Chairman
John Greenwood

Commissioners
Tom Bailer
Tom McGann
Scott Pegau
John Baenen
Allen Roemhildt
Mark Frohnapfel

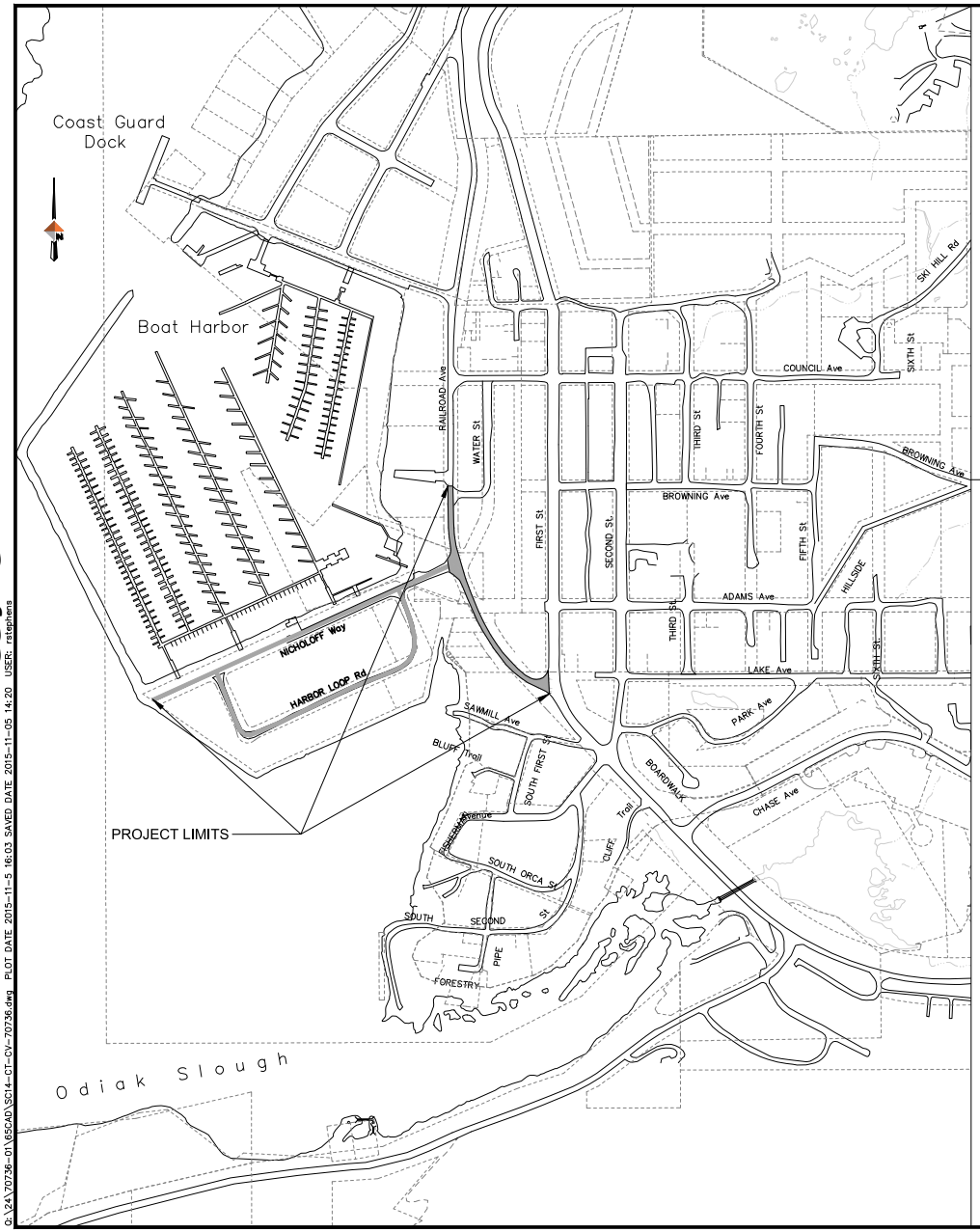
City Planner
Samantha Greenwood

Assistant Planner
Leif Stavig

PLANNING COMMISSION WORK SESSION
NOVEMBER 12, 2015 AT 6:30 PM
CORDOVA CENTER EDUCATION ROOM

AGENDA

1. **CALL TO ORDER**
2. **ROLL CALL**
   Chairman John Greenwood, Commissioners Tom Bailer, Tom McGann, Scott Pegau, John Baenen, Allen Roemhildt, and Mark Frohnapfel
3. **COMMUNICATIONS BY AND PETITIONS FROM VISITORS**
   a. Audience comments regarding agenda items (3 minutes per speaker)
   b. Guest Speakers
      i. Ryan Stephens – DOWL Juneau
4. **WORK SESSION TOPIC**
   a. Cordova City Streets Improvements ..... **Page 2-22**
5. **AUDIENCE PARTICIPATION**
6. **COMMISSION COMMENTS**
7. **ADJOURNMENT**



CORDOVA CITY STREETS
IMPROVEMENTS, PHASE I
CORDOVA, ALASKA
ITB # 15-02

PREPARED FOR:

CITY OF CORDOVA
P.O. BOX 1210
CORDOVA, AK 99574

SHEET INDEX

SHEET NO.	TITLE
1	COVER SHEET
2	KEY MAP, LEGEND, ABBREVIATIONS, NOTES
3–4	TYPICAL SECTIONS
5	DETAILS
6	STRUCTURE & PIPE SUMMARY TABLES
7–14	PLAN & PROFILE DRAWINGS
15–16	INTERSECTION GRADING PLANS

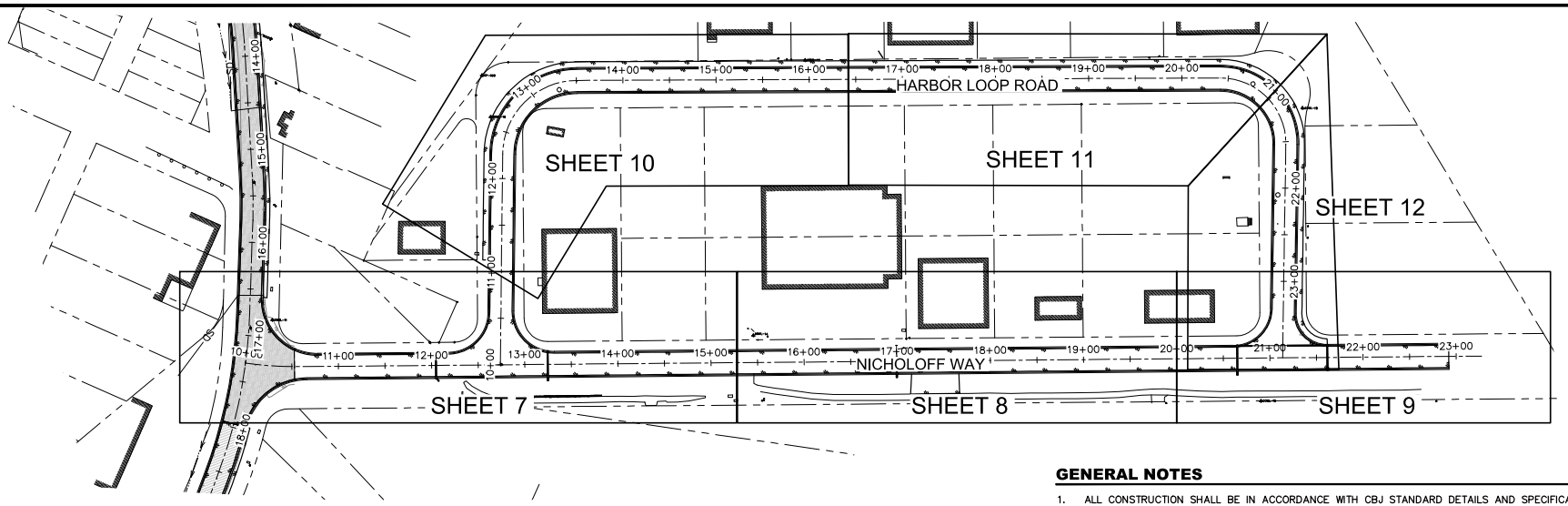
PREPARED BY:

DOWL
WWW.DOWL.COM

STATE OF ALASKA
49TH
NAOMI R. HOBBS
CE 9959
REGISTERED PROFESSIONAL ENGINEER

PROJECT	70736.01
DATE	11/05/2015
SHEET	1 OF 16

PLANNING COMMISSION WORK SESSION
NOVEMBER 12, 2015



LEGEND

PROPOSED	EXISTING	REMOVE	
50+00			PROPERTY LINE
			CONTROL LINE
			BUILDING
			EDGE OF PAVEMENT
	x		VALLEY GUTTER, TYPE III
			FENCE
			LIMIT OF CUT
			LIMIT OF FILL
			EDGE OF GRAVEL
			CONCRETE
	w		WATER LINE
			WATER PROFILE LINE
			FIRE HYDRANT
			WATER VALVE
			WATER METER
s	s		SANITARY SEWER LINE
			SANITARY SEWER PROFILE LINE
			SANITARY SEWER MANHOLE COVER
SD	SD	SD	STORM DRAIN LINE
			STORM DRAIN PROFILE LINE
			STORM DRAIN MANHOLE
			STORM DRAIN CATCH BASIN
	UG/C		UNDERGROUND CABLE
	OH/E		OVERHEAD ELECTRIC
			POWER POLE
			GUY WIRE ANCHOR
			LIGHT POLE
			SIGN
X.XX%			SLOPE DIRECTION & PERCENTAGE
			CONIFEROUS TREE
			DECIDUOUS TREE
			FOUND SURVEY MONUMENT
	(901)		SURVEY POINT NUMBER

BEFORE YOU DIG
CALL FOR FREE
UNDERGROUND
LOCATION

Locate Call Center of Alaska
Statewide.....800-478-3121
who will notify subscribed utilities only.
Other utilities need to be contacted individually.
Water/Sewer/Storm Utilities
Cordova Public Works.....486-8060
Electrical Utilities
XXX.....XXX-XXXX

ABBREVIATIONS

A.C. – ASPHALT CONCRETE
ADEC– ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
@ – AT
BVCE– BEGIN VERTICAL CURVE ELEVATION
BVCS– BEGIN VERTICAL CURVE STATION
CG – CURB AND GUTTER
CIP – CAST-IN-PLACE
CBJ – CITY & BOROUGH OF JUNEAU
CBJSS– CITY & BOROUGH OF JUNEAU STANDARD SPECIFICATIONS FOR CIVIL ENGINEERING PROJECTS AND SUBDIVISION IMPROVEMENTS, 2003 EDITION, AS CURRENTLY AMMENDED
CL – CLASS
℄ – CONTROL LINE
CLR – CLEAR
CMP – CORRUGATED METAL PIPE
COC – CITY OF CORDOVA
CONC– CONCRETE
CPP – CORRUGATED POLYETHYLENE PIPE
DIA – DIAMETER
DI – DUCTILE IRON PIPE
EG – EDGE OF GRAVEL
ELEV – ELEVATION
EP – EDGE OF PAVEMENT
ESMT – EASEMENT
EVCE – END VERTICAL CURVE ELEVATION
EVCS – END VERTICAL CURVE STATION
FG – FINISH GRADE
FL – FLOW LINE
FRM – FRAME
GAL – GALLON
GALV – GALVANIZED
GB – GRADE BREAK
H – HORIZONTAL
ID – INSIDE DIAMETER
IN – INCH
INV – INVERT
K – RATE OF VERTICAL CURVATURE
LT – LEFT
LBS – POUNDS
LF – LINEAR FEET
MAX – MAXIMUM
MAT'L– MATERIAL
MTE – MATCH TO EXISTING
MFR – MANUFACTURER
MILS – MILLIMETERS
MIN – MINIMUM
MON – MONUMENT
NIC – NOT IN CONTRACT
NO. – NUMBER
NTS – NOT TO SCALE
OC – ON CENTER
OD – OUTSIDE DIAMETER
OF – OLYMPIC FOUNDRY
OSHA– OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PC – POINT OF CURVE
PCC – PORTLAND CEMENT CONCRETE
PSI – POUNDS PER SQUARE INCH
PT – POINT OF TANGENCY
PVC – POLYVINYL CHLORIDE
PVI – POINT OF VERTICAL INTERSECTION
RT – RIGHT
REQ'D– REQUIRED
RET – RETAINING
ROW – RIGHT-OF-WAY
SDCB – STORM DRAIN CATCH BASIN
SDMH– STORM DRAIN MANHOLE
SQ – SQUARE
SSMH– SANITARY SEWER MANHOLE
SSCO– SANITARY SEWER CLEANOUT
STA – STATION
TBC – TOP BACK OF CURB
TRW – TOP BACK OF RETAINING WALL
TYP – TYPICAL
UN – UNKNOWN
USPS – UNITED STATES POSTAL SERVICE
VB – VALVE BOX
VC – VERTICAL CURVE
VERT – VERTICAL
VG – VALLEY GUTTER
W/ – WITH
WV – WATER VALVE

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CBJ STANDARD DETAILS AND SPECIFICATIONS AS CURRENTLY AMENDED.
2. EXISTING GROUND CONTOURS ARE BASED ON DOWL TOPOGRAPHIC SURVEY PERFORMED MARCH 2015. CONTRACTOR SHALL VERIFY SITE CONDITIONS.
3. A GEOTECHNICAL INVESTIGATION WAS NOT PERFORMED AS PART OF THE DESIGN FOR THIS PROJECT.
4. SECTION 02702, CONSTRUCTION SURVEYING, SHALL GOVERN ALL SURVEYING ACTIVITIES. CONTRACTOR AND CONTRACTOR'S SURVEYOR SHALL SCHEDULE A MEETING WITH ENGINEER FOR DISCUSSIONS TO INCLUDE, BUT NOT LIMITED TO, SURVEYING METHODS AND PROCEDURES, FIELD NOTES, REPORTING, AND AS-BUILT SURVEYS. THIS MEETING MUST BE HELD PRIOR TO ANY SURVEYING ACTIVITIES TAKING PLACE ON THE PROJECT.
5. CONTRACTOR SHALL AS-BUILD ALL UTILITIES ENCOUNTERED IN THE FIELD BY ACTUAL SURVEY METHODS AND PROVIDE FIELD NOTES TO THE ENGINEER WHICH INCLUDE HORIZONTAL AND VERTICAL LOCATIONS OF EACH. CONTRACTOR SHALL RECORD ALL DEVIATIONS FROM THE PLANS.
6. CONTRACTOR SHALL MAINTAIN "AS-BUILT" RECORD DRAWINGS ON A CLEAN SET OF CONSTRUCTION DRAWINGS IN ACCORDANCE WITH , SECTION 02702, CONSTRUCTION SURVEY. THE "AS-BUILTS" SHALL BE KEPT CURRENT ON A DAILY BASIS AND SHALL BE AVAILABLE TO THE ENGINEER FOR INSPECTION ON THE JOB SITE.
7. LOCATIONS DEPICTED FOR THE UTILITIES AND OTHER EXISTING FEATURES ARE APPROXIMATE. SOME UTILITIES HAVE BEEN LOCATED FROM AS-BUILT DRAWINGS AND SOME FROM UTILITY COMPANY LOCATES, AND THEREFORE MAY NOT BE VISIBLE. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING ALL UTILITIES AND SHALL EXERCISE CAUTION DURING CONSTRUCTION.
8. ELEVATIONS SHOWN ARE TO PIPE INVERT, FLOW LINE, OR FINISH PAVEMENT SURFACE UNLESS NOTED OTHERWISE.
9. DIMENSIONS SHOWN ARE TO EDGE OF PAVEMENT, GRADE BREAK, EDGE OF CONCRETE, TOP BACK OF WALL, OR TOP BACK OF CURB UNLESS NOTED OTHERWISE. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
10. ALL CURB RADII ARE MEASURED AT BACK OF GUTTER OR EDGE OF CONCRETE.
11. THE CONTRACTOR SHALL FOLLOW ALL CITY DIRECTIONS AND REGULATIONS FOR NOISE, HOURS OF OPERATIONS, AND DUST CONTROL.
12. PIPE BEDDING SHALL BE INSTALLED PER CBJSS, AND SHALL BE INCIDENTAL TO TRENCH EXCAVATION AND BACKFILL – STORM DRAIN, WATER, AND SEWER. TRENCH BACKFILL SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DRY DENSITY.
13. ALL CONSTRUCTION OPERATIONS REQUIRED FOR THIS PROJECT SHALL REMAIN WITHIN EXISTING COC ROW AND ACQUIRED EASEMENTS, UNLESS OTHERWISE APPROVED IN WRITING BY THE ENGINEER AND THE AFFECTED PROPERTY OWNER.

REVISIONS			
REV	DATE	DESCRIPTION	BY

STATE OF ALASKA 49TH
NAOMI R. HOBBS
CE 9959
RECORD PROFESSIONAL DRAWING

DOWL
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CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02

KEY MAP, LEGEND, ABBREVIATIONS & NOTES

CORDOVA, ALASKA

PROJECT	70736.01
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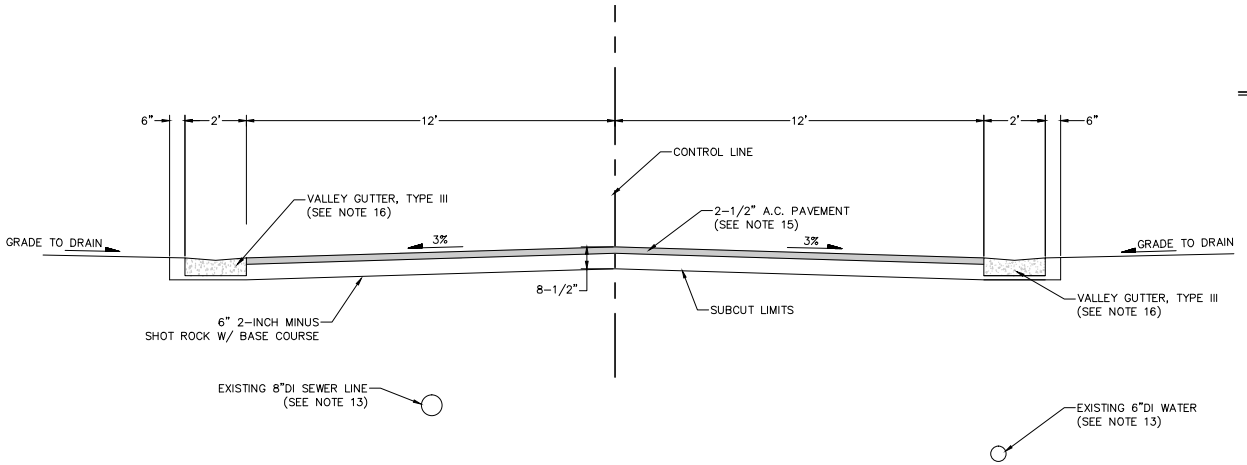
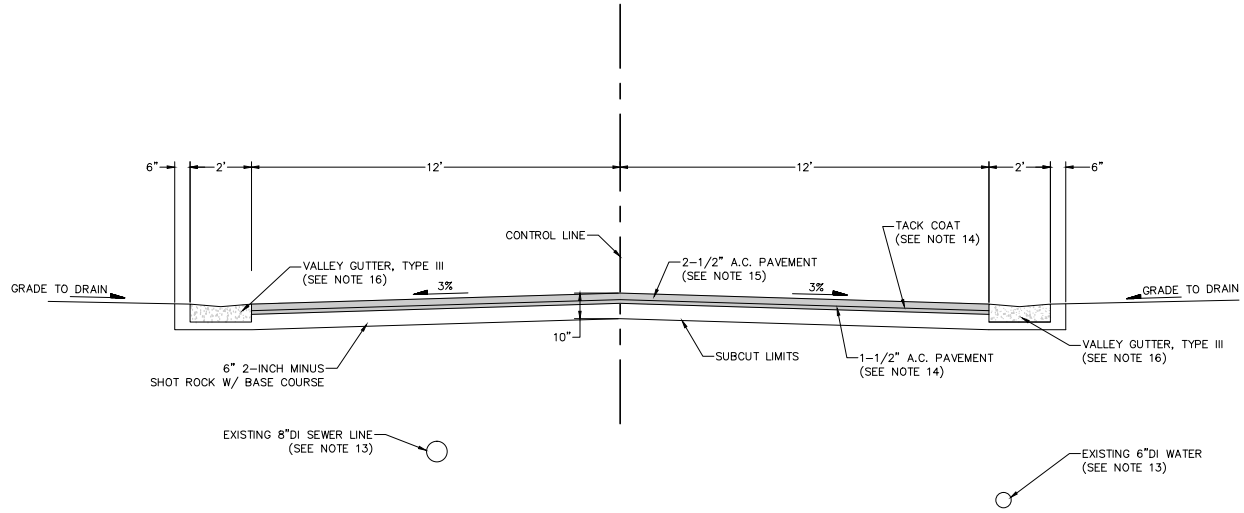


TYPICAL SECTION NICHOLOFF WAY

STA "N" 10+93.45 TO STA "N" 12+17.89, STA "N" 13+31.91 TO STA "N" 20+60.87, & STA "N" 21+61.73 TO STA "N" 23+00

NTS



TYPICAL SECTION NICHOLOFF WAY

STA "N" 10+50 TO STA "N" 10+93.45, STA "N" 12+17.89 TO STA "N" 13+31.91, & STA "N" 20+60.87 TO STA "N" 21+61.73

NTS

TYPICAL SECTION NOTES

1. ADDITIONAL EXCAVATION BELOW THE NEATLINE SUBCUT LEVEL MAY BE REQUIRED, IF ORGANIC OR OTHER UNSUITABLE MATERIALS ARE FOUND AT OR NEAR THE PLANNED SUBCUT LEVEL, AS DIRECTED BY THE ENGINEER. USABLE MATERIAL FROM EXCAVATION SHALL BE USED TO BACKFILL THE ADDITIONAL AREAS OF EXCAVATION. THE BACKFILLING WITH USABLE MATERIAL FROM EXCAVATION WILL BE CONSIDERED INCIDENTAL TO OTHER WORK.
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3. SEE HORIZONTAL AND VERTICAL CONTROL, CURB AND GUTTER LAYOUT AND GRADE DRAWINGS FOR GRADING DETAILS.
4. UNDERGROUND ELECTRICAL AND WATER AND SEWER SERVICES NOT SHOWN. SEE PLAN SHEETS FOR LOCATIONS.
5. ALL FILL AREAS BEYOND SUBCUT LIMITS SHALL BE BACKFILLED WITH SUITABLE MATERIAL FROM EXCAVATION AND GRADED TO DRAIN AS SHOWN ON THE PLAN VIEW DRAWINGS.
6. DRIVEWAYS DISTURBED DURING CONSTRUCTION SHALL BE RECONSTRUCTED TO EQUAL, OR BETTER CONDITION WITH SUBGRADE REPLACED IN LAYERS TO MATCH THOSE REMOVED EXCEPT:
   A) PAVED DRIVEWAYS AND SIDEWALKS SHALL BE SUBCUT TO 8-1/2" INCHES BELOW FINISH GRADE AND REPLACED WITH 6 INCHES OF 2-INCH MINUS SHOT ROCK W/ BASE COURSE, AND 2-1/2 INCHES OF A.C. PAVEMENT.
   B) ORGANICS, ROOTS, WOOD OR OTHER DELETERIOUS MATERIALS ENCOUNTERED IN THE DRIVEWAYS DURING EXCAVATION OPERATIONS SHALL NOT BE REPLACED, BUT SHALL BE DISPOSED OF AT AN APPROVED DISPOSAL SITE. BACKFILL VOIDS BELOW THE REQUIRED SUBBASE LAYER WITH USABLE MATERIAL FROM EXCAVATION.
7. TOP OF A.C. PAVEMENT SHALL BE ¼ INCH TO ½ INCH ABOVE THE TOP EDGE OF CONCRETE GUTTER.
8. SANITARY SEWER AND STORM DRAIN SERVICE LOCATIONS ARE UNKNOWN AND THEREFORE NOT SHOWN ON THE THE PLANS. WATER SERVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL TAKE CARE DURING CONSTRUCTION TO AVOID DAMAGE TO THE EXISTING SEWER AND WATER SYSTEMS. ANY SANITARY SEWER, WATER, OR STORM SERVICE ENCOUNTERED DURING CONSTRUCTION SHALL BE REFERENCED BY THE CONTRACTOR AND REPORTED TO THE ENGINEER. ANY UNKNOWN SERVICES DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND AS DIRECTED BY THE ENGINEER.
9. THE BASE COURSE LAYER SHALL BE 4" TO 5" OF 2-INCH MINUS SHOT ROCK WITH 1" TO 2" TOP LAYER OF BASE COURSE, GRADING D-1 FOR A TOTAL THICKNESS OF 6". THE 2" MINUS SHOT ROCK SHALL BE WELL COMPACTED PRIOR TO PLACING THE BASE COURSE, GRADING D-1.
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11. CATCH LINE FOR USABLE MATERIAL AND TOPSOIL WILL VARY IN DISTANCE FROM RIGHT-OF-WAY LINES. PLACE AND GRADE THESE MATERIALS TO PROVIDE A SMOOTH, WELL DRAINED TRANSITION TO EXISTING GRADES, AS DIRECTED BY THE ENGINEER. SEE PLAN DRAWINGS FOR APPROXIMATE CATCH LINES.
12. ASPHALT THICKNESS FOR DRIVEWAY APPROACHES AND DRIVEWAYS SHALL BE 2 ½".
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15. THE TOP LIFT SHALL BE PLACED IN A MANNER TO ELIMINATE ALL COLD JOINTS BETWEEN THE TWO INTERSECTIONS WITH NICHOLOFF WAY. A COLD JOINT MAY BE PERMITTED AT THE INTERSECTIONS OF NICHOLOFF WAY AND HARBOR LOOP ROAD. THE COLD JOINT AT THE NICHOLOFF WAY AND HARBOR LOOP ROAD INTERSECTIONS SHALL BE PLACED IN A MANNER TO ALLOW THE TOP LIFT OF ASPHALT TO OVERLAP THE BOTTOM LIFT OF ASPHALT A MINIMUM OF 5 FEET.
16. ONE TO TWO INCHES OF BASE COURSE, GRADING D-1 SHALL BE PLACED UNDER THE NEW ALLEY GUTTERS AS A LEVELING COURSE OVER THE 2-INCH MINUS SHOT ROCK.

REVISIONS			
REV	DATE	DESCRIPTION	BY

STATE OF ALASKA 49TH — L. NAOMI R. HOBBS CE 9959 — RECORD PROFESSIONAL DRAWING

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CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02

TYPICAL SECTIONS
NICHOLOFF WAY

CORDOVA, ALASKA

PROJECT	70736.01
DATE	11/05/2015
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PLANNING COMMISSION WORK SESSION
NOVEMBER 12, 2015

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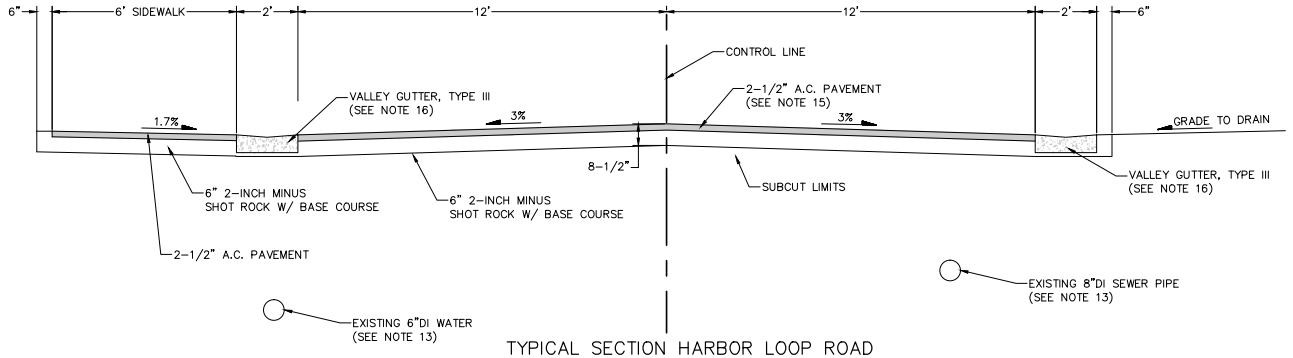
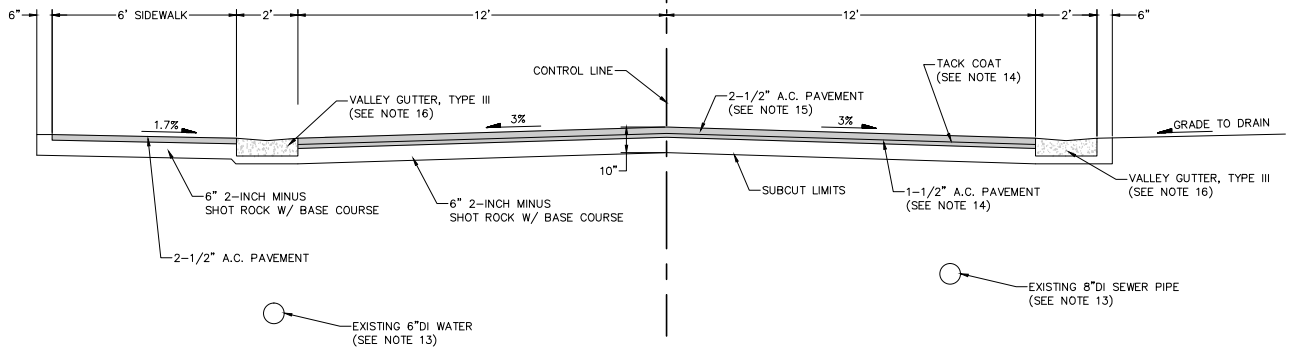


TYPICAL SECTION HARBOR LOOP ROAD

STA "H" 10+58.16 TO STA "H" 12+26.14, STA "H" 13+50.61 TO STA "H" 20+41.47, & STA "H" 21+52.76 TO STA "H" 23+29.33

NTS



TYPICAL SECTION HARBOR LOOP ROAD

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NTS

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REVISIONS			
REV	DATE	DESCRIPTION	BY

STATE OF ALASKA 49TH — LISA L. NAOMI R. HOBBS CE 9959 — RECORD PROFESSIONAL DRAWING

DOWL — WWW.DOWL.COM

CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
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TYPICAL SECTIONS
HARBOR LOOP ROAD

CORDOVA, ALASKA

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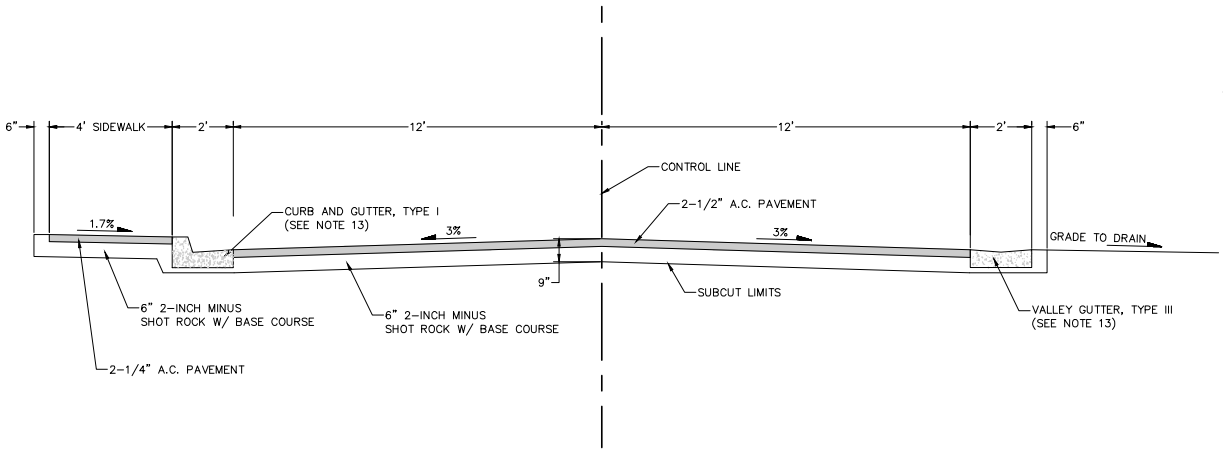

TYPICAL SECTION
RAILROAD AVENUE
NTS

TYPICAL SECTION NOTES

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8. SANITARY SEWER, WATER AND STORM DRAIN SERVICES ARE NOT SHOWN ON THE TYPICAL SECTION. SEE PLAN VIEW DRAWINGS FOR LOCATIONS.
9. THE BASE COURSE LAYER SHALL BE 4" TO 5" OF 2-INCH MINUS SHOT ROCK WITH 1.5" TO 2.5" TOP LAYER OF BASE COURSE, GRADING D-1 FOR A TOTAL THICKNESS OF 6.5". THE 2" MINUS SHOT ROCK SHALL BE WELL COMPACTED PRIOR TO PLACING THE BASE COURSE, GRADING D-1.
10. BASE COURSE, GRADING D-1, MAY BE USED FOR THE FULL DEPTH OF THE BASE COURSE UNDER THE SIDEWALKS AND DRIVEWAYS AS A NO COST SUBSTITUTION.
11. CATCH LINE FOR USABLE MATERIAL AND TOPSOIL WILL VARY IN DISTANCE FROM RIGHT-OF-WAY LINES. PLACE AND GRADE THESE MATERIALS TO PROVIDE A SMOOTH, WELL DRAINED TRANSITION TO EXISTING GRADES, AS DIRECTED BY THE ENGINEER. SEE PLAN DRAWINGS FOR APPROXIMATE CATCH LINES.
12. ASPHALT THICKNESS FOR DRIVEWAY APPROACHES AND DRIVEWAYS SHALL BE 2-1/4".
13. ONE TO TWO INCHES OF BASE COURSE, GRADING D-1 SHALL BE PLACED UNDER THE NEW CURB AND GUTTERS AS A LEVELING COURSE OVER THE 2-INCH MINUS SHOT ROCK.

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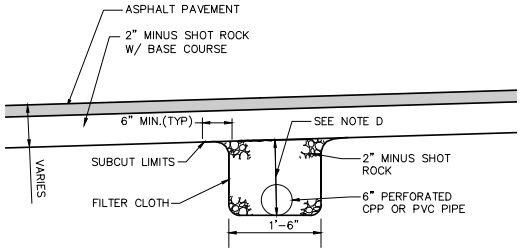
CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02

TYPICAL SECTION
RAILROAD AVENUE

CORDOVA, ALASKA

PROJECT	70736.01
DATE	11/05/2015
SHEET	4A OF 16



6-INCH UNDERDRAIN

NTS

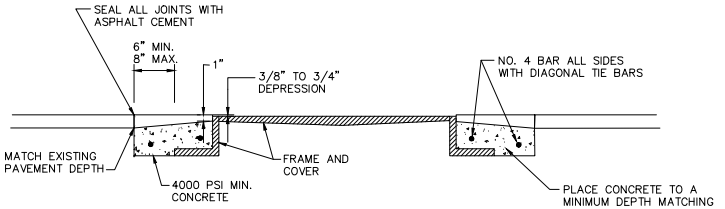
A. 6-INCH UNDERDRAIN IS A CONTINGENCY ITEM. THE ACTUAL LENGTHS AND LOCATIONS, IF USED SHALL BE AS DETERMINED BY THE ENGINEER.

B. OUTFALL CONNECTIONS WILL BE EITHER INTO CATCH BASINS, OR CPP SADDLE TEES.

C. UPPER END OF PIPES SHALL BE CAPPED AND THE FILTER CLOTH FOLDED AND OVERLAPPED TO SEAL END OF DRAINAGE ROCK SECTION. VARIES AS DIRECTED BY THE ENGINEER.

D. VARIES 12" TO 30", AS DETERMINED BY THE ENGINEER.

E. MINIMUM PIPE GRADIENT SHALL BE 1%.



CONCRETE SHALL CURE FOR 48 HOURS MINIMUM BEFORE PLACING PAVEMENT OVERLAY

* THIS TRANSITION SLAB WILL NOT BE REQUIRED IF DEPRESSION TO COVER LUGS OR FRAME, WHICHEVER IS HIGHER, MEETS THE REQUIRED DEPRESSION RANGE FOLLOWING THE FINISH PAVING OPERATIONS

TRANSITION SLAB W/ ASPHALT PAVEMENT OVERLAY

NTS

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CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02

DETAILS

CORDOVA, ALASKA

PROJECT	70736.01
DATE	11/05/2015
SHEET	5 OF 16

NICHOLOFF WAY STORM DRAIN STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE DETAILS	STATION & OFFSET	TYPE	FRAM & GRATE
S-1	FG RIM = 19.97 SUMP = 15.65 P-1 INV OUT = 16.98	"N" 12+04.7, 13.0 L	III	OF SM18DI-P
S-2	FG RIM = 19.97 SUMP = 15.05 P-1 INV IN = 16.46 P-2 INV OUT = 16.38	"N" 12+04.7, 13.0 R	III	OF SM18DI-P
S-3	FG RIM = 20.68 SUMP = 16.92 P-3 INV OUT = 18.25	"N" 13+24.7, 13.6 L	III	OF SM18DI-P
S-4	FG RIM = 20.73 SUMP = 16.57 P-3 INV IN = 17.98 P-4 INV OUT = 17.90	"N" 13+24.7, 13.0 R	IV	OF SM18DI-P
S-5	FG RIM = 20.76 SUMP = 16.69 P-5 INV IN = 18.22 P-6 INV OUT = 18.02 P-5A INV OUT = 18.10	"N" 16+99.3, 13.0 L	IV	OF SM18DI-P
S-6	FG RIM = 20.64 SUMP = 16.35 P-6 INV IN = 17.76 P-7 INV OUT = 17.68	"N" 16+99.3, 13.0 R	IV	OF SM18DI-P
S-7	FG RIM = 20.59 SUMP = 16.28 P-10 INV IN = 17.69 P-8 INV OUT = 17.61	"N" 20+65, 13.2 L	III	OF SM18DI-P
S-8	FG RIM = 20.59 SUMP = 14.96 P-8 INV IN = 17.48 P-9 INV OUT = 16.30	"N" 20+65, 13.0 R	IV	OF SM18DI-P
S-9	FG RIM = 20.63 SUMP = 16.84 P-10 INV OUT = 18.17 P-11 INV OUT = 18.25	"N" 21+61.7, 13.0 L	III	OF SM18DI-P
S-10	FG RIM = 20.63 SUMP = 18.38 P-11 INV IN = 18.38	"N" 21+61.7, 13.0 R	III	OF SM18DI-P

NICHOLOFF WAY STORM DRAIN PIPE SUMMARY TABLE

PIPE NAME	SIZE	TYPE	LENGTH	SLOPE
P-1	12"	CPP	26.0	0.020
P-2	12"	CPP	4.9	0.043
P-3	12"	CPP	26.6	0.010
P-4	18"	CPP	4.6	0.024
P-5	18"	CPP	4.2	0.014
P-5A	18"	CPP	11.8	0.005
P-6	12"	CPP	26.0	0.010
P-7	18"	CPP	4.5	0.021
P-8	12"	CPP	26.2	0.005
P-9	18"	CPP	5.2	0.005
P-10	12"	CPP	96.8	0.005
P-11	12"	CPP	26.0	0.005

HARBOR LOOP ROAD STORM DRAIN PIPE SUMMARY TABLE

PIPE NAME	SIZE	TYPE	LENGTH	SLOPE
P-12	12"	CPP	26.0	0.005
P-13	12"	CPP	15.0	0.005
P-14	18"	CPP	8.3	0.030
P-15	12"	CPP	47.9	0.010
P-16	12"	CPP	3.5	0.004
P-17	12"	CPP	67.6	0.010
P-18	12"	CPP	26.0	0.010
P-19	12"	CPP	161.1	0.010
P-20	12"	CPP	26.0	0.010
P-21	12"	CPP	26.0	0.005
P-22	12"	CPP	160.6	0.005
P-22A	18"	CPP	12.6	0.014
P-23	12"	CPP	61.6	0.005
P-24	12"	CPP	56.9	0.005
P-25	12"	CPP	85.5	0.005
P-26	12"	CPP	26.0	0.005
P-27	12"	CPP	15.9	0.024
P-28	18"	CPP	4.8	0.015

HARBOR LOOP ROAD STORM DRAIN STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE DETAILS	STATION & OFFSET	TYPE	FRAME & GRATE	NOTES
S-10	FG RIM = 22.66 SUMP = 19.20 P-12 INV OUT = 20.53	"H" 11+50, 13.0 L	III	OF SM18DI-P	
S-11	FG RIM = 22.66 SUMP = 18.99 P-12 INV IN = 20.40 P-13 INV OUT = 20.32	"H" 11+50, 13.0 R	III	OF SM18DI-P	
S-12	FG RIM = 23.24 SUMP = 16.89 P-15 INV IN = 18.30 P-14 INV OUT = 18.22	"H" 13+26, 13.0 L	IV	OF MH34SC	CONSTRUCT CONC AREA DRAIN
S-13	FG RIM = 22.80 SUMP = 17.45 P-17 INV IN = 18.86 P-16 INV IN = 19.74 P-15 INV OUT = 18.78	"H" 13+54, 27.4 R	III	OF SM18DI-P	
S-14	FG RIM = 22.64 SUMP = 18.21 P-19 INV IN = 19.62 P-17 INV OUT = 19.54 P-18 INV OUT = 19.88	"H" 14+20, 13.0 R	III	OF SM18DI-P	
S-15	FG RIM = 22.64 SUMP = 18.29 P-18 INV IN = 19.62	"H" 14+20, 13.0 L	III	OF SM18DI-P	
S-16	FG RIM = 23.46 SUMP = 19.90 P-20 INV IN = 21.31 P-19 INV OUT = 21.23	"H" 15+81.1, 13.0 R	III	OF SM18DI-P	
S-17	FG RIM = 23.46 SUMP = 20.24 P-20 INV OUT = 21.57	"H" 15+81.1, 13.0 L	III	OF SM18DI-P	
S-18	FG RIM = 23.35 SUMP = 19.50 P-21 INV OUT = 20.83	"H" 18+80.9, 13.0 L	III	OF SM18DI-P	
S-19	FG RIM = 23.35 SUMP = 19.29 P-21 INV IN = 20.70 P-22 INV OUT = 20.62 P-22A INV OUT = 20.70	"H" 18+80.9, 13.0 R	IV	OF SM18DI-P	
S-20	FG RIM = 23.50 SUMP = 18.40 P-22 INV IN = 19.82 P-23 INV OUT = 19.74	"H" 20+41.5, 13.0 R	III	OF SM18DI-P	
S-21	FG RIM = 22.86 SUMP = 18.02 P-23 INV IN = 19.43 P-24 INV OUT = 19.35	"H" 21+00, 13.0 L	III	OF SM18DI-P	
S-22	FG RIM = 22.60 SUMP = 17.65 P-24 INV IN = 19.06 P-25 INV OUT = 18.98	"H" 21+52.8, 13.0 R	III	OF SM18DI-P	
S-23	FG RIM = 22.19 SUMP = 17.14 P-25 INV IN = 18.55 P-26 INV OUT = 18.47	"H" 22+38.3, 13.0 R	III	OF SM18DI-P	
S-24	FG RIM = 22.19 SUMP = 16.93 P-26 INV IN = 18.34 P-27 INV OUT = 18.26	"H" 22+38.3, 13.0 L	III	OF SM18DI-P	
S-25	FG RIM = 18.92 SUMP = 16.48 P-27 INV IN = 17.88 P-28 INV OUT = 17.81	"H" 22+36.7, 28.8 L	IV	OF MH34SC	CONSTRUCT CONC AREA DRAIN

NICHOLOFF WAY EXISTING SANITARY SEWER STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE DETAILS	STATION & OFFSET	NOTES
MH-2	FG RIM EL = 20.83 EXIST RIM EL = 20.21 12" or 18"DI INV IN = 6.08 12" or 18"DI INV OUT = 8.12	"N" 11+64.1, 5.9 L	ADJUST MANHOLE TO GRADE
MH-3	FG RIM EL = 20.74 EXIST RIM EL = 20.74 8"DI INV IN = 12.49 12" or 18"DI INV OUT = 6.00	"N" 11+70.4, 25.1 L	ADJUST MANHOLE TO GRADE
MH-4	FG RIM EL = 20.59 EXIST RIM EL = 20.55 8"DI INV IN = 13.22 8"DI INV OUT = 12.67	"N" 12+14.5, 5.8 L	ADJUST MANHOLE TO GRADE
MH-5	FG RIM EL = 21.17 EXIST RIM EL = 21.22 8"DI INV IN = 15.03 8"DI INV OUT = 14.93	"N" 16+64.2, 5.6 L	ADJUST MANHOLE TO GRADE
MH-6	FG RIM EL = 21.62 EXIST RIM EL = 21.22 8"DI INV OUT = 16.70	"N" 21+07.7, 5.1 L	ADJUST MANHOLE TO GRADE

HARBOR LOOP ROAD EXISTING SANITARY SEWER STRUCTURE TABLE

STRUCTURE NAME	STRUCTURE DETAILS	STATION & OFFSET	NOTES
MH-7	FG RIM EL = 23.53 EXIST RIM EL = 23.09 8"DI INV IN = 16.65 8"DI INV OUT = 16.49	"H" 13+29.3, 7.2 R	ADJUST MANHOLE TO GRADE
MH-8	FG RIM EL = 24.38 EXIST RIM EL = 23.95 8"DI INV IN = 18.05 8"DI INV OUT = 17.95	"H" 17+04.3, 8.1 R	ADJUST MANHOLE TO GRADE
MH-9	FG RIM EL = 23.57 EXIST RIM EL = 23.08 8"DI INV OUT = 19.04	"H" 20+76.5, 2.4 L	ADJUST MANHOLE TO GRADE
MH-10	FG RIM EL = 22.63 EXIST RIM EL = 23.34 8"DI INV OUT = 17.63	"H" 22+07, 7.7 R	VERIFY EXISTING RIM ELEV. ADJUST TO GRADE.

VERTICAL CONTROL

TBM NO.	ELEVATION	STATION & OFFSET	NOTES
A	EL = 21.755	"H" 13+29.3, 7.2 R	BRASS CAP
B	EL = 26.058	"H" 17+04.3, 8.1 R	NORTH BOLT UPPER FLANGE
C	EL = 24.658	"H" 17+04.3, 8.1 R	NORTH BOLT UPPER FLANGE
D	EL = 22.456	"H" 17+04.3, 8.1 R	NORTH BOLT UPPER FLANGE

NOTES

1. STATIONS AND OFFSETS ARE GIVEN TO THE CENTER OF NEW STORM DRAIN AND EXISTING SANITARY SEWER MANHOLE STRUCTURES.
2. PIPE LENGTHS ARE MEASURED ALONG THE SLOPE, FROM CENTER TO CENTER OF STRUCTURES. SLOPES ARE CALCULATED TO ENDS OF PIPE.

REVISIONS

REV	DATE	DESCRIPTION	BY

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CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02

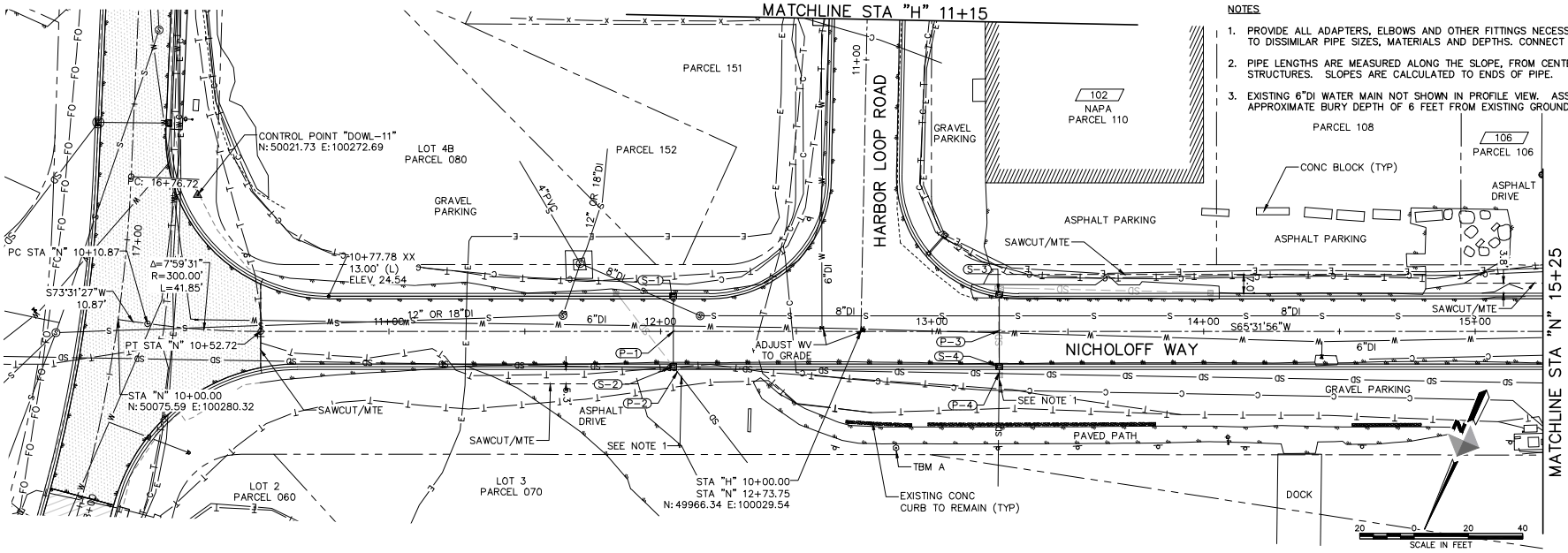
STRUCTURE & PIPE SUMMARY TABLES

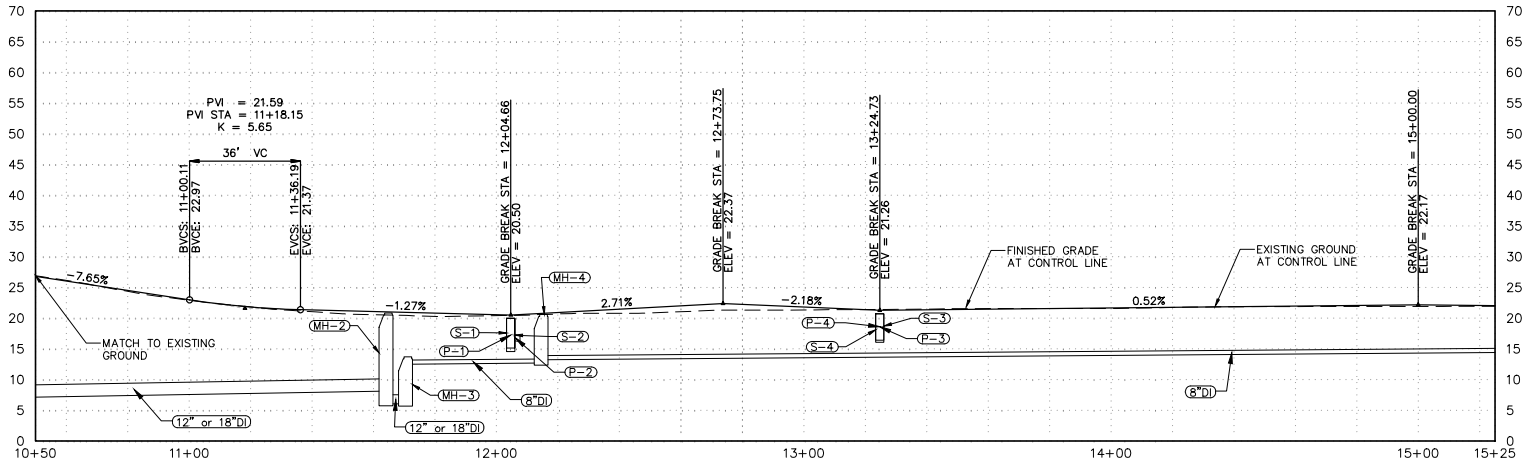
CORDOVA, ALASKA

PROJECT 70736.01
DATE 11/05/2015

SHEET 6 OF 16

PLANNING COMMISSION WORK SESSION
NOVEMBER 12, 2015





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ITB # 15-02

PLAN & PROFILE – NICHOLOFF WAY
STA "N" 10+50 TO STA "N" 15+25

CORDOVA, ALASKA

PROJECT	70736.01
DATE	11/05/2015
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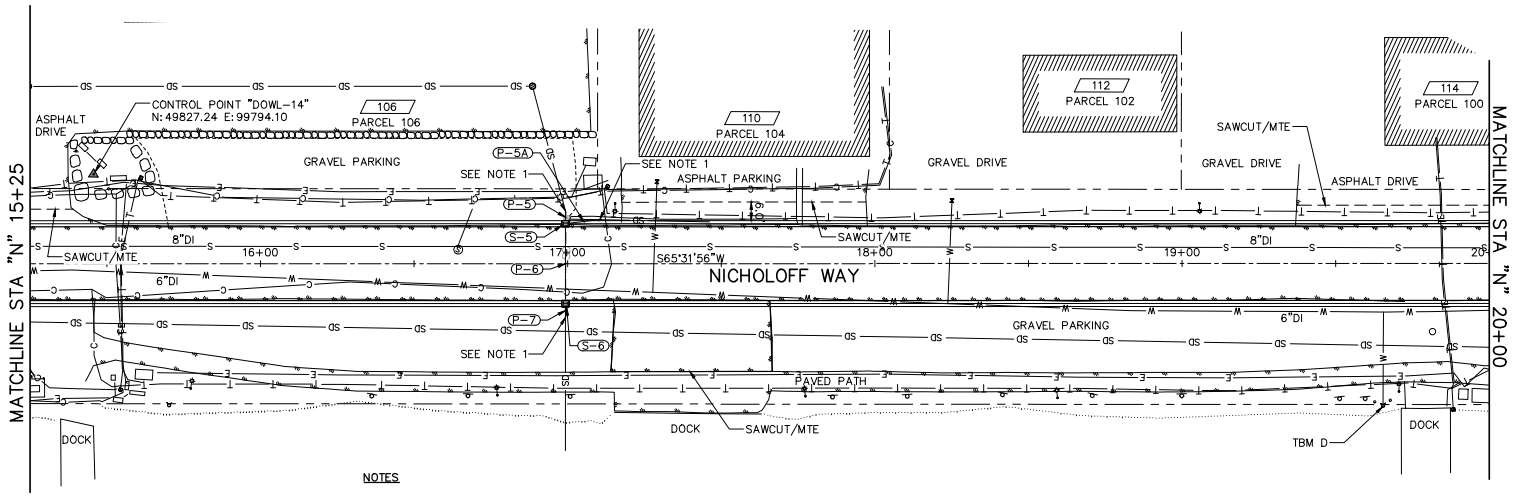
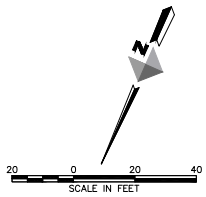
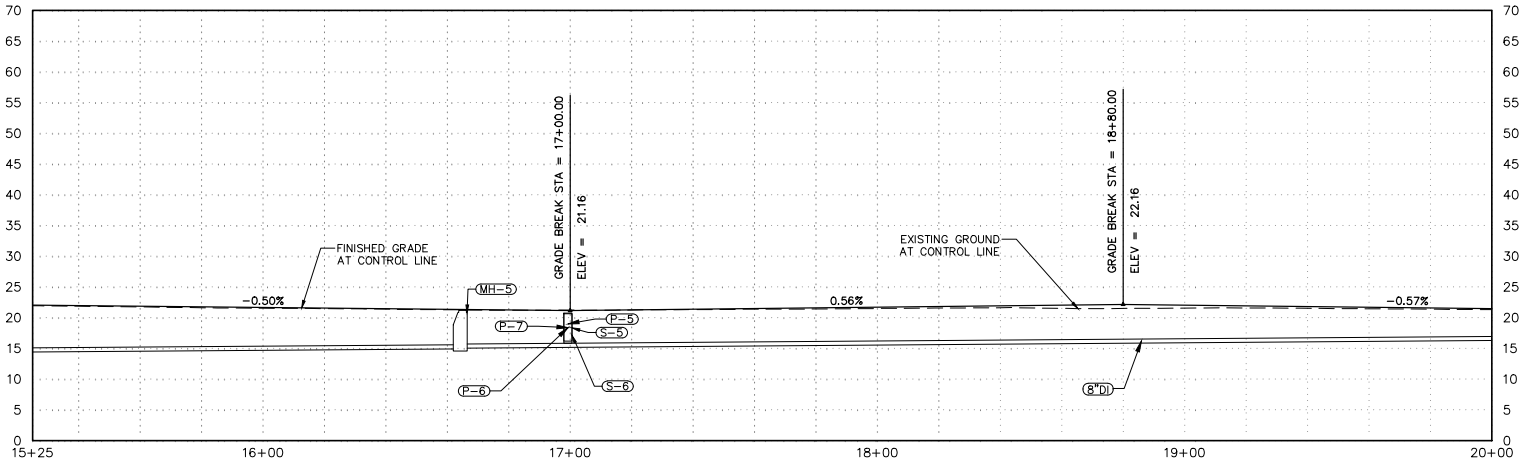




NOTES

1. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS. CONNECT TO EXISTING.
2. PIPE LENGTHS ARE MEASURED ALONG THE SLOPE, FROM CENTER TO CENTER OF STRUCTURES. SLOPES ARE CALCULATED TO ENDS OF PIPE.
3. EXISTING 6"DI WATER MAIN NOT SHOWN IN PROFILE VIEW. ASSUME APPROXIMATE BURY DEPTH OF 6 FEET FROM EXISTING GROUND SURFACE.



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ITB # 15-02

PLAN & PROFILE – NICHOLOFF WAY
STA "N" 15+25 TO STA "N" 20+00

CORDOVA, ALASKA

PROJECT 70736.01
DATE 11/05/2015

SHEET
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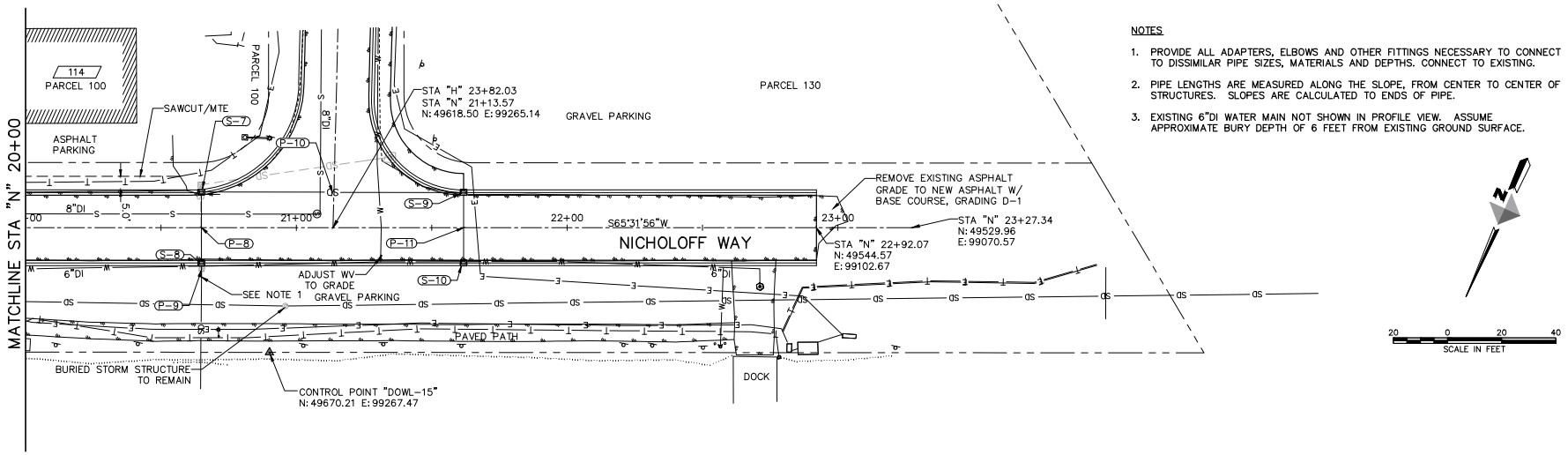

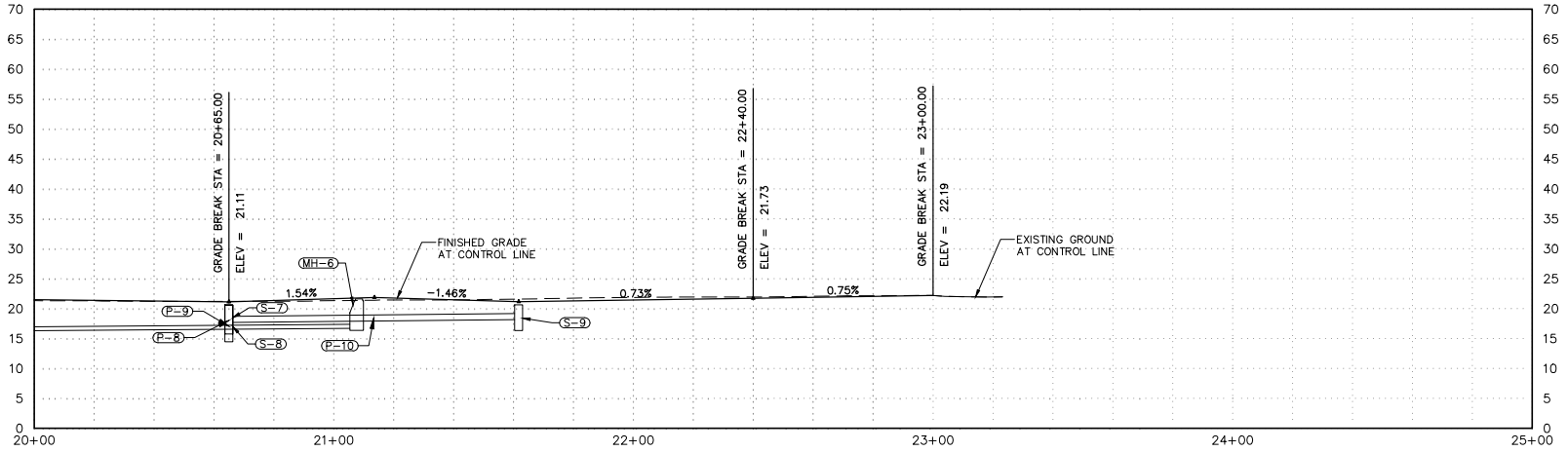

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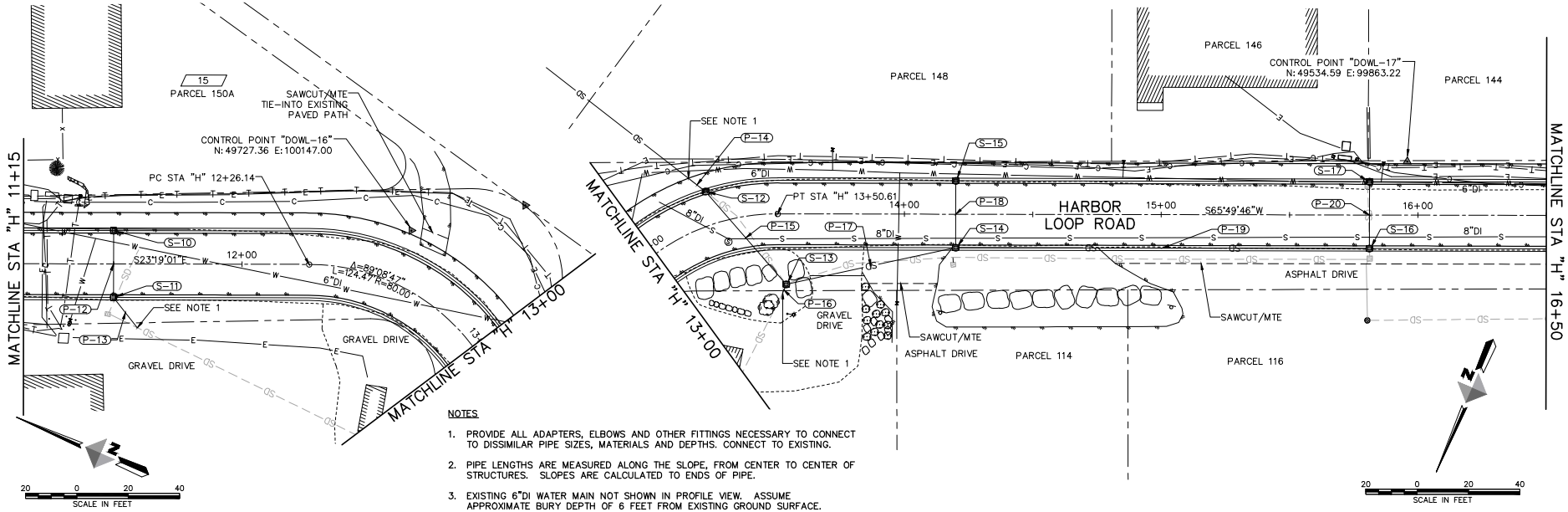
ITB # 15-02

PLAN & PROFILE – NICHOLOFF WAY
STA "N" 20+00 TO END

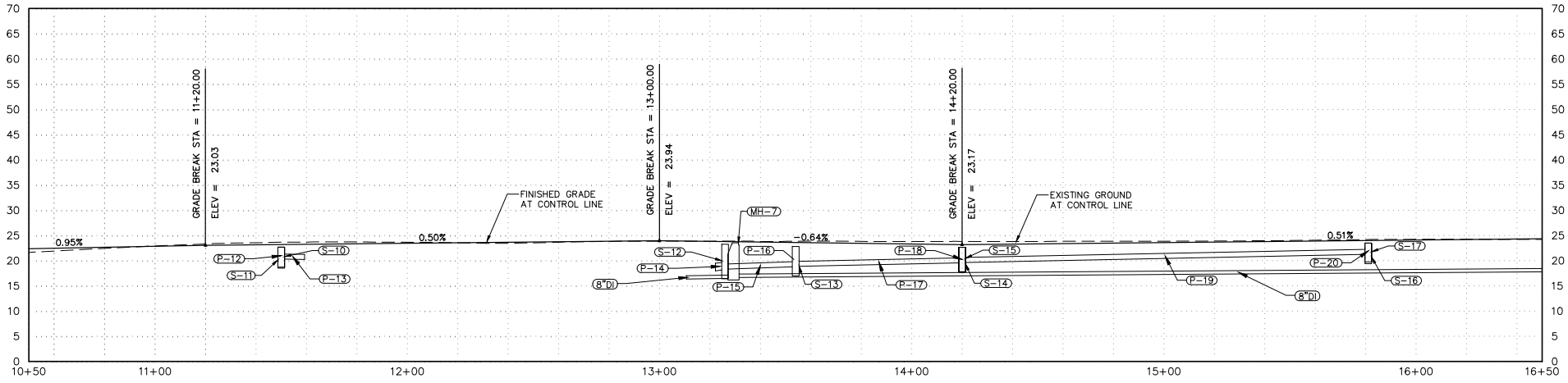
CORDOVA, ALASKA

PROJECT	70736.01
DATE	11/05/2015
SHEET	9 OF 16



NOTES

1. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS. CONNECT TO EXISTING.
2. PIPE LENGTHS ARE MEASURED ALONG THE SLOPE, FROM CENTER TO CENTER OF STRUCTURES. SLOPES ARE CALCULATED TO ENDS OF PIPE.
3. EXISTING 6"DI WATER MAIN NOT SHOWN IN PROFILE VIEW. ASSUME APPROXIMATE BURY DEPTH OF 6 FEET FROM EXISTING GROUND SURFACE.



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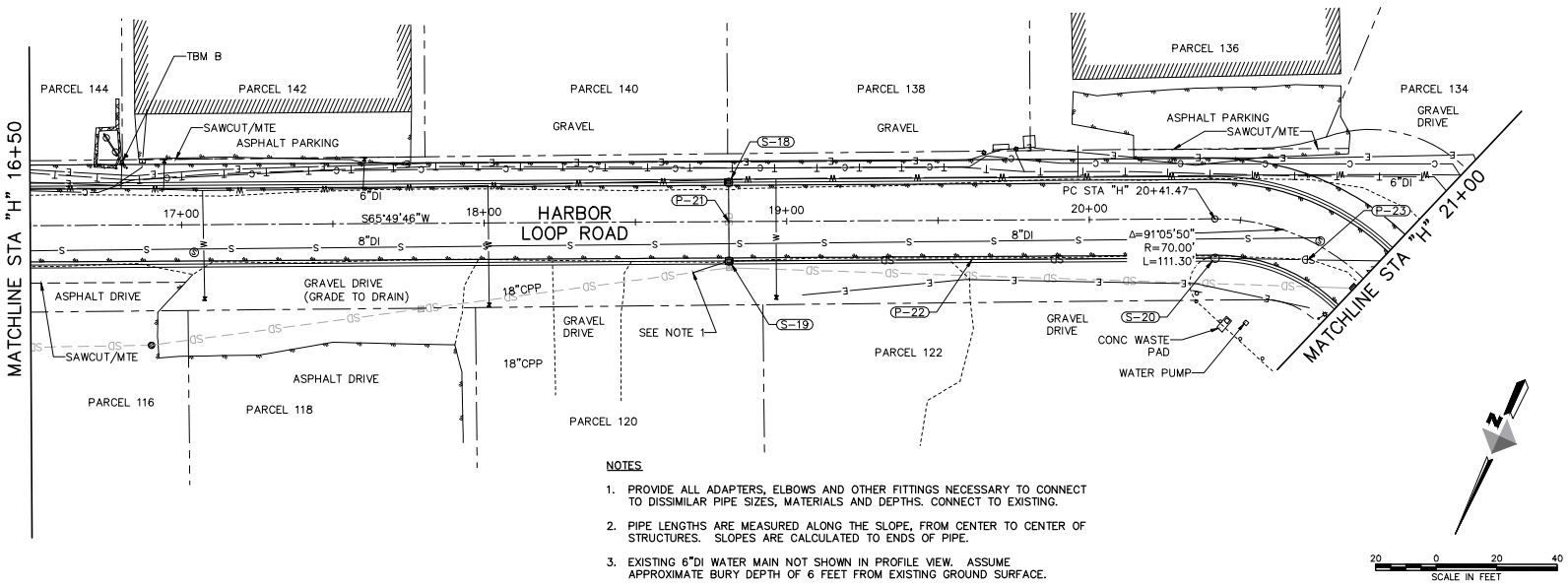
CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02

PLAN & PROFILE – HARBOR LOOP ROAD
STA "H" 11+00 TO STA "H" 16+50

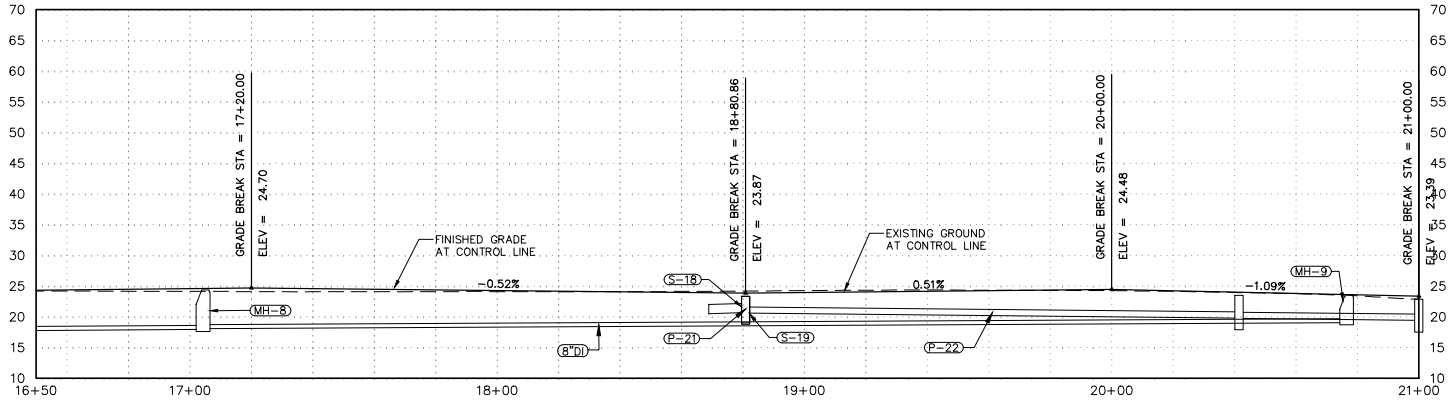
CORDOVA, ALASKA

PROJECT 70736.01
DATE 11/05/2015
SHEET 10 OF 16



NOTES

1. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS. CONNECT TO EXISTING.
2. PIPE LENGTHS ARE MEASURED ALONG THE SLOPE, FROM CENTER TO CENTER OF STRUCTURES. SLOPES ARE CALCULATED TO ENDS OF PIPE.
3. EXISTING 6"DI WATER MAIN NOT SHOWN IN PROFILE VIEW. ASSUME APPROXIMATE BURY DEPTH OF 6 FEET FROM EXISTING GROUND SURFACE.



REVISIONS			
REV	DATE	DESCRIPTION	BY

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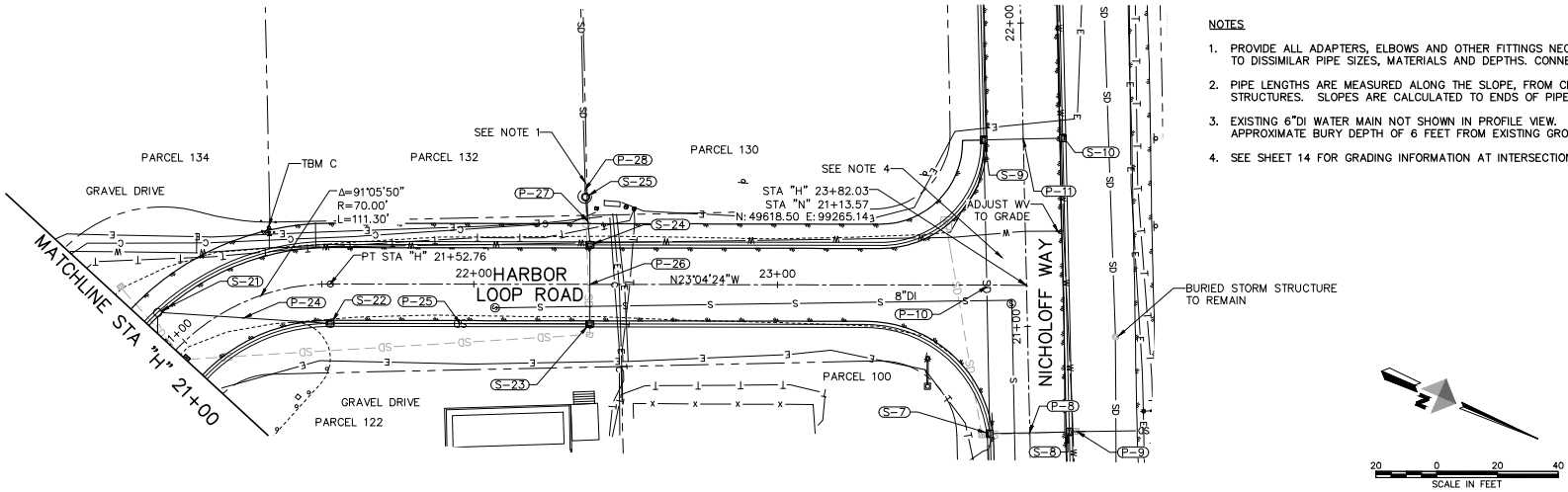
CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02

PLAN & PROFILE – HARBOR LOOP ROAD
STA "H" 16+50 TO STA "H" 21+00

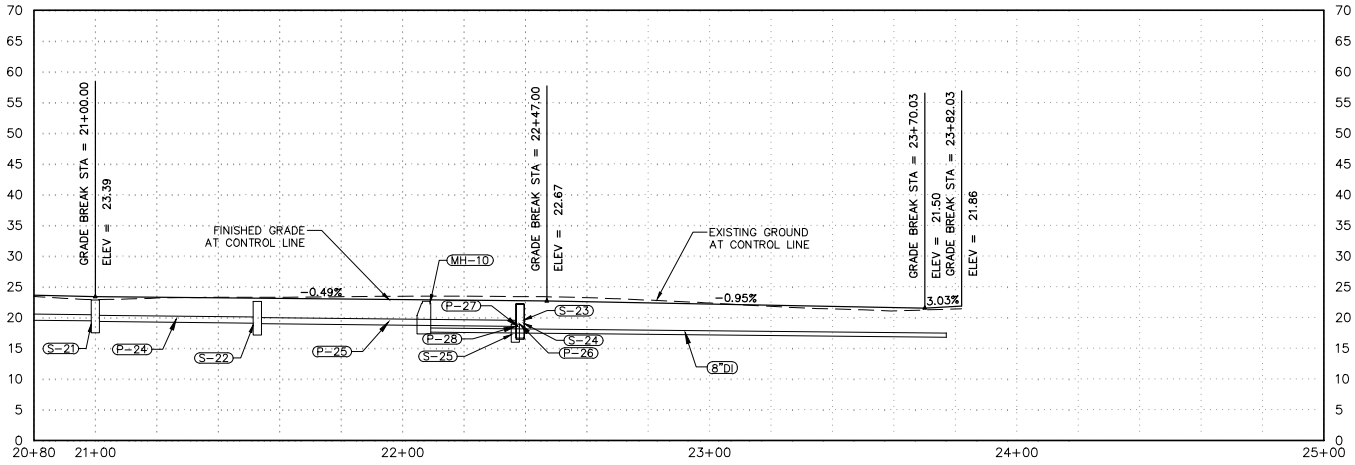
CORDOVA, ALASKA

PROJECT	70736.01
DATE	11/05/2015
SHEET	11 OF 16



NOTES

1. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS. CONNECT TO EXISTING.
2. PIPE LENGTHS ARE MEASURED ALONG THE SLOPE, FROM CENTER TO CENTER OF STRUCTURES. SLOPES ARE CALCULATED TO ENDS OF PIPE.
3. EXISTING 6"DI WATER MAIN NOT SHOWN IN PROFILE VIEW. ASSUME APPROXIMATE BURY DEPTH OF 6 FEET FROM EXISTING GROUND SURFACE.
4. SEE SHEET 14 FOR GRADING INFORMATION AT INTERSECTION



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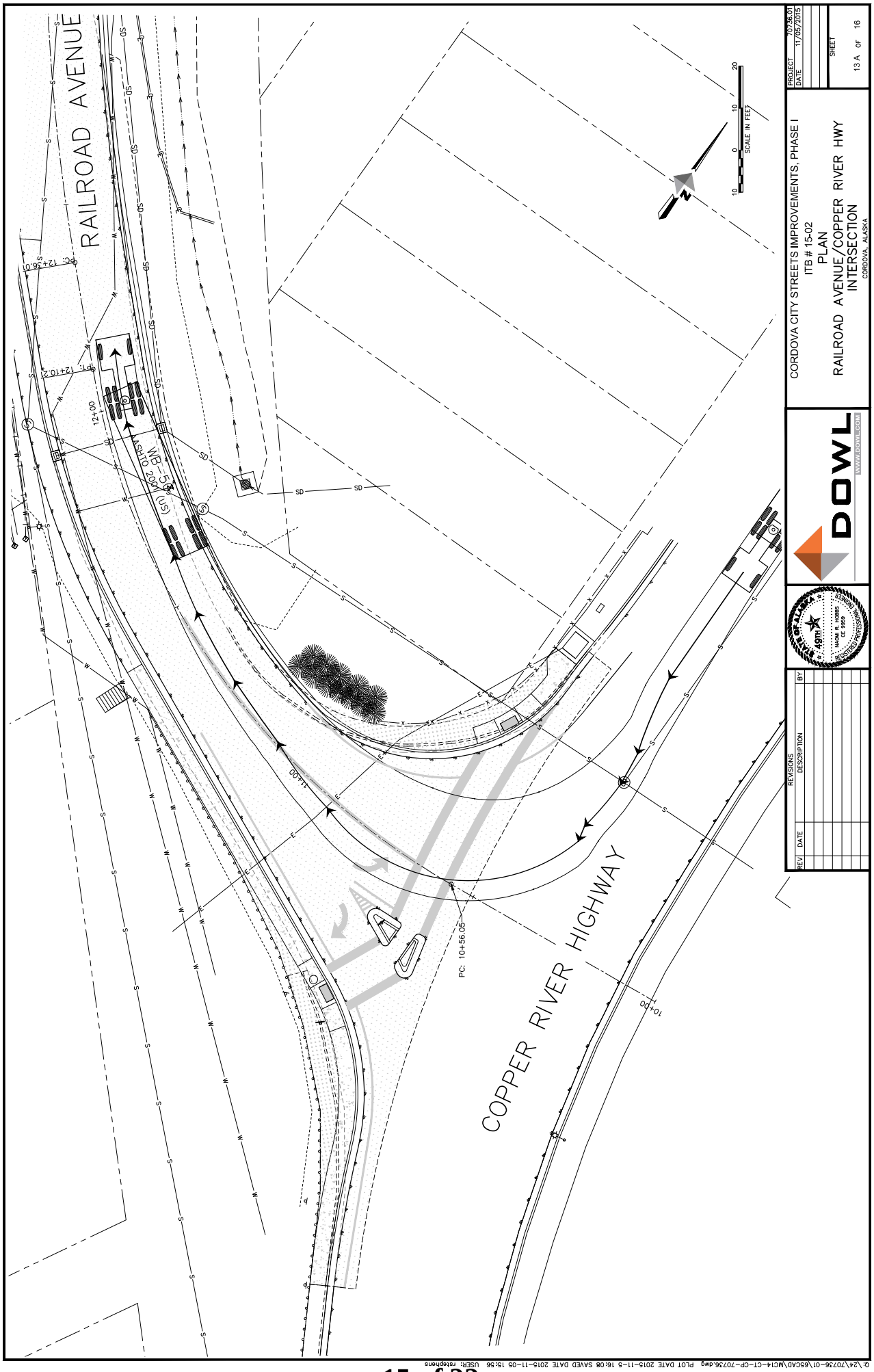
REV	DATE	DESCRIPTION	BY

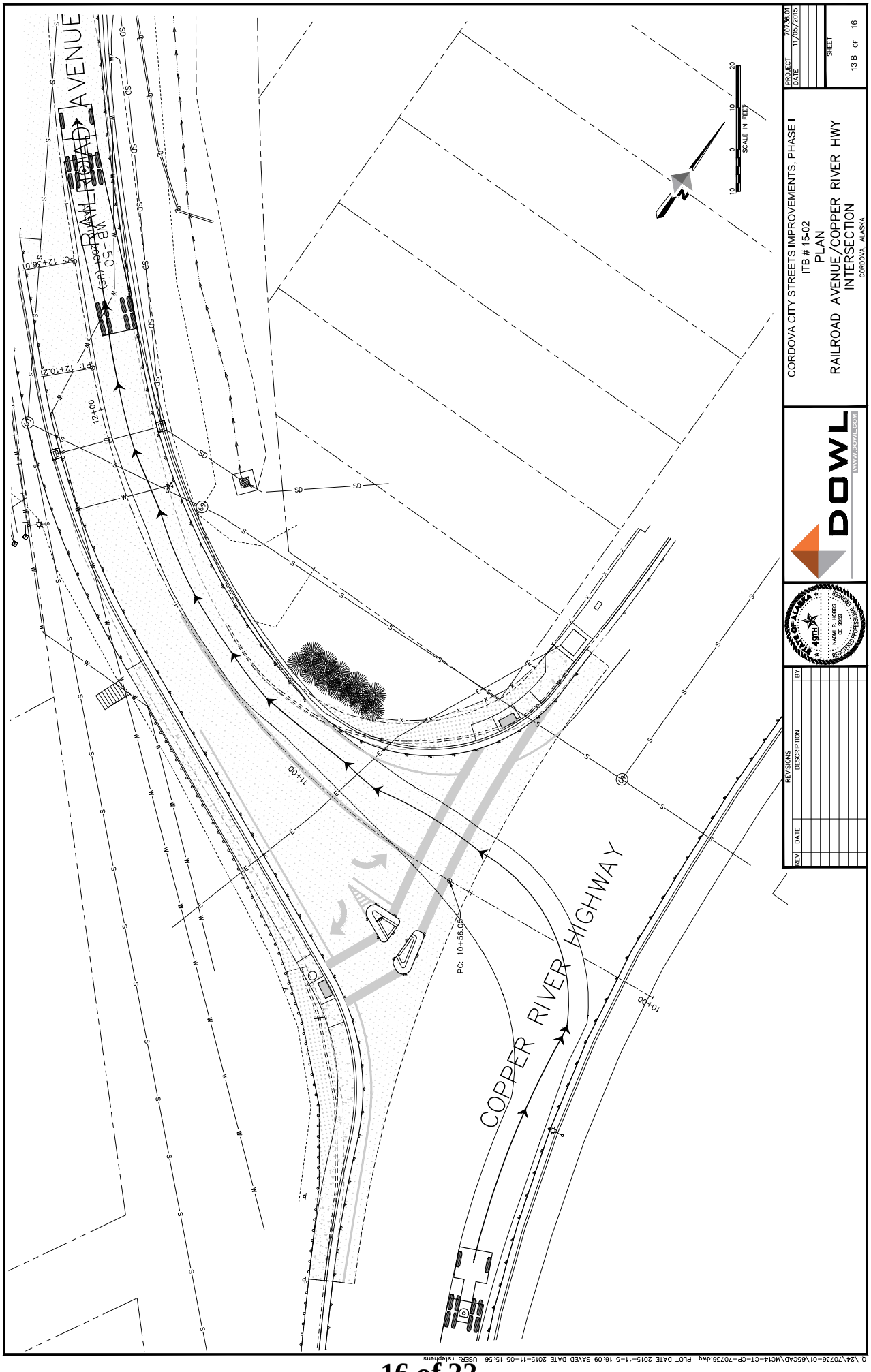
CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02

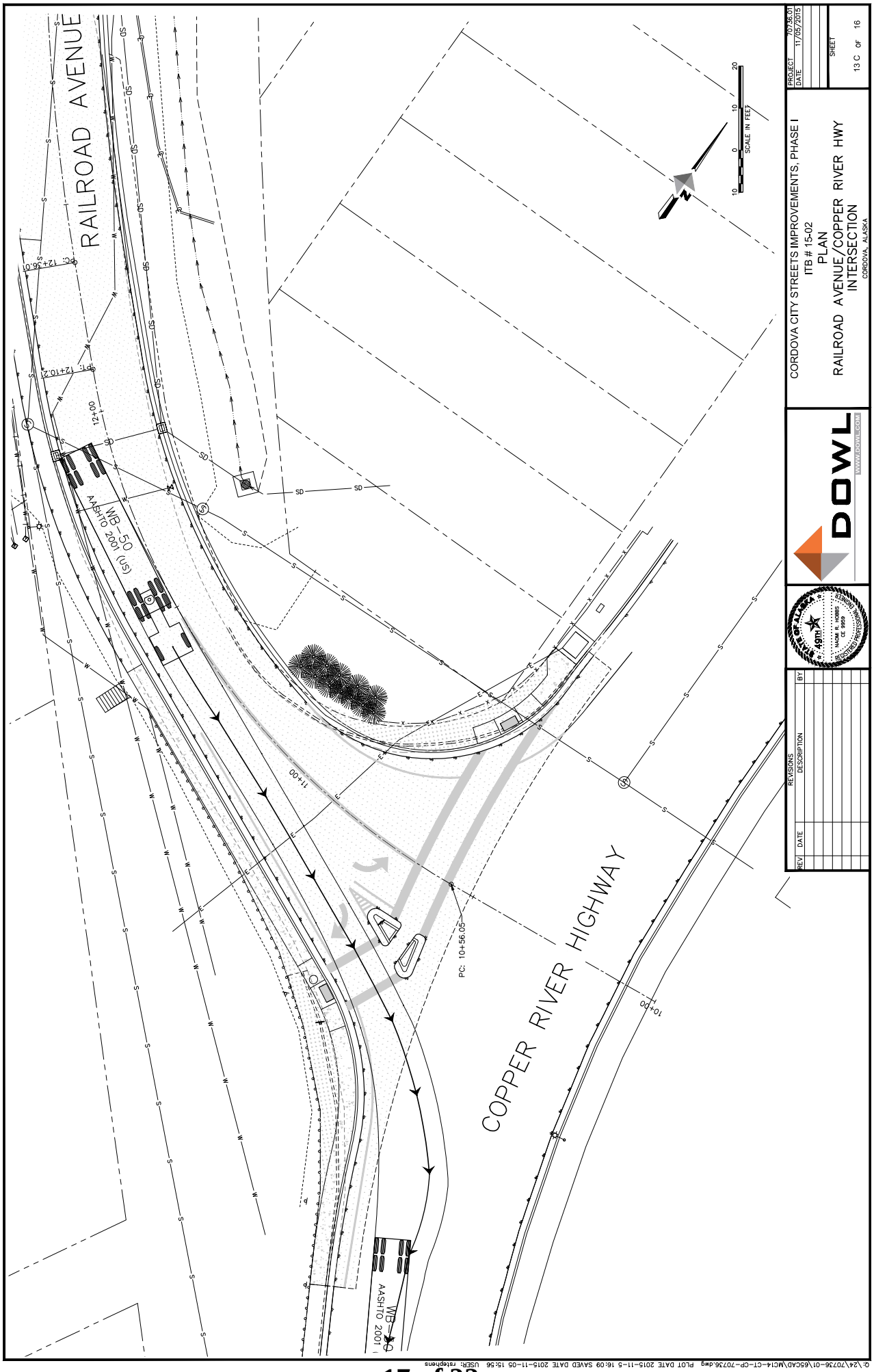
PLAN & PROFILE – HARBOR LOOP ROAD
STA "H" 21+00 TO NICHOLOFF WAY

CORDOVA, ALASKA

PROJECT	70736.01
DATE	11/05/2015
SHEET	12 OF 16


RAILROAD AVENUE
COPPER RIVER HIGHWAY
WB-50 (US)
AASHTO 2001
PC: 10+56.05
SCALE IN FEET
CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02
PLAN
RAILROAD AVENUE/COPPER RIVER HWY
INTERSECTION
CORDOVA, ALASKA
DOWL
PROJECT 707361.01
DATE 11/05/2015
SHEET 13 A OF 16
REVISIONS
REV DATE DESCRIPTION BY


RAILROAD AVENUE
COPPER RIVER HIGHWAY
PC: 10+56.05
11+00
12+00
10+00
SCALE IN FEET
CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02
PLAN
RAILROAD AVENUE/COPPER RIVER HWY
INTERSECTION
CORDOVA, ALASKA
DOWL
PROJECT 707361.01
DATE 11/05/2015
SHEET 13 B OF 16
REVISIONS:
REV DATE DESCRIPTION BY
NAOMI R. HOBBS
CE 9959
REGISTERED PROFESSIONAL ENGINEER
STATE OF ALASKA


RAILROAD AVENUE
COPPER RIVER HIGHWAY
WB - 50
AASHTO 2001 (us)
PC: 10+56.05
11+00
12+00
10+00
SCALE IN FEET
CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02
PLAN
RAILROAD AVENUE/COPPER RIVER HWY
INTERSECTION
CORDOVA, ALASKA
PROJECT 707361.01
DATE 11/05/2015
SHEET 13 OF 16
REVISIONS:
REV DATE DESCRIPTION BY
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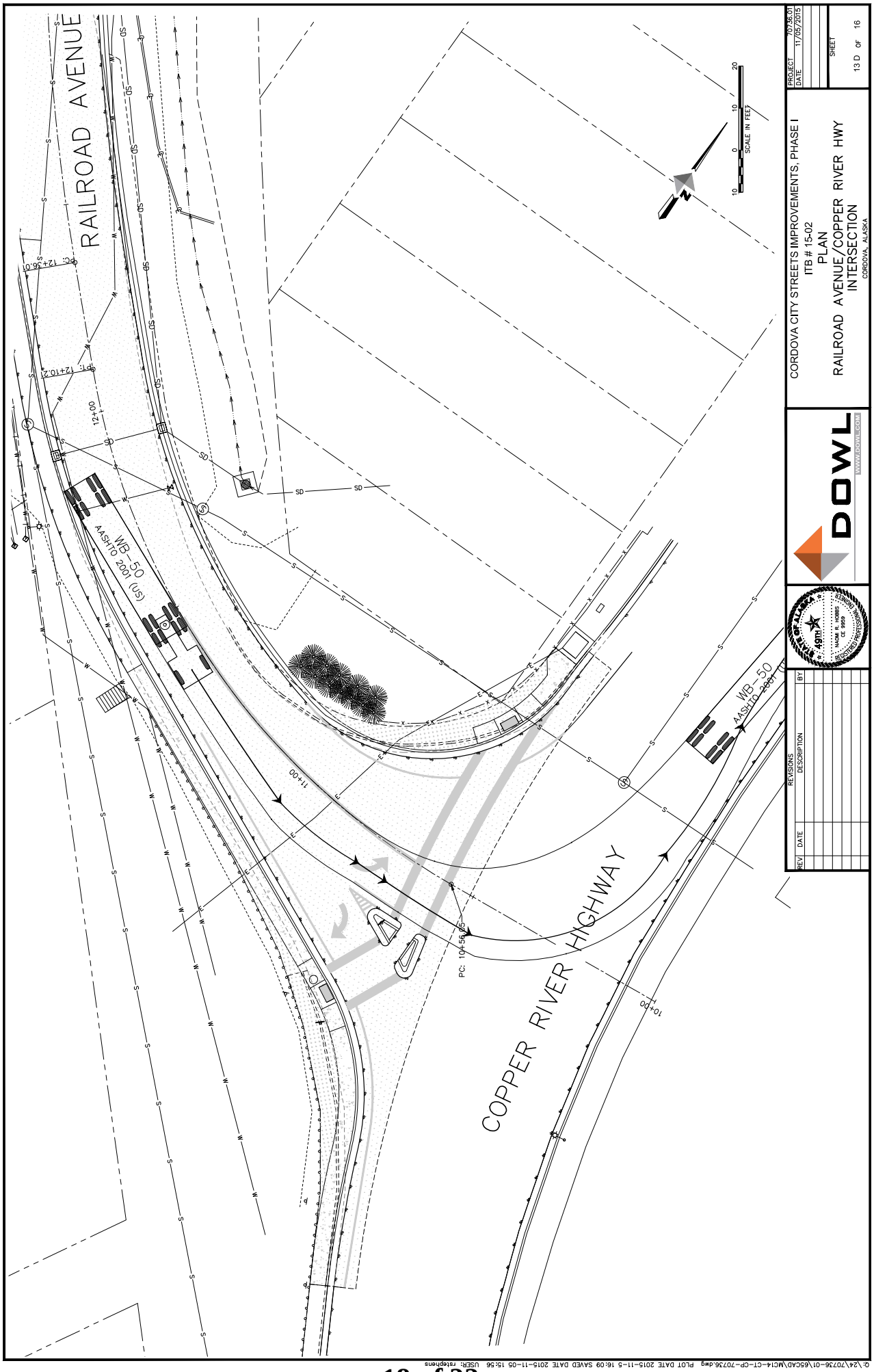
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COPPER RIVER HIGHWAY
WB-50
AASHTO 2001 (US)
WB-50
AASHTO 2001 (US)
SCALE IN FEET
20
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PC: 104+56.05
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CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02
PLAN
RAILROAD AVENUE/COPPER RIVER HWY
INTERSECTION
CORDOVA, ALASKA
PROJECT 70736.01
DATE 11/05/2015
SHEET 13 D OF 16
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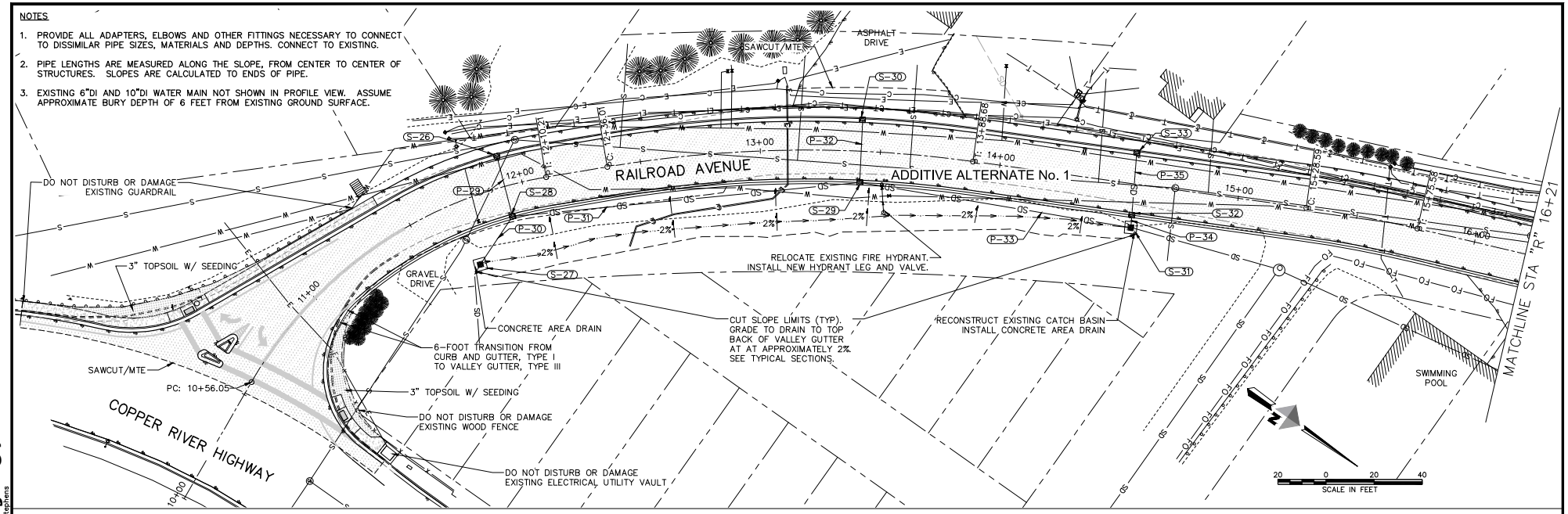
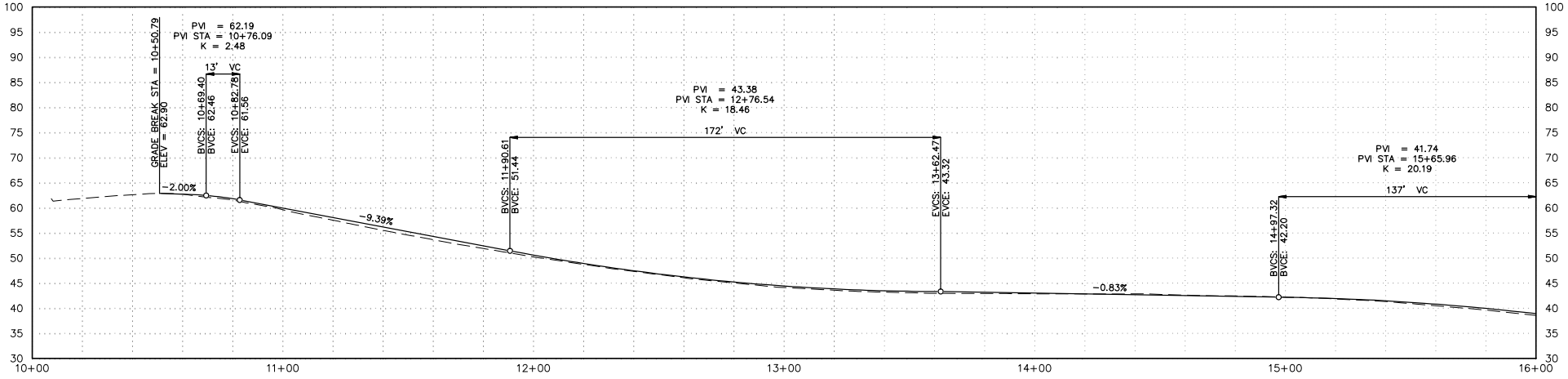
STATE OF ALASKA
NAOMI R. HOBBS
CE 9959
REGISTERED PROFESSIONAL ENGINEER
REVISIONS:
REV DATE DESCRIPTION BY

NOTES

1. PROVIDE ALL ADAPTERS, ELBOWS AND OTHER FITTINGS NECESSARY TO CONNECT TO DISSIMILAR PIPE SIZES, MATERIALS AND DEPTHS. CONNECT TO EXISTING.
2. PIPE LENGTHS ARE MEASURED ALONG THE SLOPE, FROM CENTER TO CENTER OF STRUCTURES. SLOPES ARE CALCULATED TO ENDS OF PIPE.
3. EXISTING 6"DI AND 10"DI WATER MAIN NOT SHOWN IN PROFILE VIEW. ASSUME APPROXIMATE BURY DEPTH OF 6 FEET FROM EXISTING GROUND SURFACE.





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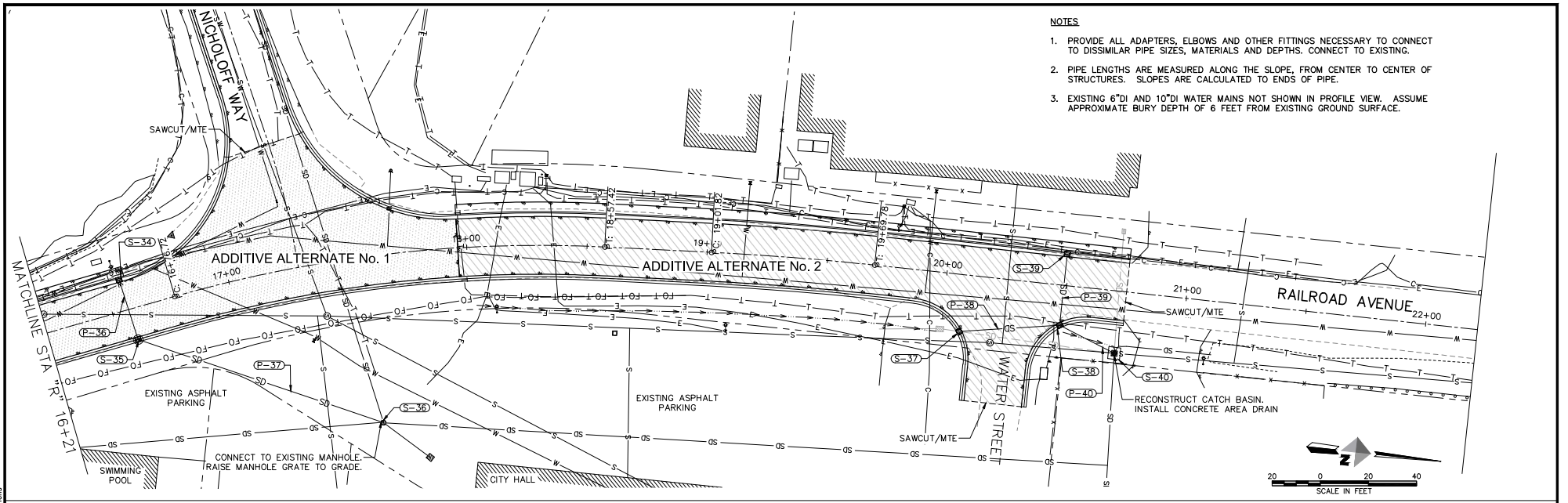
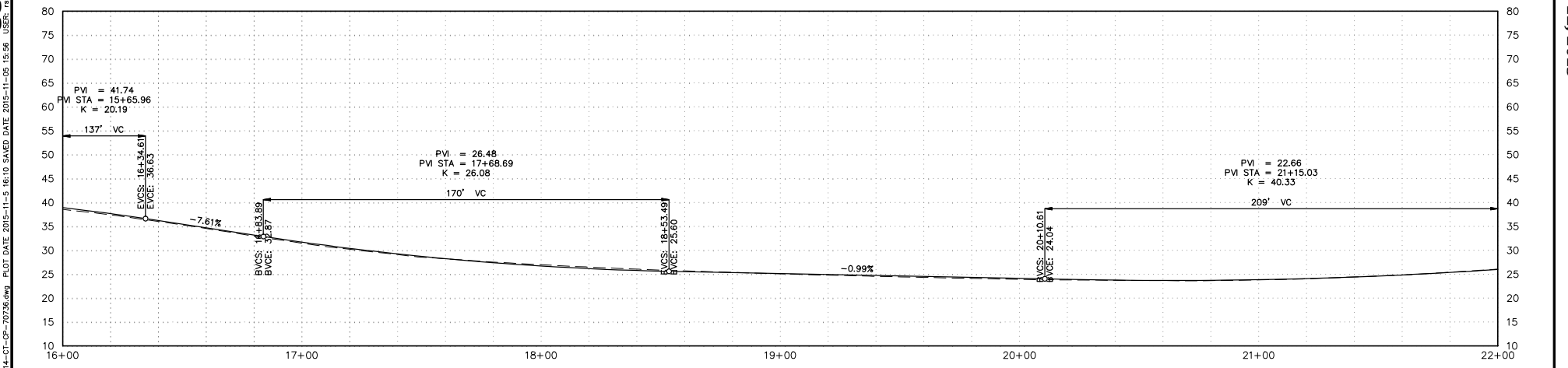
CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02

PLAN & PROFILE – RAILROAD AVENUE
STA "R" 10+00 TO STA "R" 16+00

CORDOVA, ALASKA

PROJECT	70736.01
DATE	11/05/2015
SHEET	13 OF 16





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REV	DATE	DESCRIPTION	BY

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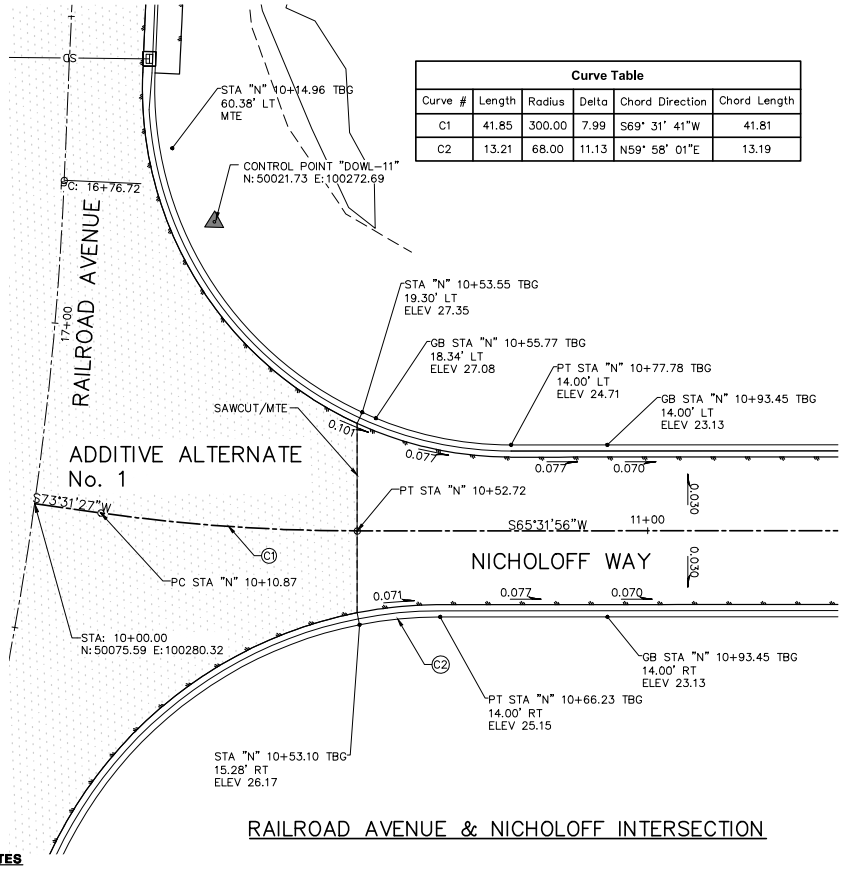
CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02

PLAN & PROFILE – RAILROAD AVENUE
STA "R" 16+00 TO STA "R" 22+00

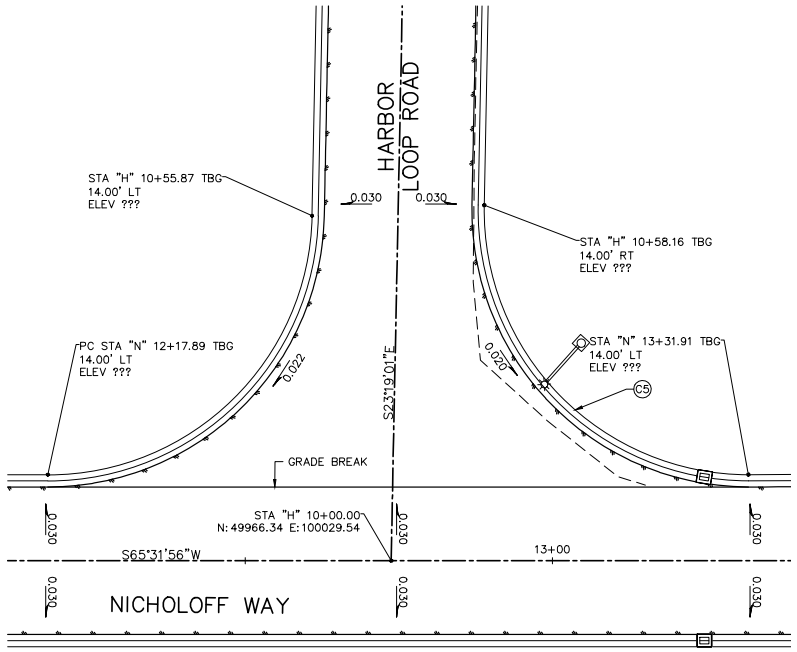
CORDOVA, ALASKA

PROJECT	70736.01
DATE	11/05/2015
SHEET	14 OF 16



Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	41.85	300.00	7.99	S69° 31' 41"W	41.81
C2	13.21	68.00	11.13	N59° 58' 01"E	13.19

RAILROAD AVENUE & NICHOLOFF INTERSECTION



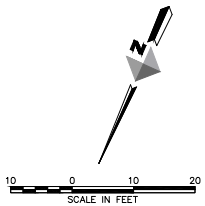
Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C5	68.41	43.00	91.15	N68° 53' 33"W	61.42

TBM A

EAST HARBOR LOOP ROAD & NICHOLOFF WAY

NOTES

1. STATIONS, OFFSETS, ELEVATIONS AND, CURVE INFORMATION ALONG CURBING ARE TO TOP BACK OF CURB (TBC), UNLESS OTHERWISE NOTED. TOP OF PAVEMENT ARE TP. TOP OF SIDEWALK ARE TSW. TOP BACK OF VALLEY GUTTER ARE TBG.
2. SEE TYPICAL SECTIONS AND PROFILES FOR OTHER GRADING INFORMATION.
3. ESTABLISH VERTICAL CURVES AS NECESSARY FOR A SMOOTH ALIGNMENT (NO ANGLE POINTS) BY VISUALLY ALIGNING TOP OF GUTTER THROUGH VERTICAL CONTROL POINTS.
4. NO STRAIGHT FORMS SHALL BE USED WITHIN ANY CURVED SEGMENT WITH A RADIUS OF LESS THAN 200'. STRAIGHT FORMS USED FOR ANY ARCED SEGMENT WITH A RADIUS OF MORE THAN 200' SHALL NOT EXCEED 10' IN LENGTH.
5. SIDEWALK CROSS SLOPE ON HARBOR WAY SHALL BE 1.7% UNLESS OTHERWISE NOTED.
6. THE CONTRACTOR SHALL PERFORM A CLOSED LEVEL LOOP THROUGH TBMs TO VERIFY ELEVATIONS BEFORE BEGINNING ANY GRADING WORK.
7. SLOPES ALONG THE CURBING ARE ALONG THE LIP OF GUTTER.



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CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02
INTERSECTION GRADING PLAN
RAILROAD AVENUE & NICHOLOFF WAY
EAST HARBOR LOOP ROAD & NICHOLOFF WAY
CORDOVA, ALASKA

PROJECT	70736.01
DATE	11/05/2015
SHEET	15 OF 16

NOTES

1. STATIONS, OFFSETS, ELEVATIONS AND, CURVE INFORMATION ALONG CURBING ARE TO TOP BACK OF CURB (TBC), UNLESS OTHERWISE NOTED. TOP OF PAVEMENT ARE TP. TOP OF SIDEWALK ARE TSW. TOP BACK OF VALLEY GUTTER ARE TBG.
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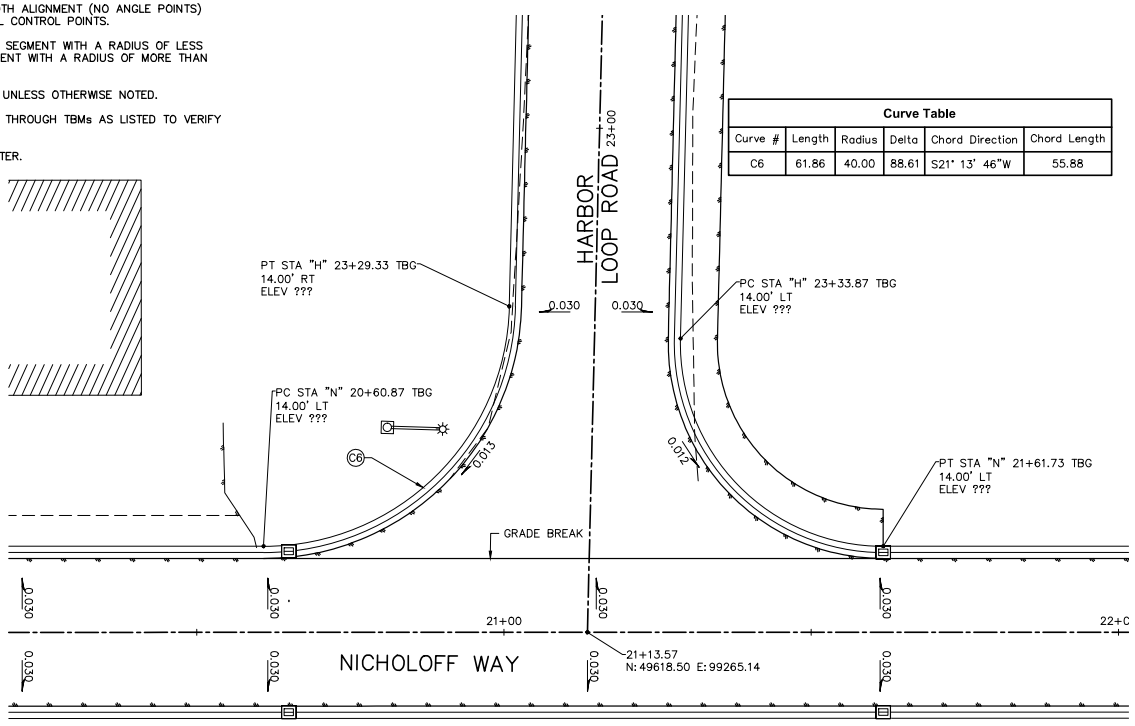
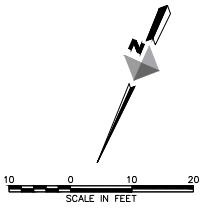


Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C6	61.86	40.00	88.61	S21° 13' 46"W	55.88



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CORDOVA CITY STREETS IMPROVEMENTS, PHASE I
ITB # 15-02

INTERSECTION GRADING PLAN
WEST HARBOR LOOP ROAD & NICHOLOFF WAY

CORDOVA, ALASKA

PROJECT	70736.01
DATE	11/05/2015
SHEET	16 OF 16