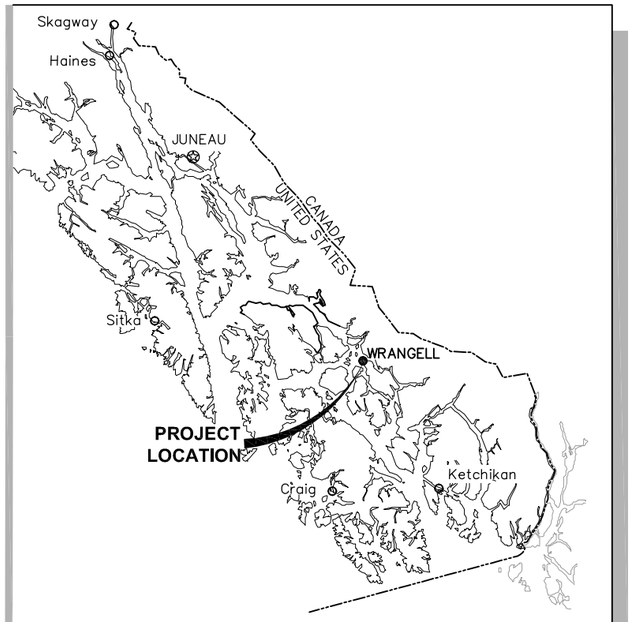
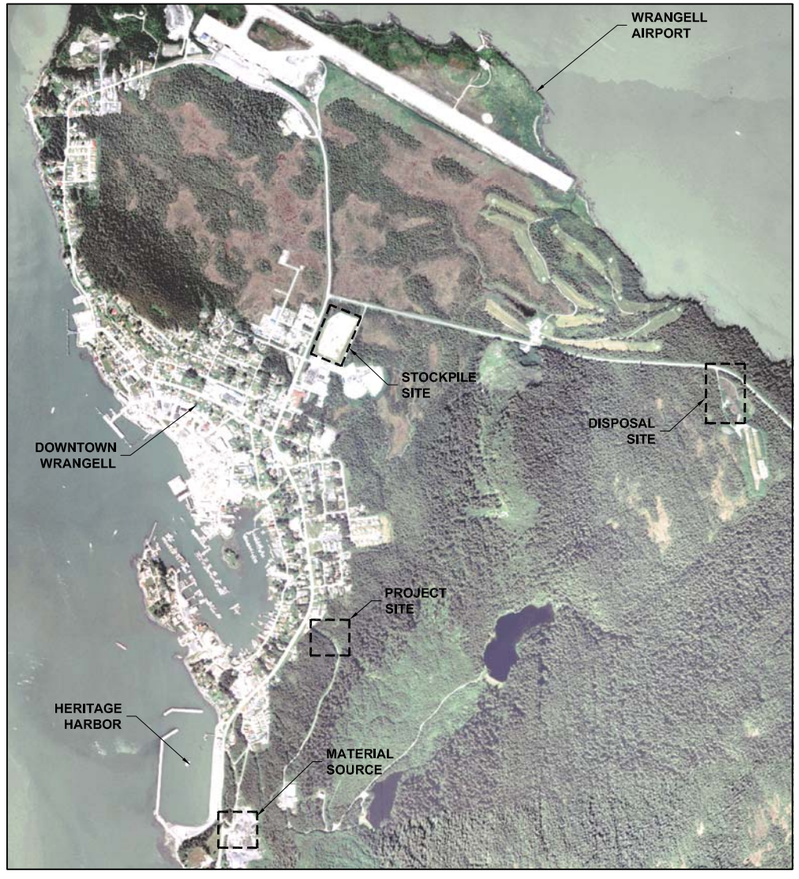
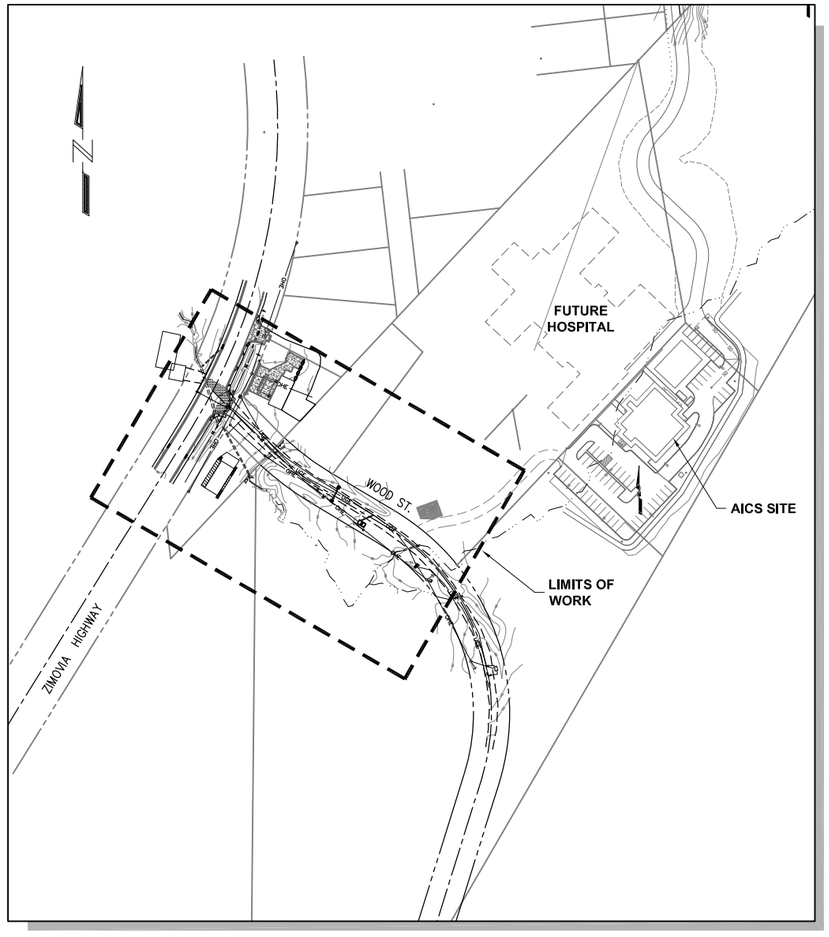
WOOD STREET IMPROVEMENT DESIGN



LOCATION MAP



VICINITY MAP



SITE PLAN

FOR BID

DIGITAL SIGNATURE:
Gary Watters
Gary Watters (Apr 5, 2016)

THIS DRAWING SET WAS CREATED AS AN ELECTRONIC DOCUMENT. IF THE ELECTRONIC DOCUMENT DOES NOT INCLUDE A VERIFIABLE DIGITAL SIGNATURE IN THE BOX ABOVE, PLEASE CONTACT THE ENGINEER OF RECORD FOR THE ORIGINAL CERTIFIED ELECTRONIC DOCUMENT.

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STATE OF ALASKA — 49TH — Robert W. Ward — CE 12987 — REGISTERED PROFESSIONAL ENGINEER
3/29/16

REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: WOOD STREET IMPROVEMENTS

TITLE: TITLE SHEET

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: T1.01
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

3/29/16 Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-T1.01.dwg

SHEET INDEX

DWG. NO.	REV. NO.	SHEET NO.	SHEET NAME
GENERAL			
T1.01	0	1	TITLE SHEET
G1.01	0	2	SHEET INDEX
G2.01	0	3	SITE SURVEY
G3.01	0	4	TEST PIT LOCATION PLAN
G3.02	0	5	TEST PIT LOGS
G3.03	0	6	TEST PIT LOGS
G3.04	0	7	TEST PIT LOGS
G3.05	0	8	TEST PIT LOGS
G3.06	0	9	TEST PIT LOGS
CIVIL			
C1.01	0	10	SITE PREPARATION PLAN
C1.02	0	11	TESC DETAILS
C2.01	0	12	ROADWAY PLAN AND PROFILE
C2.02	0	13	DRIVEWAY GRADING PLAN
C2.03	0	14	AICS APPROACH CONTROL PLAN
C2.04	0	15	ROADWAY DETAILS
C2.05	0	16	ROADWAY DETAILS
C2.06	0	17	SIDEWALK DETAILS
C3.01	0	18	STORMWATER PLAN AND PROFILE
C3.02	0	19	FISH CULVERT PLAN AND PROFILE
C3.03	0	20	FISH CULVERT DETAILS
C3.04	0	21	STORMDRAIN DETAILS
C3.05	0	22	TEMPORARY FISH STREAM DIVERSION OPTIONS
C4.01	0	23	UTILITY PLAN & PROFILE
C4.02	0	24	WATERMAIN DETAILS
C4.03	0	25	WATERMAIN DETAILS
C5.01	0	26	SIGNAGE AND STRIPING PLAN
C5.02	0	27	SIGNAGE AND STRIPING DETAILS
C6.01	0	28	CONCRETE PAVING ALTERNATE A PLAN
ELECTRICAL			
E1.01	0	29	EXISTING SITE PLAN – ELECTRICAL SYSTEMS
E2.01	0	30	NEW SITE PLAN – ELECTRICAL SYSTEMS
E2.02	0	31	ELECTRICAL DETAILS

CIVIL SYMBOLS

SYMBOL	DESCRIPTION (ABBR)	SYMBOL	DESCRIPTION (ABBR)
TPXXX	TEST PIT LOCATION		ROCKWALL
	FOUND REBAR W/ AL. CAP	W	EXISTING WATER MAIN
	FOUND 1" BC ON 3/4" IP	SS	EXISTING SANITARY SEWER
	FOUND #5 REBAR	FM	EXISTING FORCE MAIN
	SET SPIKE W/ PND YPC	W	NEW WATER MAIN
	SET PK NAIL W/ SHINER	SS	NEW SANITARY SEWER
( )	RECORD INFO. (SEE NOTE 2)	FM	NEW FORCE MAIN
J	ELECTRIC JUNCTION BOX	SD	NEW STORM DRAIN
E	ELECTRIC VAULT		STREAM THALWEG
	POWER POLE	UGE	UNDERGROUND ELECTRIC
	GUY ANCHOR	OHE	OVERHEAD ELECTRIC
	ELECTRIC PEDESTAL		VEGITATION LINE
	WATER VALVE		EDGE OF GRAVEL ROAD
	CAP/PLUG		SLOPE BREAK LINE
	GUARD POST		DITCH FLOW LINE
	REDUCER		EXISTING PAVEMENT
	THRUST BLOCK		CONCRETE
	WATER METER		GRAVEL
	FIRE HYDRANT		CONCRETE
	GATE VALVE		DRAIN ROCK
TY?	UTILITY VAULT		PROPERTY LINE
W	WATER VAULT		RIGHT-OF-WAY INE
	SEWER MANHOLE		
	STORM DRAIN CATCH BASIN		
	CATCH BASIN TYPE 2		
	GATE POST		
	SIGN		
	HC RAMP		

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STATE OF ALASKA — 4918 — Gary Robert Watters — GE 12987 — REGISTERED PROFESSIONAL ENGINEER — 3/29/2016

REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **SHEET INDEX**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: G1.01
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

3/29/16
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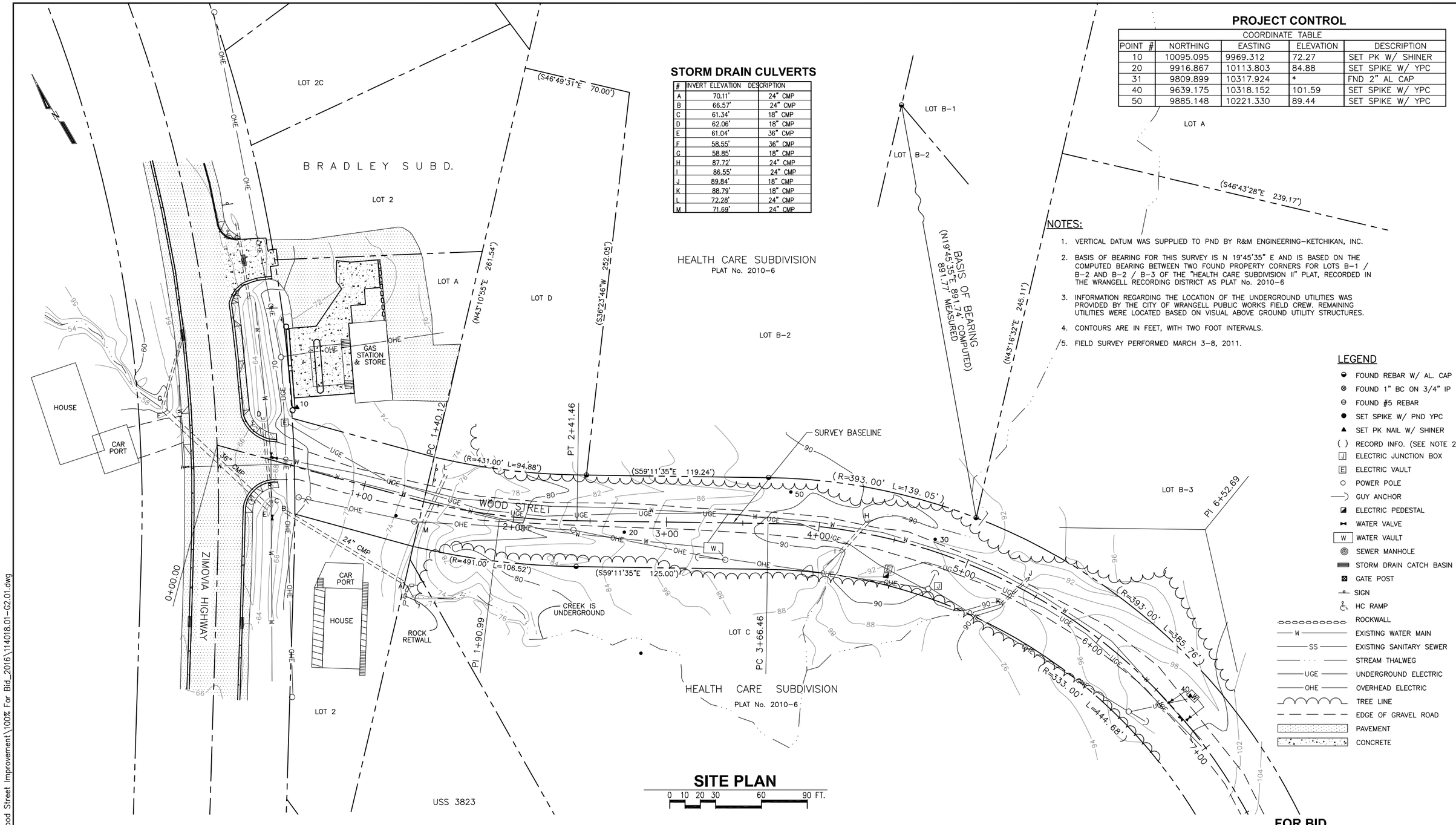

STORM DRAIN CULVERTS

#	INVERT ELEVATION	DESCRIPTION
A	70.11'	24" CMP
B	66.57'	24" CMP
C	61.34'	18" CMP
D	62.06'	18" CMP
E	61.04'	36" CMP
F	58.55'	36" CMP
G	58.85'	18" CMP
H	87.72'	24" CMP
I	86.55'	24" CMP
J	89.84'	18" CMP
K	88.79'	18" CMP
L	72.28'	24" CMP
M	71.69'	24" CMP

PROJECT CONTROL

COORDINATE TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
10	10095.095	9969.312	72.27	SET PK W/ SHINER
20	9916.867	10113.803	84.88	SET SPIKE W/ YPC
31	9809.899	10317.924	*	FND 2" AL CAP
40	9639.175	10318.152	101.59	SET SPIKE W/ YPC
50	9885.148	10221.330	89.44	SET SPIKE W/ YPC

NOTES:

1. VERTICAL DATUM WAS SUPPLIED TO PND BY R&M ENGINEERING-KETCHIKAN, INC.
2. BASIS OF BEARING FOR THIS SURVEY IS N 19°45'35" E AND IS BASED ON THE COMPUTED BEARING BETWEEN TWO FOUND PROPERTY CORNERS FOR LOTS B-1 / B-2 AND B-2 / B-3 OF THE "HEALTH CARE SUBDIVISION II" PLAT, RECORDED IN THE WRANGELL RECORDING DISTRICT AS PLAT No. 2010-6
3. INFORMATION REGARDING THE LOCATION OF THE UNDERGROUND UTILITIES WAS PROVIDED BY THE CITY OF WRANGELL PUBLIC WORKS FIELD CREW. REMAINING UTILITIES WERE LOCATED BASED ON VISUAL ABOVE GROUND UTILITY STRUCTURES.
4. CONTOURS ARE IN FEET, WITH TWO FOOT INTERVALS.
5. FIELD SURVEY PERFORMED MARCH 3-8, 2011.

LEGEND

- FOUND REBAR W/ AL. CAP
- FOUND 1" BC ON 3/4" IP
- FOUND #5 REBAR
- SET SPIKE W/ PND YPC
- SET PK NAIL W/ SHINER
- ( ) RECORD INFO. (SEE NOTE 2)
- ELECTRIC JUNCTION BOX
- ELECTRIC VAULT
- POWER POLE
- GUY ANCHOR
- ELECTRIC PEDESTAL
- WATER VALVE
- WATER VAULT
- SEWER MANHOLE
- STORM DRAIN CATCH BASIN
- GATE POST
- SIGN
- HC RAMP
- ROCKWALL
- EXISTING WATER MAIN
- EXISTING SANITARY SEWER
- STREAM THALWEG
- UNDERGROUND ELECTRIC
- OVERHEAD ELECTRIC
- TREE LINE
- EDGE OF GRAVEL ROAD
- PAVEMENT
- CONCRETE

SITE PLAN

0 10 20 30 60 90 FT.

FOR BID

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STATE OF ALASKA 49TH Robert W. Ritchie CE 12987 REGISTERED PROFESSIONAL ENGINEER 3/29/16

REVISIONS

REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **SITE SURVEY**

DESIGNED BY:	MT	PROJECT NO:	114018.01	SHEET NO:	G2.01
DRAWN BY:	DRH	DATE:	MARCH 2016		
CHECKED BY:	SR	SCALE:	NOTED		

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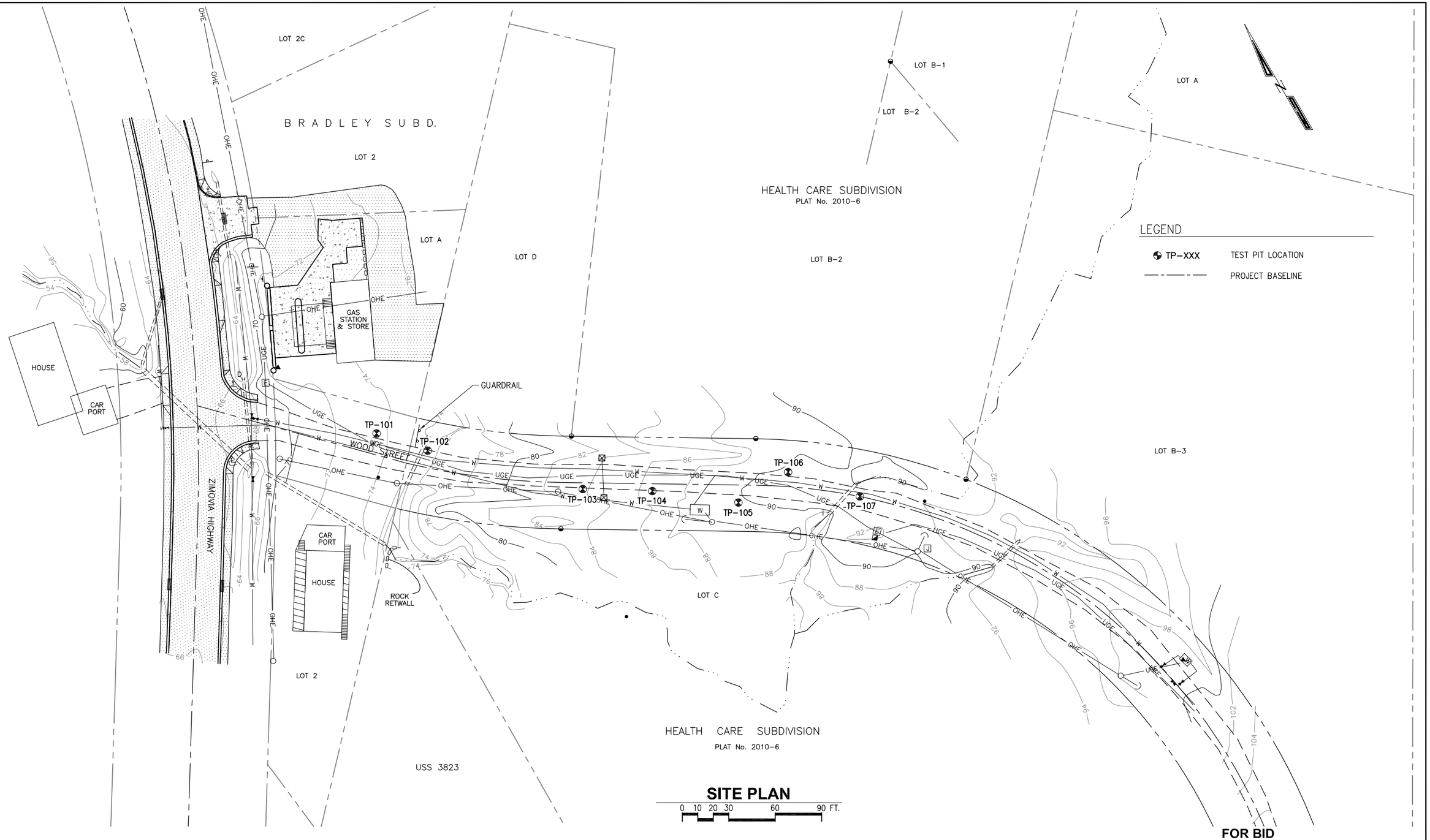
Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-G2.01.dwg



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Robert W. Hall
CE 12987
REGISTERED PROFESSIONAL ENGINEER
3/29/16

REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **TEST PIT LOCATION PLAN**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: G3.01
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

3/29/16
Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-G3.01.dwg

SOILS
CLASSIFICATION, CONSISTENCY AND SYMBOLS

CLASSIFICATION

Identification and classification of the soil is accomplished in general accordance with the ASTM version of the Unified Soil Classification System (USCS) as presented in ASTM Standard D 2487. The standard is a qualitative method of classifying soil into the following major divisions (1) coarse grained (2) fine-grained, and (3) highly organic soils. Classification is performed on the soils passing the 75 mm (3 inch) sieve and if possible the amount of oversize material (> 75 mm particles) is noted on the soil logs. This is not always possible for drilled test holes because the oversize particles are typically too large to be captured in the sampling equipment. Oversize materials greater than 300 mm (12 inches) are termed boulders, while materials between 75 mm and 300 mm are termed cobbles. Coarse grained soils are those having 50% or more of the non-oversize soil retained on the No. 200 sieve; if a greater percentage of the coarse grains is retained on the No. 4 sieve the coarse grained soil is classified as gravel, otherwise it is classified as sand. Fine grained soils are those having more than 50% of the non-oversize material passing the No. 200 sieve; these may be classified as silt or clay depending their Atterberg liquid and plastic limits or observations of field consistency. Refer to ASTM D 2487-93 for a complete discussion of the classification method.

SOIL CONSISTENCY - CRITERIA

Soil consistency as defined below and determined by normal field and laboratory methods applies only to non-frozen material. For these materials, the influence of such factors as soil structure,, i.e. fissure systems, shinkage cracks, slickensides, etc., must be taken into consideration in making any correlation with the consistency values listed below. In permafrost zones, the consistency and strength of frozen soils may vary significantly and unexplainably with ice content, thermal regime and soil type.

Relative Density of Sands According to results of Standard Penetration Test

N*(Blows/ft)		Relative Density
Loose	0 – 10	0 – 40%
Dense	10 – 30	40 – 70%
Medium Dense	30 – 60	70 – 90%
Very Dense	> 60	90 – 100%

Consistency of Clay in Terms of Unconfined Compressive Strength (tsf)

Very Soft	0.0 – 0.25
Soft	0.25 – 0.5
Stiff	0.5 – 1.0
Firm	1.0 – 2.0
Very Firm	2.0 – 4.0
Hard	> 4.0

* Standard Penetration, "N": Blows per foot of a 140-pound hammer falling 30 inches on a 1.4" ID split-spoon sampler except where noted.

SAMPLER TYPE SYMBOLS

St ..... 1.4" Split Spoon W/ 47# Hammer	Ts ..... Shelby Tube
Ss ..... 1.4" Split Spoon W/ 140# Hammer	Tm ..... Modified 2.5"O.D. Shelby Tube
Sl ..... 2.5" Split Spoon W/ 140# Hammer	Pb ..... Pitcher Barrel
Sm ..... 2.5" Split Spoon W/ 300# Hammer	Cs ..... Core Barrel W/ Single Tube
Sh ..... 2.5" Split Spoon W/ 340# Hammer	Cd ..... Core Barrel W/ Double Tube
Sp ..... 2.5" Split Spoon, Pushed	Bs ..... Bulk Sample
Hs ..... 1.4" Split Spoon Driven W/ Air Hammer	A ..... Auger Sample
Hl ..... 2.5" Split Spoon Driven W/ Air Hammer	G ..... Grab Sample
Sx ..... 2.0" Split Spoon Driven W/ 140# Hammer	
Sz ..... 1.4" Split Spoon Driven W/ 340# Hammer	

NOTES
1. Split spoon sampler sizes presented above refer to the inside diameter of the sampler.

PND ENGINEERS, INC.	Designed: MH Drawn: ALR Checked: MH Project No.: - Date: DEC. 2003	STANDARD BOREHOLE LOG DETAILS	BOREHOLE LOGS / FIGURE B-01

Depth (Feet)	Water Table	GRAPHIC SYMBOL	SOIL DESCRIPTION: Soil Name, Color, Moisture Content, Relative Density, Soil Structure, Mineralogy, Other Information	SAMPLES: Number	Type	Location	Recovery (%)	Penetration Blows per 6/Inch (per Foot)*	GRAPH	COMMENTS: Casing Depth, Drilling Rate, Fluid Loss, Drill Pressure, Tests, Instrumentation Additional Information	Elevation (Feet)
0			0' - 0.30' A.C. PAVEMENT						BLOW COUNT (BPF)* 20 40 60 80 POCKET PEN. (TSF) 1 2 3 4 VANE SHEAR (TSF) 2 4 6 8		24.43
	▽		POORLY-GRADED GRAVEL W/ SILT AND SAND Gray, Dry, Subangular, Medium Dense, GP-GM	1	Ss		30	6-6-5-4 (9)		Begin drilling 10/24/03 8:00 a.m. 2' to 3' - Hard, loud drilling 1-ft min. boulder encountered	
2											22.43
1	2	3	4	5	6	7	8	9	10	11	12

COLUMN DESCRIPTIONS

1	Depth	Depth (in feet) below the ground surface.
2	Water Level	Groundwater level recorded while drilling. Depths and times are recorded in comments column.
3	Graphic Log	Graphic depiction of materials encountered.
4	Soil Description	Description of materials encountered, including USCS soil descriptions.
5	Sample Number	Sample identification number.
6	Sample Type	Type of soil sample collected at depth interval depicted; symbols explained on Fig. B-01.
7	Sample Location	Location soil sample taken.
8	Sample Recovery	Percentage of sample recovered.
9	Sample Blows	Number of blows to advance driven sampler each 6-inch interval using sampler type specified with a 30-inch drop. Blows per foot given in parentheses.
10	Graphs	Graphic log depicting blow counts per foot with a specified split spoon, Pocket Penetration and Vane Shear tests depicted where taken on fine grained soils.
11	Comments	Comments or observations on drilling/sampling by driller or PND field personnel.
12	Elevation	Elevation (in feet) with respect to Mean Lower Low Water (MLLW) or other datum where specified.

GENERAL NOTES
1. Soil Classifications are base on the Unified Soil Classification System. Field descriptions may have been modified to reflect laboratory test results.
2. Descriptions on these boring logs apply only at the specific locations at the time the borings were drilled. They are not warranted to be representative of subsurface conditions at other locations or times.
3. Split spoon blow counts shown are uncorrected raw data. Various hammer sizes and split spoon sizes were used and have not been corrected to a Standard Penetration Test (SPT). Blow counts may vary substantially between SPT and these methods.

PND ENGINEERS, INC.	Designed: MH Drawn: ALR Checked: MH Project No.:- Date: DEC. 2003	STANDARD BOREHOLE LOG DETAILS	BOREHOLE LOGS / FIGURE B-02

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REVISIONS		
REV	DATE	DESCRIPTION

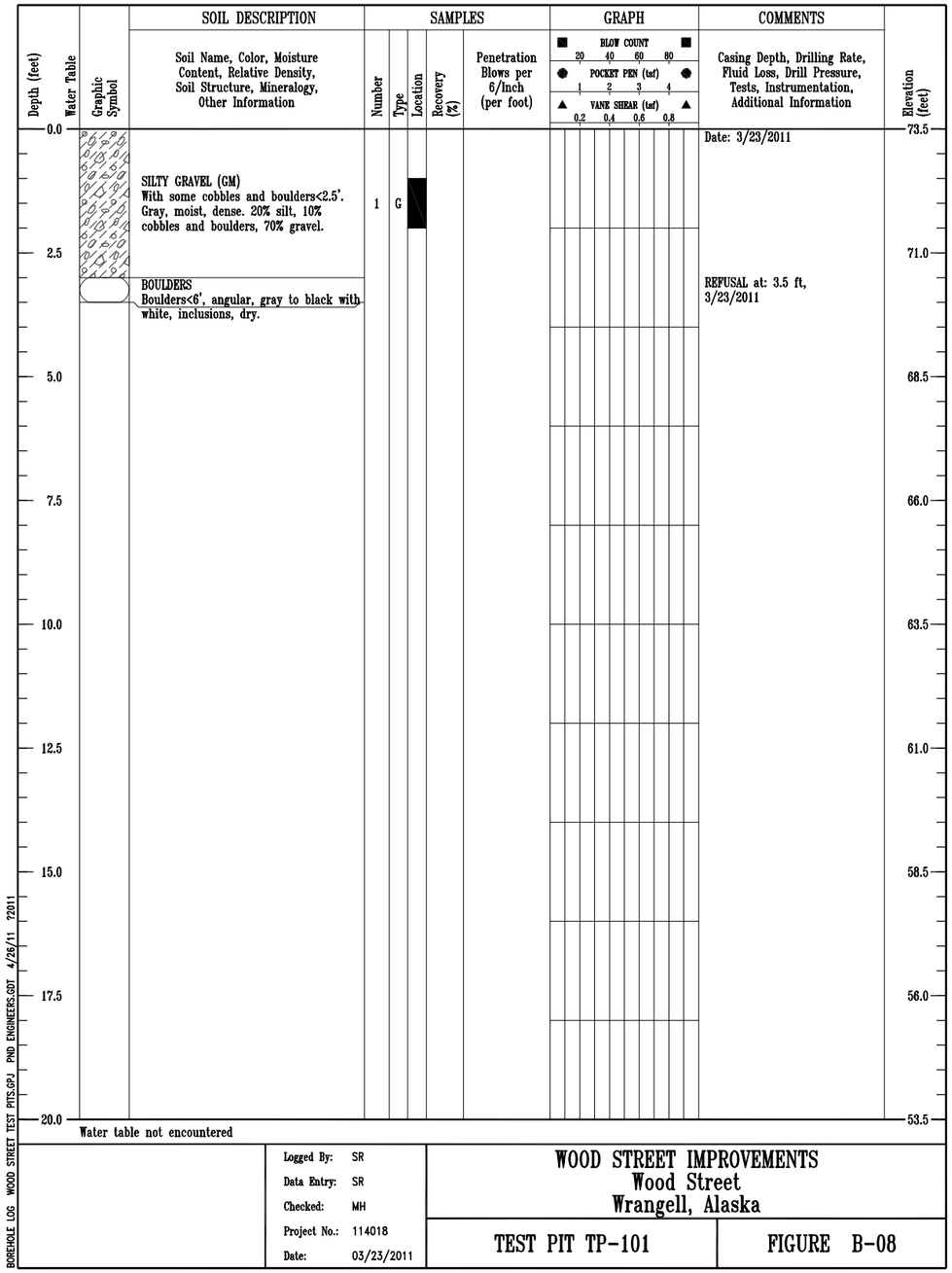
FOR BID

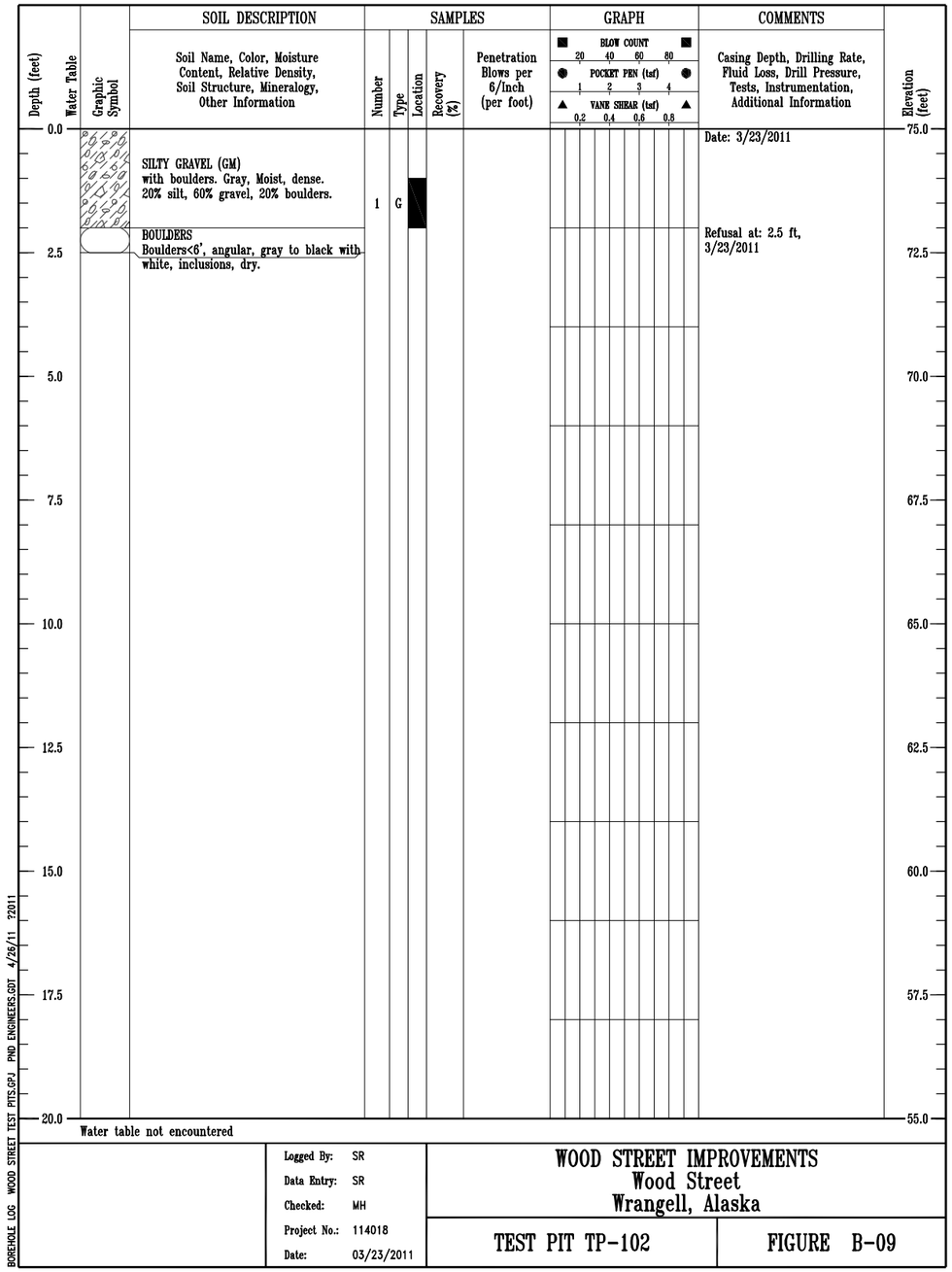
PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **TEST PIT LOGS**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: G3.02
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

3/29/16 Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-G3.02.dwg





BOREHOLE LOG WOOD STREET TEST PITS.GPJ PND ENGINEERS.GDT 4/25/11 ?2011

3/22/16
Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-G3.03.dwg

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STATE OF ALASKA — 49TH — Robert Wall — CE 12987 — REGISTERED PROFESSIONAL ENGINEER — 3/29/16

REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **TEST PIT LOGS**

DESIGNED BY:	SR	PROJECT NO:	114018.01
DRAWN BY:	DRH	DATE:	MARCH 2016
CHECKED BY:	GW	SCALE:	NOTED

SHEET NO: **G3.03**

Depth (feet)	Graphic Symbol	SOIL DESCRIPTION Soil Name, Color, Moisture Content, Relative Density, Soil Structure, Mineralogy, Other Information	SAMPLES Number	Type	Location	Recovery (%)	Penetration Blows per 6/Inch (per foot)	GRAPH BLOW COUNT 20 40 60 80 POCKET PEN (tsf) 1 2 3 4 VANE SHEAR (tsf) 0.2 0.4 0.6 0.8	COMMENTS Casing Depth, Drilling Rate, Fluid Loss, Drill Pressure, Tests, Instrumentation, Additional Information	Elevation (feet)
0.0									Date: 3/23/2011	83.8
		SILTY GRAVEL (GM) (FILL) with cobbles and boulders. Gray, moist, dense. 20% silt, 70% gravel, 10% cobbles and boulders.								
		ORGANIC MATERIAL (PT) Fiberous, dark brown, soft, moist. 10% sand, 5% gravel<1", 85% silt and organics.	1	G						
2.5										81.3
		WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM) Dark gray, moist-wet, loose. 20% gravel<1", 8% silt, 72% sand.	2	G						
5.0										78.8
		LEAN CLAY (CL) Gray, moist, firm, med plastic, slowly dilatent.	3	G					Vane shear at depth of 6' standard bit, 20kpa @ 1/2 rod, 25kpa@ 1 rod.	
7.5		BEDROCK Brown, wet.	4	G					REFUSAL at: 8.0 ft, 3/23/2011	76.3
10.0										73.8
12.5										71.3
15.0										68.8
17.5										66.3
20.0										63.8

Water Levels: ▽ While Drilling: 7.0 ft; 3/23/11 ▼ After Drilling: 7.0 ft

BOREHOLE LOG WOOD STREET TEST PITS.GPJ PND ENGINEERS.GDT 4/26/11 12011

Logged By:	SR
Data Entry:	SR
Checked:	MH
Project No.:	114018
Date:	03/23/2011

WOOD STREET IMPROVEMENTS
Wood Street
Wrangell, Alaska

TEST PIT TP-103 | **B-10**

Depth (feet)	Graphic Symbol	SOIL DESCRIPTION Soil Name, Color, Moisture Content, Relative Density, Soil Structure, Mineralogy, Other Information	SAMPLES Number	Type	Location	Recovery (%)	Penetration Blows per 6/Inch (per foot)	GRAPH BLOW COUNT 20 40 60 80 POCKET PEN (tsf) 1 2 3 4 VANE SHEAR (tsf) 0.2 0.4 0.6 0.8	COMMENTS Casing Depth, Drilling Rate, Fluid Loss, Drill Pressure, Tests, Instrumentation, Additional Information	Elevation (feet)
0.0									Date: 3/23/2011	86.5
		SILTY GRAVEL (GM) (FILL) with cobbles and boulders. Gray, moist, dense. 15% silt, 10% cobbles and boulders, 75 % gravel.								
		ORGANIC MATERIAL (PT) with some clay and gravel. Dark brown, amorphous, moist, soft, fiberus, medium plastic, slowly dilatent. 5% clay, 2% gravel<1", 93% peat.	1	G						
2.5										84.0
		LEAN CLAY WITH GRAVEL (CL) Gray, stiff, moist. 80% clay, 20% gravel<2-1/2". Vane shear with standard bit 25kpa @ 1/2 rod.	2	G					Vane shear at depth of 4' standard bit, 25kpa @ 1/2 rod,	
5.0										81.5
		SAND WITH SILT AND GRAVEL (SW-SM) Very dark brown, dense, moist. 35% gravel<2", 7% silt, 58% sand.	3	G					24% moisture	
7.5		BEDROCK Brown, wet angular fragments.	4	G					REFUSAL: at: 8.0 ft, 3/23/2011	79.0
10.0										76.5
12.5										74.0
15.0										71.5
17.5										69.0
20.0										66.5

Water Levels: ▽ While Drilling: 7.0 ft; 3/23/11 ▼ After Drilling: 7.0 ft

BOREHOLE LOG WOOD STREET TEST PITS.GPJ PND ENGINEERS.GDT 4/26/11 12011

Logged By:	SR
Data Entry:	SR
Checked:	MH
Project No.:	114018
Date:	03/23/2011

WOOD STREET IMPROVEMENTS
Wood Street
Wrangell, Alaska

TEST PIT TP-104 | **FIGURE B-11**

FOR BID

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STATE OF ALASKA 49TH Robert Wall CE 12987 REGISTERED PROFESSIONAL ENGINEER 3/29/16

REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **TEST PIT LOGS**

DESIGNED BY:	SR	PROJECT NO:	114018.01
DRAWN BY:	DRH	DATE:	MARCH 2016
CHECKED BY:	GW	SCALE:	NOTED

SHEET NO: **G3.04**

3/29/16
Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-G3.04.dwg

Depth (feet)	Graphic Symbol	SOIL DESCRIPTION Soil Name, Color, Moisture Content, Relative Density, Soil Structure, Mineralogy, Other Information	SAMPLES Number	Type	Location	Recovery (%)	Penetration Blows per 6/Inch (per foot)	GRAPH BLOW COUNT 20 40 60 80 POCKET PEN (tsf) 1 2 3 4 VANE SHEAR (tsf) 0.2 0.4 0.6 0.8	COMMENTS Casing Depth, Drilling Rate, Fluid Loss, Drill Pressure, Tests, Instrumentation, Additional Information	Elevation (feet)
0.0									Date: 3/23/2011	89.8
		SILTY GRAVEL (GM) (FILL) with cobbles and boulders. Gray, dense, 15 % silt, 10% cobbles and boulders, 75% gravel.								
2.5		ORGANIC MATERIAL (PT) Fiberous, dark brown, very soft, moist to wet.	1	G						87.3
5.0			2	G					36% moisture	84.8
		SAND (SP) Dark brown, wet, loose. 3% gravel<1/2" subrounded, 5% silt, 92% sand.								
7.5										82.3
10.0		LEAN CLAY (CL) with few cobbles<4". Gray, moist-wet, firm, highly plastic, slowly dilatent.	3	G					Vane shear at depth of 10' standard bit, 30kpa @ 1/2 rod,	79.8
12.5		BEDROCK Brown, weathered, angular fragments.							REFUSAL at: 12.0 ft, 3/23/2011	77.3
15.0										74.8
17.5										72.3
20.0		Water table not encountered								69.8

BOREHOLE LOG WOOD STREET TEST PITS.GPJ PND ENGINEERS.GDT 4/26/11 ?2011

Logged By:	SR
Data Entry:	SR
Checked:	MH
Project No.:	114018
Date:	03/23/2011

WOOD STREET IMPROVEMENTS
Wood Street
Wrangell, Alaska

TEST PIT TP-105 | **FIGURE B-12**

Depth (feet)	Graphic Symbol	SOIL DESCRIPTION Soil Name, Color, Moisture Content, Relative Density, Soil Structure, Mineralogy, Other Information	SAMPLES Number	Type	Location	Recovery (%)	Penetration Blows per 6/Inch (per foot)	GRAPH BLOW COUNT 20 40 60 80 POCKET PEN (tsf) 1 2 3 4 VANE SHEAR (tsf) 0.2 0.4 0.6 0.8	COMMENTS Casing Depth, Drilling Rate, Fluid Loss, Drill Pressure, Tests, Instrumentation, Additional Information	Elevation (feet)
0.0									Date: 3/23/2011	90.2
		ORGANIC MATERIAL (PT) Fiberous, dark brown, moist, soft.								
2.5		SANDY SILT (ML) Gravelly. Dark brown, low plasticity, soft, wet, 20% gravel, 20% sand, 60% silt and organics.	1	G						87.7
5.0										85.2
		WELL GRADED SAND WITH GRAVEL (SW) Dark gray, moist, medium dense. 5% silt, 39% gravel<1" subrounded, 56% sand.	2	G					20% moisture content	
7.5										82.7
10.0		SILT (ML) Dark gray, firm, moist, medium plastic, slowly dilatent. 60% clay, 5% sand, 35% silt.	3	G					22% moisture content, LL=22, PL=18, PI=4	80.2
12.5		SILT Hard, gray, dry to moist.							REFUSAL at: 12.5 ft, 3/23/2011	77.7
15.0										75.2
17.5										72.7
20.0		Water Levels: ▽ While Drilling: 6.0 ft; 3/22/11 ▼ After Drilling: 6.0 ft								70.2

BOREHOLE LOG WOOD STREET TEST PITS.GPJ PND ENGINEERS.GDT 4/26/11 ?2011

Logged By:	SR
Data Entry:	SR
Checked:	MH
Project No.:	114018
Date:	03/23/2011

WOOD STREET IMPROVEMENTS
Wood Street
Wrangell, Alaska

TEST PIT TP-106 | **FIGURE B-13**

FOR BID

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STATE OF ALASKA — 49TH — Robert [illegible] — CE 12987 — REGISTERED PROFESSIONAL ENGINEER — 3/29/16

REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **TEST PIT LOGS**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: G3.05
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

3/29/16 Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-G3.05.dwg

Depth (feet)	Water Table	Graphic Symbol	SOIL DESCRIPTION Soil Name, Color, Moisture Content, Relative Density, Soil Structure, Mineralogy, Other Information	SAMPLES Number	Type	Location	Recovery (%)	Penetration Blows per 6/Inch (per foot)	GRAPH BLOW COUNT 20 40 60 80 POCKET PEN (tsf) 1 2 3 4 VANE SHEAR (tsf) 0.2 0.4 0.6 0.8	COMMENTS Casing Depth, Drilling Rate, Fluid Loss, Drill Pressure, Tests, Instrumentation, Additional Information	Elevation (feet)
0.0			SILTY GRAVEL (GM) (FILL) with some cobbles and boulders. Gray, moist, dense.							Date: 3/23/2011	90.5
			SAND WITH GRAVEL (SP) (FILL) Brown, moist, loose. 75% sand, 20% gravel<3/4", 5% silt.	1	G						
2.5			Timber sleepers.								88.0
			ORGANIC SILT (OL) Dark brown, soft, amorphous, low plasticity.	2	G						
5.0											85.5
	▽		SILTY SAND WITH GRAVEL (SM) Brown, loose, moist. 60% sand, 20% gravel<3/4", 15% silt, 5% clay.	3	G						
7.5											83.0
			SILTY SAND (SM) Gray, wet, medium dense, 10% clay, 20% silt, 70% fine sand.	4	G						
10.0			LEAN CLAY (CL) Dark gray, hard, moist-dry, medium plastic, slowly dilatent. 5% sand, 60% clay, 30% silt. Vane shear standard bit 90kpa @ 1/2 rod.	5	G					Vane shear at depth of 10' standard bit, 90kpa @ 1/2 rod. 23% moisture, LL=37, PL=20, PI=17	80.5
			CLAY Gray, dry, Stiff.							REFUSAL at: 12.0 ft, 3/23/2011	
12.5											78.0
15.0											75.5
17.5											73.0
20.0											70.5

Water Levels: ▽ While Drilling: 7.0 ft; 3/22/11 ▼ After Drilling: 7.0 ft

BOREHOLE LOG WOOD STREET TEST PITS.GPJ PND ENGINEERS.GDT 4/25/11 ?2011

Logged By:	SR
Data Entry:	SR
Checked:	MH
Project No.:	114018
Date:	03/23/2011

WOOD STREET IMPROVEMENTS
Wood Street
Wrangell, Alaska

TEST PIT TP-107 | **FIGURE B-14**

3/29/16
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STATE OF ALASKA 49TH Robert Wall CE 12987 REGISTERED PROFESSIONAL ENGINEER 3/29/16

REV	DATE	DESCRIPTION
		REVISIONS

FOR BID

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **TEST PIT LOGS**

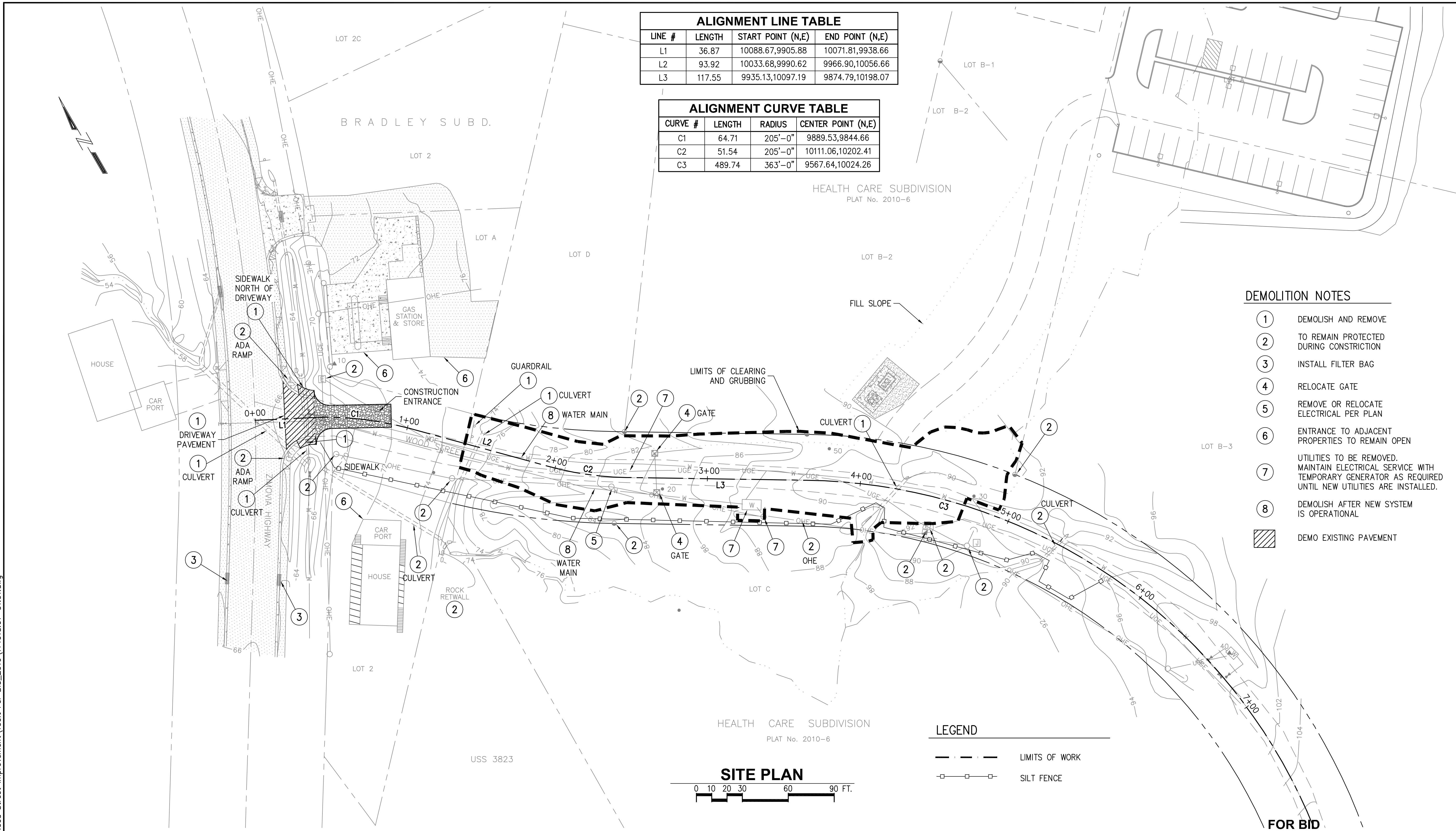
DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: G3.06
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

ALIGNMENT LINE TABLE

LINE #	LENGTH	START POINT (N,E)	END POINT (N,E)
L1	36.87	10088.67,9905.88	10071.81,9938.66
L2	93.92	10033.68,9990.62	9966.90,10056.66
L3	117.55	9935.13,10097.19	9874.79,10198.07

ALIGNMENT CURVE TABLE

CURVE #	LENGTH	RADIUS	CENTER POINT (N,E)
C1	64.71	205'-0"	9889.53,9844.66
C2	51.54	205'-0"	10111.06,10202.41
C3	489.74	363'-0"	9567.64,10024.26



SITE PLAN

0 10 20 30 60 90 FT.

DEMOLITION NOTES

1. DEMOLISH AND REMOVE
2. TO REMAIN PROTECTED DURING CONSTRICTION
3. INSTALL FILTER BAG
4. RELOCATE GATE
5. REMOVE OR RELOCATE ELECTRICAL PER PLAN
6. ENTRANCE TO ADJACENT PROPERTIES TO REMAIN OPEN
7. UTILITIES TO BE REMOVED. MAINTAIN ELECTRICAL SERVICE WITH TEMPORARY GENERATOR AS REQUIRED UNTIL NEW UTILITIES ARE INSTALLED.
8. DEMOLISH AFTER NEW SYSTEM IS OPERATIONAL

DEMO EXISTING PAVEMENT

LEGEND

LIMITS OF WORK

SILT FENCE

FOR BID

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WRANGELL GATEWAY TO THE STIKINE ADOPTED AUGUST 1972

STATE OF ALASKA 49TH Robert Wilhelm CE 12987 REGISTERED PROFESSIONAL ENGINEER 3/29/16

REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **SITE PREPARATION PLAN**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C1.01
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

3/29/16
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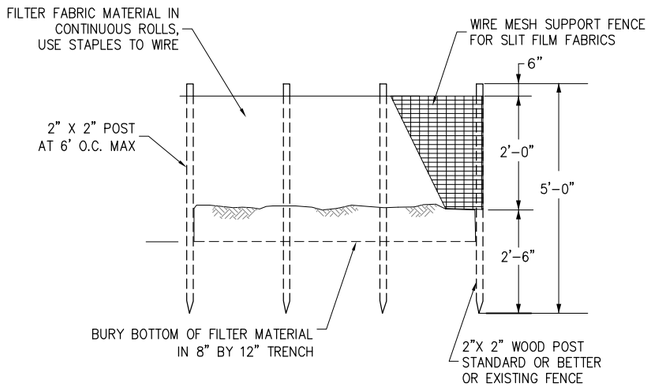
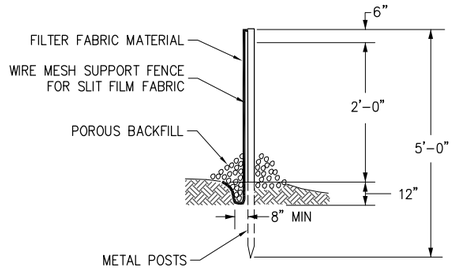
GENERAL EROSION AND SEDIMENT CONTROL NOTES

1) The implementation of these TESC plans and the construction, maintenance, replacement, and upgrading of these TESC facilities is the responsibility of the contractor until all construction is approved.
2) The TESC facilities shown on this plan must be constructed prior to or in conjunction with all clearing and grading so as to ensure that the transport of sediment to surface waters, drainage systems, and adjacent properties is minimized.
3) The TESC facilities shown on this plan are the minimum requirements for anticipated site conditions. During the construction period, these TESC facilities shall be upgraded as needed for unexpected storm events and modified to account for changing site conditions (e.g., additional sump pumps, relocation of ditches and silt fences, etc.).
4) The TESC facilities shall be inspected daily by the Contractor and maintained to ensure continued proper functioning. Written records shall be kept of weekly reviews of the TESC facilities during the wet season.
5) Any areas of exposed soils, including roadway embankments, that will not be disturbed for two days during the wet season or seven days during the dry season shall be immediately stabilized with the approved TESC methods (e.g., mulching, plastic covering, etc.).
6) Any area needing TESC measures not requiring immediate attention shall be addressed within fifteen (15) days.
7) The TESC facilities on inactive sites shall be inspected and maintained a minimum of once a month or within forty-eight (48) hours following a storm event.
8) At no time shall more than one (1) foot of sediment be allowed to accumulate within a catch basin. All catch basins and conveyance lines shall be cleaned prior to paving. The cleaning operation shall not flush sediment-laden water into the downstream system.
9) Stabilized construction entrances and roads shall be installed at the beginning of construction and maintained for the duration of the project. Additional measures, such as wash pads, may be required to ensure that all paved areas are kept clean for the duration of the project. Where mulch for temporary erosion control is required, it shall be applied at a minimum thickness of 2 to 3 inches. No straw or hay bales permitted.
10) During the period of November 1 through March 31, all project disturbed areas greater than 5,000 square feet and where no further work is anticipated for a period of fifteen (15) days, shall be covered by one of the following cover measures: mulch or plastic covering.

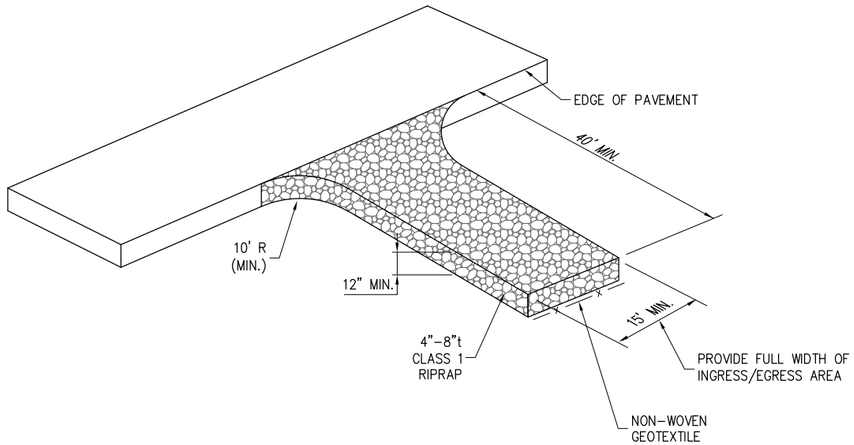
SITE SPECIFIC EROSION CONTROL NOTES

1) Contractor is required to ensure no tracking of mud onto paved surfaces and will be required to install a wheel wash if tracking is persistent and can not be prevented.
2) Contractor is required to clean any debris and tracked mud on paved surfaces immediately.
3) All erosion control work required to maintain a clean site and prevent the discharge of sediment and tracking from the site shall be considered incidental to the project.

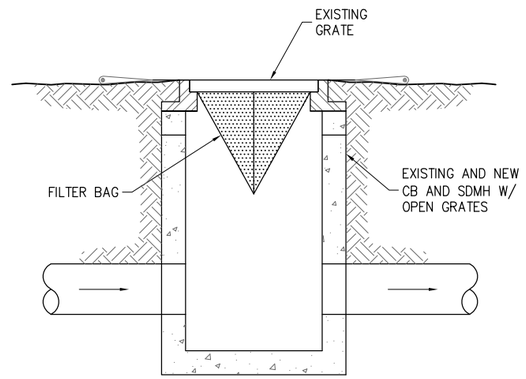




SILT FENCE



CONSTRUCTION ENTRANCE



INLET PROTECTION

FOR BID

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STATE OF ALASKA 49TH STATE — Robert Wallace — CE 12987 — REGISTERED PROFESSIONAL ENGINEER — 3/29/16

REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **TESC DETAILS**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C1.02
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

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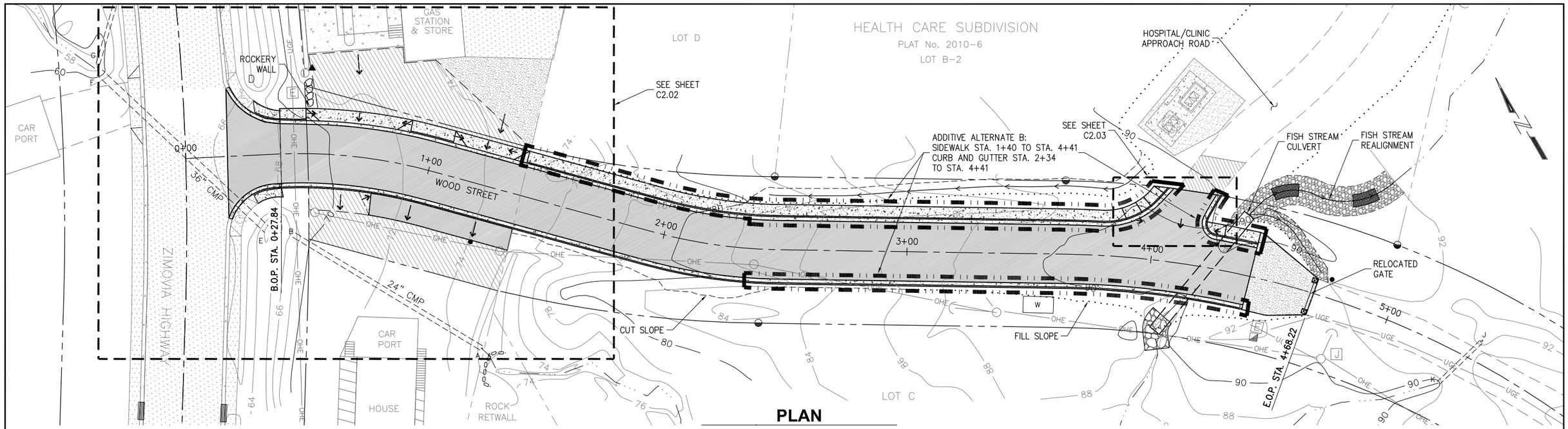
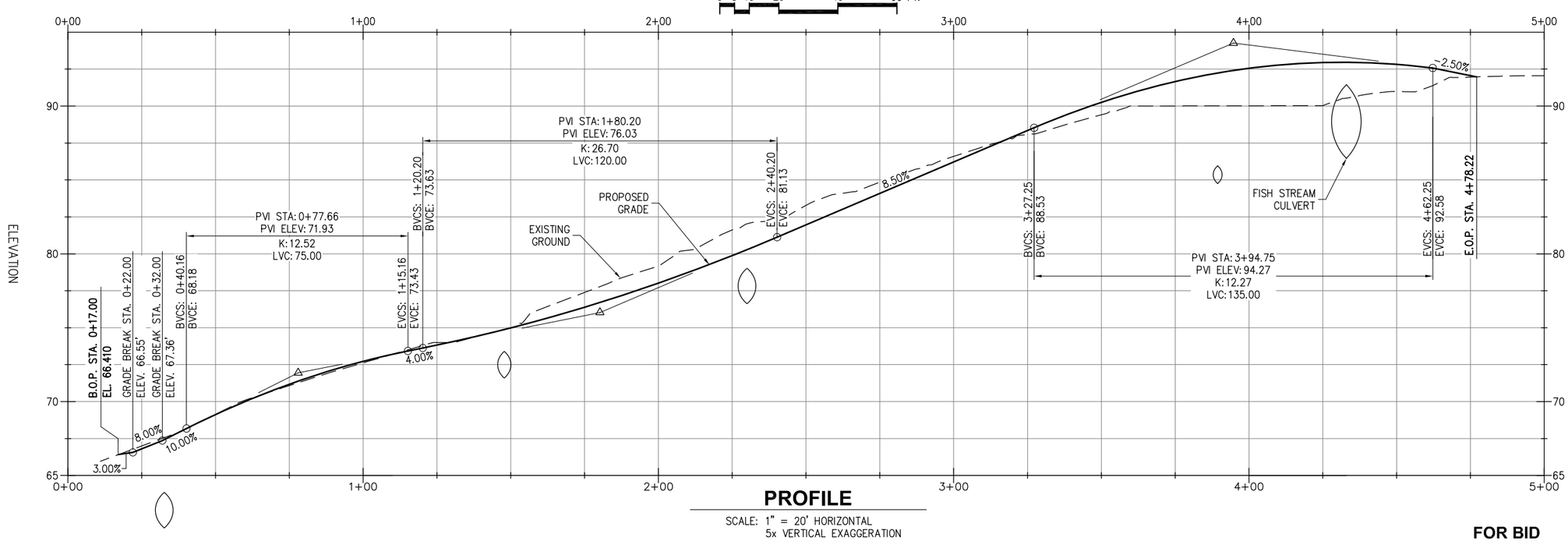


PLAN

0 5 10 20 40 60 FT.



PROFILE

SCALE: 1" = 20' HORIZONTAL
5x VERTICAL EXAGGERATION

FOR BID

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STATE OF ALASKA — 49TH — Robert A. Grimm — CE 12987 — REGISTERED PROFESSIONAL ENGINEER
3/29/16

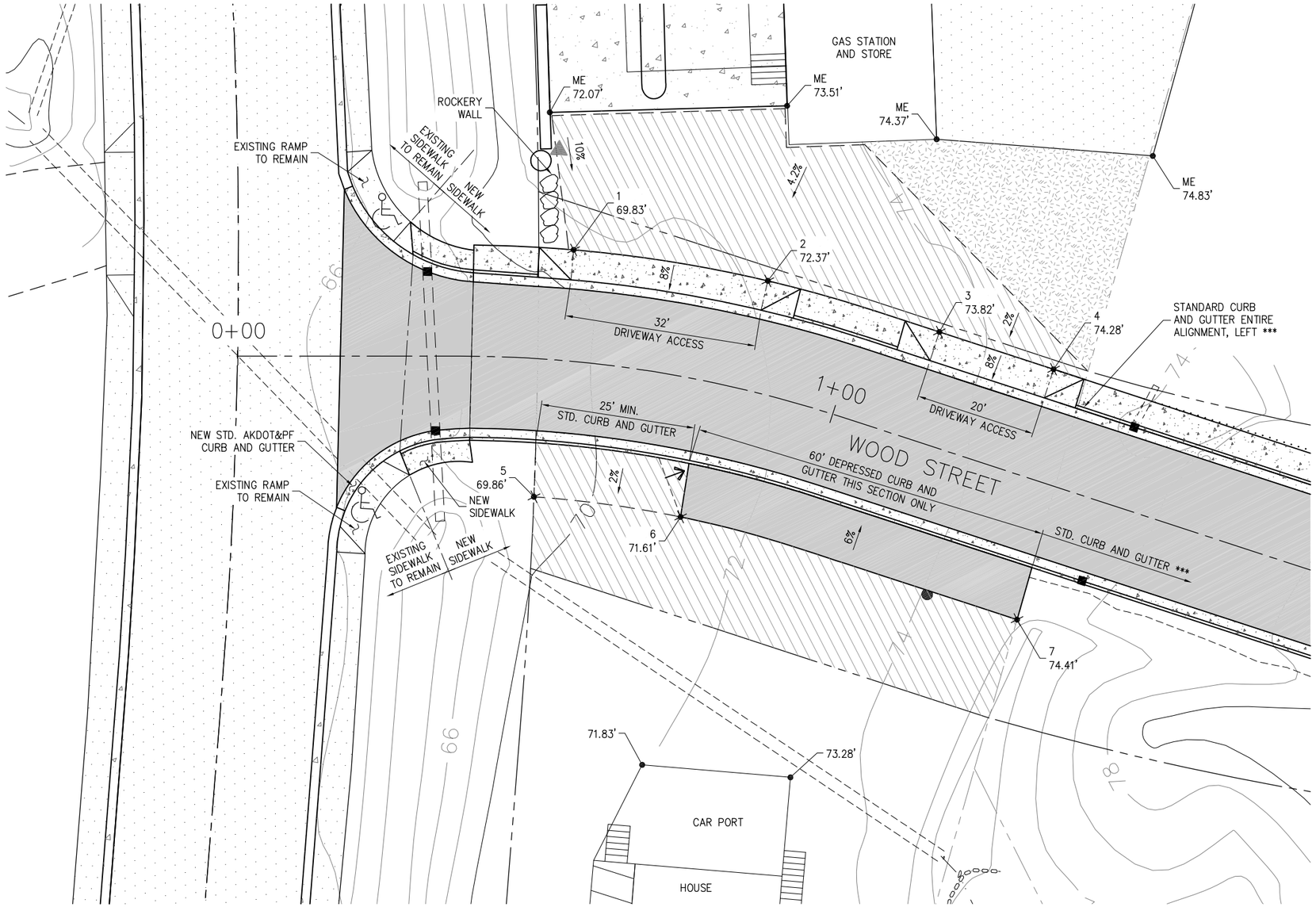
REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **ROADWAY PLAN AND PROFILE**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C2.01
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

3/29/16 Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-C2.01.dwg



PLAN

0 5 10 20 30 FT.

GRADING POINTS TABLE		
POINT #	STATION	OFFSET
1	0+54.32	18.5'L
2	0+84.38	18.5'L
3	1+12.63	18.5'L
4	1+32.63	18.5'L
5	0+50.86	23.0'R
6	0+78.63	23.0'R
7	1+39.79	23.0'R

LEGEND

- ME xx.xx' — EXISTING ELEVATION TO BE MATCH
- xx.xx' — PROPOSED ELEVATION
- EXISTING GRAVEL
- GRAVEL REGRADE
- PROPOSED ASPHALT
- NEW CONCRETE

*** SEE ADDITIVE ALTERNATE B NOTE ON SHEET C2.01

3/29/16
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STATE OF ALASKA — 49TH — Robert [illegible] — CE 12987 — REGISTERED PROFESSIONAL ENGINEER — 3/29/16

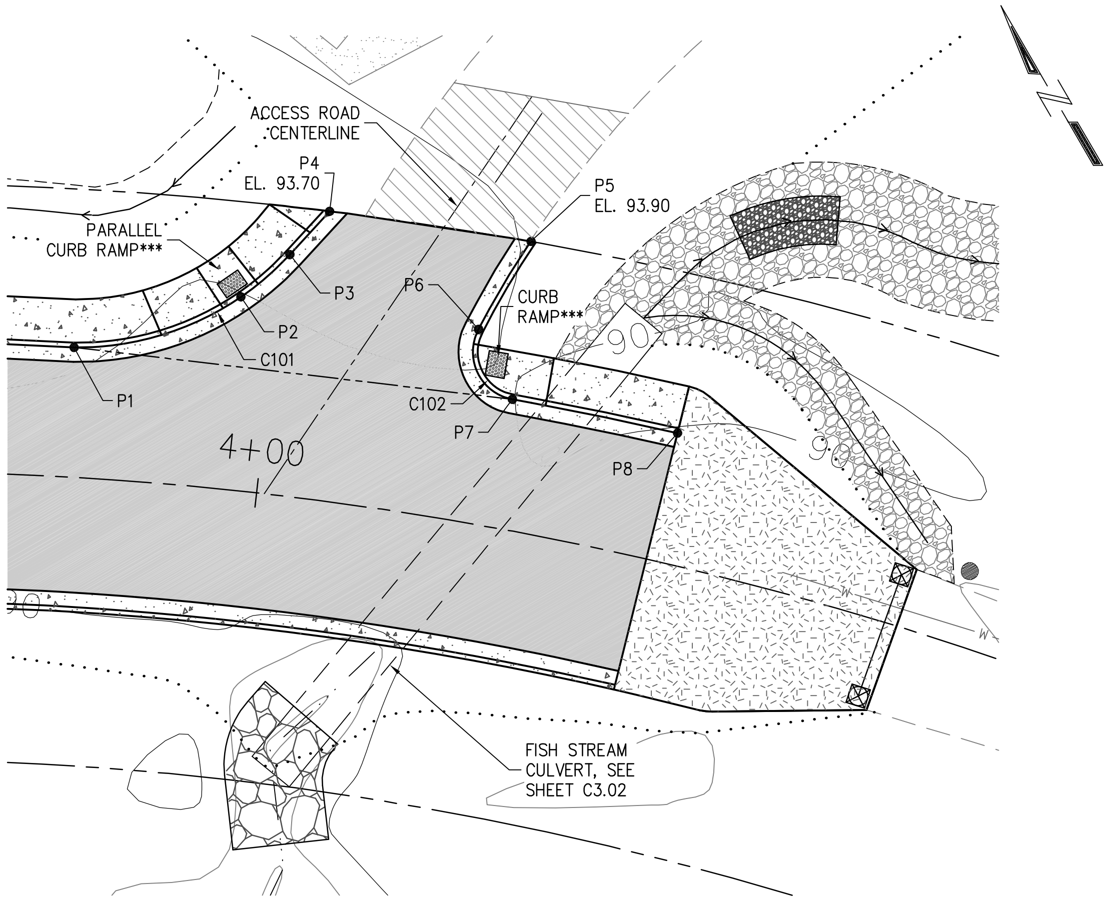
REVISIONS		
REV	DATE	DESCRIPTION

FOR BID

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **DRIVEWAY GRADING PLAN**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C2.02
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	



PLAN

LEGEND

- PROPOSED ASPHALT
- NEW CONCRETE
- GRAVEL REGRADE
- HINGE LINE

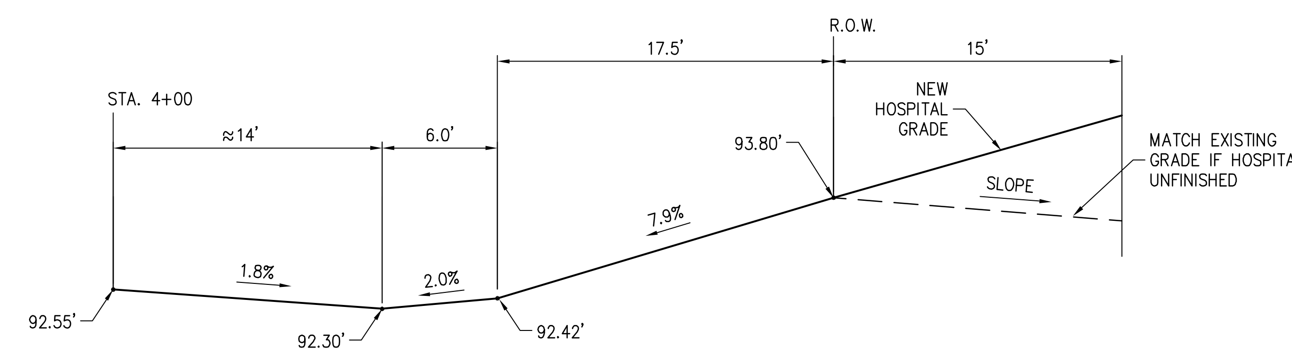
*** SEE ADDITIVE ALTERNATE B NOTE ON SHEET C2.01

POINT TABLE

POINT #	STATION	OFFSET
P1	3+80.16	13.50'L
P2	3+96.33	20.13'L
P3	4+00.63	25.04'L
P4	4+03.97	30.00'L
P5	4+23.50	30.00'L
P6	4+20.69	22.32'L
P7	4+24.48	13.50'L
P8	4+41.40	13.50'L

ALIGNMENT CURVE TABLE

CURVE #	LENGTH	RADIUS	CENTER POINT (N,E)
C101	25.18'	30'	9903.65,10233.93
C102	9.41'	5'	9854.20,10258.64



PROFILE

4X VERTICAL EXAGGERATION

FOR BID

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STATE OF ALASKA 49TH Gary Robert Wittig CE 12987 REGISTERED PROFESSIONAL ENGINEER 3/29/16

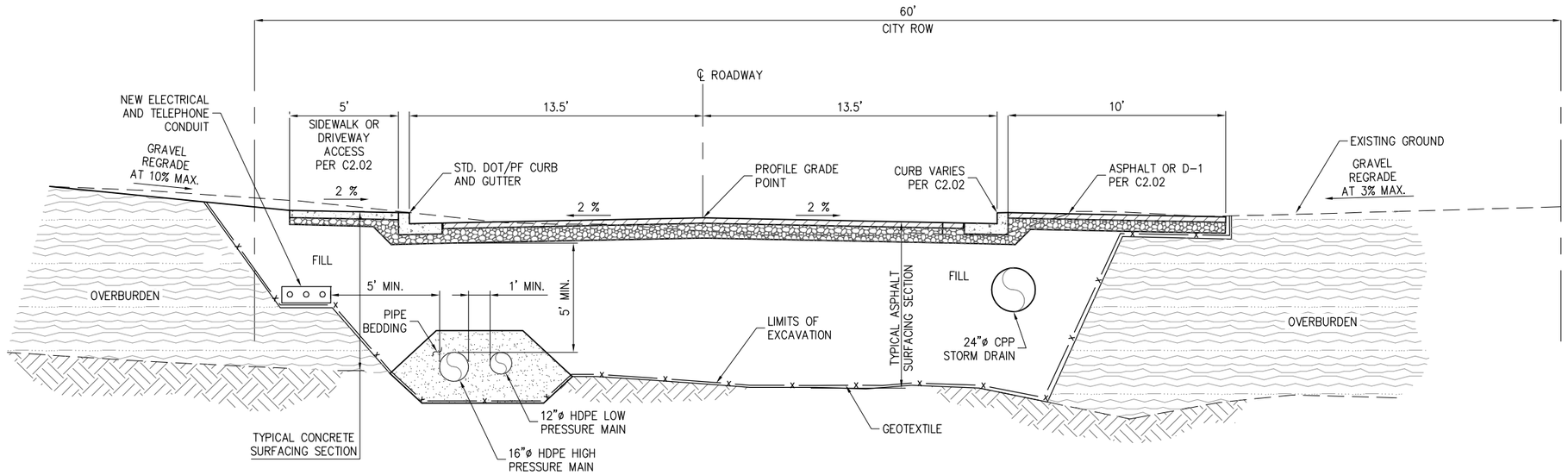
REVISIONS		
REV	DATE	DESCRIPTION

PROJECT:	WOOD STREET IMPROVEMENTS		
TITLE:	AICS APPROACH PLAN		
DESIGNED BY: SR	PROJECT NO: 114018.01	SHEET NO: C2.03	
DRAWN BY: DRH	DATE: MARCH 2016		
CHECKED BY: GW	SCALE: NOTED		

3/29/16 Drawings\2011\114018.01 – Wood Street Improvement\100% For Bid_2016\114018.01-C2.03.dwg

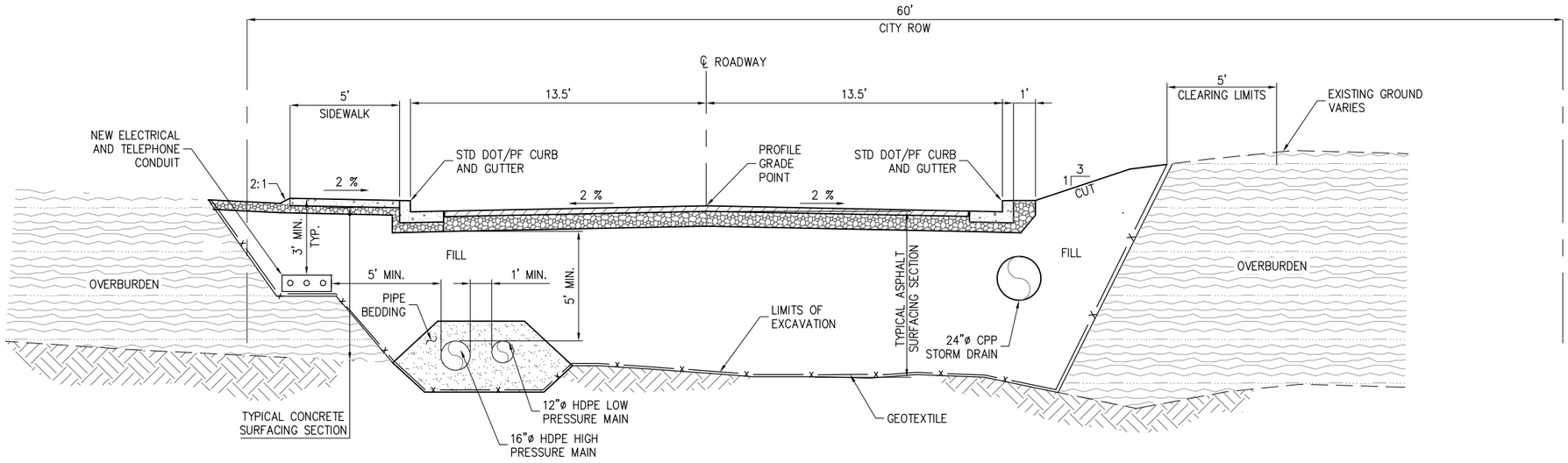
* EXCAVATE TO COMPETENT BEARING LAYER AS DETERMINED BY ON-SITE ENGINEER.

** PROTECT UTILITIES DURING EXCAVATION.



WOOD STREET
TYPE A SECTION

FROM STA. 0+35.90 TO STA. 1+39.00



WOOD STREET
TYPE B SECTION

FROM STA. 1+39.00 TO STA. 2+34.00

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STATE OF ALASKA — 49TH — Robert W. Gillette — CE 12987 — REGISTERED PROFESSIONAL ENGINEER — 3/29/16

REVISIONS		
REV	DATE	DESCRIPTION

FOR BID

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **ROADWAY DETAILS**

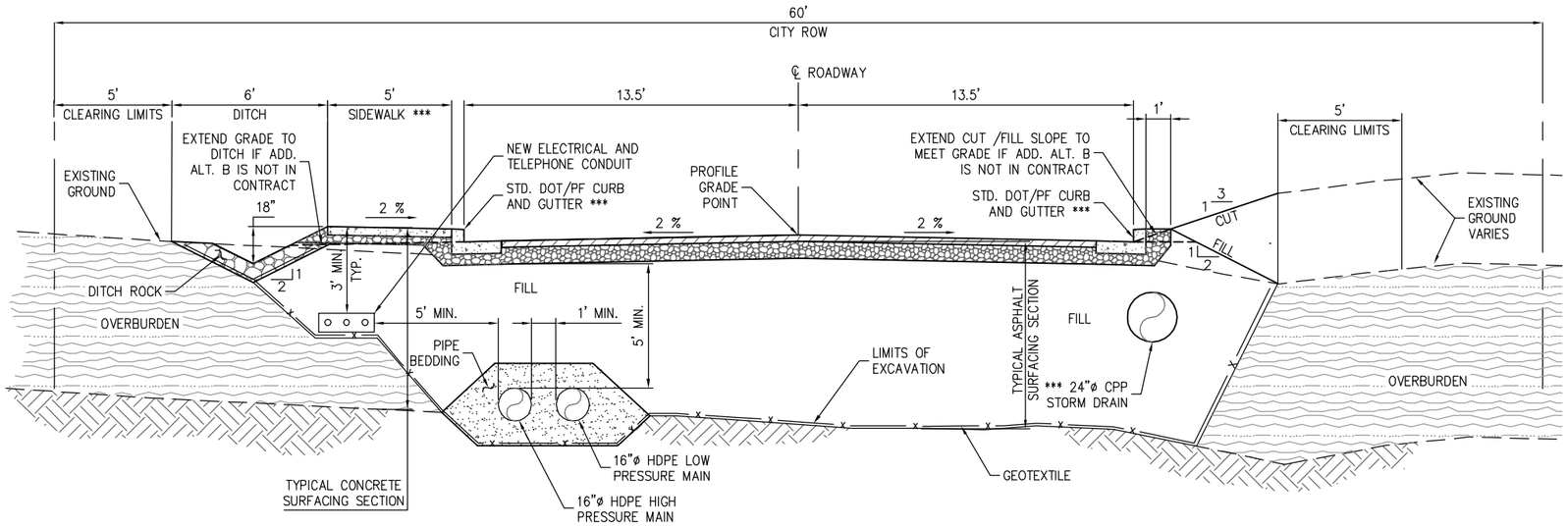
DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C2.04
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

3/29/16
Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-C2.04.dwg

* EXCAVATE TO COMPETENT BEARING LAYER AS DETERMINED BY ON-SITE ENGINEER.

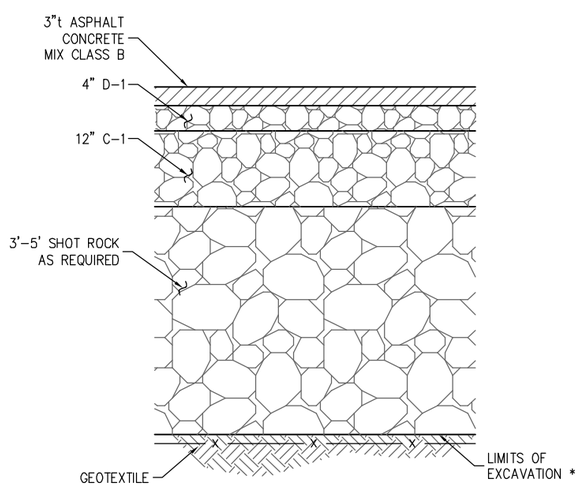
** PROTECT UTILITIES DURING EXCAVATION.

*** SEE ADDITIVE ALTERNATE B NOTES ON SHEETS C2.01 AND C3.01.

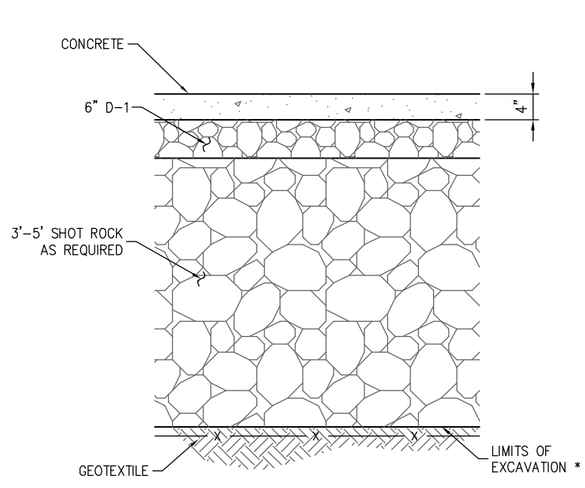


WOOD STREET SECTION TYPE C

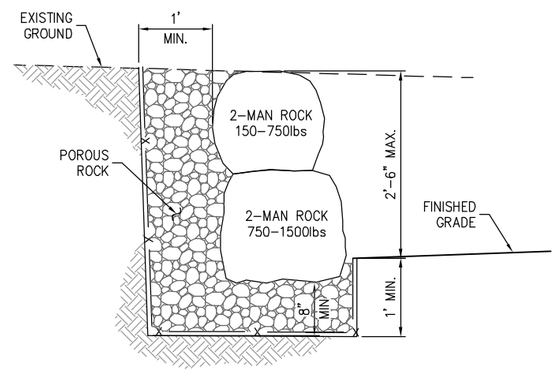
FROM STA. 2+34.00 TO STA. 4+41.20



TYPICAL ASPHALT SURFACING SECTION



TYPICAL SIDEWALK SURFACING SECTION



ROCKERY WALL

FOR BID

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1736 Fourth Avenue S., Suite A
Seattle, Washington 98134
P: 206.624.1387
www.pndengineers.com

STATE OF ALASKA — 4911 — Robert Watters CE 12987 — REGISTERED PROFESSIONAL ENGINEER — 3/29/2016

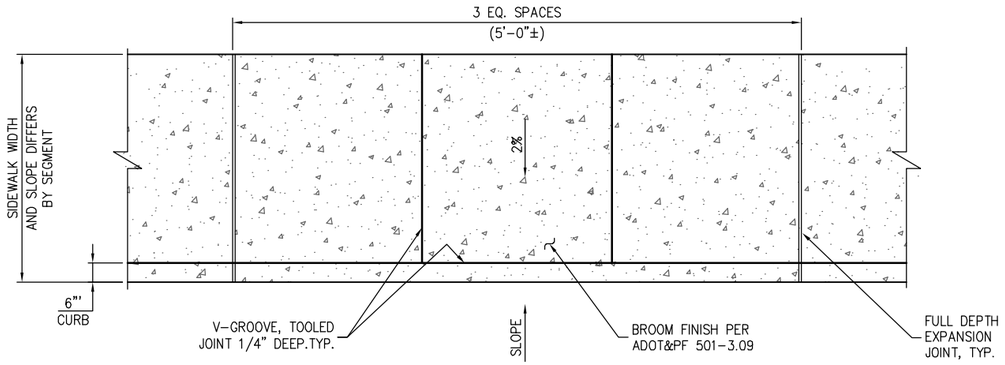
REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

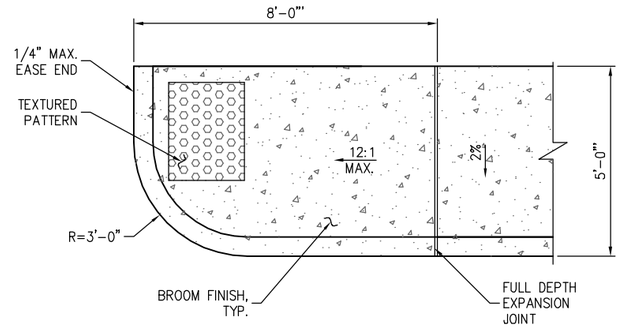
TITLE: **ROADWAY DETAILS**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C2.05
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

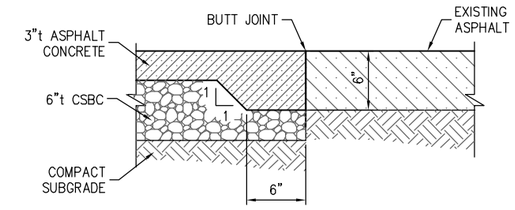
3/29/16 Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-C2.05.dwg



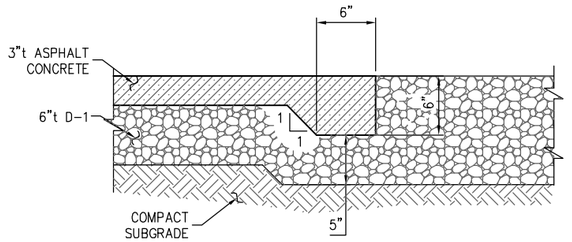
TYPE A & E SIDEWALK JOINT LAYOUT



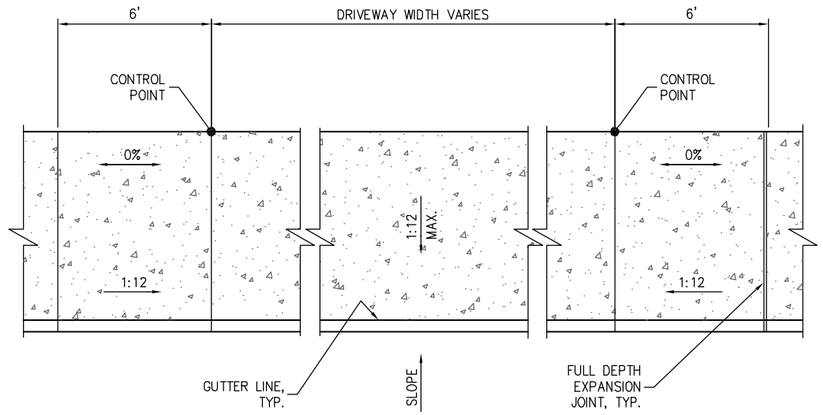
CURB CUT RAMP



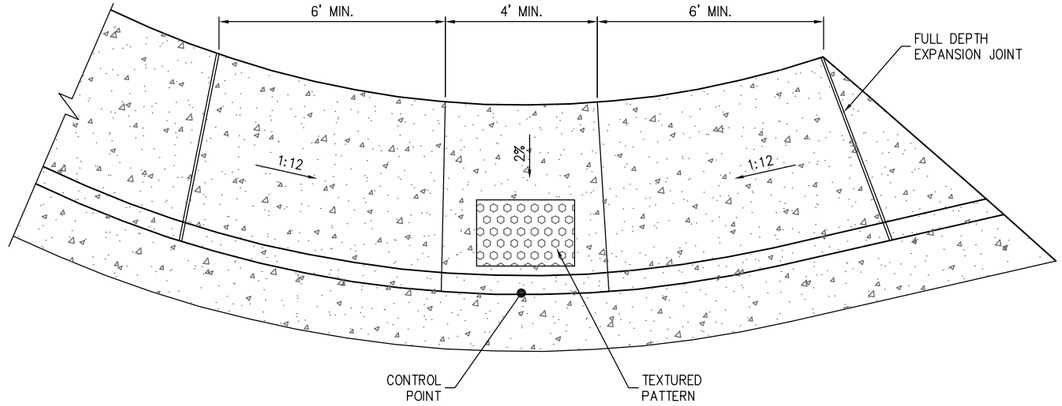
SAWCUT SECTION



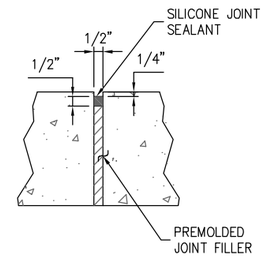
THICKENED ASPHALT EDGE SECTION



DRIVEWAY ACCESS



PARALLEL RAMP



FULL DEPTH EXPANSION JOINT

FOR BID

P N D ENGINEERS, INC.
1736 Fourth Avenue S., Suite A
Seattle, Washington 98134
P: 206.624.1387
www.pndengineers.com

STATE OF ALASKA 491 Gary Robert Watters GE 12987 REGISTERED PROFESSIONAL ENGINEER 3/29/2016

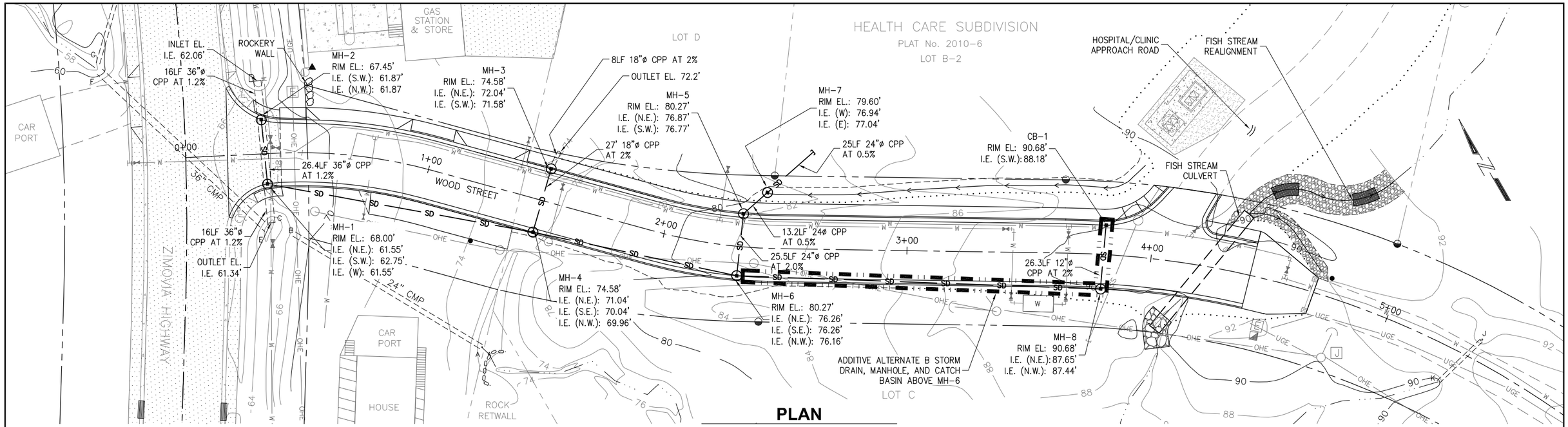
REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **SIDEWALK DETAILS**

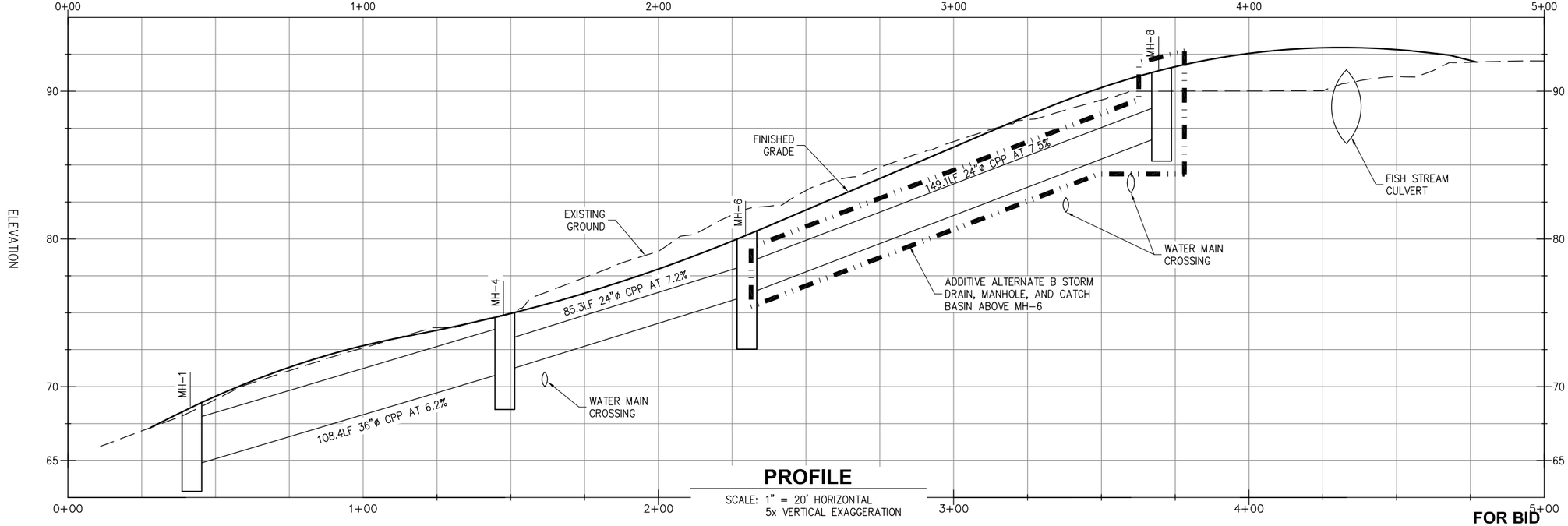
DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C2.06
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

3/29/16 Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-C2.06.dwg



PLAN

0 5 10 20 40 60 FT.



PROFILE

SCALE: 1" = 20' HORIZONTAL
5x VERTICAL EXAGGERATION

FOR BID

PND ENGINEERS, INC.
1736 Fourth Avenue S., Suite A
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STATE OF ALASKA — 49TH — Robert D. Hughes — CE 12987 — REGISTERED PROFESSIONAL ENGINEER — 3/29/16

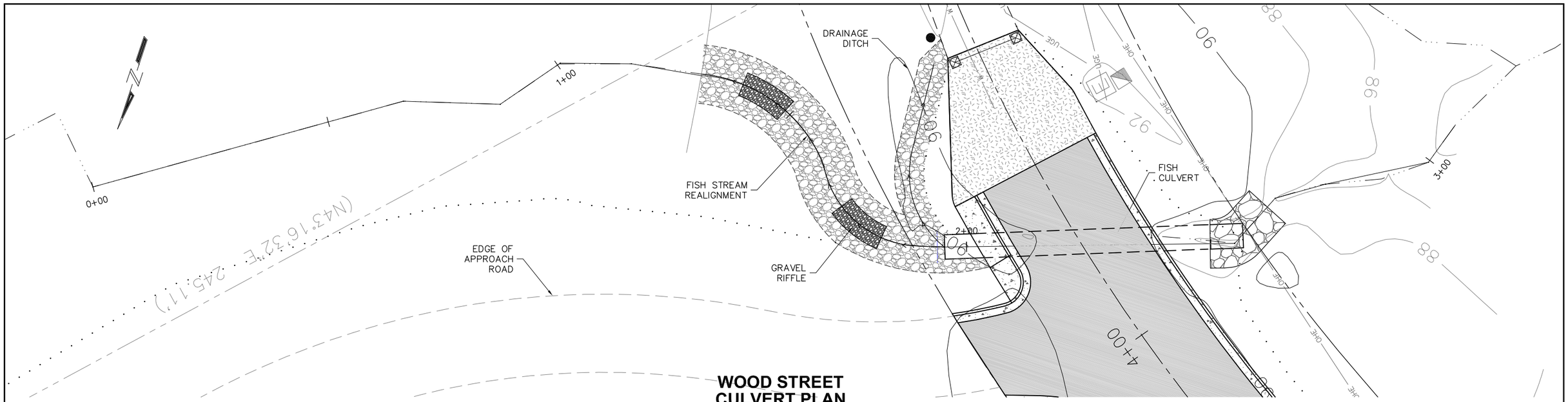
REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **STORMWATER PLAN AND PROFILE**

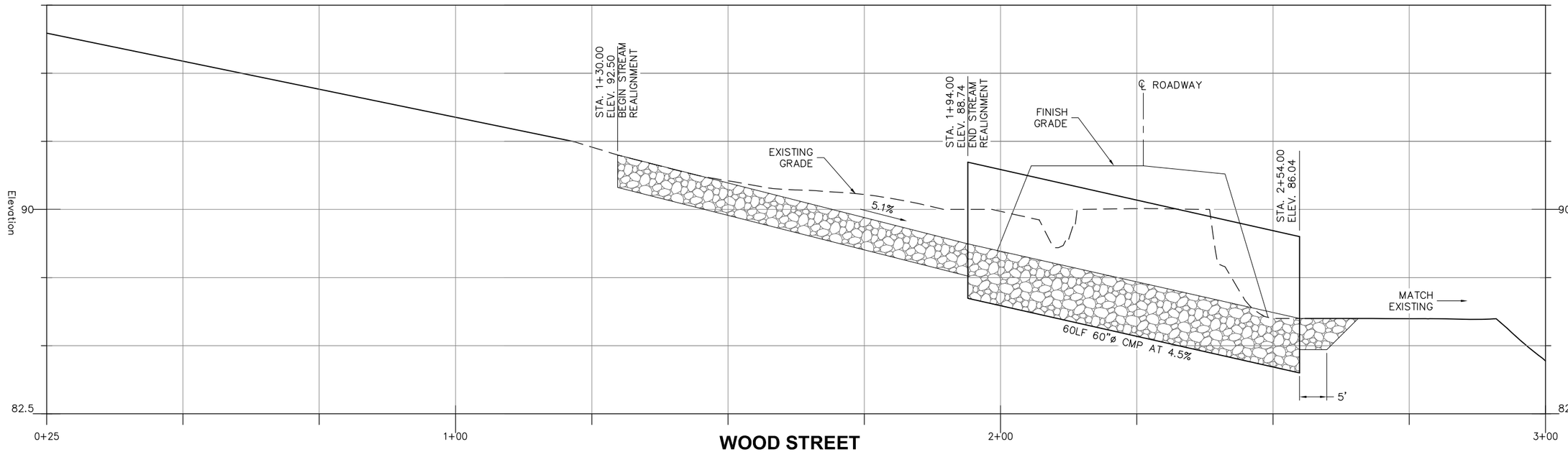
DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C3.01
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

3/29/16
Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-C3.01.dwg



WOOD STREET CULVERT PLAN

0 5 10 20 30 FT.



WOOD STREET CULVERT PROFILE

SCALE: 1" = 10' HORIZONTAL
??x VERTICAL EXAGGERATION

FOR BID

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1736 Fourth Avenue S., Suite A
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STATE OF ALASKA 49TH Robert D. Hughes CE 12987 REGISTERED PROFESSIONAL ENGINEER
3/29/16

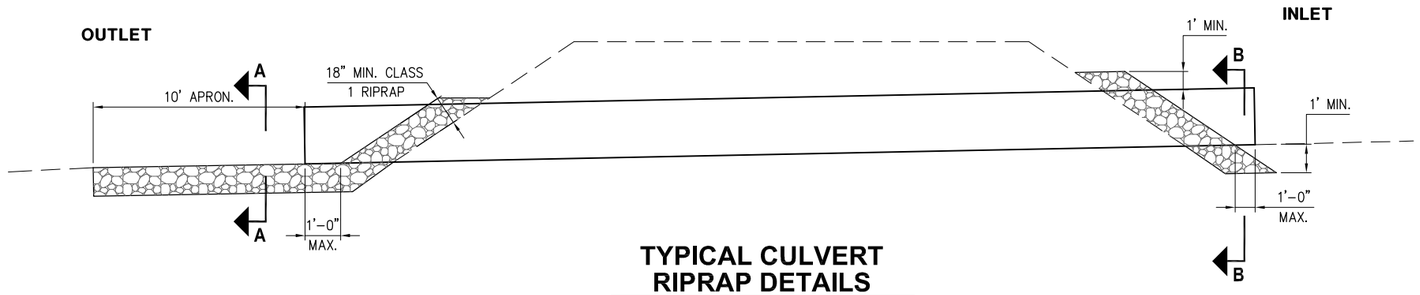
REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **FISH CULVERT PLAN AND PROFILE**

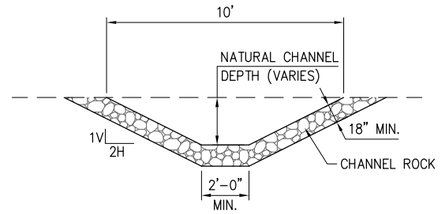
DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C3.02
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

3/29/16
Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-C3.02.dwg

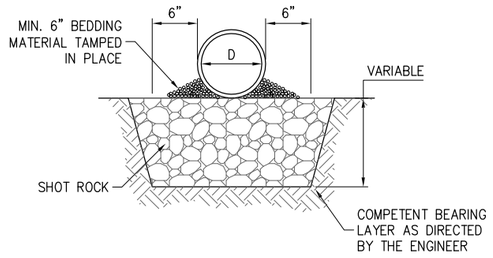


TYPICAL CULVERT RIPRAP DETAILS

(FOR PIPES 48" AND GREATER)

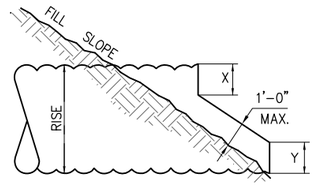


SECTION A-A



STABLE SUBGRADE

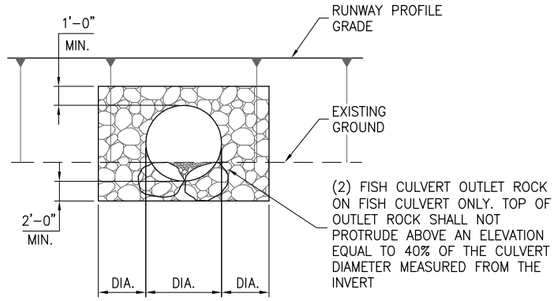
SUBEXCAVATION REQUIRED



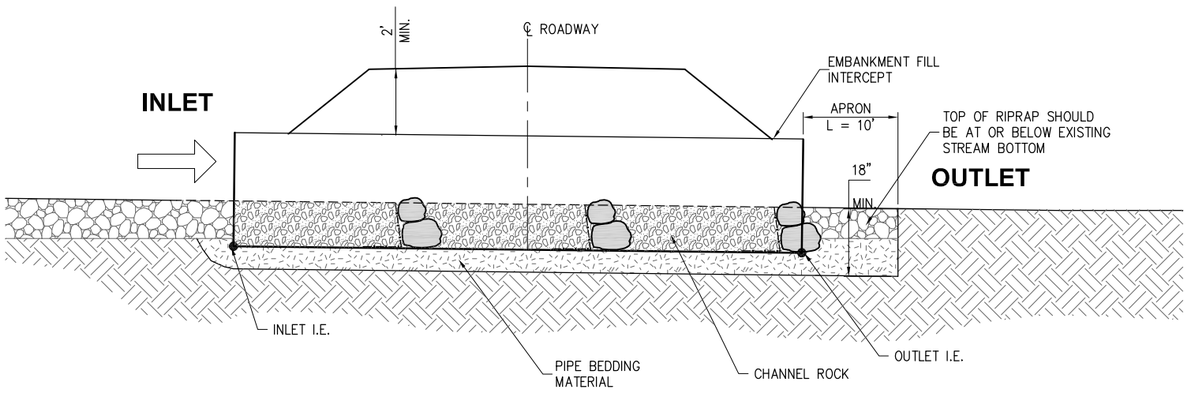
BEVELED END DETAIL

NOT TO SCALE

1) STEP BEVEL ALL PIPES.
2) BEVEL OF PIPE SHALL MATCH THE FILL SLOPE SHOWN ON THE DRAWINGS.
3) THE ENDS OF CULVERT SHALL NOT BE CUT ON A SKEW UNLESS SHOWN ON THE DRAWINGS.
4) X = 1/4 D OR MANUFACTURERS STANDARDS.
5) Y = 0.4D

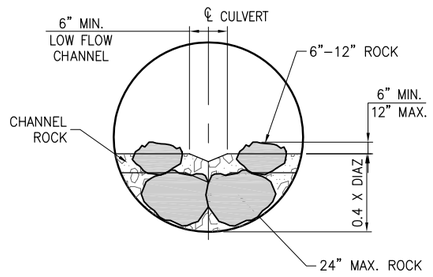


SECTION B-B



FISH CULVERT INSTALLATION DETAIL

NOT TO SCALE



FISH CULVERT CROSS SECTION

FOR BID

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www.pndengineers.com

STATE OF ALASKA 49TH Robert Hughes CE 12987 REGISTERED PROFESSIONAL ENGINEER 3/29/16

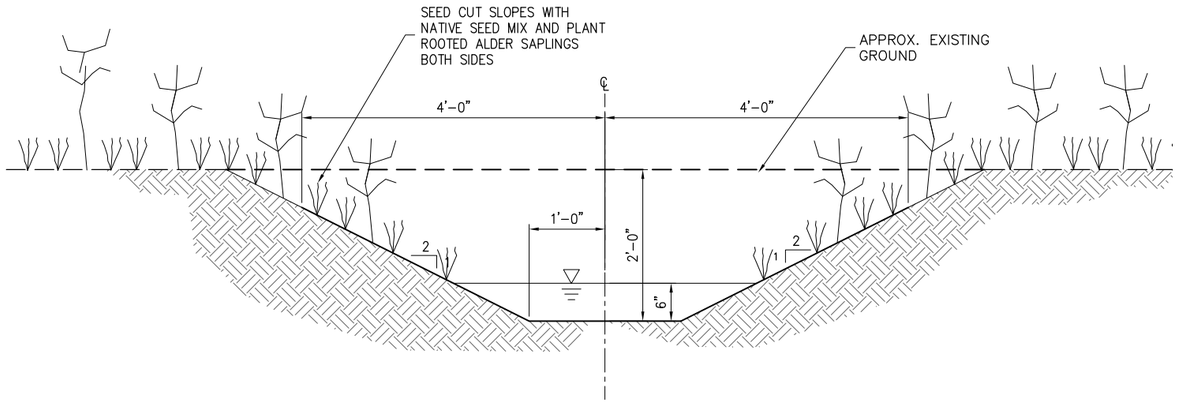
REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

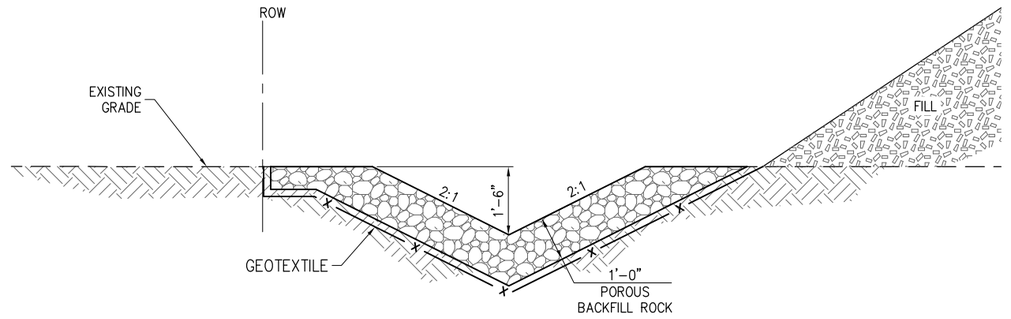
TITLE: **FISH CULVERT DETAILS**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C3.03
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

3/29/16
Drawings\2011\114018.01 – Wood Street Improvement\100% For Bid_2016\114018.01–C3.03.dwg

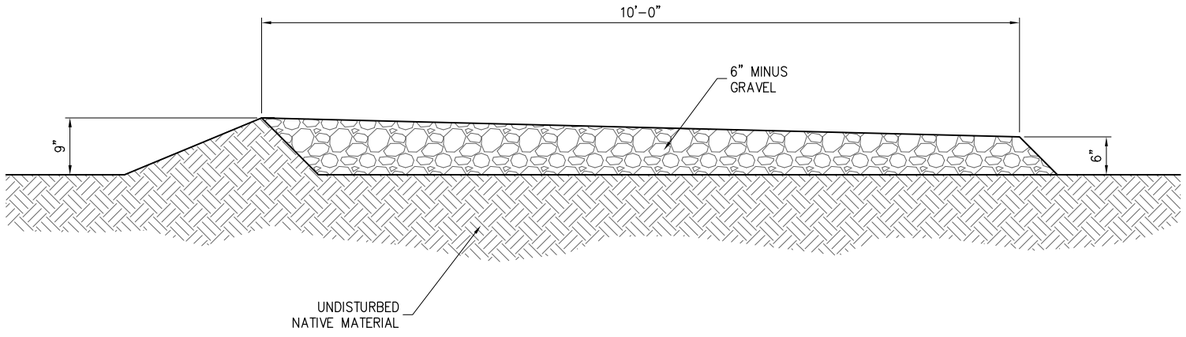


TYPICAL
FISH STREAM SECTION

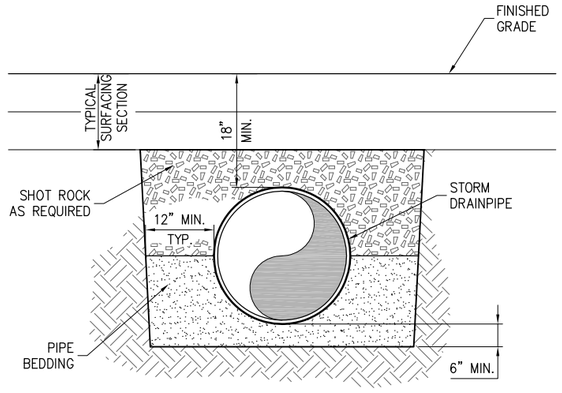


WOOD STREET
DRAINAGE DITCH

STRUCTURE CONTROL TABLE				
No.	TYPE	SIZE	STATION	OFFSET
MH-1	STD. MANHOLE	72ø	0+32.87	12.39R
MH-2	STD. MANHOLE	60"ø	0+31.57	13.99L
MH-3	STD. MANHOLE	60"ø	1+48.37	13.50L
MH-4	STD. MANHOLE	60"ø	1+48.03	13.50R
MH-5	STD. MANHOLE	60"ø	2+31.80	13.50L
MH-6	STD. MANHOLE	72"ø	2+31.32	12.00R
MH-7	STD. MANHOLE	60"ø	2+41.97	22.87L
MH-8	STD. MANHOLE	60"ø	3+80.05	14.21R
CB-1	INLET BOX TYPE A	STD.	3+80.89	12.04L



GRAVEL RIFFLE DETAIL



TYPICAL
STORM DRAIN TRENCHING

FOR BID

P N D ENGINEERS, INC.
1736 Fourth Avenue S., Suite A
Seattle, Washington 98134
P: 206.624.1387
www.pndengineers.com

STATE OF ALASKA — 49TH — Robert Wheeler CE 12987 — REGISTERED PROFESSIONAL ENGINEER — 3/29/16

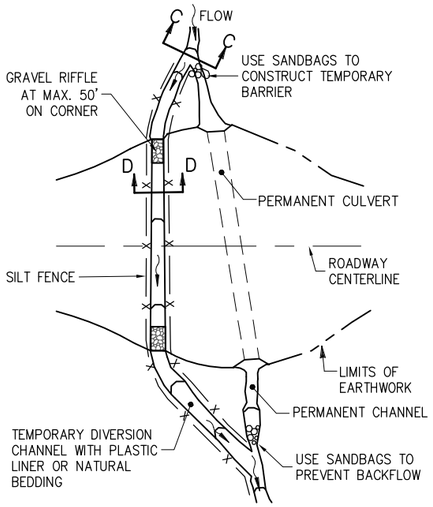
REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

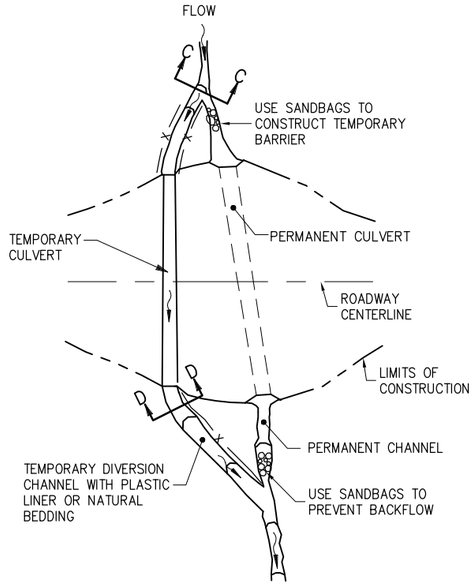
TITLE: **STORM DRAIN DETAILS**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C3.04
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

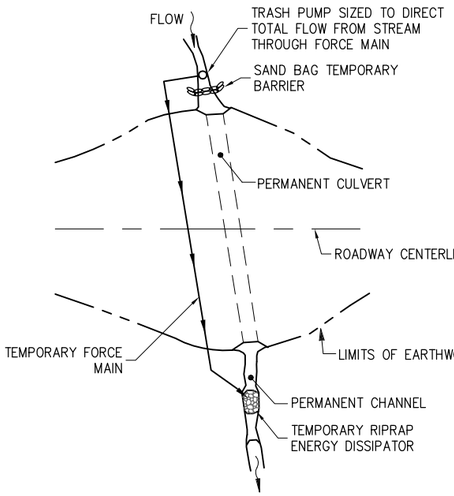
3/29/16
Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-C3.04.dwg



TEMPORARY DIVERSION CHANNEL



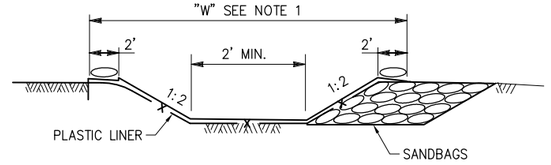
TEMPORARY CULVERT DIVERSION



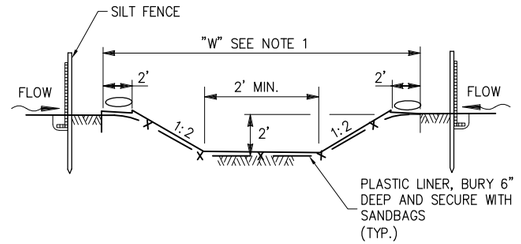
TEMPORARY TRASH PUMP DIVERSION

NOTE:

1) THESE OPTIONS WOULD BE AVAILABLE TO THE CONTRACTOR IF NECESSARY DURING CONSTRUCTION.
2) IF A TRASH PUMP IS USED DURING CONSTRUCTION THE INTAKE MUST BE OPERATED, AND MAINTAINED TO PREVENT FISH ENTRAPMENT, ENTRAINMENT, OR INJURY WITH THE USE OF PERFORATED PLATE AND WOVEN WIRE HAVING A MESH SIZE NOT GREATER THAN 3/32 INCHES OR PROFILE BAR AND WEDGEWIRE HAVING OPENINGS NOT GREATER THAN 1.75 MM. APPROACH VELOCITIES SHALL NOT EXCEED A PASSIVE VELOCITY OF 0.2 FEET PER SECOND (FPS) OR AN ACTIVE VELOCITY OF 0.4 FPS

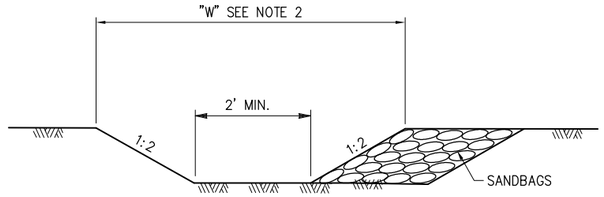


SECTION C–C

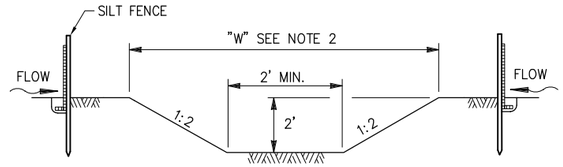


SECTION D–D

PLASTIC LINED DIVERSION CHANNEL



SECTION C–C



SECTION D–D

RIPRAP LINED DIVERSION CHANNEL

NOTE:

1) "W" – MATCH STREAM WIDTH TO EXISTING.
2) USE PLASTIC LINER ALONG THE ENTIRE LENGTH AND WIDTH OF THE TEMPORARY DIVERSION CHANNEL.
3) CONSTRUCT CHANNEL AT A MINIMUM GRADE OF 0.5 PERCENT.
4) DO NOT CONSTRUCT WITH LONGITUDINAL JOINTS IF USING A PLASTIC LINER. BURY THE UPSTREAM EDGE OF THE LINER A MINIMUM OF 6" DEEP AND SECURE SANDBAGS.

FOR BID

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Seattle, Washington 98134
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www.pndengineers.com

STATE OF ALASKA 49TH — Timothy Robert Wilmore — CE 12987 — REGISTERED PROFESSIONAL ENGINEER — 3/29/16

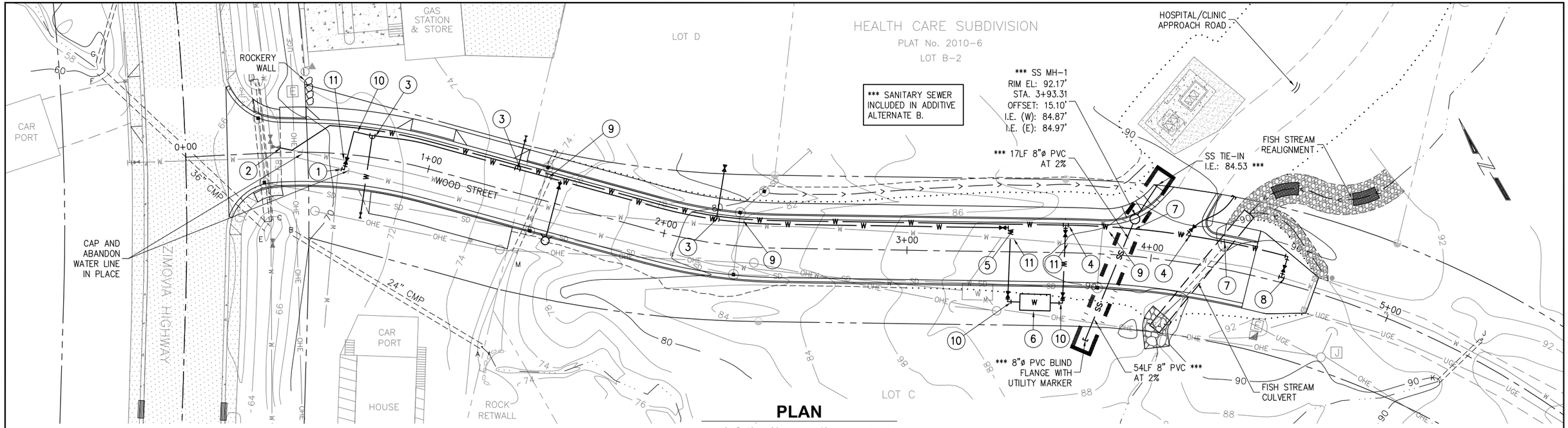
REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **TEMPORARY FISH STREAM DIVERSION OPTIONS**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C3.05
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

3/29/16
Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-C3.05.dwg

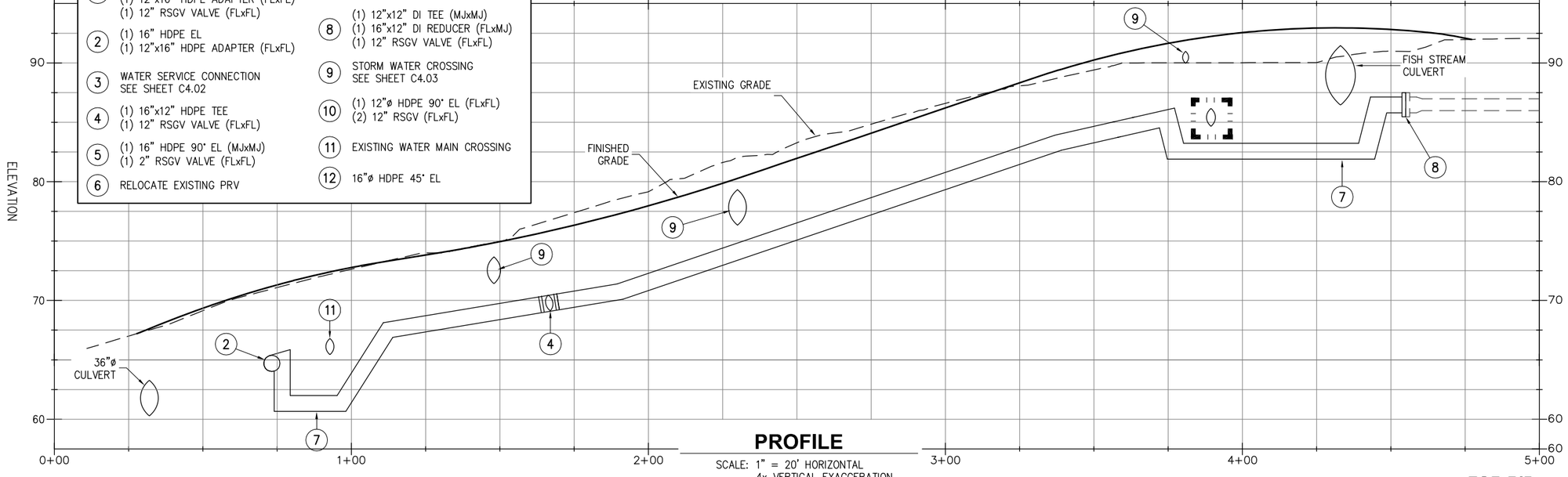


PLAN

0 5 10 20 40 60 FT.

UTILITY NOTES

1. (2) 16"ø 90° EL
   (1) 16"ø HDPE 45° EL
   (1) 12"x16" HDPE ADAPTER (FLxFL)
   (1) 12" RSGV VALVE (FLxFL)
2. (1) 16" HDPE EL
   (1) 12"x16" HDPE ADAPTER (FLxFL)
3. WATER SERVICE CONNECTION SEE SHEET C4.02
4. (1) 16"x12" HDPE TEE
   (1) 12" RSGV VALVE (FLxFL)
5. (1) 16" HDPE 90° EL (MJxMJ)
   (1) 2" RSGV VALVE (FLxFL)
6. RELOCATE EXISTING PRV
7. CULVERT OR SANITARY CROSSING SEE SHEET C4.02
8. (1) 12"x12" DI TEE (MJxMJ)
   (1) 16"x12" DI REDUCER (FLxMJ)
   (1) 12" RSGV VALVE (FLxFL)
9. STORM WATER CROSSING SEE SHEET C4.03
10. (1) 12"ø HDPE 90° EL (FLxFL)
    (2) 12" RSGV (FLxFL)
11. EXISTING WATER MAIN CROSSING
12. 16"ø HDPE 45° EL



PROFILE

SCALE: 1" = 20' HORIZONTAL
4x VERTICAL EXAGGERATION

FOR BID

P N D ENGINEERS, INC.
1736 Fourth Avenue S., Suite A
Seattle, Washington 98134
P: 206.624.1387
www.pndengineers.com

STATE OF ALASKA — 49TH — Gregory Robert Wood — CE 12987 — REGISTERED PROFESSIONAL ENGINEER — 3/29/16

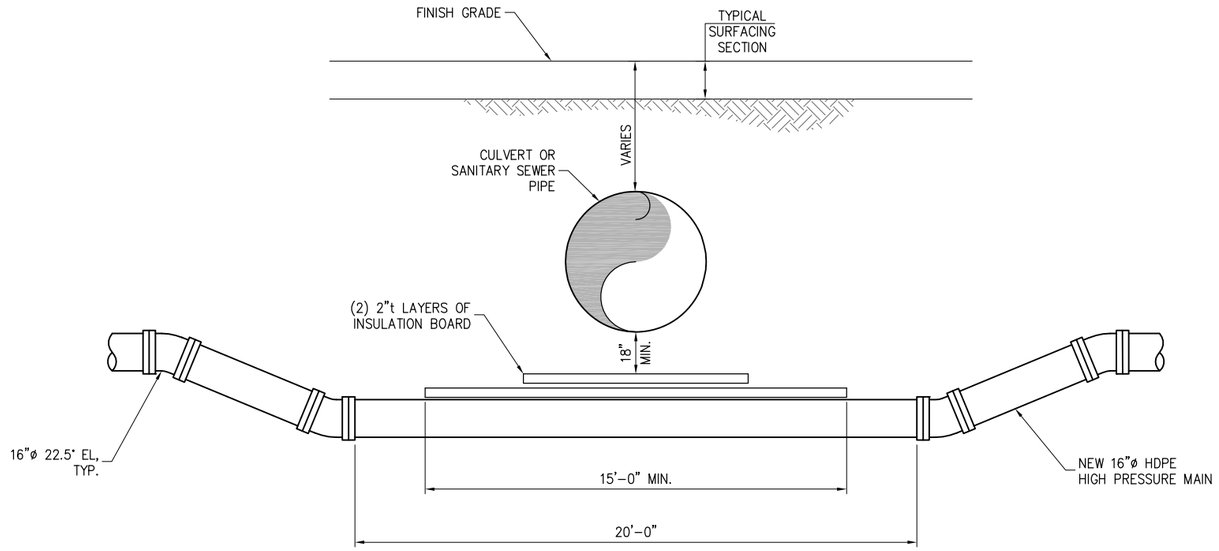
REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

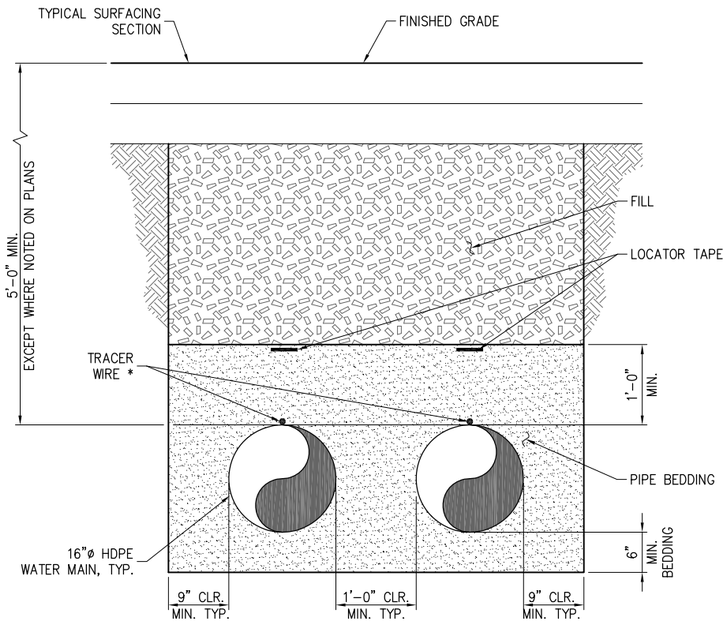
TITLE: **UTILITY PLAN AND PROFILE**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C4.01
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

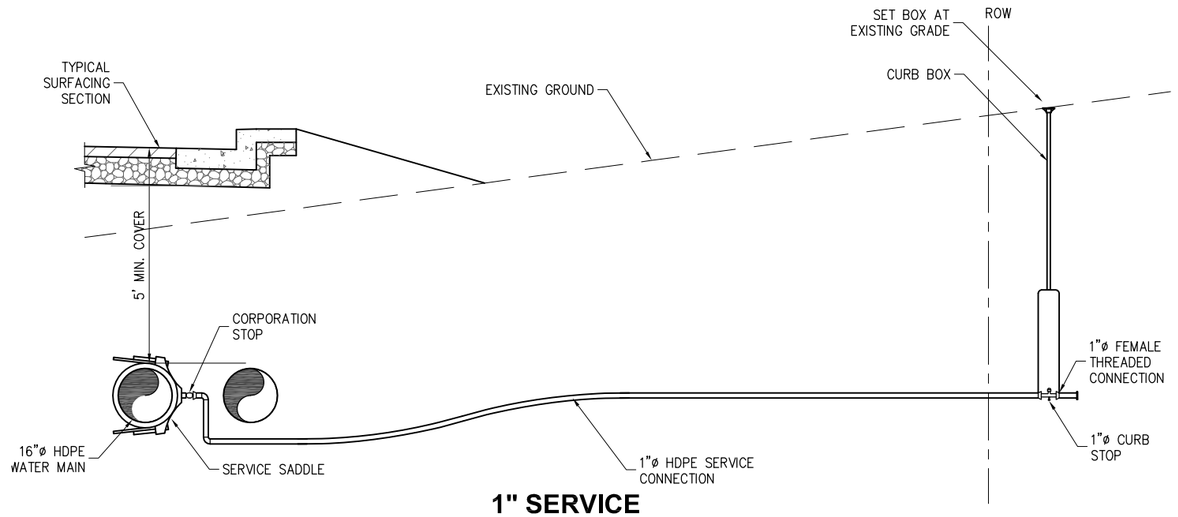
3/29/16
Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-C4.01.dwg



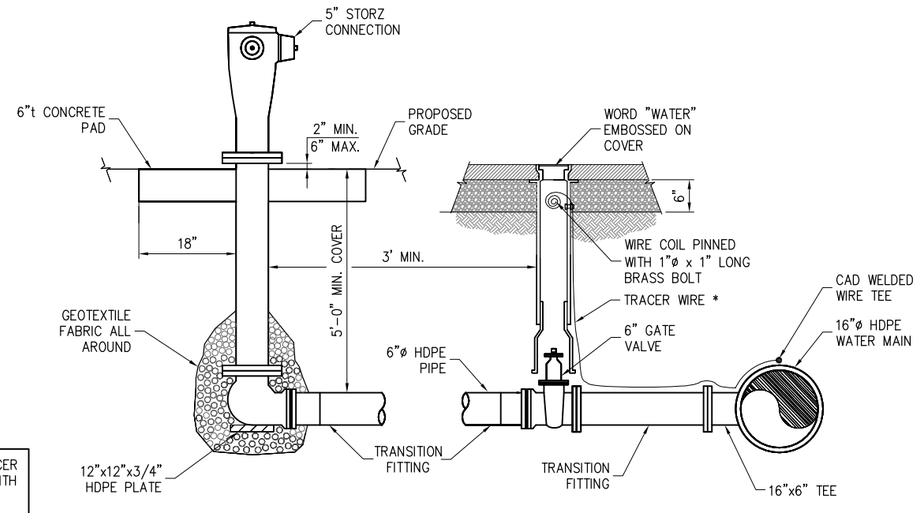
CULVERT OR SANITARY SEWER CROSSING



TYPICAL PIPE TRENCH



1" SERVICE CONNECTION



HYDRANT ASSEMBLY

* INSTALL INSULATED No. 14 GAUGE, CONTINUOUS COPPER TRACER WIRE ALONG ENTIRE LENGTH OF WATER MAIN IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. AT EACH VALVE BOX, CONNECT A BRANCH TRACE WIRE TO EXTEND TO THE SURFACE. DRILL HOLE IN VALVE BOX WITHIN 4-INCHES OF SURFACE AND COIL ENOUGH WIRE INSIDE OF EACH VALVE BOX TO EXTEND 12-INCHES ABOVE FINISHED GRADE.

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STATE OF ALASKA — 49TH — Robert [illegible] CE 12987 — REGISTERED PROFESSIONAL ENGINEER — 3/29/16

REVISIONS		
REV	DATE	DESCRIPTION

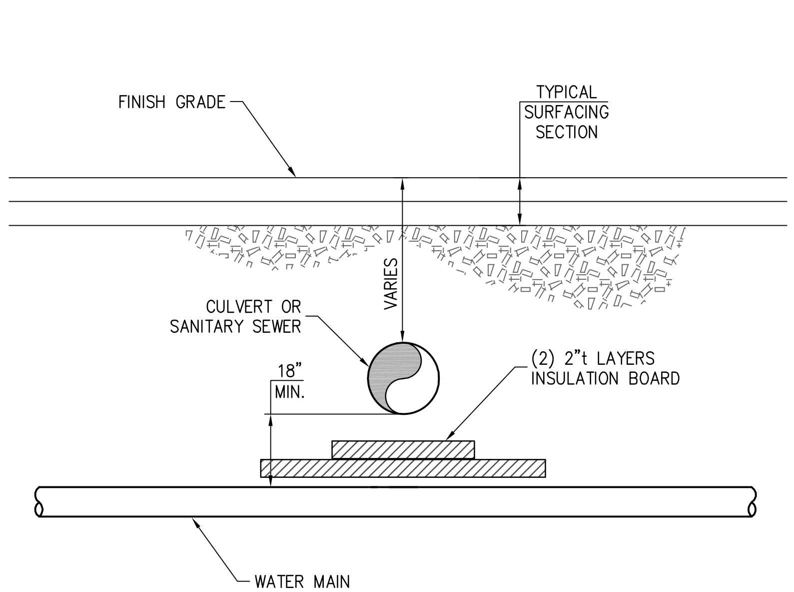
FOR BID

PROJECT: **WOOD STREET IMPROVEMENTS**

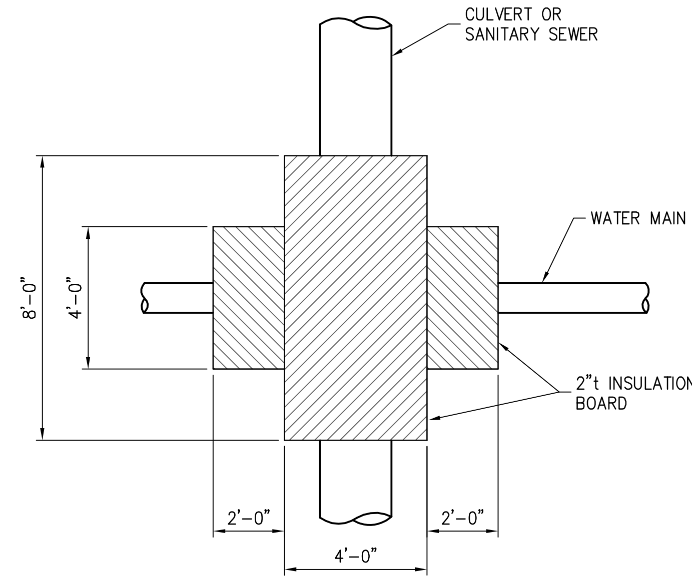
TITLE: **WATER MAIN DETAILS**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C4.02
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	

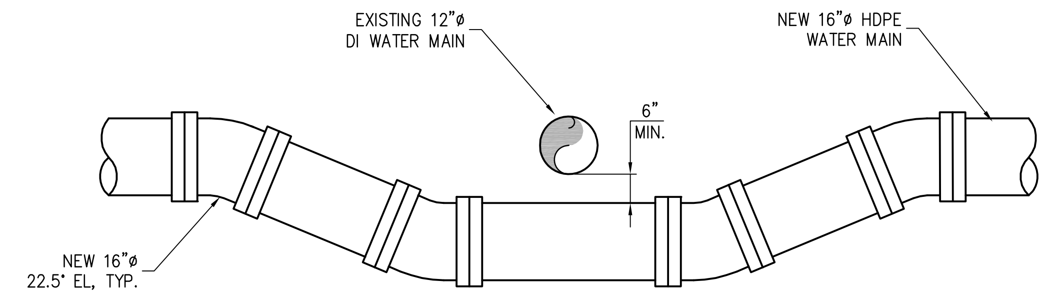
3/29/16 Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-C4.02.dwg



STORMWATER CROSSINGS

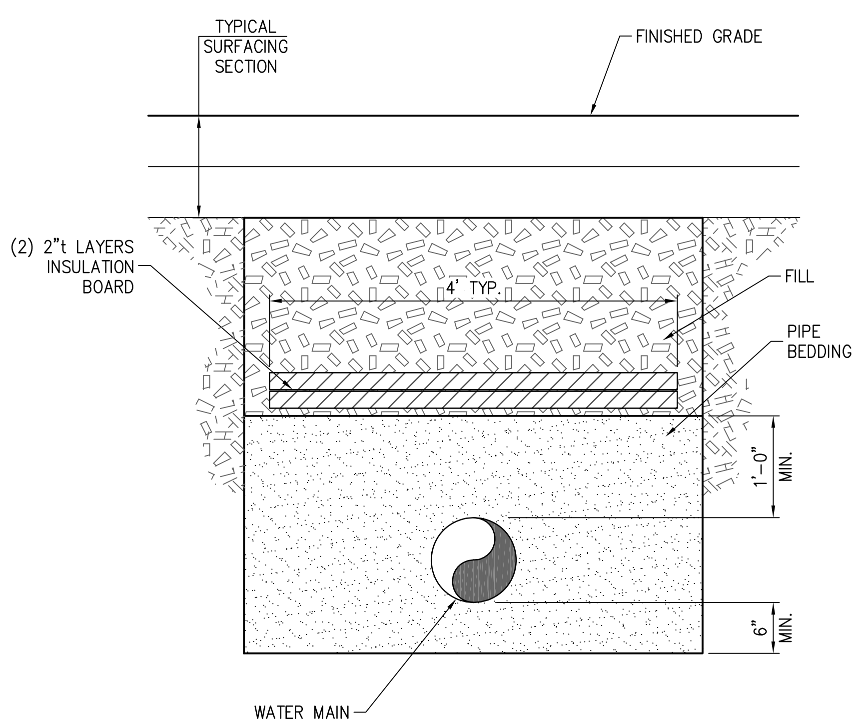


INSULATION PLAN



EXISTING WATER MAIN CROSSING

NOTE:
EXISTING 12" DI WATER MAINS TO BE DEMOLISHED, BUT ONLY AFTER THE NEW MAIN IS COMPLETELY INSTALLED

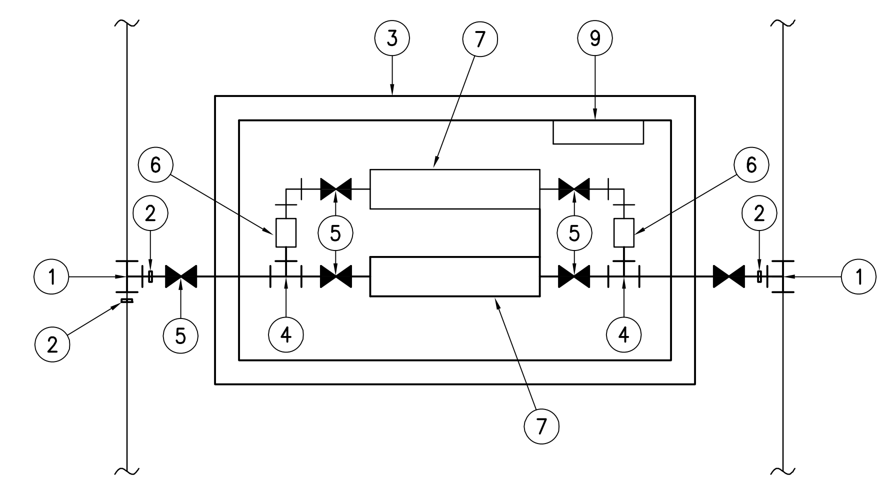


INSULATED TRENCHING

(IF LESS THAN 5' OF COVER)

UTILITY NOTES

1. 16"x16" HDPE TEE (MJxMJ)
2. 6" HDPE TO DI ADAPTER (FLxFL)
3. 10'x6' PRECAST VAULT
4. 6"x6" DI TEE (FLxFL)
5. 6" GATE VALVE (FLxFL)
6. SALVAGED LIQUID FILLED GAUGE REINSTALLED
7. SALVAGED 6" PRV REINSTALLED
8. THE BACKUP SYSTEM IS TO REMAIN IN EXISTING VAULT UNTIL THE NEW WATER MAIN IS IN SERVICE, THEN INSTALL IN THE NEW VAULT.
9. HEATER (SEE ELECTRICAL)



PLAN

PVR VAULT RELOCATION

FOR BID

PND ENGINEERS, INC.
1736 Fourth Avenue S., Suite A
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www.pndengineers.com

STATE OF ALASKA 49TH Robert Walker CE 12987 REGISTERED PROFESSIONAL ENGINEER 3/29/16

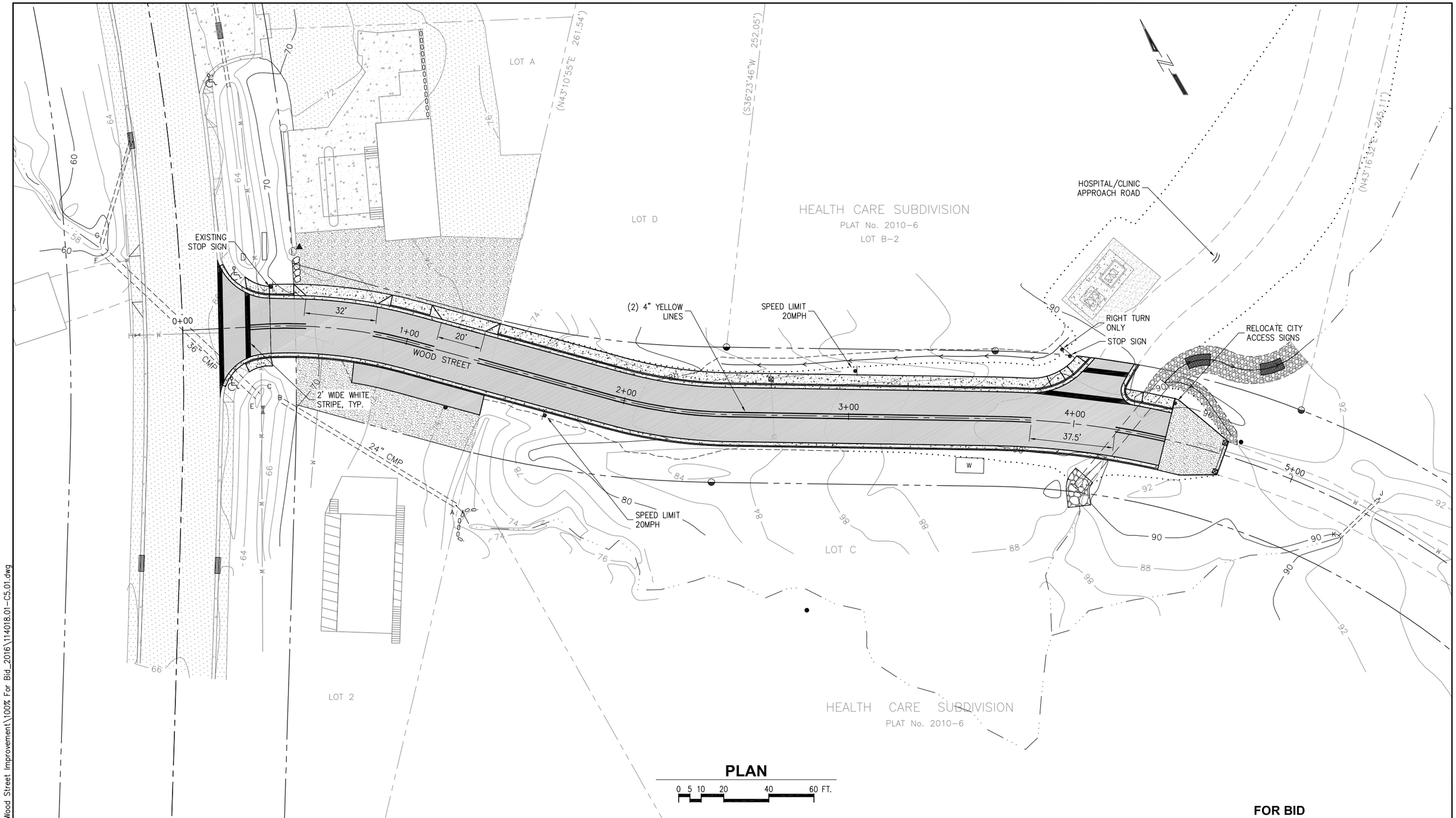
REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: WOOD STREET IMPROVEMENTS

TITLE: WATER MAIN DETAILS

DESIGNED BY: SR	PROJECT NO: 114018.01	SHEET NO: C4.03
DRAWN BY: DRH	DATE: MARCH 2016	
CHECKED BY: GW	SCALE: NOTED	

3/29/16
Drawings\2011\114018.01 – Wood Street Improvement\100% For Bid_2016\114018.01-C4.03.dwg



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STATE OF ALASKA 49TH
Robert Wrangell
CE 12987
REGISTERED PROFESSIONAL ENGINEER
3/29/16

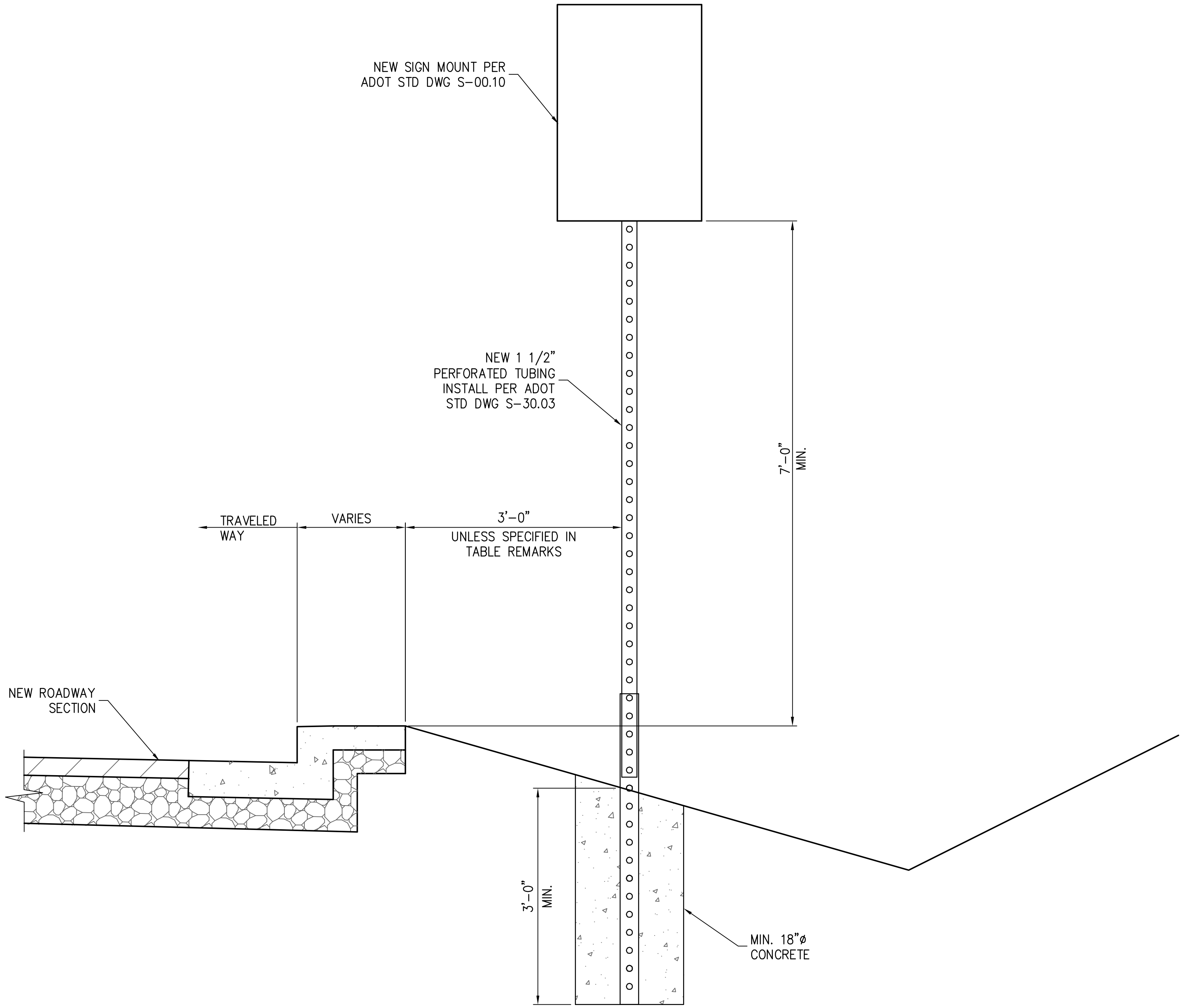
REVISIONS		
REV	DATE	DESCRIPTION

FOR BID

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **SIGNAGE AND STRIPING PLAN**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO: C5.01
DRAWN BY:	DRH	DATE:	MARCH 2016	
CHECKED BY:	GW	SCALE:	NOTED	



SIGN INSTALLATION

FOR BID

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ENGINEERS, INC.
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Seattle, Washington 98134
P: 206.624.1387
www.pndengineers.com

STATE OF ALASKA 49TH CE 12987 REGISTERED PROFESSIONAL ENGINEER
3/29/16

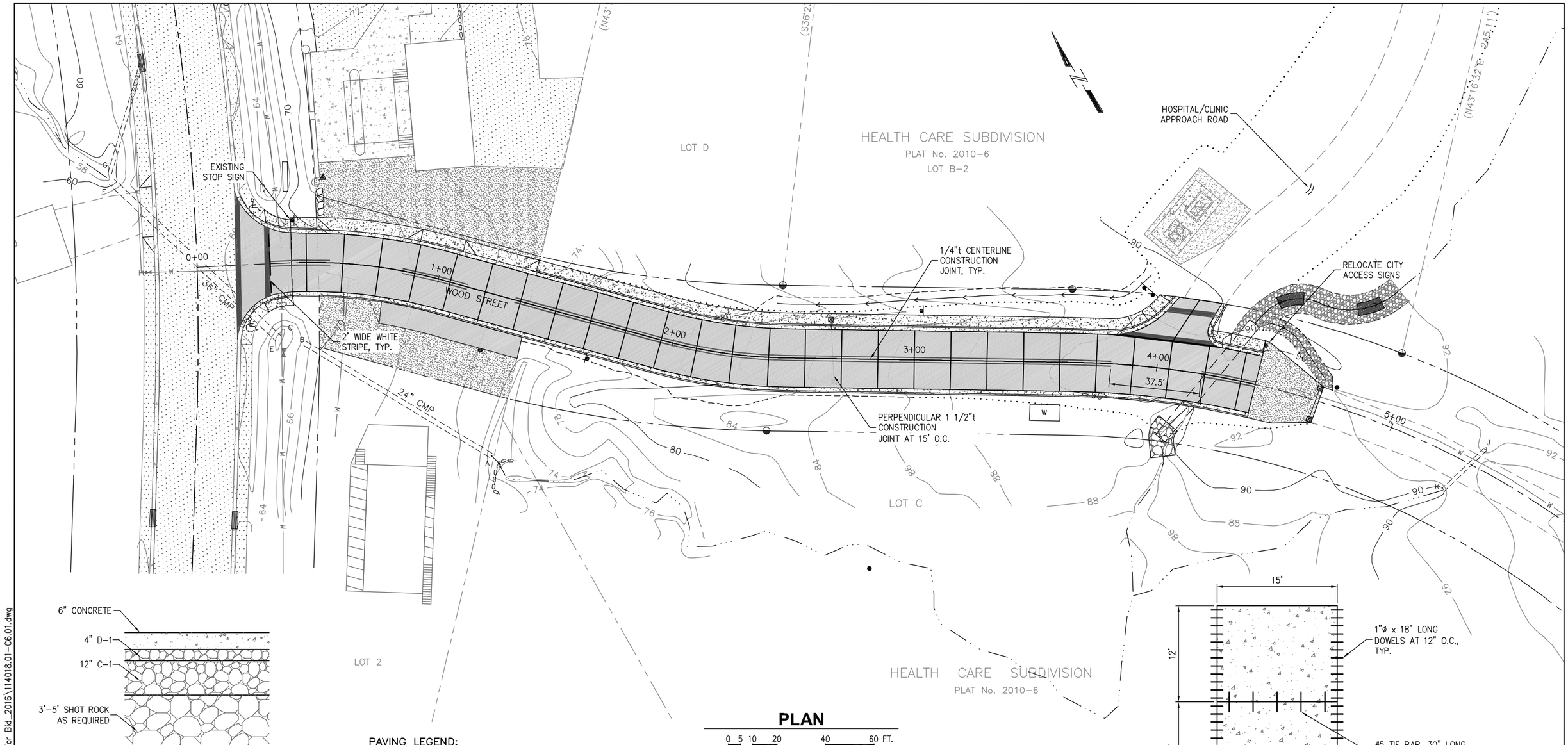
REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **SIGNAGE AND STRIPING DETAILS**

DESIGNED BY: SR	PROJECT NO: 114018.01	SHEET NO:
DRAWN BY: DRH	DATE: MARCH 2016	C5.02
CHECKED BY: GW	SCALE: NOTED	

3/29/16
Drawings\2011\114018.01 – Wood Street Improvement\100% For Bid_2016\114018.01-C5.02.dwg



TYPICAL CONCRETE SURFACING SECTION

TYPICAL CONSTRUCTION JOINT PLAN

FOR BID

P N D ENGINEERS, INC.
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STATE OF ALASKA — 4911 — Gregory Robert Watters CE 12987 — REGISTERED PROFESSIONAL ENGINEER — 3/29/2016

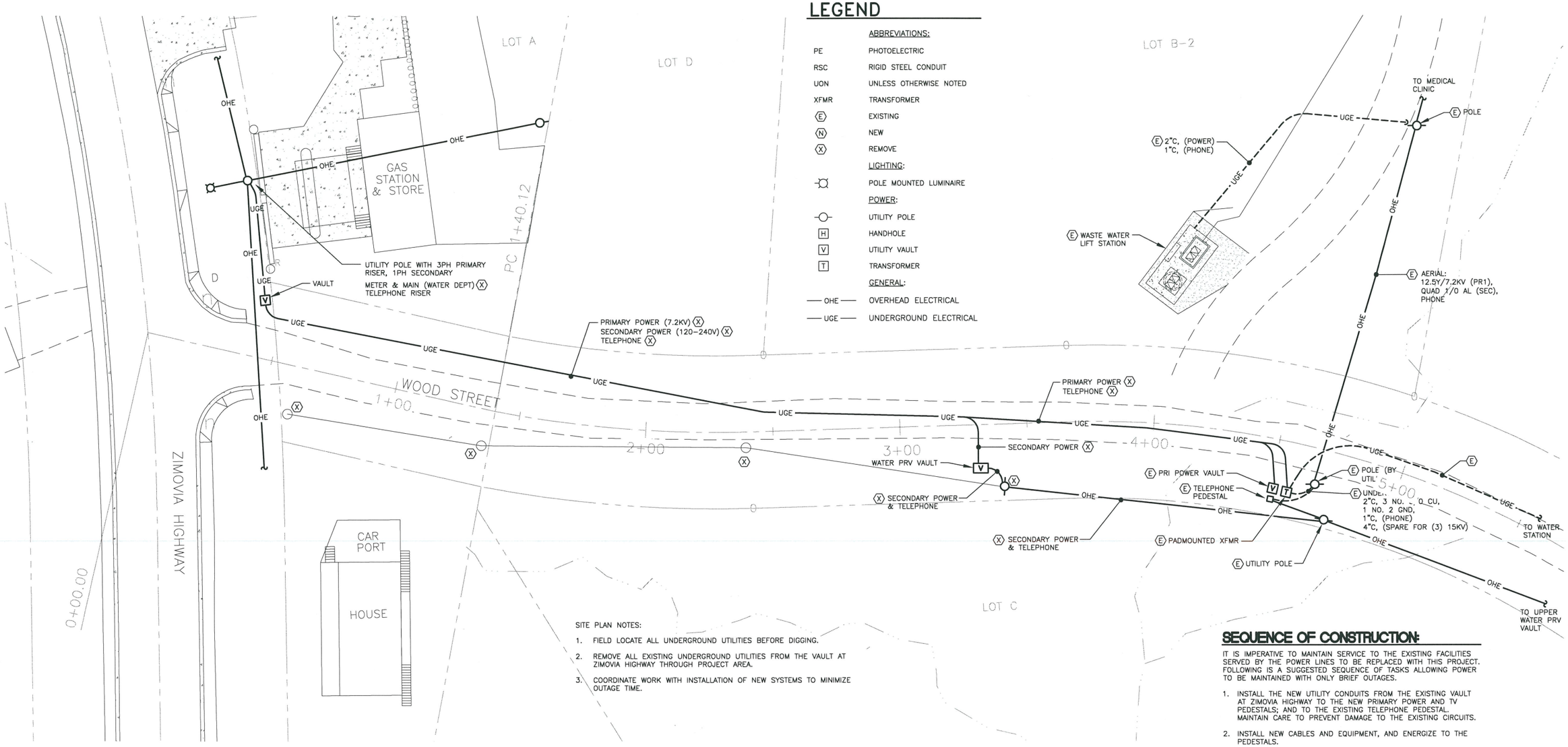
REVISIONS		
REV	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENTS**

TITLE: **CONCRETE PAVING ALTERNATE A PLAN**

DESIGNED BY:	SR	PROJECT NO:	114018.01	SHEET NO:	C6.01
DRAWN BY:	DRH	DATE:	MARCH 2016		
CHECKED BY:	GW	SCALE:	NOTED		

3/29/16 Drawings\2011\114018.01 - Wood Street Improvement\100% For Bid_2016\114018.01-C6.01.dwg



LEGEND

ABBREVIATIONS:

PE	PHOTOELECTRIC
RSC	RIGID STEEL CONDUIT
UON	UNLESS OTHERWISE NOTED
XFMR	TRANSFORMER
(E)	EXISTING
(N)	NEW
(X)	REMOVE

LIGHTING:

- POLE MOUNTED LUMINAIRE

POWER:

- UTILITY POLE
- [H] HANDHOLE
- [V] UTILITY VAULT
- [T] TRANSFORMER

GENERAL:

- OHE — OVERHEAD ELECTRICAL
- UGE — UNDERGROUND ELECTRICAL

SITE PLAN NOTES:

1. FIELD LOCATE ALL UNDERGROUND UTILITIES BEFORE DIGGING.
2. REMOVE ALL EXISTING UNDERGROUND UTILITIES FROM THE VAULT AT ZIMOVIA HIGHWAY THROUGH PROJECT AREA.
3. COORDINATE WORK WITH INSTALLATION OF NEW SYSTEMS TO MINIMIZE OUTAGE TIME.

SEQUENCE OF CONSTRUCTION:

IT IS IMPERATIVE TO MAINTAIN SERVICE TO THE EXISTING FACILITIES SERVED BY THE POWER LINES TO BE REPLACED WITH THIS PROJECT. FOLLOWING IS A SUGGESTED SEQUENCE OF TASKS ALLOWING POWER TO BE MAINTAINED WITH ONLY BRIEF OUTAGES.

1. INSTALL THE NEW UTILITY CONDUITS FROM THE EXISTING VAULT AT ZIMOVIA HIGHWAY TO THE NEW PRIMARY POWER AND TV PEDESTALS; AND TO THE EXISTING TELEPHONE PEDESTAL. MAINTAIN CARE TO PREVENT DAMAGE TO THE EXISTING CIRCUITS.
2. INSTALL NEW CABLES AND EQUIPMENT, AND ENERGIZE TO THE PEDESTALS.
3. TRANSFER SERVICES FROM THE EXISTING CIRCUITS TO THE NEW CIRCUITS. COORDINATE WITH THE UTILITIES.
4. REMOVE AND DISPOSE THE NOW ABANDONED CIRCUITS AND EQUIPMENT. COORDINATE WITH THE UTILITIES.
5. COMPLETE INSTALLATION OF LIGHTING.

CONFER WITH THE CUSTOMERS SERVED BY THESE UTILITIES, INCLUDING THE CELL TOWER AND WATER DEPARTMENT, TO DETERMINE OUTAGE AND SCHEDULE LIMITATIONS. COORDINATE OUTAGES ACCORDINGLY.

PROVIDE DOCUMENTATION OF THIS CONSTRUCTION STRATEGY WITH DESIRED MODIFICATIONS TO THE PROJECT ENGINEER BEFORE CONSTRUCTION.

1 EXISTING SITE PLAN
SCALE: 0 20' 40'

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526 Main Street, Juneau, AK 99801
(907) 586-9788

STATE OF ALASKA — 49th — B. C. HAIGHT — EE 4800 — REGISTERED PROFESSIONAL ENGINEER
Apr 17, 2013

REVISIONS

REV.	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENT DESIGN**

TITLE: **EXISTING SITE PLAN - ELECTRICAL SYSTEMS**

DESIGNED BY:	BCH	PROJECT NO:	114018.01	SHEET NO: E1.01
DRAWN BY:	PEL	DATE:	APRIL, 2013	
CHECKED BY:	BCH	SCALE:	NOTED	

Apr 17, 2013 - 11:32am
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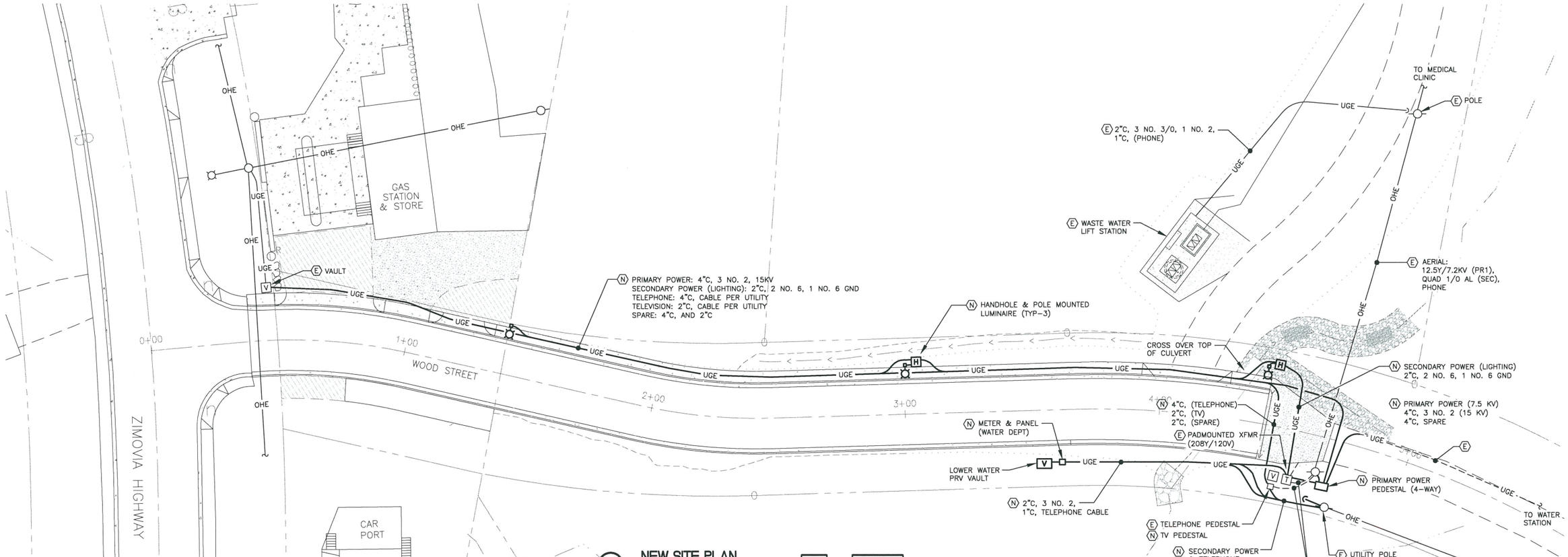

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STATE OF ALASKA — 49th — B.C. HAIGHT — EE 4800 — REGISTERED PROFESSIONAL ENGINEER
Apr 17, 2013

REVISIONS

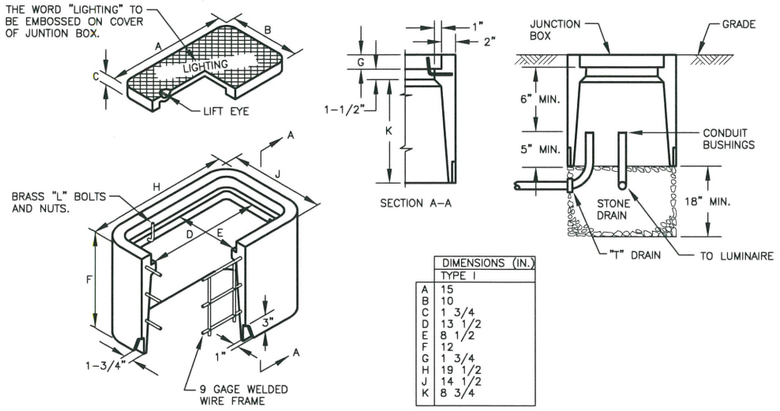
REV.	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENT DESIGN**

TITLE: **NEW SITE PLAN - ELECTRICAL SYSTEMS**

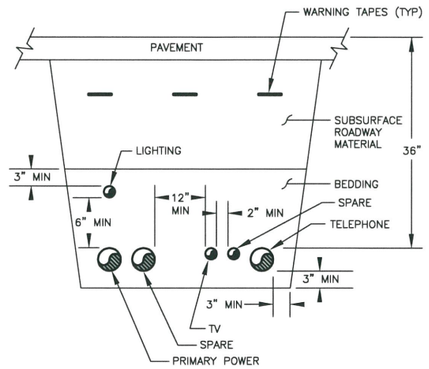
DESIGNED BY:	BCH	PROJECT NO:	114018.01
DRAWN BY:	PEL	DATE:	APRIL, 2013
CHECKED BY:	BCH	SCALE:	NOTED

SHEET NO: **E2.01**

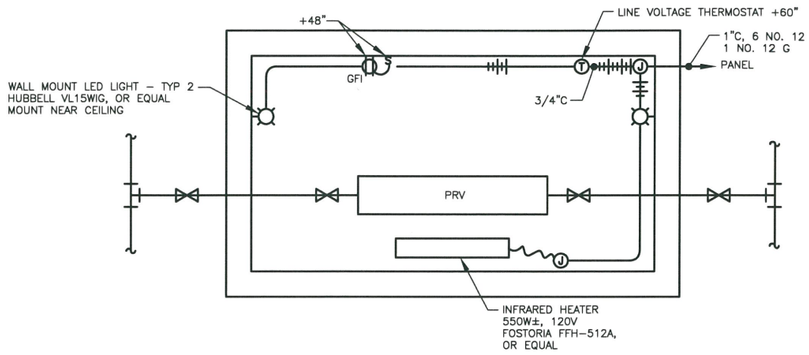


DIMENSIONS (IN.)	
	TYPE I
A	15
B	10
C	1 3/4
D	13 1/2
E	8 1/2
F	12
G	1 3/4
H	19 1/2
J	14 1/2
K	8 3/4

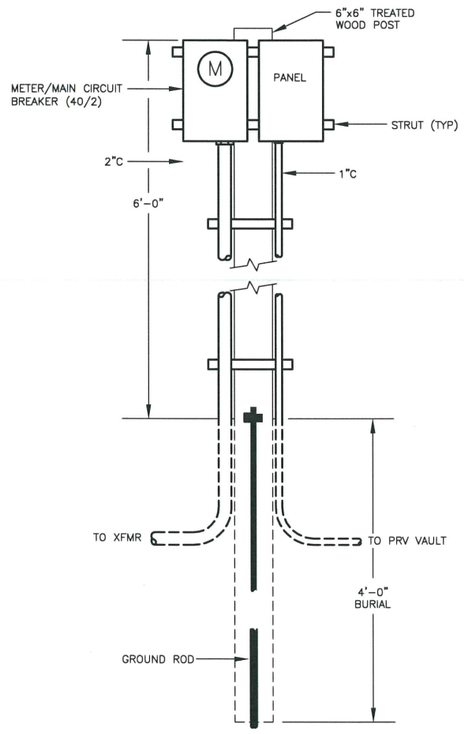
3 DETAIL - HANDHOLE



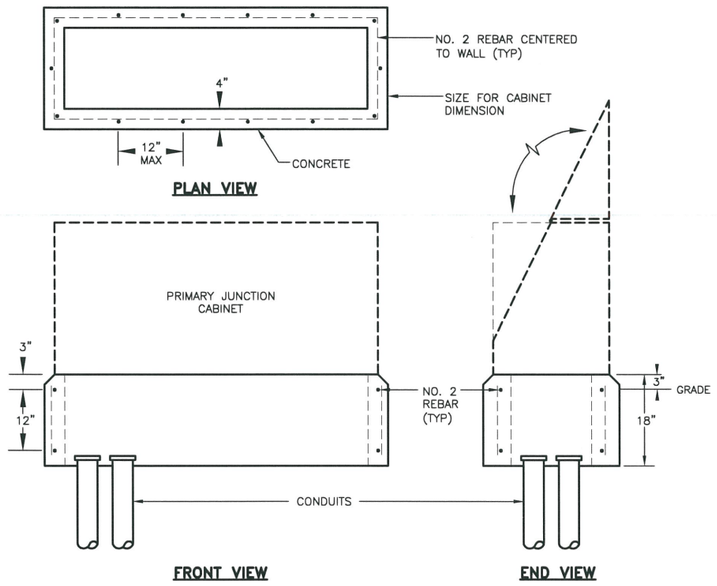
2 DETAIL - UNDERGROUND ROADWAY CROSSING



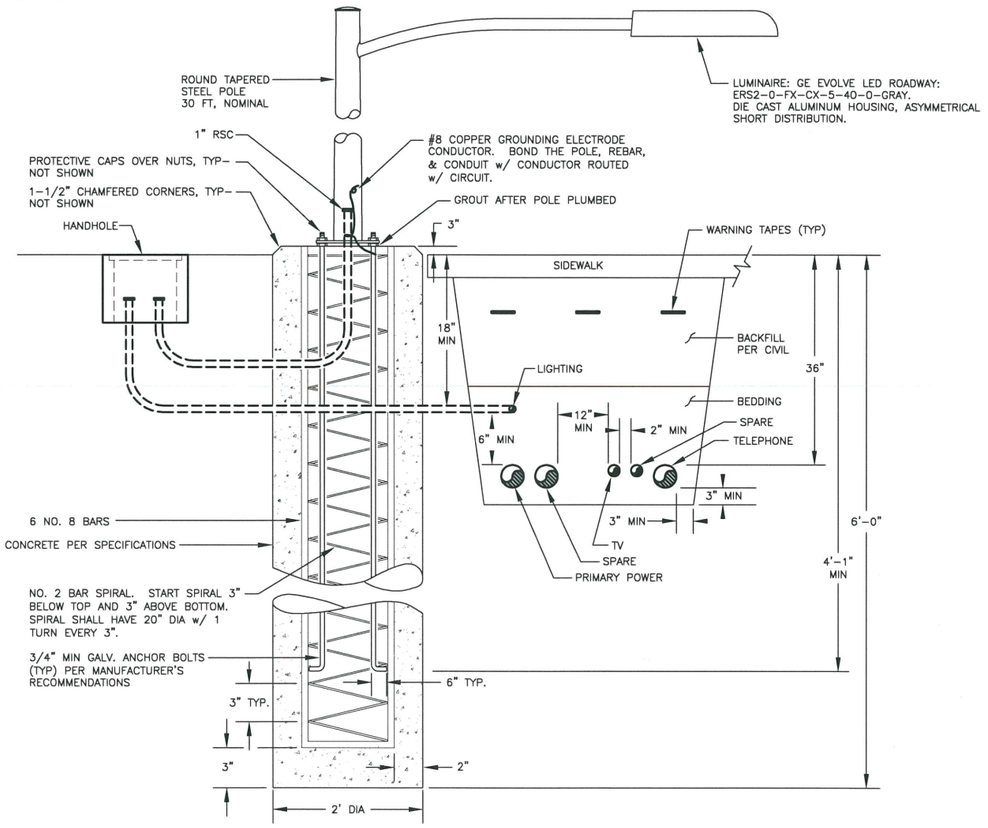
6 PVR VAULT - PLAN



4 DETAIL - PRV VAULT METER/MAIN



5 DETAIL - PRIMARY JUNCTION CABINET



NOTE: ANCHOR BOLTS TO MEET ATSM-A36 w/ MINIMUM YIELD STRESS OF 36.0 KSI.

1 SECTION - SIDEWALK

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STATE OF ALASKA 19th B.C. HAIGHT EE 4800 REGISTERED PROFESSIONAL ENGINEER
Apr 17, 2013

REVISIONS

REV.	DATE	DESCRIPTION

PROJECT: **WOOD STREET IMPROVEMENT DESIGN**

TITLE: **DETAILS**

DESIGNED BY:	BCH	PROJECT NO:	114018.01	SHEET NO: E2.02
DRAWN BY:	PEL	DATE:	APRIL, 2013	
CHECKED BY:	BCH	SCALE:	NOTED	

Apr 17, 2013 - 11:33am
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