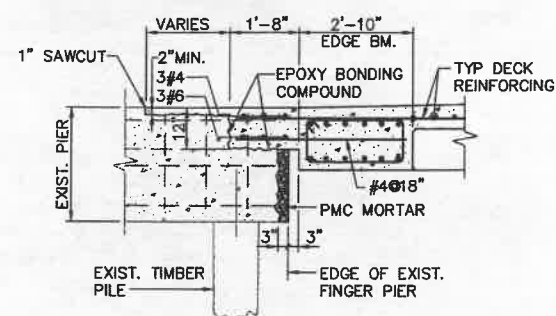
DECK GRADING AND DRAINAGE
PLAN - PART 1

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

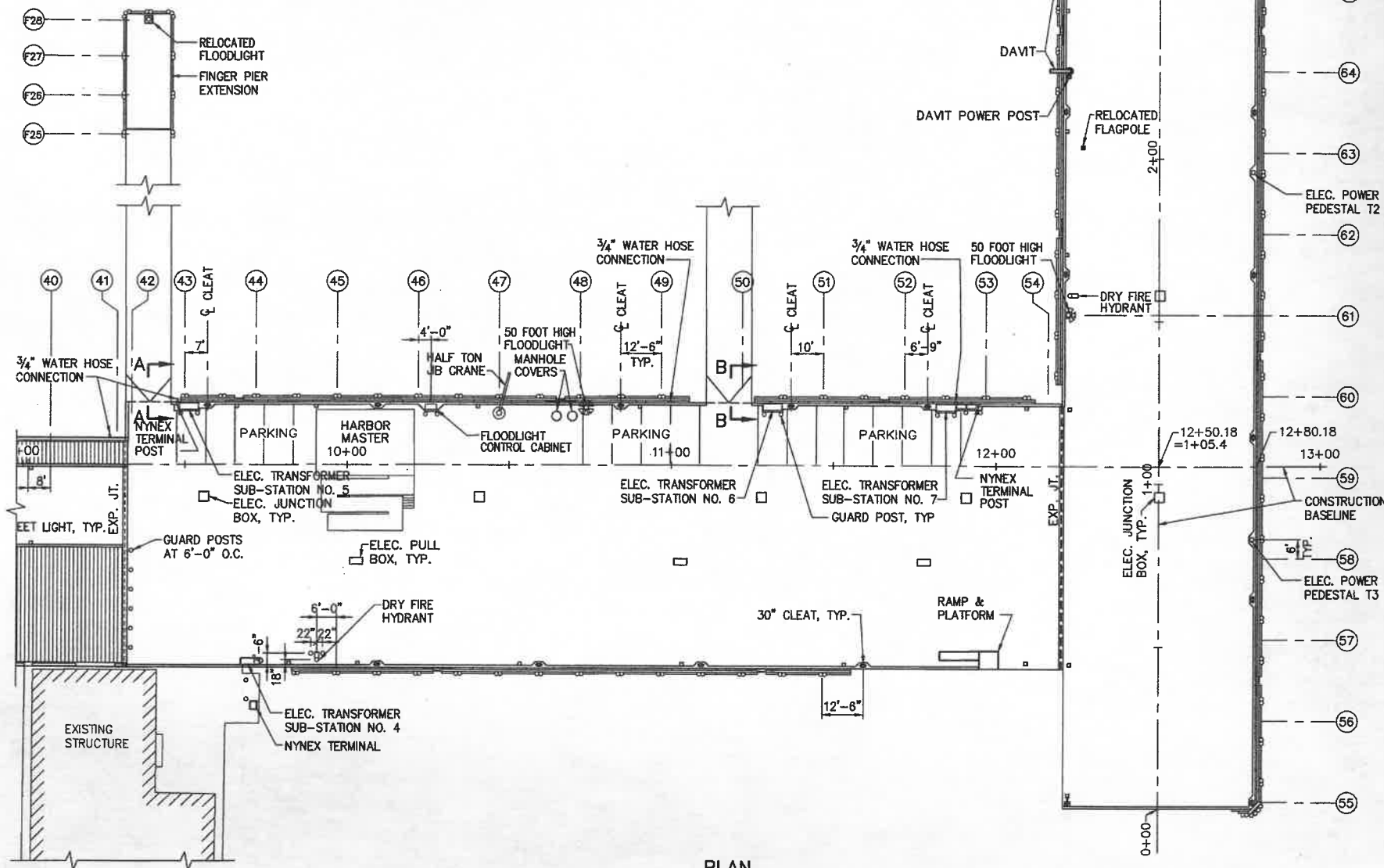
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED	DES. SBS	CHK. DWH	APPROVED
	DATE: DECEMBER 1999	DR. RWT	PROJ. SWS DPA	



SECTION B-B
SCALE: 1/2"=1'-0"



SECTION A-A
SCALE: 1/2"=1'-0"



PLAN
SCALE: 1"=20'

DESIGN LOADS:

A. APPROACH PIER

1. VERTICAL LOADS AT ROADWAY

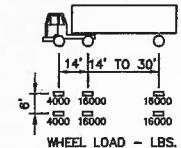
UNIFORM LIVE LOAD

100 PSF
HS20-44

VEHICLE:

AASHTO STANDARD

HS 20-44 TRUCK



2. VERTICAL LOADS AT PEDESTRIAN WALKWAY & SIDEWALK

UNIFORM LIVE LOAD

100 PSF

CONCENTRATED LIVE LOAD

2000 LB.

(ON AREA 30"x30")

VEHICLE WHEEL LOAD

1500 LB.

3. HORIZONTAL LATERAL LOAD

300 PLF

A. WIND ON PIER-100 MPH VELOCITY = 300 PLF
EQUIVALENT FORCE = 300 PLF/1.25 ALLOW
STRESS INCREASE = 240 PLF

B. AASHTO MINIMUM DESIGN LOAD = 300 PLF

B. MAIN AREA AND TEE SECTION

1. VERTICAL LOADS

UNIFORM LIVE LOAD (TYPICAL)

300 PSF

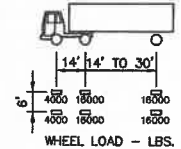
UNIFORM LIVE LOAD (BENTS 68-70)

700 PSF

VEHICLE:

AASHTO STANDARD

HS 20-44 TRUCK



2. HORIZONTAL LATERAL LOAD

800 PLF

A. 70 MPH WIND ON PIER AND VESSELS

WIND ON PIER SUPERSTRUCTURE = 125 PLF

WIND ON VESSELS (RAFTED TWO EACH SIDE) = 300 PLF

WAVE = 1/3 WIND ON VESSELS = 100

CURRENT (2 KNOTS) = 200 PLF

725 PLF

EQUIVALENT FORCE = 725 PLF/1.40 ALLOW STRESS
INCREASE = 520 PLF

B. 100 MPH WIND LOAD ON PIER = 400 PLF

EQUIVALENT FORCE = 400 PLF/1.25 ALLOW STRESS

INCREASE = 320 PLF

C. AASHTO MINIMUM DESIGN LOAD = 300 PLF

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03	REVISED, AS-BUILT	RWT	DWH	

TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS

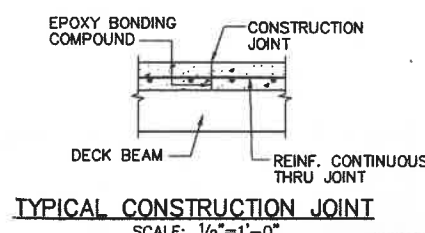
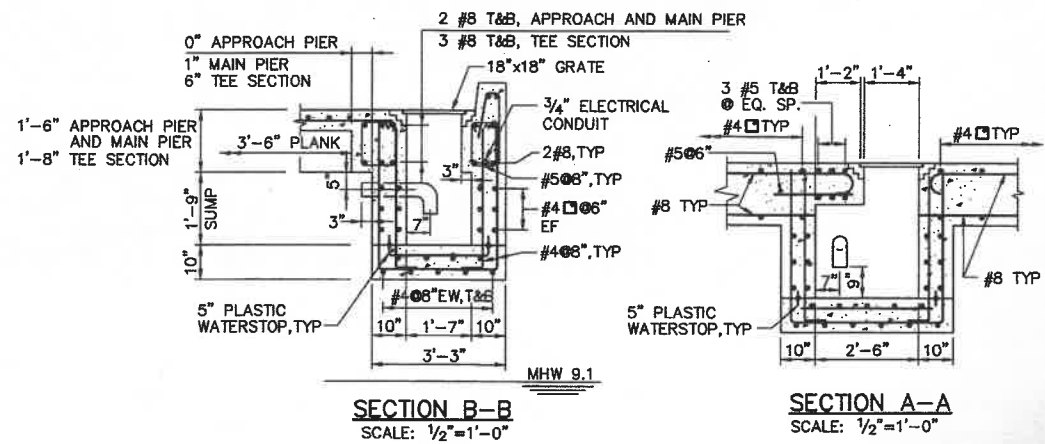
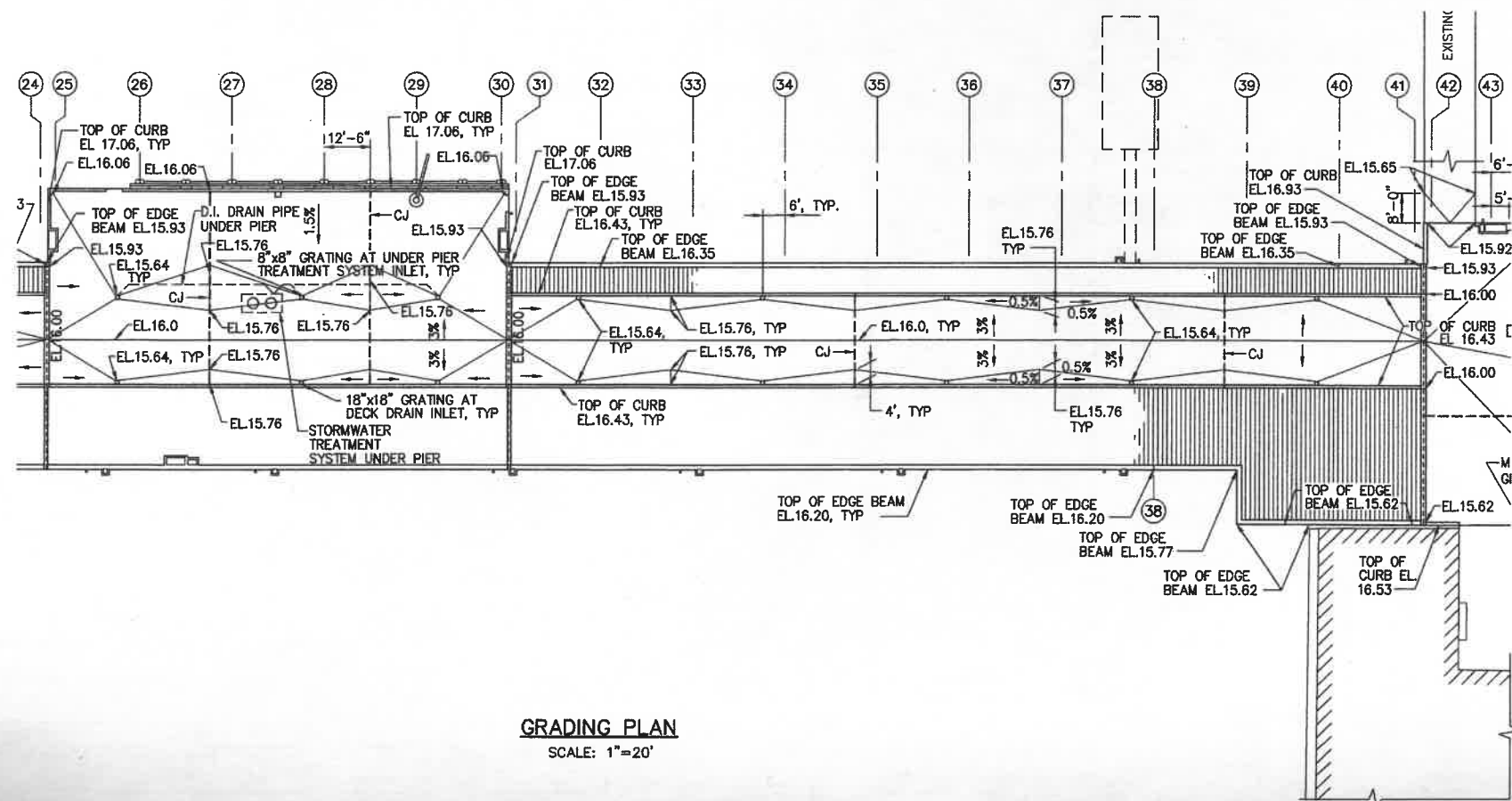
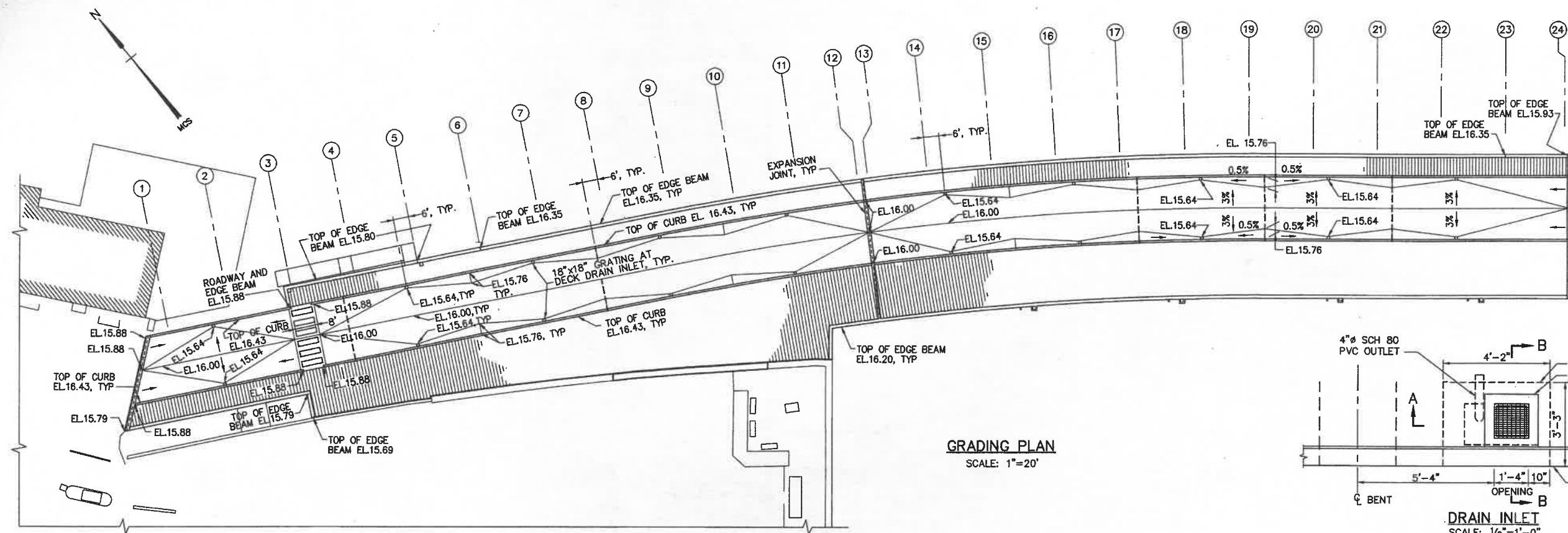
MACMILLAN PIER
RECONSTRUCTION

DECK PLAN - PART 2

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

FS&T DRAWING NUMBER	SCALE:	DES. DWH	CHK. DPA	APPROVED
TP-090	1"=20'	DATE: DECEMBER 1999	DR. RWT	PROJ. ENGR. DPA

SHEET NO. 18 OF 66



	OCT. 03	REVISED AS-BUILT	RWT	DWH	
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.

TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS

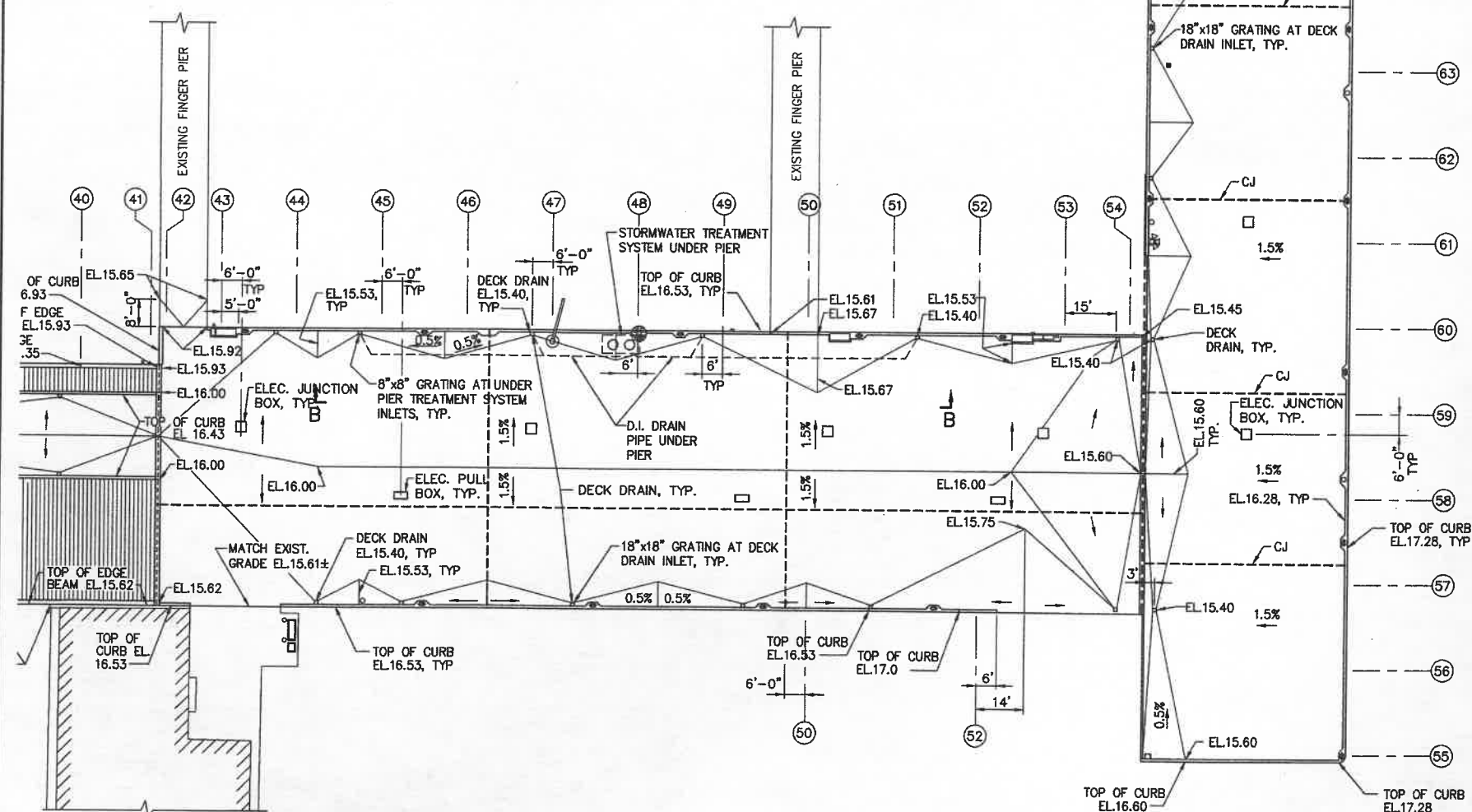
MACMILLAN PIER
RECONSTRUCTION

DECK GRADING AND DRAINAGE
PLAN - PART 1

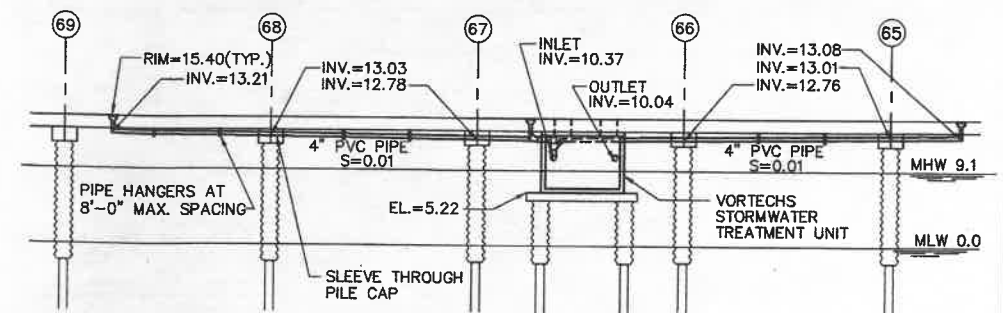
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED	DES. SBS	CHK. DWH	APPROVED
	DATE: DECEMBER 1999	DR. RWT	PROJ. ENGR. DPA	

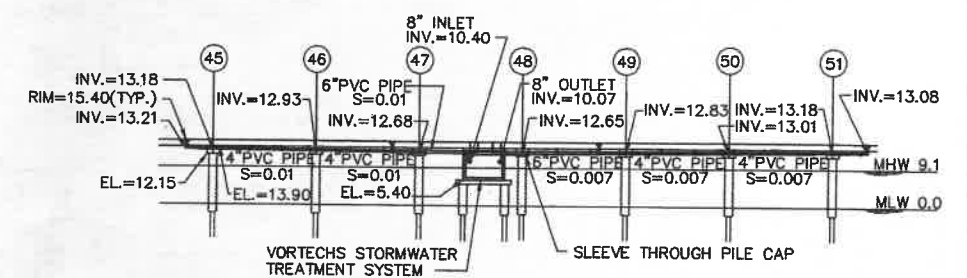
GRATE AND FRAME DETAILS
NOT TO SCALE



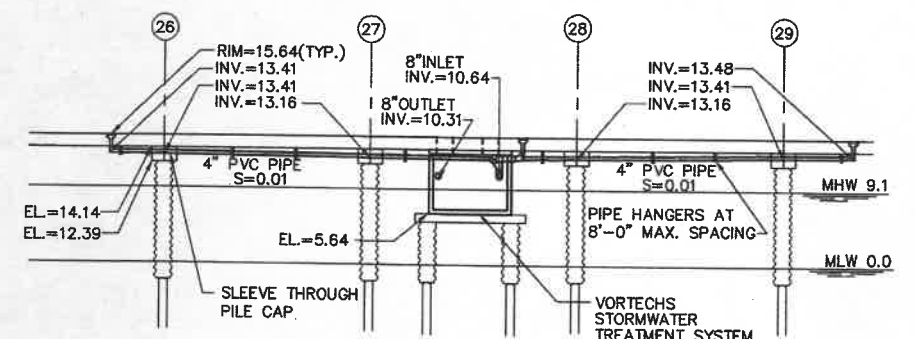
PLAN
SCALE: 1"=20'



DRAINAGE PROFILE "A"
TEE SECTION
SCALE: HORZ. 1"=10'
VERT. 1"=10'



DRAINAGE PROFILE "B"
MAIN PIER
SCALE: HORIZ. 1"=20'
VERT. 1"=20'



DRAINAGE PROFILE "C"
APPROACH PIER
SCALE: HORZ. 1"=10'
VERT. 1"=10'

NOTE:

DECK DRAINS ARE TYPICALLY LOCATED 6 FEET
OFF THE BENT LINES, UNLESS NOTED OTHERWISE

	OCT. 03	REVISED AS-BUILT	RWT	D'WH	
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.

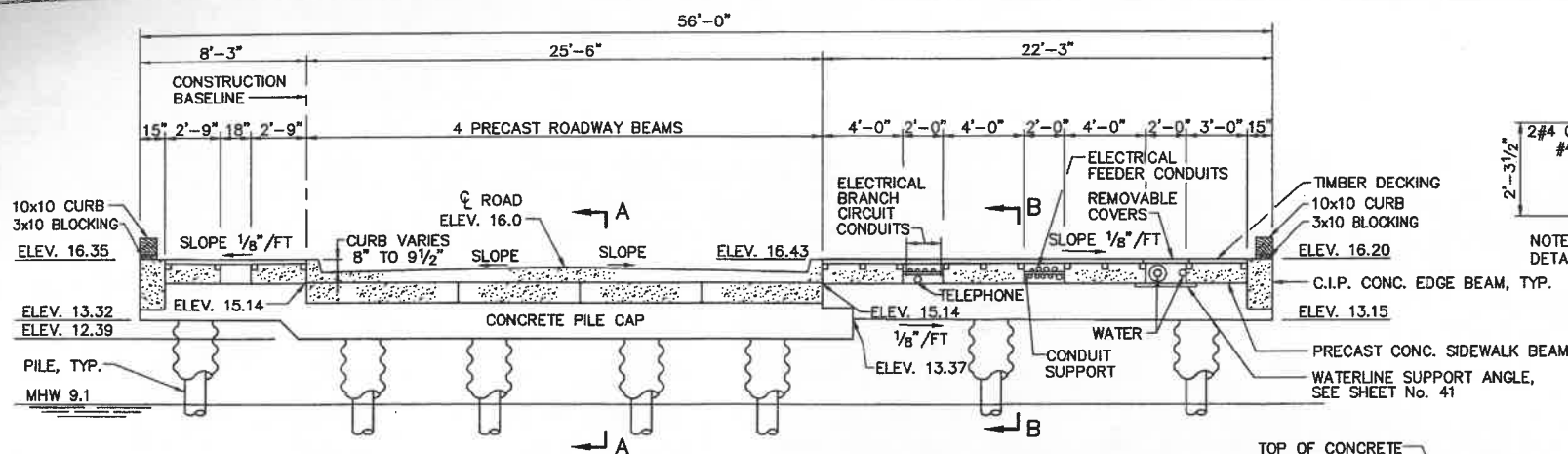
TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS

MACMILLAN PIER RECONSTRUCTION

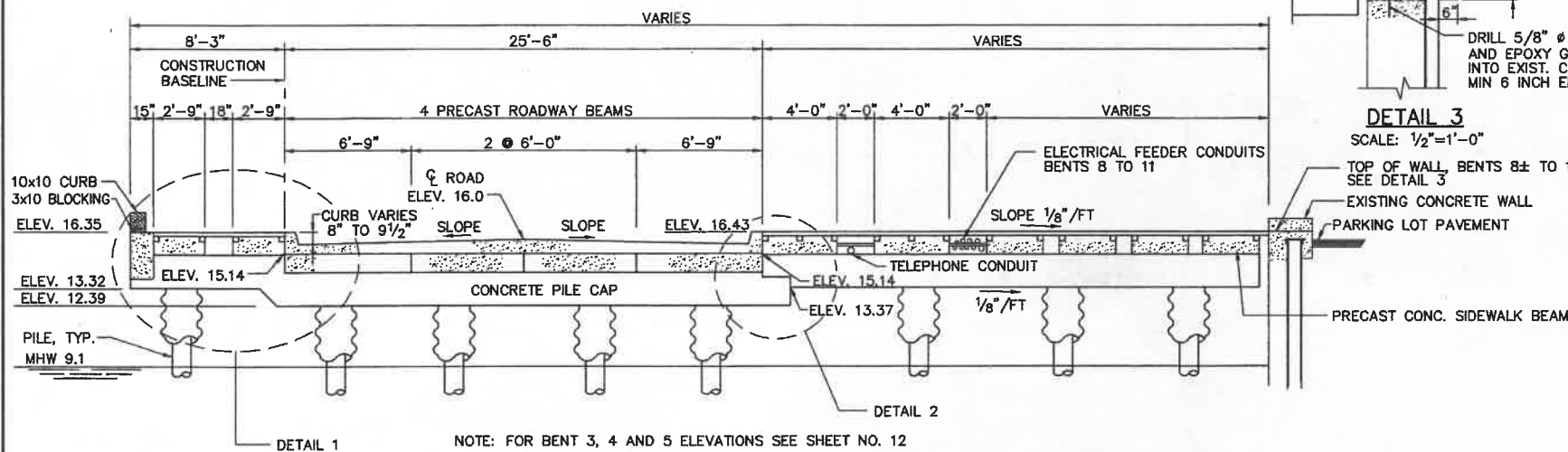
DECK GRADING AND DRAINAGE
PLAN - PART 2

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

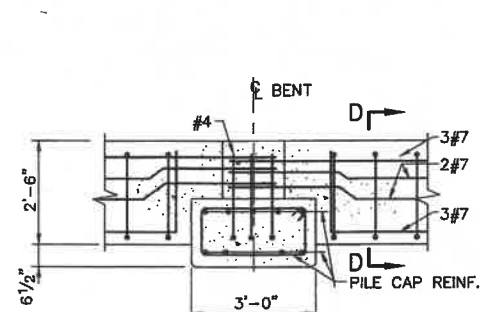
FS&T DRAWING NUMBER		SCALE: 1"=20'	DES. SBS	CHK. DWH	APPROVED
TP-090		DATE: DECEMBER 1999	DR. RWT	PROJ. DPA	



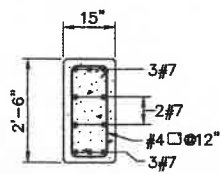
NOTE: FOR BENT 24 AND 31 ELEVATIONS SEE SHEET NO. 12
BENT 39 TO 41 SIMILAR, SEE SHEET NO. 12
TYPICAL APPROACH SECTION - BENTS 12 TO 24 AND 31 TO 38
SCALE: 1/4"=1'-0"



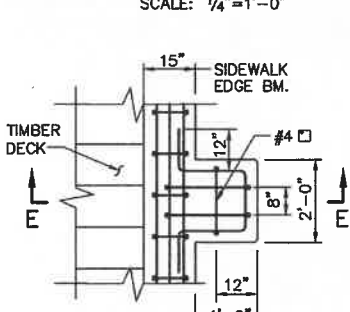
NOTE: FOR BENT 3, 4 AND 5 ELEVATIONS SEE SHEET NO. 12
BENT 1 AND 2 SIMILAR, SEE SHEET NO. 12
APPROACH SECTION - BENTS 3 TO 11
SCALE: 1/4"=1'-0"



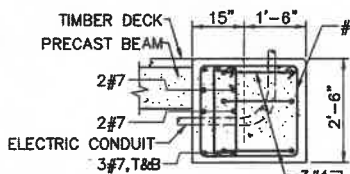
SECTION-SIDEWALK EDGE BM. AT PILE CAP
SCALE: 1/2"=1'-0"



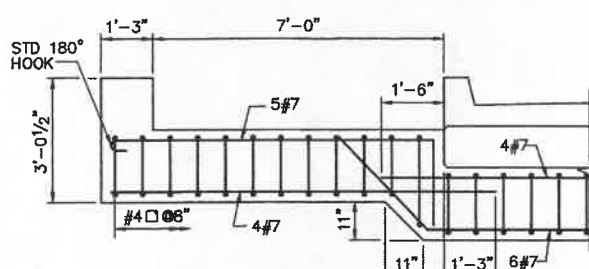
TYPICAL EDGE BEAM
SECTION D-D
SCALE: 1/2"=1'-0"



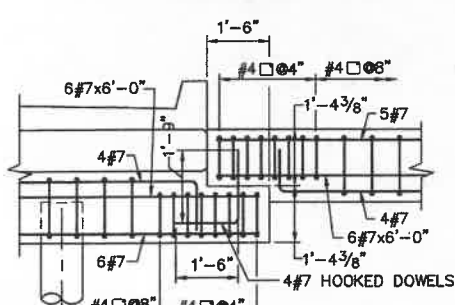
SEE DECK PLAN-PART 1 FOR LOCATIONS
POWER PEDESTAL BASE
PART PLAN
SCALE: 1/2"=1'-0"



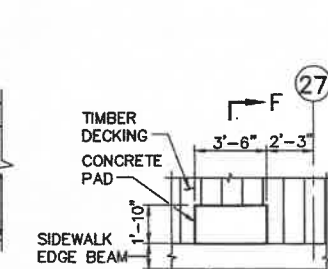
SECTION E-E
SCALE: 1/2"=1'-0"



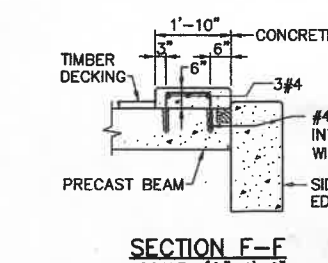
DETAIL 1
SCALE: 1/2"=1'-0"



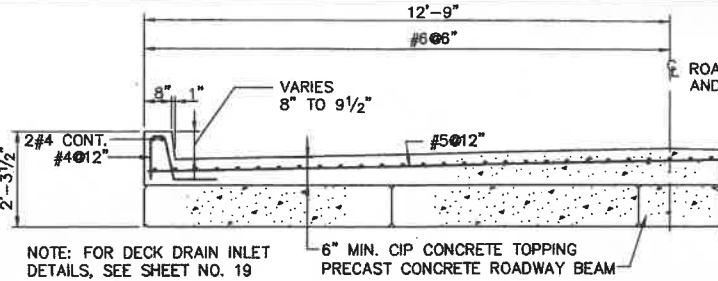
DETAIL 2
SCALE: 1/2"=1'-0"



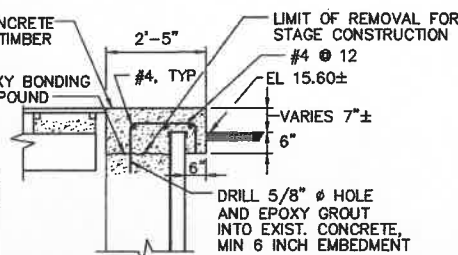
PLAN-HEAT TRACE PAD #1
SCALE: 1/4"=1'-0"



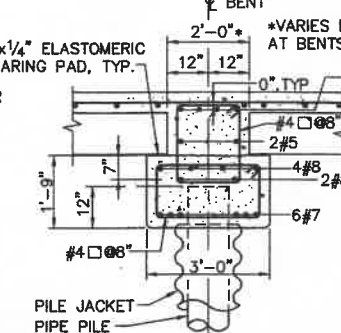
SECTION F-F
SCALE: 1/2"=1'-0"



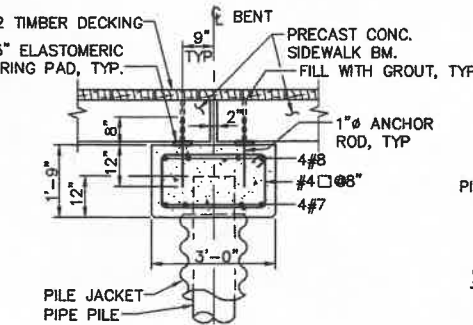
SECTION - TYPICAL DECK REINFORCEMENT
SCALE: 1/2"=1'-0"



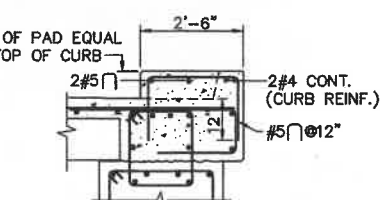
DETAIL 3
SCALE: 1/2"=1'-0"



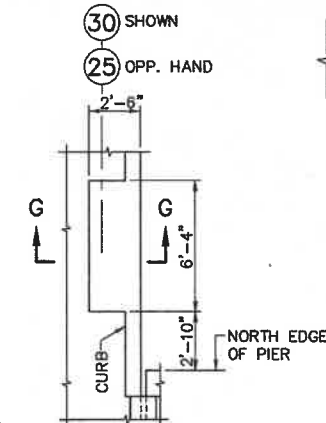
TYPICAL PILE CAP AT ROADWAY
SECTION A-A
SCALE: 1/2"=1'-0"



TYPICAL PILE CAP AT SIDEWALK
SECTION B-B
SCALE: 1/2"=1'-0"



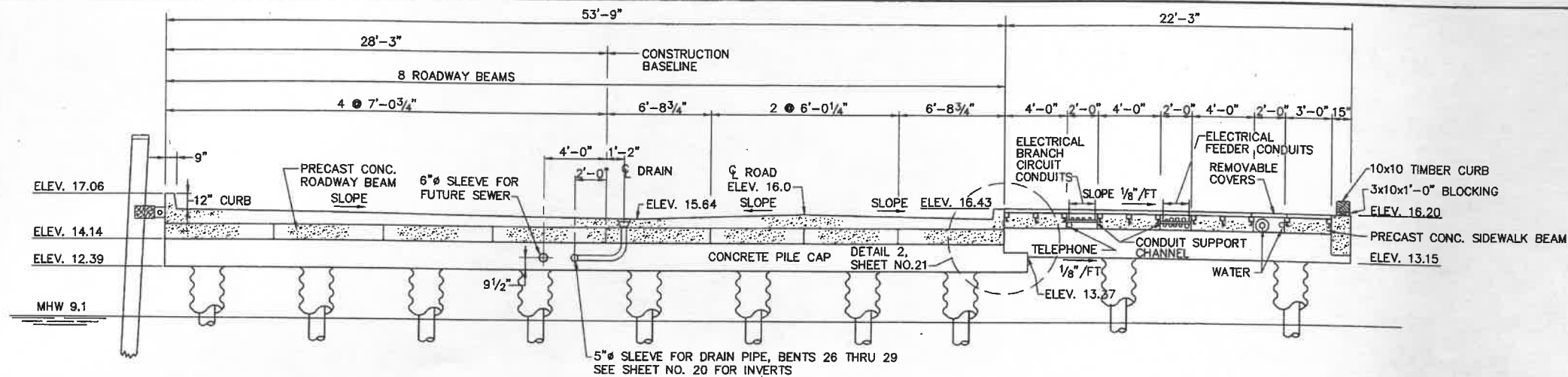
SECTION G-G
SCALE: 1/2"=1'-0"



PLAN-TRANSFORMER PAD 2 & 3
SCALE: 1/4"=1'-0"

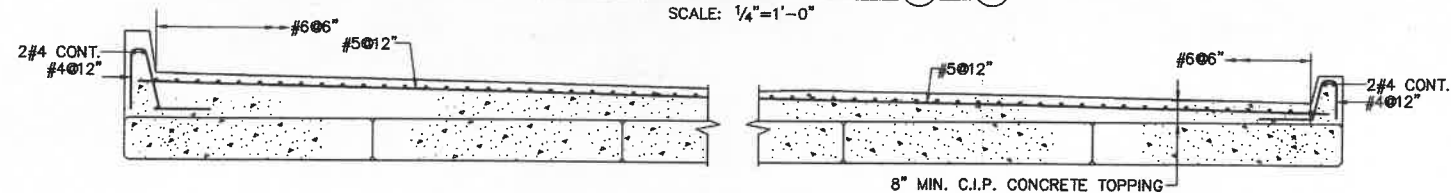
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
OCT. 03		REVISED, AS-BUILT	RWT	DWH	

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS					
MACMILLAN PIER RECONSTRUCTION					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
SECTIONS AND CONCRETE DETAILS PIER APPROACH - PART 1					
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED DATE: DECEMBER 1999	DES. DWH DR. RWT	CHK. DWH PROJ. ENGR.	APPROVED	



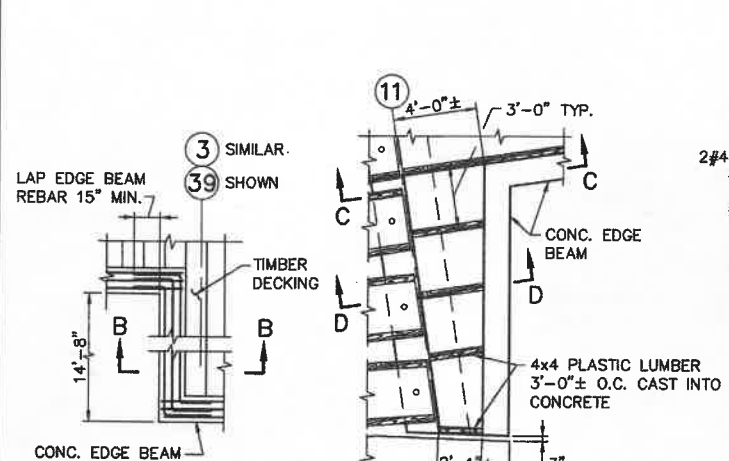
APPROACH SECTION - BENTS (25 TO 30)

SCALE: 1/4"=1'-0"



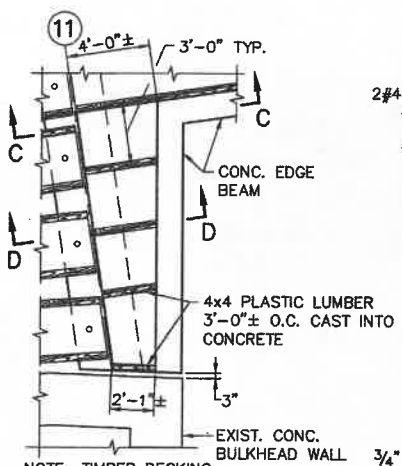
SECTION - TYPICAL DECK REINFORCEMENT

SCALE: 1/2"=1'-0"



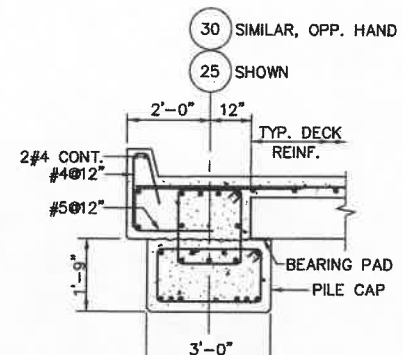
PART PLAN

SCALE: 1/4"=1'-0"



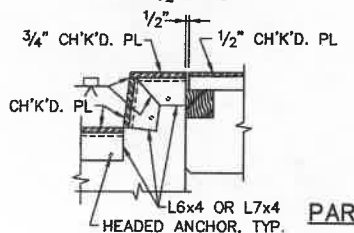
PART PLAN

SCALE: 1/4"=1'-0"



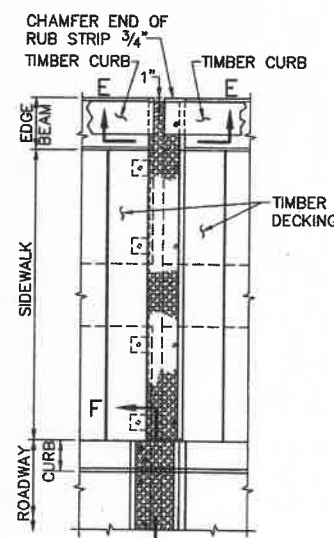
SECTION

SCALE: 1/2"=1'-0"



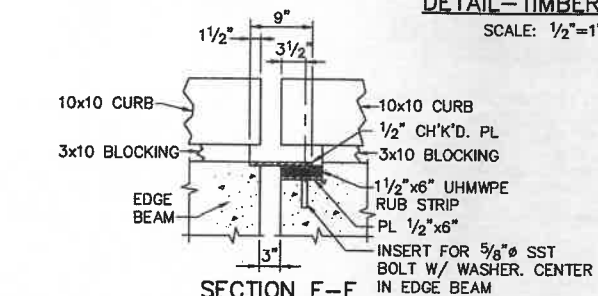
SECTION F-F

SCALE: 1"=1'-0"



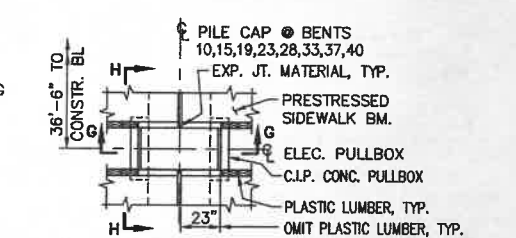
PART PLAN AT EXPANSION JOINT

SCALE: 1/2"=1'-0"



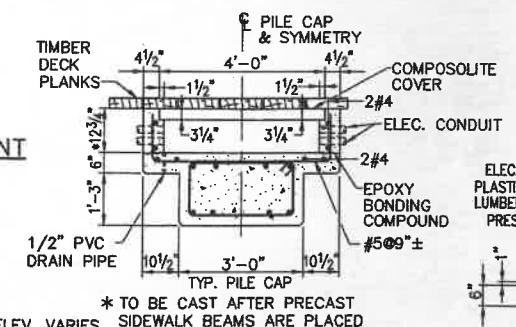
SECTION E-E

SCALE: 1"=1'-0"



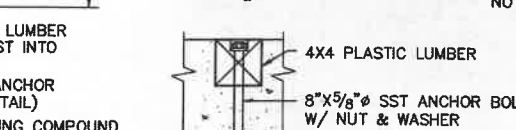
PLAN AT ELEC. PULLBOX No's 1 THRU 8

SCALE: 1/4"=1'-0"



SECTION G-G

SCALE: 1/2"=1'-0"

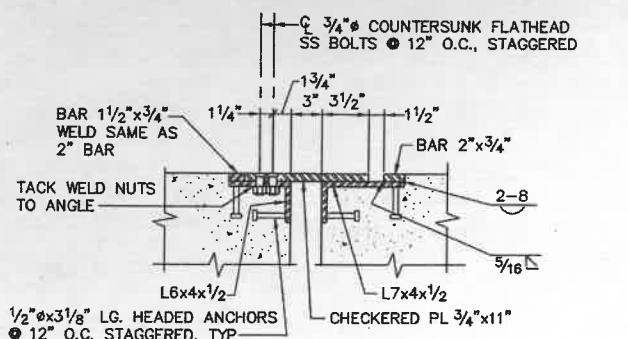


SECTION H-H

SCALE: 1/2"=1'-0"

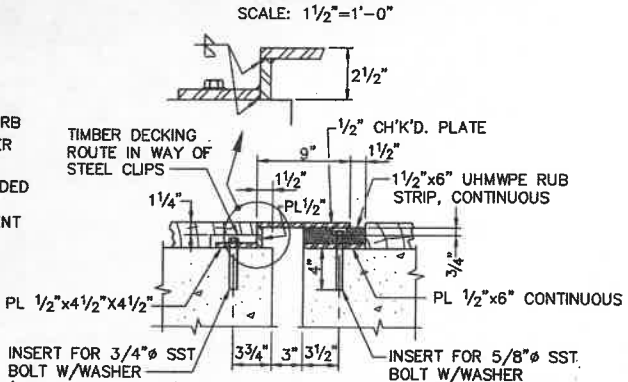
ANCHOR BOLT DETAIL

NOT TO SCALE



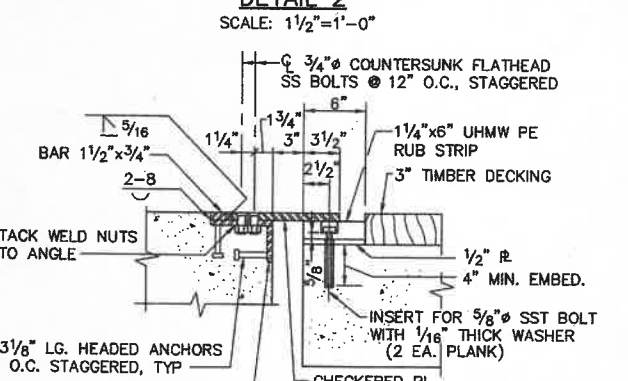
ROADWAY EXPANSION JOINT

SCALE: 1/2"=1'-0"



SIDEWALK EXPANSION JOINT

SCALE: 1/2"=1'-0"



SIDEWALK TO ROADWAY EXPANSION JOINT

SCALE: 1/2"=1'-0"

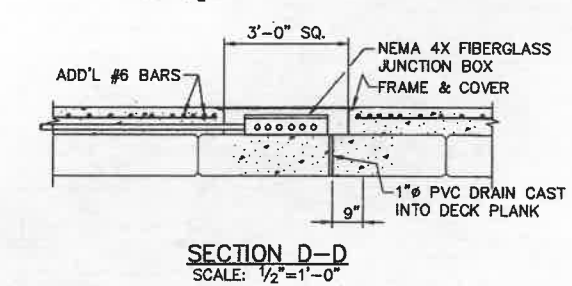
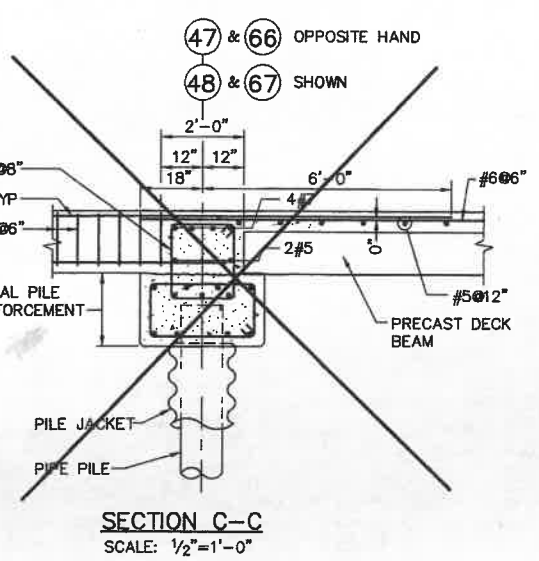
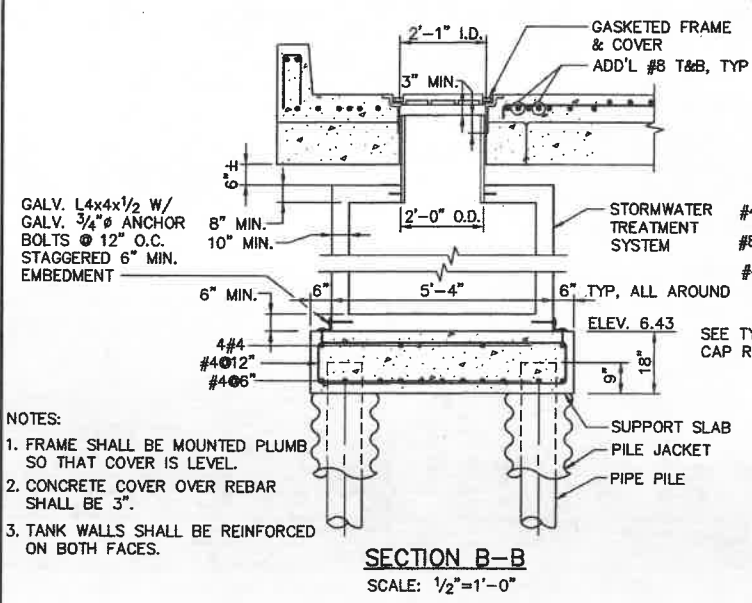
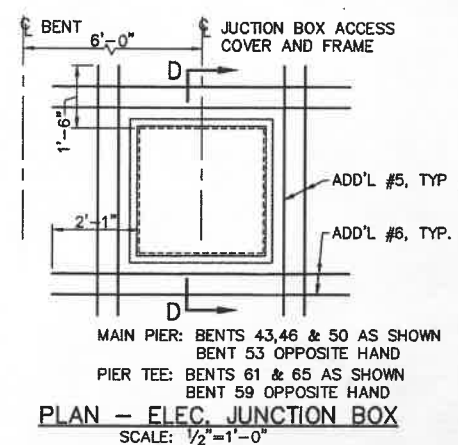
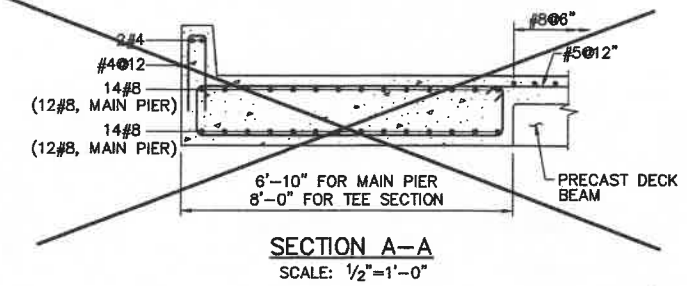
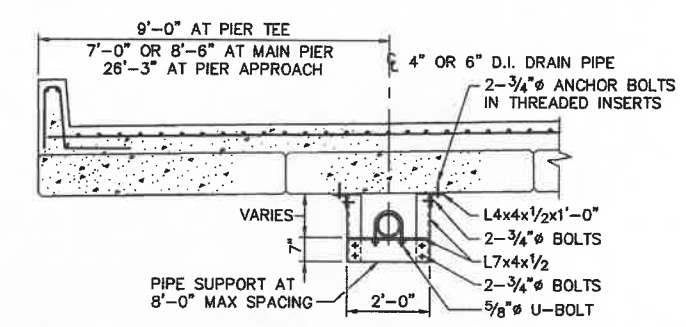
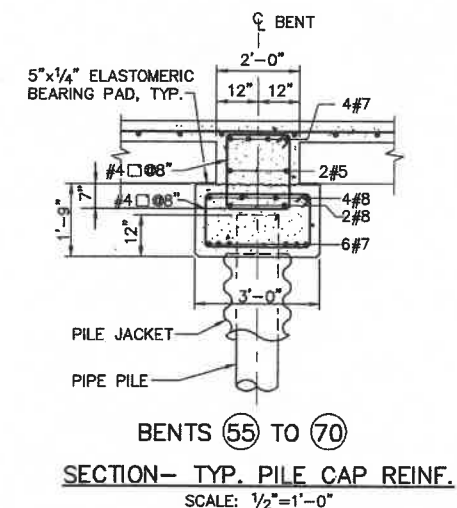
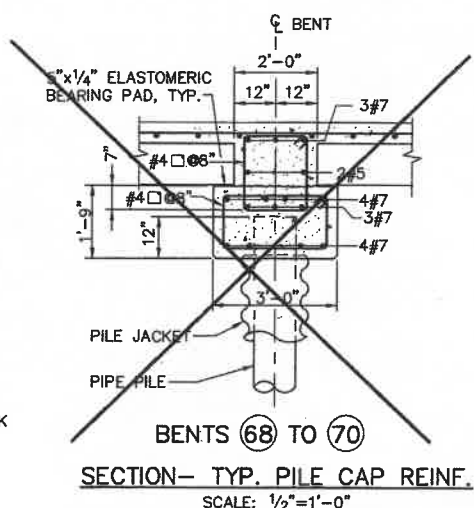
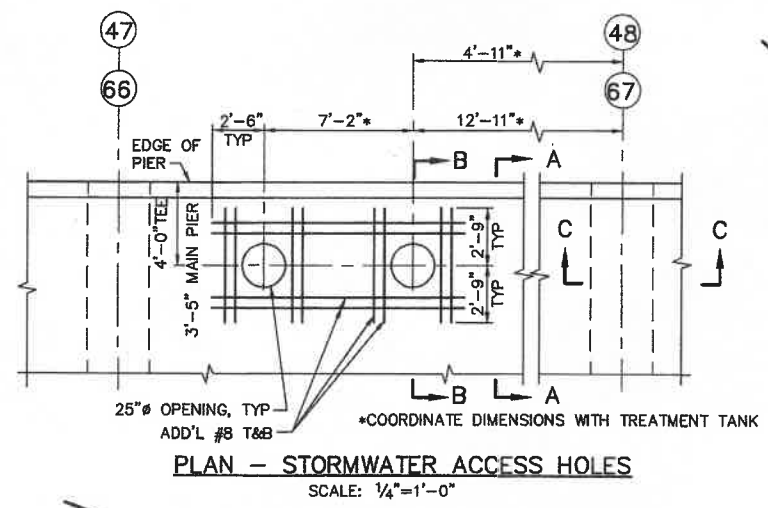
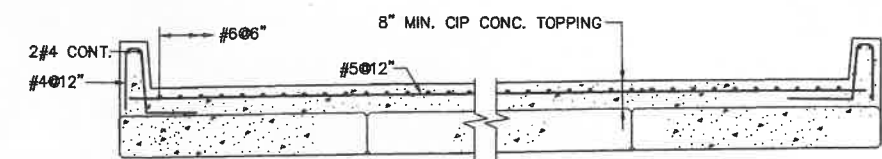
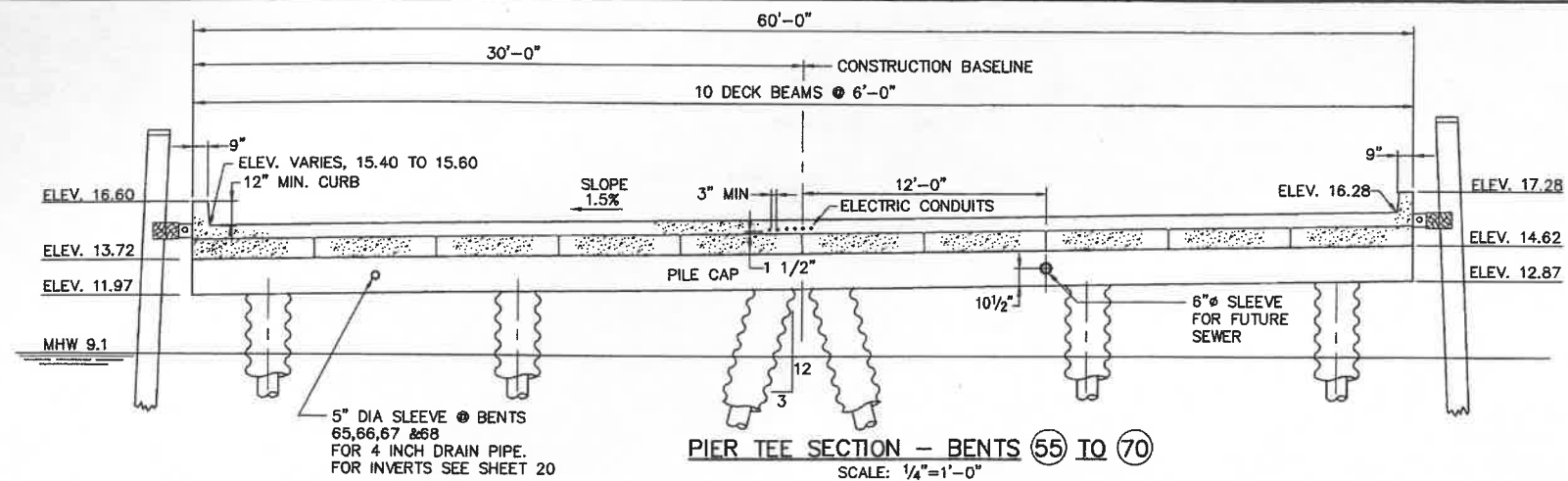
NOTES:

- FOR REINFORCEMENT AT 4 FT. WIDE C.I.P. SECTION, SEE DETAIL 1, SHEET NO. 23
- FOR REINFORCEMENT AT 8 FT. WIDE C.I.P. SECTION BETWEEN BENTS 27 TO 28, SEE SECTIONS A-A AND B-B ON SHEET 24
- FOR DRAIN INLET DETAILS SEE SHEET NO. 19

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
OCT. 03		REVISED, AS-BUILT	RWT	DWH	

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS					
MACMILLAN PIER RECONSTRUCTION					
SECTION AND CONCRETE DETAILS PIER APPROACH - PART 2					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED	DES. DWH	CHK. DWH	APPROVED	
DATE: DECEMBER 1999		DR. RWT	PROJ. ENGR. DPA		

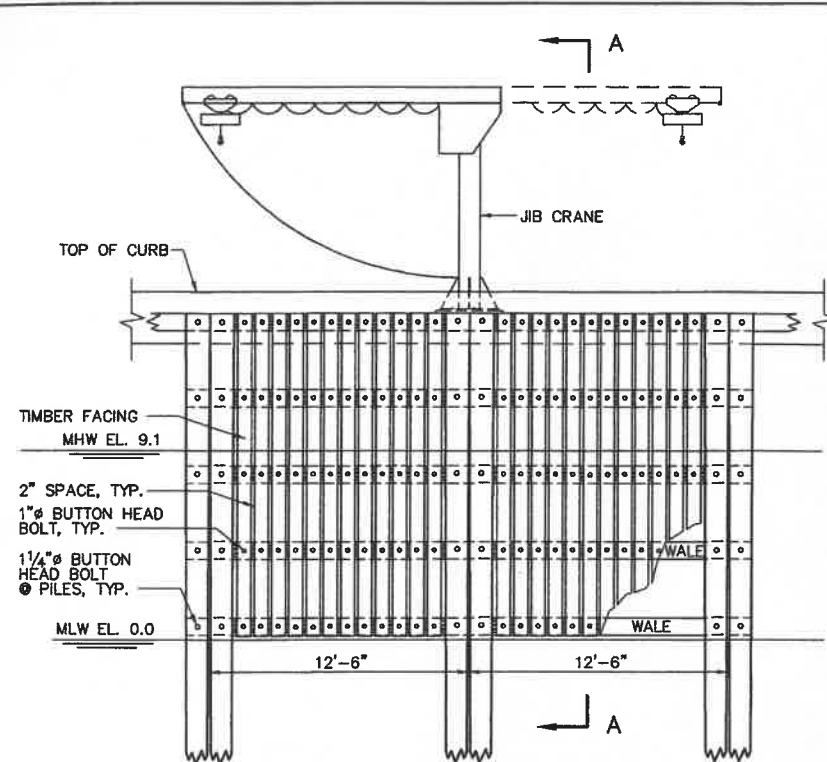




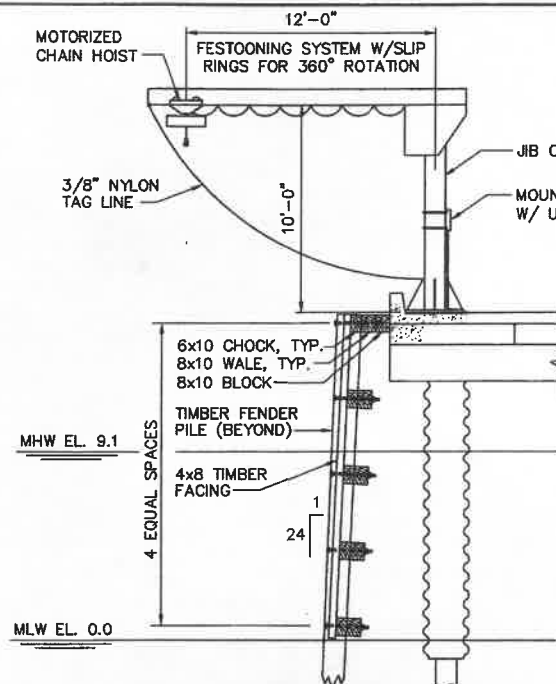
- NOTES:
1. FRAME SHALL BE MOUNTED PLUMB SO THAT COVER IS LEVEL.
 2. CONCRETE COVER OVER REBAR SHALL BE 3".
 3. TANK WALLS SHALL BE REINFORCED ON BOTH FACES.

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03	REVISED, AS-BUILT	RWT	DWH	

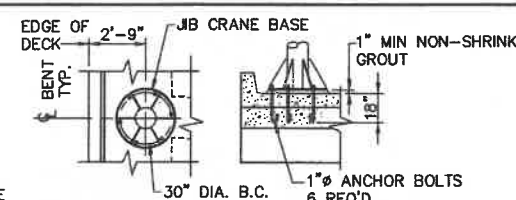
TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS		
MACMILLAN PIER RECONSTRUCTION		
SECTION AND CONCRETE DETAILS PIER TEE		
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS		
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED DATE: DECEMBER 1999	DES. DWH CHK. DWH PROJ. ENGR. DPA APPROVED



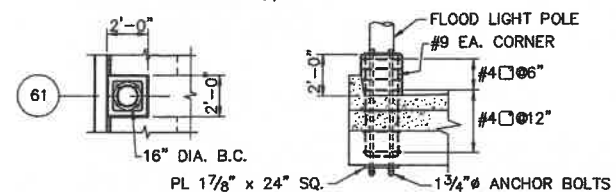
FENDER ELEVATION AT JIB CRANES
SCALE: 1/4"=1'-0"



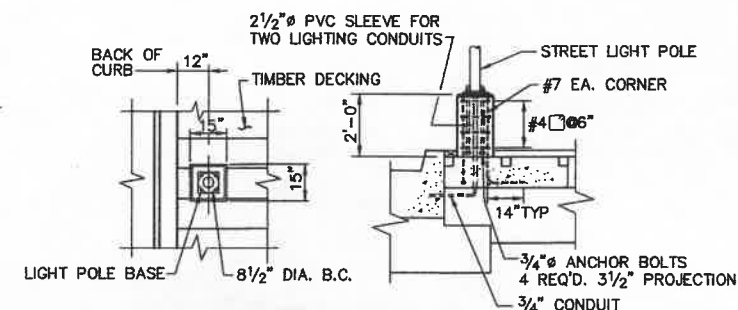
SECTION A-A
SCALE: 1/4"=1'-0"



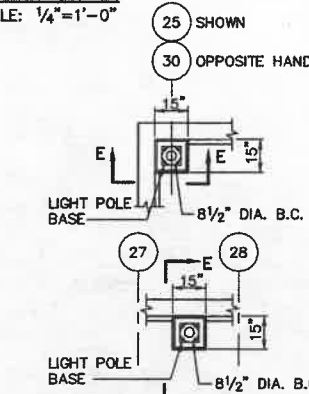
DETAIL-JIB CRANE ANCHOR BOLTS
SCALE: 1/4"=1'-0"



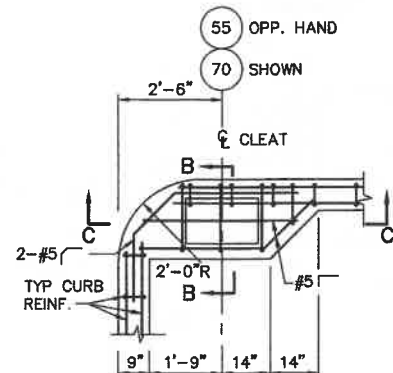
DETAIL-FLOOD LIGHT POLE ANCHOR BOLTS
SCALE: 1/4"=1'-0"



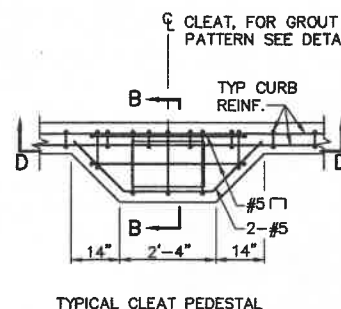
DETAIL-STREET LIGHT PEDESTAL
SCALE: 3/8"=1'-0"



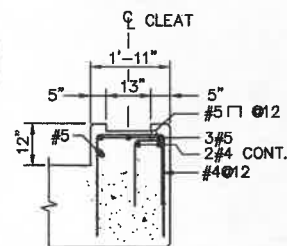
DETAIL-STREET LIGHT PEDESTAL
IN FRONT OF FLOATING DOCKS
SCALE: 3/8"=1'-0"



TYPICAL CLEAT PEDESTAL
AT PIER TEE CORNERS

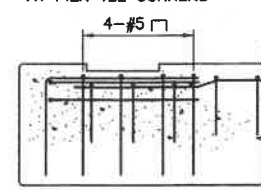


TYPICAL CLEAT PEDESTAL

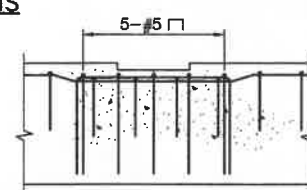


SECTION B-B

NOTE:
ELECTRIC POWER PEDESTALS T1-T3
SIMILAR BUT W/OUT GROUT POCKET

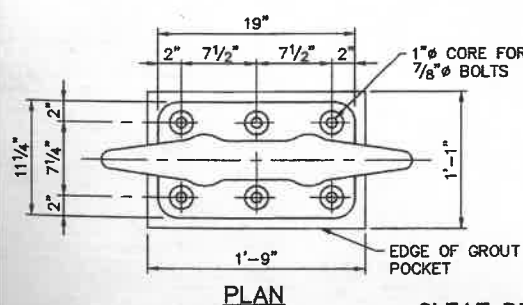


SECTION C-C

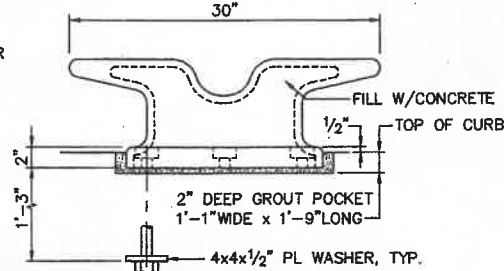


SECTION D-D

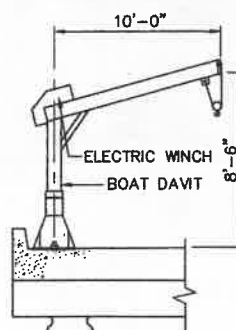
CONCRETE DETAILS AT CLEAT PEDESTALS
SCALE: 1/2"=1'-0"



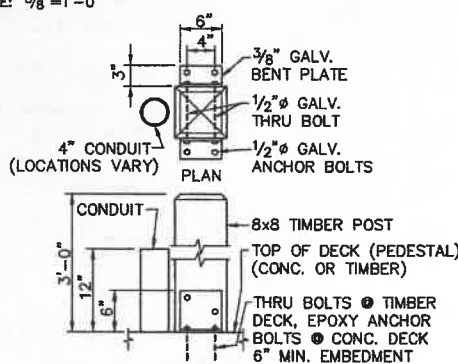
PLAN



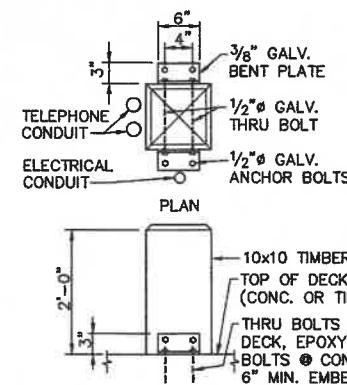
CLEAT DETAILS
SCALE: 1 1/2"=1'-0"



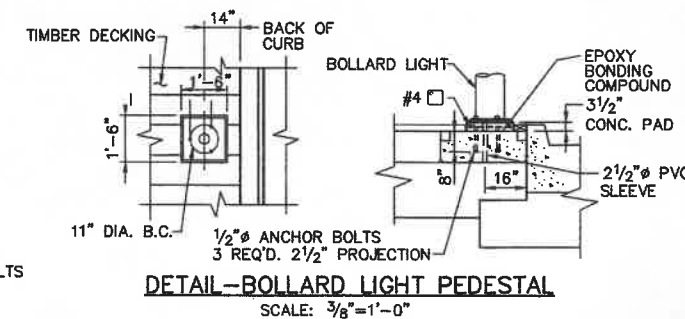
BOAT DAVIT
SCALE: NTS



DETAIL-NYNEX TERMINAL POST
SCALE: 1"=1'-0"



DETAIL-TICKET BOOTH AND DAVIT POST
SCALE: 1"=1'-0"

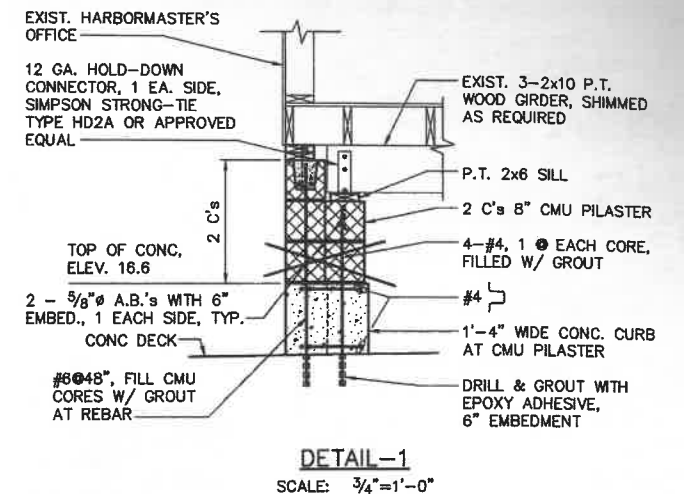
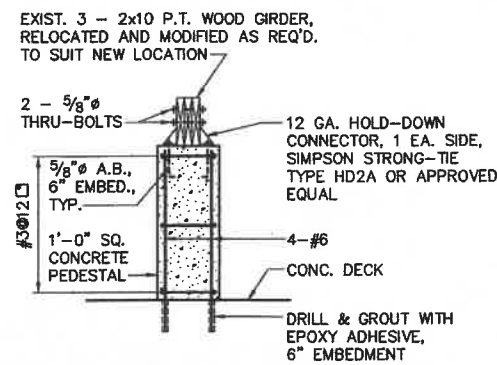
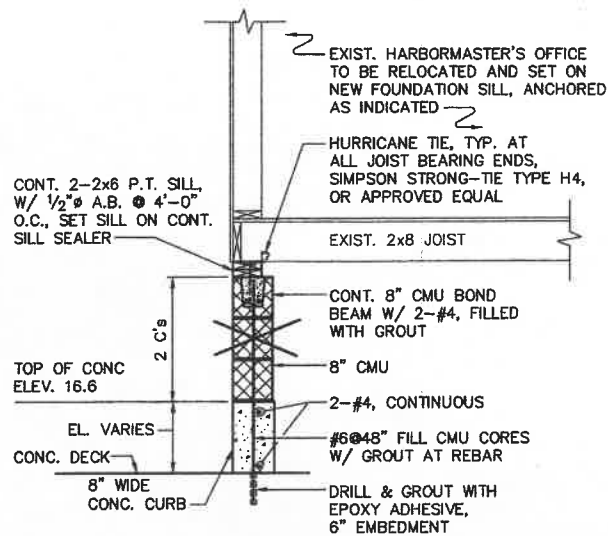
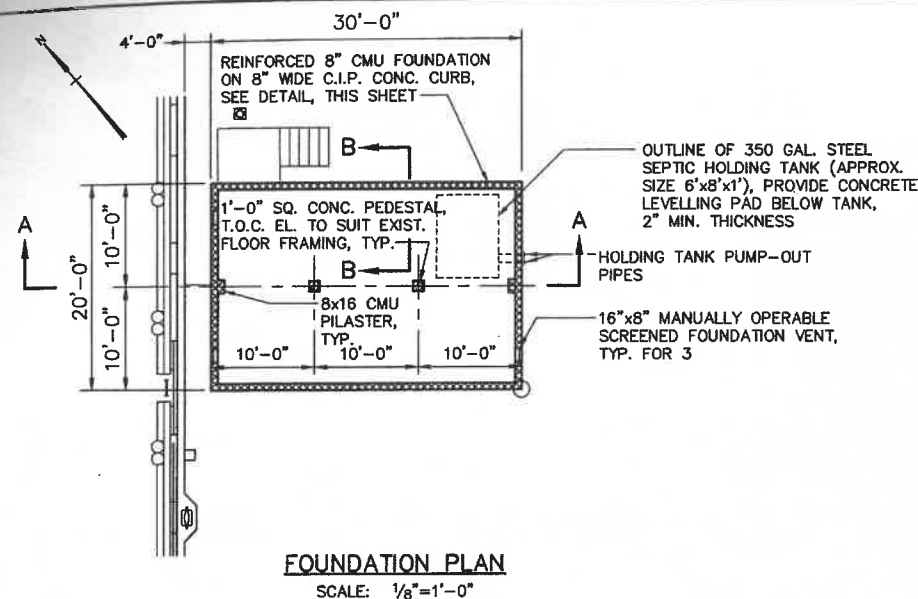


DETAIL-BOLLARD LIGHT PEDESTAL
SCALE: 3/8"=1'-0"

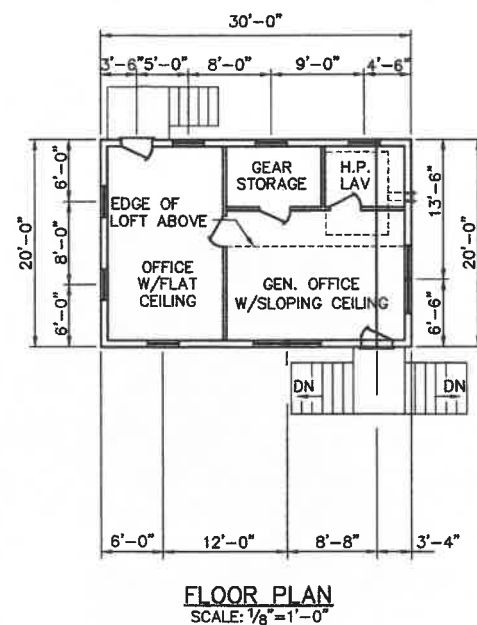
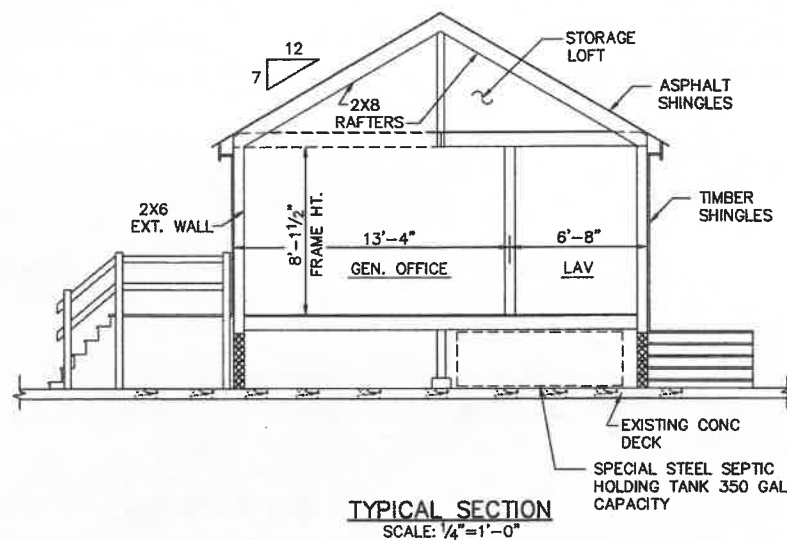
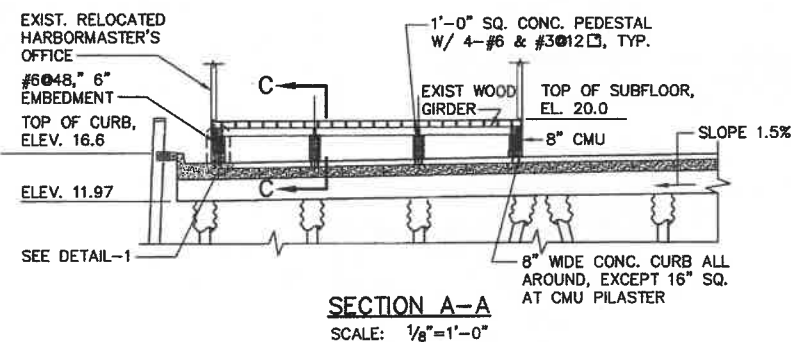
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03	REVISED, AS-BUILT	RWT	DWH	



TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS					
MACMILLAN PIER RECONSTRUCTION					
MISCELLANEOUS DETAILS					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED	DES. DPA	CHK. DWH	APPROVED	
	DATE: DECEMBER 1999	DR. RWT	PROJ. ENGR. DPA		



NEW FOUNDATION PLAN AND DETAILS



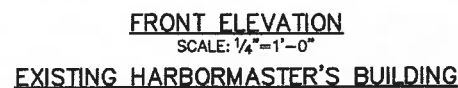
NOTE:
EXISTING HARBORMASTER BUILDING INCLUDING STAIRS, RAMP AND SEPTIC HOLDING TANK TO BE MOVED FROM THE EXISTING MAIN PIER TO THE PROPOSED PIER TEE.

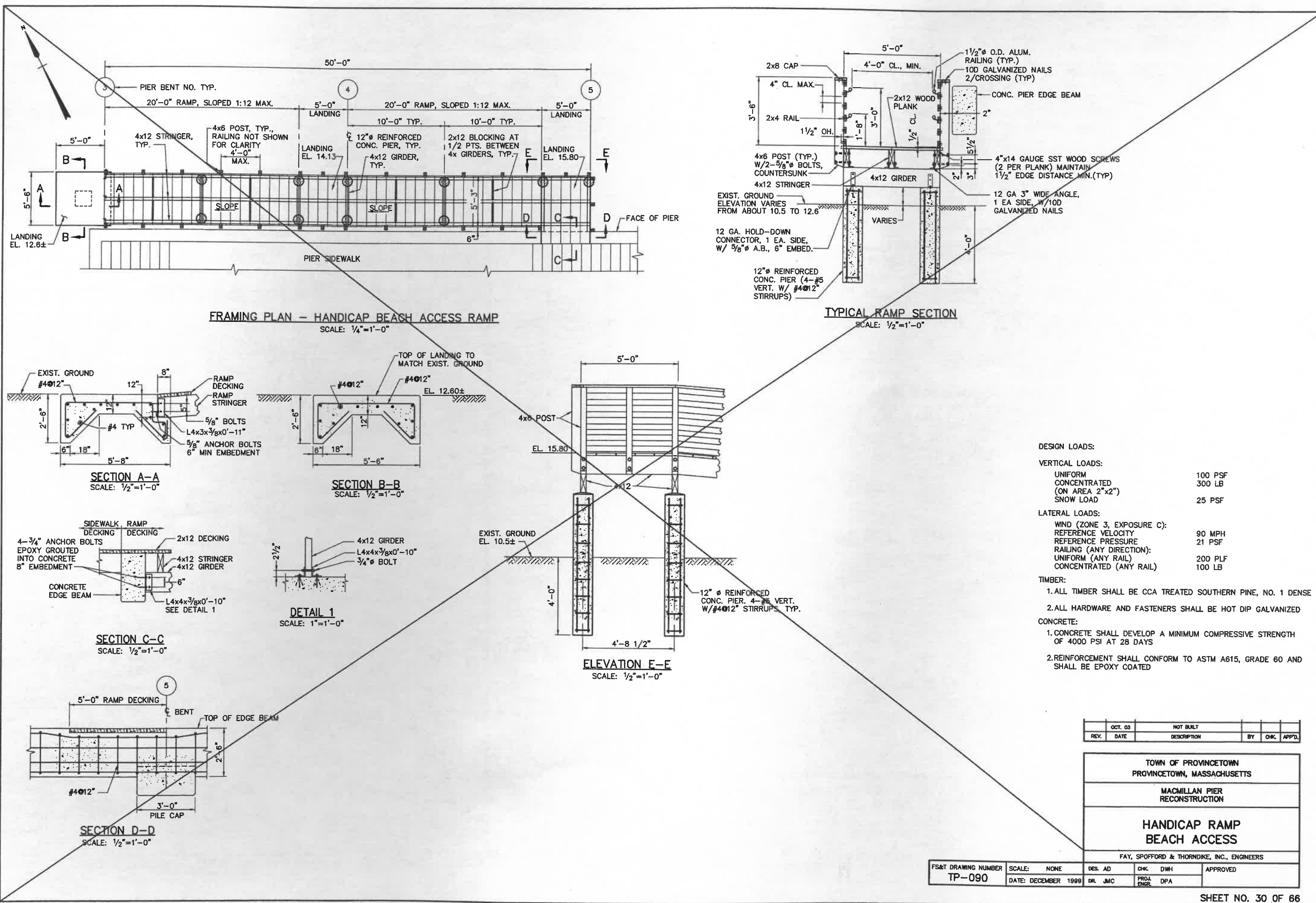
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03	REVISED, AS-BUILT	RWT	DWH	

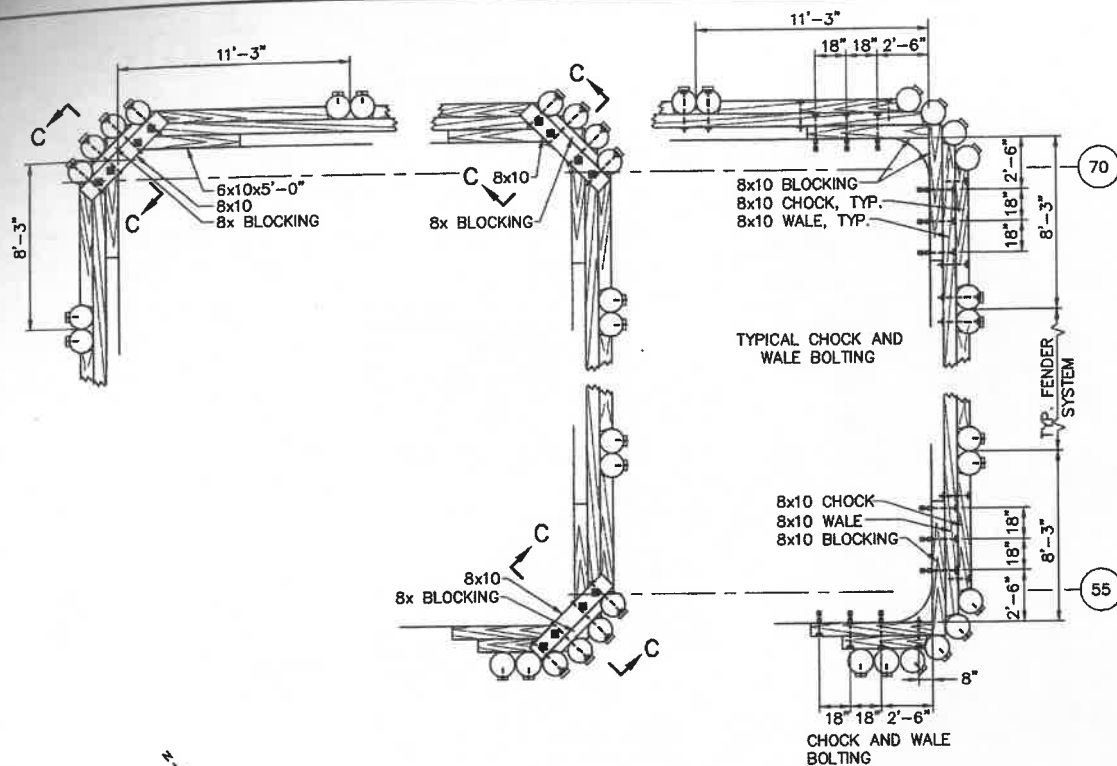
TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS
MACMILLAN PIER RECONSTRUCTION
HARBORMASTER'S BUILDING FOUNDATION PLAN, SECTIONS AND DETAILS
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS



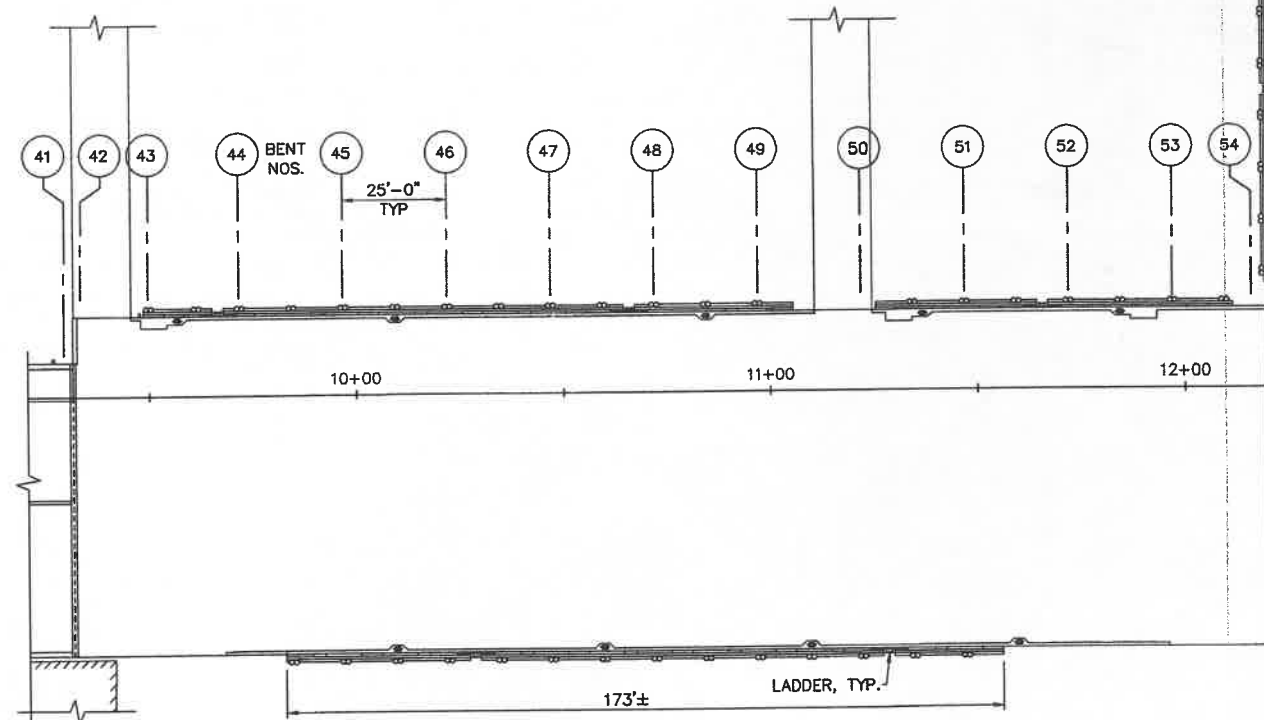
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED DATE: DECEMBER 1999	DES. AD DR. JMC	CHK. DWH PROJ. ENGR. DPA	APPROVED
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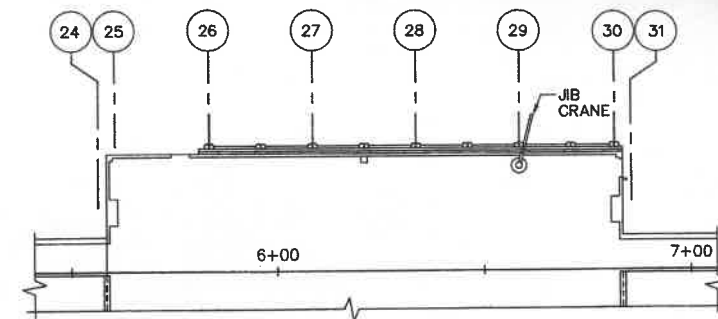
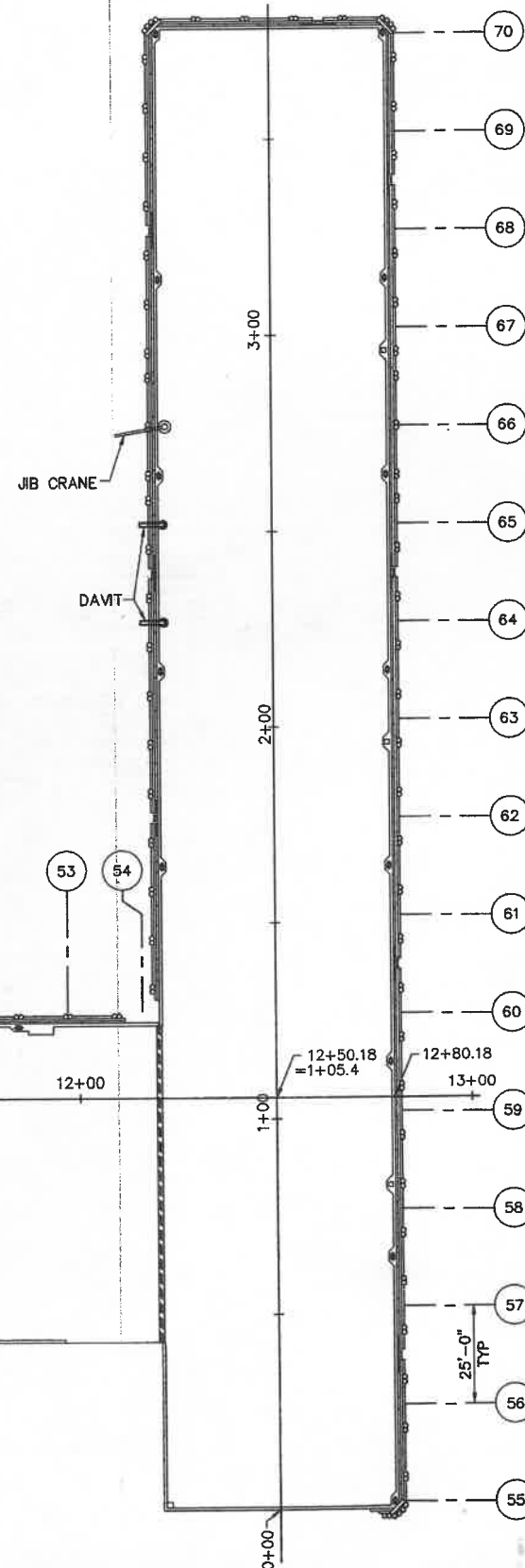




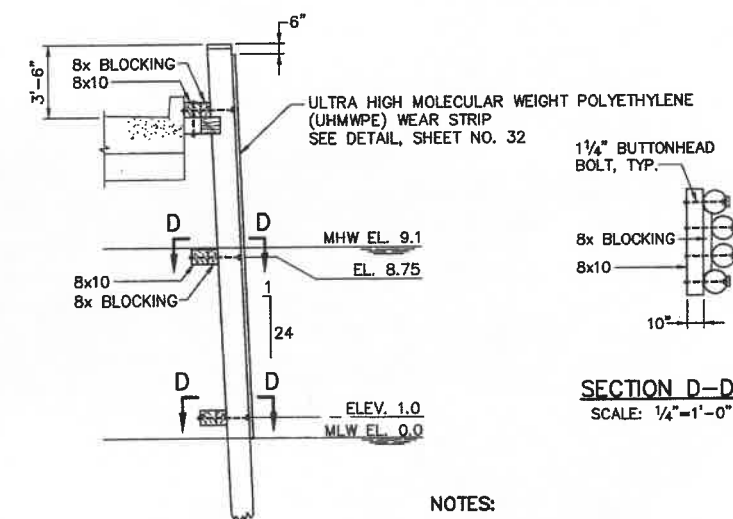
PLAN - CORNER FENDER DETAILS
SCALE: 1/4"=1'-0"



PLAN
SCALE: 1"=20'



PLAN - PARKING AREA
SCALE: 1"=20'



SECTION C-C
SCALE: 1/4"=1'-0"

NOTES:

1. ALL FENDER PILES TO BE OAK
2. ALL TIMBER TO BE CCA TREATED AND SHALL BE ROUGH SIZES
3. ALL HARDWARE TO BE HOT DIP GALVANIZED
4. ALL BUTTONHEAD BOLTS TO BE COUNTERSUNK
5. ALL BOLTS TO BE 1 INCH DIA. UNLESS NOTED OTHERWISE
6. FOR TYPICAL FENDER SYSTEM ARRANGEMENT SEE SHEET 32 OF 66.
7. FOR FENDER SYSTEM AT JIB CRANE LOCATIONS SEE SHEET 25 OF 66.

BOLT AND WASHER SCHEDULE

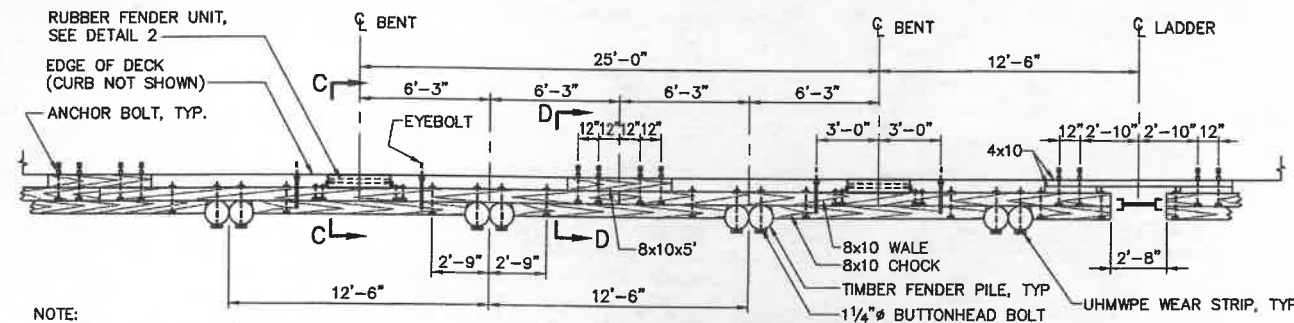
BOLT SIZE	SQUARE	ROUND
1 1/4"	4"x4"x1/2"	3"x3/8"
1"	3 1/2"x3 1/2"x1/2"	3"x3/8"
3/4"	3"x3"x3/8"	2"x1/4"

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 30	REVISED, AS-BUILT	RWT	DWH	



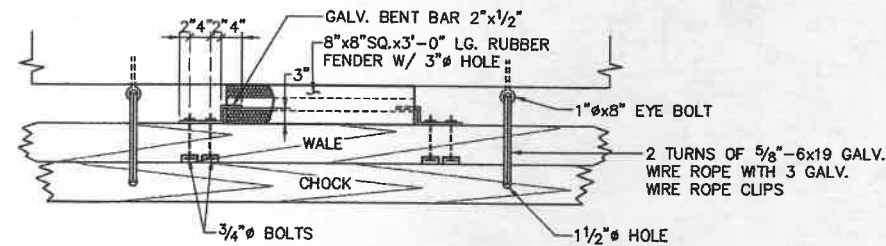
TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS	
MACMILLAN PIER RECONSTRUCTION	
FENDER SYSTEM PLAN AND DETAILS	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS	

FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED DATE: DECEMBER 1999	DES. DWH DR. RWT	CHK. REB PROJ. ENGR. DPA	APPROVED
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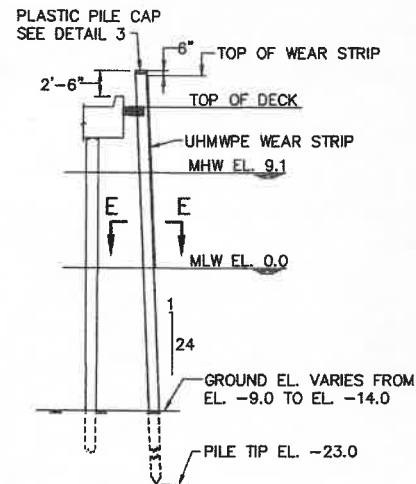


PLAN - TYPICAL FENDER ARRANGEMENT

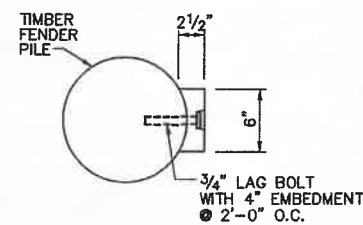
SCALE: 1/4"=1'-0"



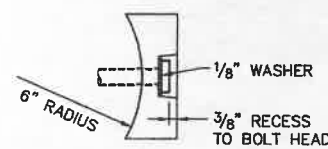
DETAIL 2
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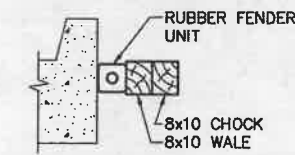
TYPICAL SECTION
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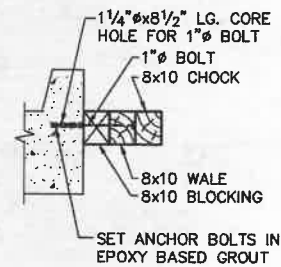
SECTION E-E
SCALE: 1 1/2"=1'-0"



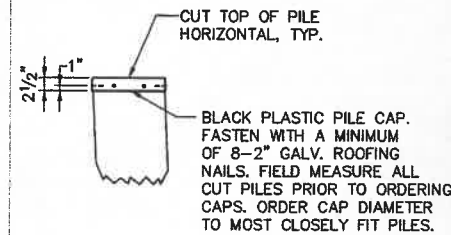
DETAIL - WEAR STRIP
SCALE: 3"=1'-0"



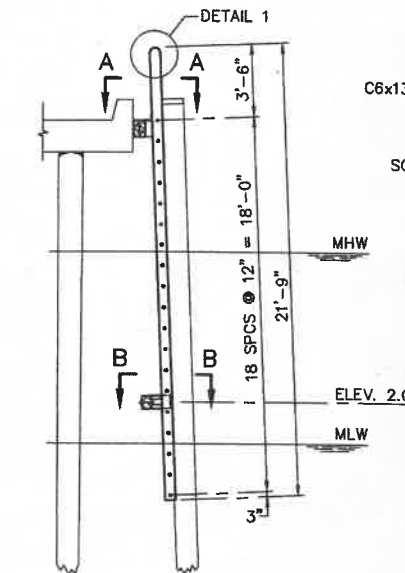
SECTION C-C
SCALE: 1/2"=1'-0"



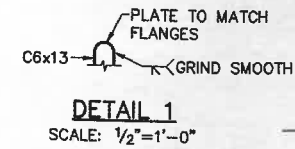
SECTION D-D
SCALE: 1/2"=1'-0"



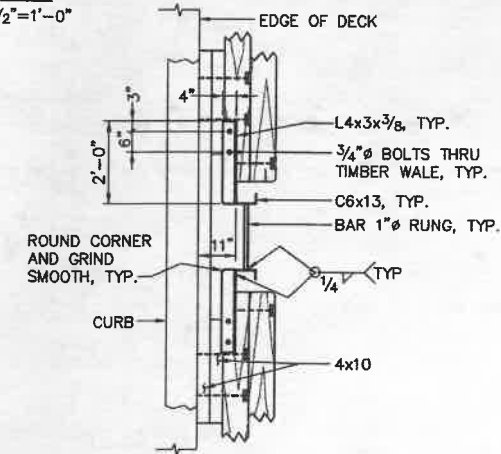
DETAIL 3
SCALE: 3/4"=1'-0"



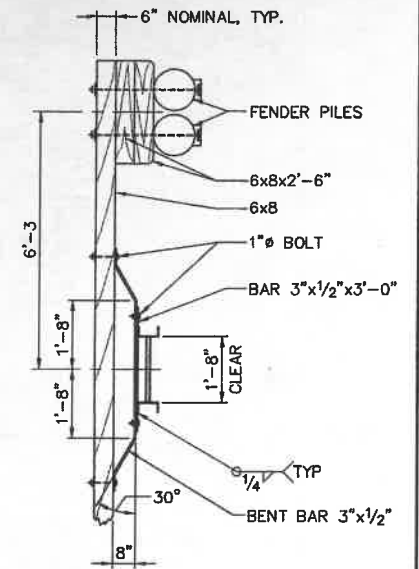
TYPICAL LADDER SECTION
SCALE: 1/4"=1'-0"



DETAIL 1
SCALE: 1/2"=1'-0"



SECTION A-A
SCALE: 1/2"=1'-0"



SECTION B-B
SCALE: 1/2"=1'-0"

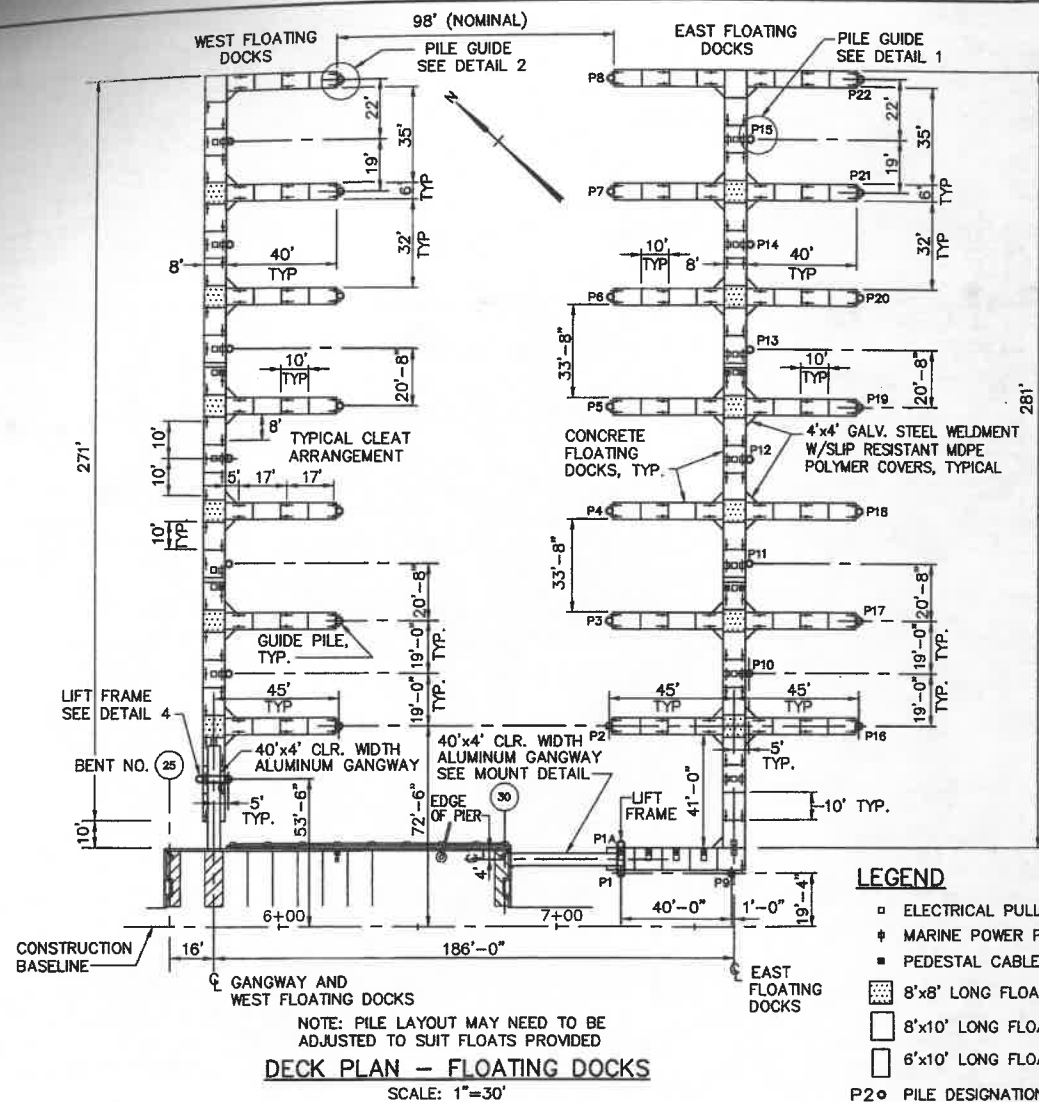
NOTES:

1. ALL FENDER PILES TO BE OAK
2. ALL TIMBER TO BE CCA TREATED AND SHALL BE ROUGH SIZES
3. ALL HARDWARE TO BE HOT DIP GALVANIZED
4. ALL BUTTONHEAD BOLTS TO BE COUNTERSUNK
5. ALL BOLTS TO BE 1 INCH DIA. UNLESS NOTED OTHERWISE
6. LADDERS TO BE GALVANIZED AFTER FABRICATION

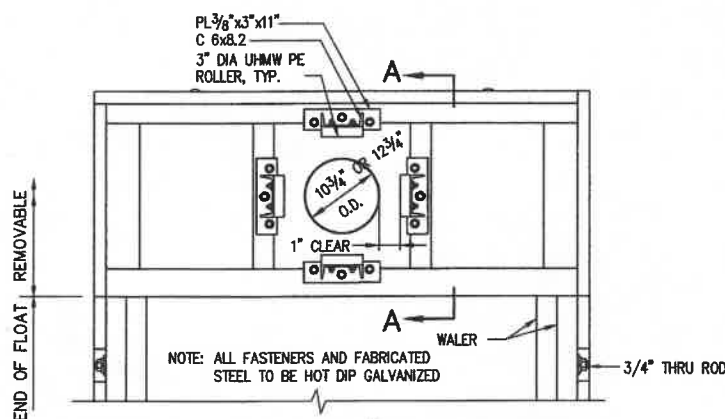
BOLT AND WASHER SCHEDULE		
BOLT SIZE	SQUARE	ROUND
1 1/4"	4" x 4" x 1/2"	3" x 3/8"
1"	3 1/2" x 3 1/2" x 1/2"	3" x 3/8"
3/4"	3" x 3" x 3/8"	2" x 1/4"

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03	AS-BUILT	RWT	DWH	

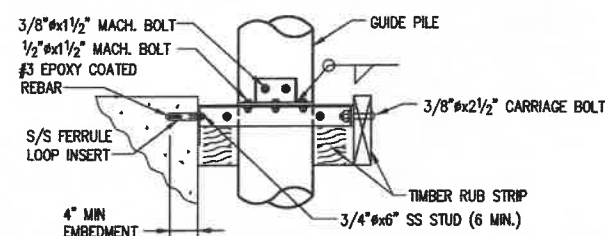
TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS				
MACMILLAN PIER RECONSTRUCTION				
FENDER SYSTEM MISCELLANEOUS DETAILS				
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS				
DES. DWH	CHK. MN	APPROVED		
DR. RWT	PRD. DPA			



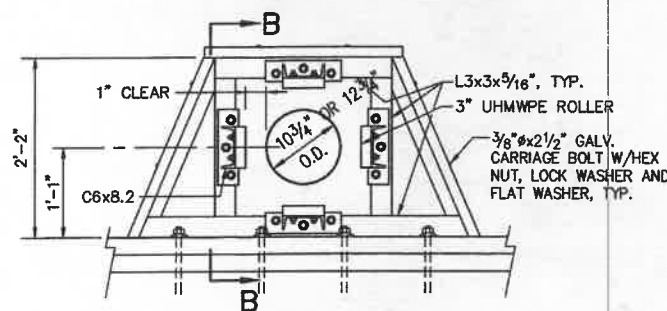
- LEGEND**
- ELECTRICAL PULL BOX
 - ◆ MARINE POWER PEDESTAL
 - PEDESTAL CABLE TERMINAL STAND
 - ▨ 8'x8' LONG FLOAT SECTION
 - ▩ 8'x10' LONG FLOAT SECTION
 - ▧ 6'x10' LONG FLOAT SECTION
 - P20 PILE DESIGNATION



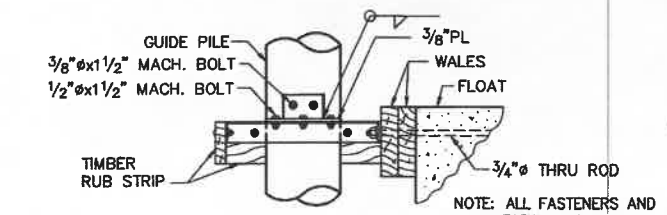
DETAIL 2 - PILE GUIDE END OF FLOAT



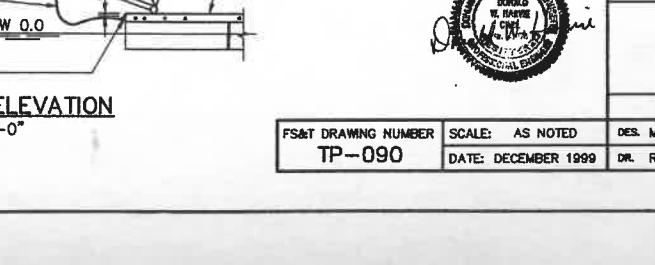
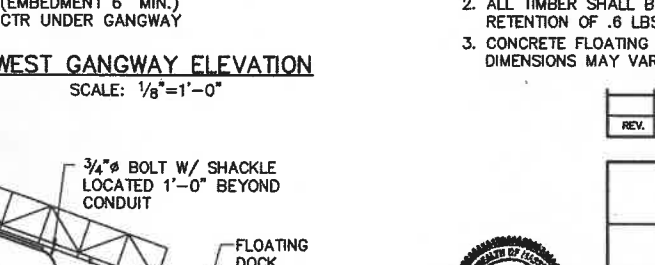
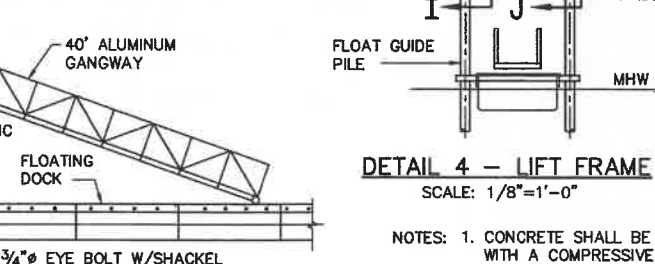
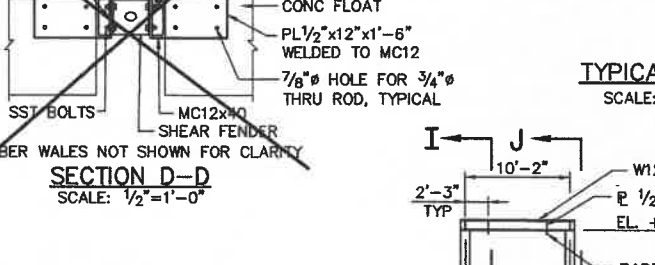
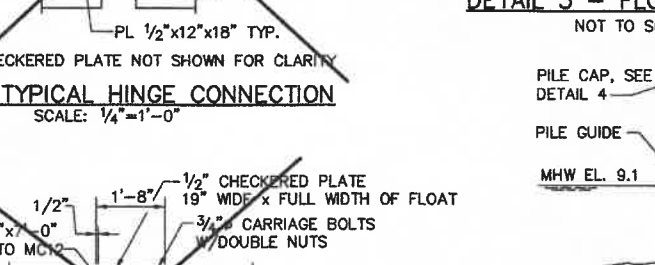
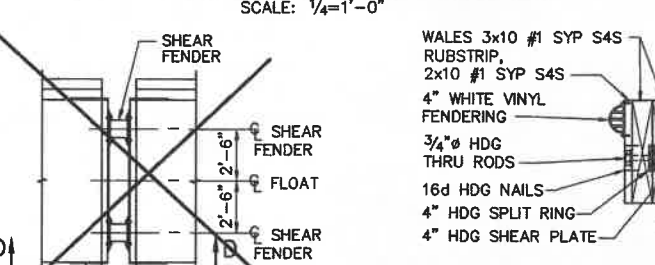
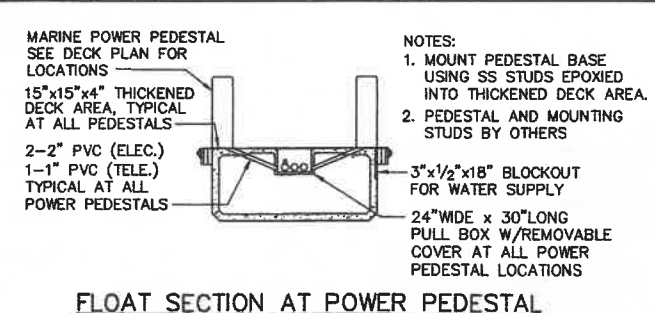
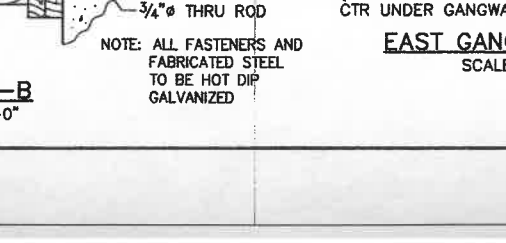
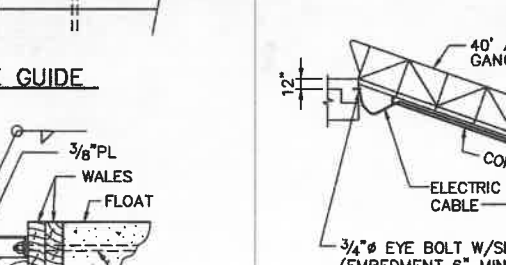
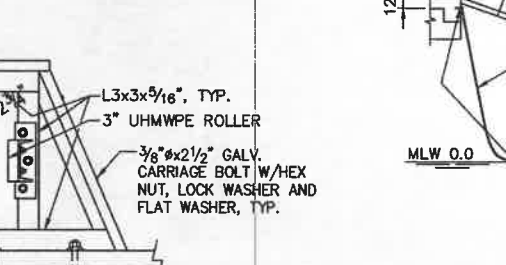
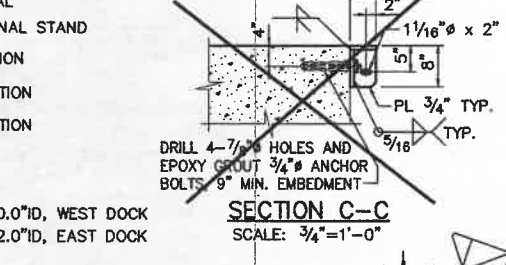
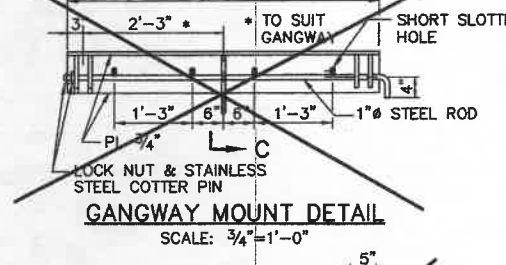
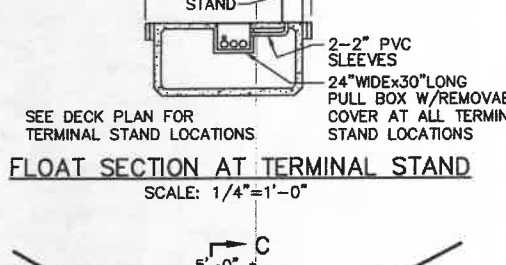
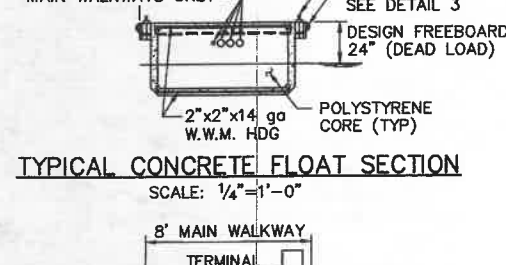
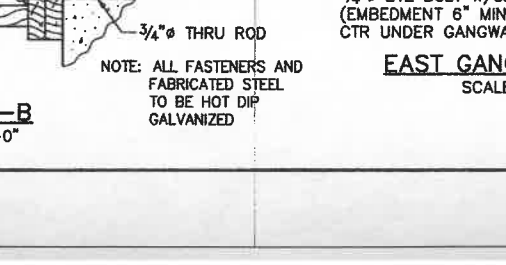
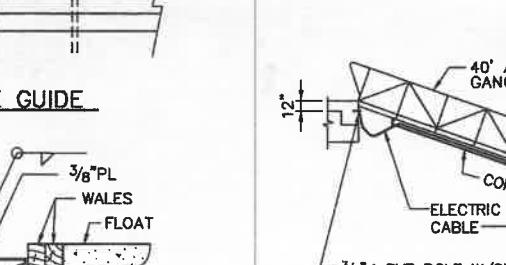
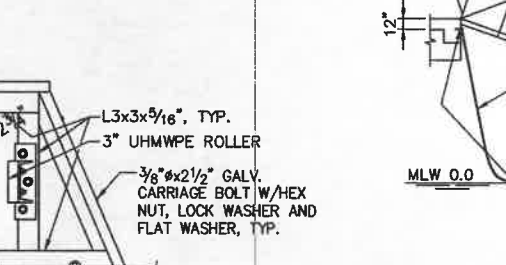
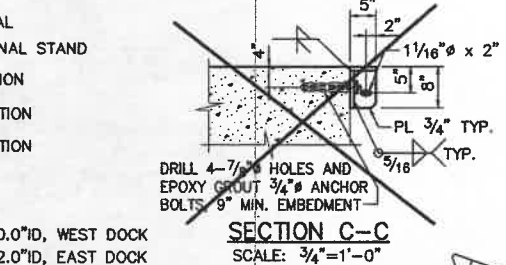
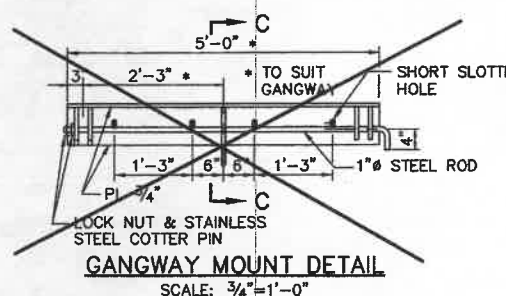
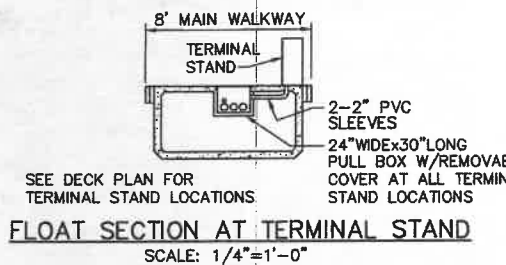
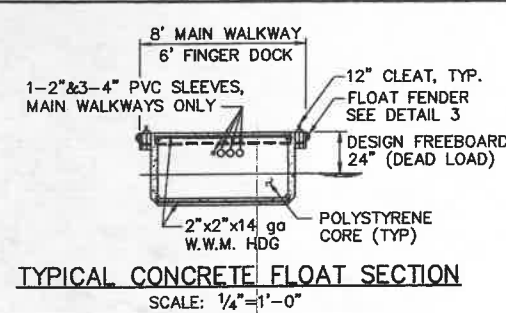
SECTION A-A



DETAIL 1- PILE GUIDE

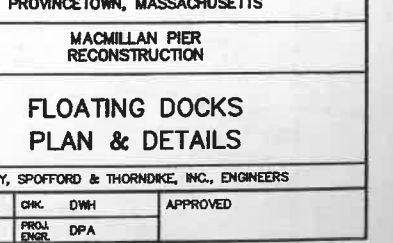
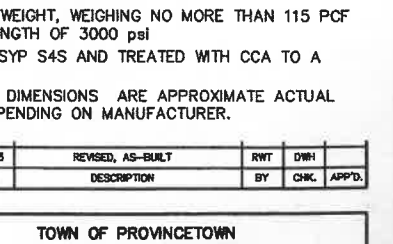
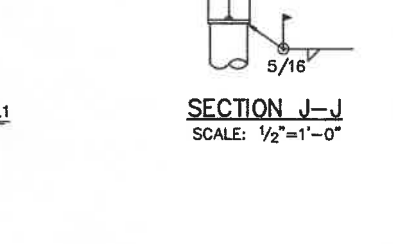
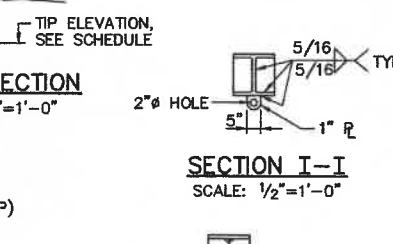
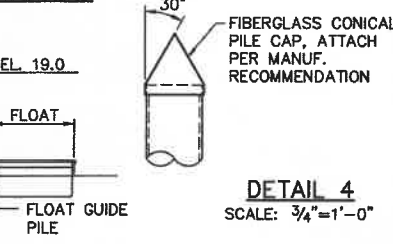
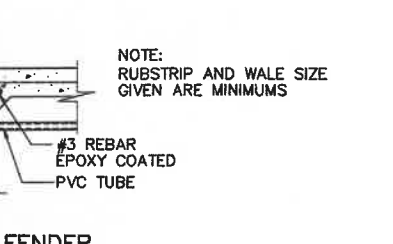


SECTION B-B



SCHEDULE OF ESTIMATED PILE TIP ELEVATIONS	
PILES	TIP ELEVATION
WEST FLOATING DOCK	-28.0
P1 - P4	-28.0
P5 - P9	-31.0
P10 - P15	-34.0
P16 - P22	-36.0

THE INTENT OF THIS SCHEDULE IS TO PROVIDE A BASIS FOR BIDDING ONLY. THE PILES SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS TO THE REQUIRED DESIGN CAPACITIES. DUE TO VARYING SOIL CONDITIONS, ACTUAL TIP ELEVATIONS WILL DEVIATE FROM THIS SCHEDULE.



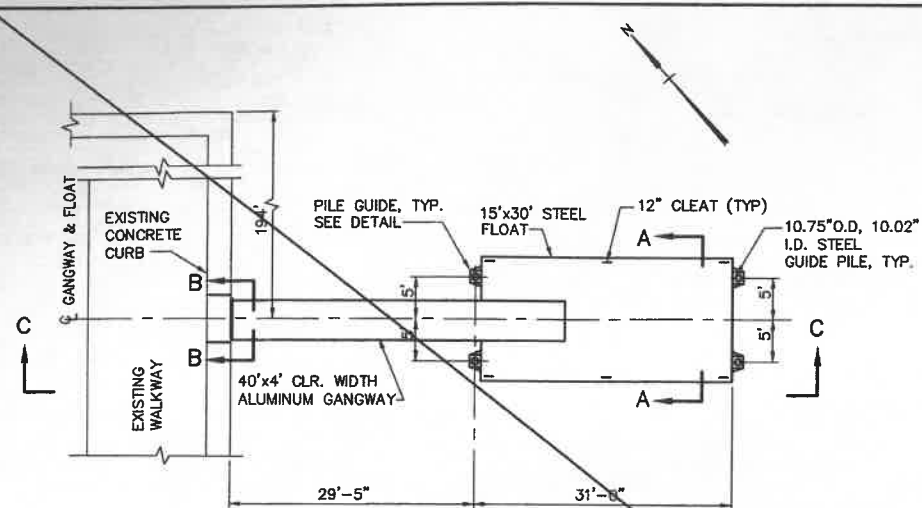
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
OCT. 03		REVISED, AS-BUILT	RWT	DWH	

TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS

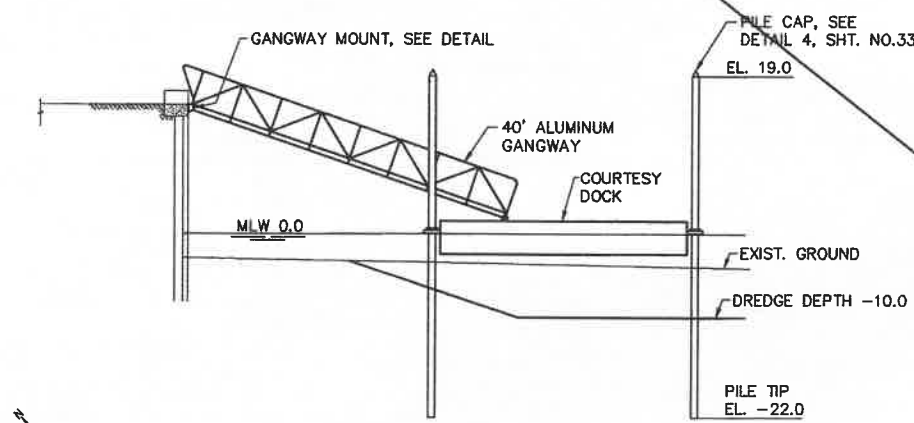
MACMILLAN PIER
RECONSTRUCTION

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

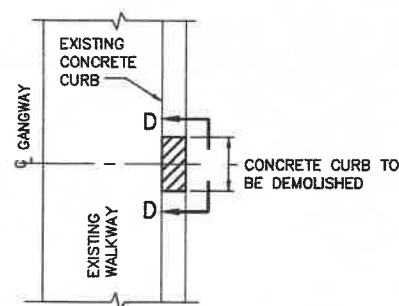
FS&T DRAWING NUMBER TP-090 SCALE: AS NOTED DES. MIN. CHK. DWH APPROVED DATE: DECEMBER 1999 DR. RHL PROJ. ENGR. DPA



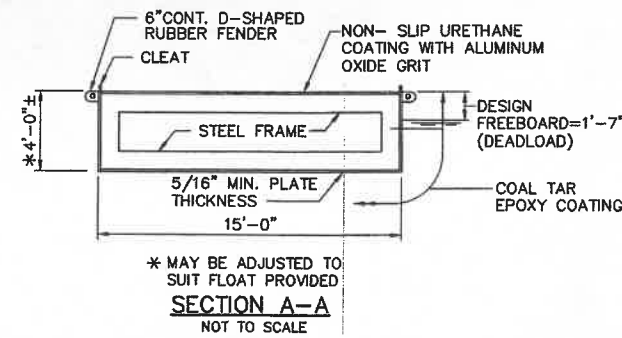
PLAN - COURTESY DOCK
SCALE: 1"=10'



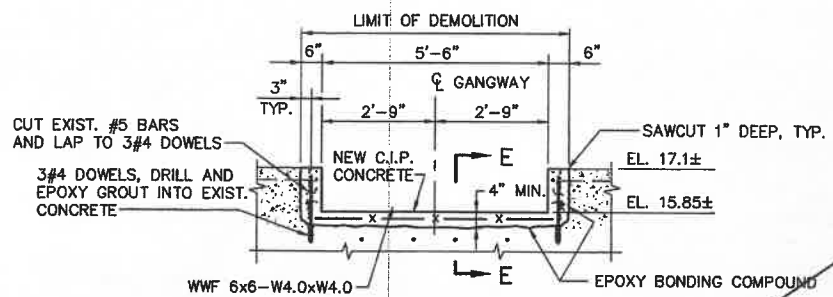
ELEVATION C-C
SCALE: 1"=10'



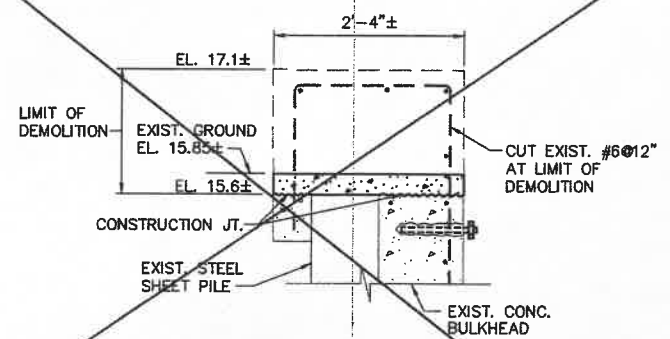
CONCRETE DEMOLITION PLAN
SCALE: 1"=10'



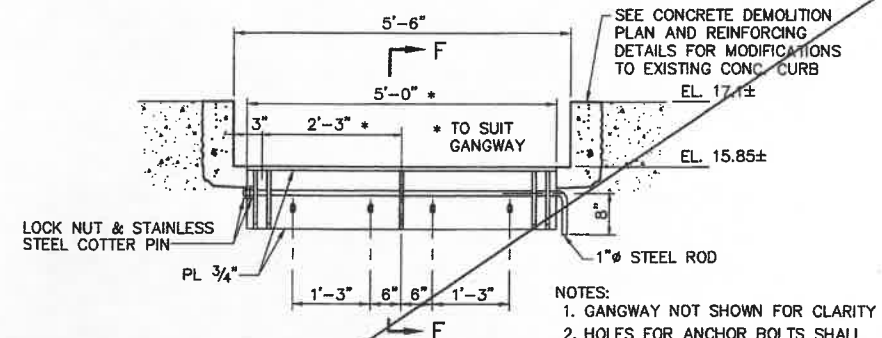
SECTION A-A
NOT TO SCALE



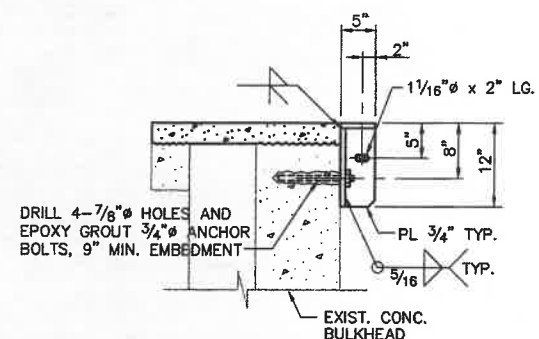
ELEVATION D-D
SCALE: 1/2"=1'-0"



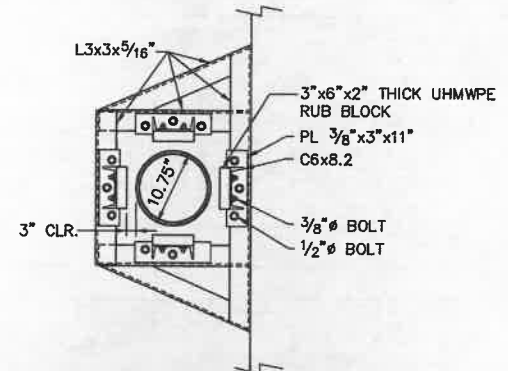
SECTION E-E
SCALE: 1"=1'-0"



DETAIL - GANGWAY MOUNT
ELEVATION B-B
SCALE: 3/4"=1'-0"



SECTION F-F
SCALE: 1"=1'-0"

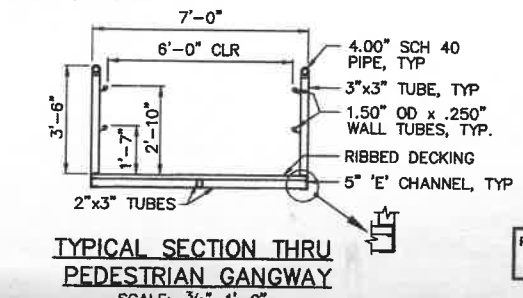
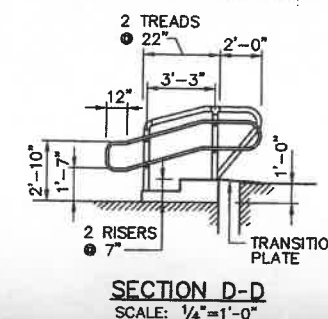
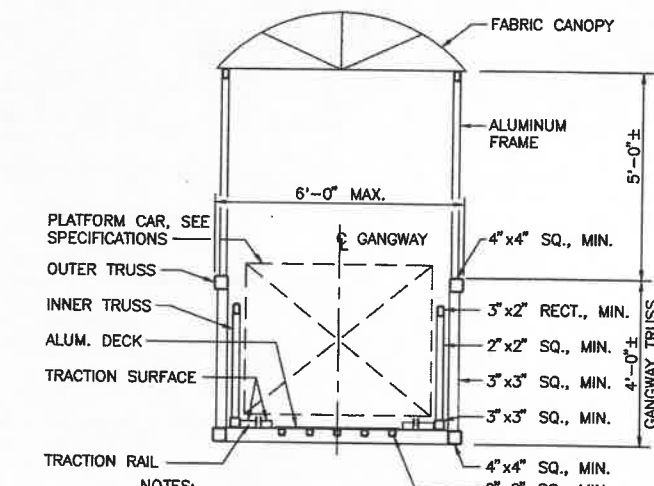
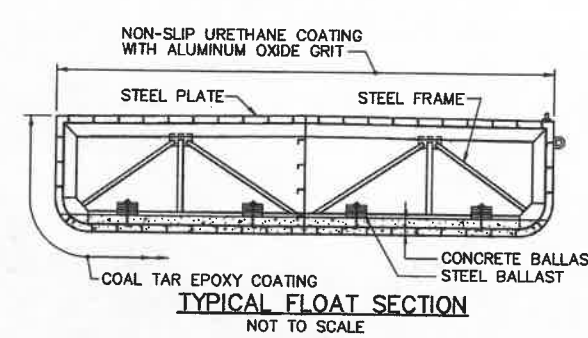
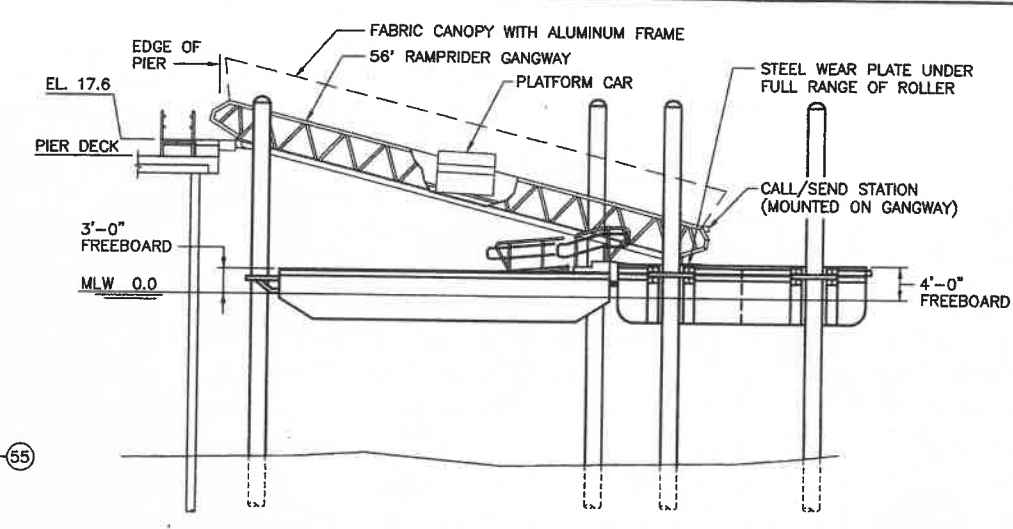
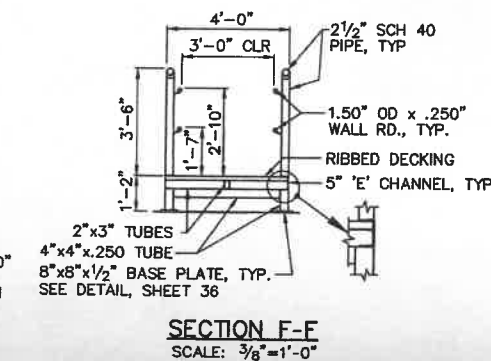
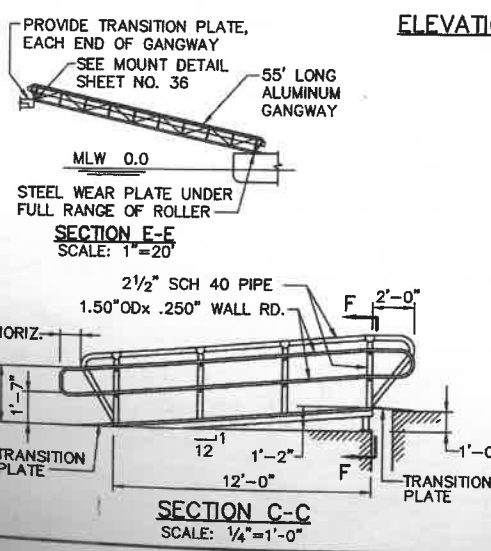
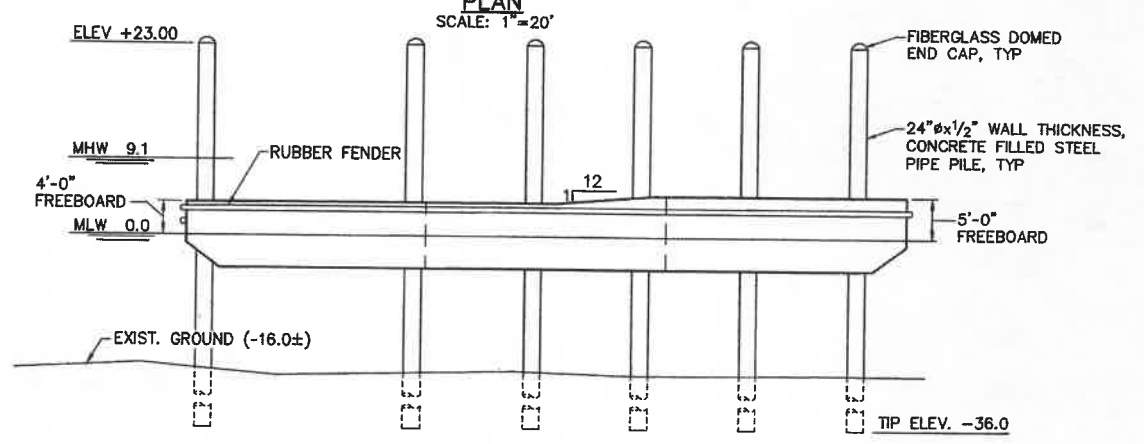
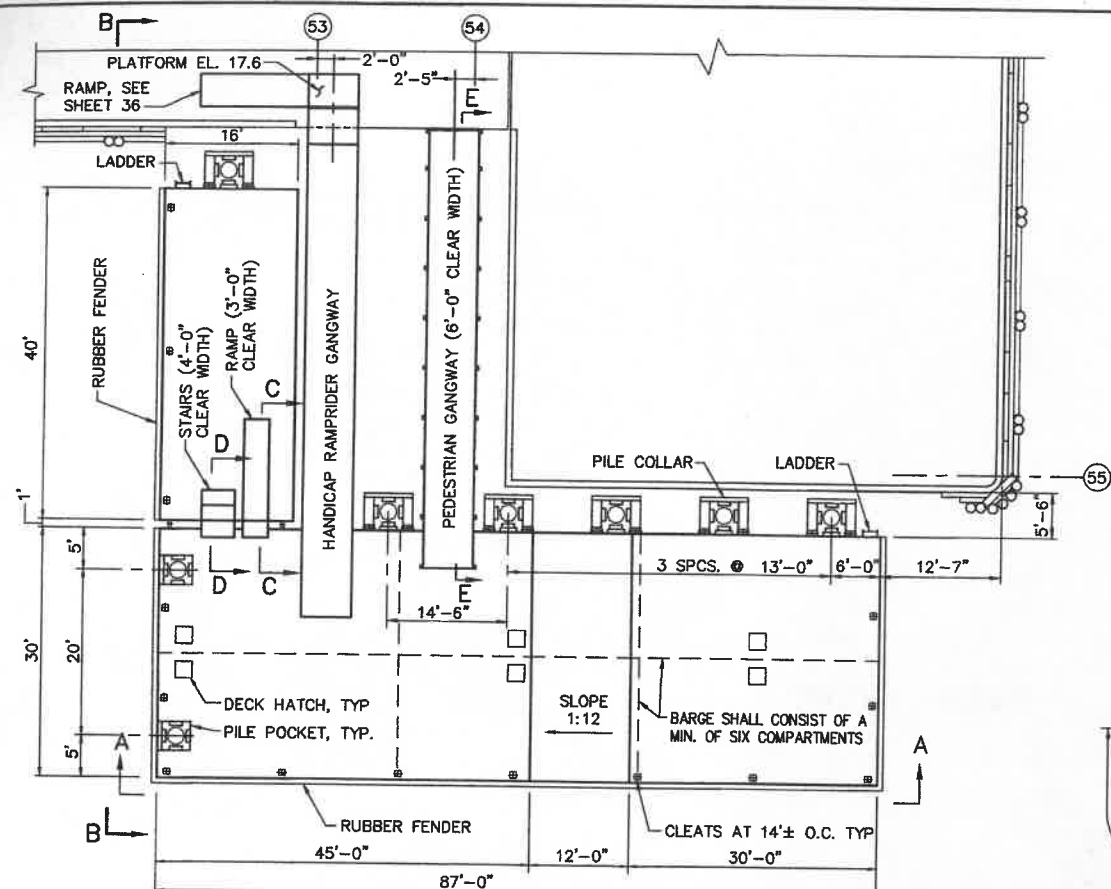


DETAIL - PILE GUIDE
SCALE: 1"=1'-0"

- NOTES:
1. PILE GUIDE SHALL BE ATTACHED TO THE FLOAT INSUCH A MANNER THAT THEY MAY BE EASILY REMOVED.
 2. ALL ATTACHMENTS TO THE COURTESY DOCK SHALL BE WELDED. DRILLING NOT PERMITTED.
 3. ALL MEMBER SIZES GIVEN FOR FLOATS, AND GANGWAYS ARE MINIMUMS. CONTRACTOR SHALL FURNISH COMPLETE FLOAT, GANGWAY DESIGN WITH P.E. STAMPED DRAWINGS AND CALCULATIONS.
 4. COURTESY DOCK SHALL BE PROVIDED WITH FOUR 24 LBS. ZINC ANODES, MINIMUM.

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03	NOT BUILT			

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS	
MACMILLAN PIER RECONSTRUCTION	
COURTESY DOCK PLAN, ELEVATION & DETAILS	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS	
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED DATE: DECEMBER 1999
DES. MIN DR. RWI	CHK. DWI PROJ. ENG. DPA
APPROVED	



- GENERAL NOTES**
1. ALL GROOVE AND BUTT WELDS SHALL BE FULL PENETRATION.
 2. ALL ATTACHMENTS TO THE FLOATING DOCK SHALL BE WELDED. DRILLING NOT PERMITTED.
 3. ALL MEMBER SIZES GIVEN FOR FLOATS, GANGWAYS AND RAMPS ARE MINIMUMS. CONTRACTOR SHALL FURNISH COMPLETE FLOAT, GANGWAY AND RAMP DESIGN WITH P.E. STAMPED DRAWINGS AND CALCULATIONS.
 4. CONCRETE BALLAST SHALL BE 3000 PSI, MINIMUM 145 POUNDS PER CUBIC FOOT UNIT WEIGHT.
 5. FLOATING DOCKS SHALL BE PROVIDED WITH TWELVE 24 LB. ZINC ANODES, MINIMUM.
 6. STRUCTURAL MEMBERS FOR RAMPS, STAIRS AND GANGWAYS SHALL BE ALUMINUM.
- FLOATING DOCK FREEBOARD**
1. FINAL FREEBOARD TO DECK OF FLOATING DOCKS SHALL BE AS INDICATED ON THE DRAWINGS ON EACH FACE. THE FINAL FREEBOARD SHALL BE WITH ALL APPURTENANCES, INCLUDING RAMPS AND GANGWAYS, BUT WITHOUT PERSONNEL LIVE LOAD ON THE FLOATING DOCK, RAMPS AND GANGWAYS.
 2. PROVIDE CONCRETE BALLAST SUCH THAT THE INITIAL FREEBOARD IS TO WITHIN ONE INCH OF THE FINAL FREEBOARD. THE CONCRETE BALLAST SHALL ACCOUNT FOR THE SELF WEIGHT OF THE FLOATING DOCK AND ALL APPURTENANCES INCLUDING RAMPS AND GANGWAYS.
 3. FINAL FREEBOARD ADJUSTMENT SHALL BE PROVIDED BY STEEL PLATES ANCHORED TO THE CONCRETE WITH 3/4" Ø ANCHORED BOLTS.
 4. CONCRETE BALLAST SHALL BE PLACED IN A MANNER SUCH THAT THE DIFFERENCE IN HEIGHT OF CONCRETE IN ADJACENT COMPARTMENTS DOES NOT EXCEED 3 INCHES.

DESIGN DATA

GANGWAYS AND RAMPS	
VERTICAL LOADS:	
UNIFORM LOAD	100 PSF
CONCENTRATED LOADS (ON AREA 2"x2")	300 LB
SNOW	25 PSF
LATERAL LOADS:	
WIND (ZONE 3, EXPOSURE C)	
REFERENCE VELOCITY	90 MPH
REFERENCE PRESSURE	21 PSF
RAILING LOAD (ANY DIRECTION)	
UNIFORM LOAD	100 PLF
CONCENTRATED LOAD	300 LBS

FLOAT

VERTICAL LOADS:	
UNIFORM LOAD	100 PSF
CONCENTRATED LOADS (ON AREA 30"x30")	2000 LB
SNOW	25 PSF
LATERAL LOADS:	
WIND (ZONE 3, EXPOSURE C)	
REFERENCE VELOCITY	90 MPH
REFERENCE PRESSURE	21 PSF
WIND LOAD ON BERTHED VESSEL	
VELOCITY	70 MPH
(BASED ON ENGINEERING JUDGEMENT)	
PRESSURE	16 PSF
WAVE (5.2 FOOT HIGH WAVE)	270 PLF
(CALCULATED BASED ON SITE CONDITIONS)	
CURRENT (0.6 KNOTS)	4 PLF
(0.6 BASED ON NOAA DATA)	
DOCKING LOAD, 1 FOOT PER SECOND	12,500 LBS
(311 SHORT TON VESSEL, 10° ANGLE OF APPROACH)	
DESIGN LOADS ON FLOATING DOCK FROM VESSEL ARE BASED ON THE "PROVINCETOWN II" WHICH HAS THE FOLLOWING CHARACTERISTICS:	
LENGTH	195 FT
DISPLACEMENT	311 TON
DRAFT	7 FT

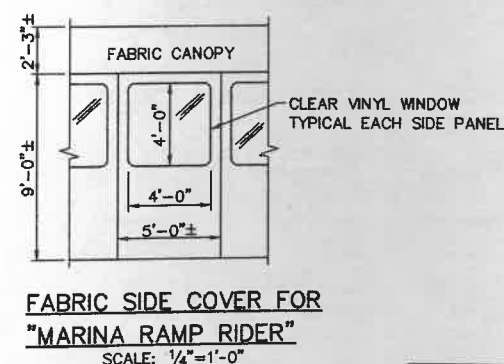
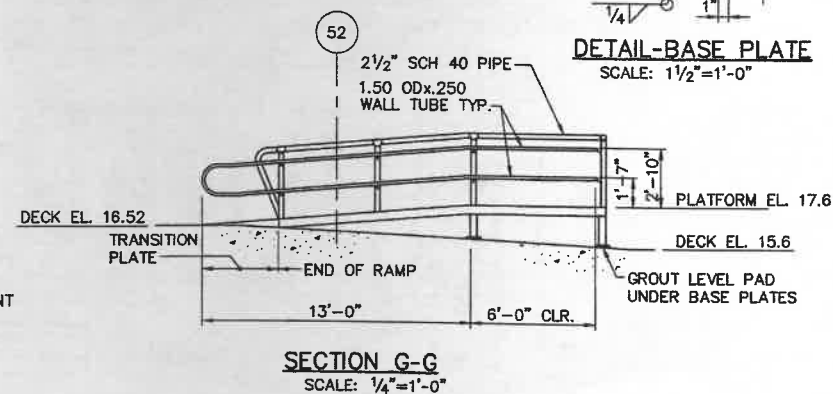
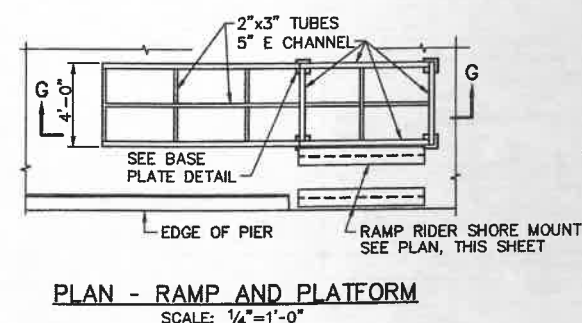
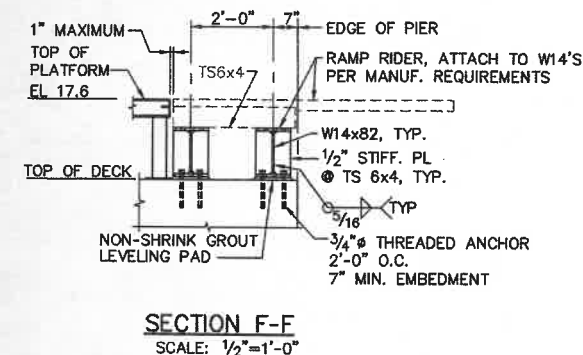
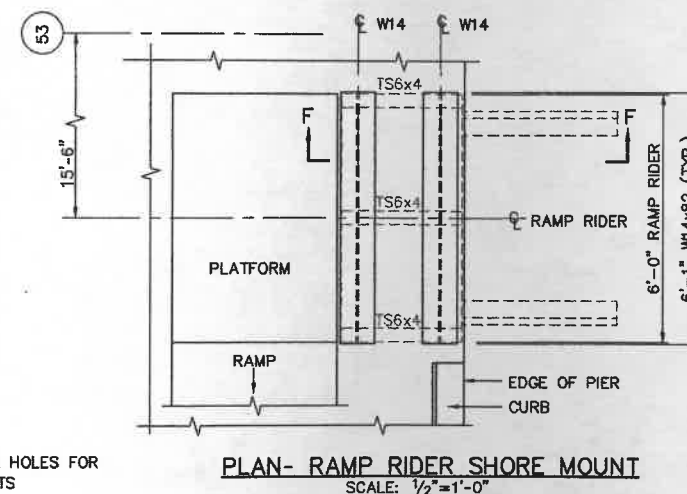
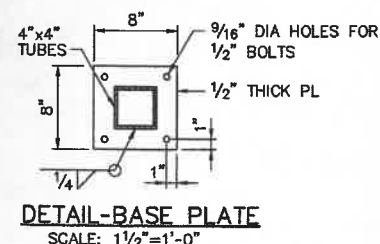
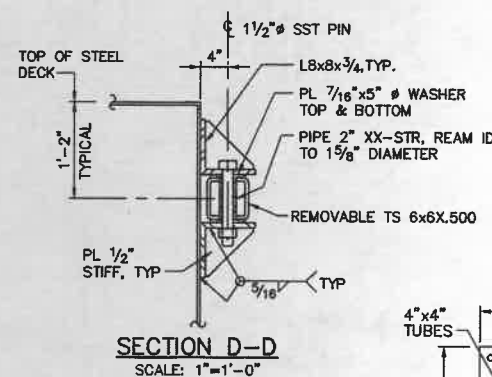
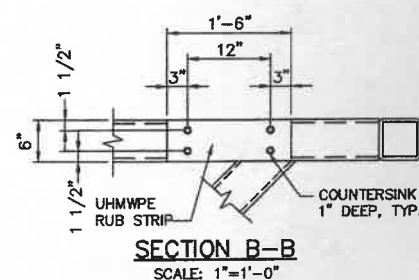
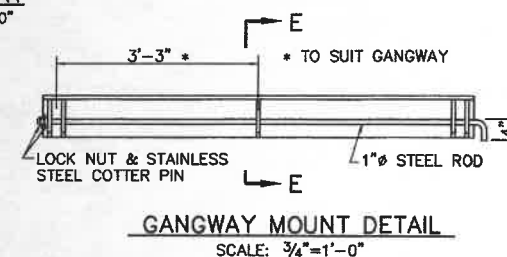
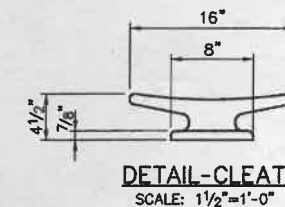
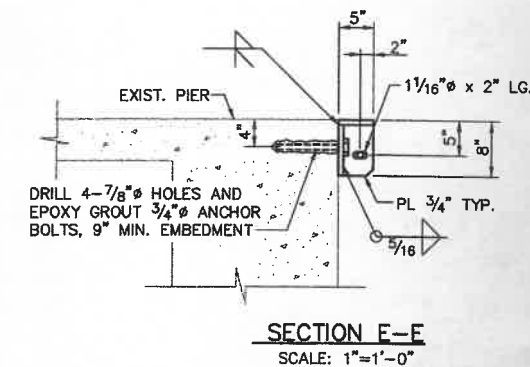
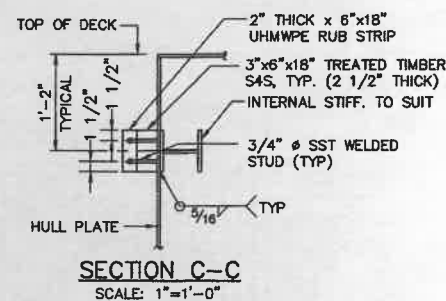
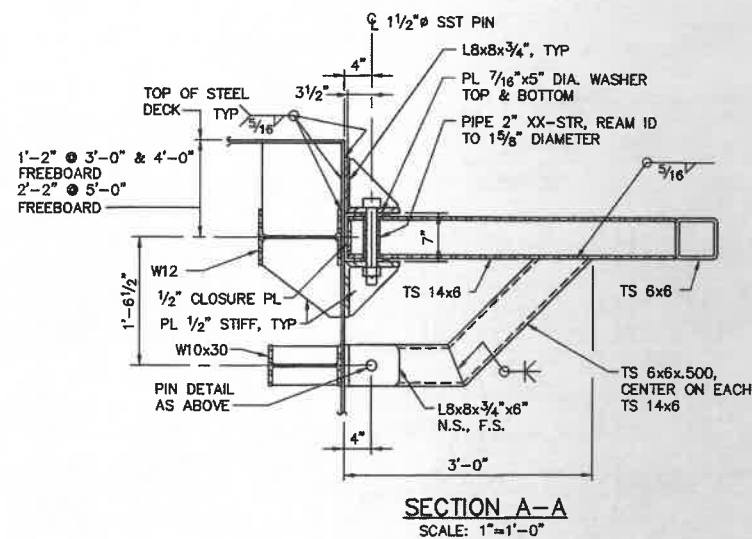
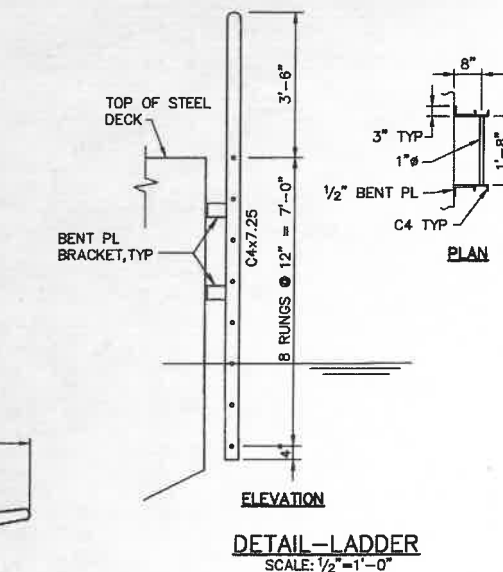
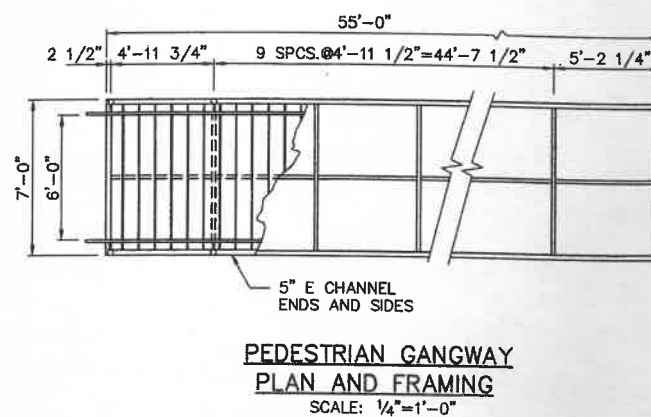
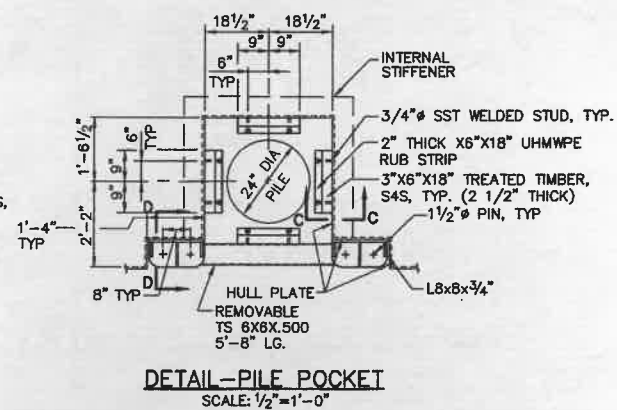
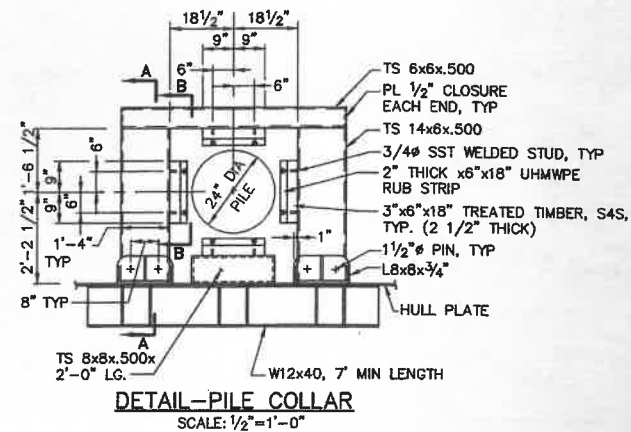
NOTE:
FOR ADDITIONAL FLOAT, GANGWAY AND RAMP DETAILS SEE SHEET NO. 36

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS	
MACMILLAN PIER RECONSTRUCTION	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS	

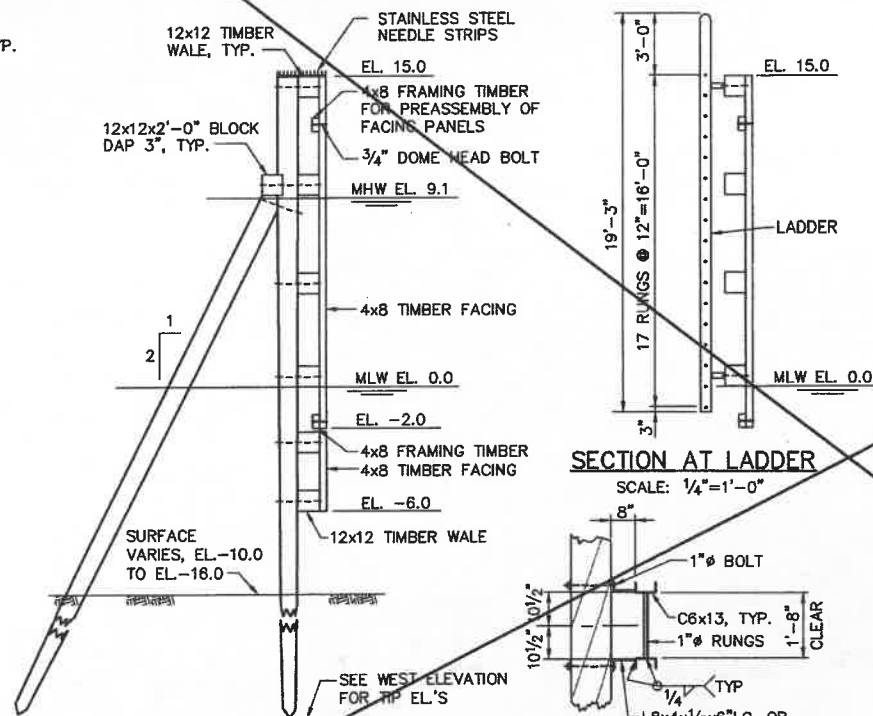
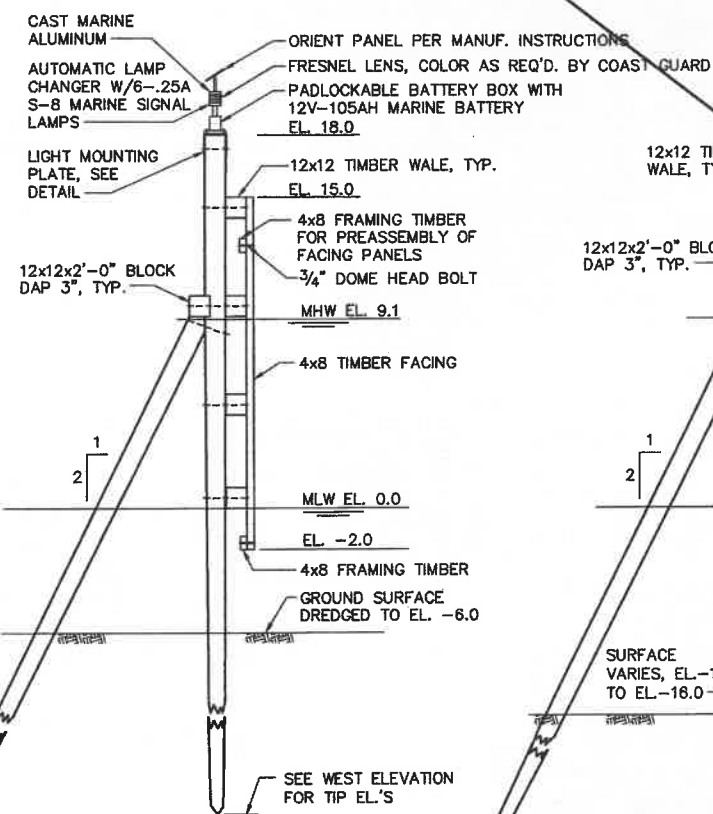
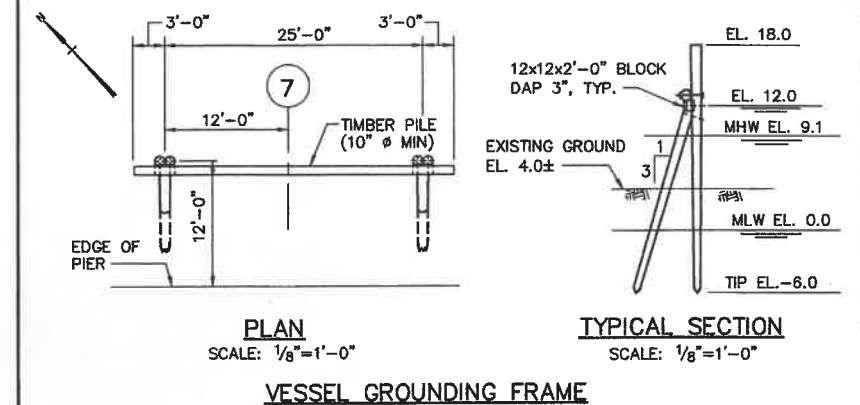
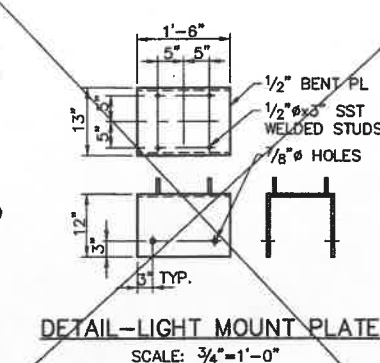
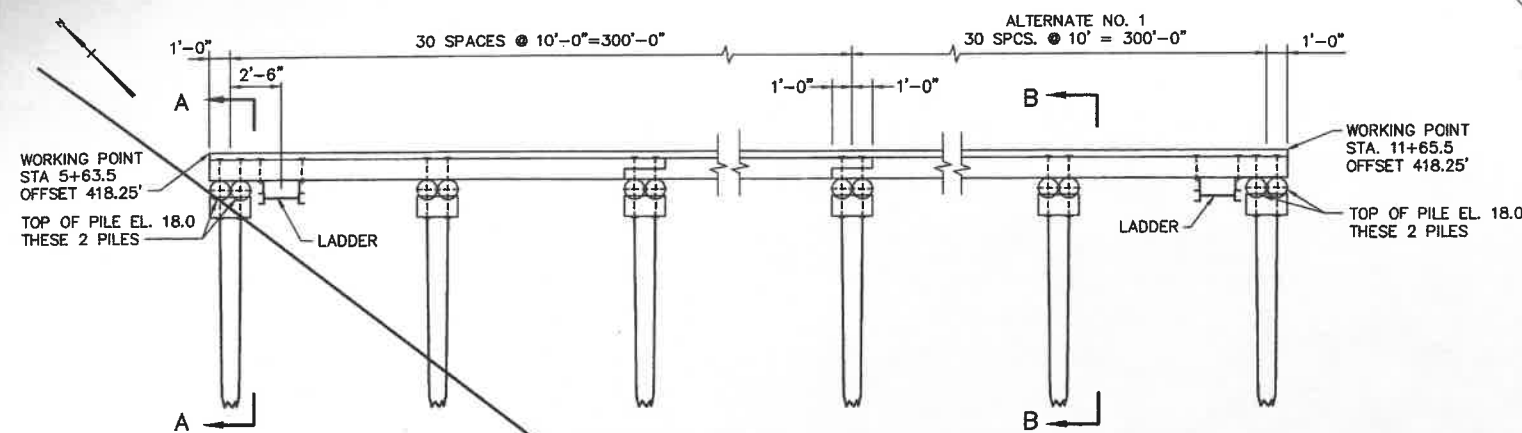
FS&T DRAWING NUMBER	SCALE: AS NOTED	DES. DWH	CHK. MN	APPROVED
TP-090	DATE: DECEMBER 1998	DR. MBP	PROJ. ENGR. DPA	





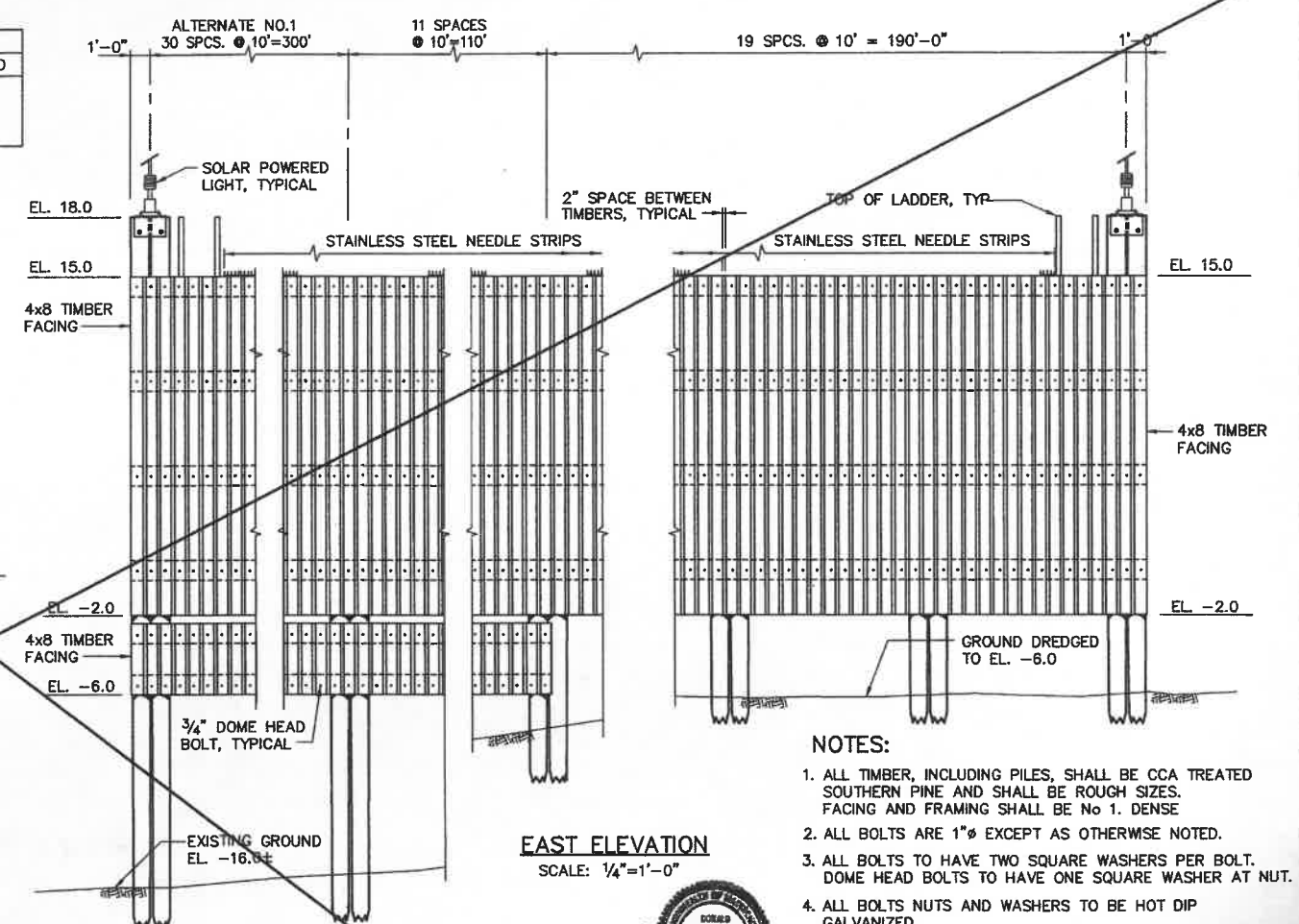
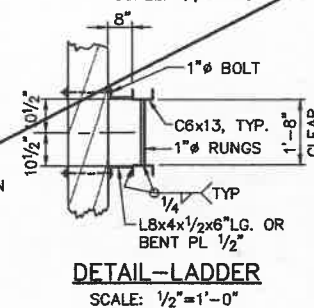
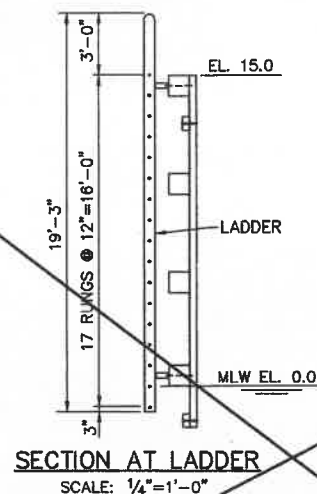
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
1	OCT. 03	AS-BUILT	RWT	DWH	
2					
3					
4					
5					
6					
7					
8					
9					
10					

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS	
MACMILLAN PIER RECONSTRUCTION	
HANDICAPPED ACCESS FLOATS MISCELLANEOUS DETAILS	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS	
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED DATE: DECEMBER 1999
DES. DWH CHK. MN APPROVED	DR. ED PROJ. ENGR. DPA



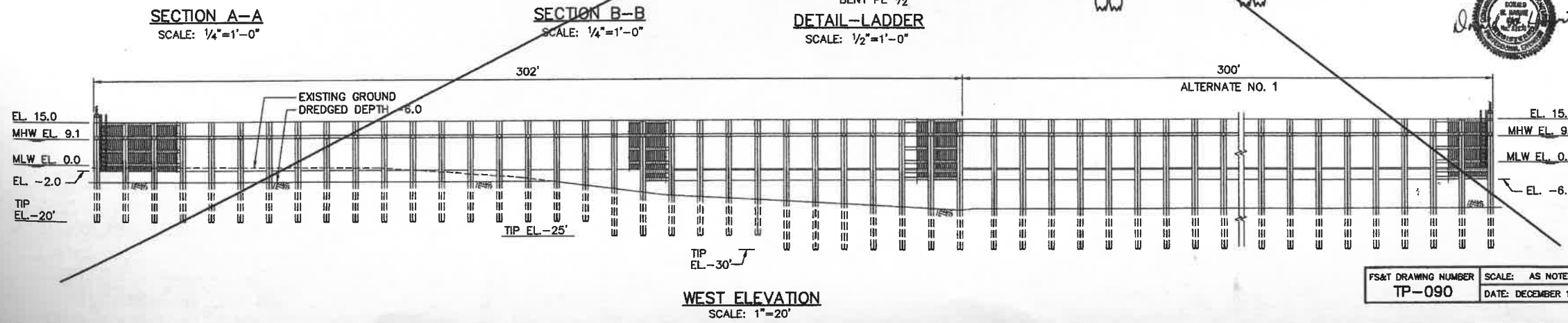
BOLT AND WASHER SCHEDULE

BOLT SIZE	WASHER SIZE SQ	WASHER SIZE ROUND
1"	3.5x3.5x1/2	3x3/8
3/4"	3x3x3/8	2x1/4
1 1/4"	4x4x1/2	3x3/8



- NOTES:
1. ALL TIMBER, INCLUDING PILES, SHALL BE CCA TREATED SOUTHERN PINE AND SHALL BE ROUGH SIZES. FACING AND FRAMING SHALL BE NO. 1. DENSE.
 2. ALL BOLTS ARE 1" EXCEPT AS OTHERWISE NOTED.
 3. ALL BOLTS TO HAVE TWO SQUARE WASHERS PER BOLT. DOME HEAD BOLTS TO HAVE ONE SQUARE WASHER AT NUT.
 4. ALL BOLTS NUTS AND WASHERS TO BE HOT DIP GALVANIZED.
 5. LADDERS SHALL BE GALVANIZED AFTER FABRICATION.

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
OCT. 03		WAVE BARRIER NOT BUILT			



TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS

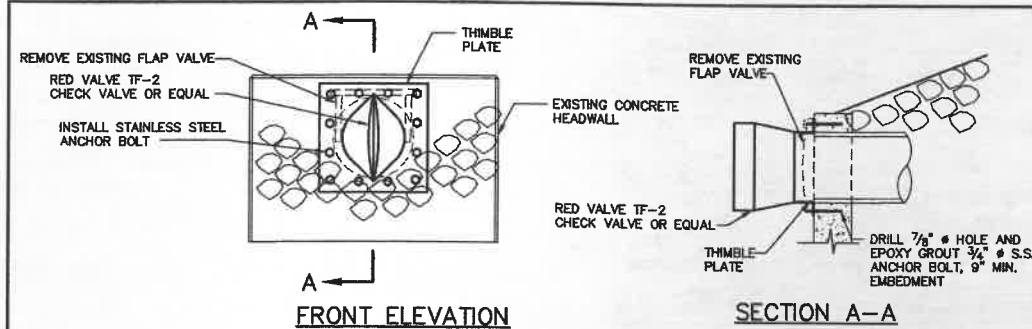
MACMILLAN PIER
RECONSTRUCTION

WAVE BARRIER AND VESSEL
GROUNDING FRAME

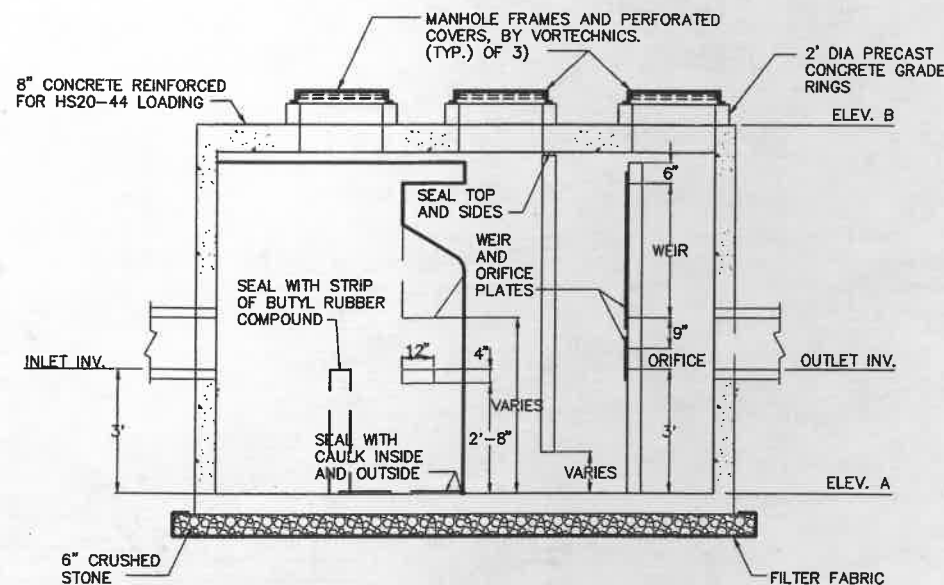
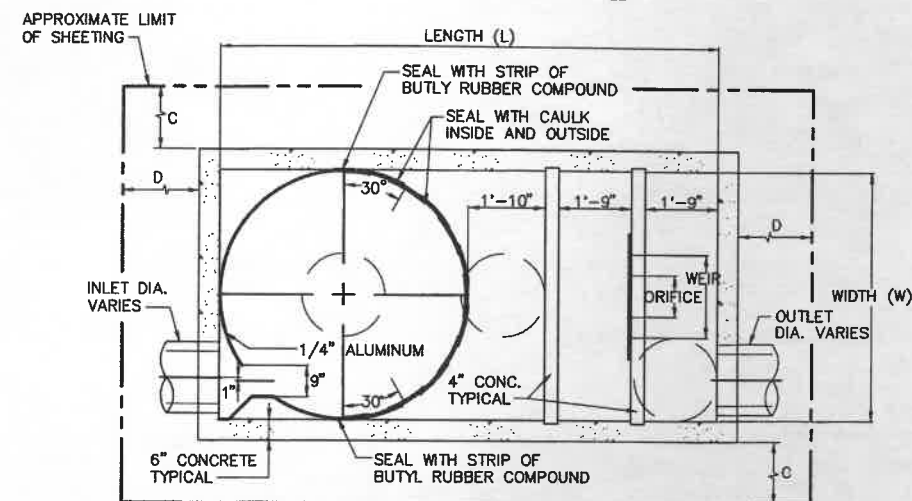
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED DATE: DECEMBER 1999	DES. MN DR. RWT	CHK. DWH PROJ. DPA	APPROVED
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SHEET NO. 37 OF 66



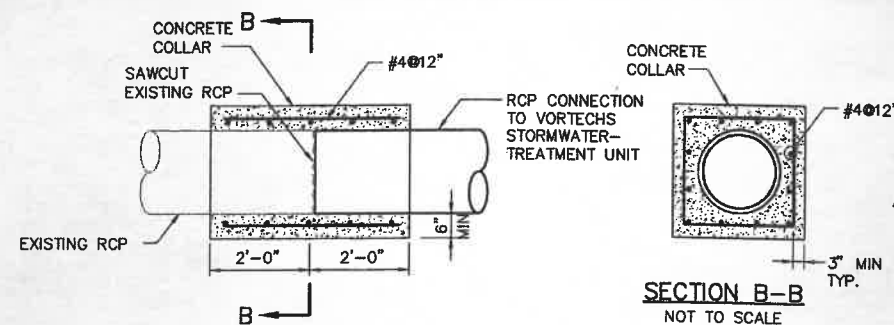
TYPICAL CHECK VALVE REPLACEMENT
NOT TO SCALE



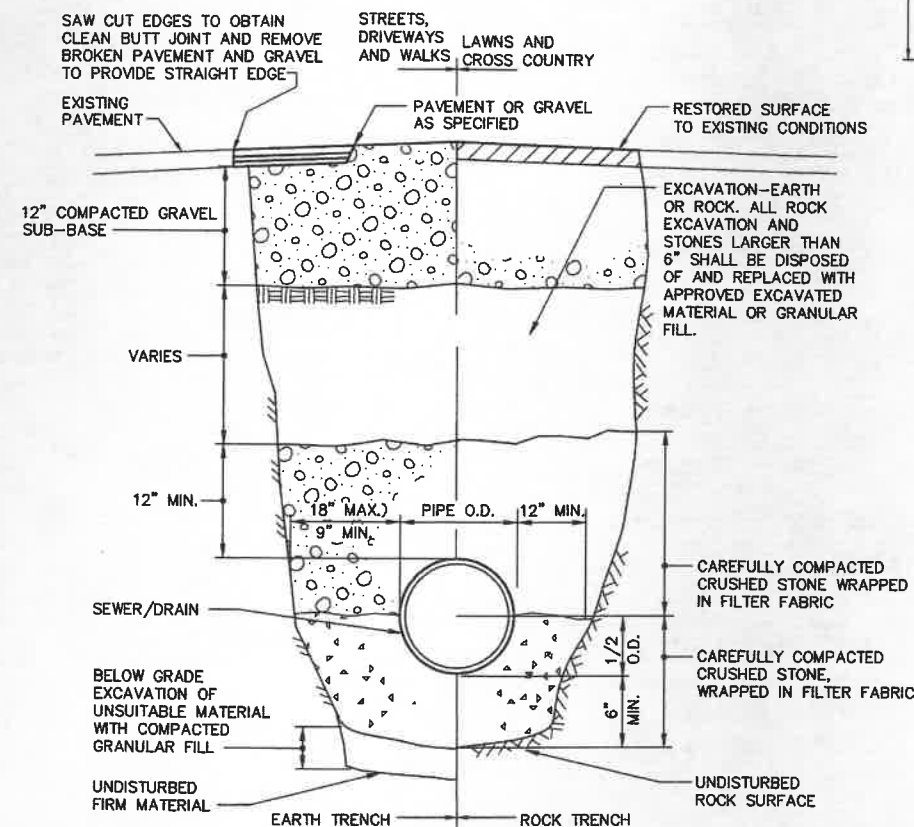
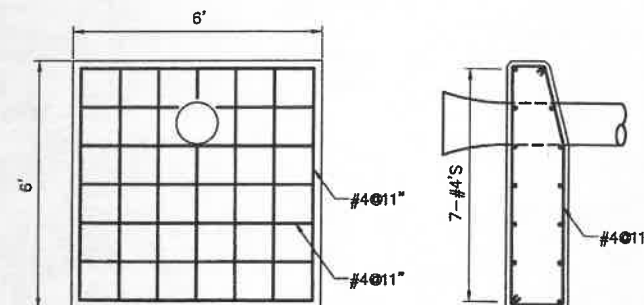
ELEVATION VIEW
SCALE: 1/2"=1'

OUTFALL	EXISTING PIPE SIZE	VORTECHS MODEL NO.	ELEVATION A	ELEVATION B	(L)	(W)	C	D
1	30"	11000	2.1±	11.8±	16'	10'	4'	8'
2	36"	11000	1.8±	11.5±	16'	10'	4'	8'
3	18"	5000	6.9±	14.6±	13'	7'	4'	4'
4	8"	2000	4.6±	12.3±	10'	4'	4'	4'

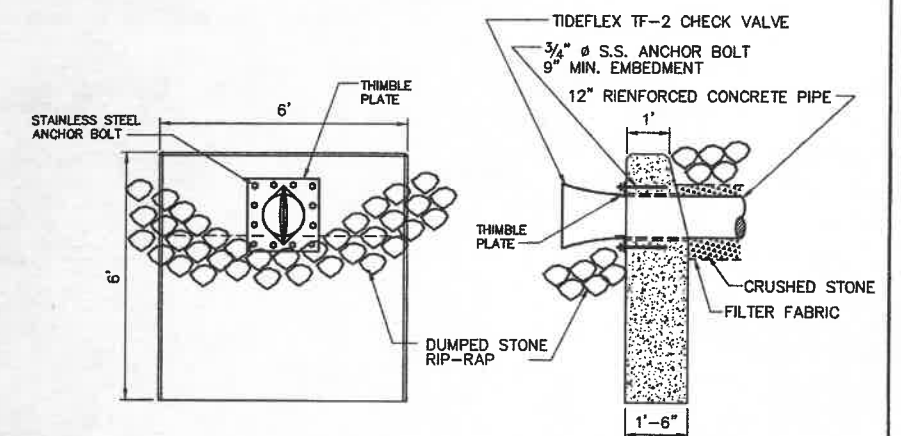
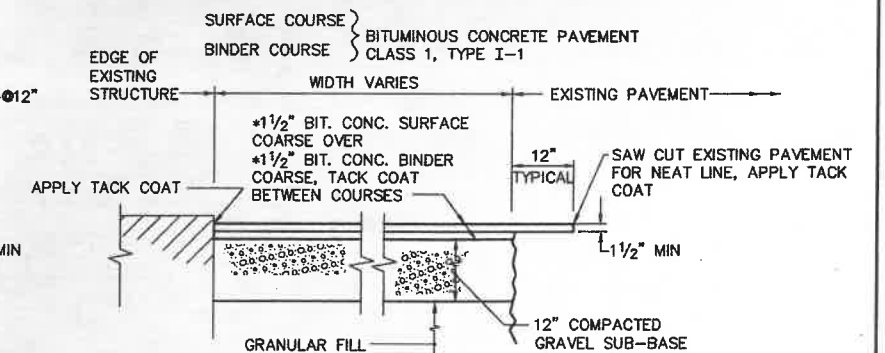
STORMWATER PARTICLE SEPARATOR SCHEDULE & DETAIL



TYPICAL CONNECTION TO EXISTING
REINFORCED CONCRETE PIPE
NOT TO SCALE



SEWER OR DRAIN TRENCH-EARTH AND ROCK
NOT TO SCALE



12" STORM DRAIN HEADWALL
NOT TO SCALE

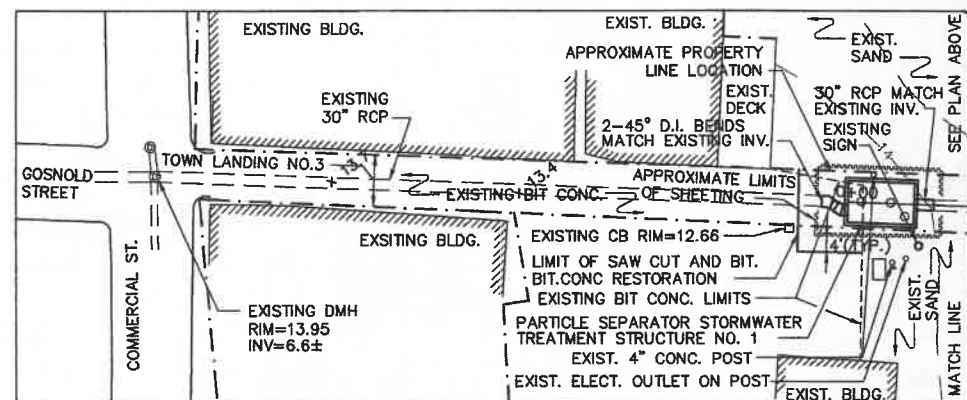
NOTES

- ALL PAVEMENT CUTTING FOR PERMANENT PATCH SHALL BE DONE WITH A MECHANICAL SAW OR EQUIVALENT TO FORM A CLEAN, STRAIGHT CUT. ALL JOINTS SHALL BE SEALED AND SANDED WITH AN EMULSION SEAL.
- EACH 8" LIFT OF TRENCH BACKFILL GRANULAR FILL OR GRAVEL SUB-BASE COURSE SHALL BE COMPACTED WITH A MECHANICAL VIBRATORY EQUIPMENT TO 95 PERCENT OF THE MAXIMUM DRY DENSITY OF THE BACKFILL MATERIAL.
- EXISTING GRANITE CURB SHALL BE REMOVED FOR TRENCH EXCAVATION AND RESET FOR PAVEMENT RESTORATION. EXISTING CONCRETE CURB SHALL BE REPLACED IN KIND.

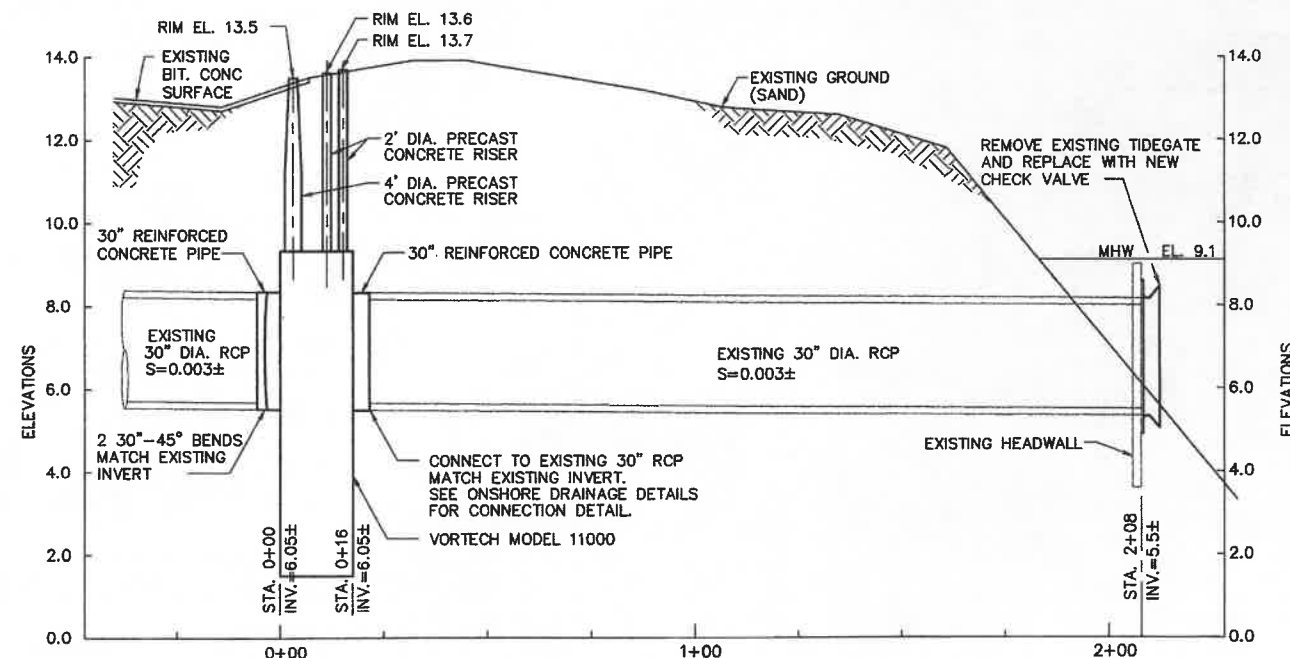
REV.	OCT. 03 DATE	AS-BUILT DESCRIPTION	RWT BY	DWN CHK.	APP'D.
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TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS					
MACMILLAN PIER RECONSTRUCTION					
SHORESIDE DRAINAGE DETAILS					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED	DES. JDS	CHK. SBS	APPROVED	
	DATE: DECEMBER 1999	DR. RWT	PROJ. ENGR. DPA		



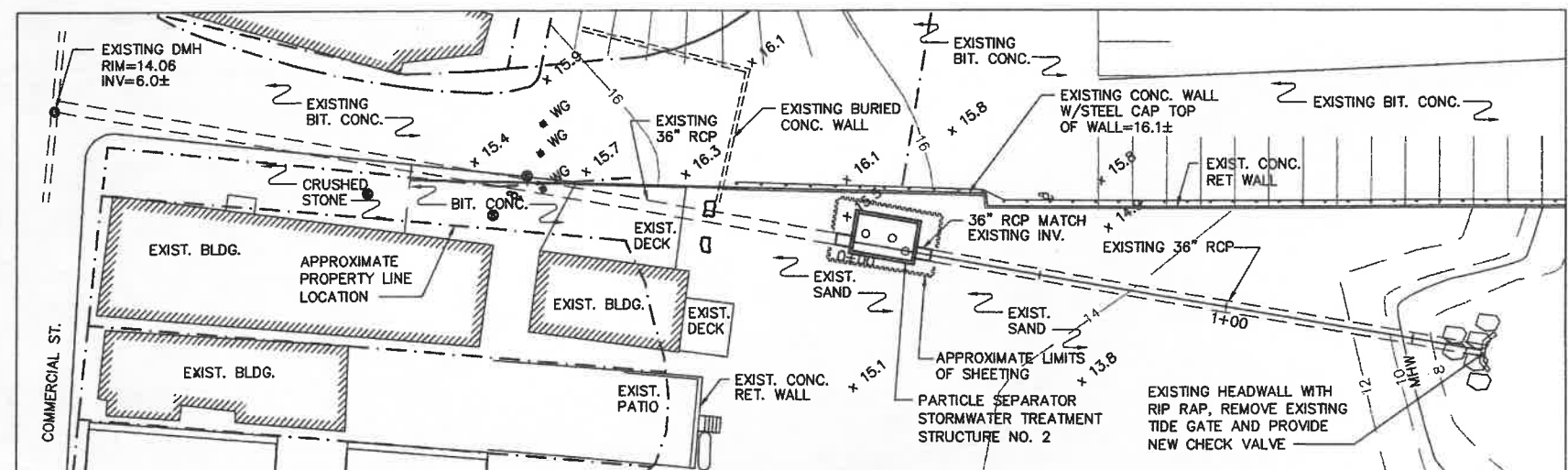


PLAN
SCALE: 1"=20'



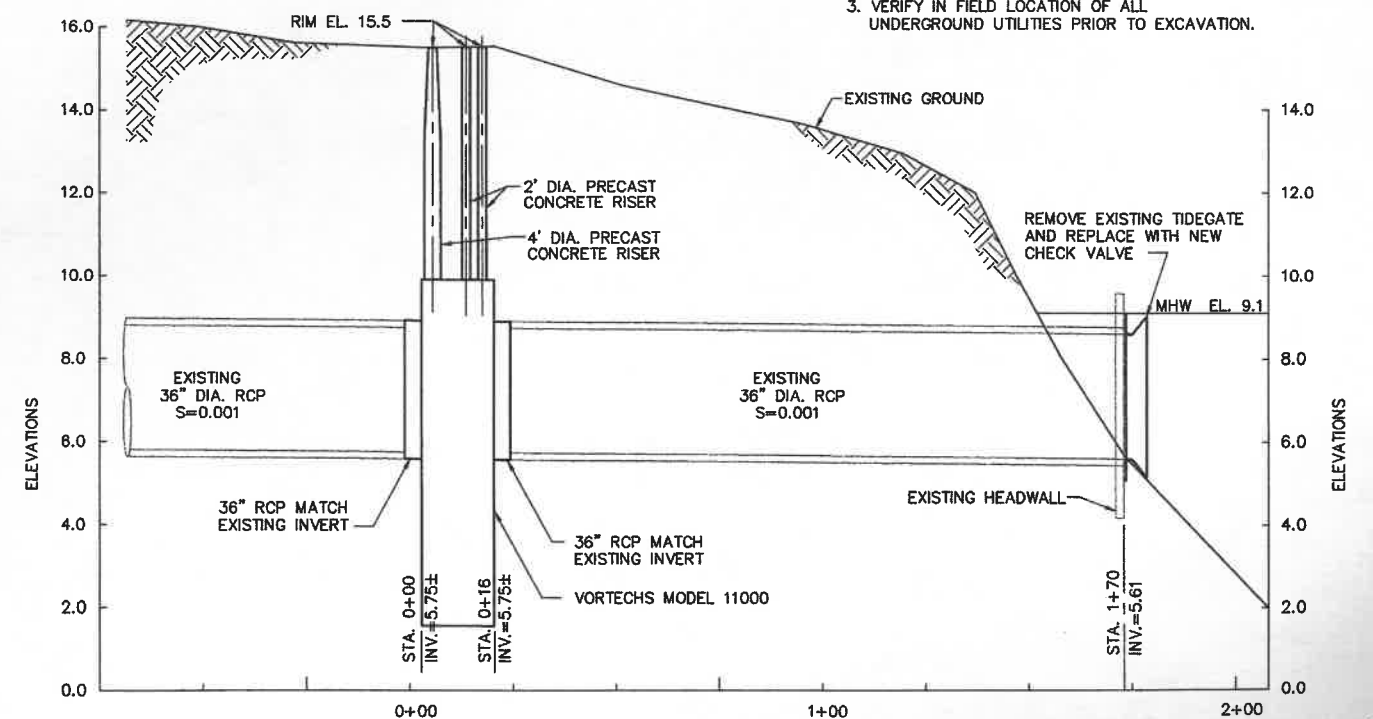
PROFILE
 SCALES: HORIZ. 1"=20'
 VERT. 1"=2'

PLAN AND PROFILE - PARTICLE SEPARATOR NO 1



PLAN
SCALE: 1"=20'

- NOTES:
1. ALL EXCAVATIONS SHALL USE SHEETING TO MINIMIZE SIZE OF EXCAVATION.
 2. RESTORE SURFACE TO EXISTING CONDITIONS, SEE SHEET NO. 38 FOR BITUMINOUS CONCRETE PAVEMENT RESTORATION DETAILS.
 3. VERIFY IN FIELD LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATION.



PROFILE

SCALES: HORIZ. 1"=20'
VERT. 1"=2'

DATUM: MEAN LOW WATER EL. 0.0

	OCT. 03	AS-BUILT	RWT	SBS	
REV.	DATE	DESCRIPTION	BY	CHK.	APPD.

TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS

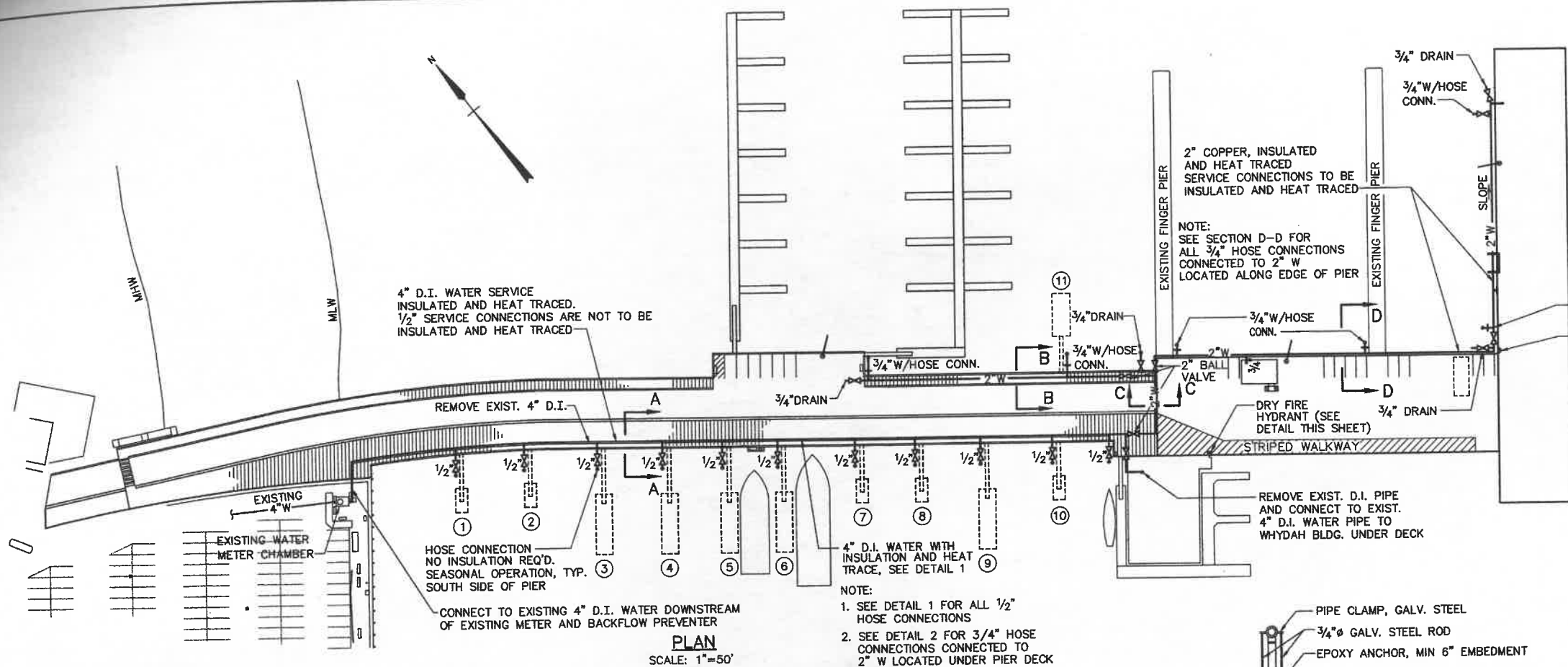
MACMILLAN PIER RECONSTRUCTION

SHORESIDE DRAINAGE
PLAN AND PROFILES - PART 1

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

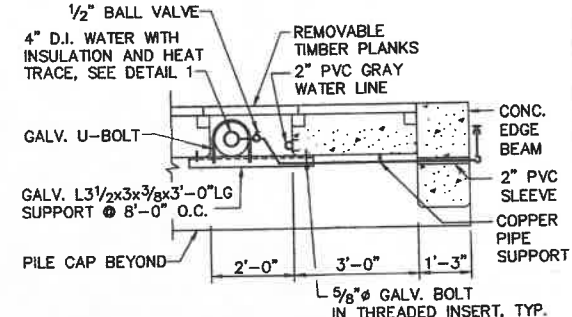
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED	DES. SBS	CHK. SBS	APPROVED
	DATE: DECEMBER 1999	DRL RWT	PRGJ. DPA	

SHEET NO. 39 OF 66

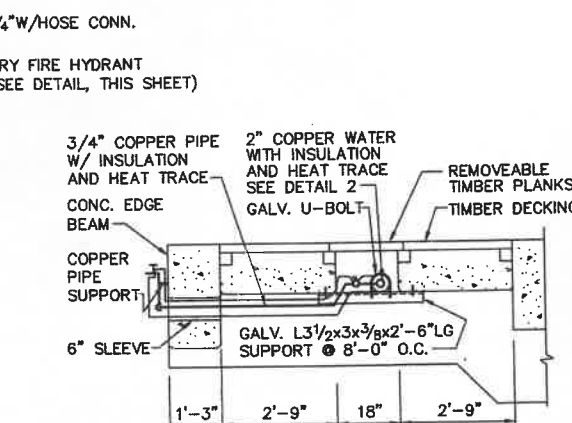


PLAN
SCALE: 1"=50'

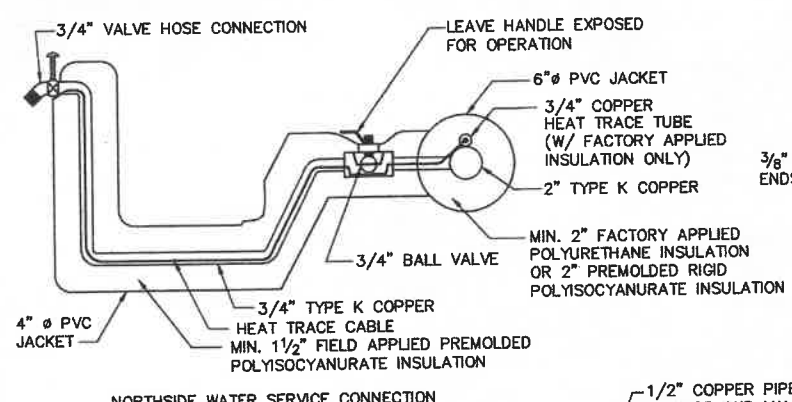
NOTE:
1. SEE DETAIL 1 FOR ALL 1/2" HOSE CONNECTIONS
2. SEE DETAIL 2 FOR 3/4" HOSE CONNECTIONS CONNECTED TO 2" W LOCATED UNDER PIER DECK



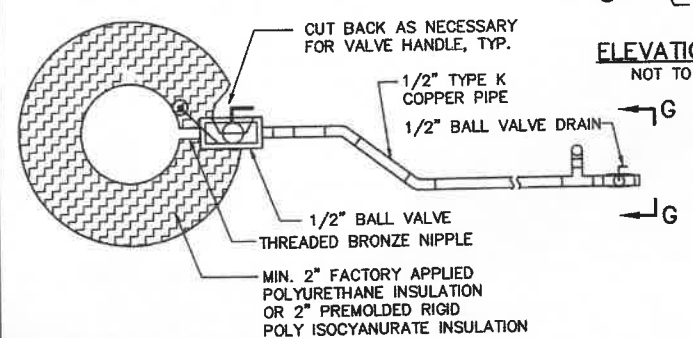
SECTION A-A
SCALE: 1/2"=1'-0"



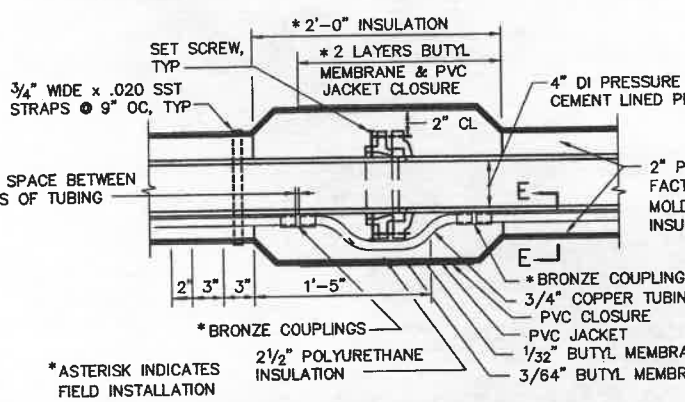
SECTION B-B
SCALE: 1/2"=1'-0"



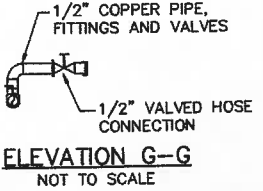
DETAIL 2
NOT TO SCALE



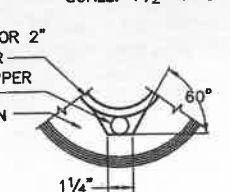
DETAIL 1
NOT TO SCALE



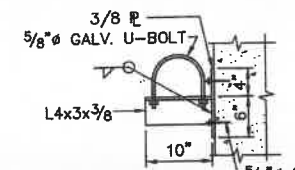
WATER MAIN AT MECHANICAL JOINT
SCALE: 1 1/2"=1'-0"



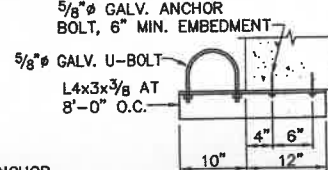
ELEVATION G-G
NOT TO SCALE



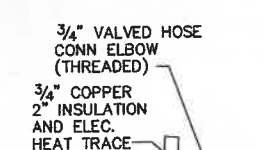
SECTION E-E
NOT TO SCALE



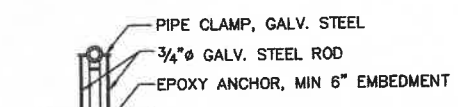
DETAIL 3
SCALE: 1"=1'-0"



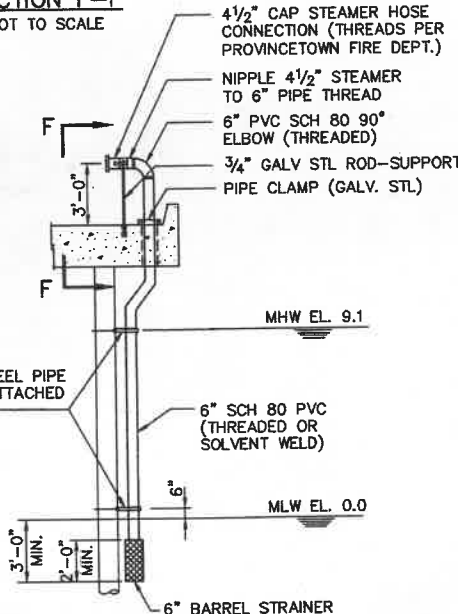
DETAIL 4
SCALE: 1"=1'-0"



SECTION D-D
SCALE: 1/4"=1'-0"



SECTION F-F
NOT TO SCALE



DETAIL - DRY FIRE HYDRANT
SCALE: 1/4"=1'-0"

NOTE:
1. PIPE SHALL PITCH TO DRAIN
2. EXISTING WATER SERVICE SHALL BE MAINTAINED AT ALL TIMES WITH TEMPORARY BY-PASS PIPING. PROVIDE PLAN FOR PIPING AND CONSTRUCTION SEQUENCE.

LEGEND

- GATE OR BALL VALVE
- CORPORATION STOP
- HOSE BIBB

REV.	DATE	DESCRIPTION	BY	CHK.	APPR.
OCT. 03		REVISED, AS-BUILT	RWT	DWA	

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS					
MACMILLAN PIER RECONSTRUCTION					
WATER UTILITIES PLAN AND DETAILS					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED DATE: DECEMBER 1999	DES. JJA DR. RWT	CHK. JJA PROJ. ENG. DPA	APPROVED	

HT-2 STAINLESS STEEL HEAT TRACE TRACE PEDESTAL W/PANELBOARD AND CONTROLS

S STAINLESS STEEL STREET LIGHTING PEDESTAL W/PANELBOARD AND CONTROLS

T MARINA TYPE DISTRIBUTION UNIT SUBSTATION WITH
480V PRIMARY AND EITHER 120/240V 1Ø SECONDARY TYPE A
OR 208/120V 3Ø TYPE B

 FLOODLIGHT POLE; E=EXISTING N=NEW

 EXISTING LIGHT AND POLE

 RELOCATED LIGHT AND POLE

 100 WATT METAL HALIDE BOLLARD TYPE C SEE SHEET NO. 52
TYPE B INDICATED BY

 NEW LIGHT POLE W/FIXTURE AND METAL HALIDE LAMP
TYPE A, SEE SHEET NO. 52

- BRANCH CIRCUIT JUNCTION BOXES, SEE SHEET NO. 24
- PIER PULLBOX, SEE SHEET NOS. 22 & 23
- NYNEX TERMINAL POST, SEE SHEET NO. 46
- POWER COMPANY POLE
- EXISTING POWER COMPANY POLE
- ▲ COM-ELECTRIC DISTRIBUTION TRANSFORMER
- △ EXISTING DISTRIBUTION TRANSFORMER
- POLE AND DOWN GUY
- EXISTING COM-ELECTRIC STREET LIGHT POLE
- 6 OF CONDUIT BANK
- CONDUIT RUN CONCEALED IN CONCRETE DECK
- CONDUIT RUN EXPOSED UNDER DECK

- ☒ A 2 SIDES W/ONE 30A-120V OUTLET AND LIGHT, EACH SIDE
- ☒ B 1 SIDE W/ONE 30A-120V AND ONE 50A-120/240V OUTLET
- ☒ C 1 SIDE W/ONE 30A-120V AND ONE 50A-120/240V OUTLET AND LIGHT
- ☒ D 1 SIDE W/ONE 30A-120V OUTLET AND LIGHT
- ☒ E 2 SIDES W/ONE 50A-120V/240V OUTLET (EXISTING SEA TECH)
- ☒ F 2 SIDES W/ONE 30A-120V EACH SIDE (EXISTING SEA TECH)

⑧ 100 WATT METAL HALIDE BOLLARD

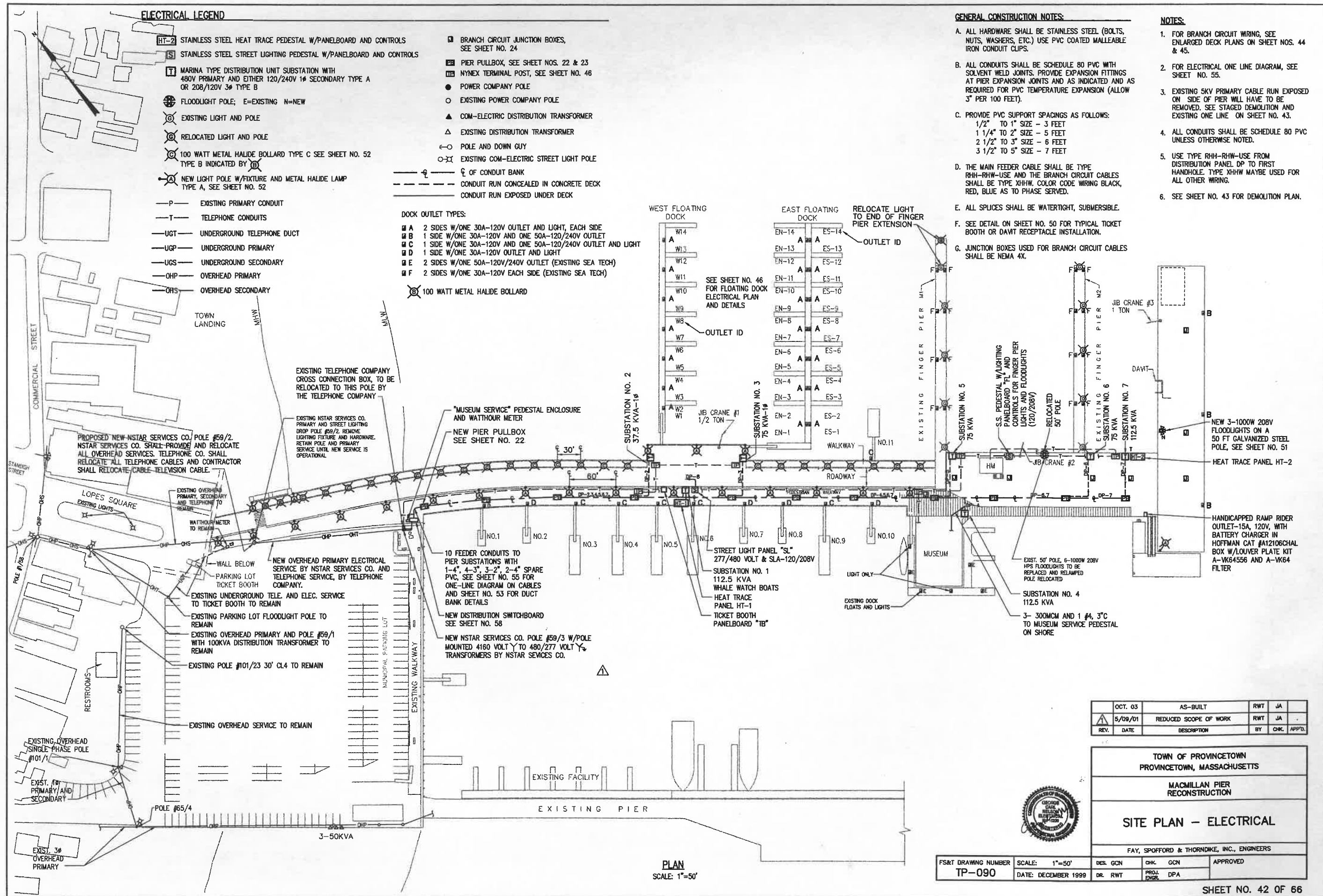
WEST FLOATING

EAST FLOATING

RELOCATE LIGHT
TO END OF FINGER
PIER EXTENSION

- A. ALL HARDWARE SHALL BE STAINLESS STEEL (BOLTS, NUTS, WASHERS, ETC.) USE PVC COATED MALLEABLE IRON CONDUIT CLIPS.
- B. ALL CONDUITS SHALL BE SCHEDULE 80 PVC WITH SOLVENT WELD JOINTS. PROVIDE EXPANSION FITTINGS AT PIER EXPANSION JOINTS AND AS INDICATED AND AS REQUIRED FOR PVC TEMPERATURE EXPANSION (ALLOW 3" PER 100 FEET).
- C. PROVIDE PVC SUPPORT SPACINGS AS FOLLOWS:
 - 1/2" TO 1" SIZE - 3 FEET
 - 1 1/4" TO 2" SIZE - 5 FEET
 - 2 1/2" TO 3" SIZE - 6 FEET
 - 3 1/2" TO 5" SIZE - 7 FEET
- D. THE MAIN FEEDER CABLE SHALL BE TYPE RHH-RHW-USE AND THE BRANCH CIRCUIT CABLES SHALL BE TYPE XHHW. COLOR CODE WIRING BLACK, RED, BLUE AS TO PHASE SERVED.
- E. ALL SPLICES SHALL BE WATERTIGHT, SUBMERSIBLE.
- F. SEE DETAIL ON SHEET NO. 50 FOR TYPICAL TICKET BOOTH OR DAVIT RECEPTACLE INSTALLATION.
- G. JUNCTION BOXES USED FOR BRANCH CIRCUIT CABLES SHALL BE NEMA 4X.

1. FOR BRANCH CIRCUIT WIRING, SEE ENLARGED DECK PLANS ON SHEET NOS. 44 & 45.
2. FOR ELECTRICAL ONE LINE DIAGRAM, SEE SHEET NO. 55.
3. EXISTING SKY PRIMARY CABLE RUN EXPOSED ON SIDE OF PIER WILL HAVE TO BE REMOVED. SEE STAGED DEMOLITION AND EXISTING ONE LINE ON SHEET NO. 43.
4. ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.
5. USE TYPE RHH-RHW-USE FROM DISTRIBUTION PANEL DP TO FIRST HANDHOLE. TYPE XHHW MAYBE USED FOR ALL OTHER WIRING.
6. SEE SHEET NO. 43 FOR DEMOLITION PLAN.



R:\TP-090A\AS-BUILT\42REV1.dwg 10/23/03 15:11 [95.00] By tripp_r

PLAN
SCALE: 1"=50'

	OCT. 03	AS-BUILT	RWT	JA	
	5/09/01	REDUCED SCOPE OF WORK	RWT	JA	
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.

TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS

**MACMILLAN PIER
RECONSTRUCTION**

SITE PLAN - ELECTRICAL

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

FS&T DRAWING NUMBER
TP-090

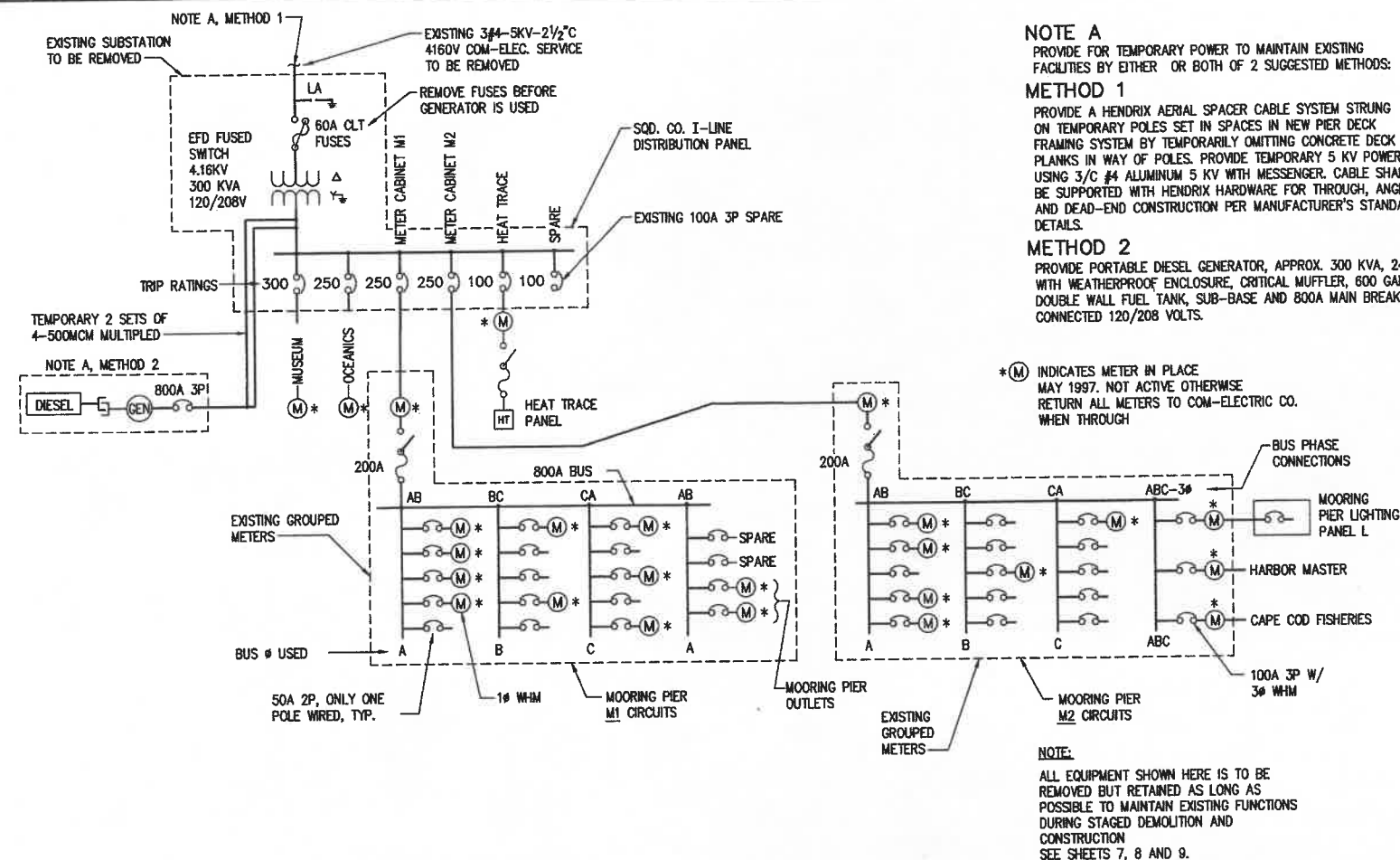
ER	SCALE: 1"=50'
	DATE: DECEMBER

	DES. GCN
9	DR. RWT

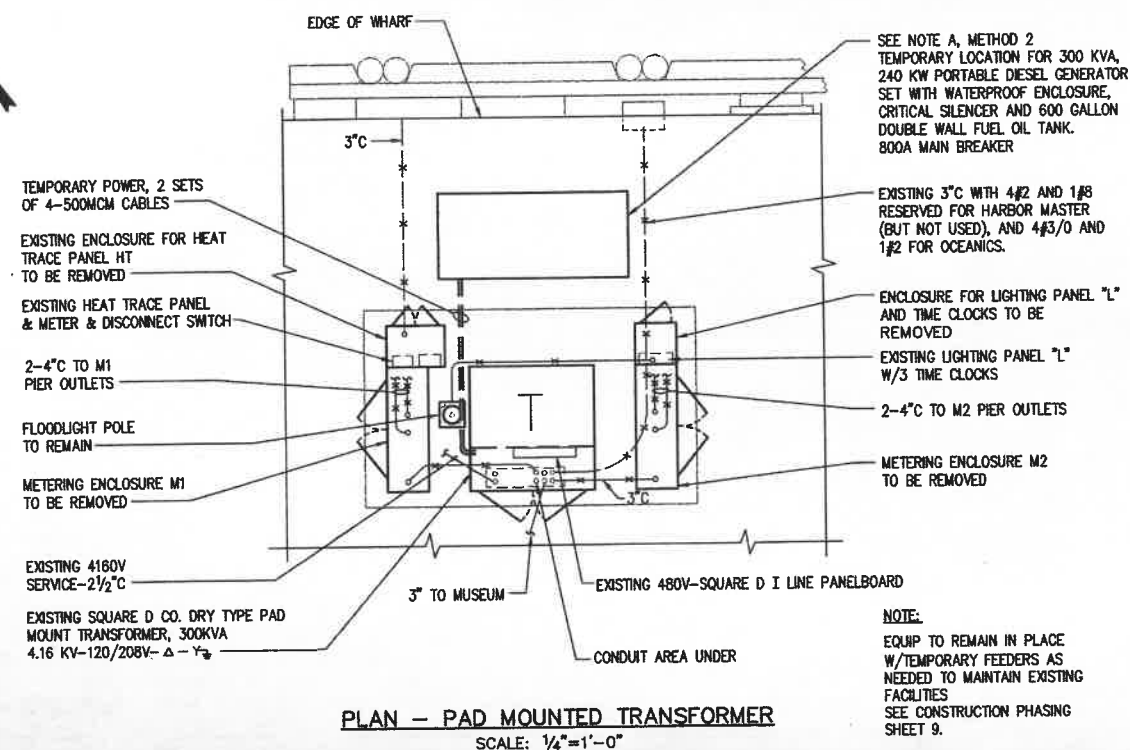
CHK.	GO
PROJ.	DE

APPROVED

SHEET NO. 42 OF 66



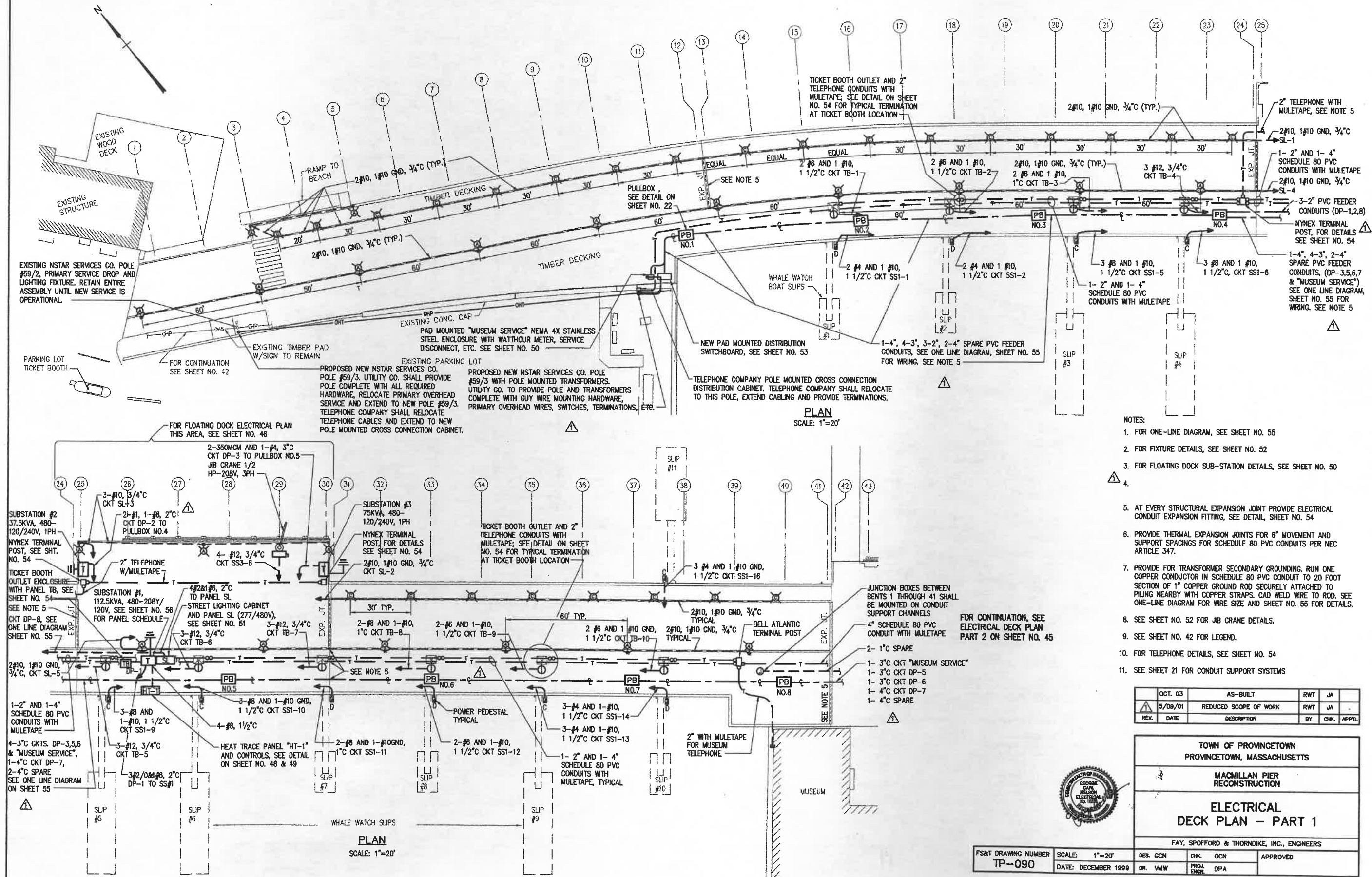
EXISTING ONE-LINE DIAGRAM
NOT TO SCALE



REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03	AS-BUILT	RWT	GCH	

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS
MACMILLAN PIER RECONSTRUCTION
ELECTRICAL DEMOLITION PLAN
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

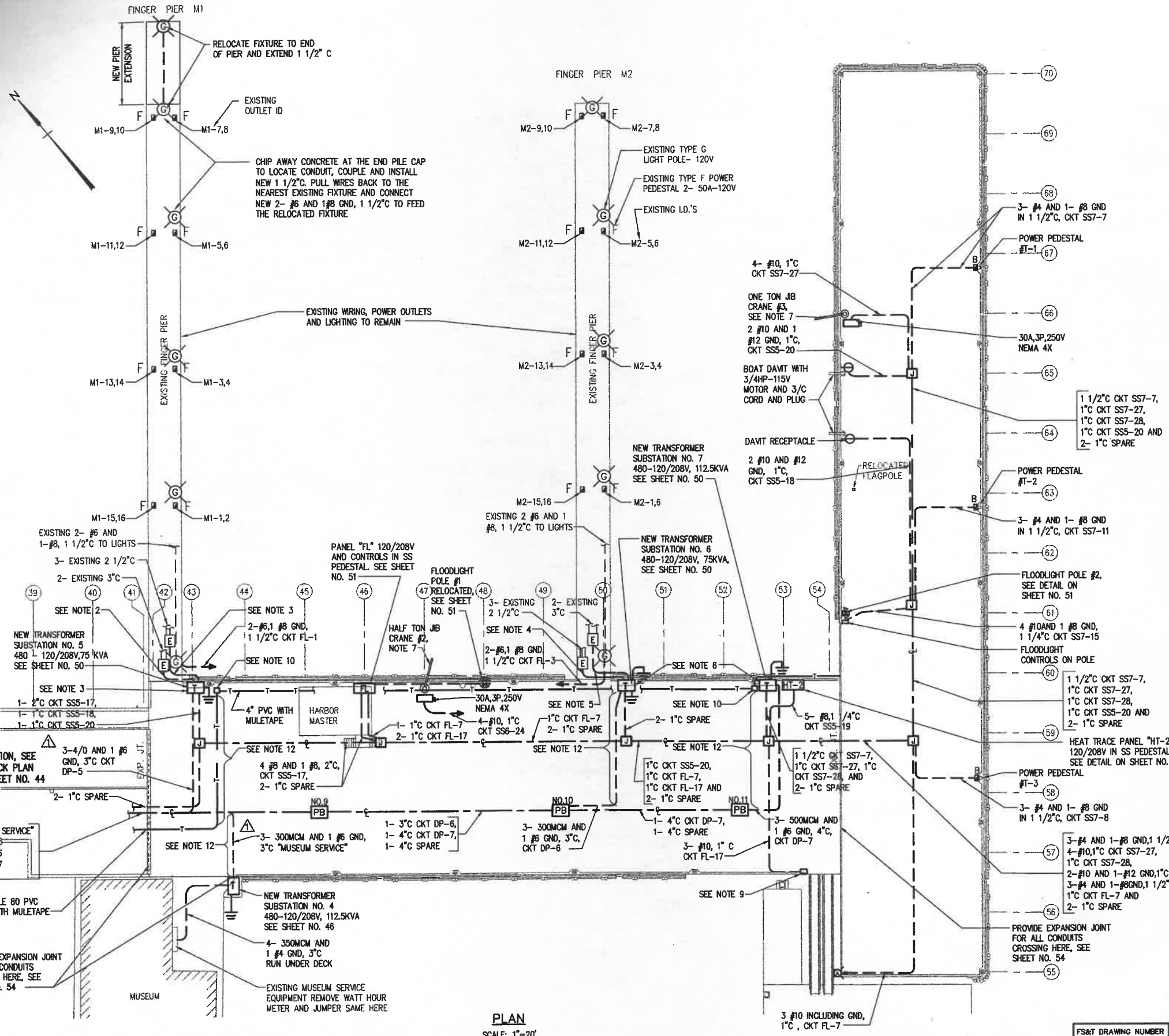
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED DATE: DECEMBER 1999	DES. GCH DR. LEC	CHK. GCH PROJ. DPA	APPROVED
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	OCT. 03	AS-BUILT	RWT	JA	
	5/09/01	REDUCED SCOPE OF WORK	RWT	JA	
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.

	TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS
	MACMILLAN PIER RECONSTRUCTION
	ELECTRICAL DECK PLAN - PART 1

FS&T DRAWING NUMBER TP-090	SCALE: 1"=20'	DES. GCN	CHK. GCN	APPROVED
	DATE: DECEMBER 1999	DR. VMW	PROJ. ENGR. DPA	



- NOTES:
1. EXTEND 4" C FROM EACH EXISTING HANDHOLE WITH THE FOLLOWING CABLES TO BE SPLICED TO EXISTING CABLES WITH WATERTIGHT CONNECTORS:
 2. 4- #3/0 AND 1- #8 FOR PEDESTALS ID# M1-6,7,8
4- #3/0 AND 1- #8 FOR PEDESTALS ID# M1-9,10,11 } 4" C
 3. 6- #1 AND 2- #8 FOR PEDESTALS M1-1,2,5,16
2- #3/0, 2- #1, 1- #8 FOR PEDESTALS M1-3,4,5
2- #3/0, 2- #1, 1- #8 FOR PEDESTALS M1-11,12,13 } 4" C
 4. 6- #1 AND 2- #8 FOR PEDESTALS M1-1,2,5
2- #3/0, 2- #1, 1- #8 FOR PEDESTALS M2-3,4,5
2- #3/0, 2- #1, 1- #8 FOR PEDESTALS M2-11,13 } 4" C
 5. 4- #3/0, 1- #8 FOR PEDESTALS M2-6,7,8
4- #3/0, 1- #8 FOR PEDESTALS M2-9,10,11 } 4" C
 6. PROVIDE FOR TRANSFORMER SECONDARY GROUNDING. RUN ONE COPPER CONDUCTOR IN SCHEDULE 80 PVC CONDUIT TO 20 FOOT SECTION OF 1" COPPER GROUND ROD SECURELY ATTACHED TO PILING NEARBY WITH COPPER STRAPS. CAD WELD WIRE TO ROD. SEE ONE LINE DIAGRAM FOR WIRE SIZE AND SHEET NO. 55 FOR DETAILS.
 7. SEE SHEET NO. 52 FOR JIB CRANE DETAILS.
 8. EXISTING FLUSH PULL BOXES IN FINGER PIERS ARE IDENTIFIED: E ELECTRIC.
 9. HANDICAPPED RAMP INCLUDES OUTLET 15A, 120V WITH BATTERY CHARGER IN HOFFMAN CAT# A12106CHAL BOX WITH LOUVER PLATE KIT # A-VK64556 AND A-VK64 FILTER.
 10. NYNEX TERMINAL POST, SEE DETAILS ON SHEET NO. 54
 11. FOR ELECTRICAL LEGEND SEE SHEET NO. 42.
 12. CONDUIT TO BE EMBEDDED IN CONC. PILE CAP, SEE DETAIL ON SHEET NO. 23
 13. ALL CONDUITS SHALL BE EMBEDDED IN TOP POUR EXCEPT AS NOTED.
 14. SEE DETAIL CONDUITS & JUNCTION BOXES, SHEETS 23 & 24

CIRCUIT AND WIRE SCHEDULE		
CIRCUIT	WIRE	CONDUIT SIZE
SSS-18	2#10 & 1#12 GND	1"
SSS-20	2#10 & 1#12 GND	1"
SS7-1	4#3 & 1#8 GND	2"
SS7-7	3#4 & 1#8 GND	1 1/2"
SS7-8	3#4 & 1#8 GND	1 1/2"
SS7-11	3#4 & 1#8 GND	1 1/2"
SS7-15	4#10 & 1#8 GND	1 1/4"
SS7-27	3#10 & 1#10 GND	1"
SS7-28	3#10 & 1#10 GND	1"
FL-7	2#10 & 1#10 GND	1"
FL-17	2#10 & 1#10 GND	1"

	OCT. 03	AS-BUILT	RWT	JA	
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REV.	DATE	DESCRIPTION	BY	CHK.	APP'D

TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS

MACMILLAN PIER
RECONSTRUCTION

ELECTRICAL
DECK PLAN - PART 2

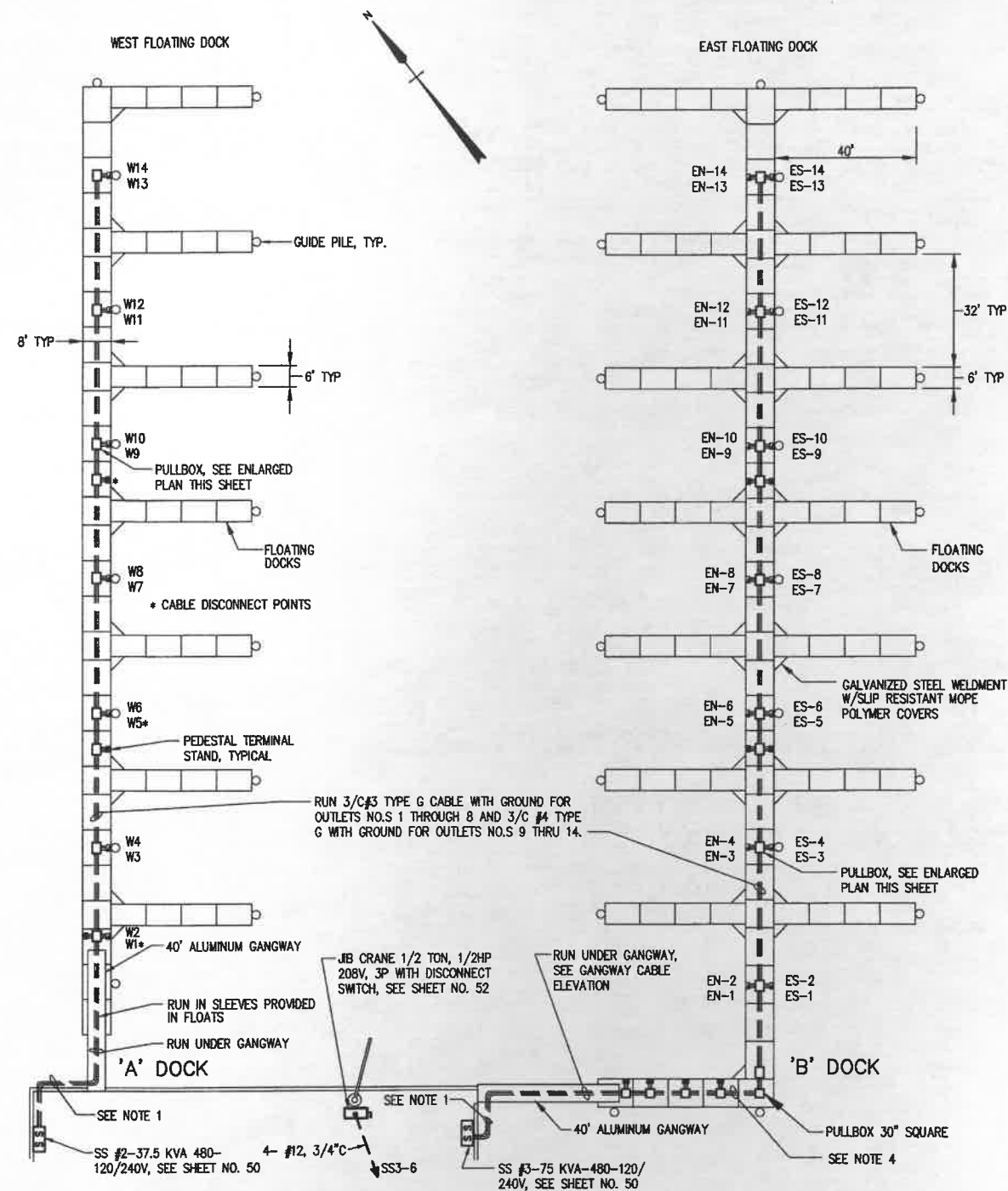
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

DES. GCN
CHK. GCN
PROJ. ENGR. DPA

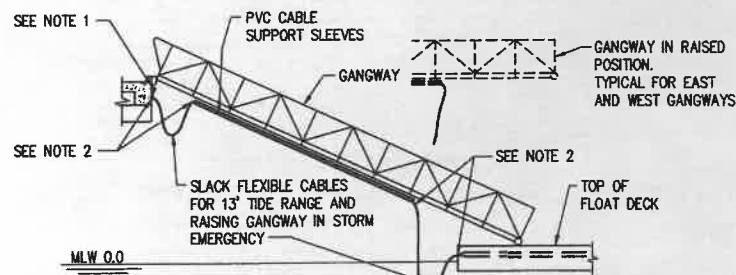
APPROVED

FS&T DRAWING NUMBER	SCALE: 1"=20'	DES. GCN	CHK. GCN	PROJ. ENGR. DPA	APPROVED
TP-090	DATE: DECEMBER 1999	DR. VMW			

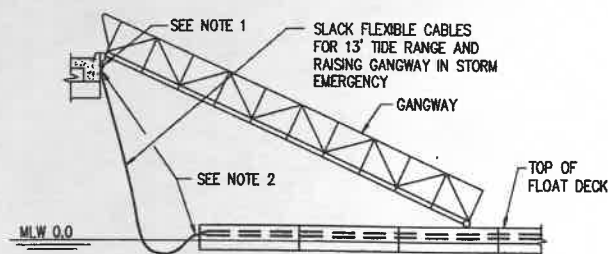
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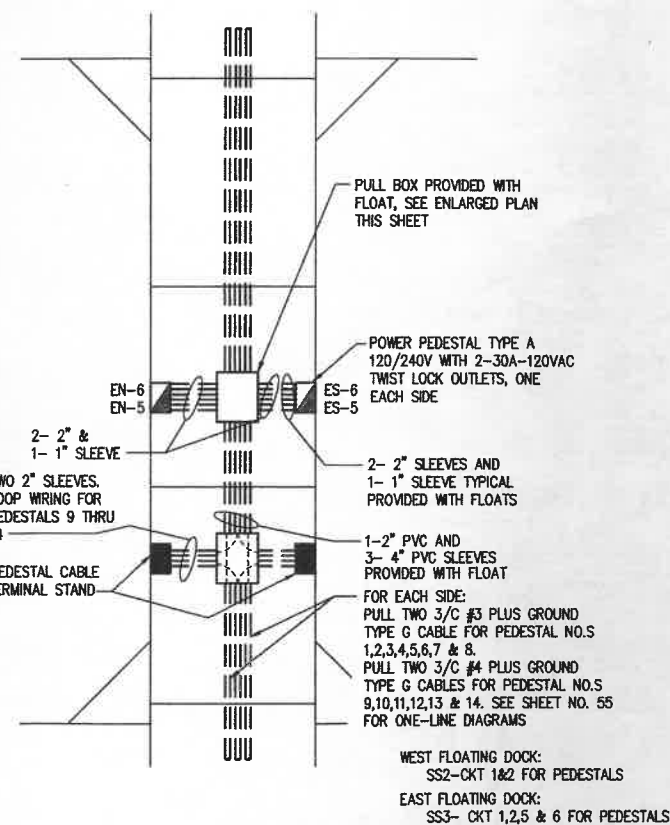
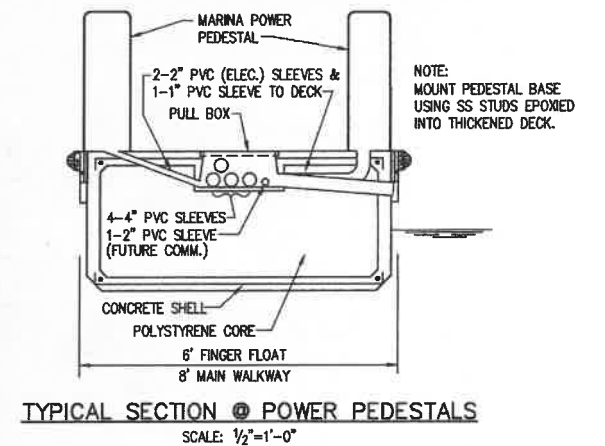
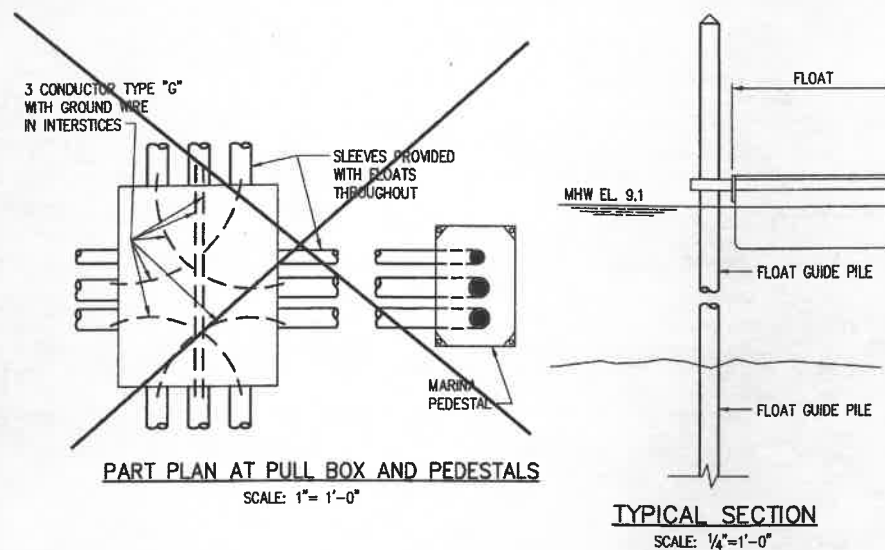
DECK PLAN - FLOATING DOCKS
SCALE: 1"=20'



ELEVATION - EAST GANGWAY CABLES
NOT TO SCALE



ELEVATION - WEST GANGWAY CABLES
NOT TO SCALE



TYPICAL FLOATING DOCK
SCALE: 1/4"=1'-0"

LEGEND:

- SS MARINA SUBSTATION WITH TRANSFORMER AND PANELBOARD, SEE NOTE 6
- EN-6 MARINA POWER PEDESTAL TYPE A WITH 2-30A-120V OUTLETS AND LIGHT WITH PHOTOELECTRIC SWITCH
- EN-5 PULL BOX PROVIDED WITH FLOAT
- PEDESTAL ID NOS. PEDESTAL CABLE TERMINAL STAND SEE NOTE 7

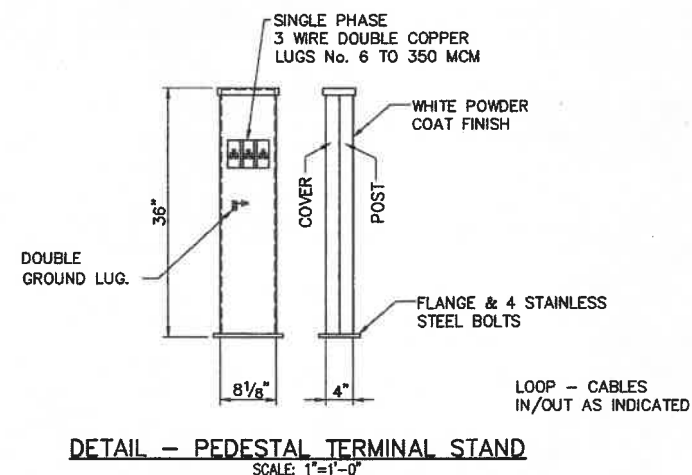
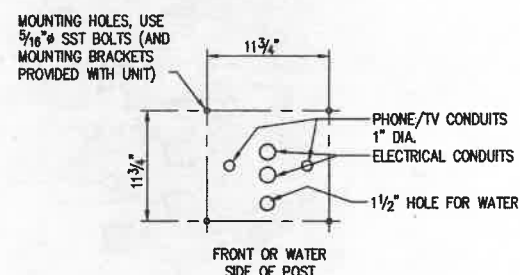
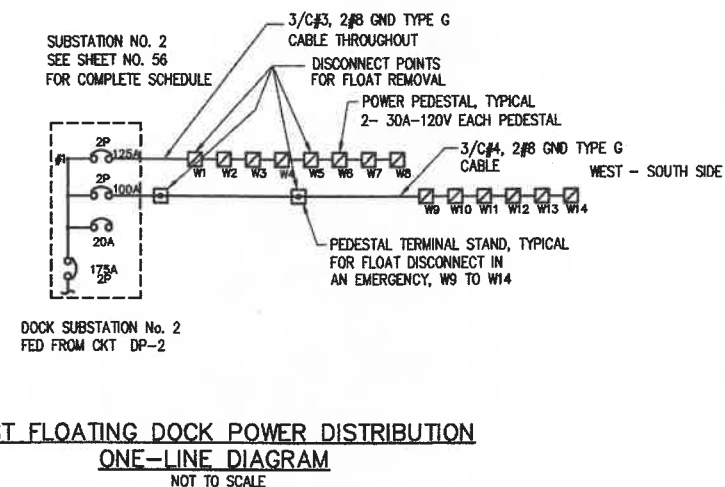
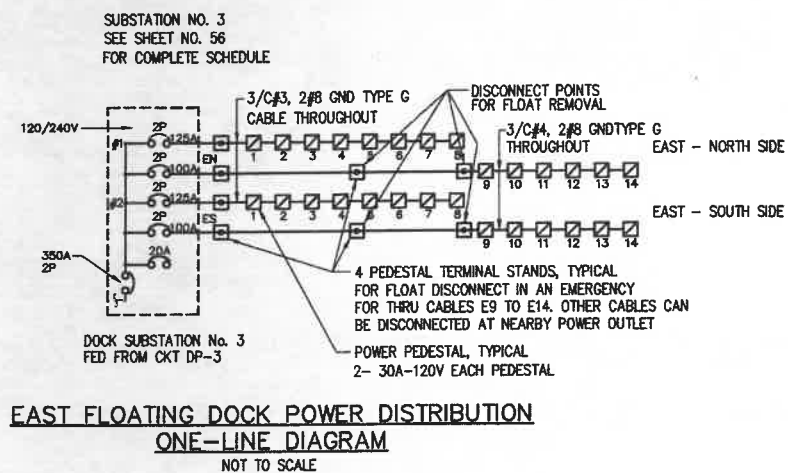
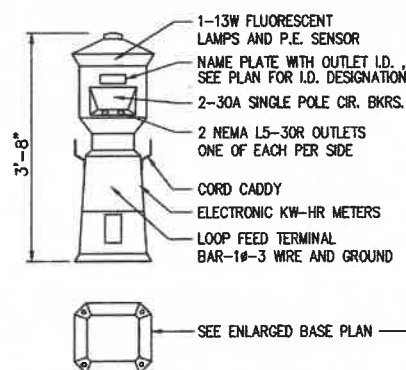
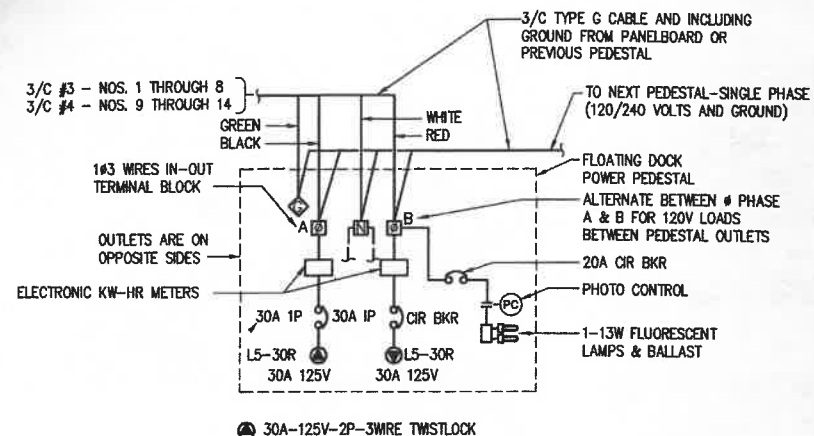
NOTES:

- RUN NEW 3/C #3 PLUS GROUND OR 3/C #4 PLUS GND IN 4" SCHEDULE 80 PVC CONDUITS MTD ON FIBERGLASS CHANNELS WITH SS BOLTS ON EDGE OF DECK TO NEAR ALUMINUM GANGWAY.
- USE HUBBELL (KELLUMS) CABLE GRIPS ATTACHED WITH STAINLESS STEEL HARDWARE AT BOTH ENDS OF TYPE G CABLE ON DROP TO FLOATING DOCK AND FOR ATTACHMENT TO GANGWAY AND FLOATING DOCK.
- ALLOW SLACK CABLE TO ALLOW FOR THIRTEEN FOOT TIDE MOVEMENT OF DOCK AND RAISING GANGWAY IN STORM EMERGENCY.
- RUN CABLE UNDER DECK THROUGH SLEEVES ON FLOATATION SECTIONS TO STANDS AND PEDESTALS, SEE DETAIL ON THIS DRAWING.
- PROVIDE ENLARGED BLACK LETTERING ON WHITE WATERPROOF I.D. PLATE AT EACH PEDESTAL.
- SEE SHEET NO. 50 FOR MARINA SUBSTATION DETAILS AND SHEET NO. 56 FOR PANELBOARD SCHEDULES.
- PEDESTAL TERMINAL STAND: PROVIDE ONE SET OF TERMINAL LUGS FOR ONE TYPE G CABLE IN AND ONE SET OUT IN ORDER TO REMOVE FLOATS IN STORM EMERGENCY. PROTECT ALL LOOSE CABLE ENDS WITH WATERPROOF BAG IF FLOATS ARE REMOVED.

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03	REVISED, AS-BUILT	RWT	GON	



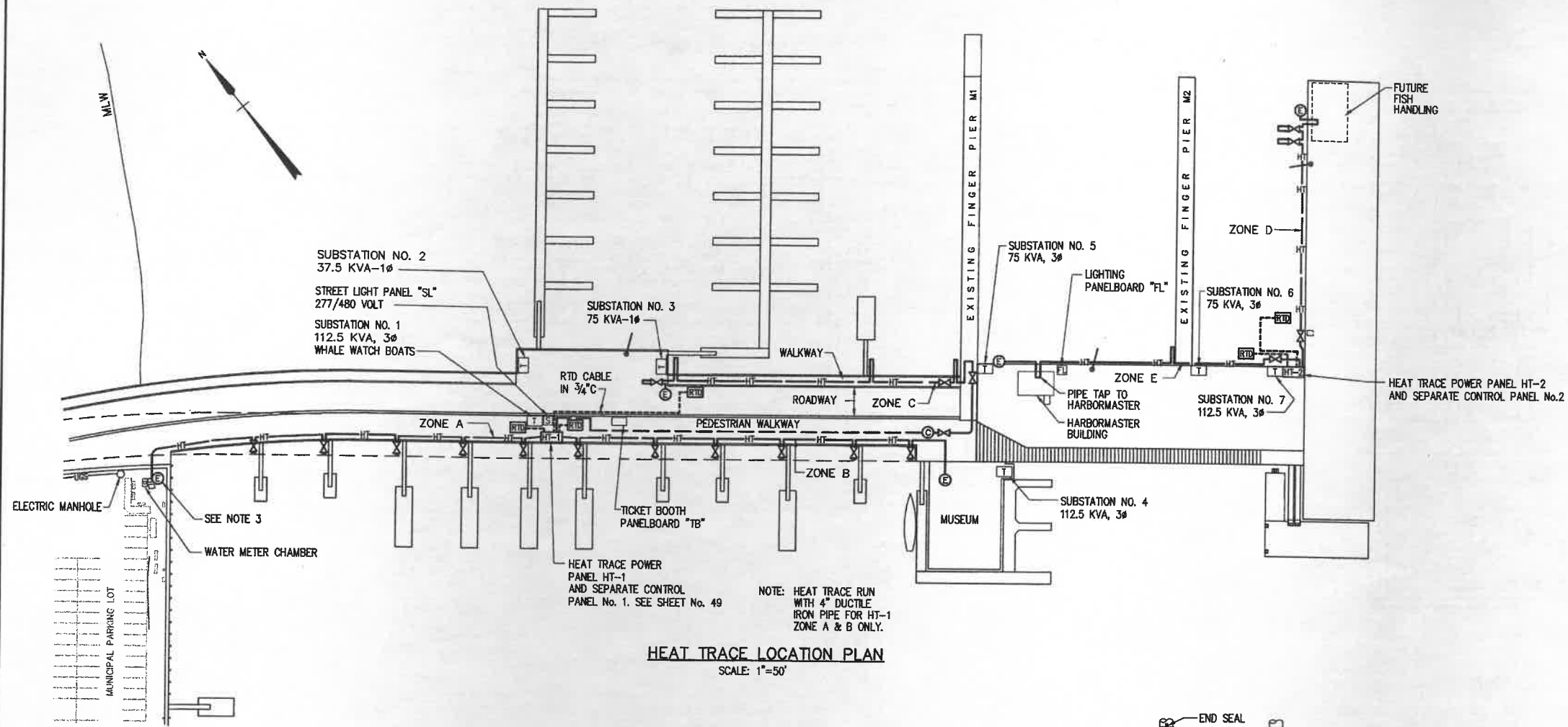
TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS					
MACMILLAN PIER RECONSTRUCTION					
ELECTRICAL FLOATING DOCKS PLAN & DETAILS					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED DATE: DECEMBER 1999	DES. GCN DR. VMW	CHK. GCN ENGR. DPA	APPROVED	



NOTE: FLOATS BY SOUTHERN FLOATING DOCKS, INC. ST. AUGUSTINE, FLA.

	OCT. 03	REVISED, AS-BUILT	RWT	GCN	
REV.	DATE	DESCRIPTION	BY	CHK.	APP.

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS			
MACMILLAN PIER RECONSTRUCTION			
FLOATING DOCKS ELECTRICAL DETAILS			
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS			
DES. GCN	CHK. GCN	APPROVED	
DR. VMW	PROJ. DPA		

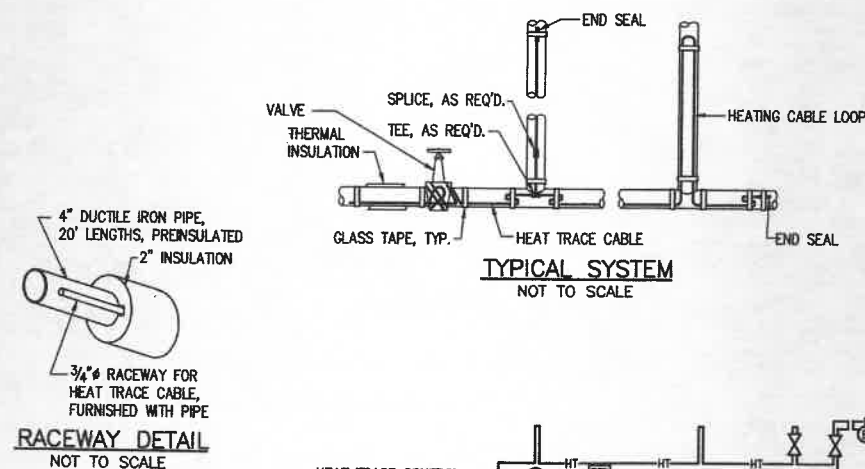
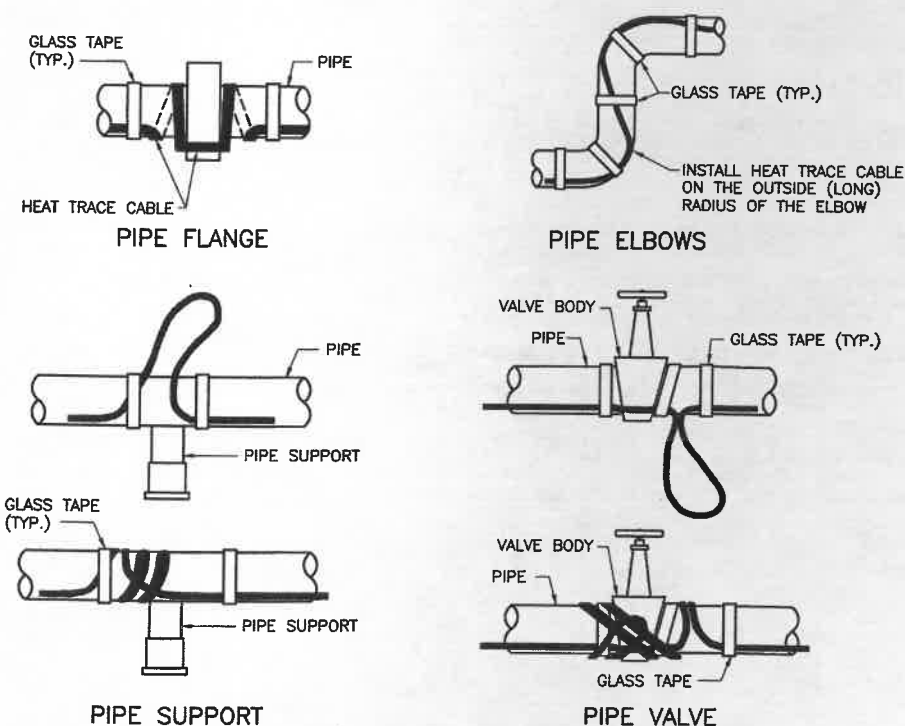


LEGEND:

- HT — HEAT TRACE HOT SECTION - 3#12 W/GND, 208V, 7 WATT/L.F.
- - - HEAT TRACE COLD SECTION - 3#12, RUN IN 3/4" CONDUIT
- ⊙ HEATING CABLE CONNECTION BOX
- ⊙ END OF LINE SEAL
- ⊕ VALVE TO BE HEAT TRACED
- RTD TEMPERATURE TRANSMITTER - RTD
- 3/C SHIELDED 22 GA. RTD WIRING IN 3/4" CONDUIT

NOTES:

1. ALL WATER PIPES SHOWN ON SHEET 35, WATER UTILITIES PLAN, ARE TO BE HEAT TRACED EXCEPT WHERE INDICATED BY NOTE 2 ON THIS SHEET.
2. HEAT TRACE THE 4" DUCTILE IRON PIPE AND THE 1/2" VALVE ONLY.
3. CONDUCTOR TWISTED SHIELDED CABLE 88TV-2, 3/4" CONDUIT. THE CABLE SHALL BE EQUAL TO RAYCHEM CATALOG NO. MONI-RTD-WIRE PART NO. 962661-000 WITH A FACTORY ASSEMBLED WIRE CONNECTION TO A RESISTANCE TEMPERATURE DETECTOR (RTD). THE (RTD) SHALL BE SECURED TO THE WATERPIPE ON THE OPPOSITE SIDE TO THE HEAT TRACE CABLE.
4. INSTALL ONE HEAT TRACE CABLE ONLY IN THE 3/4" COPPER HEAT TRACE TUBE. PROVIDED WITH 4" D.I. PREINSULATED PIPE.



RACEWAY DETAIL

NOT TO SCALE

4" DUCTILE IRON PIPE, 20' LENGTHS, PREINSULATED WITH 2" INSULATION

3/4" RACEWAY FOR HEAT TRACE CABLE, FURNISHED WITH PIPE

GLASS TAPE, TYP.

HEATING CABLE LOOP

END SEAL

VALVE

THERMAL INSULATION

SPUCE, AS REQ'D.

TEE, AS REQ'D.

GLASS TAPE, TYP.

HEATING CABLE LOOP

END SEAL

VALVE

THERMAL INSULATION

SPUCE, AS REQ'D.

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GLASS TAPE, TYP.

HEATING CABLE LOOP

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HEATING CABLE LOOP

END SEAL

VALVE

THERMAL INSULATION

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GLASS TAPE, TYP.

HEATING CABLE LOOP

END SEAL

VALVE

THERMAL INSULATION

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HEATING CABLE LOOP

END SEAL

VALVE

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GLASS TAPE, TYP.

HEATING CABLE LOOP

END SEAL

VALVE

THERMAL INSULATION

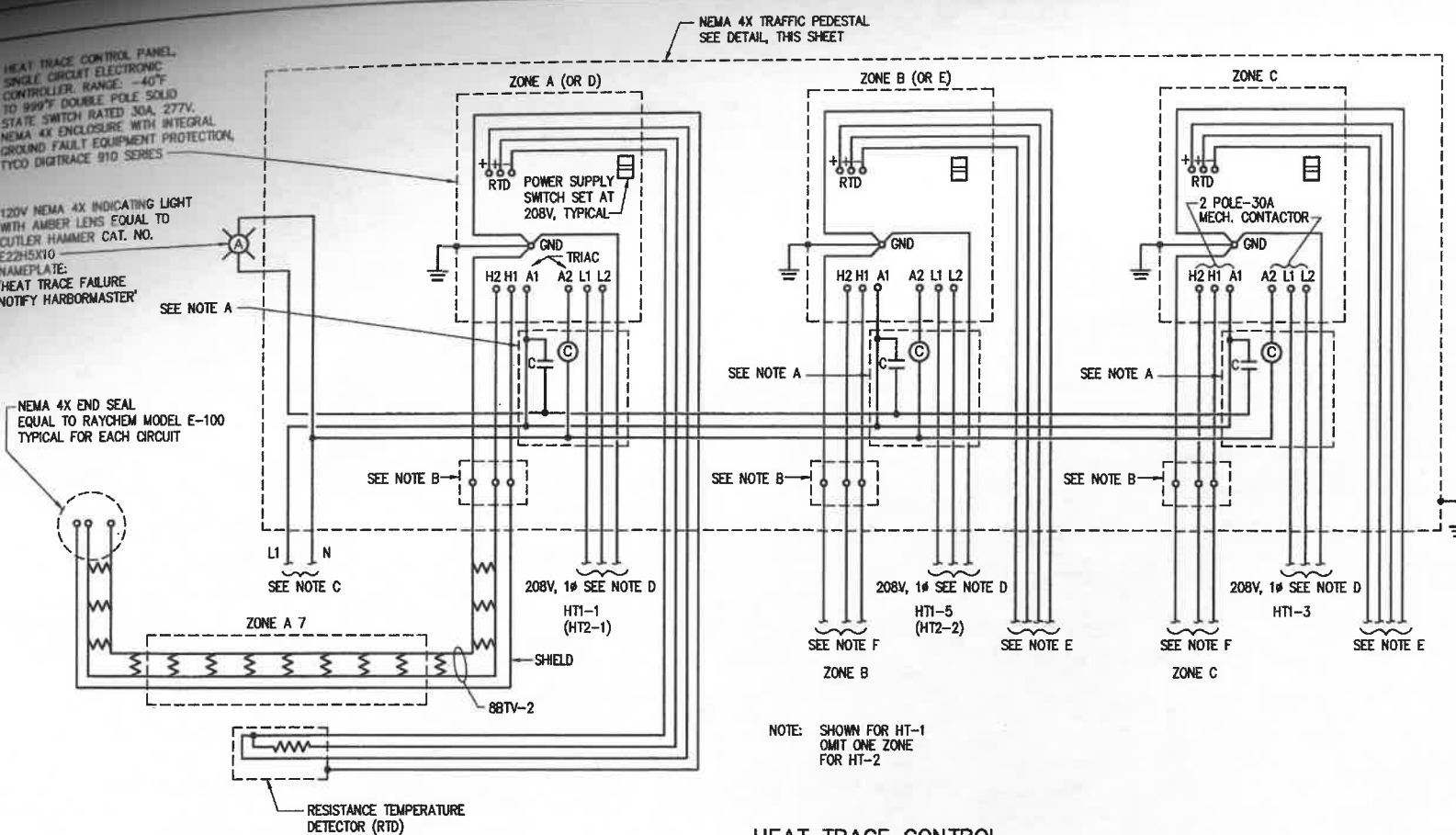
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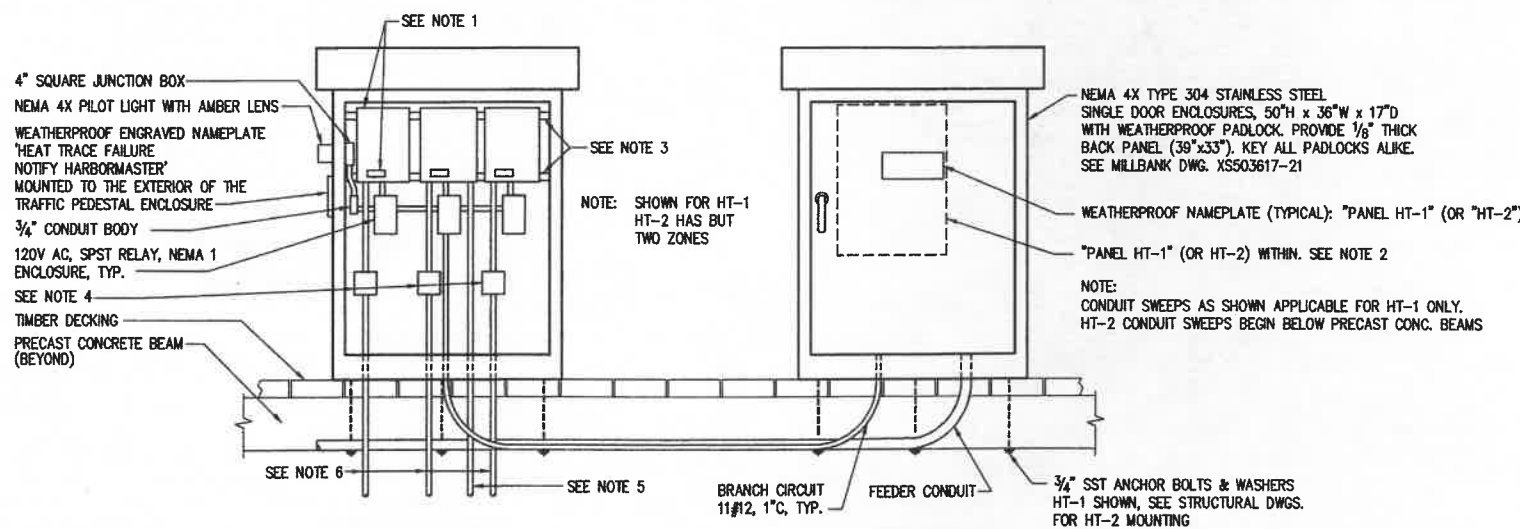
HEAT TRACE CONTROL PANEL
SINGLE CIRCUIT ELECTRONIC
CONTROLLER, RANGE: -40°F
TO 999°F DOUBLE POLE SOLID
STATE SWITCH RATED 30A, 277V.
NEMA 4X ENCLOSURE WITH INTEGRAL
GROUND FAULT EQUIPMENT PROTECTION,
TYCO DIGITRACE 910 SERIES

120V NEMA 4X INDICATING LIGHT
WITH AMBER LENS EQUAL TO
CUTLER HAMMER CAT. NO.
E22H5X10
NAMEPLATE:
'HEAT TRACE FAILURE
NOTIFY HARBORMASTER'

NEMA 4X END SEAL
EQUAL TO RAYCHEM MODEL E-100
TYPICAL FOR EACH CIRCUIT



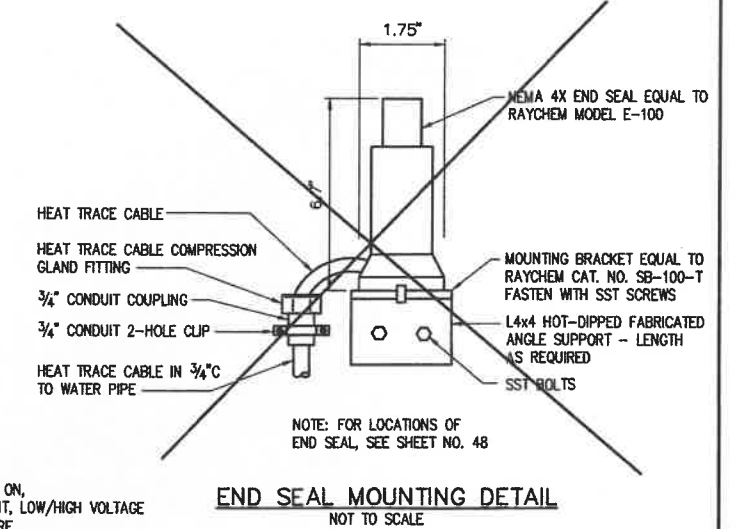
HEAT TRACE CONTROL
WIRING DIAGRAM
NOT TO SCALE



ELEVATION
HEAT TRACE POWER AND CONTROL
EQUIPMENT LAYOUT
NOT TO SCALE

WIRING DIAGRAM NOTES:

- 120V, SPST RELAY NEMA 1 ENCLOSURE EQUAL TO CUTLER HAMMER CAT. NO. 9575-H2441-66
- HEAT TRACE CABLE POWER CONNECTION JUNCTION BOX EQUAL TO TYCO JBS-100, CIRCUIT ZONES A,B,D & E SHALL BE MOUNTED INSIDE THE PEDESTAL ENCLOSURE AS DETAILED. SEE SHEET 42 FOR LOCATION OF POWER CONNECTION BOX FOR ZONE C.
- 120V CONTROL CIRCUIT FROM HT-1, CIRCUIT 9 FOR HEAT TRACE CONTROL ZONES A,B & C, AND FROM HT-2, CIRCUIT 5 FOR ZONES D & E.
- 208V, 1Ø HEAT TRACE CONTROL PANEL POWER FEED. 2#12 AND 1#12 GROUND, 3/4" C. CONTROL PANELS FOR CIRCUIT ZONES A,B & C SHALL BE FED FROM HT-1, ZONES D & E FED FROM HT-2. SEE SHEET 48 FOR PANEL SCHEDULES.
- CONDUCTOR 3/4" TWISTED RTD CABLE W/GND, 3/4" C TO 100 - PLATINUM RTD.
- SELF LIMITING HEAT TRACE CABLE, 3/4" C. THE CABLE SHALL BE EQUAL TO RAYCHEM CAT. NO. 88VT2-CT-208V-5W/FT
- DIGITRACE 910 CONTROLLER IS PROVIDED WITH LEADS FOR POWER ON, HEATER ON, HIGH/LOW TEMP, GROUND FAULT, LOW/HIGH CURRENT, LOW/HIGH VOLTAGE ALARMS AND FAILURE AS WELL AS ACTUAL DISPLAY TEMPERATURE, CONTROL TEMPERATURE AND HEATER CURRENT, VOLTAGE, RESISTANCE AND GROUND FAULT VALUES, W/48V-DC DRY CONTACT AND TRIAL RELAY. SPST, 75A-120 TO 277V A.C. TYCO CAT. NO. 910E1FMLEMR2



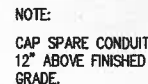
EQUIPMENT LAYOUT NOTES:

- HEAT TRACE CONTROL PANEL SINGLE CIRCUIT ELECTRONIC CONTROL AND MONITORING DEVICE, TYCO 910. WEATHERPROOF ENGRAVED NAMEPLATE: 'HT-1-A FOR HEAT TRACE CIRCUIT ZONE A' REFER TO HEAT TRACE SCHEMATIC ON SHEET 48 FOR CIRCUIT AND ZONE DESIGNATIONS.
- 120/208V, 3Ø, 4W PANELBOARD HT-1 (OR HT-2). SEE ONE LINE DIAGRAM ON SHEET 55. SEE PANEL SCHEDULE ON SHEET 56.
- THE HEAT TRACE CONTROL PANELS SHALL BE SECURED TO THE TRAFFIC PEDESTAL BACKBOARD WITH 1/2" CHANNEL TO ALLOW THE CIRCULATION OF AIR AS REQUIRED BY THE CONTROL PANEL MANUFACTURER'S INSTRUCTIONS.
- HEATING CABLE CONNECTION BOX EQUAL TO RAYCHEM MODEL JBS 100A.
- 3 SETS CONDUCTOR TWISTED CABLE 3/4" C. THE CABLE SHALL BE EQUAL TO RAYCHEM CAT. NO. MONI-RTD-WIRE PART NO. 962661-000 WITH A FACTORY ASSEMBLED WIRE CONNECTION TO A PLATINUM RESISTANCE TEMPERATURE DETECTOR (RTD). SECURE THE RTD TO THE WATER PIPE ON THE OPPOSITE SIDE TO THE HEAT TRACE CABLE. SEE PLAN ON SHEET 48 FOR LOCATIONS OF RTD'S.
- 208V SELF LIMITING HEAT TRACE CABLE CHEMELEX 88TV-CY, IN 3/4" CONDUIT.

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03	REVISED, AS-BUILT	RWT	GCH	

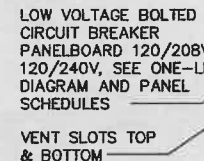


TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS	
MACMILLAN PIER RECONSTRUCTION	
ELECTRICAL HEAT TRACE DETAILS	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS	
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED DATE: DECEMBER 1999
DES. DRJ DR. RWT	CHK. GCH PROJ. ENGR. DPA
APPROVED	

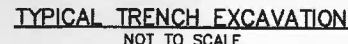


RISER POLE NOTES:

1. PRIMARY CABLE FURNISHED AND INSTALLED BY NSTAR SERVICES CO. 
2. SEE CUDS SPECIFICATION NO. 1-0796
3. RISER CONDUITS SHALL BE GROUNDED IN ACCORDANCE WITH RULE 314B OF THE NATIONAL ELECTRIC SAFETY CODE.
4. A #2 BARE COPPER (MINIMUM) COUNTERPOISE TO BE INSTALLED FOR A DISTANCE OF 175' (MINIMUM). THIS CABLE TO BE INSTALLED IN THE TRENCH WITH AT LEAST A 6" SEPARATION FROM DUCTS. THREE FOOT TAIL TO BE LEFT AT THE BASE OF THE POLE FOR ATTACHMENT TO GROUND ROD.
5. 1-4" PVC TELEPHONE SERVICE CONDUIT IS NOT SHOWN BUT REQUIRED. COORDINATE LOCATION AND PROVIDE 1-36"x90° RIGID GALVANIZED SWEEP AND EXTEND CONDUIT TO TELEPHONE COMPANY'S CROSS CONNECTION CABINET.



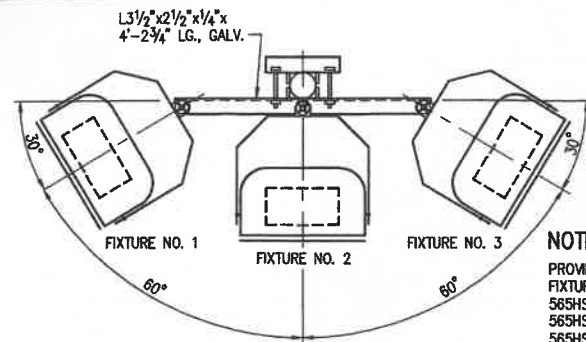
SUB-STATION
BASE PLAN
NOT TO SCALE



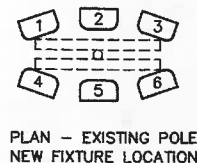
- REPLACE WITH SAME THICKNESS
OF EXISTING MATERIAL IN NO
CASE LESS THAN 12" OF COM-
PACTED GRAVEL SUB-BASE



TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS			
MACMILLAN PIER RECONSTRUCTION			
ELECTRICAL DETAILS 1			
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS			
DES.	GON	CHK.	GON
99	DR.	LEC	PROJ. CHIEF DPA
			APPROVED



PLAN - NEW FLOODLIGHT POLE
NOT TO SCALE

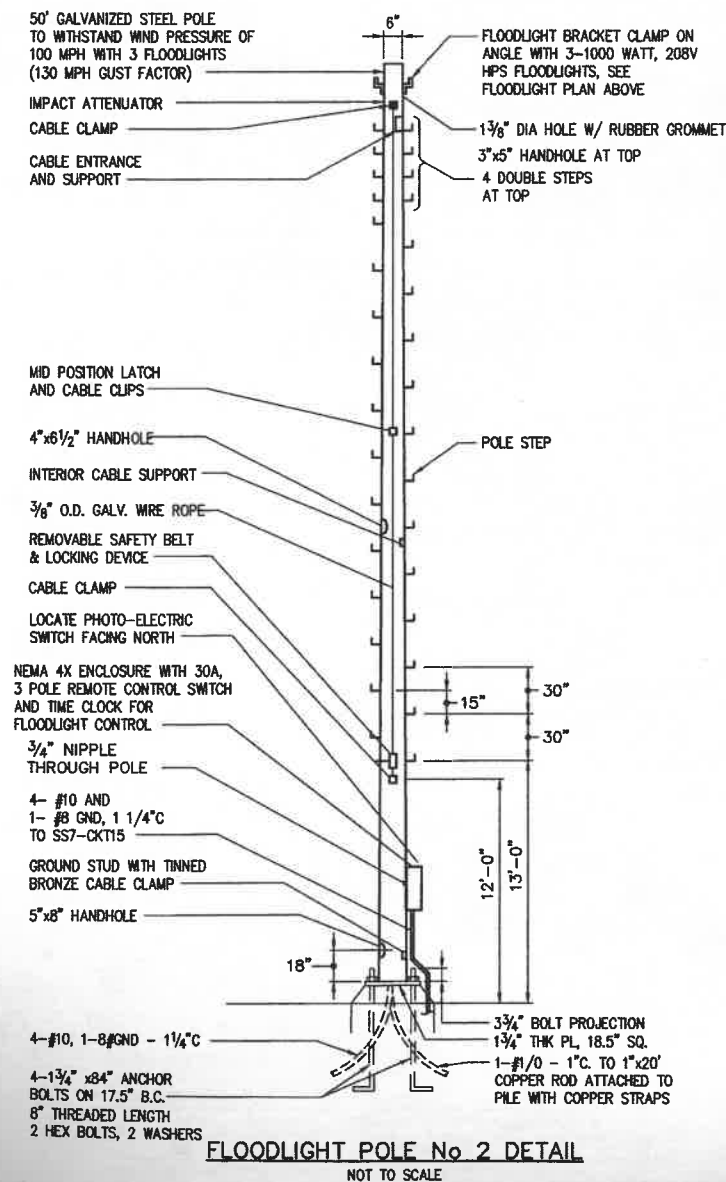


PLAN - EXISTING POLE
NEW FIXTURE LOCATION

NOTE:
PROVIDE NINE NEW FIXTURES.
FIXTURES ARE INFRANOR CAT. NO.
56SHSLNC 75x100-1000S-208E.
56SHSLNC 15x90-1000S-208E OR
56SHSLNC 35x100-1000S-208E.
(SEE SCHEDULE).
PROVIDE TYPE TS TOP SHIELD
AND SAFETY CHAIN

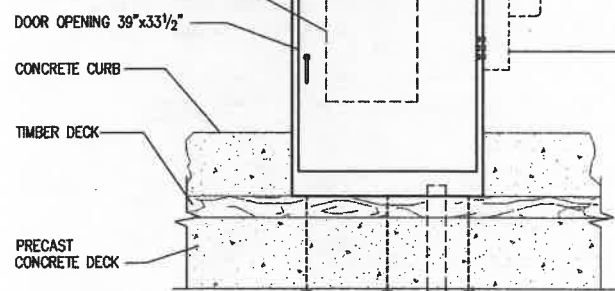
NEW POLE			EXISTING POLE		
FIXTURE	BEAM SPREAD	VERTICAL UPLIFT ANGLE	FIXTURE	BEAM SPREAD	VERTICAL UPLIFT ANGLE
1 & 3	15° V. x 90° H.	78°	1	15° V. x 90° H.	81°
2	75° V. x 100° H.	50°	2	35° V. x 100° H.	45°
			3	15° V. x 90° H.	79°
			4	15° V. x 90° H.	71°
			5	75° V. x 100° H.	58°
			6	15° V. x 90° H.	72°

NOTE:
PROVIDE HOLES FOR H.D. GALV. MOUNTING BOLTS AND
NUTS BEFORE GALVANIZING ANGLES. HOLES TO
MATCH FIXTURE HORIZONTAL SECTOR MOUNTING SUPPORT.
UL LISTED FOR WET LOCATIONS.

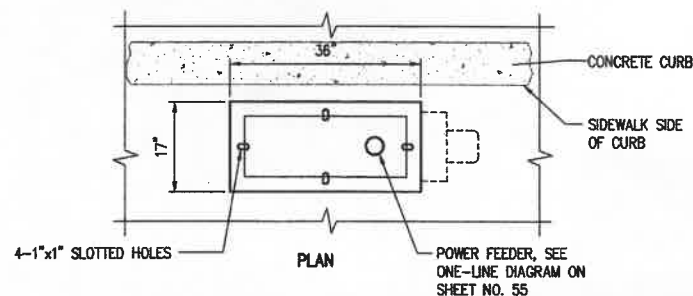


FLOODLIGHT POLE No. 2 DETAIL
NOT TO SCALE

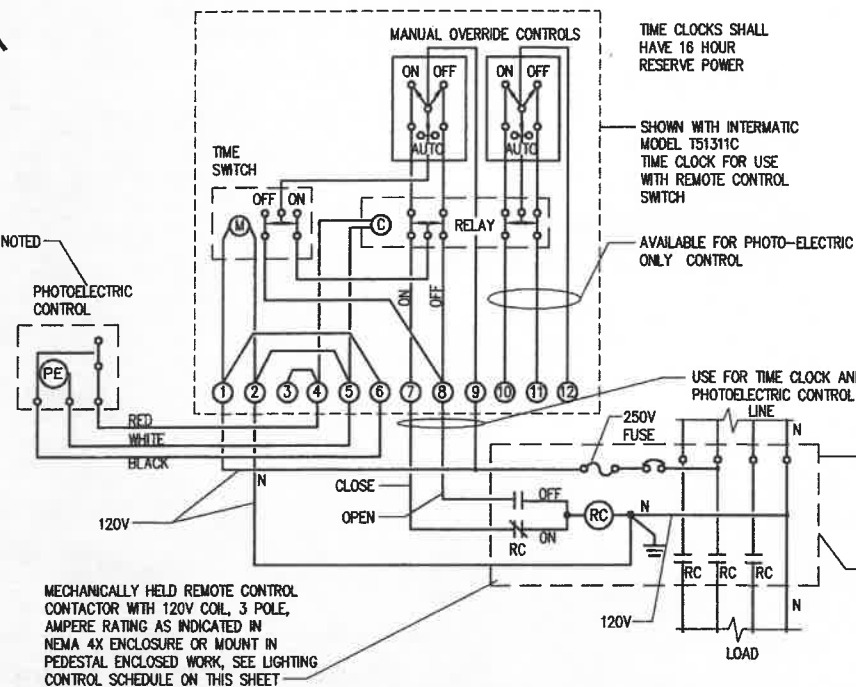
TRANSFORMER CONTROLS AND FOLLOWING:
HEAT TRACE PANEL "HT-1"
OR "HT-2" OR STREET LIGHT
PANEL "SL", PANEL "FL" OR
TICKET BOOTH PANEL "TB", SEE
SCHEDULES AND ADDITIONAL EQUIPMENT
DETAILS ON THIS SHEET



ELEVATION



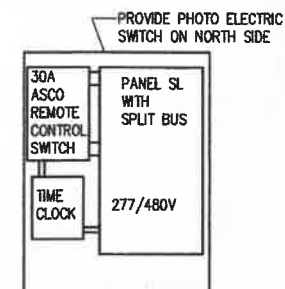
DETAIL - TRAFFIC PEDESTAL BOX
SCALE: 3/4"=1'-0"



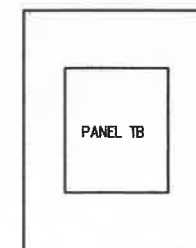
TYPICAL LIGHTING CONTROL SCHEMATIC
NOT TO SCALE

LIGHTING CONTROL SCHEDULE							
LOCATION	POLES	REMOTE SWITCH AMPERE RATING	CPT	EXTERNAL NEMA 4X ENCL.	PEDESTAL MTD.	REMOTE CONTROL SWITCH	PHOTO-ELECTRIC CONTROL
PANEL "FL"	3	60	NO	NO	YES	YES	NO
PANEL "SL"	3	30	YES	NO	YES	YES	YES
* FLOODLIGHT POLE #2 (SS #7-15)	3	30	NO	YES	NO	YES	NO

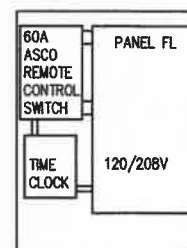
NOTES:
1. SEE PEDESTAL ARRANGEMENT BELOW
AND PANELBOARD SCHEDULE ON SHEET NO. 56
2. INTERMATIC MODEL 7401BC FOR CONTROL
WITH REMOTE CONTROL SWITCH, FLOODLIGHT
POLE NO. 2.



PANEL SL



PANEL TB



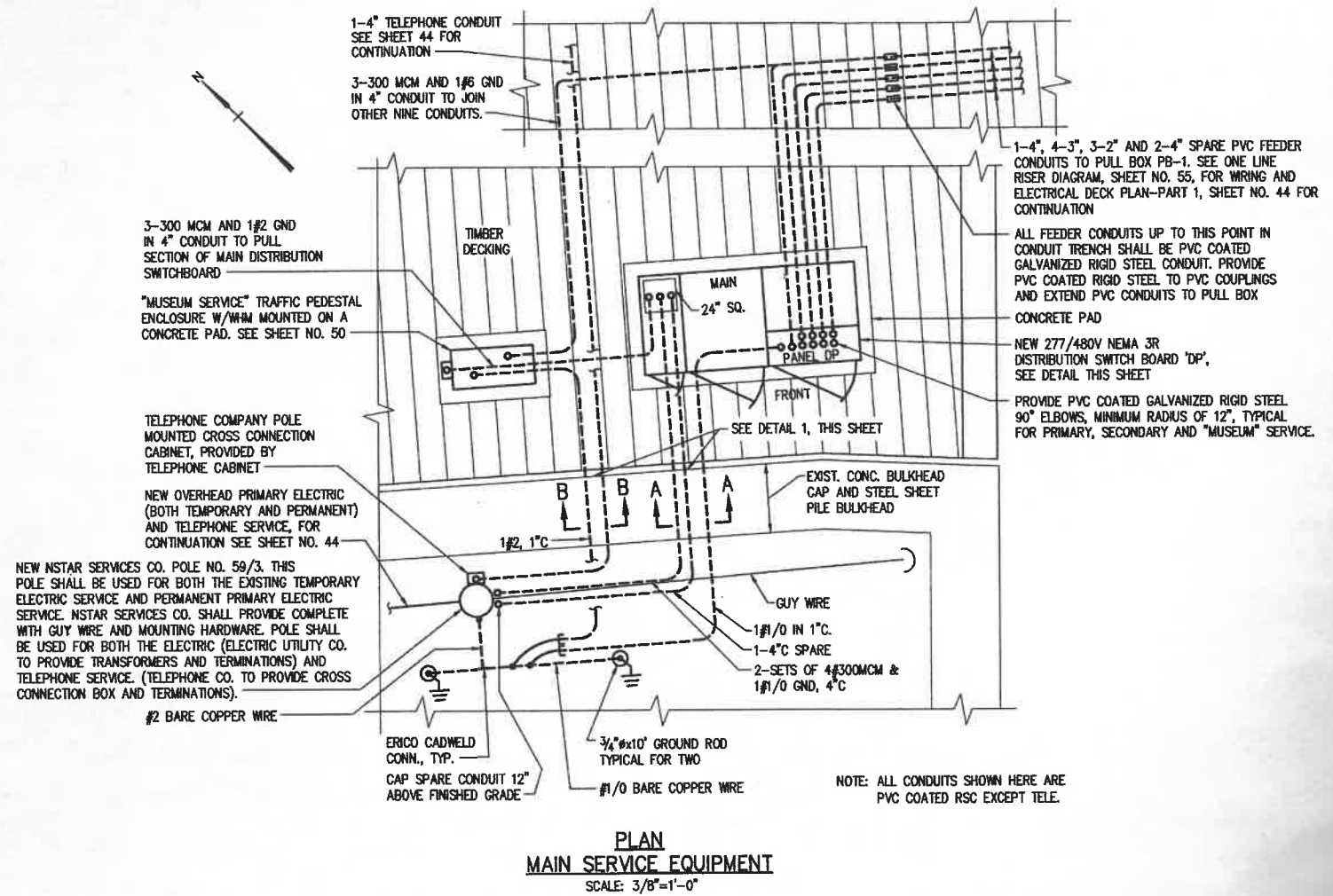
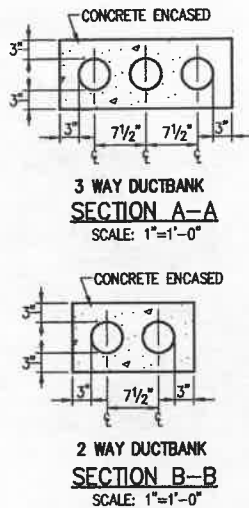
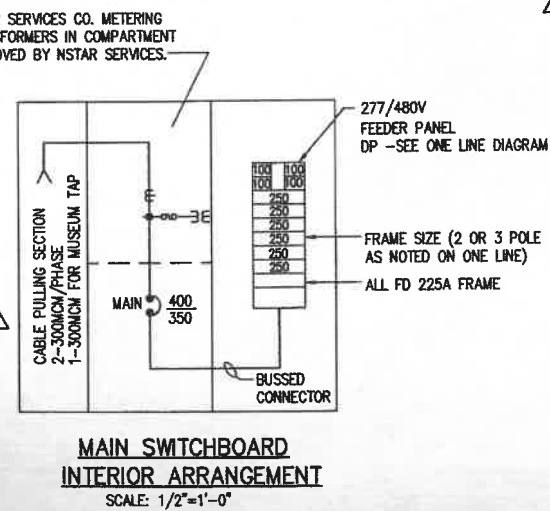
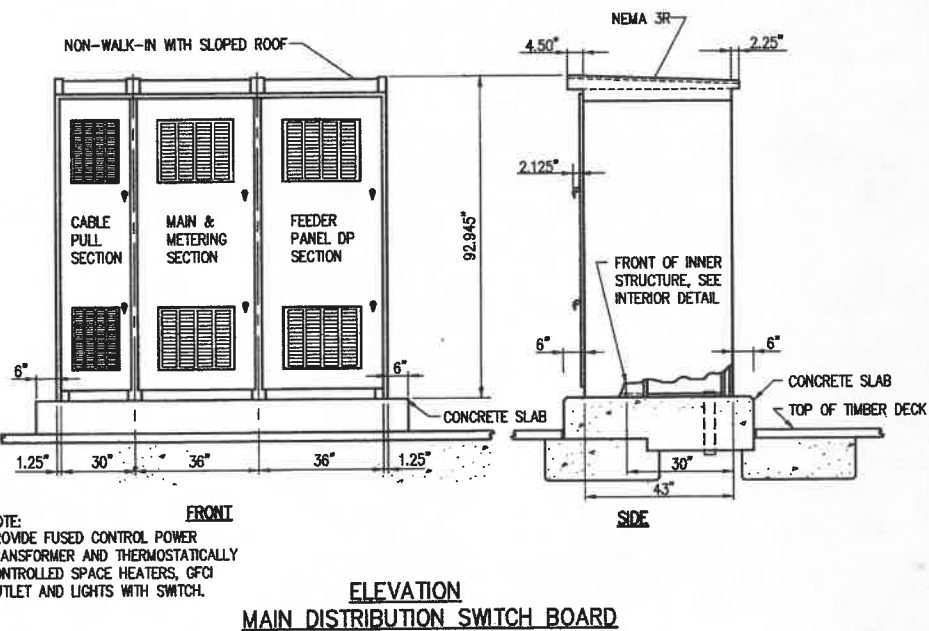
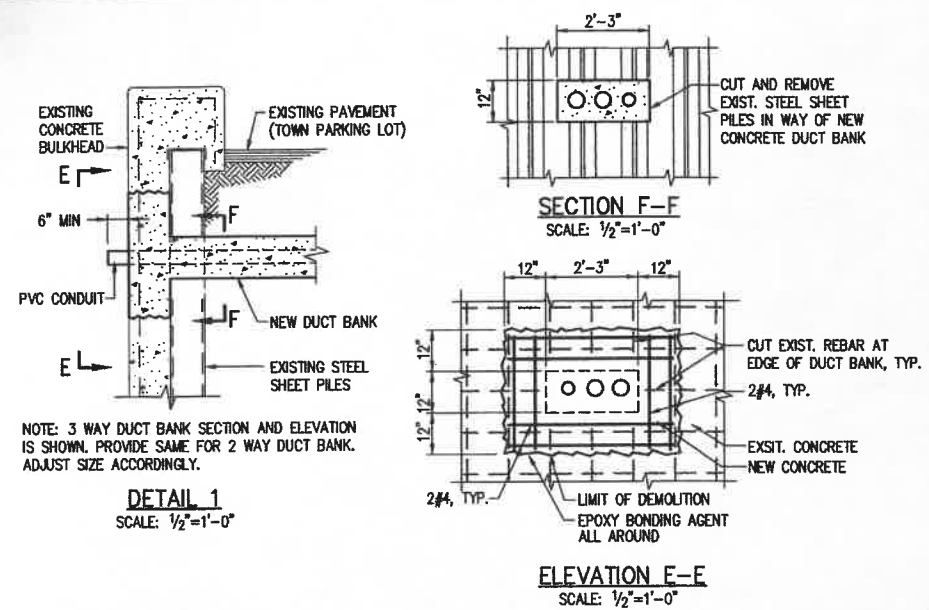
PANEL FL

NOTE:
FOR HEAT TRACE PANELS (HT-1
& HT-2), SEE SHEET NO. 56

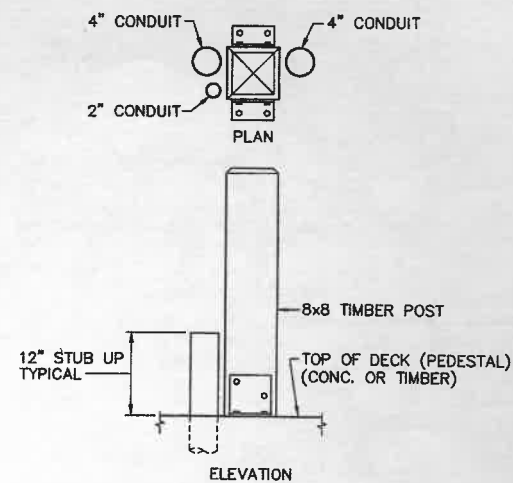
PEDESTAL BOX INTERIOR
EQUIPMENT ARRANGEMENT
NOT TO SCALE

REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
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TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS					
MACMILLAN PIER RECONSTRUCTION					
ELECTRICAL DETAILS 2					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED DATE: DECEMBER 1999	DES. GCN DR. VMW	CHK. GCN PROJ. ENCL. DPA	APPROVED	

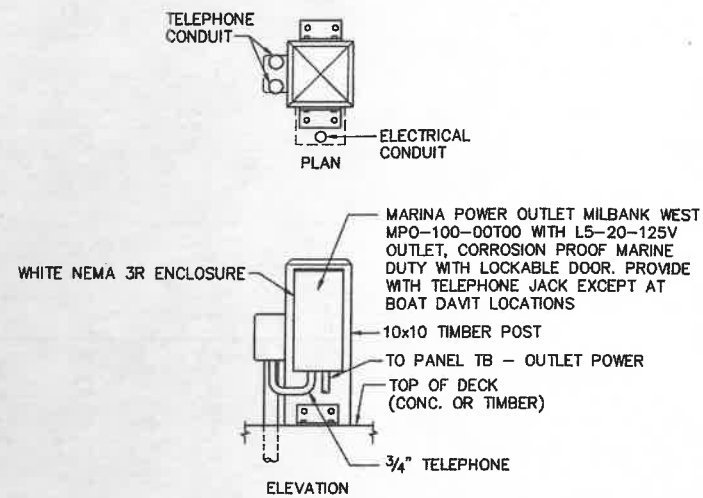


OCT. 03	AS-BUILT	RWT	JA
5/09/01	REDUCED SCOPE OF WORK	RWT	JA
REV.	DATE	DESCRIPTION	BY
TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS			
MACMILLAN PIER RECONSTRUCTION			
ELECTRICAL DETAILS 4			
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS			
FS&T DRAWING NUMBER	SCALE: AS NOTED	DES. GCN	CHK. GCN
TP-090	DATE: DECEMBER 1999	DR. PML	PROJ. DPA
APPROVED			



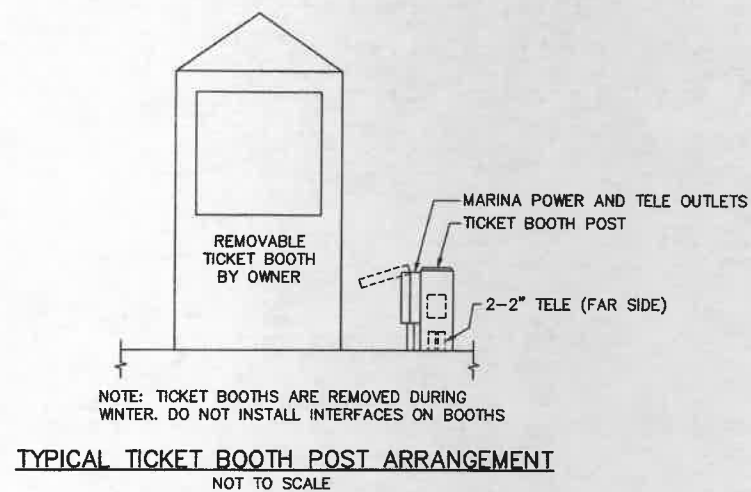
NOTE: SEE ELECTRICAL DECK PLANS, SHEET NOS. 44 AND 45 FOR POST LOCATIONS, CONDUIT SIZES AND LOCATIONS AND WIRE SIZES. SEE SHEET NO. 23 FOR TIMBER POST DETAILS

DETAIL-NYNEX TERMINAL POST
SCALE: 1"=1'-0"

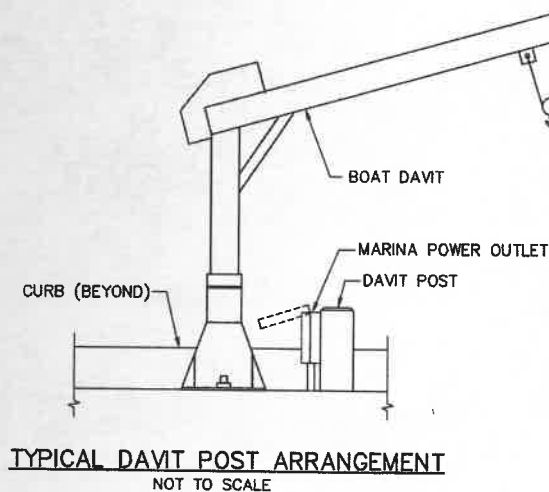


NOTE: SEE ELECTRICAL DECK PLANS, SHEET NOS. 44 AND 45 FOR POST LOCATIONS, CONDUIT SIZES AND LOCATIONS AND WIRE SIZES. SEE SHEET NO. 23 FOR TIMBER POST DETAILS

DETAIL-TICKET BOOTH AND DAVIT POST
SCALE: 1"=1'-0"



TYPICAL TICKET BOOTH POST ARRANGEMENT
NOT TO SCALE



TYPICAL DAVIT POST ARRANGEMENT
NOT TO SCALE

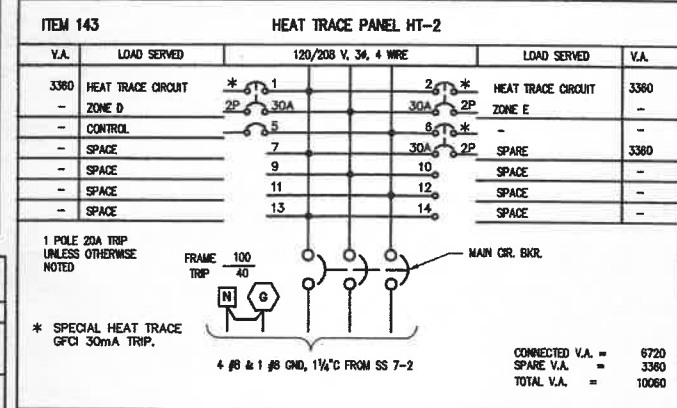
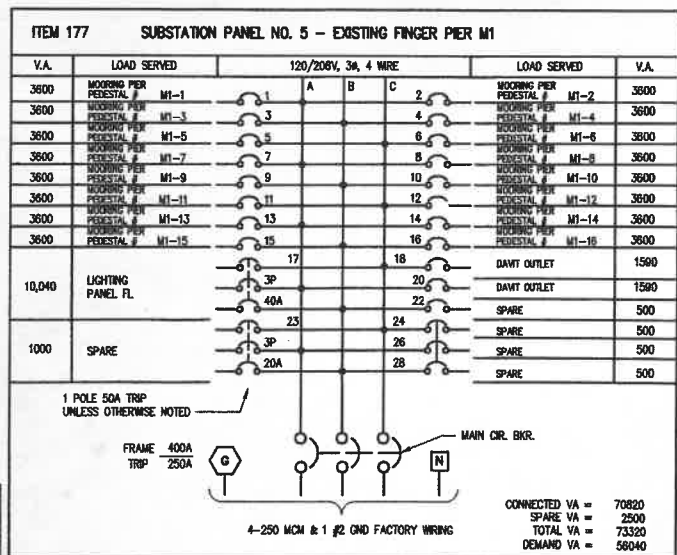
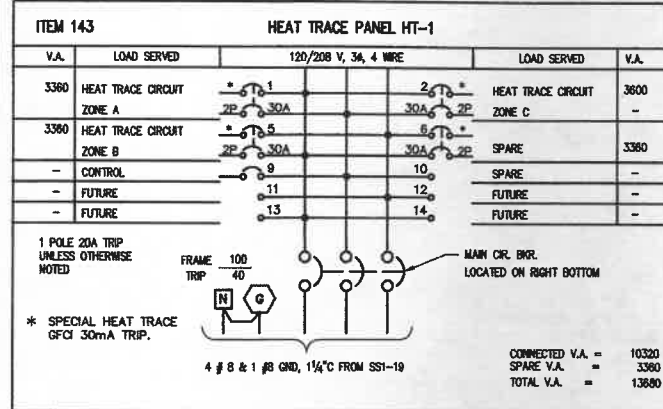
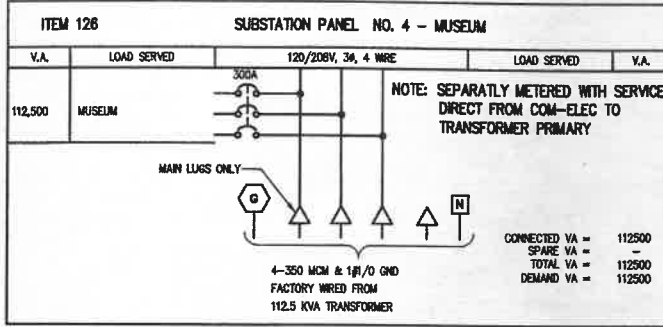
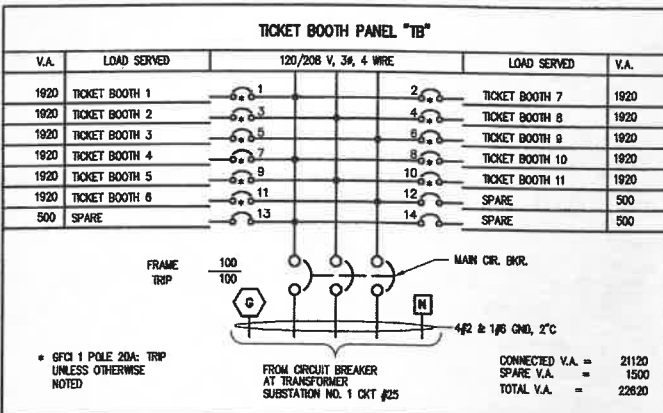
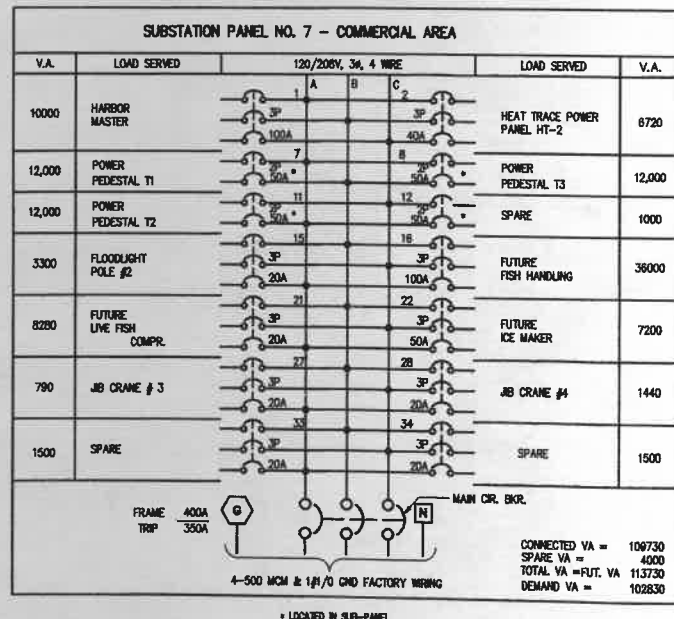
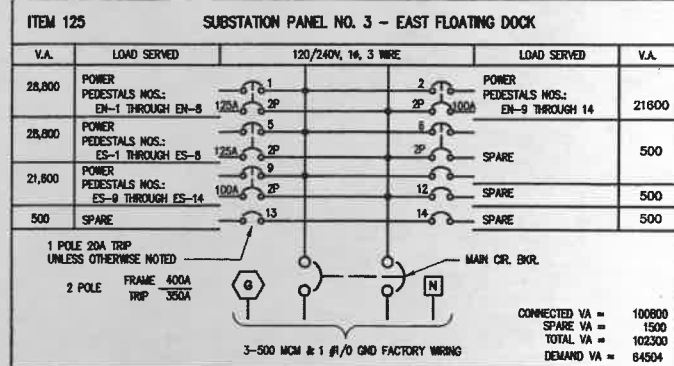
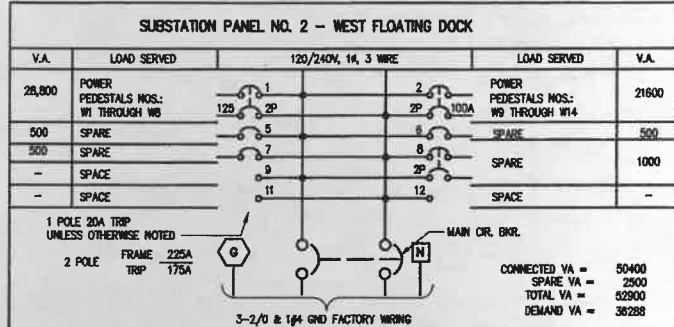
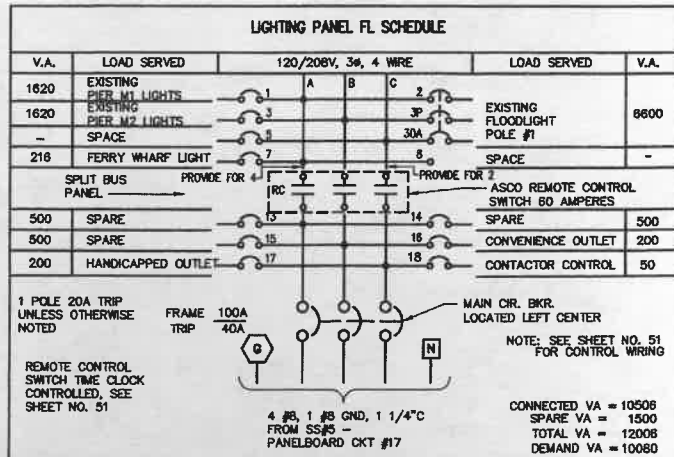
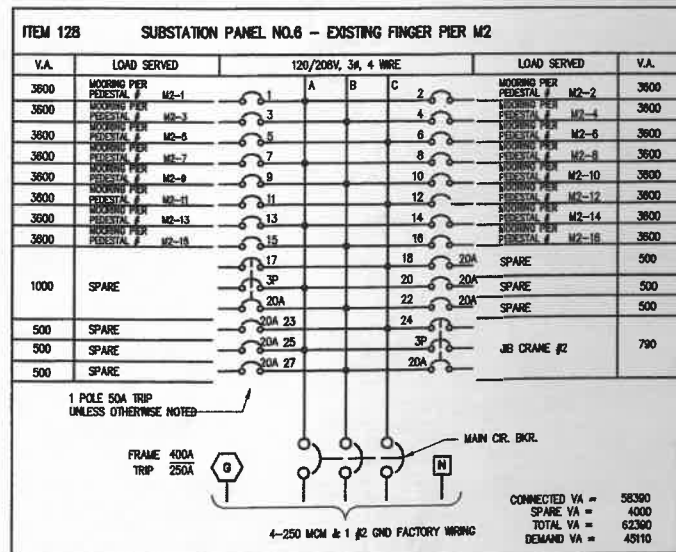
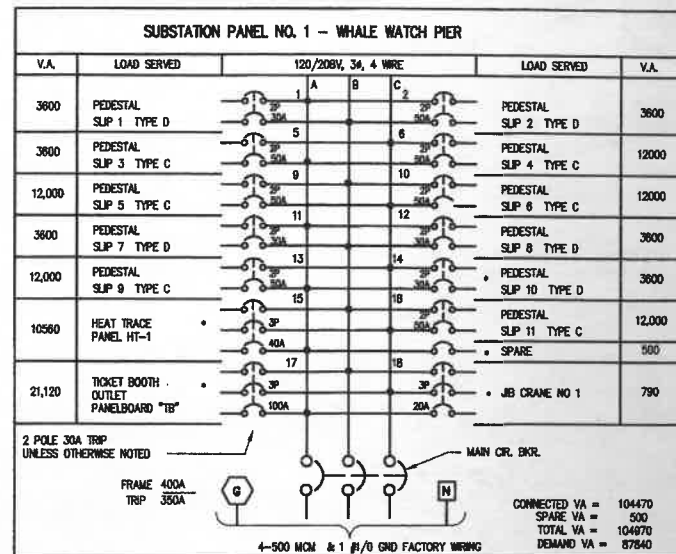
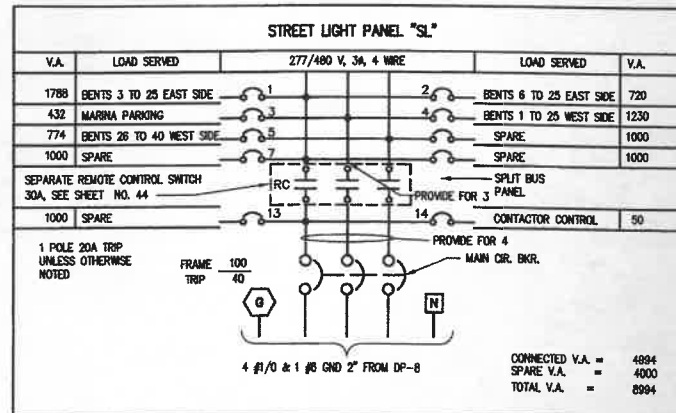
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03	AS-BUILT	RWT	GCH	

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS					
MACMILLAN PIER RECONSTRUCTION					
ELECTRICAL DETAILS 5					
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS					
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED DATE: DECEMBER 1999	DES. GCH DR. VMW	CHK. GCH PROJ. ENGR. DPA	APPROVED	





TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS		
MACMILLAN PIER RECONSTRUCTION		
ELECTRICAL ONE-LINE DIAGRAM		
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS		
DES. GON	CHEK. GON	APPROVED
EXP. LEC	PROJ. DEB	

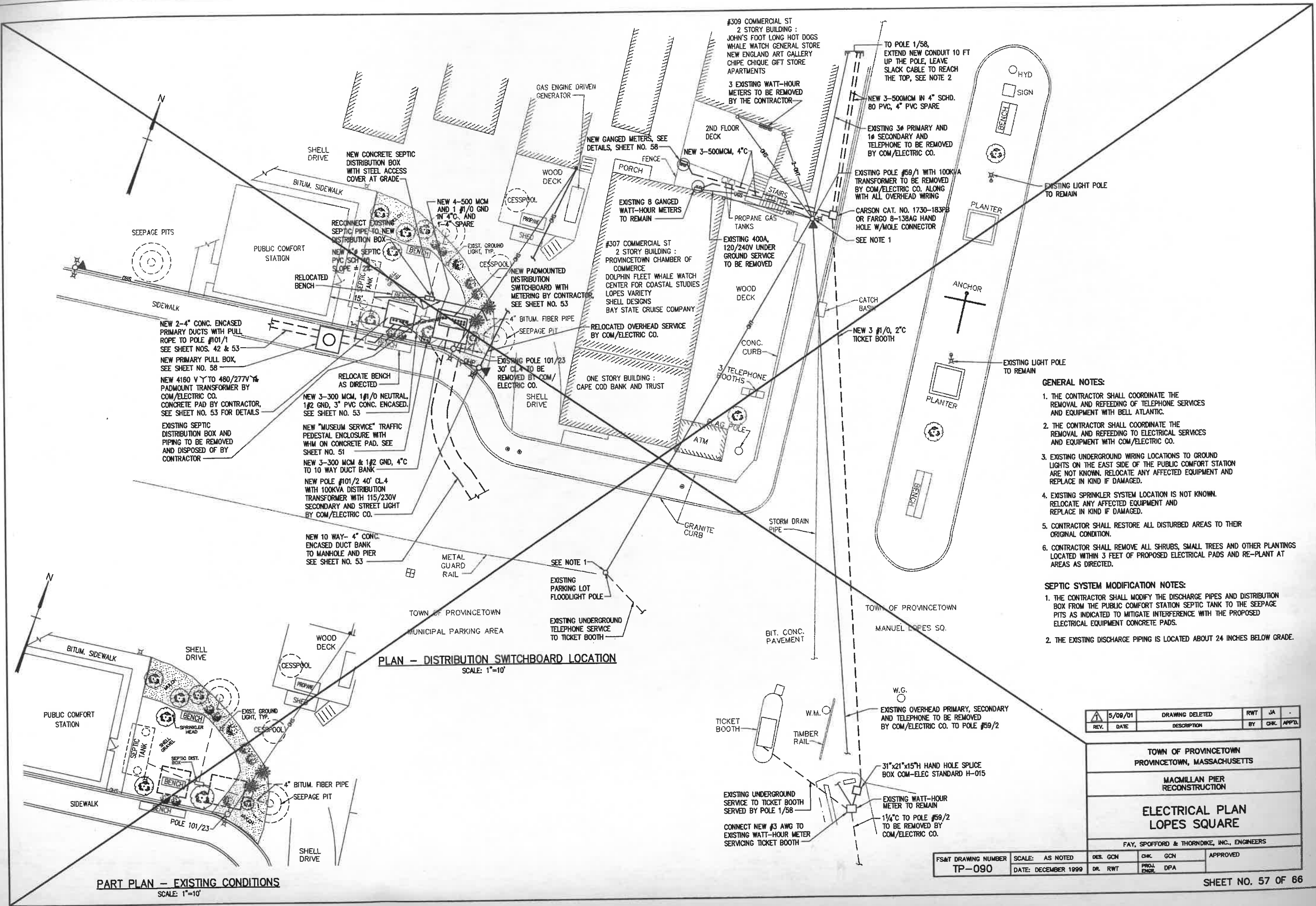


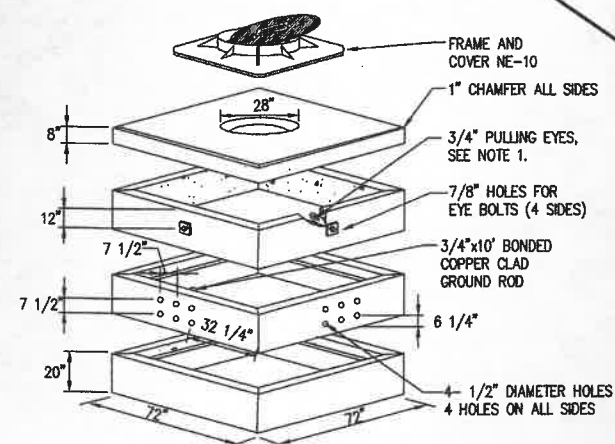
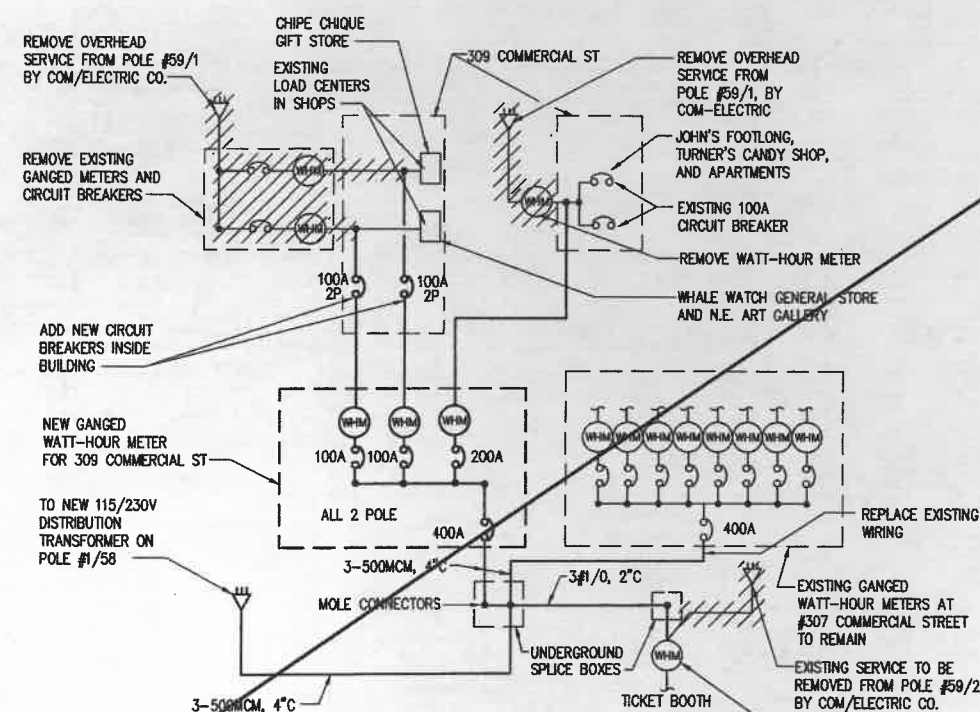
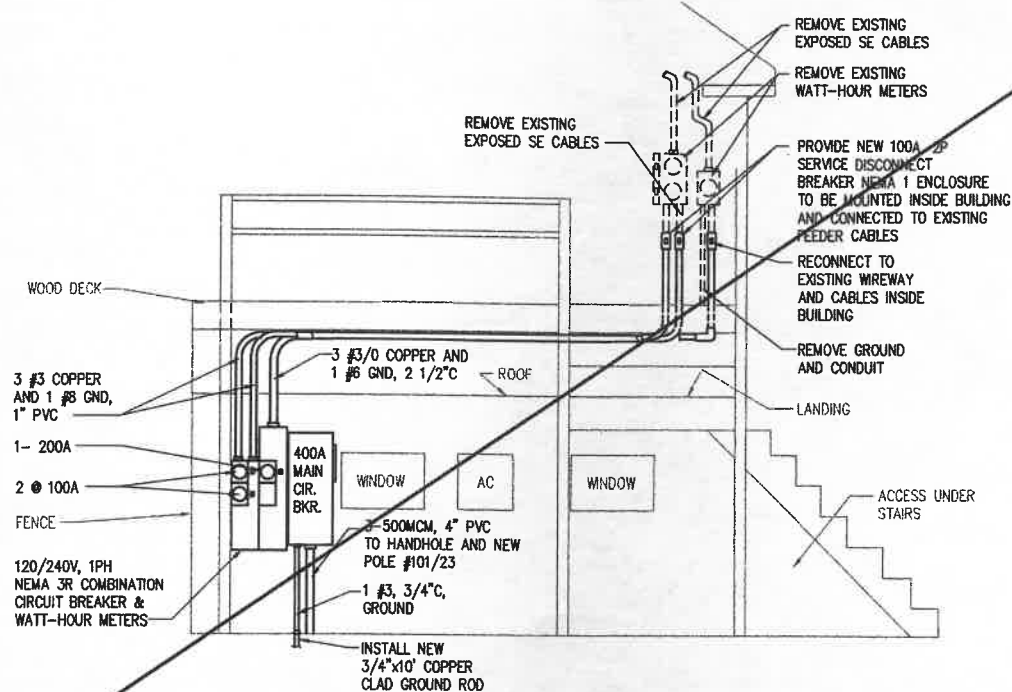
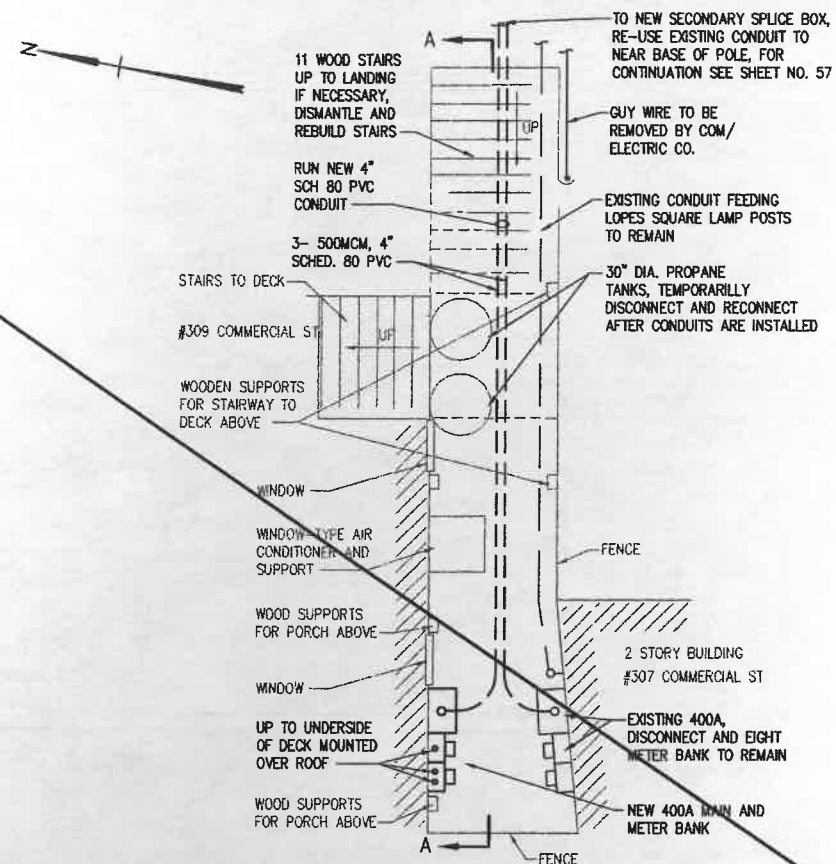
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	OCT. 03	REVISED, AS-BUILT	RWT	GCN	



TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS	
MACMILLAN PIER RECONSTRUCTION	
ELECTRICAL PANEL SCHEDULES	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS	
FS&T DRAWING NUMBER TP-090	SCALE: NONE DATE: DECEMBER 1999
DES. GCN DR. VMW	CHK. GCN PRGL. DPA
APPROVED	

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- NOTES:

1. INSTALL GALVANIZED PULLING EYES, ONE ON EACH WALL (4) 3/4" EYES.
2. CONCRETE SHALL BE 5000 PSI HIGH EARLY STRENGTH.
3. CONDUIT OPENING TO HAVE 4" BELL ENDS FLUSH WITH INSIDE WALL.
4. DO NOT BURY MORE THAN 18" FINAL GRADE.
5. TO BE INSTALLED ON 12" BED OF CRUSHED STONE WHEN REQUIRED.
6. SHALL BE MANUFACTURED BY FRUEN FE-3A, LINHARES 6-4 OR EQUIVALENT.
7. MOUNT CLOSE TO PAD MOUNT TRANSFORMER.

	5/09/01	DRAWING DELETED	RWT	JA	
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.

TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS

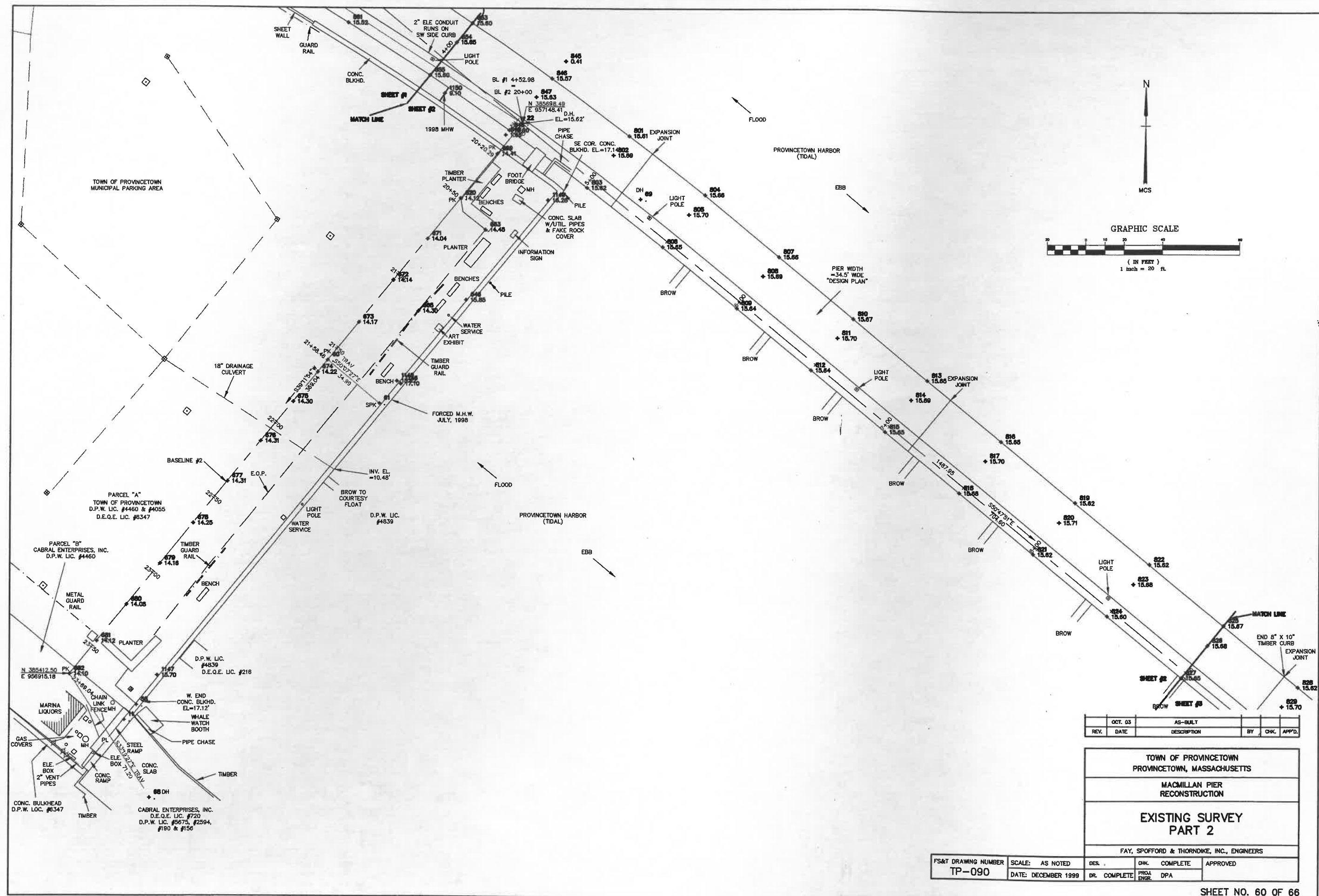
**MACMILLAN PIER
RECONSTRUCTION**

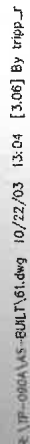
ELECTRICAL DETAILS
LOPES SQUARE

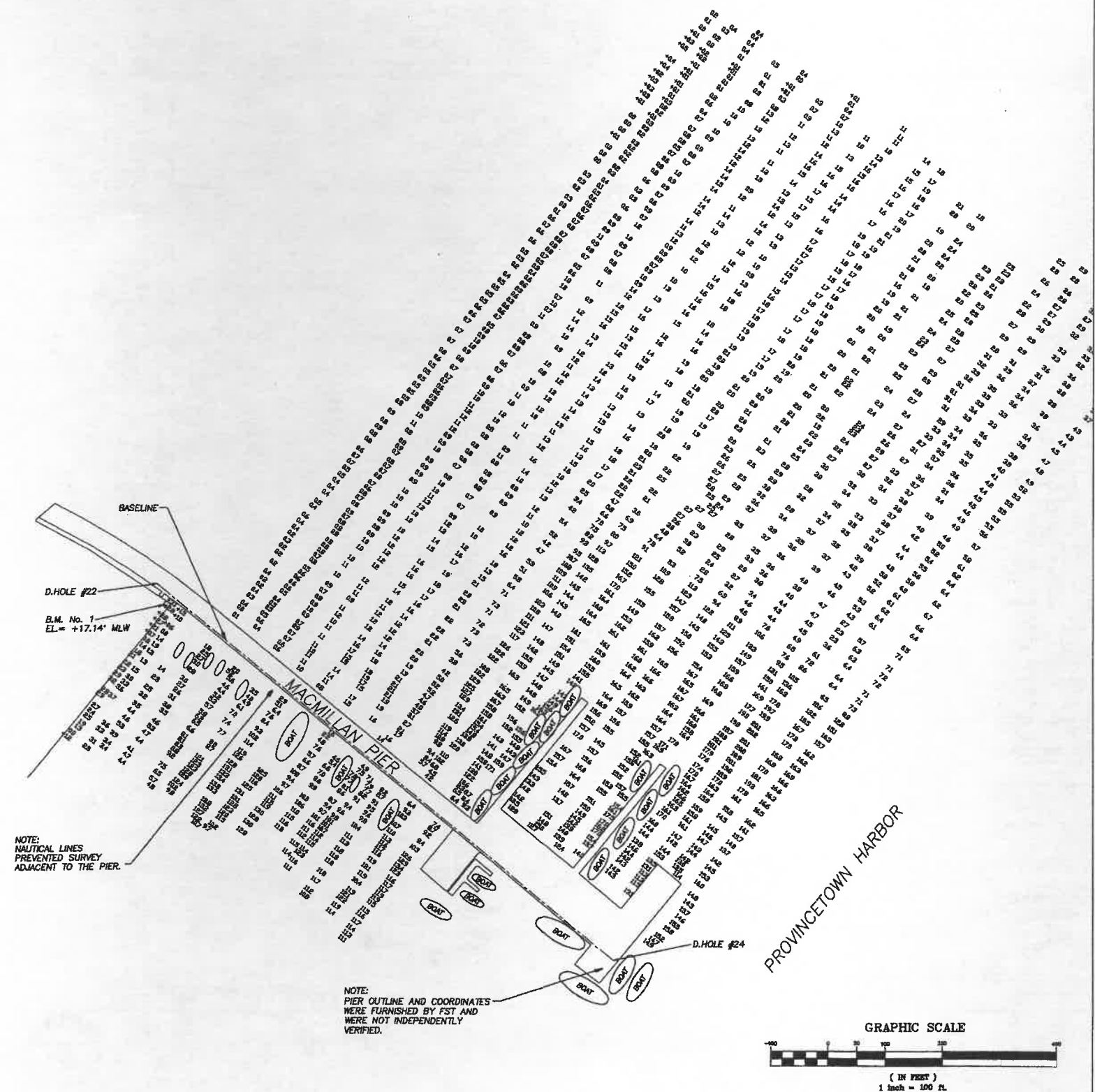
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED	DES. GCN	CHK. GCN	APPROVED
	DATE: DECEMBER 1999	DR. VMW	PROJ. FNOB. DPA	

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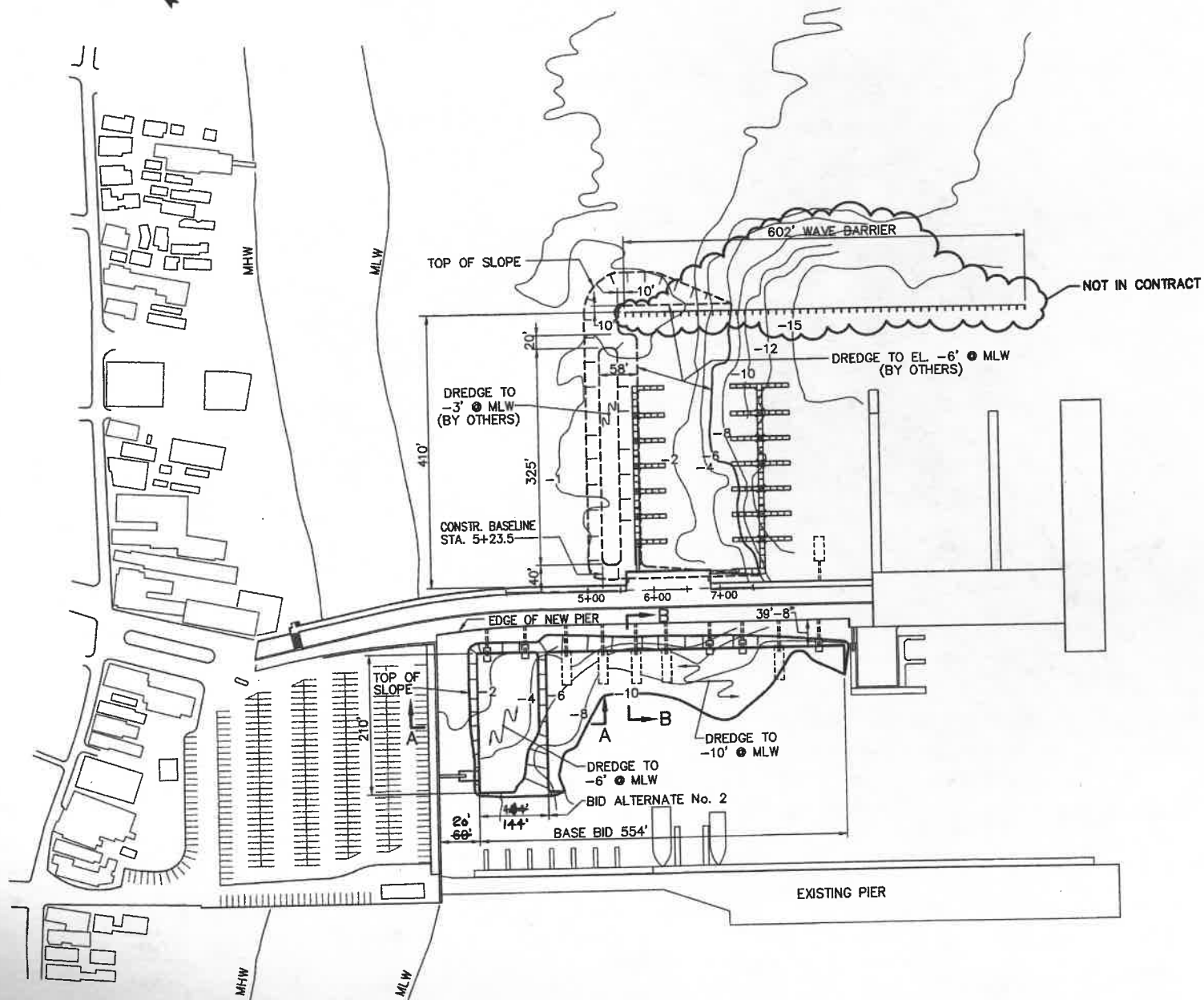
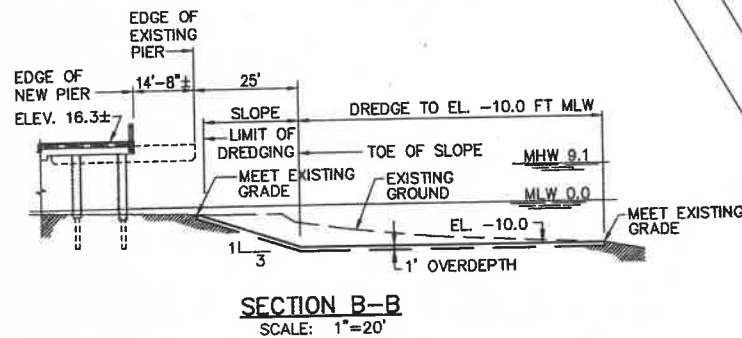
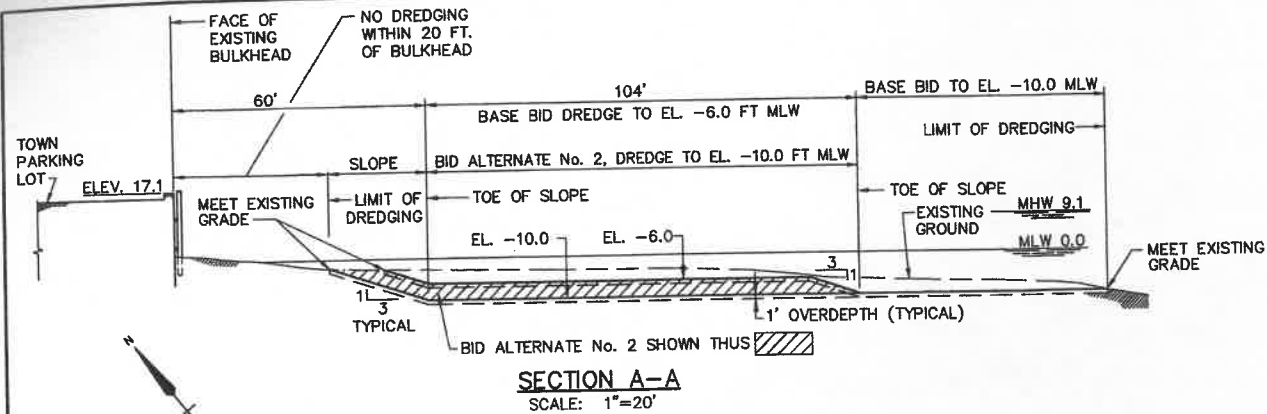






REV.	OCT. 03	AS-BUILT	BY	CHK.	APP'D.
	DATE	DESCRIPTION			

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS		
MACMILLAN PIER RECONSTRUCTION		
HYDROGRAPHIC SURVEY PLAN		
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS		
FS&T DRAWING NUMBER TP-090	SCALE: AS NOTED DATE: JULY 1998	DES. . CHK. . APPROVED



NOTE:

- ELEVATIONS ARE SHOWN BASED ON THE PLANE OF MEAN LOW WATER, ELEVATION=0.0. NEGATIVE VALUES REPRESENT DEPTHS BELOW THAT PLANE.

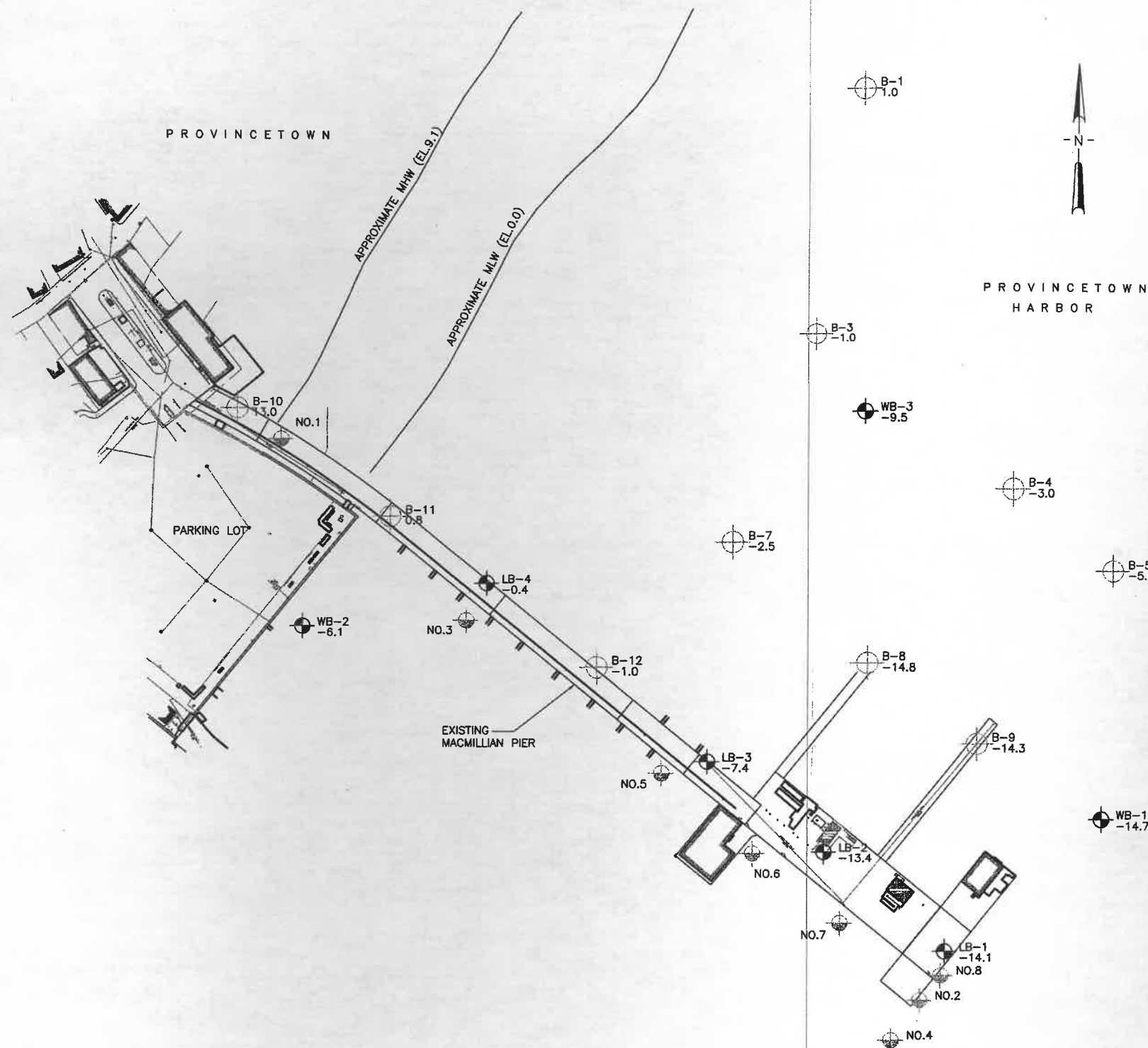
REV.	DATE	DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03	AS-BUILT	RWT	DWH	

TOWN OF PROVINCETOWN PROVINCETOWN, MASSACHUSETTS	
MACMILLAN PIER RECONSTRUCTION	
DREDGING PLAN AND TYPICAL SECTIONS	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS	
DES. DPA	CHK. DWH
DR. RWT	PROJ. ENGR. DPA
APPROVED	

FS&T DRAWING NUMBER
TP-090

SCALE: AS NOTED
DATE: DECEMBER 1999

SHEET NO. 63 OF 66



LEGEND:

DESIGNATION, GROUND SURFACE/MUDLINE ELEVATION AND LOCATION OF TEST BORING DRILLED BY NEW HAMPSHIRE BORING, INC., BETWEEN 27 AND 31 JULY 1998. THE PREFIX "LB" INDICATES THAT THE BORING WAS DRILLED USING A TRUCK RIG FROM THE PIER DECK. THE PREFIX "WB" INDICATES THAT THE BORING WAS DRILLED OVER-WATER USING A PONTOON RIG

DESIGNATION, GROUND SURFACE/MUDLINE ELEVATION AND LOCATION OF TEST BORING DRILLED BY GOLDBERG-ZOINO & ASSOCIATES, INC., OF NEWTON UPPER FALLS, MASSACHUSETTS, BETWEEN OCTOBER AND NOVEMBER 1984

DESIGNATION AND LOCATION OF HISTORIC TEST BORING DRILLED CIRCA 1955

NOTES:

1. BASE PLAN TAKEN FROM UNTITLED PLAN PROVIDED BY FAY SPOFFORD & THORNDIKE, INC., RECEIVED BY HALEY & ALDRICH, INC., ON 12 AUGUST 1998, AUTOCAD FILENAME SURVALL.DWG.
2. ELEVATIONS ARE IN FEET AND ARE REFERENCED TO MEAN LOW WATER DATUM (MLW).
3. COORDINATE LOCATIONS ARE IN FEET AND ARE REFERENCED TO THE MASSACHUSETTS MAINLAND STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1927 (NAD 27).
4. TEST BORINGS LB-1 THROUGH LB-4 WERE DRILLED FROM THE DECK OF THE EXISTING PIER.
5. TEST BORINGS WB-1 THROUGH WB-3 WERE LOCATED BY HALEY & ALDRICH, INC. USING A PORTABLE GLOBAL POSITIONING SYSTEM UNIT.



REV.	DATE	AS-BUILT DESCRIPTION	BY	CHK.	APP'D.
	OCT. 03				



TOWN OF PROVINCETOWN
PROVINCETOWN, MASSACHUSETTS

MACMILLAN PIER
RECONSTRUCTION

BORING LOCATION PLAN

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS

FS&T DRAWING NUMBER	SCALE: AS NOTED	DES. RWT	CHK. DPA	APPROVED
TP-090	DATE: DECEMBER 1999	DR. RWT	PROJ. ENGR. DPA	

Boring #1B-1		Project:MACMILLAN WHARF		Project #: 12319-000	
Project Address:gs=El. -14.1 MLW		City:PROVINCETOWN		State:MA Zip:	
Date Start:07/27/98		Date End:07/28/98		Location:See Plan	
Casing		Sampler		Casing	
TYPE :N-W		S/S		SIZE:3 in. I.D.	
HAMMER:300 LBS		140 lbs.		FALL: 24 IN 30 in.	
GROUNDWATER OBSERVATION					
DATE		DEPTH		CASING	
07/27/98				STABILIZATION PER.	
				Upon Completion	
DP.	CB/F	DEPTH/ft	PEN	REC	BLOWS/6" ST/CH
- 2	0'-2'	24"	12"	9-10	3'
- 3	S-1			21-17	
- 24	4'-6"	24"	4"	3-7	
3	9	S-2		9-11	
- 10					
- 15					NOTE: Blows elevated due to sample
- 21					being taken inside of casing after
- 23					casing sank in soft surficial
- 29	9'-11'	N/R			deposits. -ORGANIC DEPOSITS-
- 38					S-2: Medium dense, gray coarse to
- 39	11'-13'	N/R			medium sand, trace wood fragments,
- 44					organic silt.
- 53	13'-13.5'	6"	6"	120	NOTE: After driving casing to 9'
- 83	S-3				and washing out hole, approx. 6'
- 153					of sand observed to have been up
- 210					inside of casing. Reamed hole,
- wash					observed to have blown in 3' in-
- 120					side casing. Redrove casing to 11'
- 171	18'-19.4'	24"	9"	60-83	and attempted sample again. Approx
- 46	S-4			100/5"	2' of blow in then noted. Retained
20'	139				jar sample of wash for observation
- 274					Gray gravelly coarse to medium
- 289					SAND.
- 254	23'-23.8'	10"	10"	143	S-3: Very dense, gray coarse to
- 94	S-5			100/4"	medium SAND, trace fine gravel,
25'					fine sand. NOTE: Approx 1' of blow
- 117					in noted prior to obtaining S-3
- 131					S-4: Very dense, brown medium SAND
- 30'	28'-30'	N/R			trace coarse sand, coarse to fine
					gravel, fine sand.
					S-5: Very dense, brown medium
					SAND, little coarse sand, trace
DRILLER: S.CLAVETTE HELPER: S.MATHERS INSPECTOR: D.WARREN					
REMARKS: CONTINUED FROM S-5: fine gravel, fine sand. No recovery from 28'-30'					
Blowcounts 46-53-81-79. Drill action indicates coarse granular					
material. BOTTOM OF EXPLORATION AT 30'					

S/#: SAMPLE # PEN: PENETRATION REC: RECOVERY ST/CH: STRATA CHANGE

Boring #WB-1		Project:MACMILLAN WHARF		Project #: 12319-000	
Project Address:gs = El. -14.7 MLW		City:PROVINCETOWN		State:MA Zip:	
Date Start:07/30/98		Date End:07/30/98		Location:See Plan	
Casing	Sampler	Casing	Sampler		
TYPE :H-W	S/S	SIZE:4 in. I.D.	1 3/8 in. I.D.		
HAMMER:300 LBS	140 lbs.	FALL: 24 IN	30 in.		
GROUNDWATER OBSERVATION					
DATE	DEPTH	CASING	STABILIZATION PER.		
07/30/98	TIDAL	OUT	Upon Completion		
DP.	CB/F	DEPTH/ft	PEN	REC	BLOWS/6" ST/CH
-	18	0'-2'	24"	18"	2-7
-	60	5-1			7-13
-	59				
-	83				
5'	38	5'-7'	N/R	20	27
-	66				33-28
-	155				
-	155				
-	150				
10'	42	10'-12'	24"	16"	35-42
-	195	8-3			55-69
-	375				
-	WASH				
-	WASH				
15'	78	15.5'-17'	N/R	56-74	115
-	201				
-	75				
-	300				
-	WASH				
20'	122				
-	122	21'-22.9'	9"	9"	17-26
-	58	8-5			40-100/5
-	175				
-	272				
25'	400	25'-26.8'	N/R	5-13	88-100/2
-	48				
-	190				
-	225				
-	325	29'-31'	24"	24"	8-15
30'	-	8-6			24-38
-					
DRILLER: S.TWOMBLY HELPER: R.DUPONT INSPECTOR: D.WARREN					
REMARKS: (con't) S-6: 2nd attempt: Dense, brown medium to fine SAND, trace coarse sand. BOTTOM OF EXPLORATION AT 31'					

S/#: SAMPLE # PEN: PENETRATION REC: RECOVERY ST/CH: STRATA CHANGE

Boring #1B-2		Project:MACMILLAN WHARF		Project #: 12319-000	
Project Address:gs = El. -13.4 MLW		City:PROVINCETOWN		State:MA Zip:	
Date Start:07/28/98		Date End:07/29/98		Location:See Plan	
Casing		Sampler		Casing	
TYPE :N-W		S/S		Sampler	
HAMMER:300 LBS		140 lbs.		SIZE:3 in. I.D. 1 3/8 in. I.D. FALL: 24IN 30 in.	
GROUNDWATER OBSERVATION					
DATE		DEPTH		CASING	
07/28/98				STABILIZATION PER. Upon Completion	
DP.		CB/F		DEPTH/ft	
- WOC		0'-2'		24"	
- WOC		S-1		24"	
- WOC		3'-5'		24"	
- WOC		S-2		24"	
S' WOC				24"	
- 52				24"	
- 85				24"	
- 134				24"	
- 200		9'-11'		24"	
10' 52		S-3		24"	
- 117				24"	
- 134				24"	
- 180				24"	
- 265		14'-16'		N/R	
15' 90				17-24	
- 276				43-56	
- 454					
- 613					
- 562		19'-21'		24"	
20' 142		S-4		24"	
- 265				24"	
- 298				24"	
- 128				24"	
- 385		24'-26'		24"	
25' 42		S-5		24"	
- 97				24"	
- 146				24"	
- 212				24"	
- 261		29'-29'		0"	
30' -				N/R	
				24-27	
				31-39	

S/#: SAMPLE # PEN: PENETRATION REC: RECOVERY ST/CH: STRATA CHANGE

Boring #WB-2		Project:MACMILLAN WHARF		Project #: 12319-000	
Project Address:gs = El. -6.1 MLW		City:PROVINCETOWN		State:MA Zip:	
Date Start:07/28/98		Date End:07/28/98		Location:See Plan	
Casing	Sampler	Casing	Sampler		
TYPE :H-W	S/S	SIZE:4 in. I.D.	1 3/8 in. I.D.		
HAMMER:300 LBS	140 lbs.	FALL: 24IN	30 in.		
GROUNDWATER OBSERVATION					
DATE	DEPTH	CASING	STABILIZATION PER.		
07/28/98	TIDAL	OUT	Upon Completion		
DP.	CB/F	DEPTH/ft	PEN	REC	BLOWS/6" ST/CH
-	N/A	0'-7'			NOTE: sample S-1 dropped to 7'
-	N/A	8-1			from mudline while being lowered
-	N/A				using NW drill rods.
-	N/A				S-1: Very soft, black, ORGANIC
5'	N/A				SILT, some grass, trace coarse to
-	N/A				fine sand, wood fragments.
-	N/A				
-	7	8'-10'	24"	8"	3-6
-	98	8-2			8-10
10'	98				
-	110				
-	105				
-	135				
-	105	14'-16'	24"	18"	45-60
15'	178	8-3			57-48
-	198				
-	130				
-	200	18'-20'	24"	15"	18-34
-	62	8-4			50-69
20'	109				
-	150				
-	170	22.5'-23.9'	24"	14"	40-77
-	250	5-5			120/5"
-	77				
25'	130				
-	150				
-	200	27.5'-29'	24"	24"	30-71
-	270	5-5			130
30'					
S-6: D.O.					
BOTTOM OF EXPLORATION AT 31'					
DRILLER: G.TWOMBLY HELPER: R.DUPONT INSPECTOR: D.WARREN					
REMARKS:					

S/#: SAMPLE # PEN: PENETRATION REC: RECOVERY ST/CH: STRATA CHANGE

Boring #1B-3		Project:MACMILLAN WHARF		Project #: 12319-000		
Project Address:gs = El. -7.4 MLW		City:PROVINCETOWN		State:MA Zip:		
Date Start:07/29/98		Date End:07/30/98		Location:See Plan		
Casing	Sampler	Casing	Sampler			
TYPE :N-W	S/S	SIZE:3 in. I.D.	1 3/8 in. I.D.			
HAMMER:300 LBS	140 lbs.	FALL: 24IN	30 in.			
GROUNDWATER OBSERVATION						
DATE		CASING		STABILIZATION PER.		
07/29/98		OUT		Upon Completion		
DP.	CB/F	DEPTH /ft	PEN	REC	BLOWS/6" ST/CH	SAMPLE DESCRIPTION
-	WOC	0'-2'	24"	12"	2-2	0.6' CONCRETE SLAB AT DECK. 23'
-	WOC	8-1			3-4	FROM DECK TO MUDLINE
-	WOC					S-1: Medium stiff, black medium
-	WOC	4'-6'	24"	20"	6-12	to fine sandy ORGANIC SILT.
5'	-	5-2			17-21	-ORGANIC DEPOSITS-
-	12					S-2: Medium dense, gray medium
-	19					to fine SAND, little coarse
-	28					sandy fine gravel.
-	43	9'-11'	24"	17"	9-21	S-3: Very dense, brown coarse to
-	178	5-3			33-42	fine SAND, trace fine gravel.
-	76					
-	96					
-	114	14'-16'	24"	14"	22-33	S-4: Very dense, brown medium to
-	120	8-4			40-54	fine SAND, little coarse to fine
-	178					gravel, coarse sand.
-	236					
-	312	19'-21'	24"	13"	47-79	S-5: Very dense, brown, medium
-	45	8-5			93-110	to fine SAND, trace coarse sand,
-	181					fine gravel.
-	311					
-	321					
-	495	24'-25.8'	8"	2"	76-92	S-6: Very dense, brown fine SAND
-	N/A	8-6			106-100/ 4	little medium sand.
-	N/A					
-	N/A	28'-29.8'	24"	18"	39-61	S-7: Very dense, brown, medium to
-	N/A	S-7			114-100/ 4	fine SAND.
-	N/A					BOTTOM OF EXPLORATION AT 29.8'
30'	-					
DRILLER: S.CLAVETTE HELPER: S.MATHERS INSPECTOR: D.WARREN						
REMARKS:						

S/#: SAMPLE # PEN: PENETRATION REC: RECOVERY ST/CH: STRATA CHANGE

Boring #WB-3		Project:MACMILLAN WHARF		Project #: 12319-00	
Project Address:gs = El. -9.5 MLW		City:PROVINCETOWN		State:MA	Zip:
Date Start:07/29/98		Date End:07/29/98		Location:See Plan	
Casing	Sampler	Casing	Sampler		
TYPE :H-W	S/S	SIZE:4 in. I.D.	1 3/8 in. I.D.		
HAMMER:300 LBS	140 lbs.	FALL: 24IN	30 in.		
GROUNDWATER OBSERVATION					
DATE	DEPTH	CASING	STABILIZATION PER.		
07/29/98	DEPTH	OUT	Upon Completion		
DP.	CB/F	DEPTH/ft	PEN	REC	BLOWS/6"
-	WOC	0'-2'	24"	9"	2-2
-	WOC	S-1			2-2
-	WOC				
-	17				3'
-	52				
-	35				
-	144	7'-9'	24"	12"	22-23
-	75	S-2			28-35
-	85				
10'	98	10'-12'	24"	18"	25-37
-	200	S-3			33-30
-	30				
-	170*				
-	200*				
15'	72*	15'-17'	24"	3"	20-17
-	78*	S-4			17-25
-	300*				
-	500*				
-	WASH				
20'	38*	20.5'-21.9'	N/R		39-92
-	155*				100/5"
-	300*				
-	WASH				
-	155*	24.5'-26.3'	24"	18"	17-46
25'	70*	S-5			60-100/4
-	350*				
-	WASH				
-	WASH				
-	170*	28.5'-31.3'	24"	12"	14-39
30'	S-6				51-100/3
S-1: Loose, gray, medium to fine SAND, some organic silt, trace shell fragments.					
S-2: Very dense, light brown coarse to fine SAND, some fine gravel.					
S-3: Very dense, light brown gravelly coarse to fine SAND. NOTE: 140 lbs hammer used from 0.0'-14', *300 lbs hammer used from 14' to BOE					
S-4: Dense, light gray coarse to fine GRAVEL					
No Recovery. Drill action indicate coarse sand and gravel.					
S-5: Very dense, light brown medium to fine SAND, trace fine gravel, coarse sand.					
S-6: Very dense, light gray medium to fine SAND, trace coarse gravel. BOTTOM OF EXPLORATION AT 31.3'					
DRILLER: G.TOMBLY			HELPER: R.DUPONT		INSPECTOR: D.WARREN
REMARKS:					

PROVINCETOWN - 6' X 38' (CUT TO/CORTAR A 37'-9 $\frac{5}{8}$ ")

HEAVY DUTY

(1) 20" & (5) 16" ROTO
PONTON SPACER AT P.G.

HOOVER DECKING
#10 X 3" SQ-DR SS SCREWS

NO PANELS

12" CLEATS

5007 BUMPER

(7) CUSTOM 21" REMOVABLE
PILE GUIDE
(14) CUSTOM 23" REMOVABLE
PILE GUIDE

CUSTOM EAR HINGES

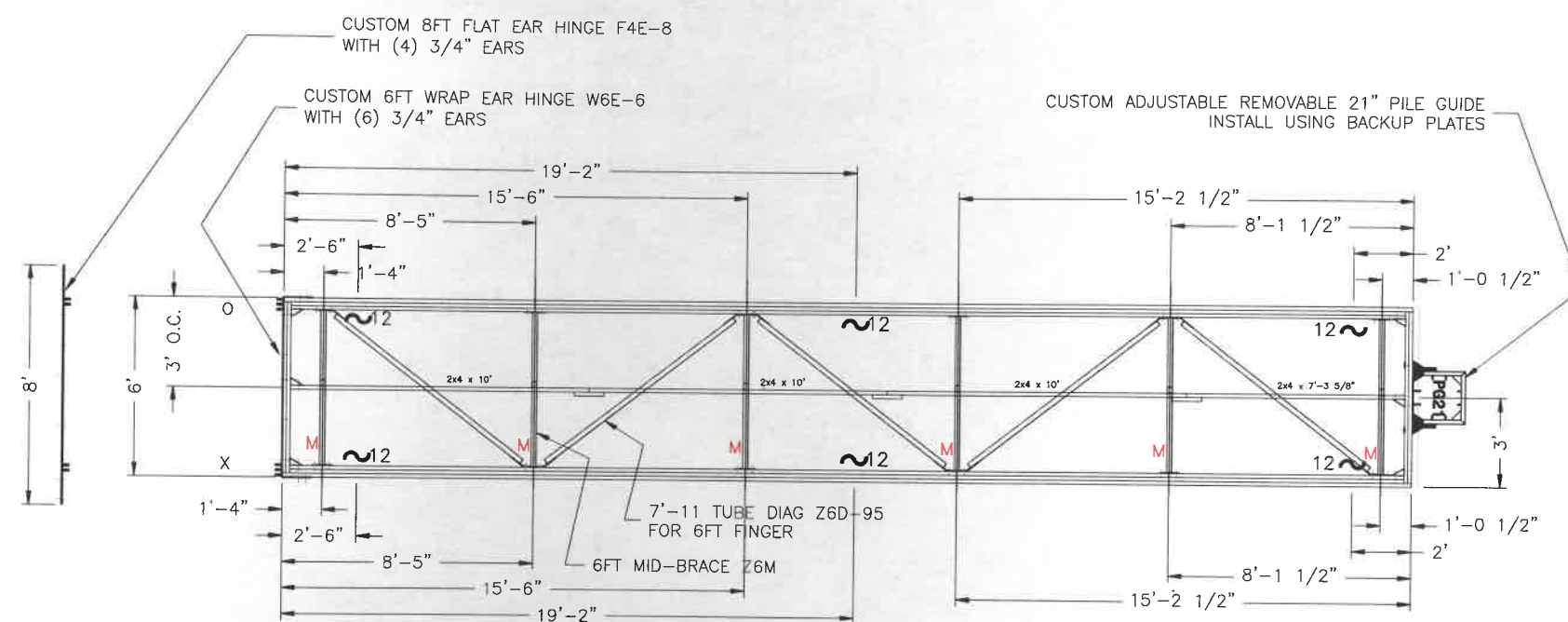
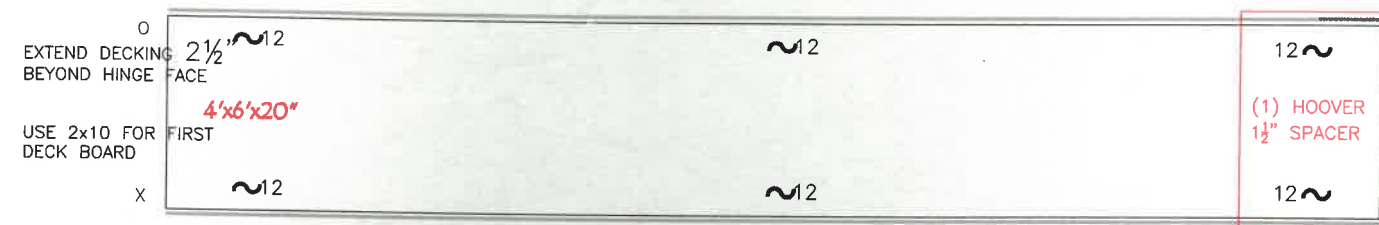
PROVINCETOWN

STEEL PARTS:
(6) CLEAT CLIP - STANDARD - SF36
(6) 3x5 CLIP - STANDARD - SF37
(2) 2"x7" BACKUP PLATE - SF104
(6) 6FT MID-BRACE Z6M
(5) 7'-11" TUBE DIAG Z6D-95
(1) CUSTOM 6FT WRAP EAR HINGE W6E-6
(1) CUSTOM 8FT FLAT EAR HINGE F4E-8
(1) CUSTOM ADJUSTABLE REMOVABLE 21" PILE GUIDE

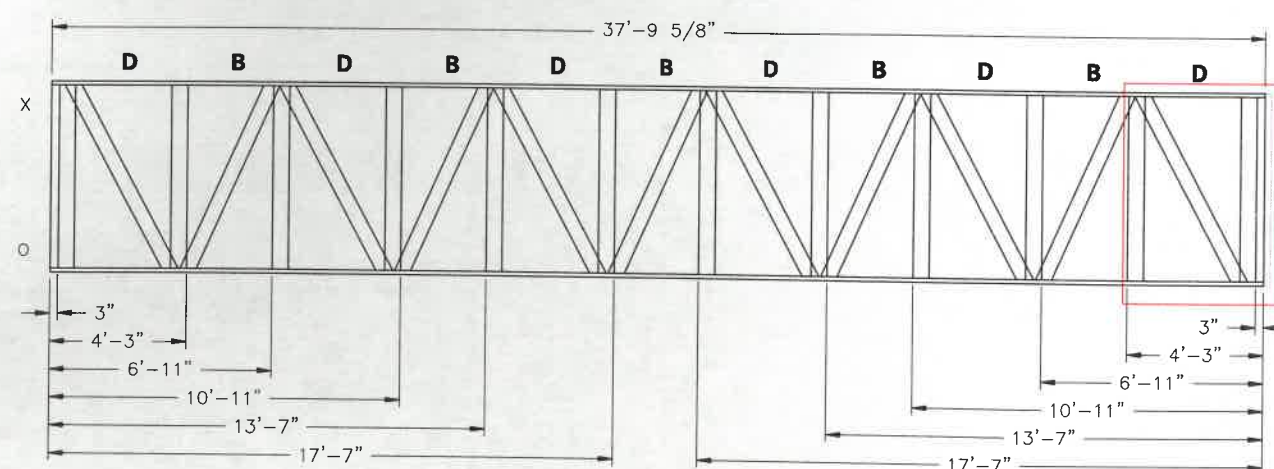
ANGLE D = 78" @ 28" from 14s
ANGLE B = 75-3/8" @ 24" from 14s

BUMPER LAYOUT

F1
F2
F3
F4
F5
F6
F7



RIP 2x10s TO 9 inches



PRE-CUTS:
OUTER 18/20
INNER1 9/20/9
INNER2 12/14/12
2x4 CENTERBEAM

ARTS ANGLE LABELING
1 - A
2 - B
3 - C = 3FT PONTON
4 - D = 4FT PONTON
5 - E = 5FT PONTON
6 - F = 6FT PONTON
7 - G
8 - H = 8FT PONTON

• = 2-1/2"x2-1/2"
X = 3X5X4 CLIP
▽ = 3X5 CLIP
▼ = 6X4 CLIP

CUT BEFORE LAYOUT, CORTAR ANTES DIMENSIONES

4'x6'x20"

4'x6'x16"

4'x6'x16"

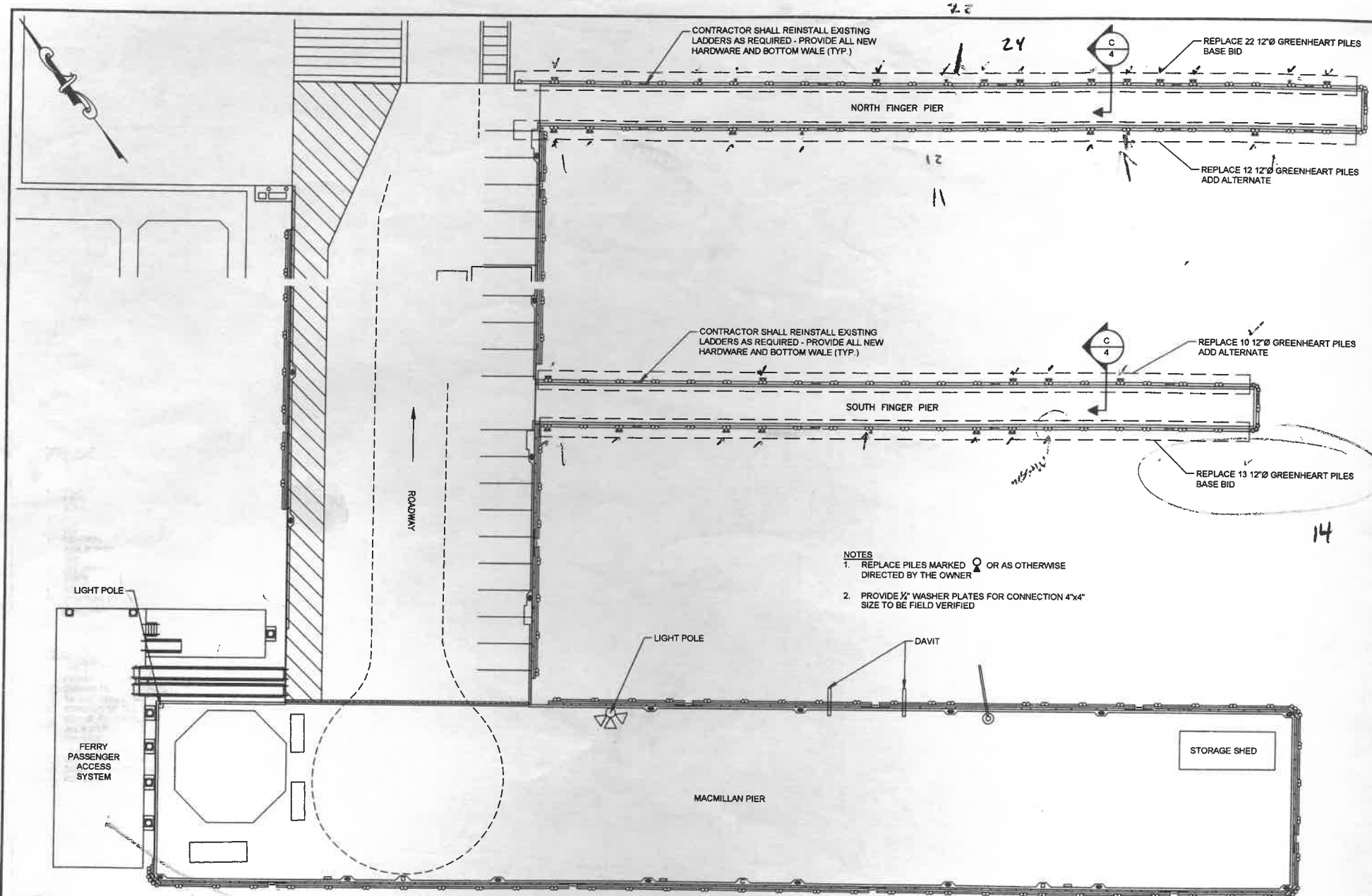
4'x6'x16"

4'x6'x16"

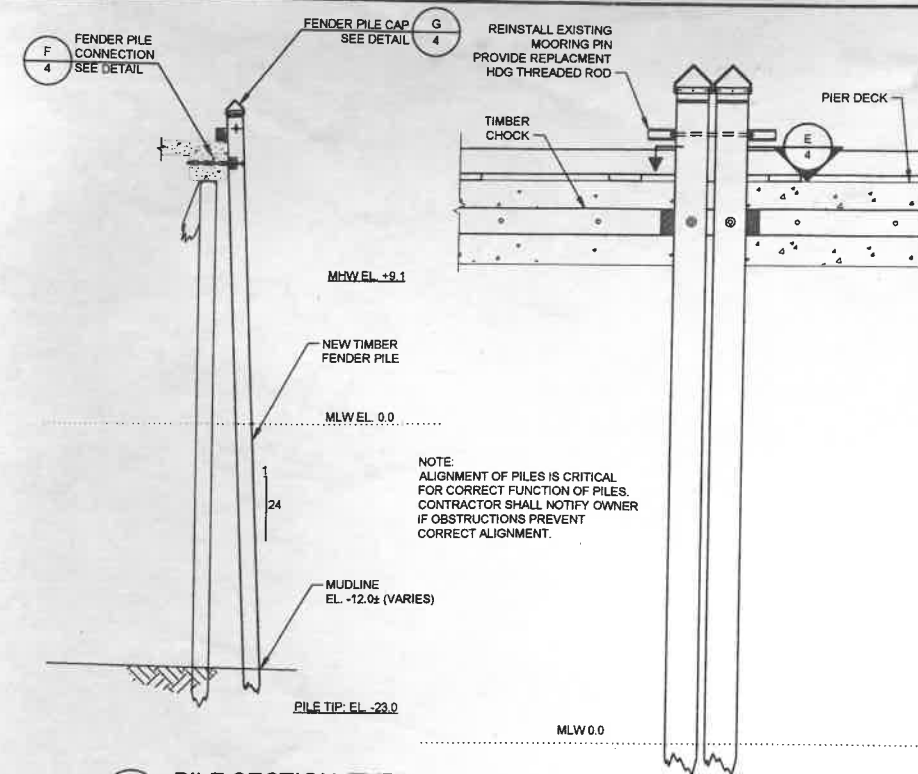
4'x6'x16"

(1) HOOVER
1 1/2" SPACER

DATE STARTED		DATE COMPLETED	
1. BEAM CONSTRUCTION			
LUMBER IS OF ACCEPTABLE QUALITY FOR SIDES			
BARKSIDE OF LUMBER IS PROPERLY LAID OUT			
NO PROTRUDING NAILS, SEAMS ARE TIGHT			
2. SUBSTRUCTURE			
FRAME IS SQUARE AND CROSS-TIE MEASUREMENTS CORRECT			
FRAME IS CORRECT WIDTH AS SHOWN ON PLAN			
CROSS-TIES AND CROSS ANGLES NAILED AND LAGGED			
BOLTS FOR 2X2 CLIPS PREDRILLED AND INSTALLED			
ALL THE ABOVE PROPERLY DONE AND CHECKED			
3. PONTONS			
PONTONS CHECKED FOR CREASES, SPLITS AND DEFECTS			
PONTONS ARE IN CORRECT PLACES			
PONTONS ARE PROPERLY DRILLED AND BOLTED			
4. MAIN FRAMING			
FRAME IS CORRECTLY LABELED WITH STENCIL			
FRAME HAS BEEN PLANNED AS NEEDED			
ALL LAYOUT MEASUREMENTS HAVE BEEN DOUBLE CHECKED			
ALL CROSS PIECES INSTALLED AT CORRECT LOCATIONS			
FRAME IS CORRECT WIDTH AS SHOWN ON PLANS			
2X2X2		HINGES	
3X5X6		PILE GUIDES	
6X4X7			
CLEAT CLIP			
ALL STEEL PROPERLY LAID OUT AND INSTALLED			
SPICE BLOCKS DRILLED AND MEASUREMENTS CORRECT			
ALL BEAM BOLTS INSTALLED AND TIGHTENED			
CHECK ALL BOLTS FOR TIGHTNESS			
CHECK ALL HINGES FOR TIGHTNESS (IF APPLICABLE)			
5. PRE DECKING CHECK			
PROPER FINGER CONNECTION LOCATION			
PROPER CLEAT LOCATION			
HINGES ARE STRAIGHT			
ALL BOLTS ARE TIGHT			
6. DECKING			
DECKING IS OF ACCEPTABLE QUALITY			
DECKING IS RIGHT SIZE AND SQUARE			
DECKING IS PROPERLY NAILED			
PANELS PROPERLY INSTALLED AT CORRECT LOCATIONS			
DECKING ROUTED, AS NECESSARY			
CLEATS INSTALLED AND PROPERLY TIGHTENED			
BUMPER IS INSTALLED AS NEEDED AND STAPLES FLUSH			
7. FINAL CHECK			
ALL OF THE ABOVE ARE COMPLETED AND DOCK HAS PASSED			
INSPECTION AND IS READY FOR SHIPMENT			
PROBLEMS:			
SHORTAGES:			



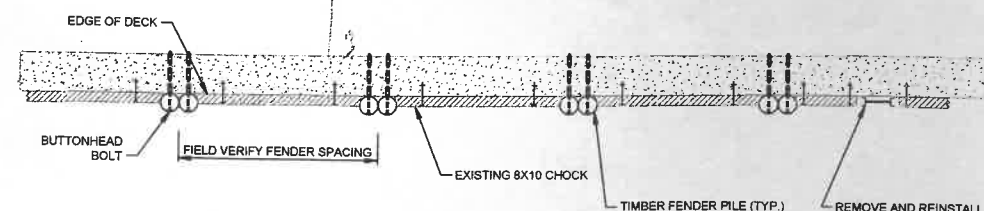
- NOTES
1. REPLACE PILES MARKED $\odot$ OR AS OTHERWISE DIRECTED BY THE OWNER
 2. PROVIDE $\frac{1}{2}$ " WASHER PLATES FOR CONNECTION 4"x4" SIZE TO BE FIELD VERIFIED



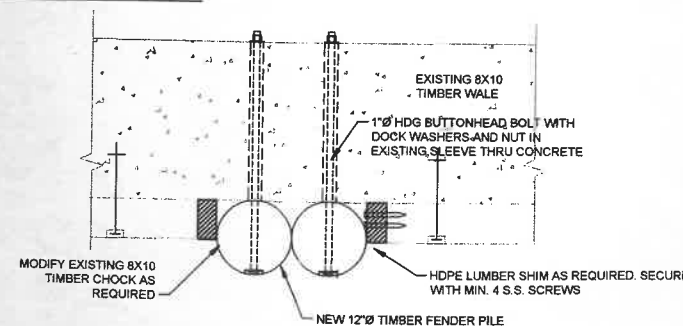
C PILE SECTION (TYP.)
SCALE: 3/16"=1'-0"

D PILE SECTION (TYP.)
SCALE: 3/8"=1'-0"

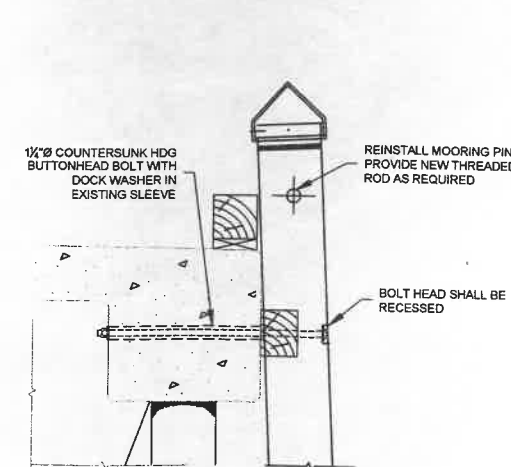
A PROPOSED FENDER SYSTEM - PLAN
SCALE: 1"=20'



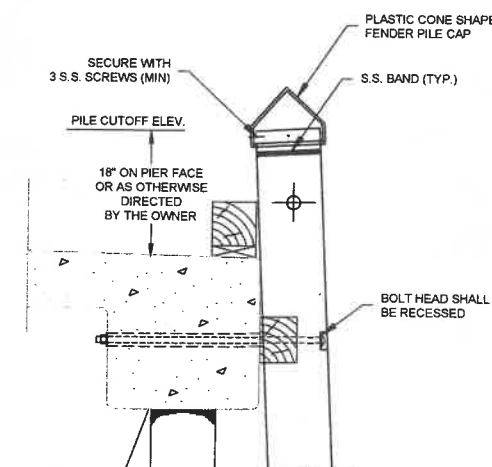
B PROPOSED FENDER SYSTEM - PLAN
SCALE: 1/4"=1'-0"



E PILE CONNECTION
SCALE: 3/4"=1'-0"



F PILE CONNECTION
SCALE: 3/4"=1'-0"



G FENDER PILE CAP
SCALE: 3/4"=1'-0"

Attention:				
0				
If this scale bar does not measure 1" then drawing is not original scale.				
NO.	DATE	ISSUE/REVISION	APP	



Designed: BAP
Checked: -
Drawn: JSF
Submitted By: -
P.E. Number: -

Bourne Consulting
Waterfront Division
GEI Consultants
GEI CONSULTANTS, INC.
3 BENT STREET
FRANKLIN, MA 02038
(508) 533-8888

Town of Provincetown
260 Commercial Street
Provincetown, MA 02657

GEI Project 1705270

MacMillan Pier Fender Pile
Replacement - Nov 2018
Provincetown, MA

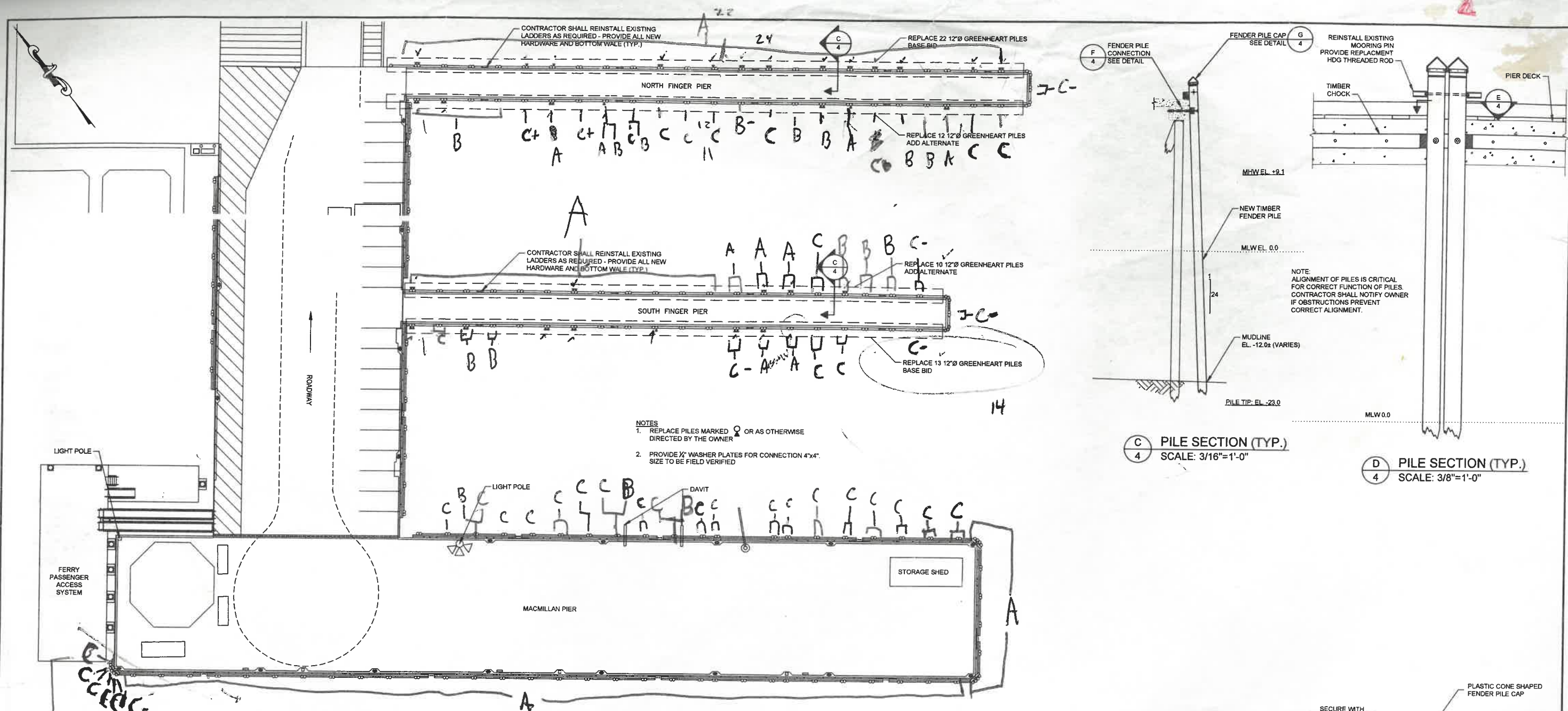
PROPOSED CONDITIONS

DWG. NO.

C-04

SHEET NO.

04 OF 04



C
4
PILE SECTION (TYP.)
SCALE: 3/16"=1'-0"

D
4
PILE SECTION (TYP.)
SCALE: 3/8"=1'-0"

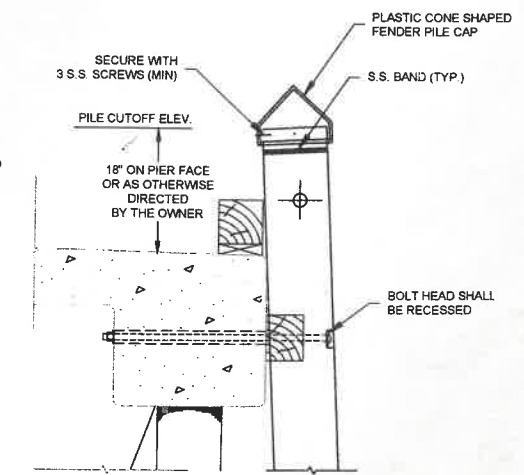
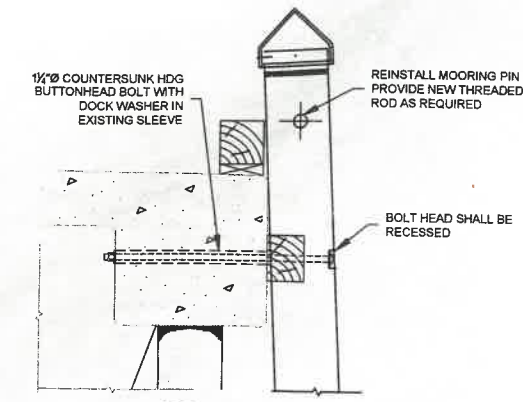
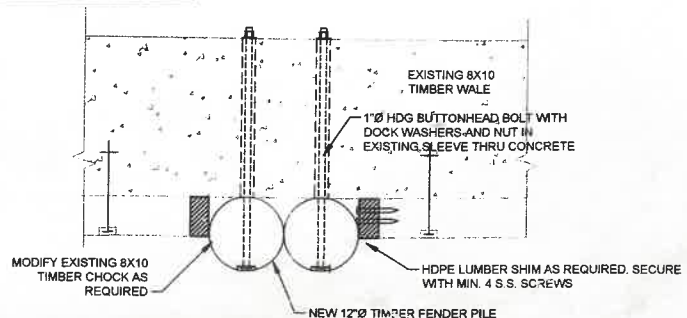
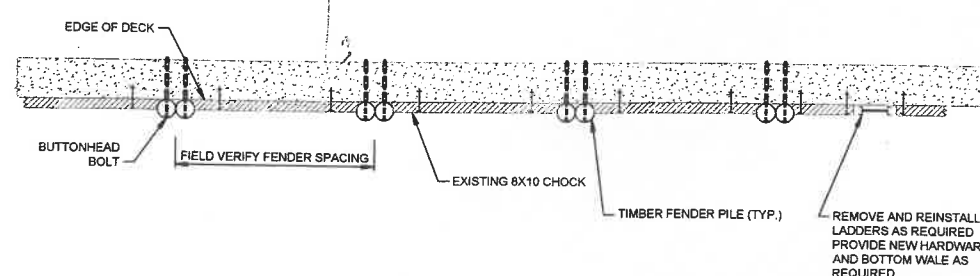
A
4
PROPOSED FENDER SYSTEM - PLAN
SCALE: 1" = 20'

B
4
PROPOSED FENDER SYSTEM - PLAN
SCALE: 3/4"=1'-0"

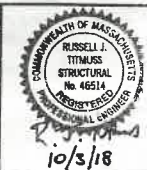
E
4
PILE CONNECTION
SCALE: 3/4"=1'-0"

F
4
PILE CONNECTION
SCALE: 3/4"=1'-0"

G
4
FENDER PILE CAP
SCALE: 3/4"=1'-0"



Attention:				
0				
1"				
If this scale bar does not measure 1" then drawing is not original scale.				
NO.	DATE	ISSUE/REVISION	APP	



Designed: BAP

Checked: -

Drawn: JSF

Submitted By: -

P.E. Number: -

Bourne Consulting Waterfront Division

GEI Consultants

GEI CONSULTANTS, INC.

3 BENT STREET

FRANKLIN, MA 02038

(508) 533-6666

Town of Provincetown

260 Commercial Street

Provincetown, MA 02657

GEI Project 1705270

MacMillan Pier Fender Pile Replacement - Nov 2018

Provincetown, MA

PROPOSED CONDITIONS

DWG. NO.

C-04

SHEET NO.

04 OF 04

NORTH FINGER PIER

HARBORMASTER
OFFICES

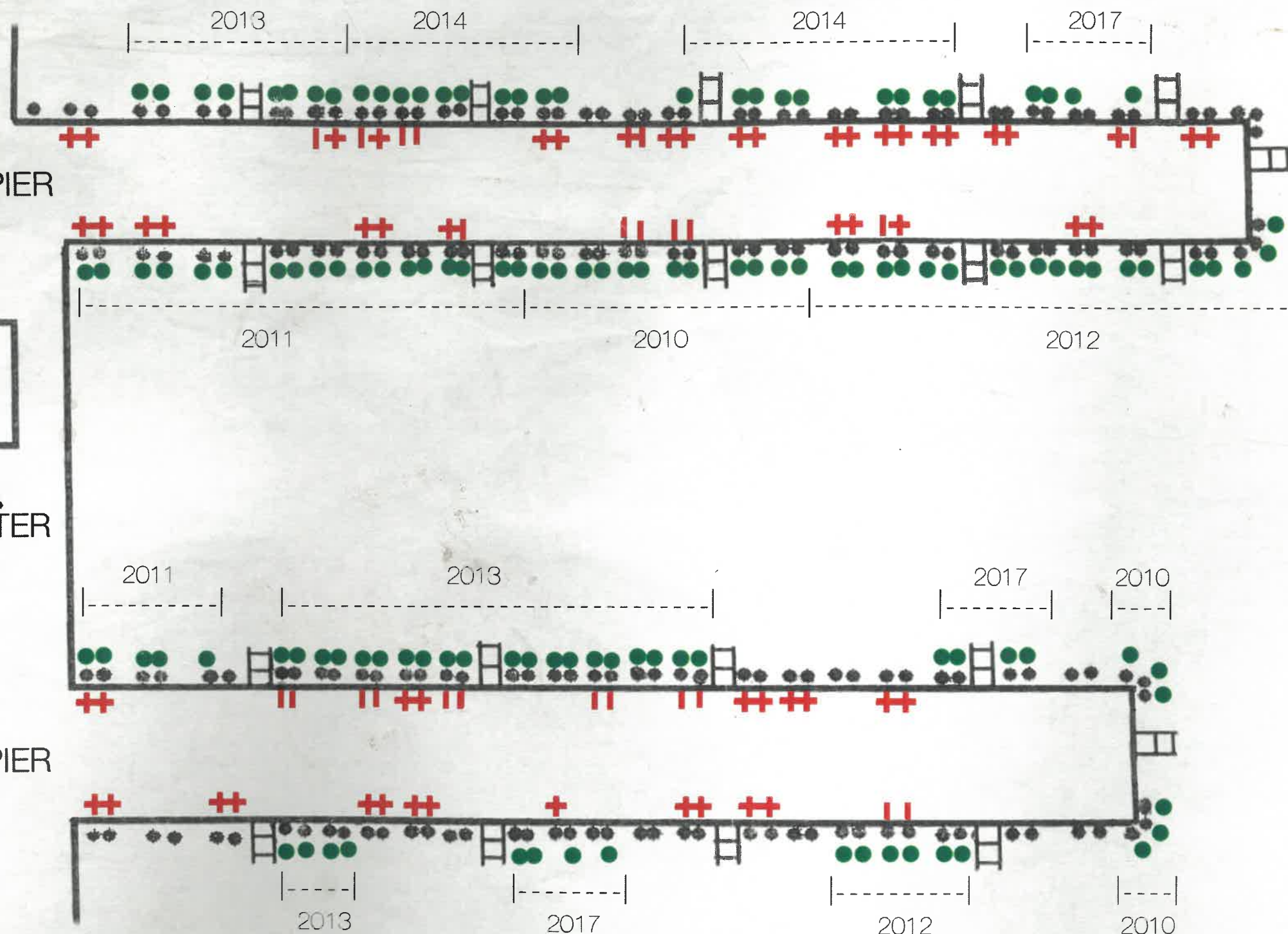
SOUTH FINGER PIER

-NOTES_

 PREVIOUSLY
REPLACED

 TIE UP
GOOD

 TIE UP
BAD



UPDATED SCHEMATIC OF
DRAGGER PILE REPLACEMENT

SCALE 1 - _

1" = _

SEPTEMBER 13, 2018

PREPARED BY: HARBORMASTER

PROVINCETOWN, MA

DRAGGER PILE REPLACEMENT

LEGEND
LIMIT OF CONSTRUCTION ——— LOC ———

PHASING AND STAGING

1. CONTRACTOR SHALL MAINTAIN A 25' WIDE ACCESS LANE ALONG THE NORTH SIDE OF THE PIER AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE OWNER.
2. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL FERRY FACILITIES ON THE PIER AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE OWNER.
3. ALL EQUIPMENT AND MATERIALS SHALL BE STORED WITHIN LIMIT OF WORK AS SHOWN UNLESS APPROVED OTHERWISE.
4. CONTRACTOR SHALL SUBMIT DETAILS OF CRANE AND SETUP FOR APPROVAL PRIOR TO BRINGING ANY EQUIPMENT ON SITE.
5. ALL CRANES AND OTHER EQUIPMENT SHALL HAVE RUBBER TIRES.
6. NO EQUIPMENT SHALL EXCEED PIER LOAD LIMIT HS20 TRUCK.
7. CONTRACTOR SHALL PROVIDE ACCESS TO ICE MACHINE AT ALL TIMES TO FISHERMEN.

DEMOLITION

1. THE CONTRACTOR SHALL COMPLETELY REMOVE ALL EXISTING FENDER PILES. ANY PILES THAT ARE BROKEN OFF DURING REMOVAL SHALL BE DOCUMENTED AND REPORTED TO THE OWNER IMMEDIATELY.
2. REMOVAL OF THE TIMBER CHOCK IS NOT ANTICIPATED, BUT IT MAY BE REMOVED AT THE CONTRACTORS OPTION.
3. ALL EXISTING TIMBER PILES SHALL BE REMOVED AND DISPOSED UNLESS OTHERWISE DIRECTED BY THE OWNER OR THE ENGINEER.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE REMOVAL OF BROKEN PILES, FOR THE INSTALLATION OF NEW PILES.

BENCHMARK
NOS TIDAL STATION DISK
8121 D 2010
EL. =16.17 MLW

HARBORMASTER BUILDING

CONTRACTOR SHALL NOTE EXISTING UTILITIES ON THE PIER AND SHALL PROVIDE PROTECTION TO UTILITIES AS REQUIRED TO ENSURE NO DAMAGE.

C
3

CONTRACTOR SHALL NOTE EXISTING UTILITIES ON THE PIER AND SHALL PROVIDE PROTECTION TO UTILITIES AS REQUIRED TO ENSURE NO DAMAGE.

C
3

FINGER PIER

C
3

LIGHT POLE
FERRY PASSENGER ACCESS SYSTEM

LIGHT POLE

PILE STORAGE AREA 15'X100'

DAVIT

JIB CRANE

CONTRACTOR SHALL NOTE EXISTING UTILITIES ON THE PIER AND SHALL PROVIDE PROTECTION TO UTILITIES AS REQUIRED TO ENSURE NO DAMAGE.

STORAGE SHED

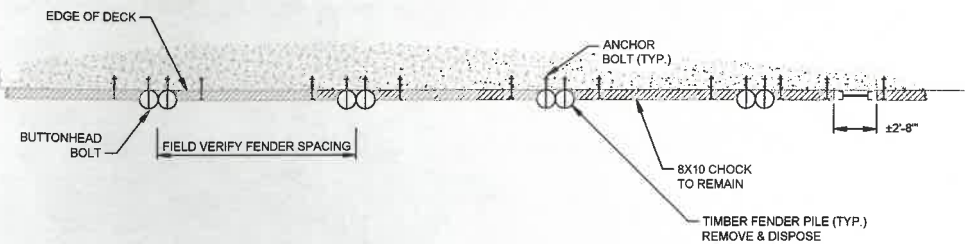
MACMILLAN PIER

POWER PEDESTAL (TYP.)

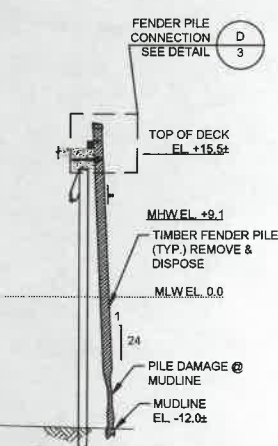
LADDER (TYP.)

CLEAT (TYP.)

A
3 EXISTING / DEMO FENDER SYSTEM - PLAN
SCALE: 1" = 20'

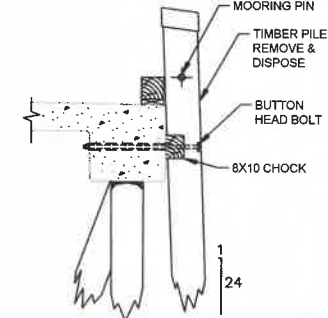


B
3 EXISTING FENDER SYSTEM - PLAN
SCALE: 3/16"=1'-0"



NOTE: ALL EXISTING TIMBER FENDER PILES HAVE SOME AMOUNT OF ROT/MARINE BORER DAMAGE. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN REMOVING THE EXISTING FENDER PILES AND MAKE EVERY REASONABLE EFFORT TO NOT BREAK OFF THE PILES DURING DEMOLITION.

C
3 PILE SECTION (TYP.)
SCALE: 1"=10'-0"



D
3 EXISTING FENDER PILE CONNECTION
SCALE: 3/8"=1'-0"

Attention:				
0 1"				
If this scale bar does not measure 1" then drawing is not original scale.				
NO.	DATE	ISSUE/REVISION	APP	



Designed: -
Checked: -
Drawn: -
Submitted By: -
P.E. Number: -



Town of Provincetown
260 Commercial Street
Provincetown, MA 02657

MacMillan Pier Fender Pile Replacement - Nov 2018
Provincetown, MA
EXISTING CONDITIONS, DEMOLITION, PHASING & STAGING PLAN
GEI Project 1705270

DWG. NO.
C-03
SHEET NO.
03 OF 04