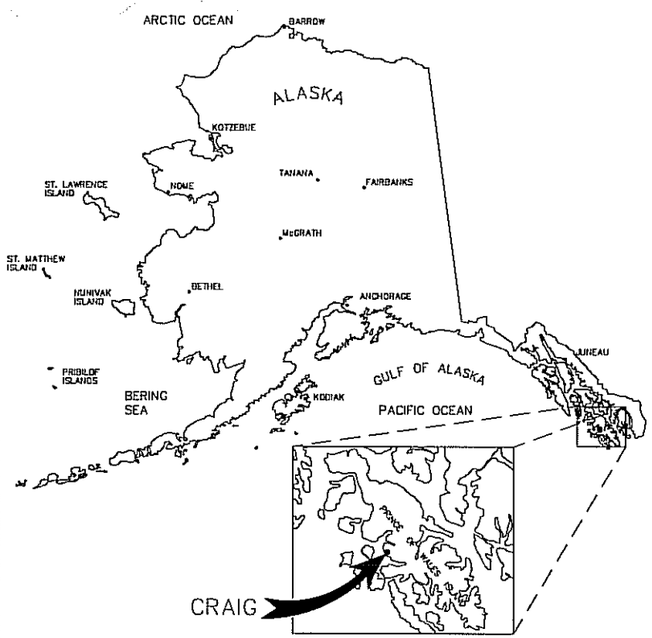
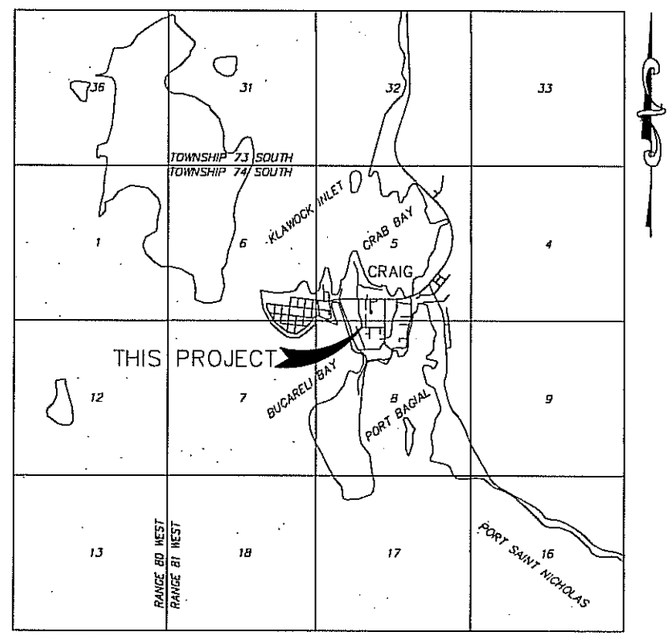
CITY OF CRAIG PAVING PROJECT



PROJECT LOCATION MAP



SHIPPING POINTS:
SEATTLE, WA AND KETCHIKAN, AK

VICINITY MAP

APPROXIMATE SCALE: 1" = 1/2 MILE
SOURCE MAP: USGS QUADRANGLE CRAIG (A-3)
ALASKA, 1951

SCHEDULE A — INDEX OF SHEETS

G1	TITLE SHEET	
G2	KEY MAP	
G3	KEY MAP	
G4	SURVEY CONTROL MAP	
G5	SURVEY CONTROL MAP	
C1	7TH AVE	PLAN AND PROFILE
C2	5TH AVE	PLAN AND PROFILE STATION 1+00 – 6+40
C3	5TH AVE	PLAN AND PROFILE STATION 6+40 – END
C4	CEDAR STREET	PLAN AND PROFILE STATION 1+00 – 6+60
C5	CEDAR STREET	PLAN AND PROFILE STATION 6+60 – END
C6	MAIN STREET	PLAN AND PROFILE STATION 1+00 – 6+60
C7	MAIN STREET	PLAN AND PROFILE STATION 6+60 – 10+00
C8	JT BROWNS STREET	PLAN AND PROFILE STATION 1+00 – 4+00
C9	JT BROWNS STREET	PLAN AND PROFILE STATION 4+00 – 9+40
C10	JT BROWNS STREET	PLAN AND PROFILE STATION 9+40 – 15+40
C11	JT BROWNS STREET	PLAN AND PROFILE STATION 15+40 – 20+80
C12	JT BROWNS STREET	PLAN AND PROFILE STATION 20+80 – END
C13	EAST HAMILTON	PLAN AND PROFILE STATION 1+00 – 6+40
C14	EAST HAMILTON	PLAN AND PROFILE STATION 6+40 – 10+20
C15	EAST HAMILTON	PLAN AND PROFILE STATION 10+20 –13+20
C16	EAST HAMILTON	PLAN AND PROFILE STATION 13+20 –18+00
C17	EAST HAMILTON	PLAN AND PROFILE STATION 18+00 –24+00
C18	EAST HAMILTON	PLAN AND PROFILE STATION 24+00 –30+00
C19	EAST HAMILTON	PLAN AND PROFILE STATION 30+00 –34+00
C20	COLD STORAGE ROAD	PLAN AND PROFILE STATION 1+00 – 5+20
C21	COLD STORAGE ROAD	PLAN AND PROFILE STATION 5+20 – END
C22	COLD STORAGE ROAD	SECTIONS AND CURVE RETURN DATA
D1	STREET DETAILS	
D2	STORM DETAILS	

SCHEDULE B — INDEX OF SHEETS

GENERAL INFORMATION
A.1 TITLE SHEET
A.2 LEGEND/ABBREVIATIONS/GENERAL NOTES/SHEET SPECIFICATIONS
A.3 KEY MAP

SURVEY CONTROL
B.1 SURVEY CONTROL DIAGRAM
B.2 SURVEY CONTROL MONUMENTATION, PI AND TANGENT TABLES

SUMMARY TABLES
C.1 SUMMARY TABLES: QUANTITIES, UTILITY RELOCATION/ADJUSTMENTS, SIGNAGE

ROADWAY DETAILS
D.1 TYPICAL SECTIONS
D.2 DRIVEWAY SUMMARY, INTERSECTION DETAILS, AND DRIVEWAY DETAILS

PERMANENT TRAFFIC CONTROL
J.1 ADOT S-00.10 SIGN FRAMING AND POST SPACING
J.2 ADOT S-01.00 BRACING FOR SIGNS MOUNTED ON SINGLE POST
J.3 ADOT S-05.01 POST MOUNTED SIGN OFFSET AND HEIGHT
J.4 ADOT S-20.10 SIGN TO SIGN POST CONNECTIONS
J.5 ADOT S-30.03 LIGHT SIGN STRUCTURE POST EMBEDMENT

PLANS
L.1–L.6 PLAN

Date	No.	Description	By
		Revision	

Designed: CGP	Approved: TSS	Scale: 1"=20'	
Drawn: CGP	Date: 7/19/09	Project: 092709	
Checked: TSS	File:		

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

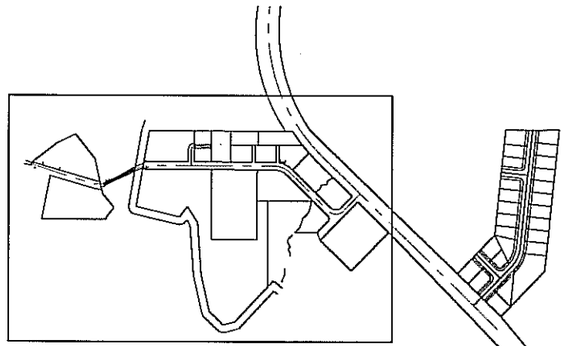
Project: CRAIG PAVING PROJECT

Sheet Description: TITLE SHEET

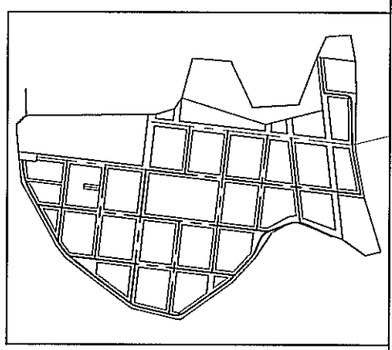
Sheet No. G1

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER

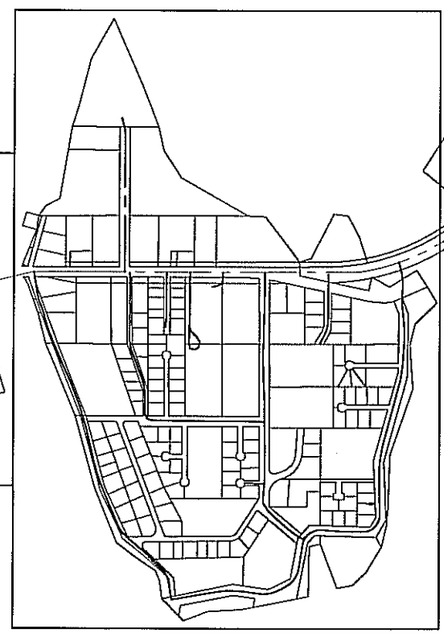
BID SCHEDULE REFERENCE TABLE	
STREET NAME	BID SCHED.
SEVENTH STREET	A
FIFTH STREET	A
CEDAR STREET	A
MAIN STREET	A



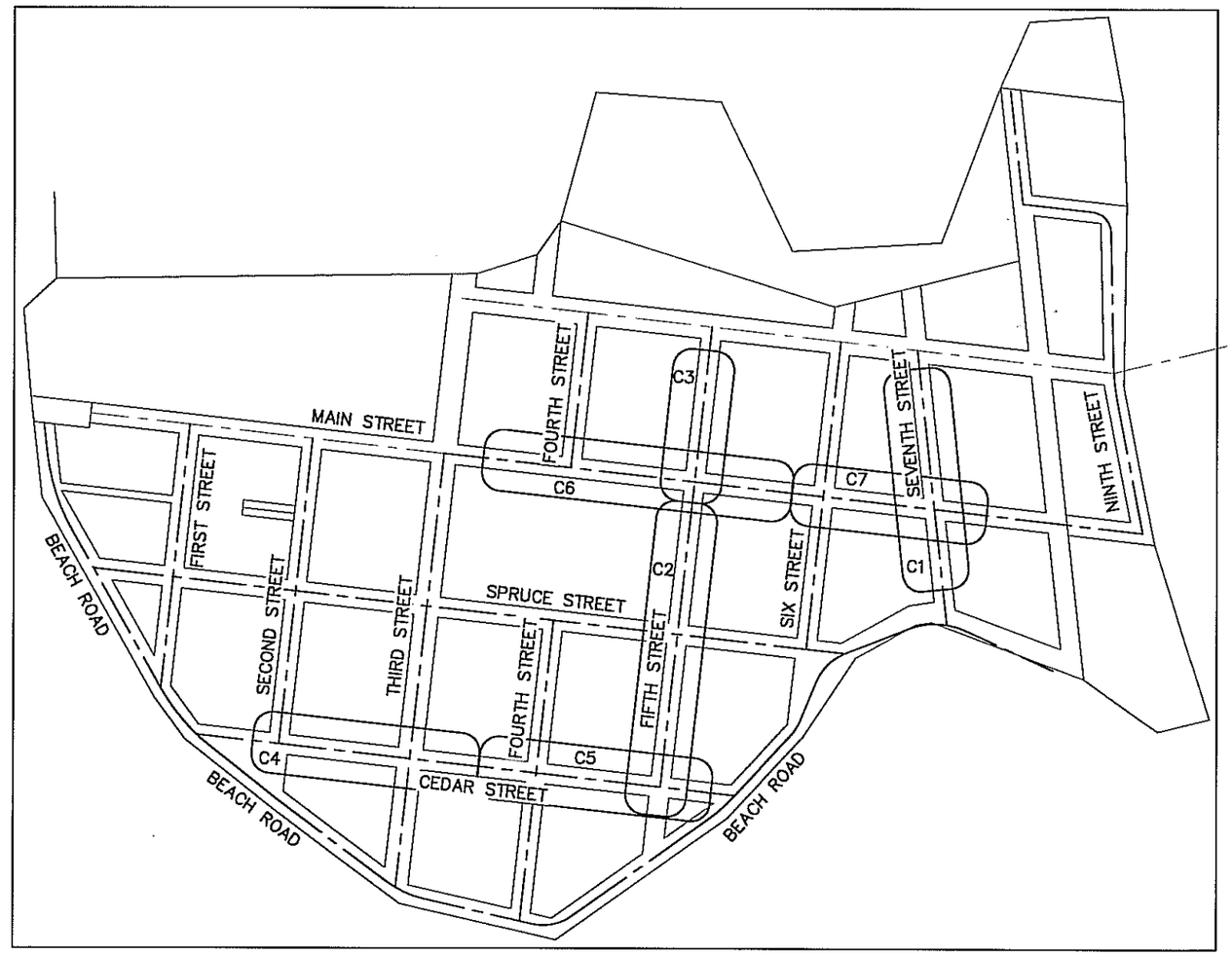
DETAIL C
SEE SHEET G4



DETAIL A
SEE SHEET G3



DETAIL B
SEE SHEET G4



DETAIL A
1"=500'

Date	No.	Description	By
		Revision	

Designed: CGP | Approved: TSS | Scale: 1"=20'
Drawn: GOE | Date: 7/19/09 | Project: 092709
Checked: TSS | File:

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

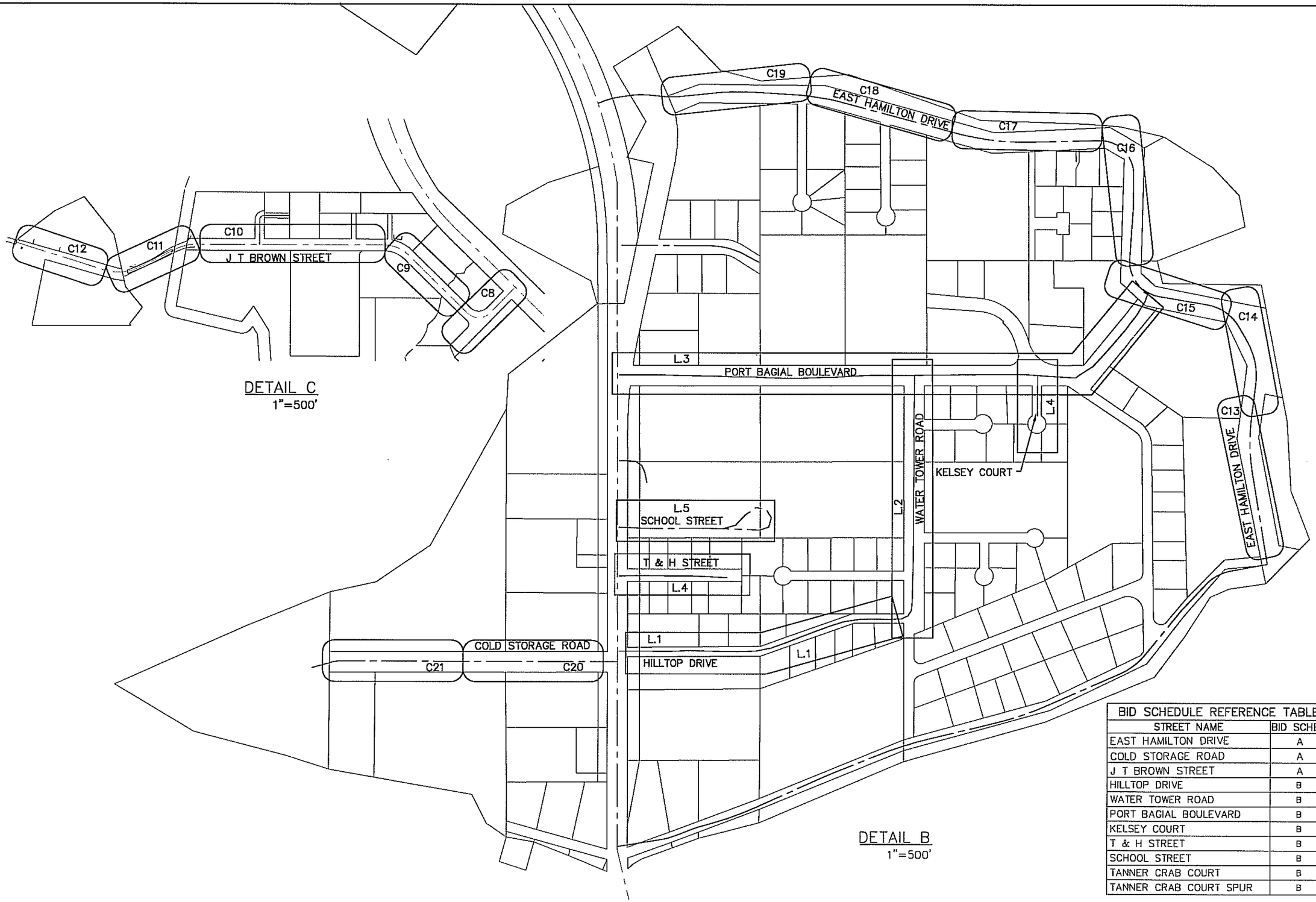
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

Project: CITY OF CRAIG PAVING PROJECT

Sheet Description: KEY MAP

Sheet No. G2

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER



BID SCHEDULE REFERENCE TABLE	
STREET NAME	BID SCHED.
EAST HAMILTON DRIVE	A
COLD STORAGE ROAD	A
J T BROWN STREET	A
HILLTOP DRIVE	B
WATER TOWER ROAD	B
PORT BAGIAL BOULEVARD	B
KELSEY COURT	B
T & H STREET	B
SCHOOL STREET	B
TANNER CRAB COURT	B
TANNER CRAB COURT SPUR	B

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER

Date	No.	Description	By
		Revision	

Designed: CGP | Approved: TSS | Scale: 1"=20'
Drawn: GOE | Date: 7/19/09 | Project: 092709
Checked: TSS | File:

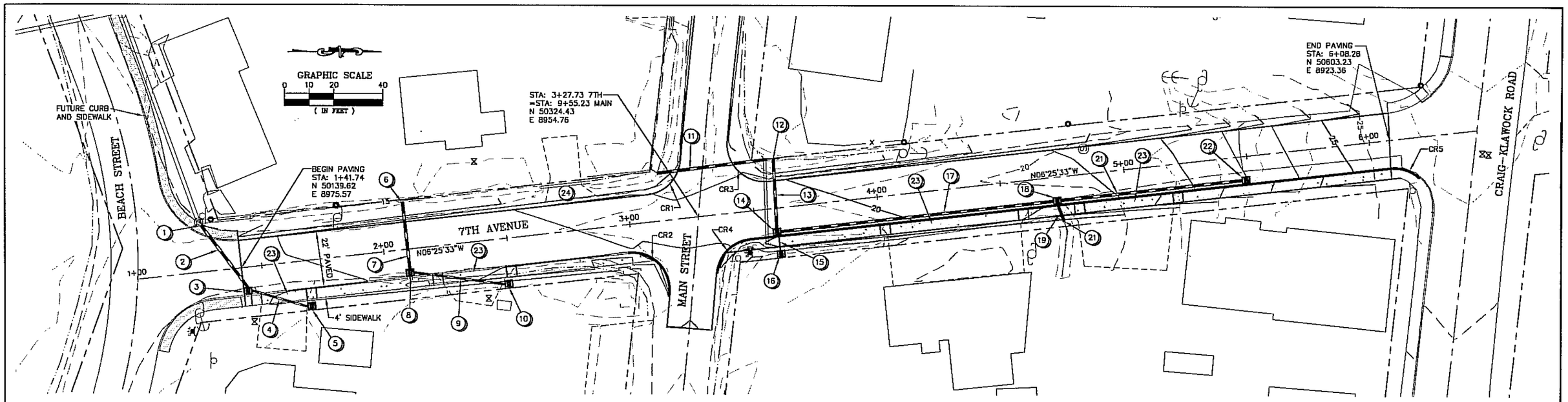
R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

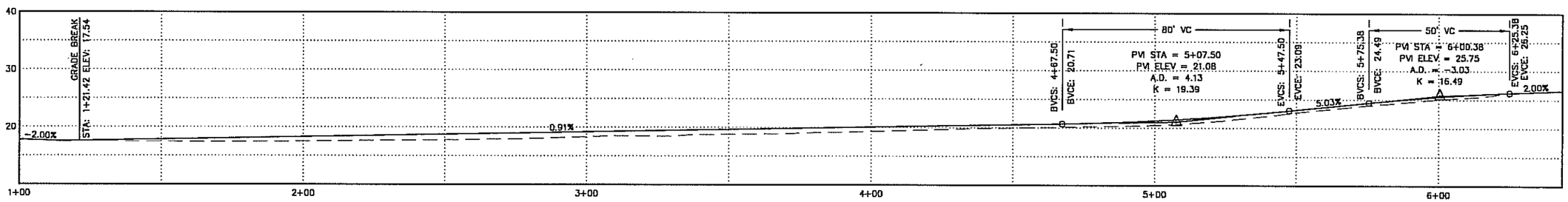
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

Project: CITY OF CRAIG PAVING PROJECT

Sheet Description: KEY MAP

Sheet No. G3





CURVE RETURN DATA

CURVE #CR1 R=15.0' DELTA=79-03-25 L=20.70'

LOCATION	EP ELEV.
PC – STA 3+08.26 11' LT 7TH	19.05
MID	18.67
PT – STA 9+33.40 9' RT MAIN	18.29

CURVE #CR2 R=15.0' DELTA=101-12-44 L=26.50'

LOCATION	EP ELEV.
PC – STA 2+98.28 11' RT 7TH	18.96
MID	18.76
PT – STA 9+86.46 9' RT MAIN	18.56

CURVE #CR3 R=15.0' DELTA=101-12-44 L=26.50'

LOCATION	EP ELEV.
PC – STA 9+24.00 9' LT MAIN	18.35
MID	18.92
PT – STA 3+57.17 11' LT 7TH	19.49

CURVE #CR4 R=15.0' DELTA=79-03-25 L=20.70'

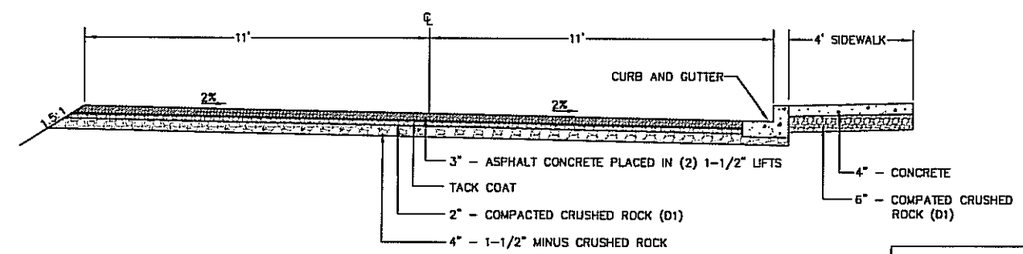
LOCATION	EP ELEV.
PC – STA 9+77.06 9' LT MAIN	18.39
MID	18.90
PT – STA 3+47.19 11' RT 7TH	19.40

CURVE #CR5 R=15.0' DELTA=49-04-32 L=12.85'

LOCATION	EP ELEV.
PC – STA 6+07.66 11' RT 7TH	25.58
MID	25.82
PT – STA 6+18.99 16.17' RT 7TH	26.06

CONSTRUCTION DATA

1. CONNECT TO EXISTING CATCH BASIN MATCH IE
2. INSTALL 12" CPP L=30.8', S=0.005 MIN
3. STA 1+43.40 11' RT 7TH INSTALL STM CB RIM=17.56 8" IE IN(NE)=14.26 12" IE OUT(SW)=14.06
4. INSTALL 8" CPP L=23.4', S=0.0239
5. INSTALL CB AREA DRAIN RIM=17.82 8" IE OUT(SW)=14.82 N50168.22 E8990.85
6. DAYLIGHT 12" CPP TO DITCH IE=14.70 N50204.96 E8949.13
7. INSTALL 12" CPP L=27.0', S=0.005
8. STA 2+09.63 11' RT 7TH INSTALL STM CB RIM=18.16 8" IE IN(NE)=15.03 12" IE OUT(W)=14.83
9. INSTALL 8" CPP L=36.9', S=0.005
10. INSTALL CB AREA DRAIN RIM=17.93 8" IE OUT(SW)=15.21 N50248.01 E8981.72
11. REPLACE EXISTING 18" CMP WITH 12" CPP M MATCH IE'S.
12. DAYLIGHT 12" CPP TO DITCH IE=15.80 N50354.34 E8931.72
13. INSTALL 12" CPP L=27.6', S=0.010
14. STA 3+58.38 11' RT 7TH INSTALL STM CB RIM=19.50 8"&12" IE IN(E&N)=16.28 12" IE OUT(W)=16.08
15. INSTALL 8" CPP L=5.9', S=0.005
16. INSTALL CB AREA DRAIN RIM=18.10 8" IE OUT(W)=16.31 N50357.56 E8969.82
17. INSTALL 12" CPP L=110.5', S=0.0068
18. STA 4+72.27 11' RT 7TH INSTALL STM CB RIM=20.54 12" IE IN(N)=17.24 12" IE OUT(S)=17.04
19. INSTALL 12" CPP L=7.3', S=0.005
20. DAYLIGHT 12" CPP TO DITCH IE=17.74 N50471.94 E8956.20
21. INSTALL 12" CPP L=73.1', S=0.029
22. STA 5+48.73 11' RT 7TH INSTALL STM CB RIM=22.93 12" IE OUT(S)=19.36
23. INSTALL DEPRESSED DRIVEWAY APPROACH SEE DETAIL SHEET D1
24. INSTALL GRAVEL DRIVEWAY APPROACH SEE DETAIL SHEET D1



7TH AVENUE TYPICAL SECTION

NOT TO SCALE

Date	No.	Description	By
		Revision	

Designed: RKB | Approved: TSS | Scale: AS SHOWN
Drawn: RKB | Date: 07/16/09 | Project: 092709
Checked: TSS | File: 7TH STREET.DWG

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

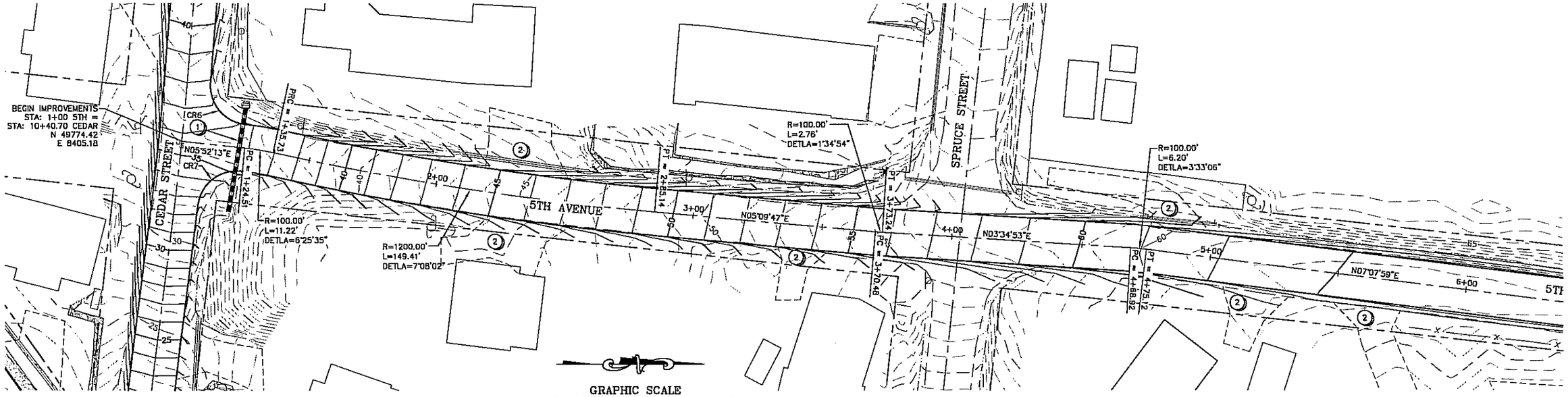
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

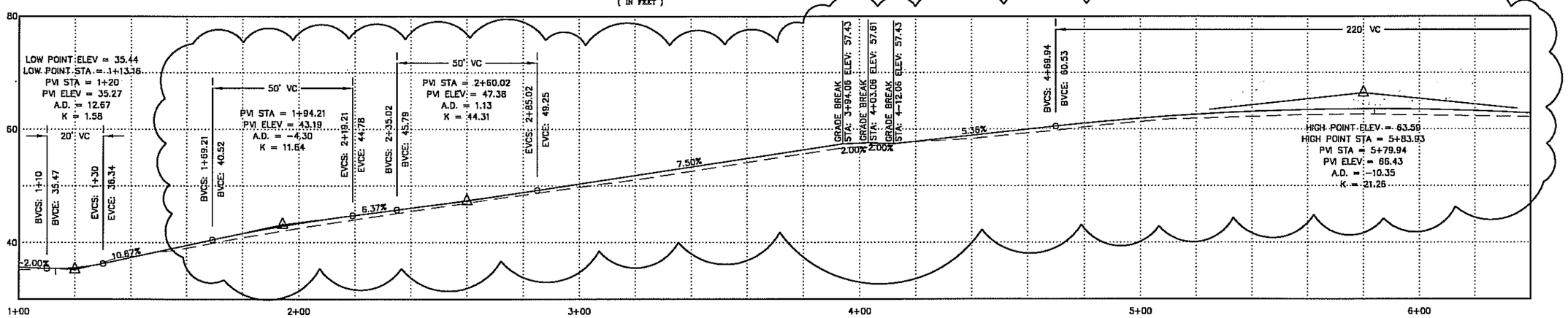
Project: CRAIG PAVING PROJECT

Sheet Description: 7TH AVE PLAN AND PROFILE

Sheet No. C1

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER





CURVE RETURN DATA

CURVE #CR6 R=15.0' DELTA=88-41-28 L=23.22'

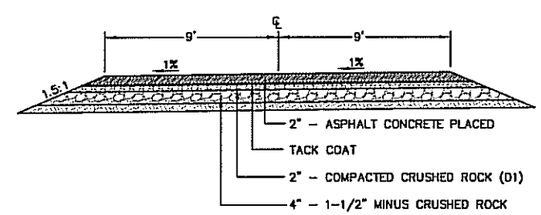
LOCATION	EP ELEV.
PC – STA 10+17.25 9' LT CEDAR	37.90
MID	36.76
PT – STA 1+23.72 9' LT 5TH	35.61

CURVE #CR7 R=15.0' DELTA=88-34-42 L=23.19'

LOCATION	EP ELEV.
PC – STA 10+64.12 9' LTT CEDAR	32.50
MID	34.06
PT – STA 1+23.72 9' RT 5TH	35.61

CONSTRUCTION DATA

1. REPLACE EXISTING 18" CMP CULVERT WITH 18" CPP CULVERT MATCH EXISTING IE'S. L=40.2'
2. INSTALL GRAVEL DRIVEWAY APPOACH SEE DETAIL SHEET D1



5TH AVENUE TYPICAL SECTION

NOT TO SCALE

Date	No.	Description	By
9/18/09	1	REVISED ROAD PROFILE GRADES	RKB

Revision

Designed: RKB | Approved: TSS | Scale: AS SHOWN
Drawn: RKB | Date: 07/16/09 | Project: 092709
Checked: TSS | File: 5TH STREET DESIGN.DWG

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

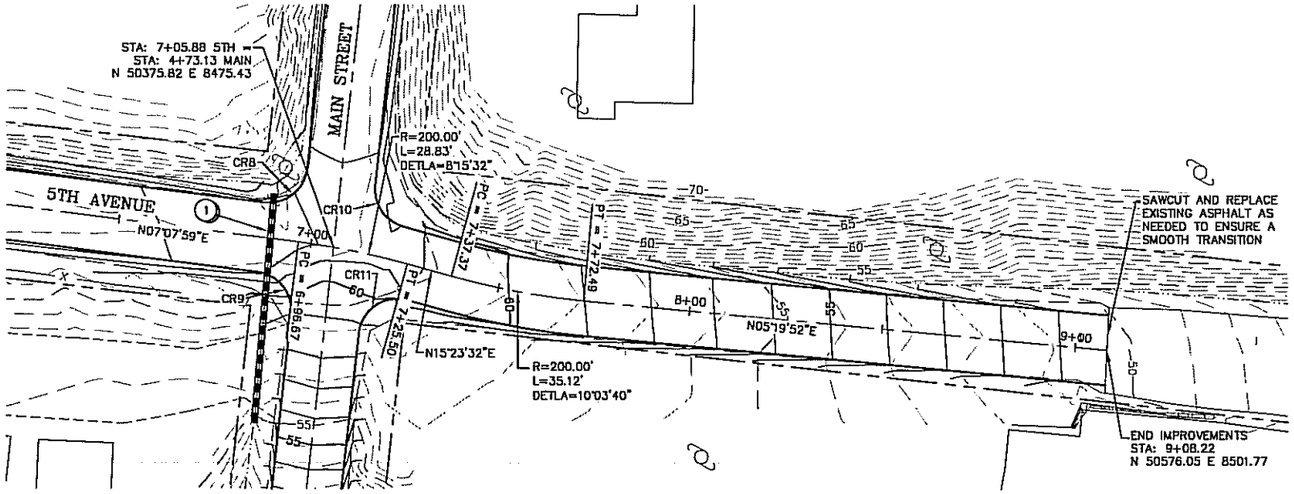
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

Project: CRAIG PAVING PROJECT

Sheet Description: 5TH AVE PLAN AND PROFILE
STATION 1+00 – 6+40

Sheet No. C2

STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
REGISTERED PROFESSIONAL ENGINEER



GRAPHIC SCALE

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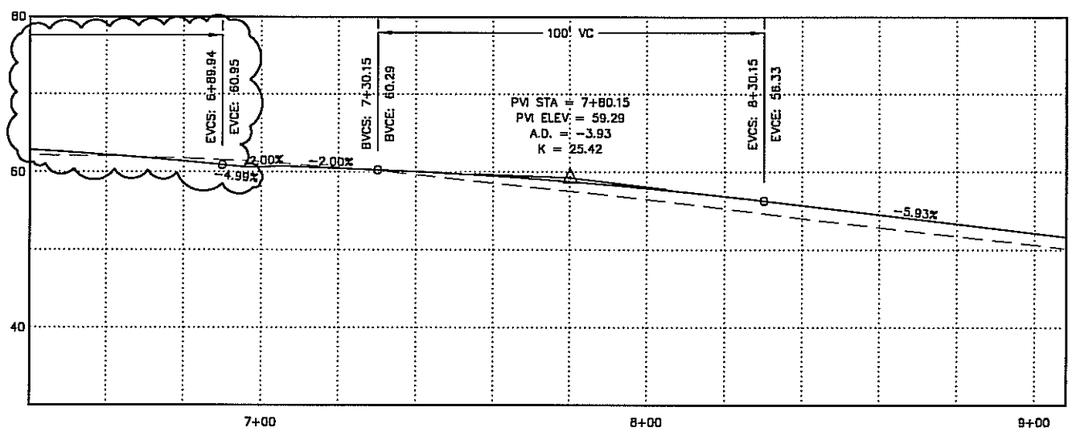
(IN FEET)



CURVE RETURN DATA

CURVE #CR8 R=10.0' DELTA=90-48-32 L=15.85'

LOCATION	EP ELEV.
PC – STA 6+86.60 9' LT 5TH	62.25
MID	62.02
PT – STA 4+53.65 9' RT MAIN	61.78

CURVE #CR9 R=10.0' DELTA=89-11-28 L=15.57'

LOCATION	EP ELEV.
PC – STA 6+87.14 9' RT 5TH	62.24
MID	60.60
PT – STA 4+91.66 9' RT MAIN	58.96

CURVE #CR10 R=10.0' DELTA=80-55-56 L=14.13'

LOCATION	EP ELEV.
PC – STA 4+55.95 9' LT MAIN	61.67
MID	61.40
PT – STA 4+94.43 9' LT 5TH	61.12

CURVE #CR11 R=10.0' DELTA=99-04-04 L=17.29'

LOCATION	EP ELEV.
PC – STA 4+94.43 9' LT MAIN	58.68
MID	59.79
PT – STA 7+28.03 9' RT 5TH	60.90

CONSTRUCTION DATA

1. REPLACE EXISTING 18" CMP CULVERT WITH 18" CPP CULVERT MATCH EXISTING IE'S. L=79.8'

Date	No.	Description	By
9/18/09	1	REVISED ROAD PROFILE GRADES	RKB

Revision

Designed: RKB | Approved: TSS | Scale: AS SHOWN
Drawn: RKB | Date: 07/16/09 | Project: 092709
Checked: TSS | File: 5TH STREET DESIGN.DWG

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

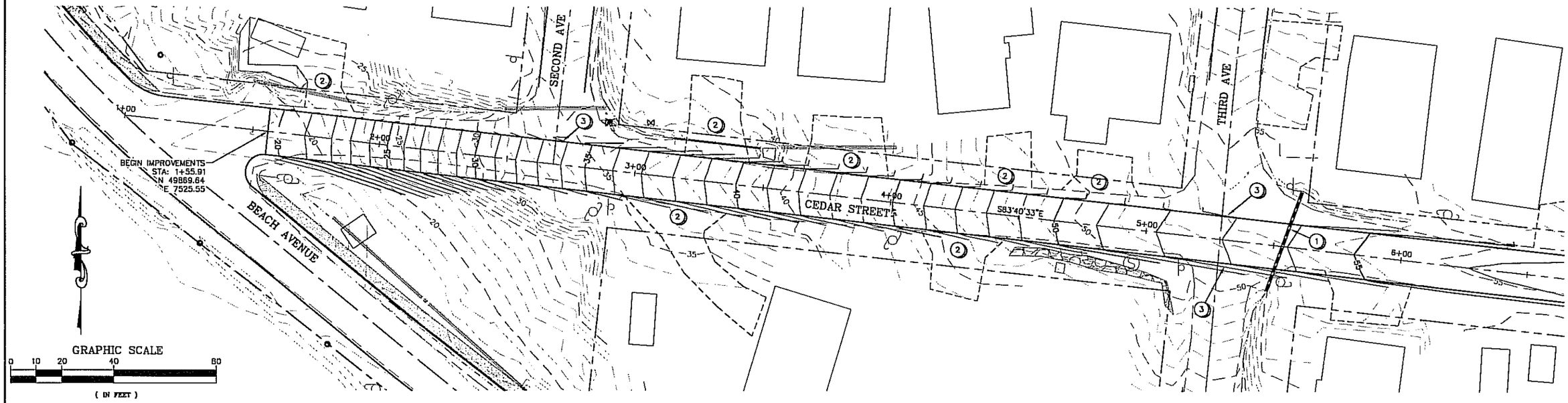
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

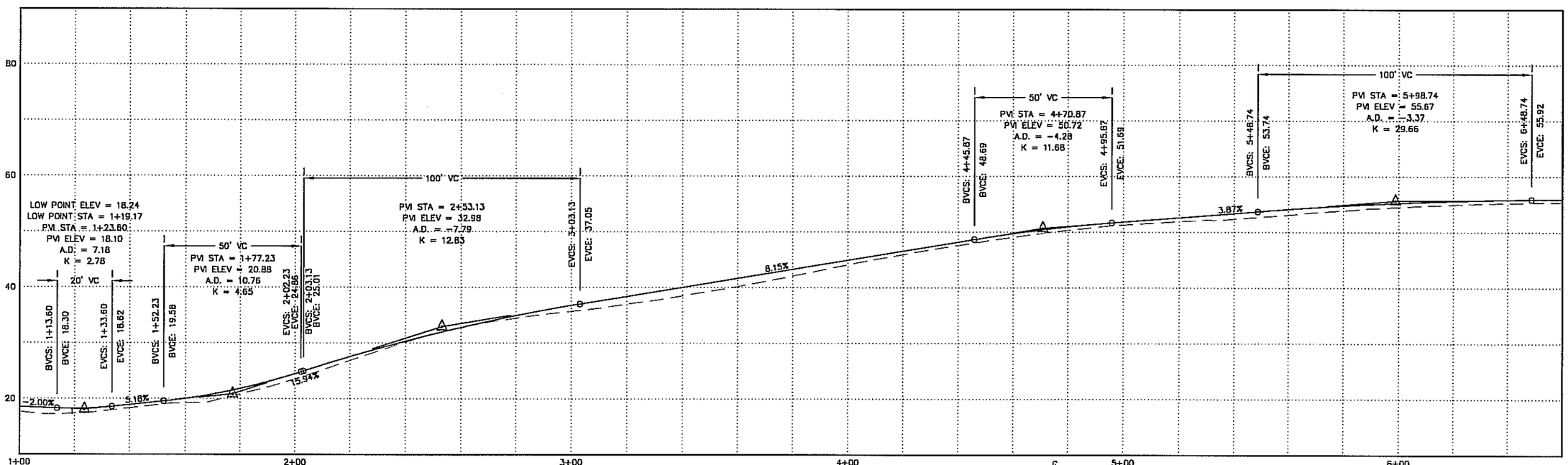
Project: CRAIG PAVING PROJECT

Sheet Description: 5TH AVE. PLAN AND PROFILE
STATION 6+40 - END

Sheet No. C3

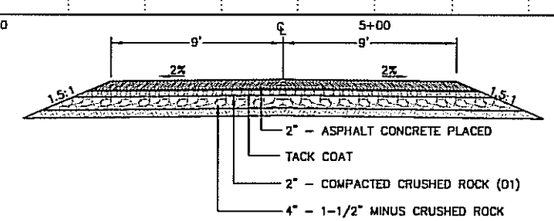
STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
REGISTERED PROFESSIONAL ENGINEER





CONSTRUCTION DATA

1. REPLACE EXISTING 12" CMP CULVERT WITH 12" CPP CULVERT MATCH EXISTING IE'S. L=40.7'
2. INSTALL GRAVEL DRIVEWAY APPOACH SEE DETAIL SHEET D1
3. INSTALL AND COMPACT CUSHED ROCK (D1) AS NEEDED TO PROVIDE SMOOTH TRANSITION AT INTERSECTION



CEDAR STREET TYPICAL SECTION

NOT TO SCALE

Date	No.	Description	By
		Revision	

Designed: RKB	Approved: TSS	Scale: AS SHOWN	
Drawn: RKB	Date: 07/16/09	Project: 092709	
Checked: TSS	File: CEDAR STREET.DWG		

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

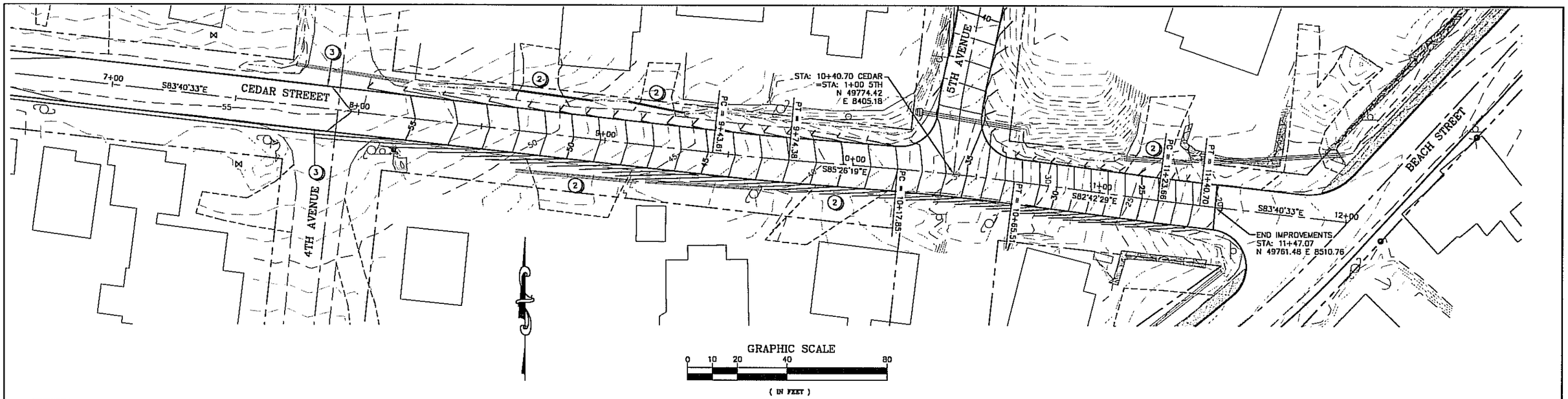
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

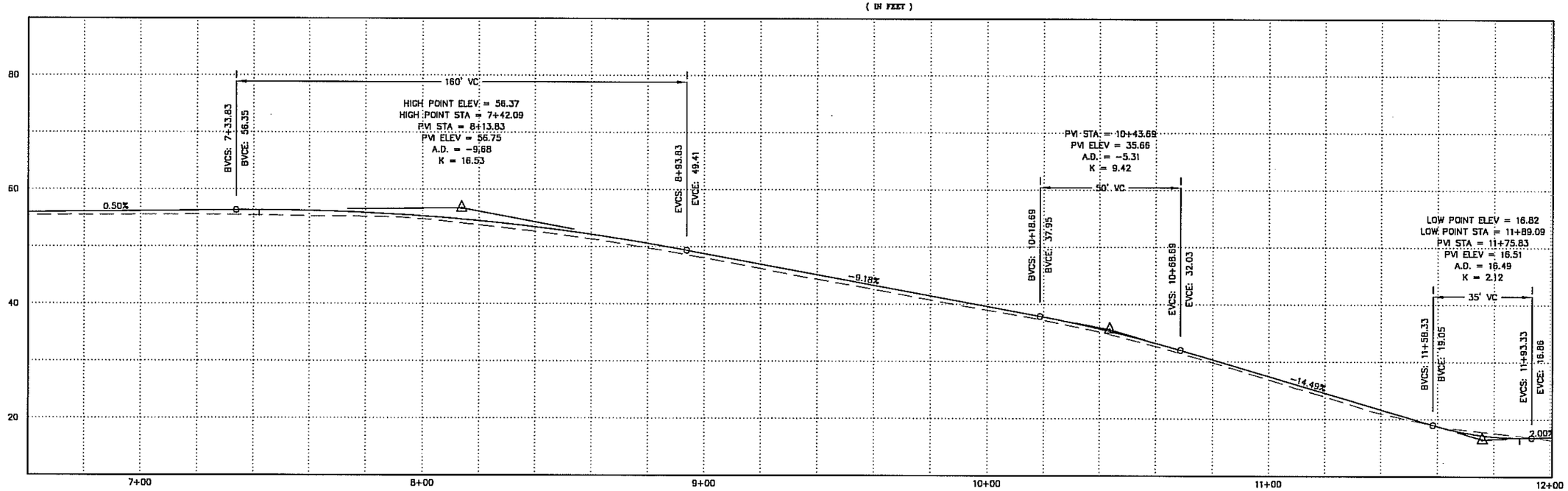
Project: CRAIG PAVING PROJECT

Sheet Description: CEDAR STREET PLAN AND PROFILE
STATION 1+00 - 6+60

Sheet No. C4

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER





CONSTRUCTION DATA

(2) INSTALL GRAVEL DRIVEWAY APPOACH SEE DETAIL SHEET D1

(3) INSTALL AND COMPACT CUSHED ROCK (D1) AS NEEDED TO PROVIDE SMOOTH TRANSITION AT INTERSECTION

Date	No.	Description	By
		Revision	

Designed: RKB	Approved: TSS	Scale: AS SHOWN	
Drawn: RKB	Date: 07/16/09	Project: 092709	
Checked: TSS	File: CEDAR STREET.DWG		

R&M
R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

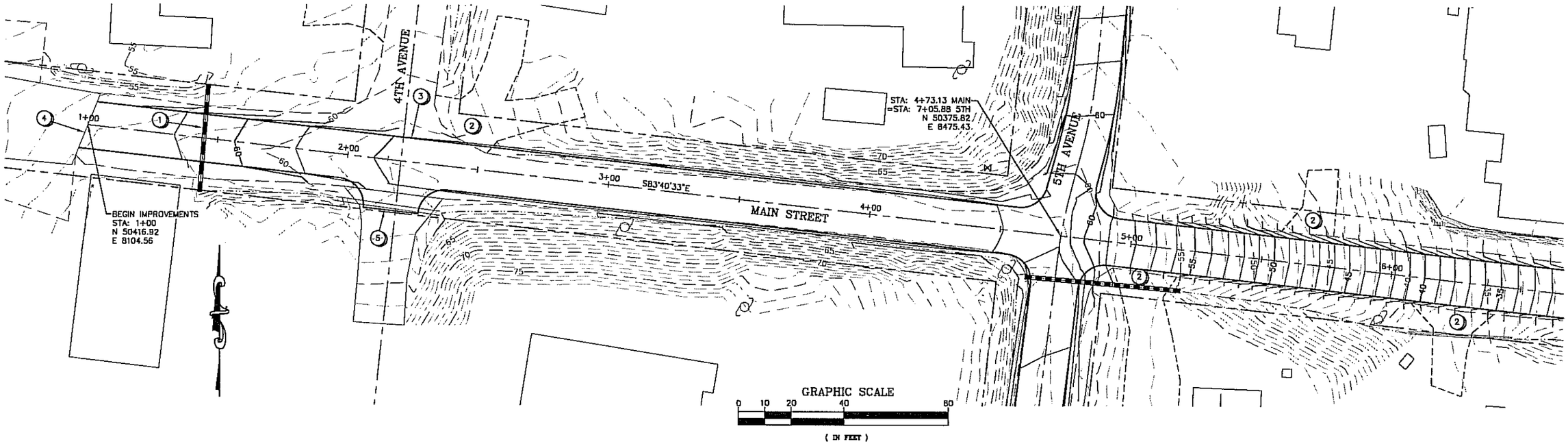
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

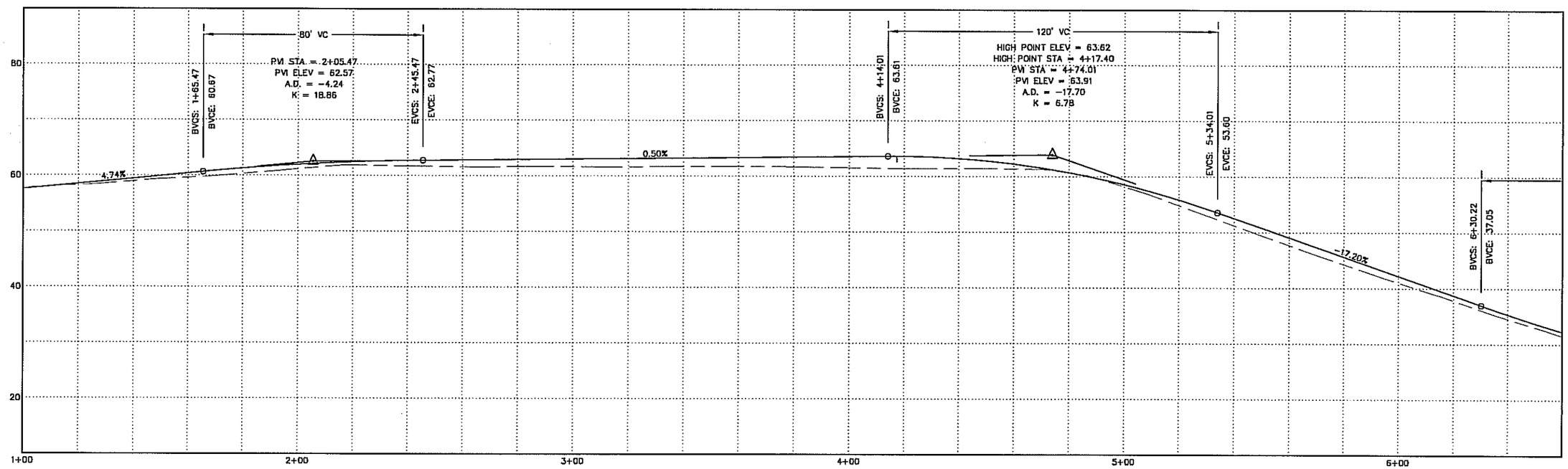
Project: CRAIG PAVING PROJECT

Sheet Description: CEDAR STREET PLAN AND PROFILE
STATION 6+60 - END

Sheet No. C5

STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
REGISTERED PROFESSIONAL ENGINEER





CONSTRUCTION DATA

1. REPACE EXISTING 12" CMP CULVERT WITH 12" CPP CULVERT MATCH EXISTING IE'S. L=45.5'
2. INSTALL GRAVEL DRIVEWAY APPOACH SEE DETAIL SHEET D1
3. INSTALL AND COMPACT CUSHED ROCK (D1) AS NEEDED TO PROVIDE SMOOTH TRANSITION AT INTERSECTION
4. SAWCUT AND REPLACE EXISTING ASPHALT AS NEEDED TO PROVIDE SMOOTH TRANSITION
5. PROVIDE ASPHALT APPROACH TO MATCH EXISTING ASPHALT

Date	No.	Description	By
		Revision	

Designed: RKB	Approved: TSS	Scale: AS SHOWN	
Drawn: RKB	Date: 07/16/09	Project: 092709	
Checked: TSS	File: MAIN STREET.DWG		

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

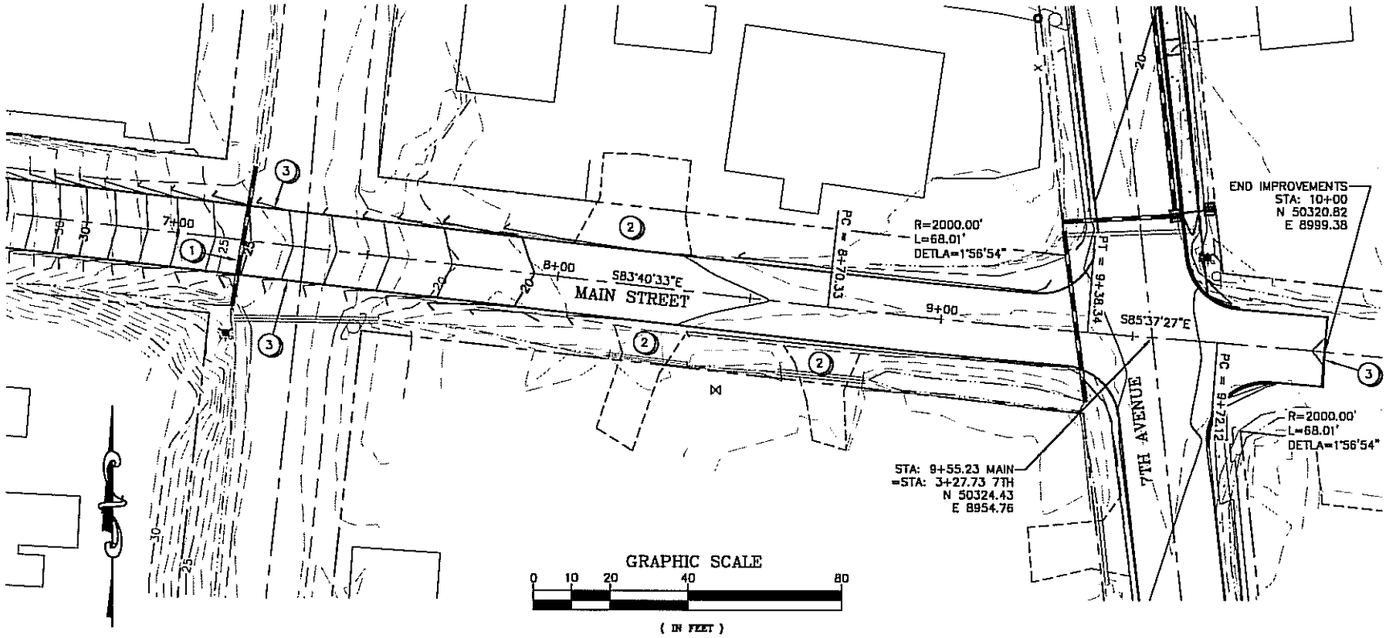
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

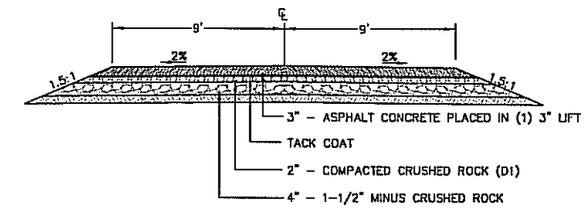
Project: CRAIG PAVING PROJECT

Sheet Description: MAIN STREET PLAN AND PROFILE
STATION 1+00 - 6+60

Sheet No. C6

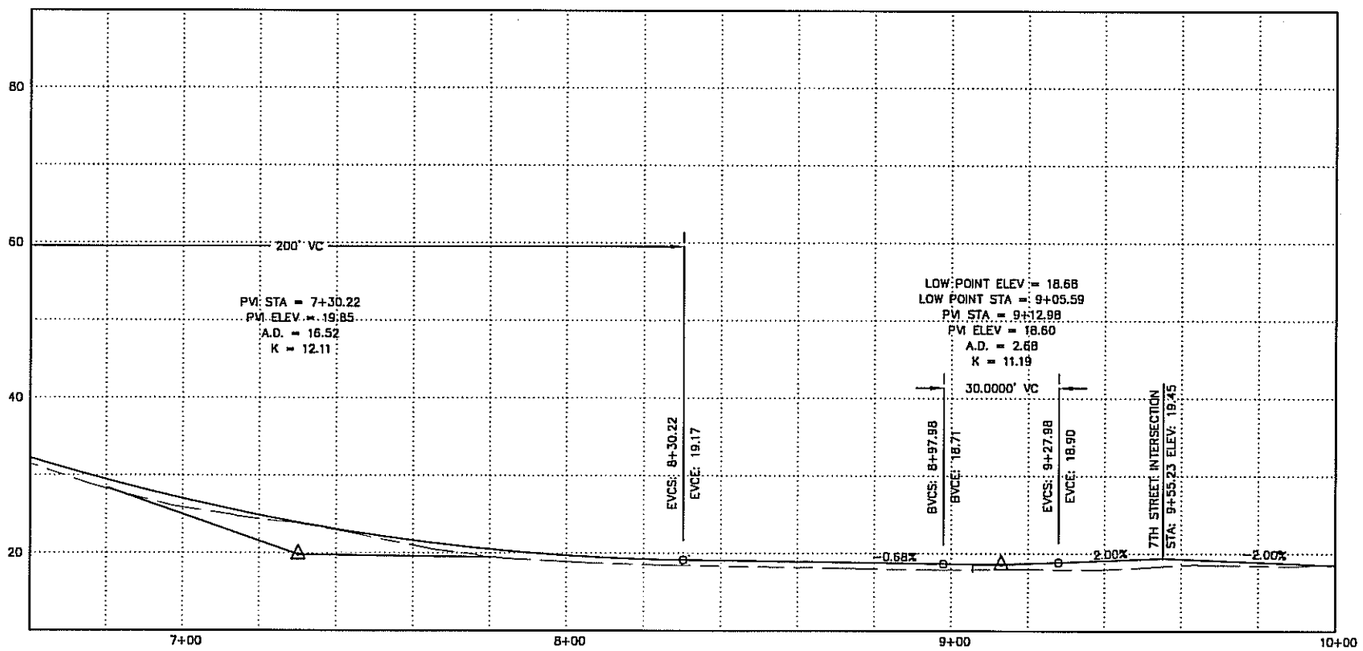
STATE OF ALASKA 49th TREVOR SANDE CE 9778 PROFESSIONAL ENGINEER





MAIN STREET TYPICAL SECTION

NOT TO SCALE



CONSTRUCTION DATA

1. REPACE EXISTING 12" CMP CULVERT WITH 12" CPP CULVERT MATCH EXISTING IE'S. L=36.3'
2. INSTALL GRAVEL DRIVEWAY APPOACH SEE DETAIL SHEET D1
3. INSTALL AND COMPACT CUSHED ROCK (D1) AS NEEDED TO PROVIDE SMOOTH TRANSITION AT INTERSECTION

Date	No.	Description	By
		Revision	

Designed: RKB	Approved: TSS	Scale: AS SHOWN	
Drawn: RKB	Date: 07/16/09	Project: 092709	
Checked: TSS	File: MAIN STREET.DWG		

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

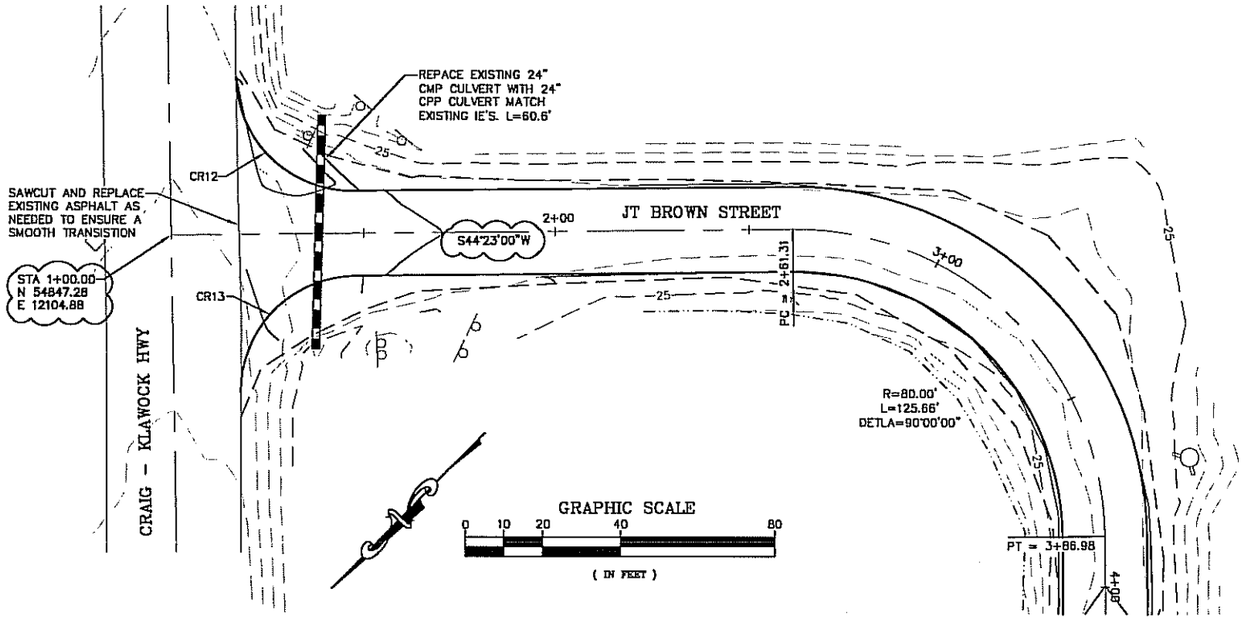
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

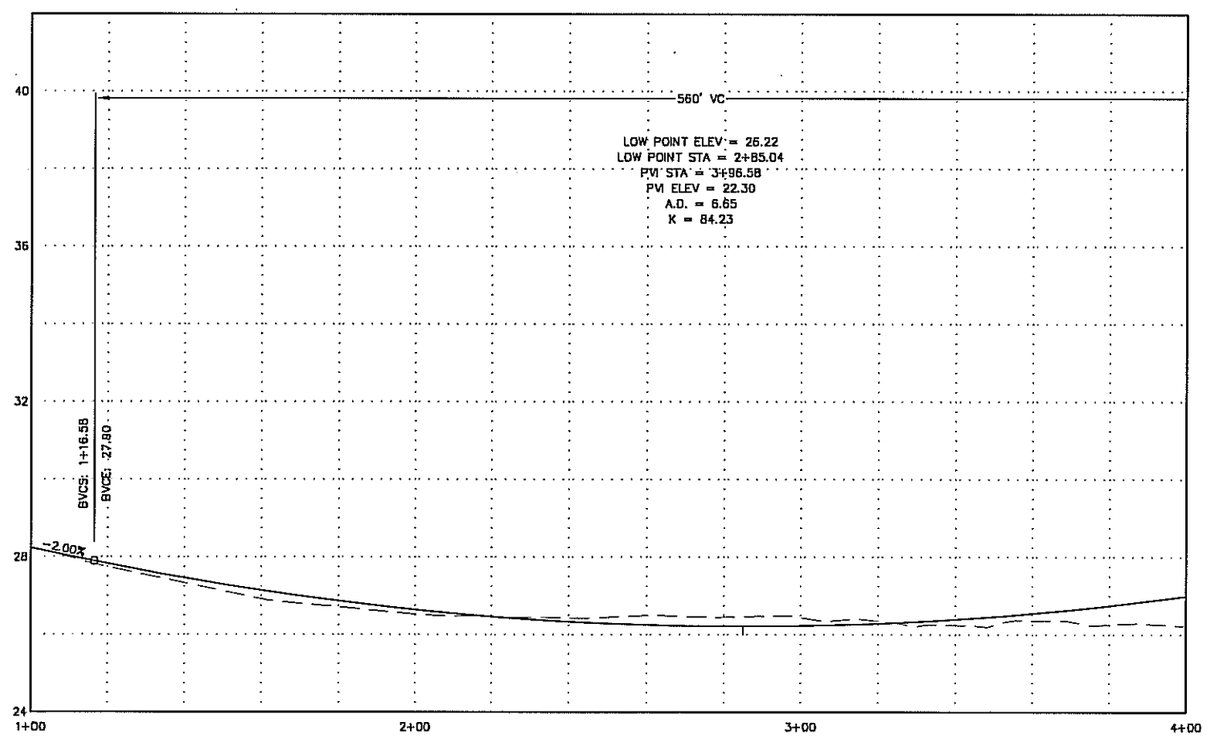
Project: CRAIG PAVING PROJECT

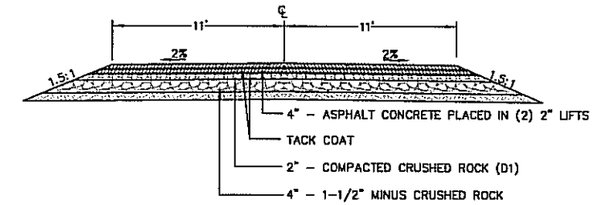
Sheet Description: MAIN STREET PLAN AND PROFILE
STATION 6+60 – 10+00

Sheet No. C7

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER

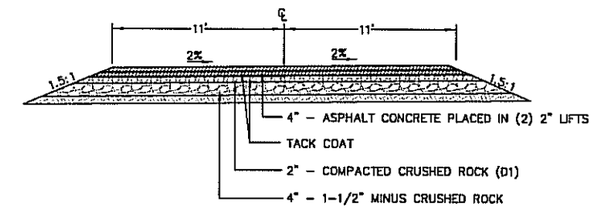






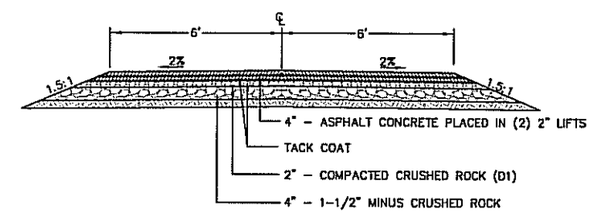
STA 1+00 – 2+00
STA 3+60–17+58.17
STA 20+16.81 – END

JT BROWN STREET TYPICAL SECTION
NOT TO SCALE



STA 2+20–3+40

JT BROWN STREET TYPICAL SECTION
NOT TO SCALE



STA 18+60 – 19+60

JT BROWN STREET TYPICAL SECTION
NOT TO SCALE

CURVE RETURN DATA

CURVE #CR12 R=30.0' DELTA=89-29-40 L=46.86'

LOCATION	EP ELEV.
PC – STA 1+17.29 37.75' LT JT BROWN	27.00
MID	26.53
PT – STA 1+47.25 11' LT JT BROWN	27.13

CURVE #CR13 R=30.0' DELTA=89-35-22 L=46.91'

LOCATION	EP ELEV.
PC – STA 1+47.70 11' RT JT BROWN	27.12
MID	27.84
PT – STA 1+17.70 40.79' RT JT BROWN	28.56

Date	No.	Revision	By
9/18/09	1	REVISED TANGENT BEARING AND ADDED BEGINING STATION LOCATION	RKB

Designed: RKB | Approved: TSS | Scale: AS SHOWN
Drawn: RKB | Date: 07/16/09 | Project: 092709
Checked: TSS | File: JT BROWNS STREET.DWG

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

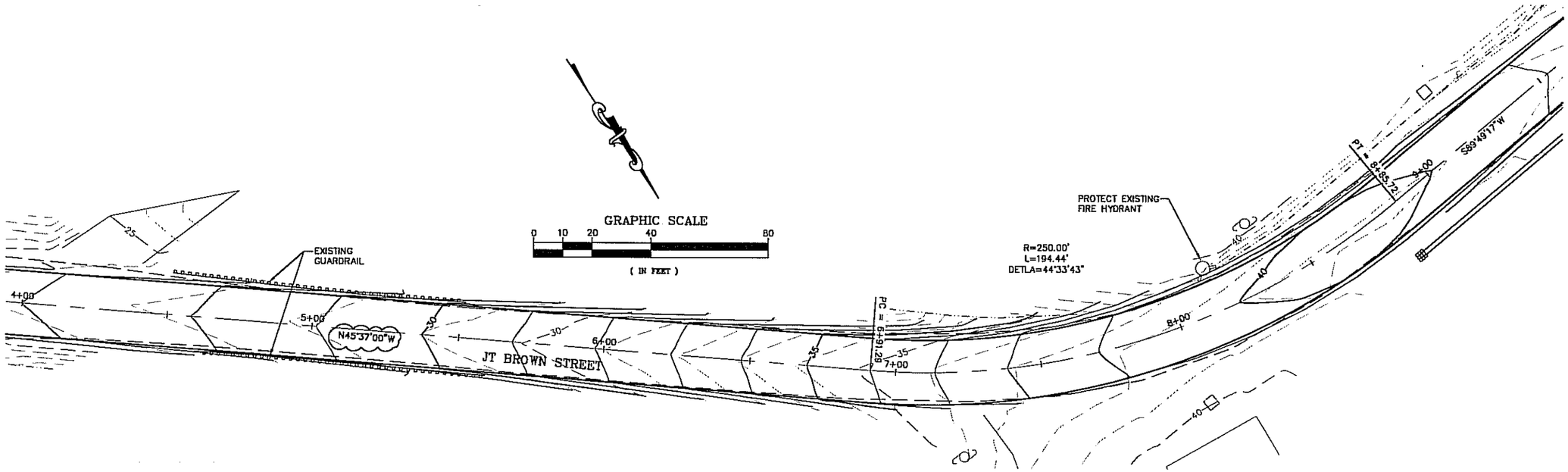
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

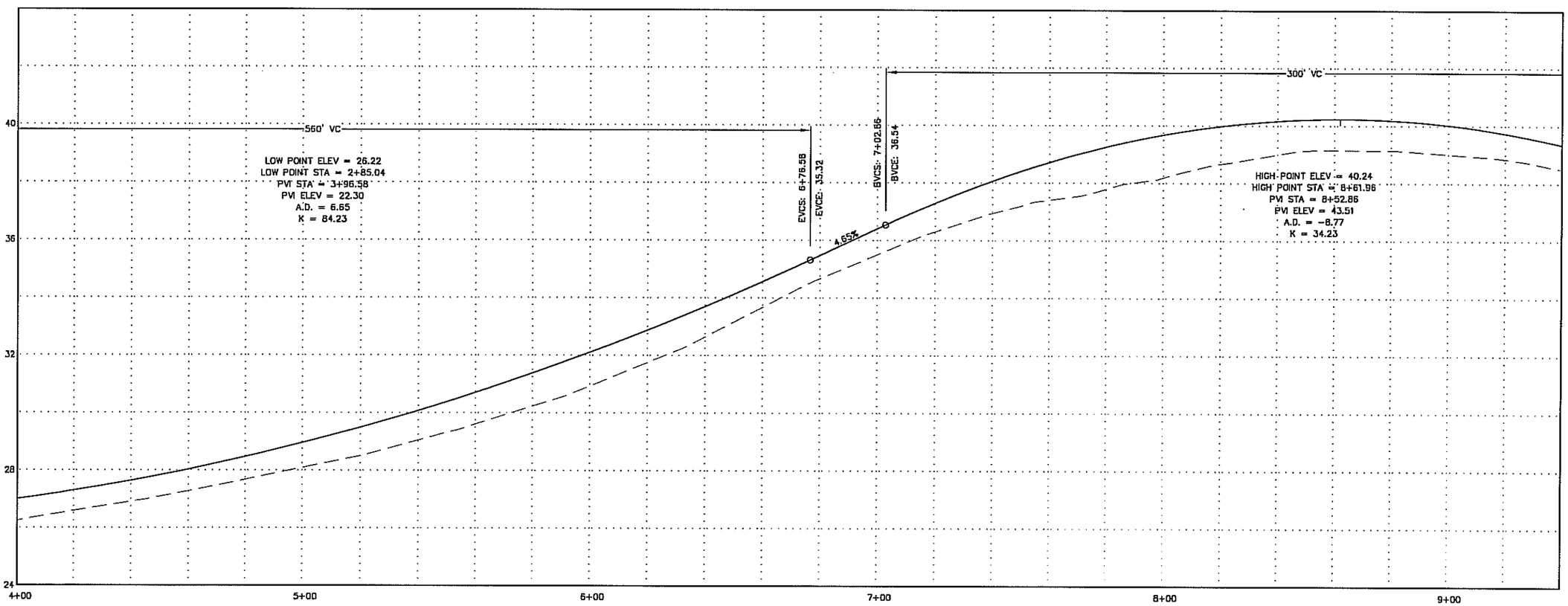
Project: CRAIG PAVING PROJECT

Sheet Description: JT BROWNS ST PLAN AND PROFILE
STATION 1+00 - 4+00

Sheet No. C8

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER





Date	No.	Description	By
9/16/09	1	REVISED TANGENT BEARING	RKB

Revision

Designed: RKB | Approved: TSS | Scale: AS SHOWN
Drawn: RKB | Date: 07/16/09 | Project: 092709
Checked: TSS | File: JT BROWNS STREET.DWG

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

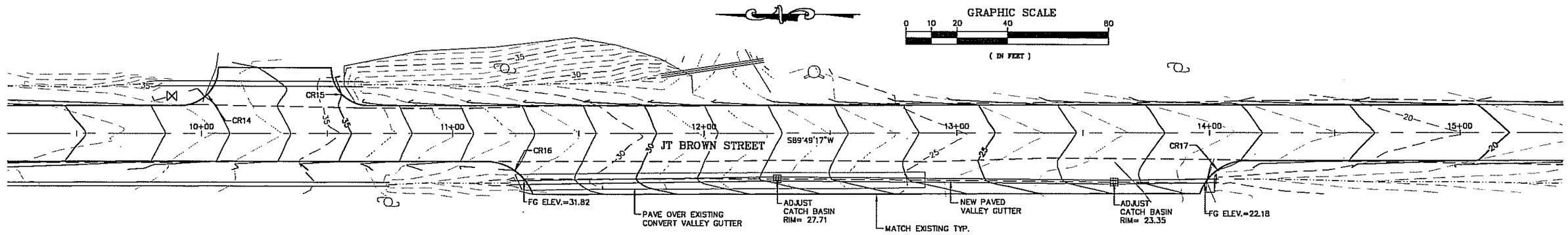
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

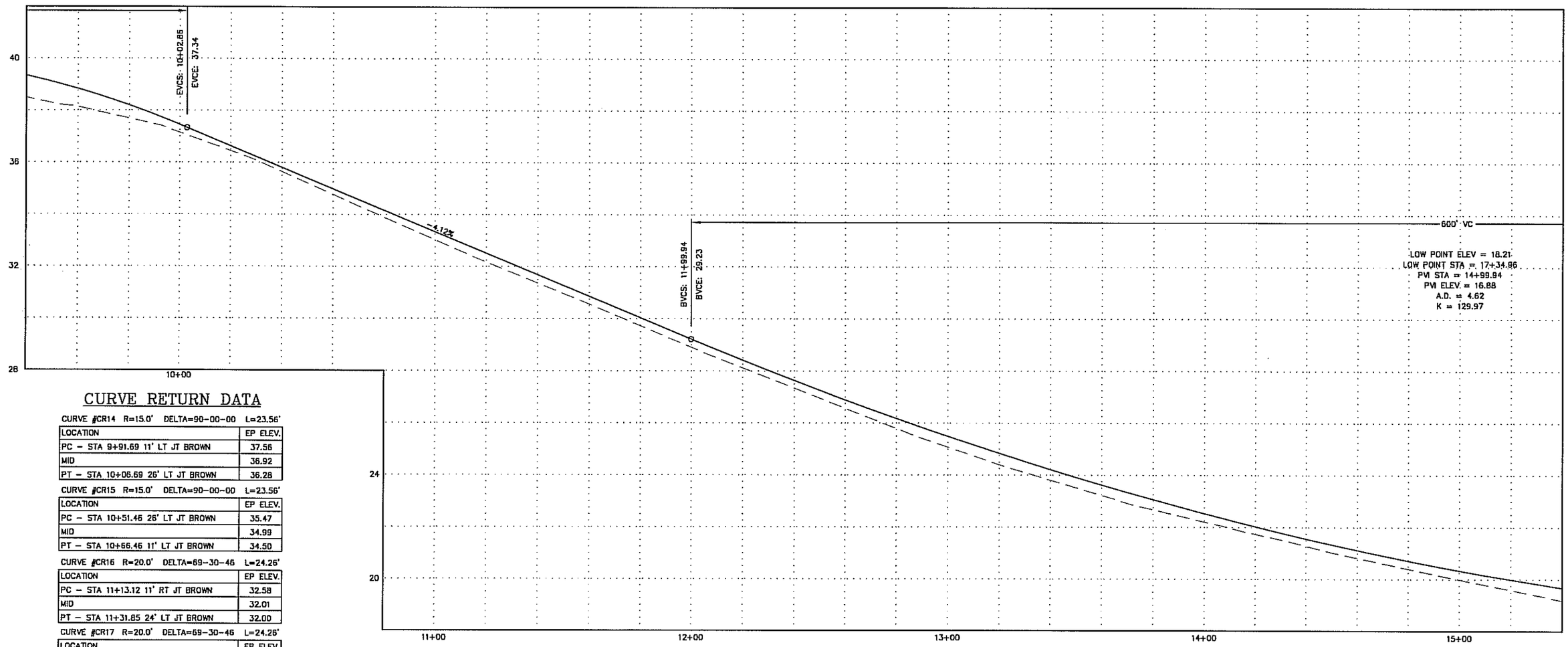
Project: CRAIG PAVING PROJECT

Sheet Description: JT BROWNS ST PLAN AND PROFILE
STATION 4+00 - 9+40

Sheet No. C9

STATE OF ALASKA
49th
TREVOR SANDE
CE 9778
REGISTERED PROFESSIONAL ENGINEER





CURVE RETURN DATA

CURVE #CR14 R=15.0' DELTA=90-00-00 L=23.56'

LOCATION	EP ELEV.
PC – STA 9+91.69 11' LT JT BROWN	37.56
MID	36.92
PT – STA 10+06.69 26' LT JT BROWN	36.28

CURVE #CR15 R=15.0' DELTA=90-00-00 L=23.56'

LOCATION	EP ELEV.
PC – STA 10+51.46 26' LT JT BROWN	35.47
MID	34.99
PT – STA 10+66.46 11' LT JT BROWN	34.50

CURVE #CR16 R=20.0' DELTA=69-30-46 L=24.26'

LOCATION	EP ELEV.
PC – STA 11+13.12 11' RT JT BROWN	32.58
MID	32.01
PT – STA 11+31.85 24' LT JT BROWN	32.00

CURVE #CR17 R=20.0' DELTA=69-30-46 L=24.26'

LOCATION	EP ELEV.
PC – STA 13+95.97 24' RT JT BROWN	22.81
MID	22.06
PT – STA 14+14.71 11' LT JT BROWN	21.94

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER

Date	No.	Description	By
		Revision	

Designed: RKB
Drawn: RKB
Checked: TSS
Approved: TSS
Date: 07/16/09
File: JT BROWNS STREET.DWG
Scale: AS SHOWN
Project: 092709

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

Project: CRAIG PAVING PROJECT

Sheet Description: JT BROWNS ST PLAN AND PROFILE
STATION 9+40 - 15+40

Sheet No. C10

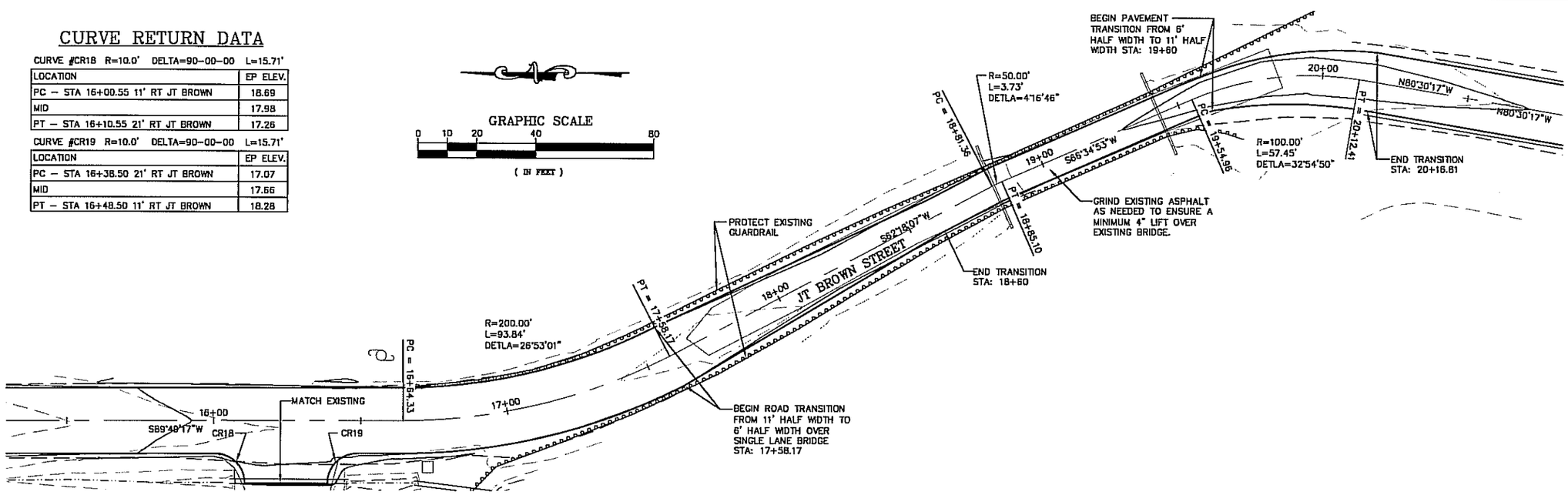
CURVE RETURN DATA

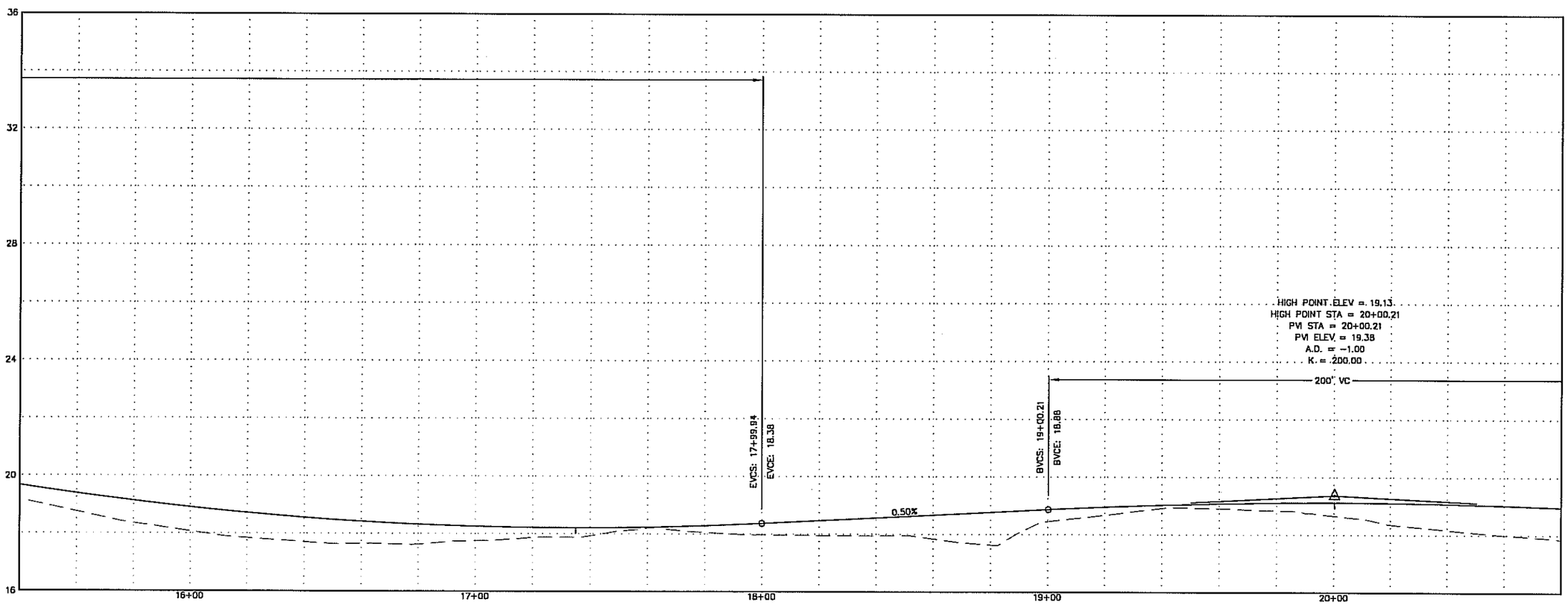
CURVE #CR18 R=10.0' DELTA=90-00-00 L=15.71'

LOCATION	EP ELEV.
PC – STA 16+00.55 11' RT JT BROWN	18.69
MID	17.98
PT – STA 16+10.55 21' RT JT BROWN	17.26

CURVE #CR19 R=10.0' DELTA=90-00-00 L=15.71'

LOCATION	EP ELEV.
PC – STA 16+38.50 21' RT JT BROWN	17.07
MID	17.66
PT – STA 16+48.50 11' RT JT BROWN	18.28





Date	No.	Description	By
		Revision	

Designed: RKB | Approved: TSS | Scale: AS SHOWN
Drawn: RKB | Date: 07/16/09 | Project: 092709
Checked: TSS | File: JT BROWNS STREET.DWG

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

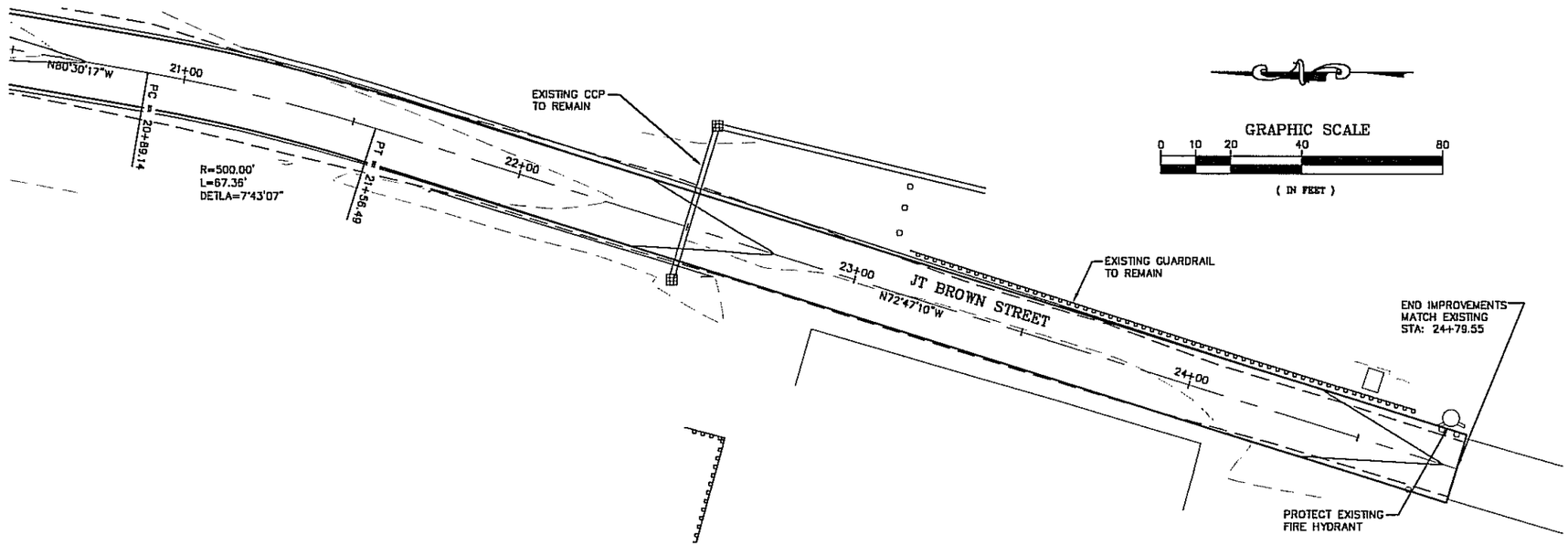
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

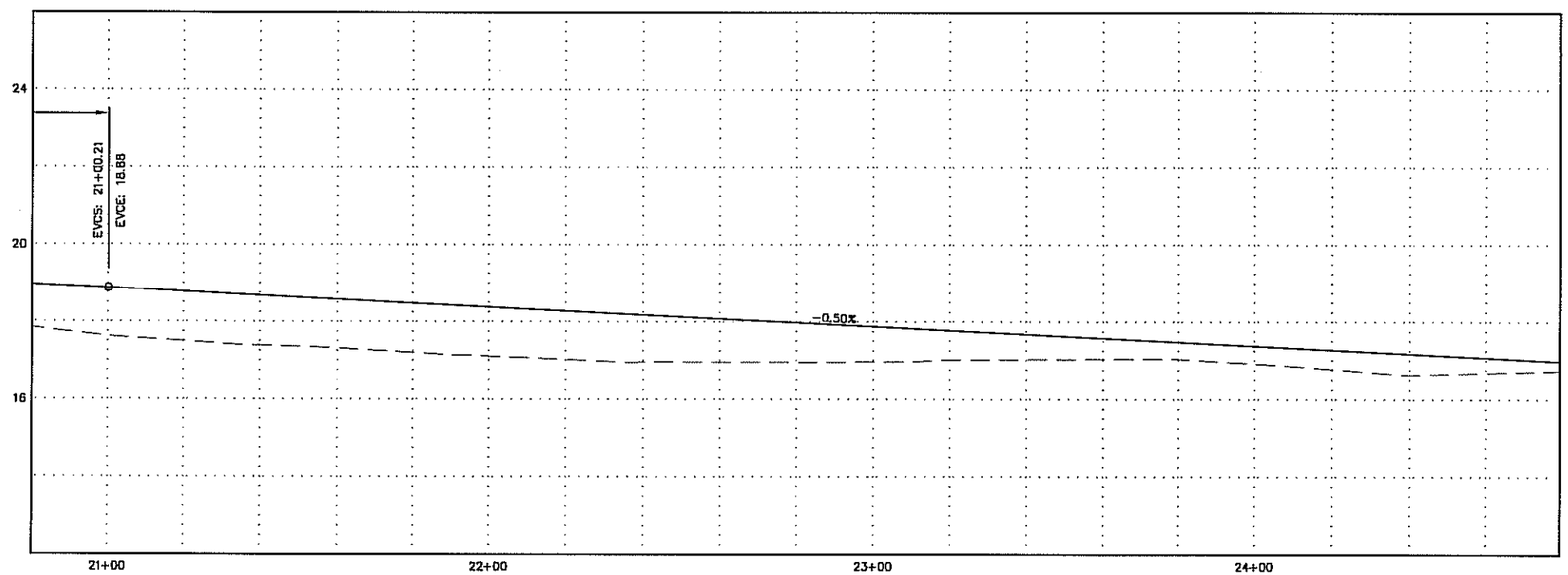
Project: CRAIG PAVING PROJECT

Sheet Description: JT BROWNS ST PLAN AND PROFILE
STATION 15+40- 20+80

Sheet No. C11

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER





Date	No.	Description	By
		Revision	

Designed: RKB	Approved: TSS	Scale: AS SHOWN	
Drawn: RKB	Date: 07/16/09	Project: 092709	
Checked: TSS	File: JT BROWNS STREET.DWG		

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

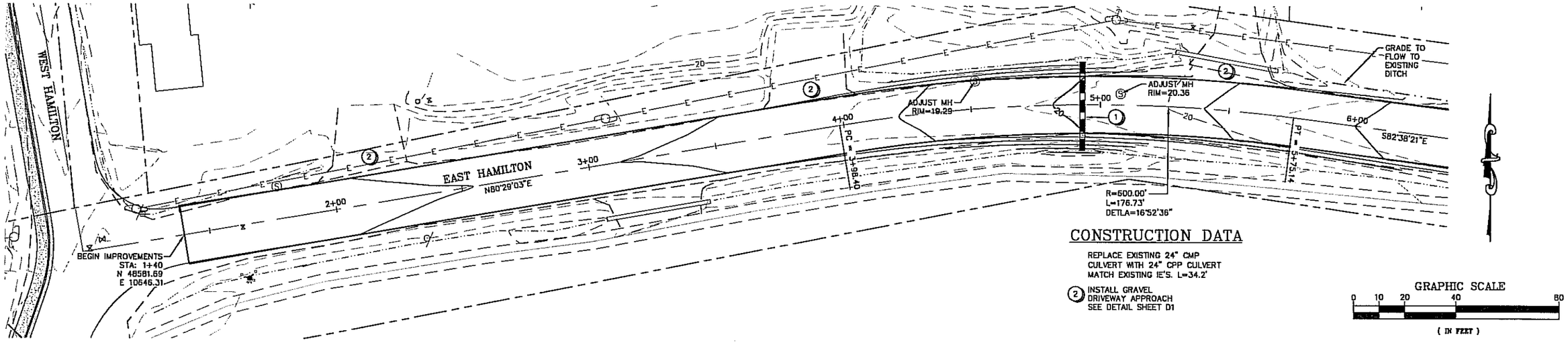
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

Project: CRAIG PAVING PROJECT

Sheet Description: JT BROWNS ST PLAN AND PROFILE
STATION 20+80~ END

Sheet No. C12

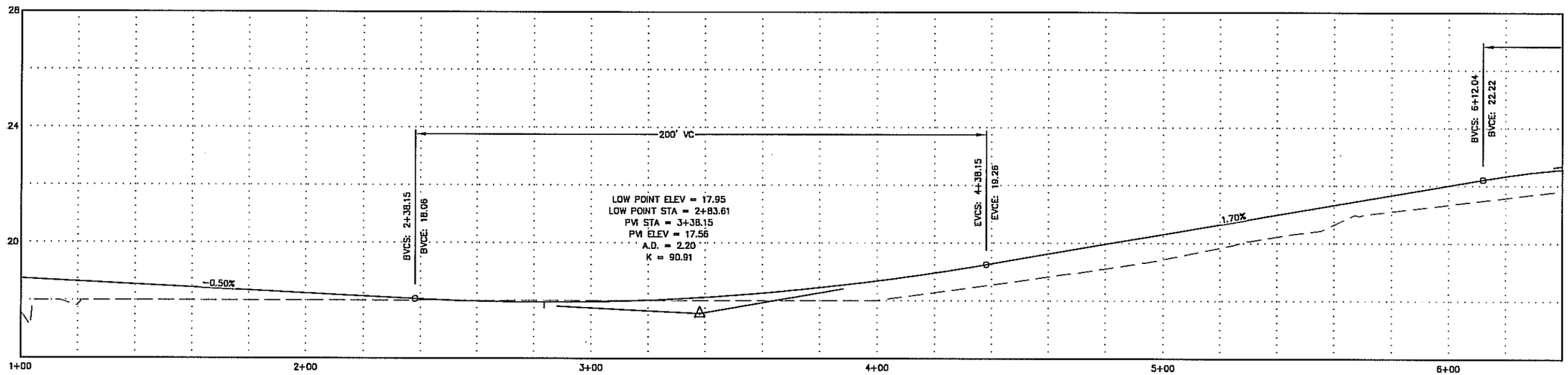
STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER

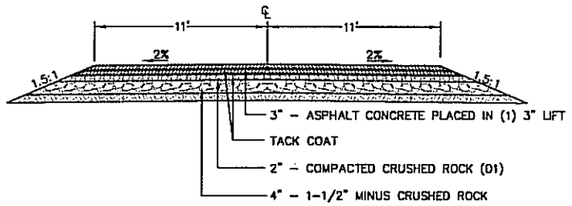


CONSTRUCTION DATA

REPLACE EXISTING 24" CMP CULVERT WITH 24" CPP CULVERT MATCH EXISTING IE'S. L=34.2'

(2) INSTALL GRAVEL DRIVEWAY APPROACH SEE DETAIL SHEET D1





EAST HAMILTON TYPICAL SECTION

NOT TO SCALE

Date	No.	Description	By
		Revision	

Designed: RKB	Approved: TSS	Scale: AS SHOWN	
Drawn: RKB	Date: 07/16/09	Project: 092709	
Checked: TSS	File: JT BROWNS STREET.DWG		

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

Project: CRAIG PAVING PROJECT

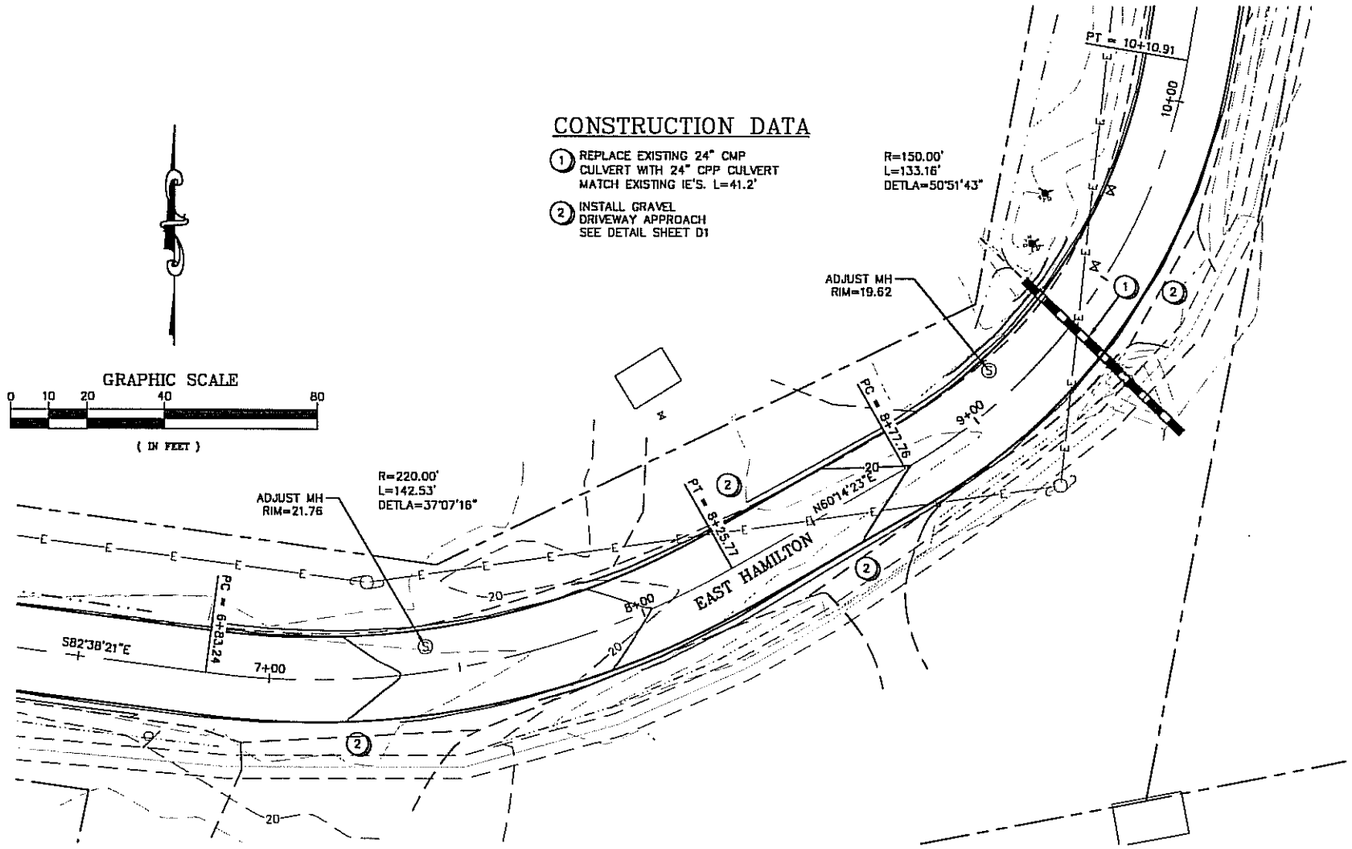
Sheet Description: EAST HAMILTON PLAN AND PROFILE
STATION 1+00 -6+40

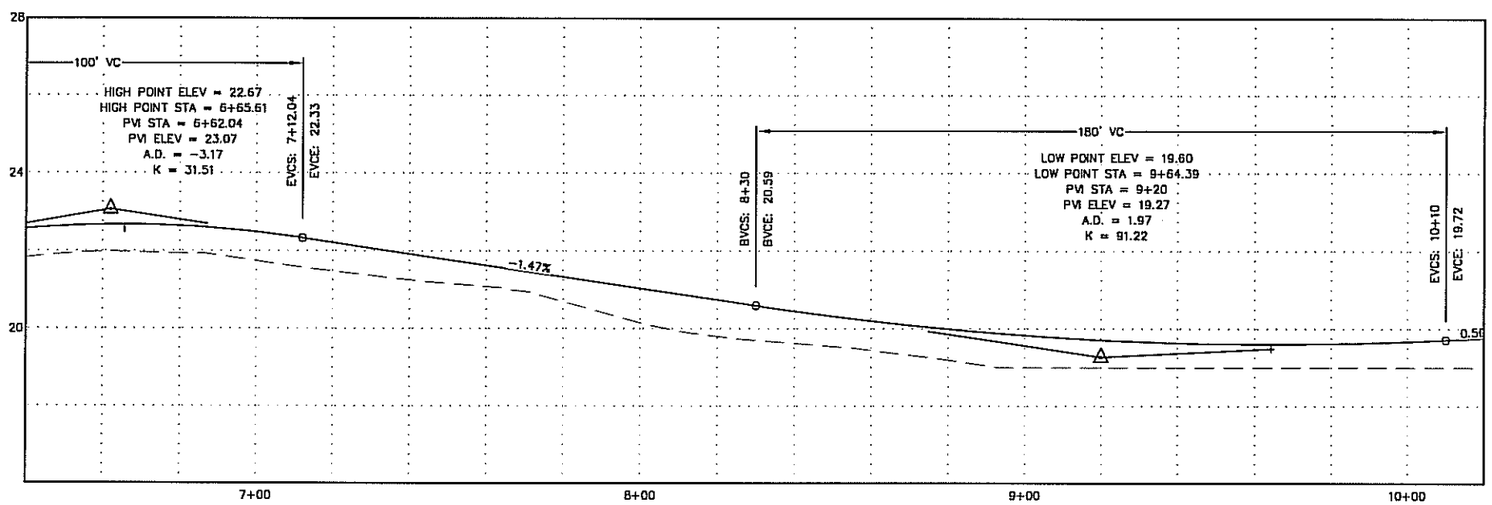
Sheet No. C13

STATE OF ALASKA
10th
TREVOR SANDE
CE 9778
REGISTERED PROFESSIONAL ENGINEER

CONSTRUCTION DATA

1. REPLACE EXISTING 24" CMP CULVERT WITH 24" CPP CULVERT MATCH EXISTING IE'S. L=41.2'
2. INSTALL GRAVEL DRIVEWAY APPROACH SEE DETAIL SHEET D1





Date	No.	Description	By
		Revision	

Designed RKB	Approved TSS	Scale: AS SHOWN	
Drawn: RKB	Date: 07/16/09	Project: 092709	
Checked: TSS	File: JT BROWNS STREET.DWG		

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R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

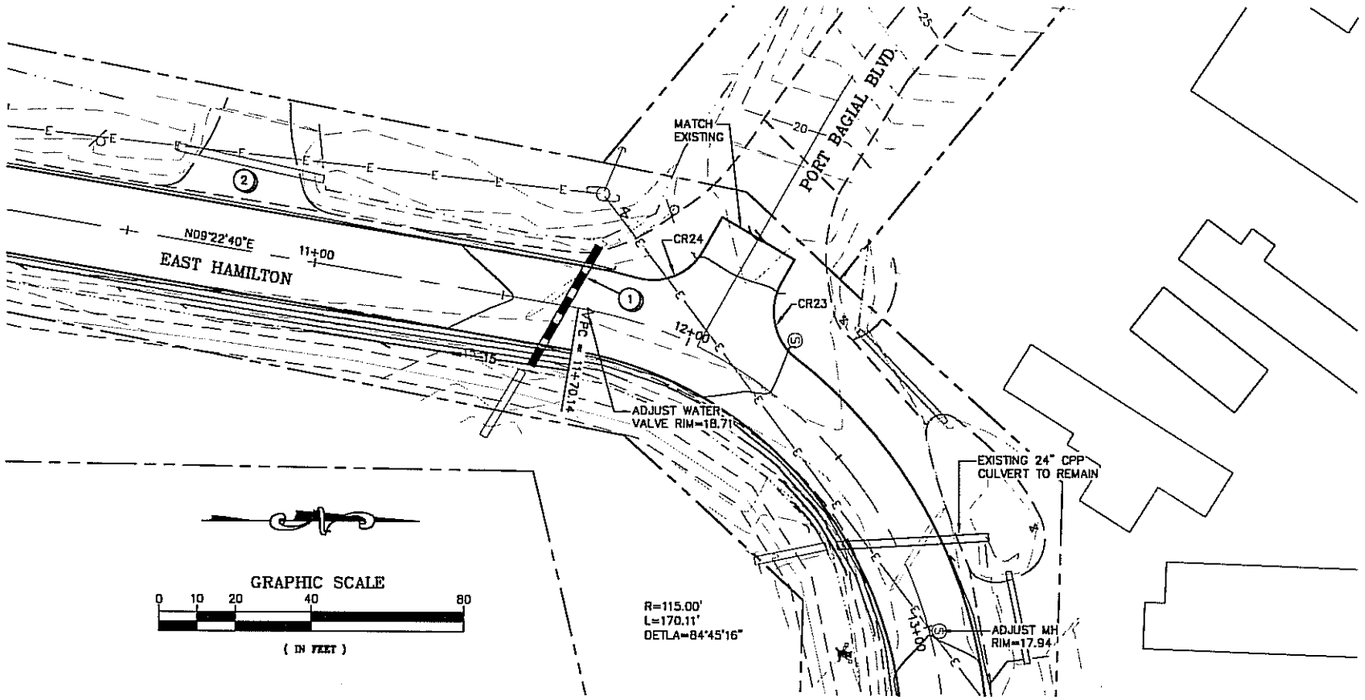
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

Project: CRAIG PAVING PROJECT

Sheet Description: EAST HAMILTON PLAN AND PROFILE
STATION 6+40 -10+20

Sheet No. C14

STATE OF ALASKA
19th
TREVOR SANDE
CE 9778
REGISTERED PROFESSIONAL ENGINEER



CONSTRUCTION DATA

1. REPLACE EXISTING 24" CMP CULVERT WITH 24" CPP CULVERT MATCH EXISTING IE'S. L=35.7'
2. INSTALL GRAVEL DRIVEWAY APPROACH SEE DETAIL SHEET D1

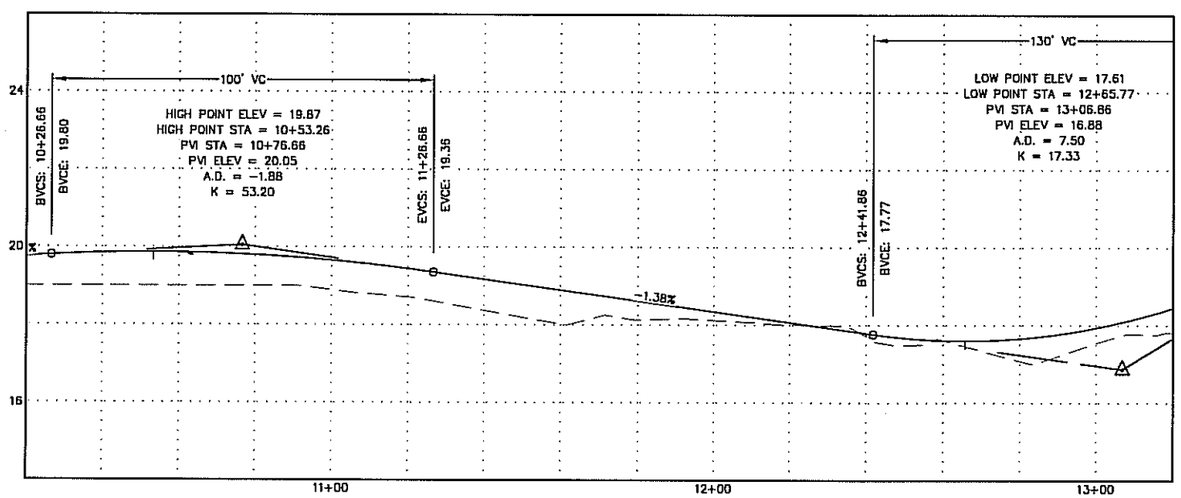
CURVE RETURN DATA

CURVE #CR23 R=10.0' DELTA=138-28-54 L=25.70'

LOCATION	EP ELEV.
PC – STA 12+13.32 24.98' LT E. HAMILTON	19.19
MID	18.49
PT – STA 12+25.59 11' LT E. HAMILTON	17.78

CURVE #CR24 R=10.0' DELTA=142-09-59 L=24.13'

LOCATION	EP ELEV.
PC – STA 11+82.83 11' LT E. HAMILTON	18.37
MID	18.73
PT – STA 11+94.96 23.05' LT E. HAMILTON	19.10



Date	No.	Description	By
		Revision	

Designed: RKB | Approved: TSS | Scale: AS SHOWN
Drawn: RKB | Date: 07/16/09 | Project: 092709
Checked: TSS | File: JT BROWNS STREET.DWG

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

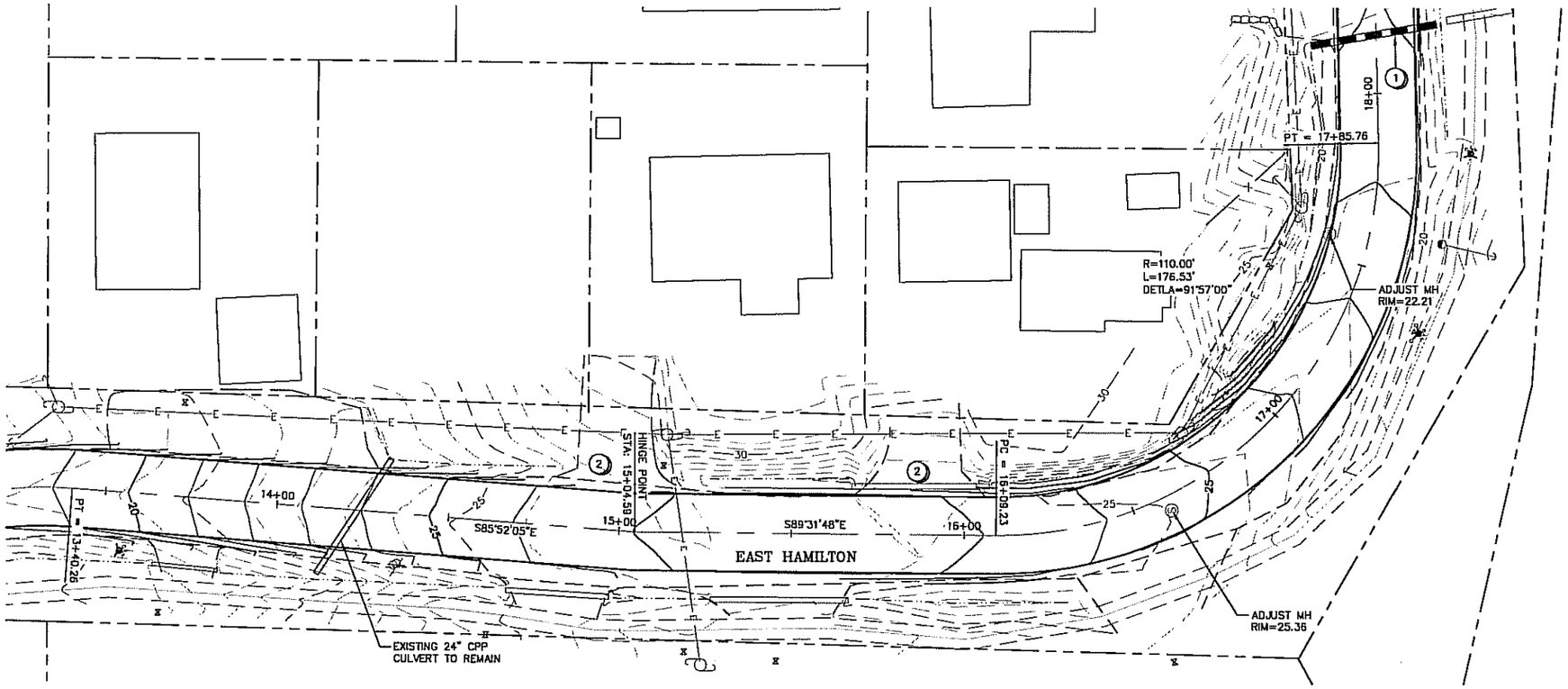
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

Project: CRAIG PAVING PROJECT

Sheet Description: EAST HAMILTON PLAN AND PROFILE
STATION 10+20 -13+20

Sheet No. C15

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER



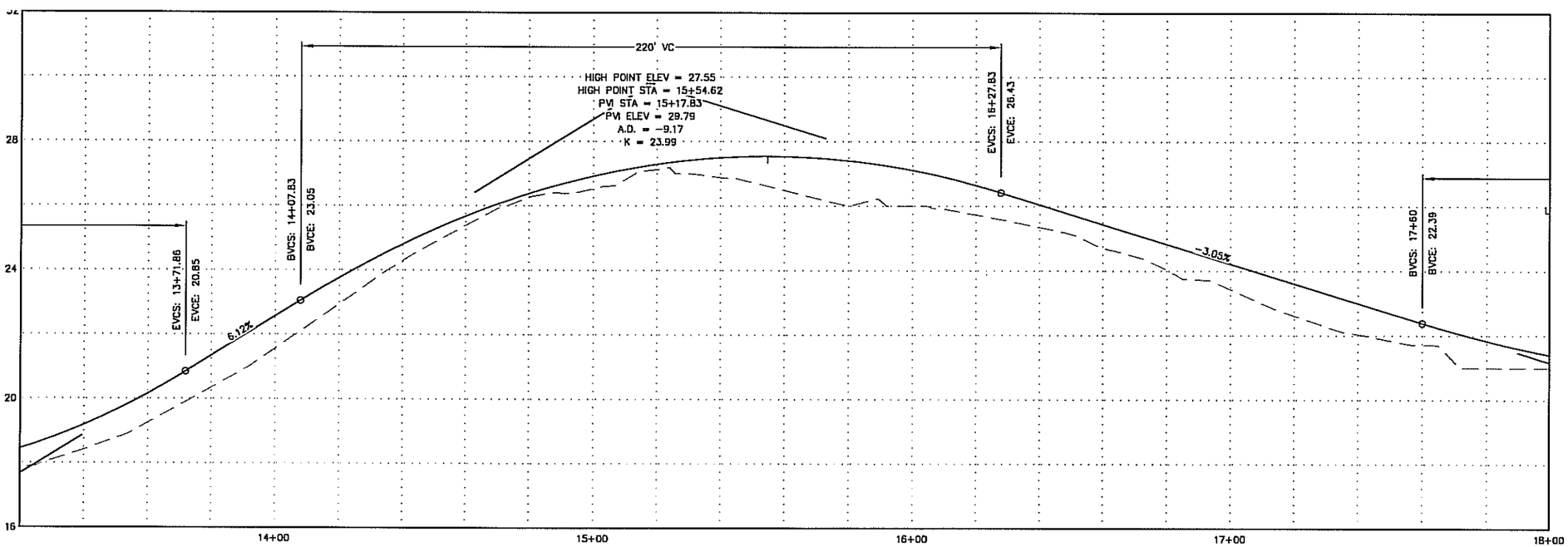
CONSTRUCTION DATA

1. REPLACE EXISTING 24" CMP CULVERT WITH 24" CPP CULVERT MATCH EXISTING IE'S. L=36.7'
2. INSTALL GRAVEL DRIVEWAY APPROACH SEE DETAIL SHEET D1

GRAPHIC SCALE

0 10 20 40 80

(IN FEET)



Date	No.	Description	By
		Revision	

Designed: RKB	Approved: TSS	Scale: AS SHOWN	
Drawn: RKB	Date: 07/16/09	Project: 092709	
Checked: TSS	File: JT BROWNS STREET.DWG		

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

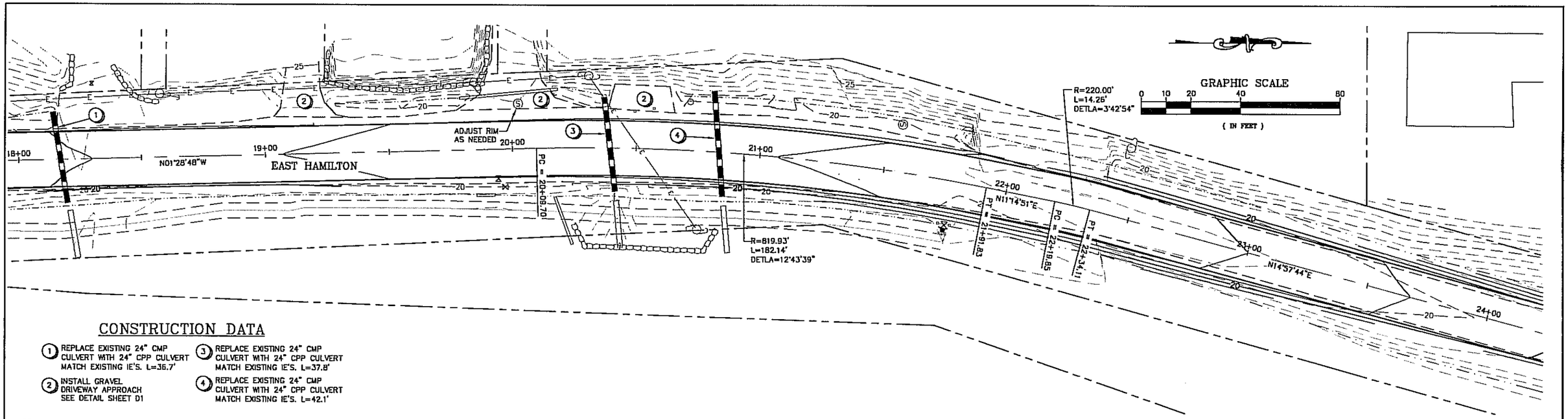
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

Project: CRAIG PAVING PROJECT

Sheet Description: EAST HAMILTON PLAN AND PROFILE
STATION 13+20 -18+00

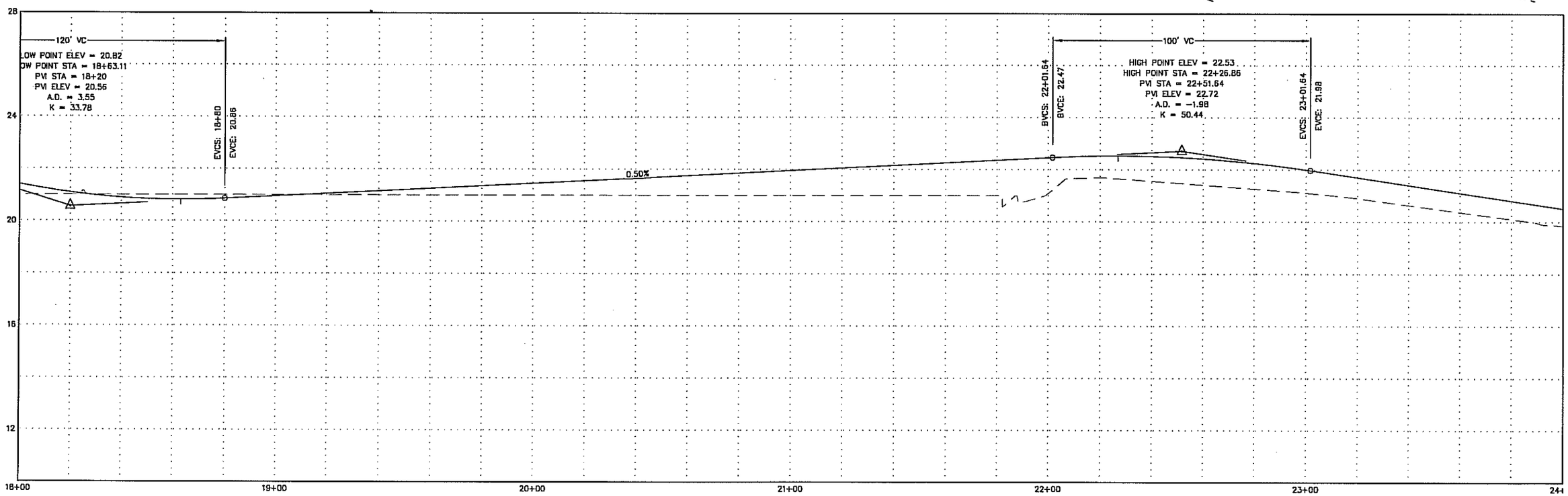
Sheet No. C16

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER



CONSTRUCTION DATA

1. REPLACE EXISTING 24" CMP CULVERT WITH 24" CPP CULVERT MATCH EXISTING IE'S. L=36.7'
2. INSTALL GRAVEL DRIVEWAY APPROACH SEE DETAIL SHEET D1
3. REPLACE EXISTING 24" CMP CULVERT WITH 24" CPP CULVERT MATCH EXISTING IE'S. L=37.8'
4. REPLACE EXISTING 24" CMP CULVERT WITH 24" CPP CULVERT MATCH EXISTING IE'S. L=42.1'



Date	No.	Description	By
		Revision	

Designed: RKB	Approved: TSS	Scale: AS SHOWN	
Drawn: RKB	Date: 07/16/09	Project: 092709	
Checked: TSS	File: JT BROWNS STREET.DWG		

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

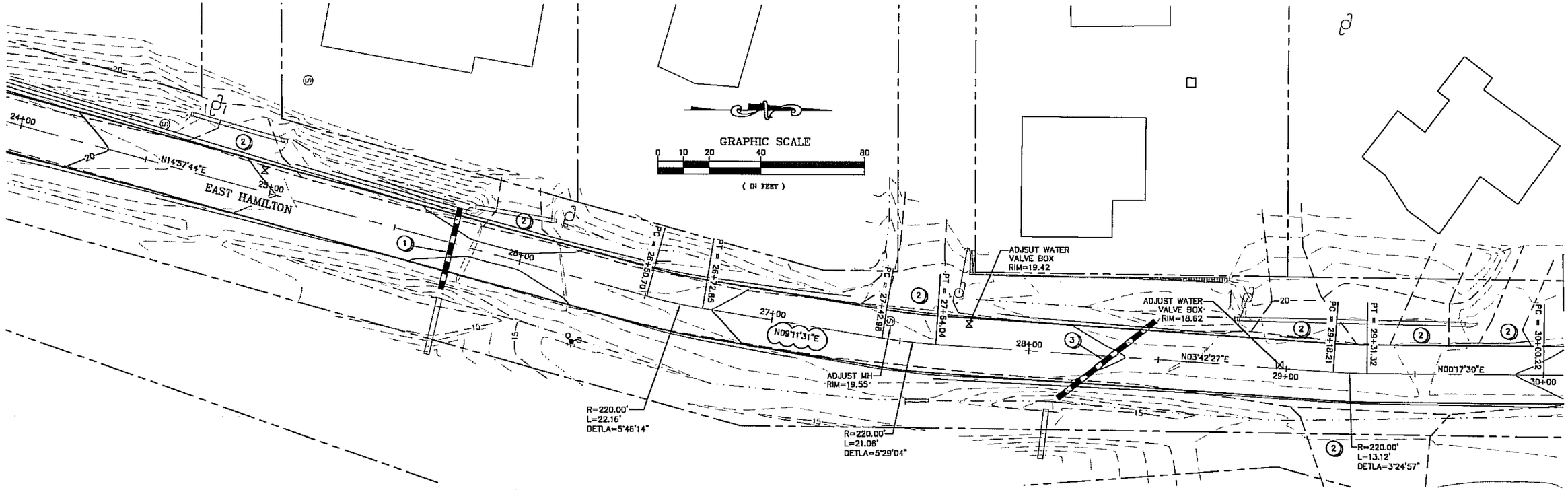
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

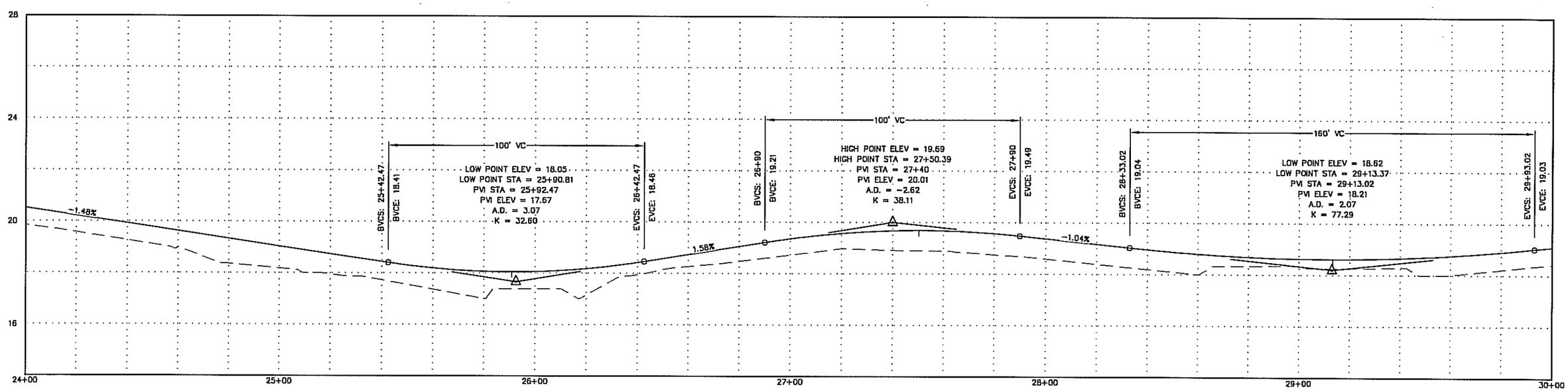
Project: CRAIG PAVING PROJECT

Sheet Description: EAST HAMILTON PLAN AND PROFILE
STATION 18+00 -24+00

Sheet No. C17

STATE OF ALASKA 49th TREVOR SANDE CE 9778 PROFESSIONAL ENGINEER





CONSTRUCTION DATA

1. REPLACE EXISTING 24" CMP CULVERT WITH 24" CPP CULVERT MATCH EXISTING IE'S. L=32.0'
2. INSTALL GRAVEL DRIVEWAY APPROACH SEE DETAIL SHEET D1
3. REPLACE EXISTING 24" CMP CULVERT WITH 24" CPP CULVERT MATCH EXISTING IE'S. L=48.0'

Date	No.	Revision	By
8/16/09	1	ADDED MISSING TANGENT BEARING	RKB

Designed: RKB | Approved: TSS | Scale: AS SHOWN
Drawn: RKB | Date: 07/16/09 | Project: 092709
Checked: TSS | File: JT BROWNS STREET.DWG

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

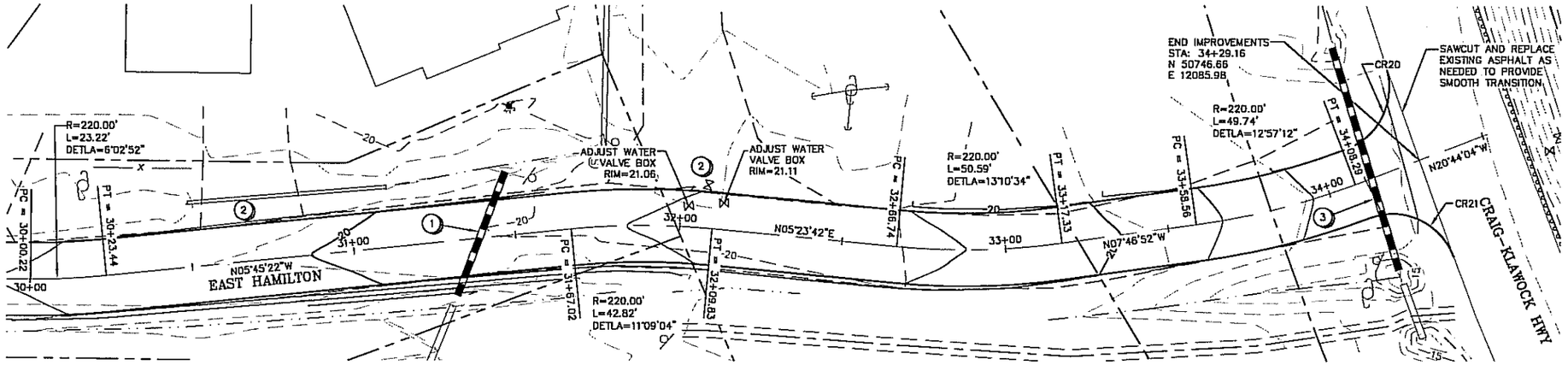
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

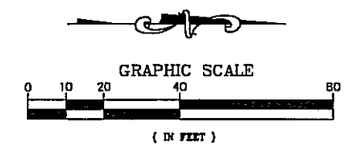
Project: CRAIG PAVING PROJECT

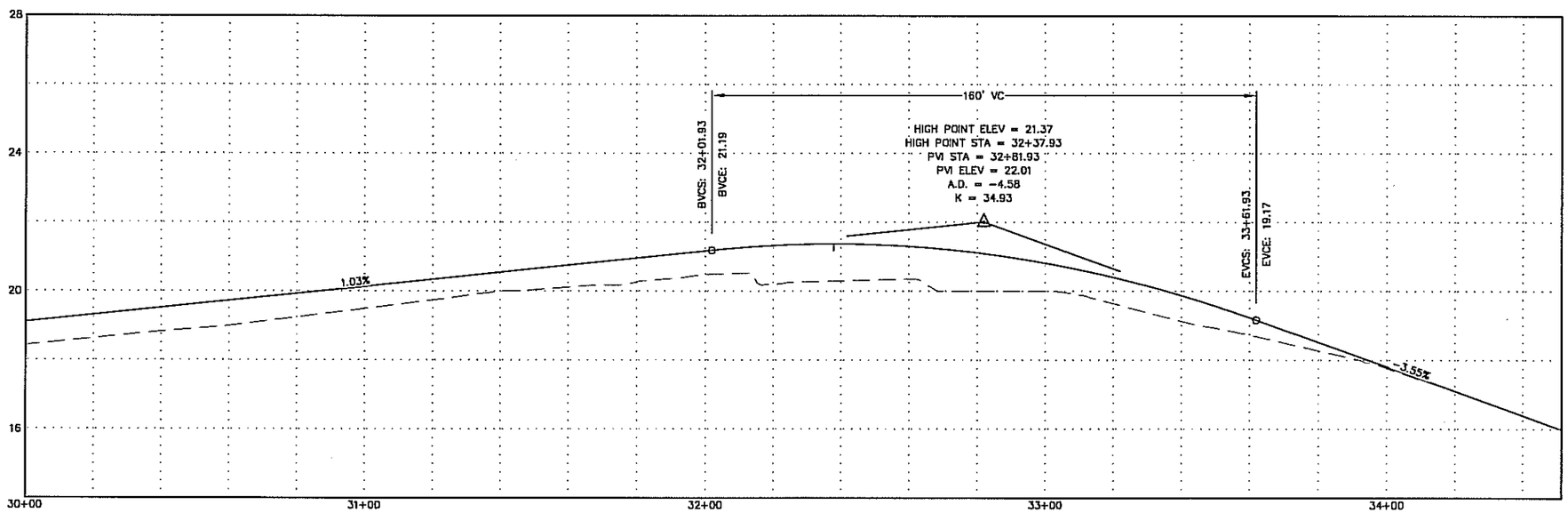
Sheet Description: EAST HAMILTON PLAN AND PROFILE
STATION 24+00 -30+00

Sheet No. C18

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER







CONSTRUCTION DATA

1. REPLACE EXISTING 24" CMP CULVERT WITH 24" CPP CULVERT MATCH EXISTING IE'S. L=40.1'
2. INSTALL GRAVEL DRIVEWAY APPROACH SEE DETAIL SHEET D1
3. REPLACE EXISTING 24" CMP CULVERT WITH 24" CPP CULVERT MATCH EXISTING IE'S. L=70.2'

CURVE RETURN DATA

CURVE #CR20 R=20.0' DELTA=87-20-46 L=30.49'

LOCATION	EP ELEV.
PC – STA 34+29.57 30.1' LT E. HAMILTON	16.81
MID	17.08
PT – STA 34+09.59 11' LT E. HAMILTON	17.26

CURVE #CR21 R=20.0' DELTA=89-54-59 L=31.39'

LOCATION	EP ELEV.
PC – STA 34+08.73 11' RT E. HAMILTON	17.29
MID	16.99
PT – STA 34+28.73 30.97' LT E. HAMILTON	16.68

Date	No.	Description	By
		Revision	

Designed: RKB | Approved: TSS | Scale: AS SHOWN
Drawn: RKB | Date: 07/16/09 | Project: 092709
Checked: TSS | File: JT BROWNS STREET.DWG

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

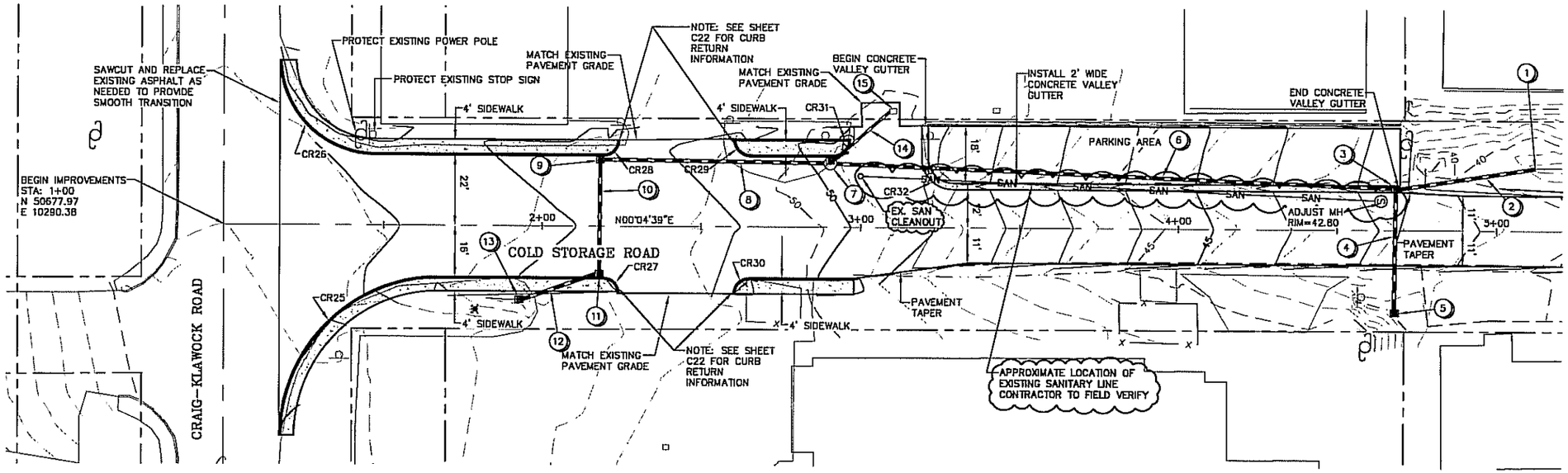
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

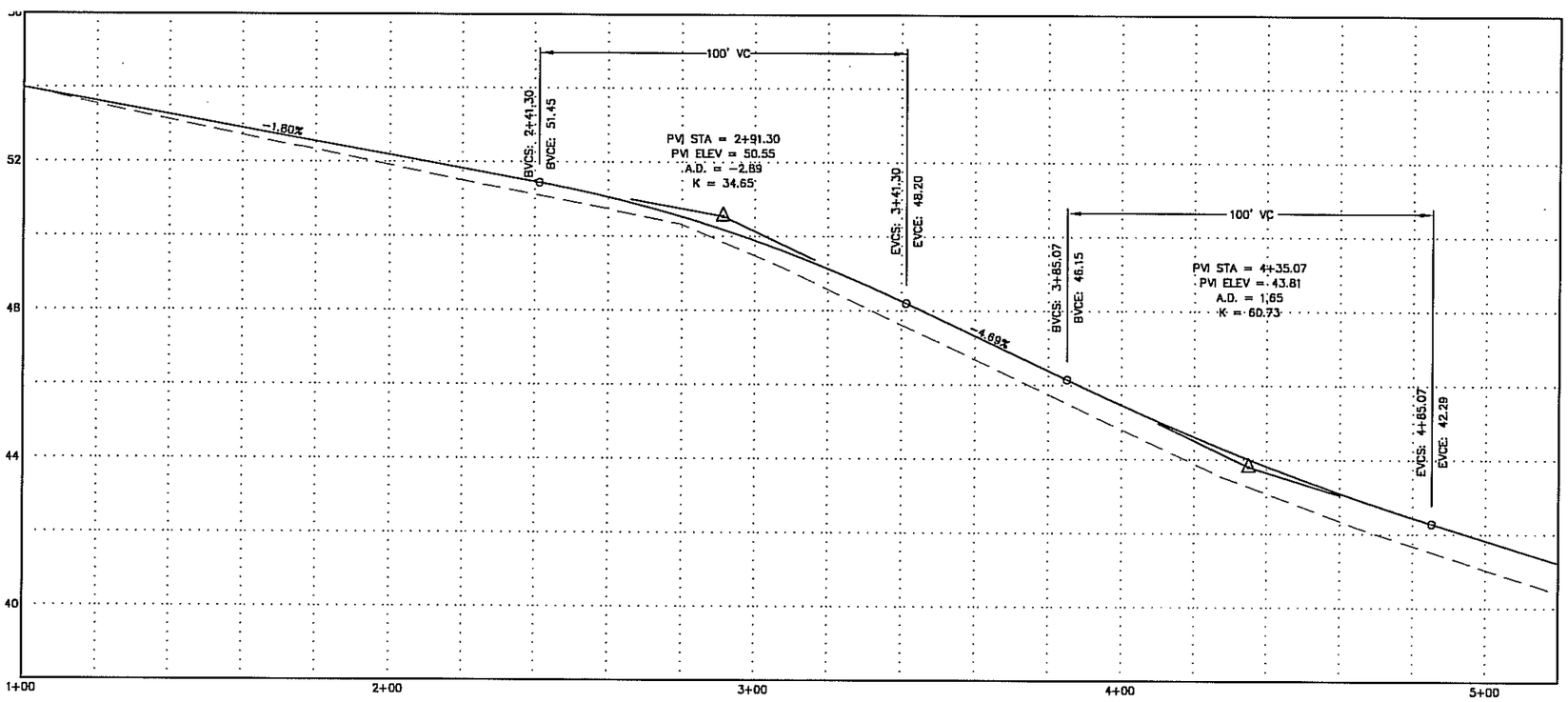
Project: CRAIG PAVING PROJECT

Sheet Description: EAST HAMILTON PLAN AND PROFILE
STATION 30+00 -24+00

Sheet No. C19

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER





CONSTRUCTION DATA

1. STA 5+12.05 19.7' LT DAYLIGHT 18" CPP TO DITCH IE=37.63
2. INSTALL 18" CPP L=43.2', S=0.006
3. STA 4+68.19 13' LT INSTALL STM CB RIM=42.39 18" IE IN(S&E)=38.00 18" IE OUT(N)=37.80
4. INSTALL 18" CPP L=36.6', S=0.005
5. INSTALL STM CB RIM=40.38 18" IE OUT(W)=38.18 N51045.84 E10316.70
6. INSTALL 18" CPP L=174.7', S=0.0446
7. STA 2+90.35 22' LT INSTALL STM MH W/ GRATED RIM. RIM=49.78 18" IE IN(S&W)=46.00 18" IE OUT(N)=45.80
8. INSTALL 18" CPP L=68.9', S=0.005
9. STA 2+18.18 22' LT INSTALL STM CB RIM=51.42 18" IE IN(E)=46.55 18" IE OUT(N)=46.35
10. INSTALL 18" CPP L=33.6', S=0.005
11. STA 2+17.92 16' RT INSTALL STM CB RIM=51.55 18" IE IN(E)=46.92 18" IE OUT(N)=46.72
12. INSTALL 18" CPP L=24.0', S=0.0216
13. STA 1+92.96 23' RT INSTALL STM CB RIM=50.48 12" IE OUT(N)=47.44
14. INSTALL 18" CPP L=22.8', S=0.005 MIN.
15. CONNECT TO EXISTING CATCH BASIN. MATCH IE

Date	No.	Description	By
9/17/09	1	ADDED APRX. SAN. MAIN LOCATION	RKB

Revision

Designed: RKB | Approved: TSS | Scale: AS SHOWN
Drawn: RKB | Date: 07/16/09 | Project: 092709
Checked: TSS | File: COLD STORAGE.DWG

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

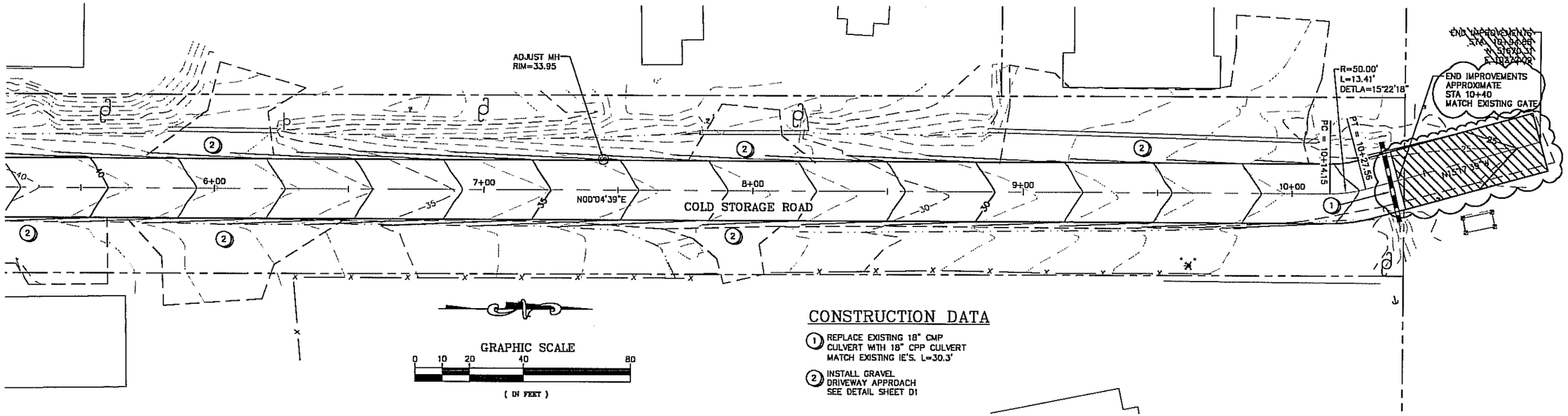
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

Project: CRAIG PAVING PROJECT

Sheet Description: COLD STORAGE RD. PLAN AND PROFILE
STATION 1+00 -5+20

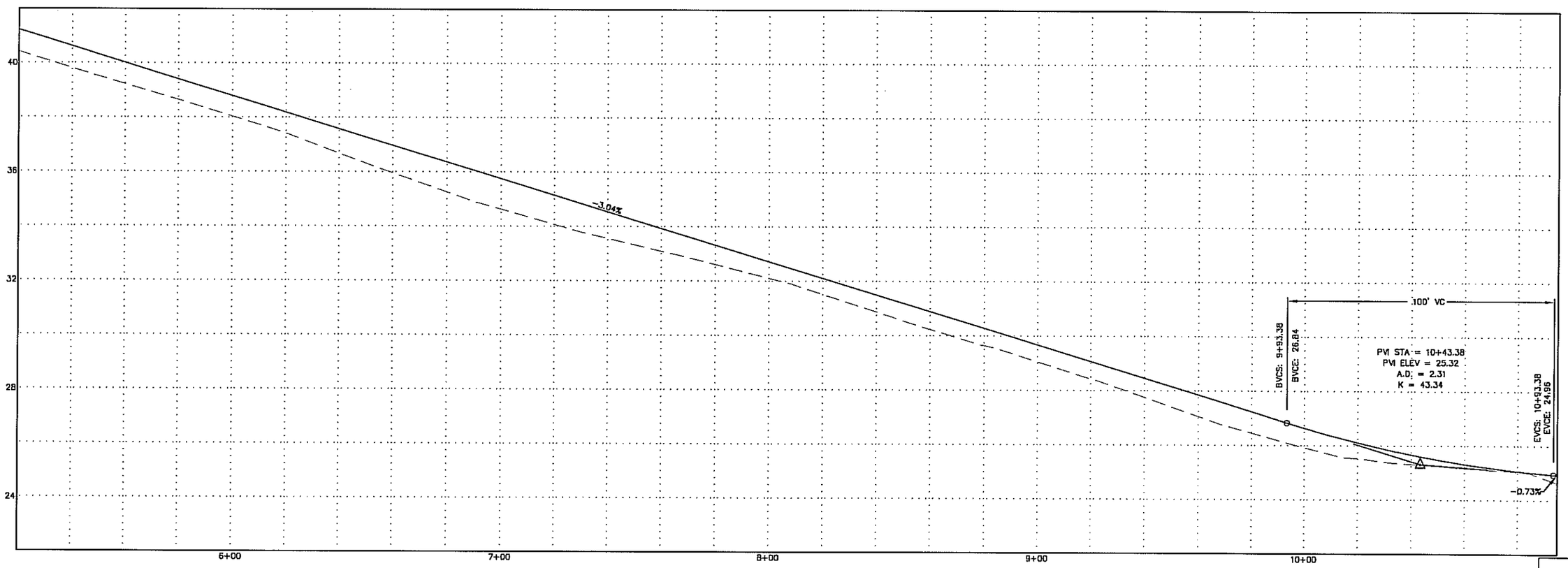
Sheet No. C20

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER



CONSTRUCTION DATA

1. REPLACE EXISTING 18" CMP CULVERT WITH 18" CPP CULVERT MATCH EXISTING IE'S. L=30.3'
2. INSTALL GRAVEL DRIVEWAY APPROACH SEE DETAIL SHEET D1



Date	No.	Description	By
8/16/09	1	REVISED END STATION PER ADDENDUM	RKB

Revision

Designed: RKB	Approved: TSS	Scale: AS SHOWN
Drawn: RKB	Date: 07/16/09	Project: 092709
Checked: TSS	File: COLD STORAGE.DWG	

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

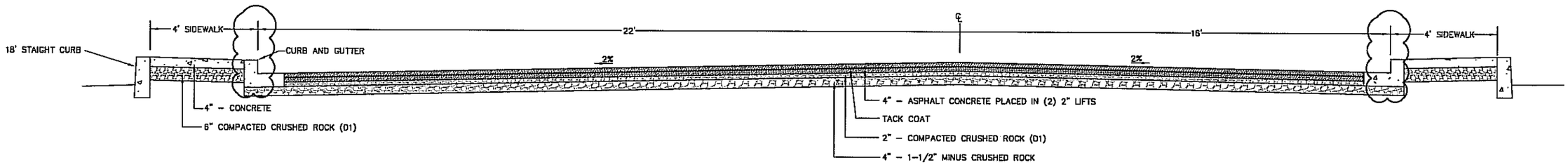
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

Project: CRAIG PAVING PROJECT

Sheet Description: COLD STORAGE RD. PLAN AND PROFILE
STATION 5+20 -END

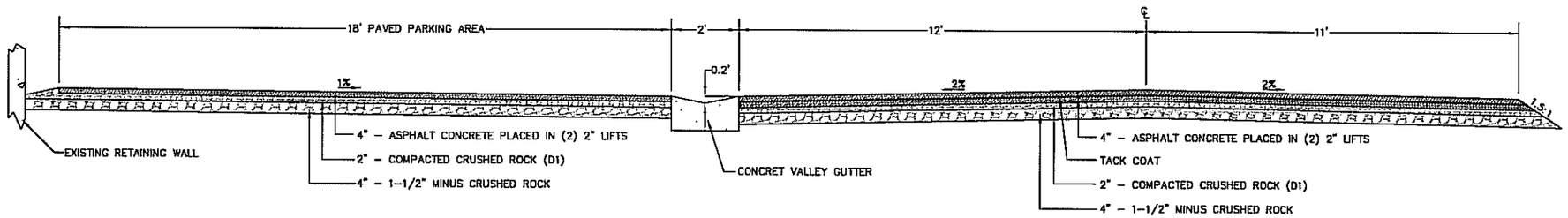
Sheet No. C21

STATE OF ALASKA
10th
TREVOR SANDE
CE 9778
REGISTERED PROFESSIONAL ENGINEER



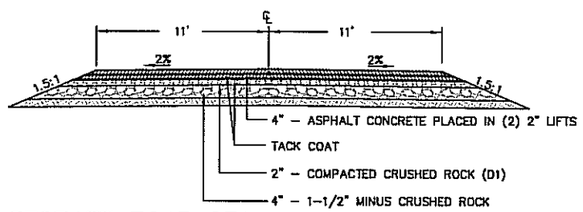
COLD STORAGE ROAD STA 1+00–2+98 TYPICAL SECTION

NOT TO SCALE



COLD STORAGE ROAD STA 3+34–4+69.5 TYPICAL SECTION

NOT TO SCALE



COLD STORATE ROAD STA 4+89.5–END TYPICAL SECTION

NOT TO SCALE

CURVE RETURN DATA

CURVE #CR25 R=50.0' DELTA=89–48–54 L=78.38'

LOCATION	EP ELEV.
PC –STA 1+17.23 65.81' RT COLD STORAGE	54.58
1/4	54.24
MID	53.56
3/4	52.86
PT –STA 1+67.23 16' RT COLD STORAGE	51.78

CURVE #CR26 R=30.0' DELTA=89–02–07 L=46.62'

LOCATION	EP ELEV.
PC –STA 1+17.13 51.49' LT COLD STORAGE	52.56
1/4	52.82
MID	53.07
3/4	52.89
PT –STA 1+47.13 22' LT COLD STORAGE	52.70

CURVE #CR27 R=5.0' DELTA=90–00–00 L=7.85'

LOCATION	EP ELEV.
PC –STA 2+19.18 16' RT COLD STORAGE	51.52
PT –STA 2+24.18 21' RT COLD STORAGE	51.78

CURVE #CR28 R=5.0' DELTA=93–03–34 L=8.12'

LOCATION	EP ELEV.
PC –STA 2+18.92 22' LT COLD STORAGE	51.41
PT –STA 2+24.18 27' LT COLD STORAGE	51.88

CURVE #CR29 R=5.0' DELTA=90–00–00 L=8.12'

LOCATION	EP ELEV.
PC –STA 2+60.18 27' LT COLD STORAGE	51.01
PT –STA 2+65.69 22' LT COLD STORAGE	50.48

CURVE #CR30 R=5.0' DELTA=90–00–00 L=8.12'

LOCATION	EP ELEV.
PC –STA 2+60.18 21' RT COLD STORAGE	50.81
PT –STA 2+68.18 16' RT COLD STORAGE	50.54

CURVE #CR31 R=5.5' DELTA=85–05–08 L=8.16'

LOCATION	EP ELEV.
PC –STA 2+91.61 26' LT COLD STORAGE	49.66
PT –STA 2+96.61 31.5' LT COLD STORAGE	49.77

CURVE #CR32 R=10.0' DELTA=90–00–00 L=15.71'

LOCATION	EP ELEV.
PC –STA 3+19.00 22' LT COLD STORAGE	49.27
PT –STA 3+39.00 12' LT COLD STORAGE	48.52

Date	No.	Revision	By
8/18/09	1	REVISED END STATION PER ADDENDUM	RKB

Designed: RKB | Approved: TSS | Scale: AS SHOWN
Drawn: RKB | Date: 07/16/09 | Project: 092709
Checked: TSS | File: COLD STORAGE.DWG

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

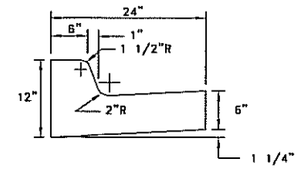
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

Project: CRAIG PAVING PROJECT

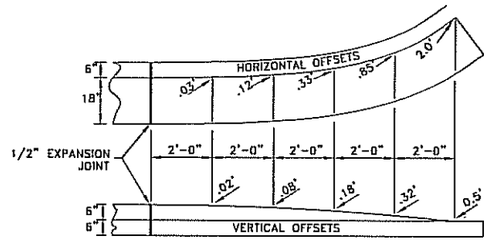
Sheet Description: COLD STORAGE RD.
ROAD SECTIONS AND CURVE RETURN DATA

Sheet No. C22

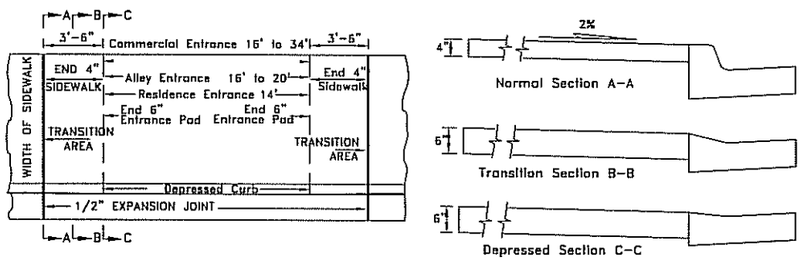
STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER



STANDARD CURB

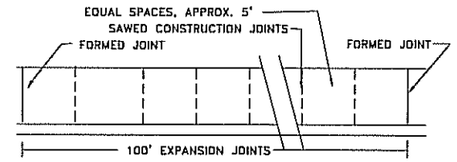


CURB AND GUTTER TERMINATION TRANSITIONS



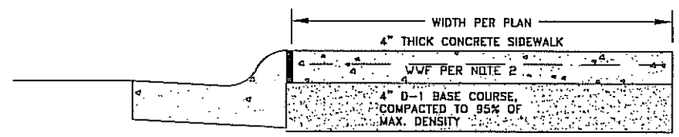
VEHICULAR CURB CUT DETAILS

1 CURB AND GUTTER DETAIL
NTS



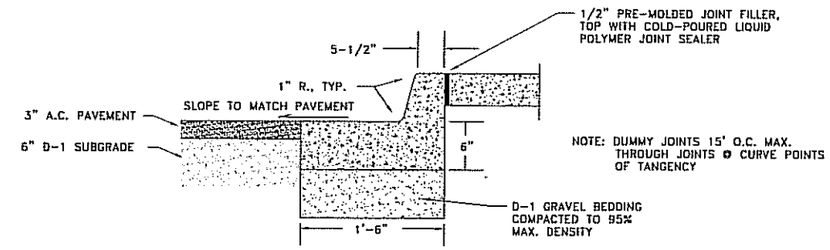
NOTE: LOCATE 1/4" X 3-1/4" PRE-MOLDED FILLER THROUGH THE SIDEWALK AT JOINTS. THIS LENGTH SHALL BE DIVIDED INTO EQUAL SPACES BY SAWED OR FORMED CONTRACTION JOINTS 1" DEEP. ALL JOINTS SHALL BE SEALED WITH JOINT SEALING COMPOUND.

3 SIDEWALK JOINT DETAIL
NTS



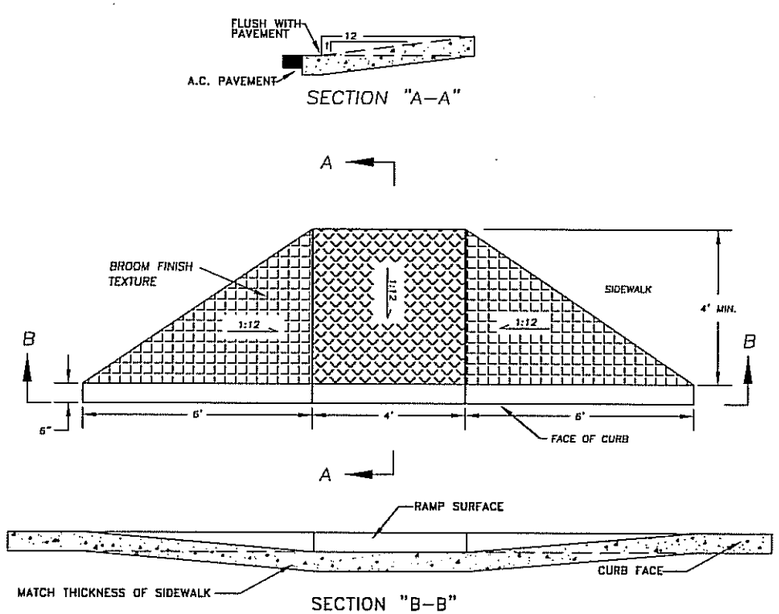
NOTES: 1) DUMMY JOINTS 15' O.C. MAX. THROUGH JOINTS CURVE POINTS OF TANGENCY
2) REINFORCE WITH 6x6-W1.4 x W1.4 WELDED WIRE FABRIC LOCATED 1/2" DOWN FROM TOP OF SLAB

4 SIDEWALK DETAIL
NTS

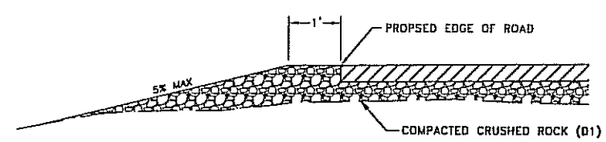


NOTE: DUMMY JOINTS 15' O.C. MAX. THROUGH JOINTS & CURVE POINTS OF TANGENCY

5 STANDARD CURB
NTS



2 CURB DROP WHEELCHAIR RAMP
NTS



6 GRAVEL DRIVEWAY APPROACH SECTION
NTS

Date	No.	Description / Revision	By

Designed: RKB | Approved: TSS | Scale: AS SHOWN
Drawn: RKB | Date: 07/16/09 | Project: 092709
Checked: TSS | File: DETAIL SHEET.DWG

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

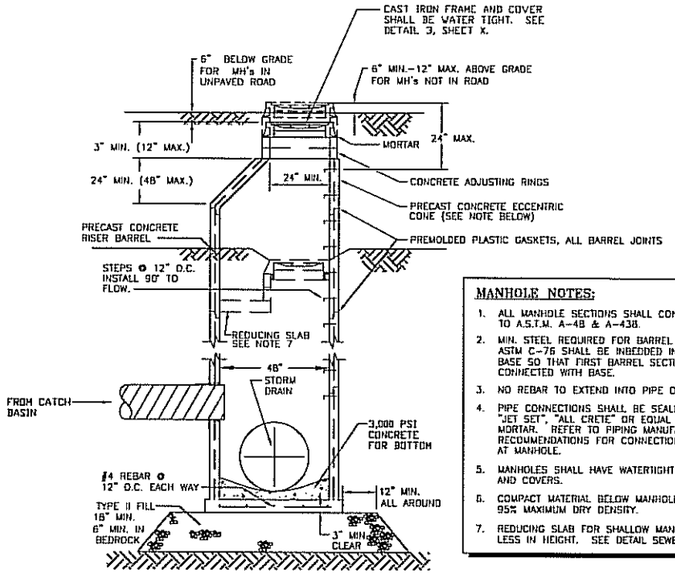
Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

Project: CRAIG PAVING PROJECT

Sheet Description: STREET DETAILS

Sheet No. D1

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER

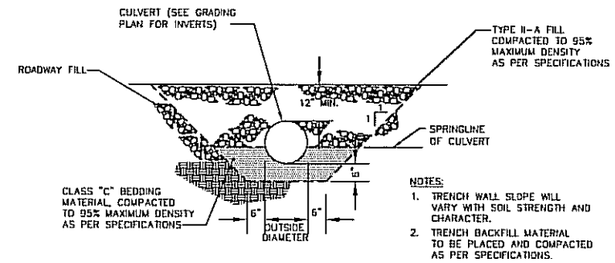


MANHOLE NOTES:

1. ALL MANHOLE SECTIONS SHALL CONFORM TO A.S.T.M. A-48 & A-438.
2. MIN. STEEL REQUIRED FOR BARREL PER ASTM C-76 SHALL BE INBEDDED IN BASE SO THAT FIRST BARREL SECTION IS CONNECTED WITH BASE.
3. NO REBAR TO EXTEND INTO PIPE OPENINGS.
4. PIPE CONNECTIONS SHALL BE SEALED WITH "JET SET", "ALL CRETE" OR EQUAL TYPE MORTAR. REFER TO PIPING MANUFACTURES RECOMMENDATIONS FOR CONNECTIONS AT MANHOLE.
5. MANHOLES SHALL HAVE WATERTIGHT FRAMES AND COVERS.
6. COMPACT MATERIAL BELOW MANHOLE TO 95% MAXIMUM DRY DENSITY.
7. REDUCING SLAB FOR SHALLOW MANHOLES 4' OR LESS IN HEIGHT. SEE DETAIL SEWER SHEET.

48" DIAMETER STORM DRAIN MANHOLE

NOT TO SCALE

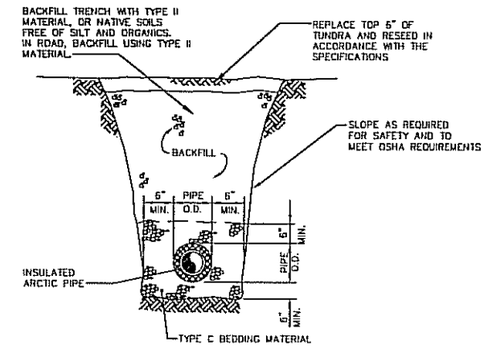


NOTES:

1. TRENCH WALL SLOPE WILL VARY WITH SOIL STRENGTH AND CHARACTER.
2. TRENCH BACKFILL MATERIAL TO BE PLACED AND COMPACTED AS PER SPECIFICATIONS.

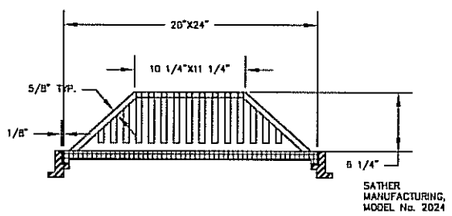
SECTION THROUGH CULVERT

NOT TO SCALE



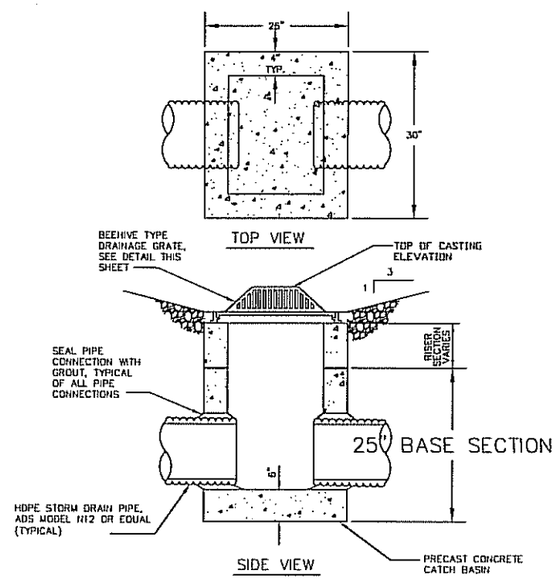
TRENCH DETAIL

NOT TO SCALE



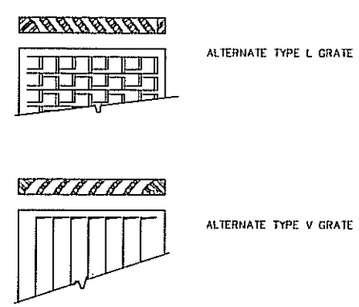
SQUARE BEEHIVE DRAINAGE GRATE

NOT TO SCALE



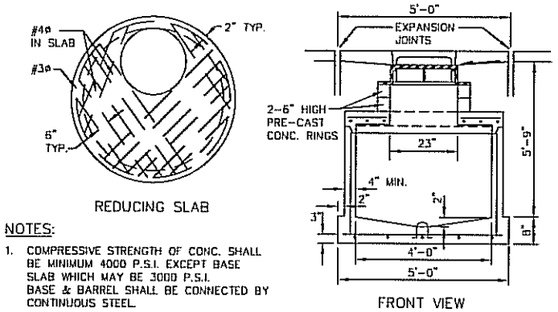
INLET TYPE CATCH BASIN (12" TO 18" PIPES)

NOT TO SCALE



ALTERNATE GRATE TYPES

NOT TO SCALE



NOTES:

1. COMPRESSIVE STRENGTH OF CONC. SHALL BE MINIMUM 4000 P.S.I. EXCEPT BASE SLAB WHICH MAY BE 3000 P.S.I. BASE & BARREL SHALL BE CONNECTED BY CONTINUOUS STEEL.
2. SEE ASTM C-478-64T FOR DESIGN REQUIREMENTS.
3. AT CATCH BASIN, DELETE CONC. CURB & GUTTER, PAVE TO FACE OF CATCH BASIN INLET.

PRECAST CATCH BASIN

NOT TO SCALE

Date	No.	Description	By
		Revision	

Designed: RKB	Approved: TSS	Scale: AS SHOWN	
Drawn: RKB	Date: 07/16/09	Project: 092709	
Checked: TSS	File:		

R&M ENGINEERING-KETCHIKAN, INC.
355 CARLANNA LAKE ROAD
KETCHIKAN, ALASKA 99901

Client: CITY OF CRAIG
P.O. BOX 725
CRAIG, ALASKA 99921

Project: CRAIG PAVING PROJECT

Sheet Description: STORM DETAILS

Sheet No. D2

STATE OF ALASKA 49th TREVOR SANDE CE 9778 REGISTERED PROFESSIONAL ENGINEER