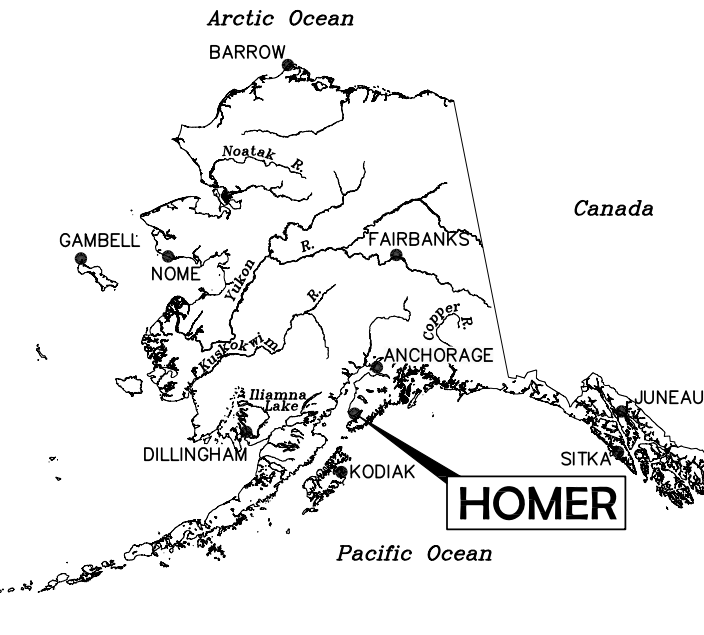
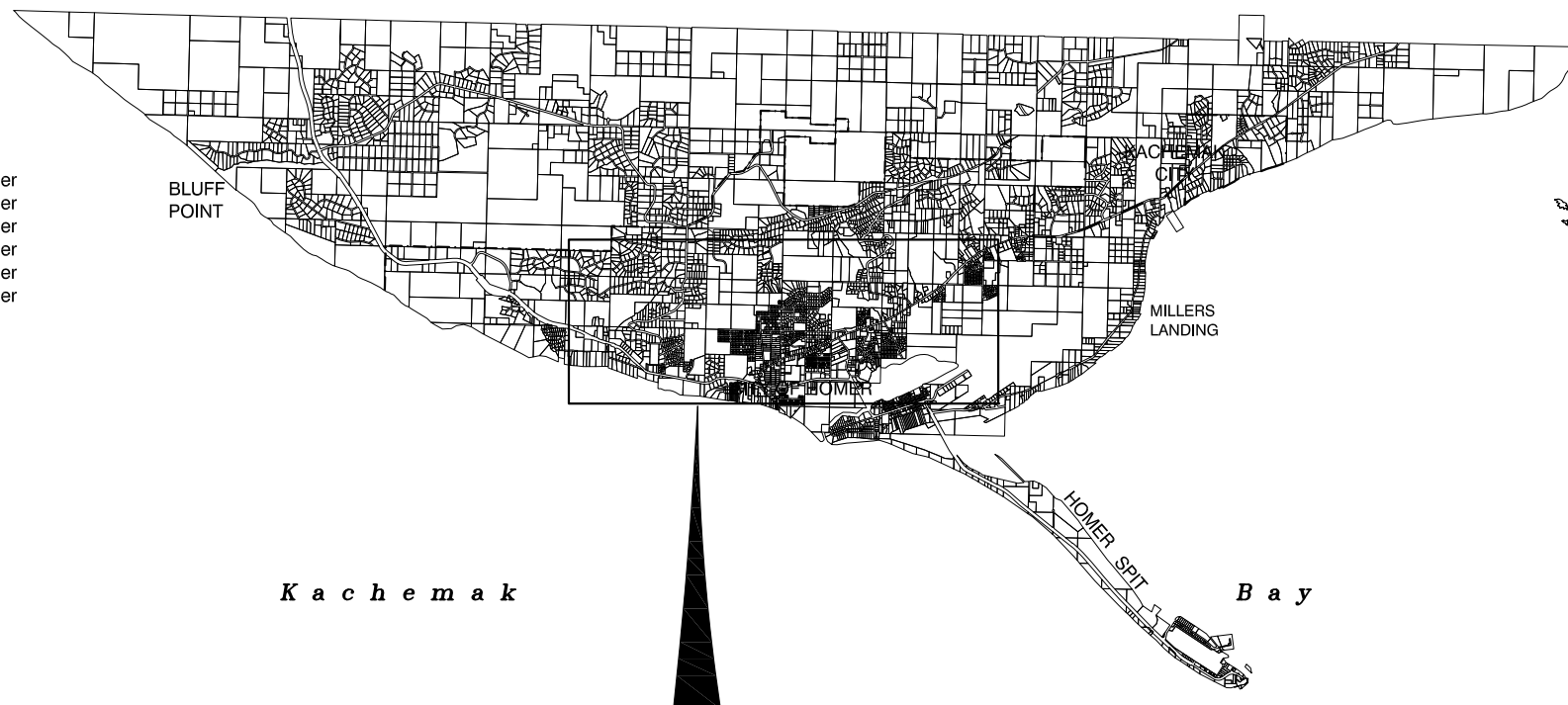


# HOMER A-FRAME PRV REPLACEMENT MAIN STREET & DEHEL AVENUE SITE

CITY OF HOMER, ALASKA  
PUBLIC WORKS DEPARTMENT

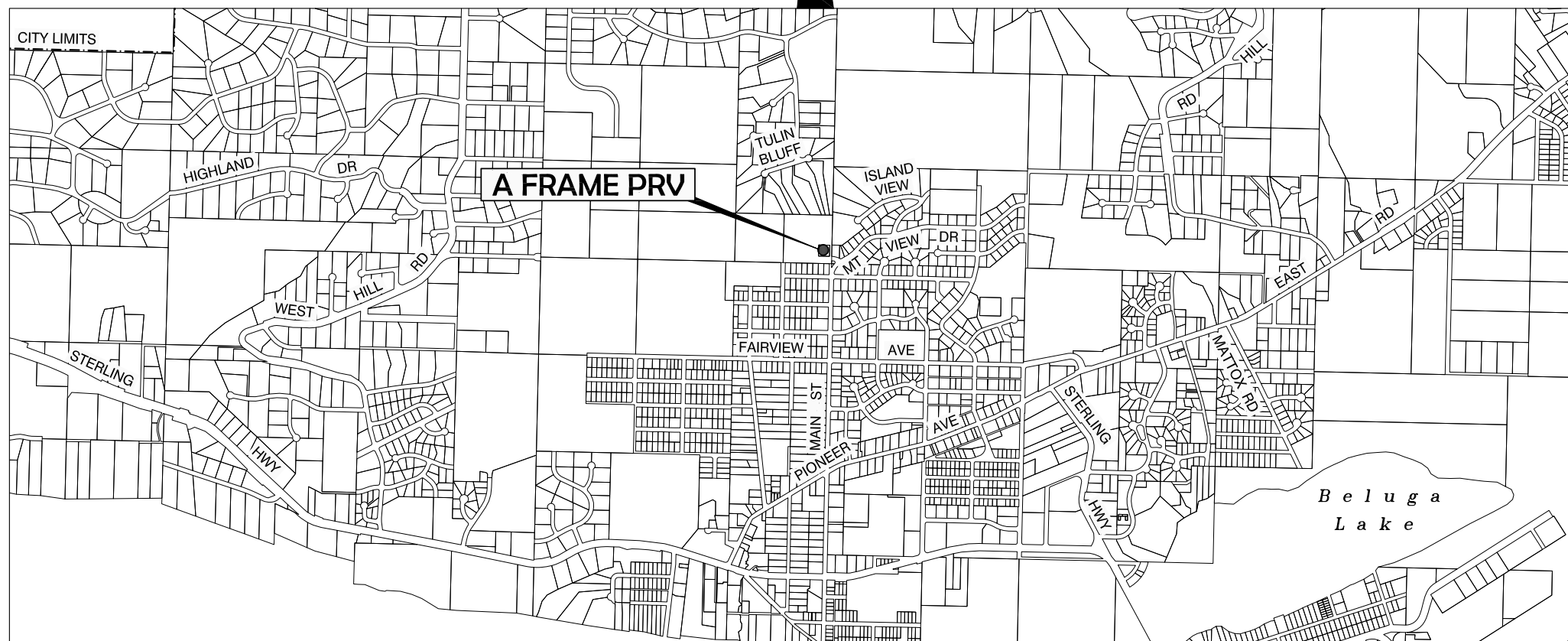
Ken Castner Mayor  
Donna Aberhold Council Member  
Shelly Erickson Council Member  
Rachel Lord Council Member  
Heath Smith Council Member  
Tom Stroozas Council Member  
Caroline Venuti Council Member

Katie Koester - City Manager  
Carey Meyer - Public Works Director



K a c h e m a k

B a y



## SHEET INDEX

### CIVIL

- G1.0 COVER SHEET, LOCATION MAP, AND SHEET INDEX
- G1.1 GENERAL NOTES, ABBREVIATIONS, AND LEGEND
- G2.1 SURVEY CONTROL PLAN
- C1.0 EXISTING WATER SYSTEM IMPROVEMENTS PLAN AND DETAILS
- C1.1 EXISTING CONDITIONS PRV PLAN, PRV TEMPORARY BY-PASS PLAN, NOTES, AND DETAILS
- C2.0 W1 LINE WATER MAIN PLAN AND PROFILE, AND TYPICAL TRENCH SECTION
- C2.1 SITE GRADING PLAN
- C2.2 SITE GRADING SECTIONS AND DETAILS
- C2.3 ABOVEGROUND PRV PIPING PLAN, KEY, AND NOTES
- C2.4 PRV PIPING SECTION A, DETAILS, AND NOTES
- C2.5 PRV PIPING SECTION B, AND DETAILS

### STRUCTURAL

- S0.1 GENERAL STRUCTURAL NOTES
- S.02 FOUNDATION DETAILS
- S.03 TYPICAL FRAMING DETAILS
- S1.1 FOUNDATION FLOOR PLAN, SCHEDULES, AND NOTES
- S1.2 BUILDING SECTION A, AND NOTES
- S1.3 BUILDING SECTION B

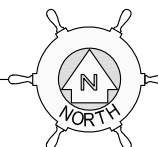
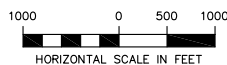
### ELECTRICAL

- E1 PRV SITE ELECTRICAL NOTES AND DETAILS
- E2 SITE PLAN
- E3 ELECTRICAL PLAN

## PROJECT SUMMARY

- DEMOLISH EXISTING A-FRAME PRV STRUCTURE AND CONTENTS
- CONSTRUCT NEW 15'x22' ABOVE GROUND PRV
- INSTALL ~50 LF OF NEW 8" DIP PIPE
- INSTALL 30 LF OF NEW 4" CIP DRAIN PIPE
- GRADE SITE TO PROVIDE POSITIVE SITE DRAINAGE

## LOCATION MAP



**FOR CONSTRUCTION**

	CONSULTING ENGINEERS
	STRUCTURAL/CIVIL
	155 BIDARKA ST KENAI, AK 99611
	TEL. (907) 283 - 3583 NELSONENGINEER@ALASKA.NET

Project No. 1911

User: MDERAEVE Apr 23, 2019 - 4:34pm  
Drawing: Z:\AAPROJECTS\2019\1911 HOMER A-FRAME PRV NELSON\DWG\CIVIL\01\_32130074\_G1\_0.DWG - Layout: LAYOUT1  
Xrefs: 32130074\_KEYMAP.DWG - Images: None

**GENERAL NOTES**

- THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE PROJECT.
- ALL CONSTRUCTION SHALL BE COMPLETED AS OUTLINED IN THE CITY OF HOMER STANDARD CONSTRUCTION SPECIFICATIONS (2011 EDITION), UNLESS OTHERWISE SHOWN IN THE DRAWINGS OR SPECIAL PROVISIONS.
- ALL CONSTRUCTION WITHIN THE ROAD PRISM SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ALASKA, DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES AND COH, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- THE WATER LINE SHALL BE A MINIMUM OF 18 VERTICAL INCHES FROM SEWER LINES. HORIZONTAL SEPARATION BETWEEN SANITARY SEWER LINES AND WATER LINES MUST NOT BE LESS THAN 10 FEET UNLESS OTHERWISE NOTED.
- MINIMUM BURY ON WATER MAIN & SERVICE LINES SHALL BE 7 FEET UNLESS OTHERWISE NOTED. ALL WATER & SERVICE LINES BURIED LESS THAN 7 FEET MUST BE INSULATED AS SPECIFIED.
- CONTRACTOR SHALL RESEED ALL DISTURBED AREAS AS REQUESTED BY THE DEPARTMENT OF TRANSPORTATION OR THE CITY OF HOMER, ALASKA.
- THRUST RESTRAINT MUST BE INSTALLED AT EACH WATER MAIN FITTING UNLESS OTHERWISE NOTED.
- BACKFILL WITHIN ADOT&PF OR COH ROAD RIGHT-OF-WAY SHALL MEET STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES SPECIFICATIONS AND COH STANDARD SPEC FOR MATERIALS AND COMPACTION REQUIREMENTS.
- EXCAVATION NEAR UTILITY POLES & UTILITY PEDESTALS SHALL BE COORDINATED WITH HOMER ELECTRIC ASSOCIATION (HEA) (907)235-8551 OR (800)478-8551. THE CONTRACTOR IS RESPONSIBLE FOR COSTS ASSOCIATED WITH REQUIRED POLE STABILIZATION.
- CONTRACTOR SHALL RESTORE ALL PRIVATE DRIVEWAYS TO THEIR ORIGINAL CONDITION.
- CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES TO VERIFY LOCATIONS BEFORE EXCAVATION.
- UNDERGROUND UTILITY LINES AND SERVICE BOXES SHALL BE PROTECTED AND RELOCATED AS REQUIRED. THE "ALASKA DIG LINE" (800)478-3121 WILL PROVIDE TELEPHONE NUMBERS TO UTILITY COMPANIES SUCH AS ACS, GCI, AND HEA.
- CLEARING & GRUBBING: CLEARING LIMITS SHALL NOT EXCEED 10' HORIZONTALLY ON EITHER SIDE OF NEW WATER PIPE LOCATIONS, UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.
- EXISTING SIGNS, MAILBOXES, & FENCING SHALL TEMPORARILY BE RELOCATED DURING CONSTRUCTION. THE CONTRACTOR SHALL RESTORE THESE ITEMS TO THEIR ORIGINAL CONDITION, UPON PROJECT COMPLETION.
- CONTRACTOR SHALL REMOVE & RESTORE EXISTING CULVERTS OBSTRUCTING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING CULVERT(S), IF DAMAGED.
- TRENCH DE-WATERING PER COH STANDARD SPEC EARTHWORK DIVISION 200, 207.3, B, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND IS INCIDENTAL TO PIPE INSTALLATION.
- ALL WATER SYSTEM COMPONENTS IN DIRECT CONTACT WITH THE POTABLE WATER SUPPLY SHALL MEET THE REQUIREMENTS OF NATIONAL SANITATION FOUNDATION (NSF) STANDARD 61. NOT MORE THAN A WEIGHTED AVERAGE OF 0.25 PERCENT LEED WITH RESPECT TO WETTED SURFACES OF ALL PIPE, FITTINGS, VALVES WILL BE ALLOWED. (REDUCTION OF LEAD DRINKING WATER ACT)
- WATERLINE DISINFECTING CHLORINE FOR DISINFECTION SHALL BE IN THE FORM OF SODIUM HYPOCHLORITE SOLUTION OR CALCIUM HYPOCHLORITE GRANULES OR TABLETS, AND SHALL MEET THE REQUIREMENTS OF ANSI/AWWA B300. WORKERS SHALL USE DUE CARE AND CAUTION TO PREVENT BODILY CONTACT WITH THE CHLORINE MATERIALS OR SOLUTION. FOLLOW ALL SAFETY PRECAUTIONS NOTED IN THE MANUFACTURER'S PRODUCT INFORMATION AND MATERIAL SAFETY DATA SHEET.
- ALL POTABLE WATER PIPELINES, INCLUDING SERVICE LINES, SHALL BE DISINFECTED IN ACCORDANCE WITH THE REQUIREMENTS OF ANSI/AWWA C651 IN THE PRESENCE OF THE CITY ENGINEER.
- ANY PRIVATE OR PUBLIC PROPERTY DISTURBED AS A RESULT OF THIS PROJECT SHALL BE REPLACED TO ORIGINAL CONDITION. EXISTING DRAINAGE PATTERNS SHALL BE RESTORED BY THE CONTRACTOR AFTER CONSTRUCTION OF THE IMPROVEMENTS.
- ANY MATERIAL IDENTIFIED AS ACM IS TO BE REMOVED IT MUST BE PERFORMED BY CERTIFIED ABATEMENT WORKERS IN ACCORDANCE WITH AHERA 40 CFR 763 APPENDIX C (MAP) AND STATE OF ALASKA 8 AAC 61.600-720. OSHA REGULATIONS (29 CFR 1926.1101) SHOULD BE FOLLOWED BY EMPLOYEES FOR ALL REMOVAL ACTIVITIES AS WELL.
- ALL PRESSURIZED WATER PIPING AND APPURTENANCES SHALL BE FLUSHED, PRESSURE TESTED, AND DISINFECTED PER THE CITY OF HOMER STANDARD SPECIFICATIONS, 2011 EDITION IN THE PRESENCE OF THE CITY INSPECTOR.
- SUPERCHLORINATED WATER CREATED DURING DISINFECTION TESTING SHALL BE DISCHARGED DIRECTLY TO THE CITY OF HOMER SANITARY SEWER SYSTEM IN THE PRESENCE OF THE CITY INSPECTOR.
- CONTRACT SHALL PROVIDE OPERATIONS & MAINTENANCE (O&M) MANUAL FOR ALL APPURTENANCES, MECHANICAL AND ELECTRICAL EQUIPMENT WITHIN THE PRV STATION, INCLUDING BUT NOT LIMITED TO: SHOP DRAWINGS, TECHNICAL MANUALS, TYPICAL INSTALLATION GUIDES, INTERNAL ARRANGEMENT DIAGRAM, AND PARTS LIST, O&M MANUAL SHALL ALSO INCLUDE NAME, ADDRESS, AND PHONE NUMBER OF THE NEAREST FACTORY-AUTHORIZED SERVICE AND PARTS CENTER IN RELATION TO HOMER, ALASKA.
- CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES DURING CONSTRUCTION. UTILITY COMPANIES TO BILL THE CITY OF HOMER DIRECTLY FOR THEIR WORK IN REMOVAL AND REPLACEMENT OF SERVICE LINES.

**ABBREVIATIONS**

AC	ASPHALT CEMENT	PE	PLAIN END
ACM	ASBESTOS CONTAINING MATERIAL	PL	PLACE
AHERA	ASBESTOS HAZARD EMERGENCY RESPONSE ACT	P/L	PROPERTY LINE
AP	ARCTIC PIPE	PRV	PRESSURE REDUCING VAULT
APPRVD	APPROVED	PVC	POLYVINYL CHLORIDE
ARV	AIR RELEASE VALVE	R	RADIUS
AVE	AVENUE	RED	REDUCER
BF	BLIND FLANGE	RD	ROAD
BOH	BOTTOM OF HOLE	RJ	RESTRAINED JOINT
BOP	BEGINNING OF PROJECT	ROW	RIGHT OF WAY
		RT	RIGHT
C	CRIMP	S	SLOPE
CI	CAST IRON	SCH	SCHEDULE
CIP	CAST IRON PIPE	SD	STORM DRAIN
CIR	CIRCLE	SEC	SECTION
CFR	CODE OF FEDERAL REGULATIONS	SHT	SHEET
CL	CHLORINE	SS	STAINLESS STEEL
CMP	CORRUGATED METAL PIPE	SSCO	SANITARY SEWER CLEANOUT
COH	CITY OF HOMER	SSMH	SANITARY SEWER MANHOLE
CONT	CONTINUED	STA	STATION
CP	CONTROL POINT	SVC	SERVICE
CT	COURT	ST	STREET
Cu	COPPER	STL	STEEL
		T	THICK
DIA	DIAMETER	TBM	TEMPORARY BENCHMARK
DR	DRIVE	TCE	TEMPORARY CONSTRUCTION EASEMENT
DI	DUCTILE IRON	TH	TEST HOLE
DIP	DUCTILE IRON PIPE	THD	THREAD
		THD	TYPICAL
EA	EACH	VB	VALVE BOX
EL	ELEVATION	VBM	VALVE BOX MARKER
EPDM	ETHYLENE PROPYLENE DIENE MONOMER	W	WIDTH
ESMNT	EASEMENT	W/	WITH
EQ	EQUAL	WST	WATER STORAGE TANK
F	FEMALE		
FIPT	FEMALE IRON PIPE THREAD		
FCA	FLANGE COUPLING ADAPTER		
FF	FINISH FLOOR		
FH	FIRE HYDRANT		
FL	FLANGE		
GALV	GALVANIZED		
GV	GATE VALVE		
HDPE	HIGH-DENSITY POLYETHYLENE		
HYD	HYDRANT		
ID	INSIDE DIAMETER		
INV	INVERT		
IP	IRON PIPE		
IPS	IRON PIPE SIZE		
KB	KEY BOX		
L	LENGTH		
LF	LINEAL FEET		
LT	LEFT		
M	MALE		
MAP	MANAGEMENT ACTION PLAN		
MAX	MAXIMUM		
MD	MAXIMUM DENSITY		
MDD	MAXIMUM DRY DENSITY		
MG	MILLION GALLON		
MH	MANHOLE		
MIN	MINIMUM		
MIPT	MALE IRON PIPE THREAD		
MJ	MECHANICAL JOINT		
MNFR	MANUFACTURER		
MTL	METAL		
NFS	NON FROST SUSCEPTIBLE		
NIC	NOT IN CONTRACT		
NSF	NATIONAL SANITATION FOUNDATION		
NTS	NOT TO SCALE		
NPT	NATIONAL PIPE THREAD		
OSHA	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION		

**LEGEND**

PROPOSED	EXISTING		
---	-UG/T-	UNDERGROUND TELEPHONE	
---	-OH/E-	OVERHEAD ELECTRIC	
---	-UG/E-	UNDERGROUND ELECTRIC	
---	-UG/C-	UNDERGROUND CABLE	
	⊙	POWER POLE	
	⋈	GUY ANCHOR	
	⊠	ELECTRIC PEDESTAL	
	⊕	TELEPHONE PEDESTAL	
	⊛	LIGHT POLE	
	○R-7	RECOVERED CORNER	
---	---	PROPERTY LINE	
---	---	EASEMENT	
	⊕CP-8	SURVEY CONTROL POINT	
	⊕DMA-15	TEST HOLE LOCATION	
	—	SIGN	
	====	CULVERT	
	×FF=82.7	BUILDING FINISH FLOOR ELEVATION	
	—	EDGE OF PAVEMENT	
	---	EDGE OF GRAVEL SURFACE	
	—+—+—+—	GUARD RAIL	
	⊙	STORMDRAIN MANHOLE	
	—SD—	STORMDRAIN LINE	
	—S—	SANITARY SEWER LINE	
—W—	—W—	WATER LINE	
	○	SANITARY SEWER MANHOLE	
⊗	⊗	VALVE	
J	J	CAP	
●	○	HYDRANT	
	⊕	PRESSURE REDUCING VAULT	
	⊕	SANITARY SEWER CLEANOUT	
⊗	⊗	WATER SERVICE LOCATION	

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Xrefs: 32130074\_BORD.DWG - Images: None

**REVISIONS**


NO.	DATE	BY	DESCRIPTION

Project No. 1911



**CONSULTING ENGINEERS  
STRUCTURAL/CIVIL**

155 BIDARKA ST  
KENAI, AK 99611  
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NELSONENGINEER@ALASKA.NET



CITY OF HOMER, ALASKA  
PUBLIC WORKS DEPARTMENT

3575 HEATH STREET  
HOMER, ALASKA 99603  
PHONE: (907) 235-3170  
FAX: (907) 235-3145



STATE OF ALASKA  
Matthew J. Dura  
CE - 12457  
04/23/19  
Registered Professional Engineer

**FOR CONSTRUCTION**

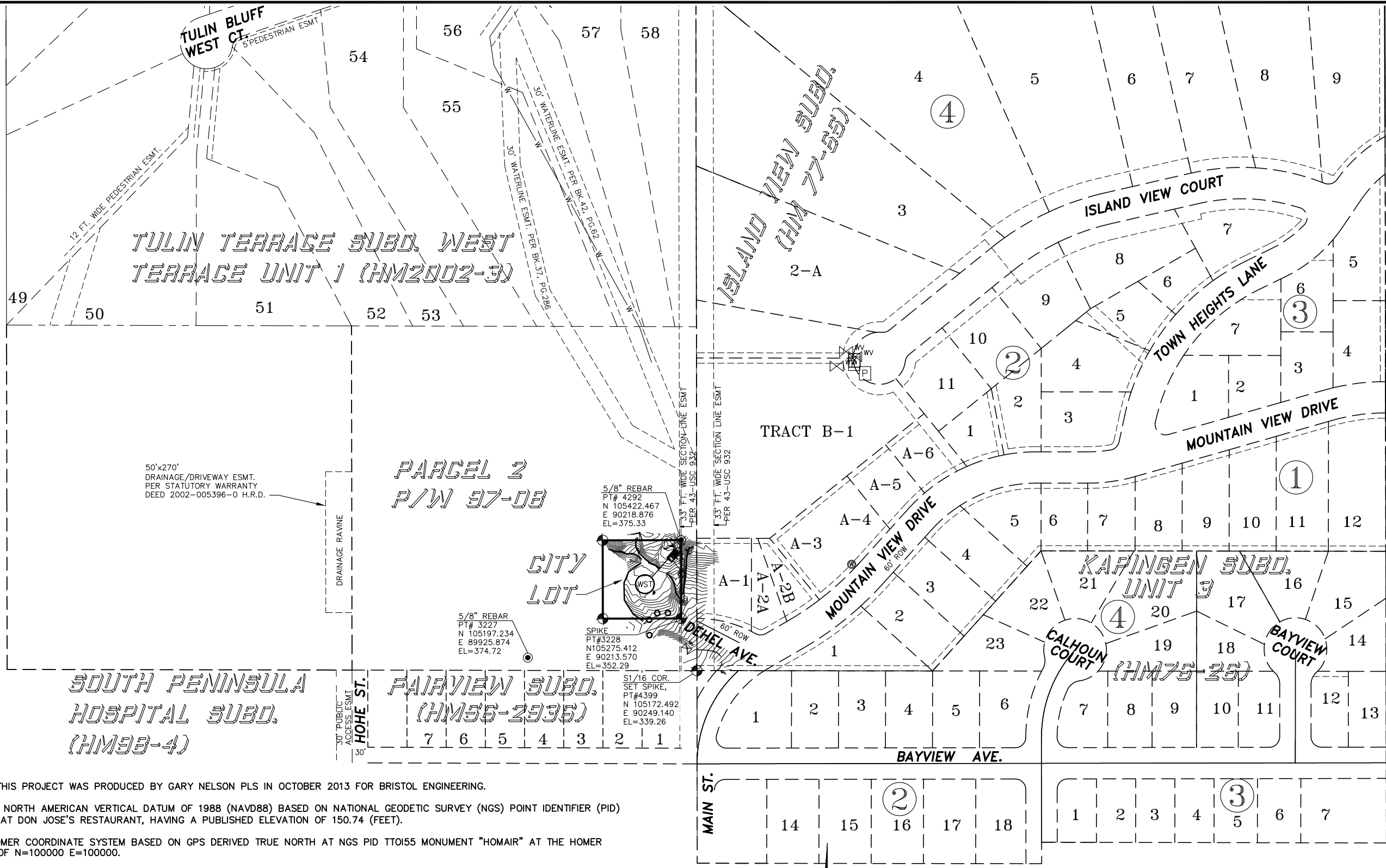
HOMER A-FRAME PRV REPLACEMENT  
MAIN STREET & DEHEL STREET SITE

**GENERAL NOTES, ABBREVIATIONS, AND LEGEND**

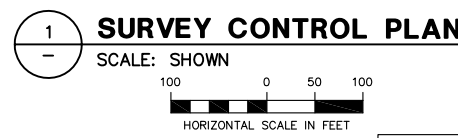
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SHEET	2 OF 20

User: SWHEAT Sep 23, 2014 10:42am  
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 Xrefs: 32130074\_BORD.DWG - Images: None



- NOTES**
- DESIGN SURVEY DATA FOR THIS PROJECT WAS PRODUCED BY GARY NELSON PLS IN OCTOBER 2013 FOR BRISTOL ENGINEERING.
  - THE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) BASED ON NATIONAL GEODETIC SURVEY (NGS) POINT IDENTIFIER (PID) TT0213 "U-85", A BRASS DISK AT DON JOSE'S RESTAURANT, HAVING A PUBLISHED ELEVATION OF 150.74 (FEET).
  - THIS SURVEY UTILIZES A HOMER COORDINATE SYSTEM BASED ON GPS DERIVED TRUE NORTH AT NGS PID TT0155 MONUMENT "HOMAIR" AT THE HOMER AIRPORT HAVING COORDINATES OF N=100000 E=100000.
  - TO CONVERT THIS SURVEY TO ALASKA STATE PLANE ZONE 4 IN FEET ON THE NORTH AMERICAN DATUM OF 1983 (NAD83), 2007 EPIC OF NGS PUBLISHED DATA FOR PID TT0155 "HOMAIR" MOVE THIS DATA SET FROM A BASE POINT OF N=100000 E=100000 TO N=2063050.041 E=1364435.624. THEN ROTATE CLOCKWISE 01°17'13.4" AND SCALE THE DATA FROM LAST SAID NORTHING AND EASTING BY A FACTOR OF 1.000013304.
  - DURING THIS SURVEY IT WAS DISCOVERED THAT NGS PID'S TT0155 "HOMAIR" AND TT0213 "U-85" APPEAR TO BE 0.46 VERTICALLY FARTHER APART THAN RECORD DATA REFLECTS. THE MONUMENTS ARE APPROXIMATELY 10150 FEET APART HORIZONTALLY. U-85 WAS HELD AS THE PROJECT VERTICAL BASIS BECAUSE ANOTHER SURVEY PERFORMED IN CONJUNCTION WITH THIS SURVEY HELD IT. TO CONVERT TO THE "HOMAIR" PUBLISHED VERTICAL BASIS OF VERTICAL DATUM THIS DATA WOULD NEED TO BE ADJUSTED DOWN 0.46 FEET. THE VERTICAL DISCREPANCY HAS ONLY BEEN MEASURED WITH GPS USING GEOID 2009. DIFFERENTIAL SPIRIT LEVELS MAY YIELD DIFFERENT RESULTS.



- LEGEND**
- ⊕ SPIKE AT PROPERTY CORNER
  - ⊙ 5/8" REBAR

**FOR CONSTRUCTION**

REVISIONS			
NO.	DATE	BY	DESCRIPTION

**ABILITY SURVEYS**  
 152 DEHEL AVENUE  
 HOMER, AK. 99603  
 907.235.8440 PH

Project No. 32130074  
**Bristol**  
 ENGINEERING  
 SERVICES CORPORATION  
 Phone (907) 563-0013 Fax (907) 563-6713

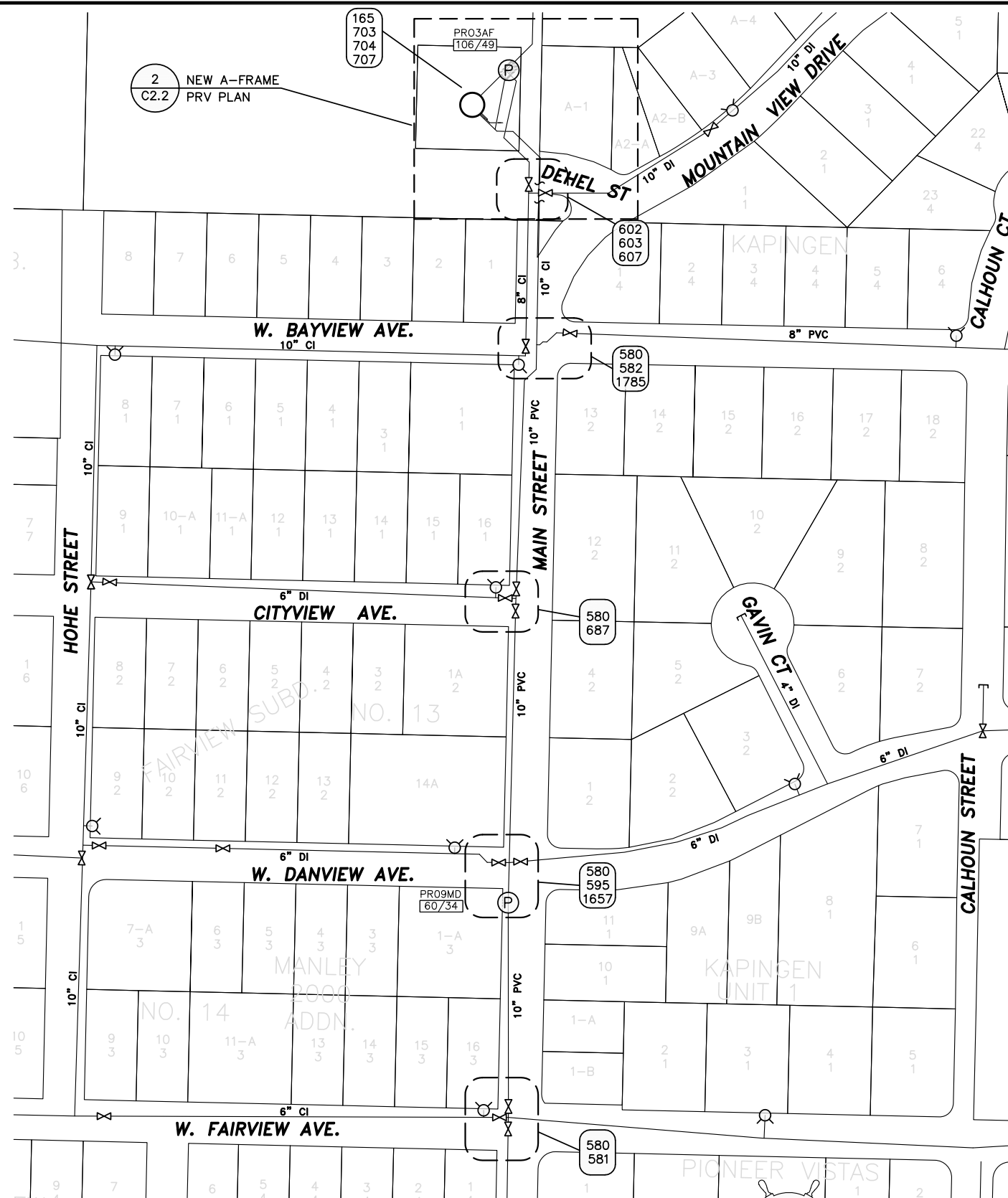
CITY OF HOMER, ALASKA  
 PUBLIC WORKS DEPARTMENT  
 3575 HEATH STREET  
 HOMER, ALASKA 99603  
 PHONE: (907) 235-3170  
 FAX: (907) 235-3145



HOMER A-FRAME PRV REPLACEMENT  
 MAIN STREET & DEHEL STREET SITE  
**SURVEY CONTROL PLAN**  
 SCALE: SHOWN DESIGNED: GN CHECKED: GN DRAWN: SJW DATE: 9/23/14

SHEET NO.  
**G2.1**  
 SHEET 3 OF 20

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 Xrefs: 24047\_BASE.DWG 32130074\_BORD.DWG - Images: None



1 EXISTING WATER SYSTEM IMPROVEMENTS PLAN  
 SCALE: NTS

**NOTES**

1. ABANDON DURING A-FRAME PRV DEMOLITION.

**LEGEND THIS SHEET**


- EXISTING GATE VALVE
- NEW GATE VALVE
- EXISTING HYDRANT
- EXISTING PRV
- PRV ID LABEL
- INLET/OUTLET PRESSURE
- CITY OF HOMER RECORD DRAWING NUMBERS

REVISIONS			
NO.	DATE	BY	DESCRIPTION

Project No. 19111



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 155 BIDARCA ST  
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 FAX: (907) 235-3145



STATE OF ALASKA  
 Matthew J. Dura  
 CE - 12457  
 04/23/19  
 Registered Professional Engineer

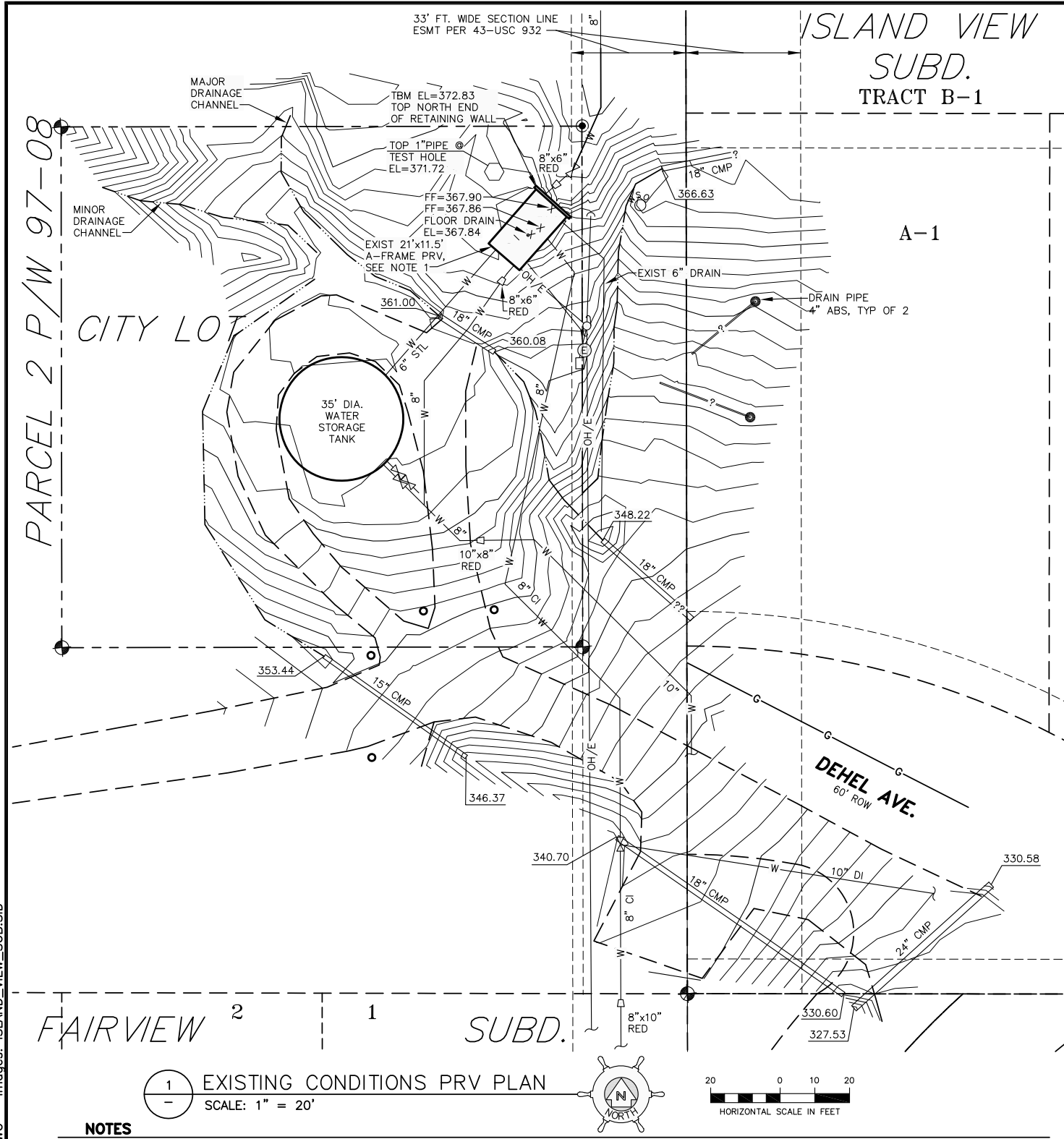
**FOR CONSTRUCTION**

HOMER A-FRAME PRV REPLACEMENT  
 MAIN STREET & DEHEL STREET SITE  
 EXISTING WATER SYSTEM  
 IMPROVEMENTS PLAN AND DETAILS

SCALE: SHOWN    DESIGNED: MJD    CHECKED: MJD    DRAWN: MJD    DATE: 4/23/19

SHEET NO.  
**C1.0**  
 SHEET 4 OF 20

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 Xrefs: 32130074\_BOARD.DWG - Images: ISLAND\_VIEW\_SUB.SID



1 EXISTING CONDITIONS PRV PLAN  
 SCALE: 1" = 20'

**NOTES**

- THE EXIST A-FRAME PRV STATION STRUCTURE AND FOUNDATION WILL BE DEMOLISHED THIS PROJECT, THE NEW ABOVEGRADE PRV STATION WILL BE CONSTRUCTED IN SAME LOCATION AS EXISTING.
- EXISTING WATER MAINS ARE UNDER HIGH PRESSURE. PROTECT DURING NEW PIPE EXCAVATION AND BACKFILL. CONSTRUCT CAST-IN-PLACE THRUST COLLAR ON EXISTING 8" CI PIPE TO REMAIN, PRIOR TO DISCONNECTING EXISTING PIPE PER DETAIL 3/C1.1.
- CLEAR AND GRUB AS NECESSARY FOR CONSTRUCTION.
- SALVAGE/DISPOSE OF PRV & CONTENTS PER COH PUBLIC WORKS DEPT.
- MECHANICAL JOINT FITTINGS SHALL BE RESTRAINED WITH MEGALUG SERIES 1100, OR APPROVED EQUAL.
- CONTRACTOR SHALL COORDINATE DISCONNECTION AND RECONNECTION OF ELECTRIC UTILITY AND DISCONNECTION OF COMMUNICATION LINES WITH APPROPRIATE UTILITY COMPANIES. CITY OF HOMER WILL PAY COSTS AND SERVICE FEES CHARGED BY UTILITIES.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

Project No. 1911

**CONSULTING ENGINEERS  
 STRUCTURAL/CIVIL**  
 155 BIDARCA ST  
 KENAI, AK 99611  
 TEL. (907) 283-3583  
 NELSONENGINEER@ALASKA.NET

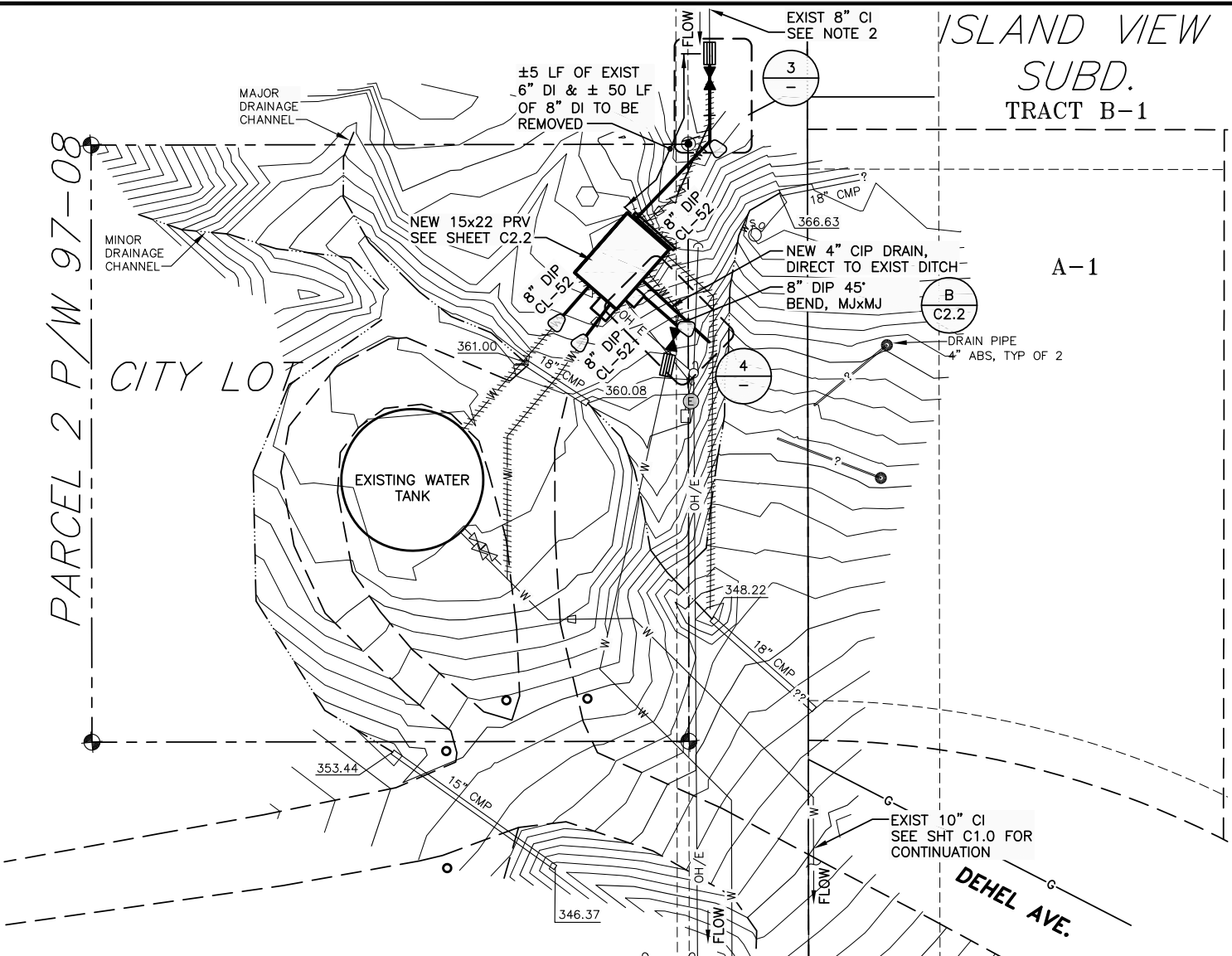
CITY OF HOMER, ALASKA  
 PUBLIC WORKS DEPARTMENT  
 3575 HEATH STREET  
 HOMER, ALASKA 99603  
 PHONE: (907) 235-3170  
 FAX: (907) 235-3145

**HOMER A-FRAME PRV REPLACEMENT  
 MAIN STREET & DEHEL STREET SITE**

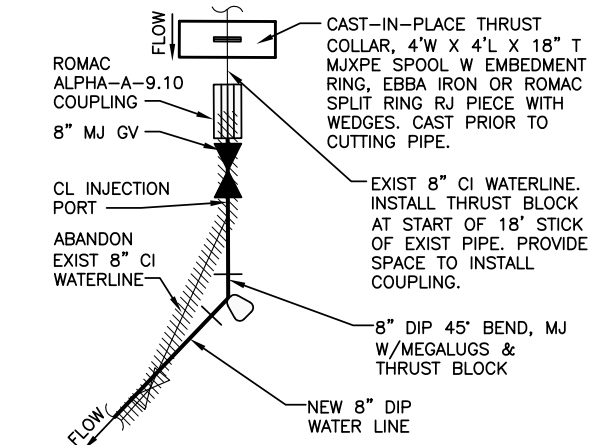
**EXISTING CONDITIONS PRV PLAN,  
 BUILDING SITE PLAN, NOTES, AND DETAILS**

SCALE: SHOWN    DESIGNED: MZD    CHECKED: MJD    DRAWN: MZD    DATE: 4/23/19

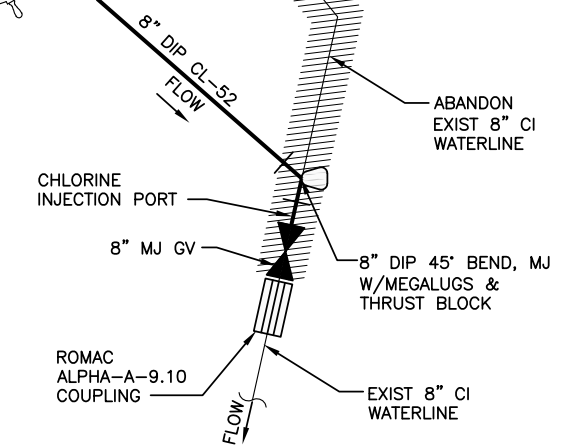
SHEET NO.  
**C1.1**  
 SHEET 5 OF 20



2 A-FRAME PRV BUILDING SITE PLAN  
 SCALE: SHOWN



3 NORTH TIE-IN DETAIL  
 SCALE: NTS

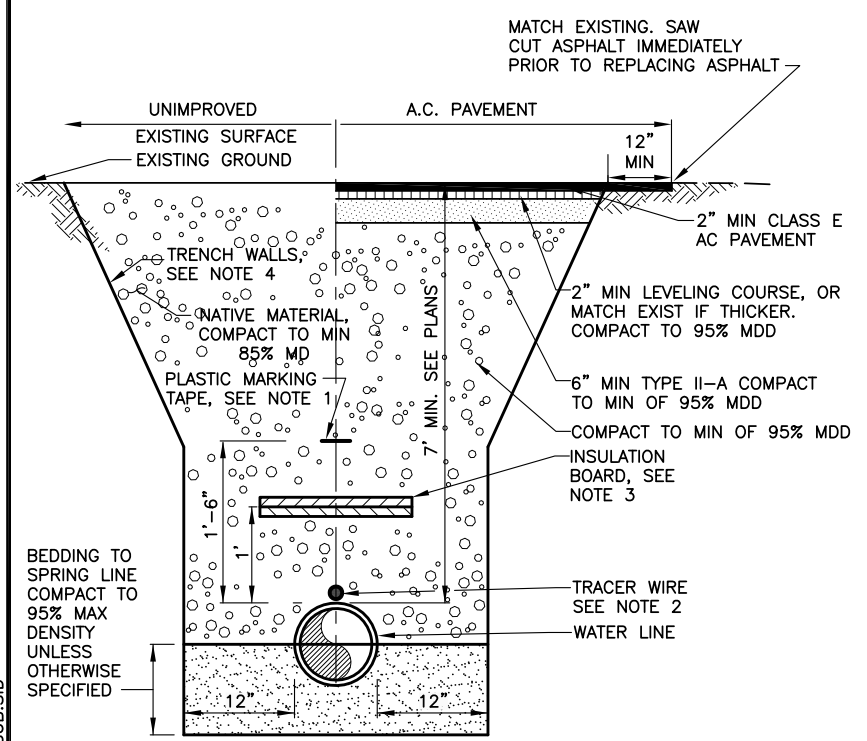
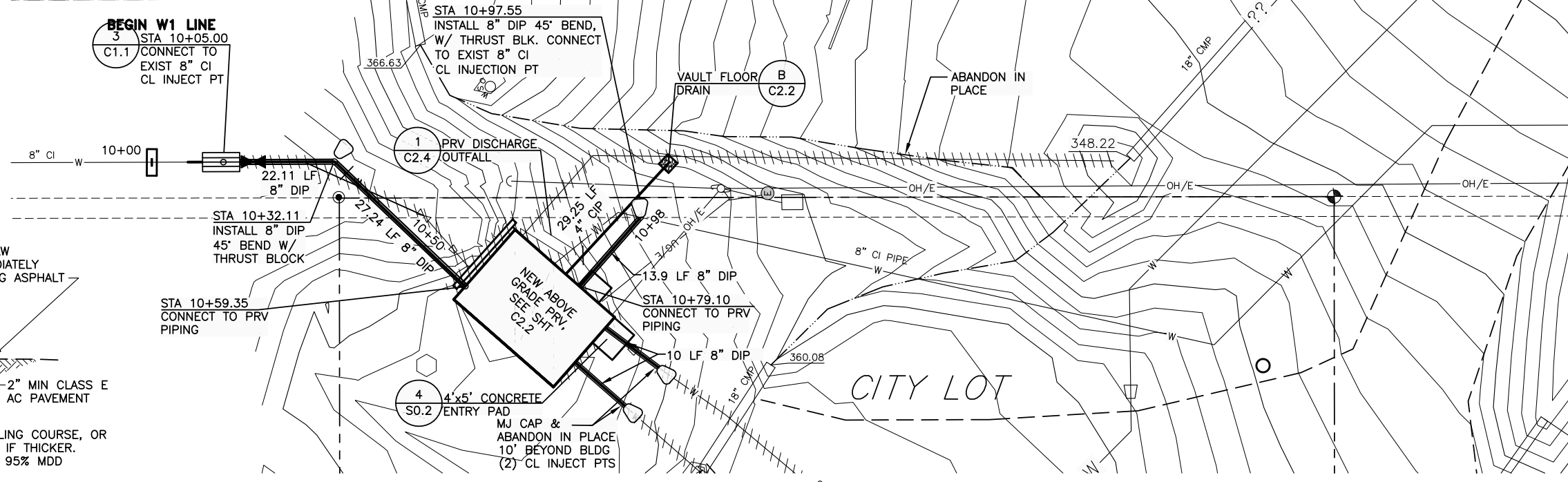


4 SOUTH TIE-IN DETAIL  
 SCALE: NTS

**FOR CONSTRUCTION**

ISLAND VIEW  
SUBD.  
TRACT B-1

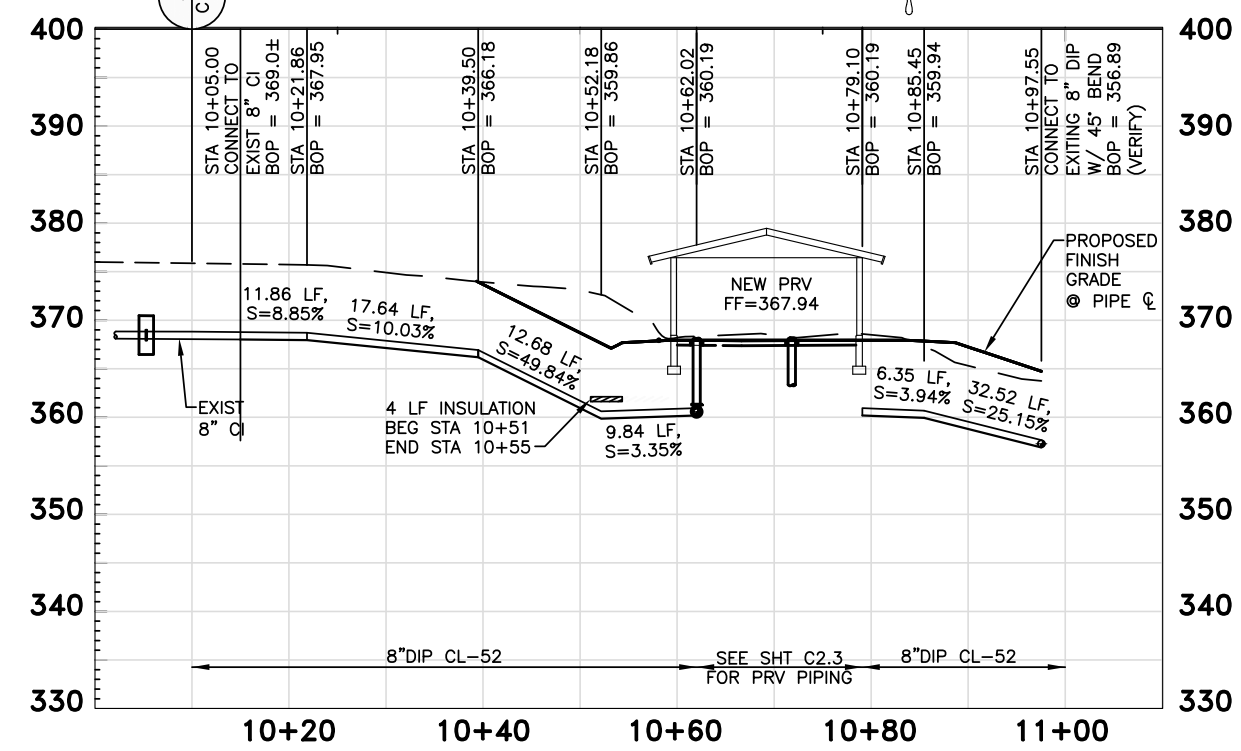
CAUTION!  
UNDERGROUND UTILITY



- NOTES:**
1. PLASTIC MARKING TAPE IS REQUIRED FOR ALL PLASTIC OR NONFERROUS PIPE.
  2. FURNISH AND INSTALL TRACER WIRE DIRECTLY ON TOP OF AND SECURE TO THE WATER MAIN. REFER TO THE SPECIAL PROVISIONS FOR TRACE WIRE SPECIFICATIONS.
  3. INSULATE WHERE SHOWN IN PROFILE, SEE C.O.H. STANDARD DETAIL 700.01. PROVIDE 1" OF INSULATION BOARD FOR EACH FOOT OF BURY LESS THAN MIN. SHOWN.
  4. SLOPE TRENCH WALLS AS REQ'D FOR SAFETY OR USE TRENCH BOX PER OSHA REQMNTS.
  5. INSTALL THRUST BLOCKS PER COH STANDARD DETAIL 600.02.
  6. PROVIDE FIELD-LOK GASKETS ON ALL PUSH-ON PRESSURE PIPE JOINTS.

**A** TYPICAL TRENCH SECTION  
SCALE: NTS

**1** W1 LINE - WATER MAIN  
SCALE: 1" = 10'  
HORIZONTAL SCALE IN FEET



**FOR CONSTRUCTION**

User: MDERAEVE Apr 23, 2019 - 4:34pm  
Drawing: Z:\AAPROJECTS\2019\1911 HOMER A-FRAME PRV\NELSON\DWG\CIVIL\06 32130074\_C2-0.DWG - Layout: 10SCALE  
Xrefs: 32130074\_BASE.DWG - Images: ISLAND\_VIEW\_SUB.SID

REVISIONS			
NO.	DATE	BY	DESCRIPTION

Project No. 1911

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FAX: (907) 235-3145

HOMER A-FRAME PRV REPLACEMENT  
MAIN STREET & DEHEL STREET SITE

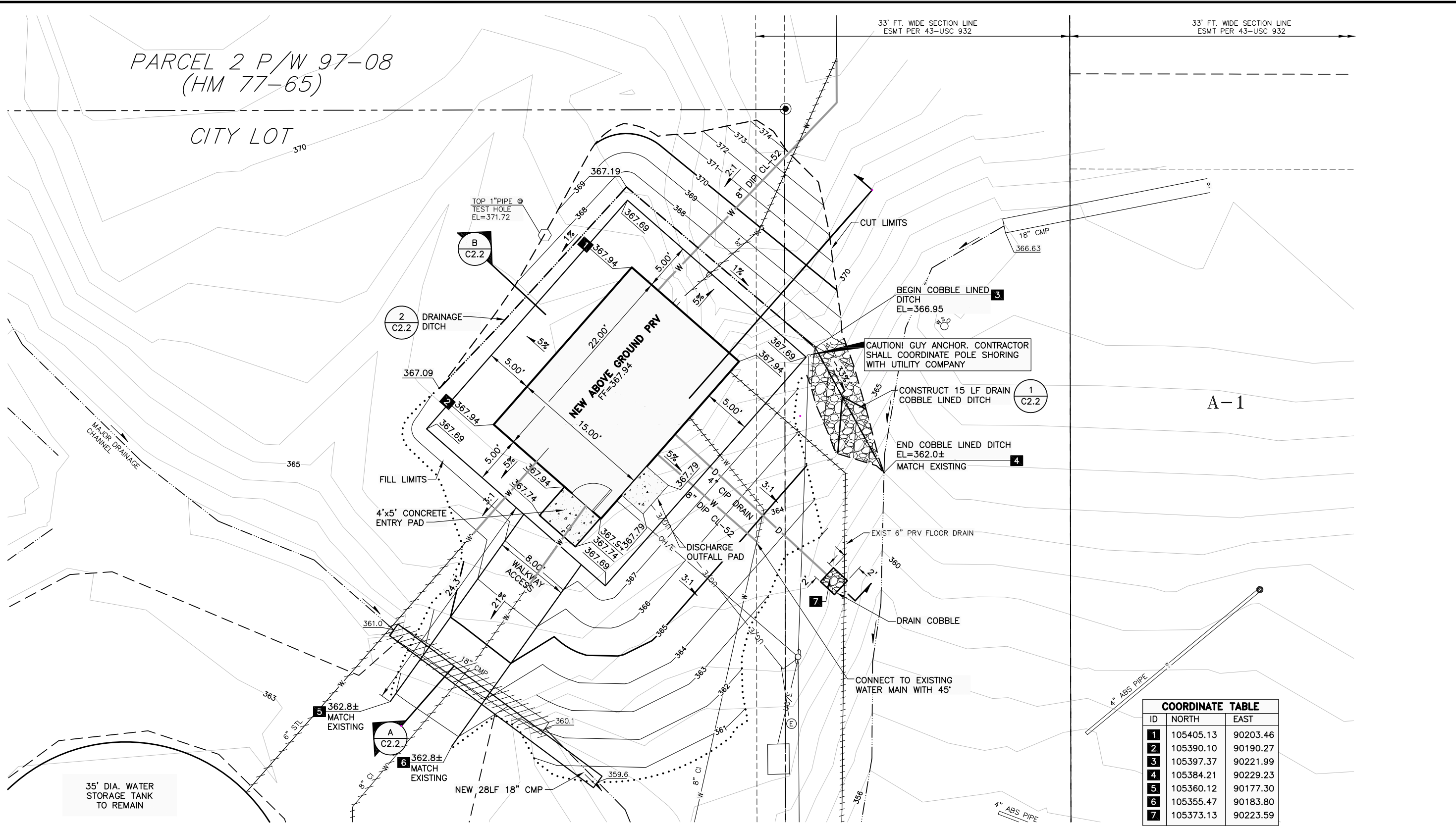
**W1 LINE WATER MAIN PLAN & PROFILE,  
AND TYPICAL TRENCH SECTION**

SCALE: SHOWN    DESIGNED: MZD    CHECKED: MJD    DRAWN: MZD    DATE: 4/23/19

SHEET NO.	C2.0
SHEET	6 OF 20

PARCEL 2 P/W 97-08  
(HM 77-65)

CITY LOT



COORDINATE TABLE		
ID	NORTH	EAST
1	105405.13	90203.46
2	105390.10	90190.27
3	105397.37	90221.99
4	105384.21	90229.23
5	105360.12	90177.30
6	105355.47	90183.80
7	105373.13	90223.59

1 SITE GRADING PLAN  
SCALE: SHOWN

**FOR CONSTRUCTION**

User: MDERAEVE Apr 23, 2019 - 4:37pm  
Drawing: Z:\A\PROJECTS\2019\1911 HOMER A-FRAME PRV\NELSON\DWG\CIVIL\07 32130074\_C2-1\_C2-2.DWG - Layout: C2.1  
Xrefs: 32130074\_BOARD.DWG 32130074\_BASE.DWG - Images: ISLAND\_VIEW\_SUB.SID

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NO.	DATE	BY	DESCRIPTION	

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HOMER A-FRAME PRV REPLACEMENT  
MAIN STREET & DEHEL STREET SITE

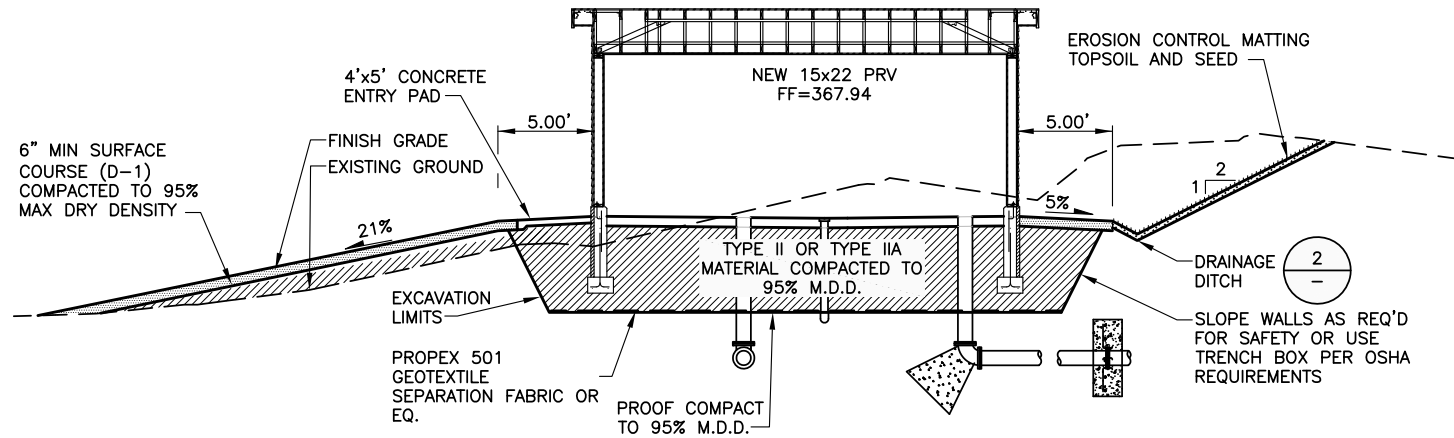
**SITE GRADING PLAN**

SCALE: SHOWN    DESIGNED: MZD    CHECKED: MJD    DRAWN: MZD    DATE: 4/23/19

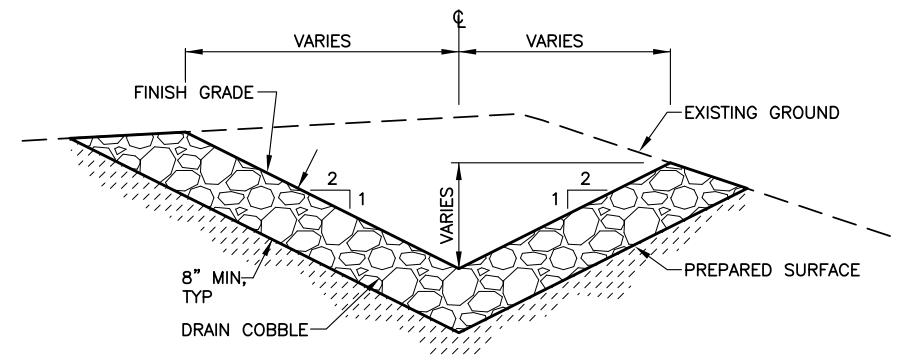
SHEET NO.  
**C2.1**

SHEET **7** OF **20**

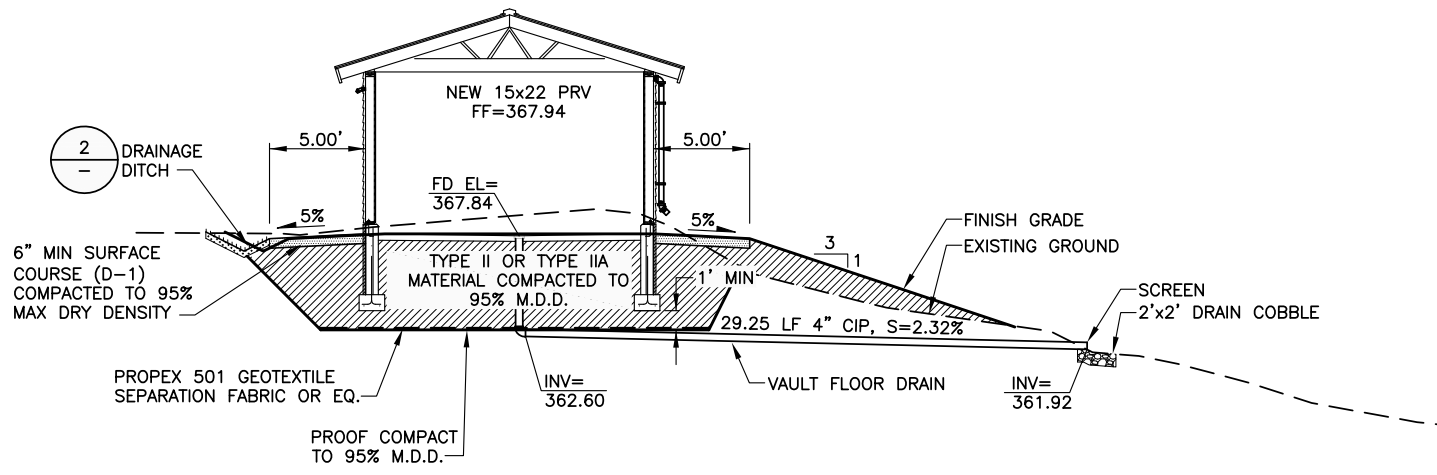
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 Xrefs: 32130074\_BOARD.DWG 32130074\_BASE.DWG - Images: ISLAND\_VIEW\_SUB.SID



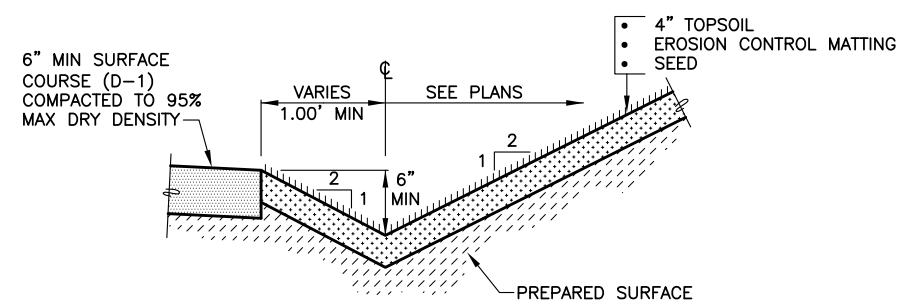
**A SITE GRADING SECTION**  
 SCALE: NTS



**1 DRAIN COBBLE LINED DITCH DETAIL**  
 SCALE: NTS



**B SITE GRADING SECTION**  
 SCALE: NTS



**2 DRAINAGE DITCH DETAIL**  
 SCALE: NTS

**FOR CONSTRUCTION**

REVISIONS				
NO.	DATE	BY	DESCRIPTION	

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HOMER A-FRAME PRV REPLACEMENT  
 MAIN STREET & DEHEL STREET SITE

**SITE GRADING SECTIONS AND DETAILS**

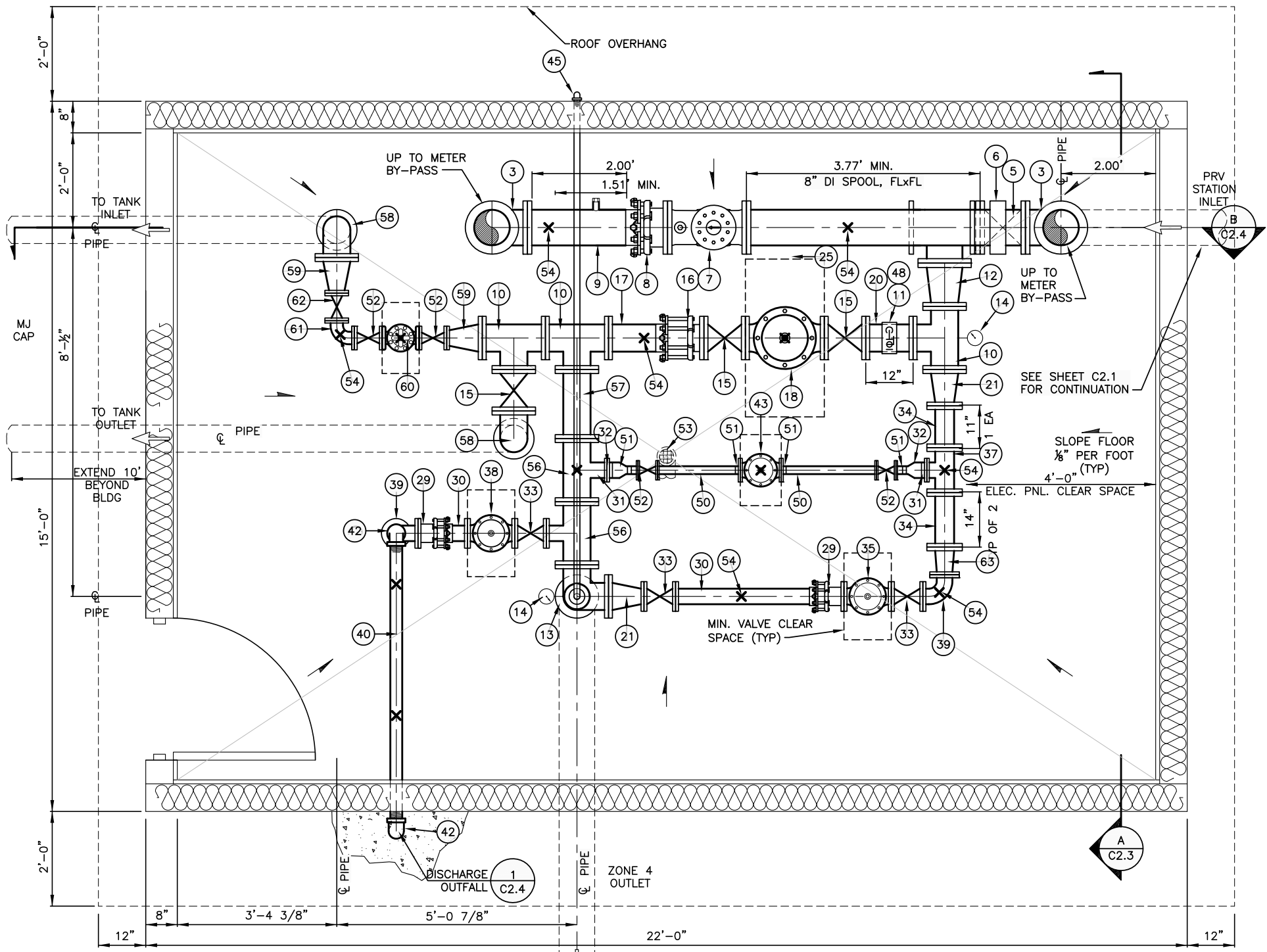
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SHEET NO.  
**C2.2**

SHEET **8** OF **20**



User: MDERAEVE Apr 24, 2019 - 9:51am  
 Drawing: Z:\A\PROJECTS\2019\1911 HOMER A-FRAME PRV\NELSON\DWG\CIVIL\08 32130074\_C2-3\_C2-4.DWG - Layout: C2.3  
 Xrefs: 32130074\_BOARD.DWG - Images: None



- KEY**
- |  |   |
|--|---|
| 1 8" DI SPOOL, PEXFL W/ MEGA-LUG   | 37 4x4x3 DI TEE, FLXFL  |
| 2 8" DI 90° BEND, MJxMJ  | 38 3" PRESSURE RELIEF VALVE, EPOXY COATED, CLA-VAL MODEL 94G-22BCSY, FLXFL  |
| 3 8"x8" DI TEE, FLXFL  | 39 3" DI 90° BEND, FLXFL  |
| 4 8" DI 90° BEND, FLXFL  | 40 3" SCH 40 GALV IP, MIPT  |
| 5 8" GV, FLXFL   | 41 3" SCH 40 GALV IP, 45° BEND, FIPT  |
| 6 8" BADGER METER PLATE STRAINER, FLXFL<br>INSTALL PER MNFR  | 42 3" SCH 40 GALV IP, 90° BEND, FIPT  |
| 7 8" BADGER RECORDALL TURBO SERIES<br>METER, MDL 3500, FLXFL, INSTALL PER MNFR   | 43 "PRV": 2" PRESSURE REDUCING VALVE, CLA-VAL<br>MODEL 100-01 KO, EPOXY COATED, GLOBE FLXFL<br>W/SS ANTI-CAV TRIM |
| 8 8" ROMAC RFCA-9.05   | 44 1" GALV IP 90° BEND, FIPT  |
| 9 8" DI (1.5" L) SPOOL, FLXPE WITH 1 1/2" FIPT<br>"WELDOLET" NIPPLE. SEE NOTE 4  | 45 1" GALV IP 45° BEND, FIPT  |
| 10 6"x6" DI TEE, FLXFL   | 46 1" BRONZE ADAPTER, CxM NPT   |
| 11 ROMAC SVC SADDLE - 101-6.90x1" IP   | 47 1" RIGID TYPE L Cu   |
| 12 8x6 DI RED, FLXFL   | 48 1" BRONZE BALL VALVE, CxC W/<br>METAL HANDLE (FOR FUTURE TELIMETRY)  |
| 13 6" DI STRAIGHT SIDE OUTLET 90° BEND,<br>FLXFLXFL, W/1" BOSS TAP   | 49 1" BRONZE UNION, CxC   |
| 14 PRESSURE GAUGE, LIQUID FILLED, SS<br>W/KA OR EQUAL, 200 PSI MIN   | 50 2" RIGID TYPE L Cu   |
| 15 6" GV, FLXFL  | 51 2" BRONZE ADAPTER FLANGE, CxFL   |
| 16 6" FCA, ROMAC FCA501 W/ ANCHOR PINS   | 52 2" IRON GV, W/WHEEL, FLXFL   |
| 17 6" DI SPOOL, PEXFL  | 53 JR SMITH FIGURE 2005, CI BODY W/6" ROUND<br>NICKLE BRONZE STRAINER, 1 1/2" VENT                                |
| 18 "PRV": 6" PRESSURE REDUCING VALVE,<br>CLA-VAL MODEL 100-01 KO, EPOXY COATED,<br>GLOBE FLXFL W/SS ANTI-CAV TRIM      | 54 PIPE SUPPORT, SEE DETAILS ON SHTS<br>C2.3 & C2.4   |
| 19 FLOOR PENETRATIONS: SEAL OPENINGS USING<br>LINK-SEAL (LS-400-C) FOR 8" DIP - W/<br>STEEL WALL SLEEVE (WS-12-37-S-6) | 55 MJxPE SPOOL W/EMBEDMENT RING, EBBA IRON<br>OR ROMAC SPLIT RING RJ PIECE WITH WEDGES                            |
| 20 6" DI SPOOL, FLXFL  | 56 6"x6"x3" DI TEE, FLXFLXFL  |
| 21 6x4 DI RED, FLXFL   | 57 6" DIP SPOOL, FLXFL  |
| 22 #5 REBAR HOOK BARS (4 MIN.)   | 58 6" DI 90° BEND, FLXFL  |
| 23 MJxPE SPOOL W/EMBEDMENT<br>RING TO HAVE (4) 5/8" HOLES<br>CAST IN PLACE THRUST COLLAR,<br>4"Wx4"Lx18"T              | 59 6"x2" DI RED, FLXFL  |
| 24 1" GALV IP, SCH 40, MIPT  | 60 2" ALTITUDE VALVE, CLA-VAL MODEL 210-01,<br>EPOXY COATED, GLOBE FLXFL W/ SS ANTI-CAV<br>TRIM                   |
| 25 1" AIR-VAC VALVE, CLA-VAL OR APCO   | 61 2" DI 90° BEND, FLXFL  |
| 26 1" GALV IP UNION, FIPT  | 62 2" DI BUTTERFLY VALVE, FLXFL   |
| 27 1/4" NSF APPROVED BRASS DRAIN COCK<br>INSTALL 1/4" FPTxPE 45° TURNDOWN  | 63 4x3 DI RED., FLXFL   |
| 28 3" ROMAC, FCA-501-4.00  |   |
| 29 3" DI SPOOL, PEXFL  |   |
| 30 3" ADAPTER FLANGE, CxFL   |   |
| 31 3"x2" Cu REDUCER, CxC   |   |
| 32 3" GV, FLXFL  |   |
| 33 4" DIP SPOOL, FLXFL   |   |
| 34 "PRV": 3" PRESSURE REDUCING VALVE,<br>CLA-VAL MODEL 100-01 KO, EPOXY COATED,<br>GLOBE FLXFL W/SS ANTI-CAV TRIM      |   |
| 35 3" DI COMPANION FL  |   |

- NOTES**
- REFER TO STRUCTURAL DRAWINGS FOR BUILDING AND FOUNDATION DETAILS, MECHANICAL AND ELECTRICAL FOR HEAT AND LIGHTING.
  - ALL COPPER FITTINGS SHALL BE VIEGA PROGRESS SYSTEM W/EPDM SEAL, OR APPROVED EQUAL.
  - ALL MATERIAL, PIPING, AND EQUIPMENT IN CONTACT WITH POTABLE WATER MUST BE APPROVED BY NSF FOR THE SPECIFIC APPLICATION.
  - ITEM (9) "WELDOLET" FITTING TO BE 2" MAX ABOVE TOP OF 8" PIPE.

**1 ABOVEGROUND PRV PIPING PLAN**  
 SCALE: NTS

**FOR CONSTRUCTION**

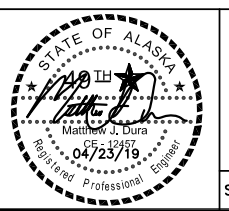
REVISIONS			
NO.	DATE	BY	DESCRIPTION



Project No. 1911

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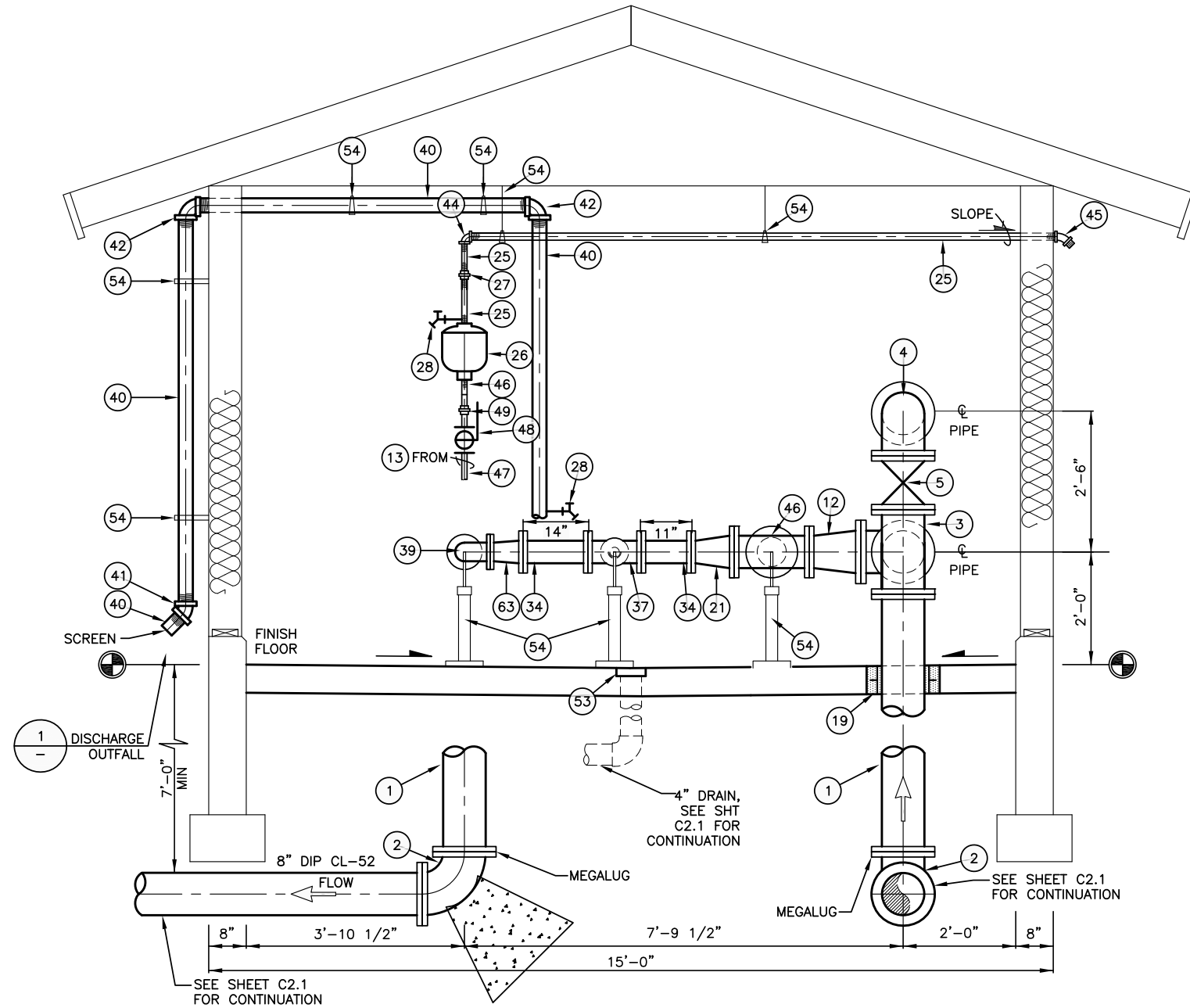


**HOMER A-FRAME PRV REPLACEMENT  
MAIN STREET & DEHEL STREET SITE**

**ABOVEGROUND PRV PIPING PLAN,  
KEY, AND NOTES**

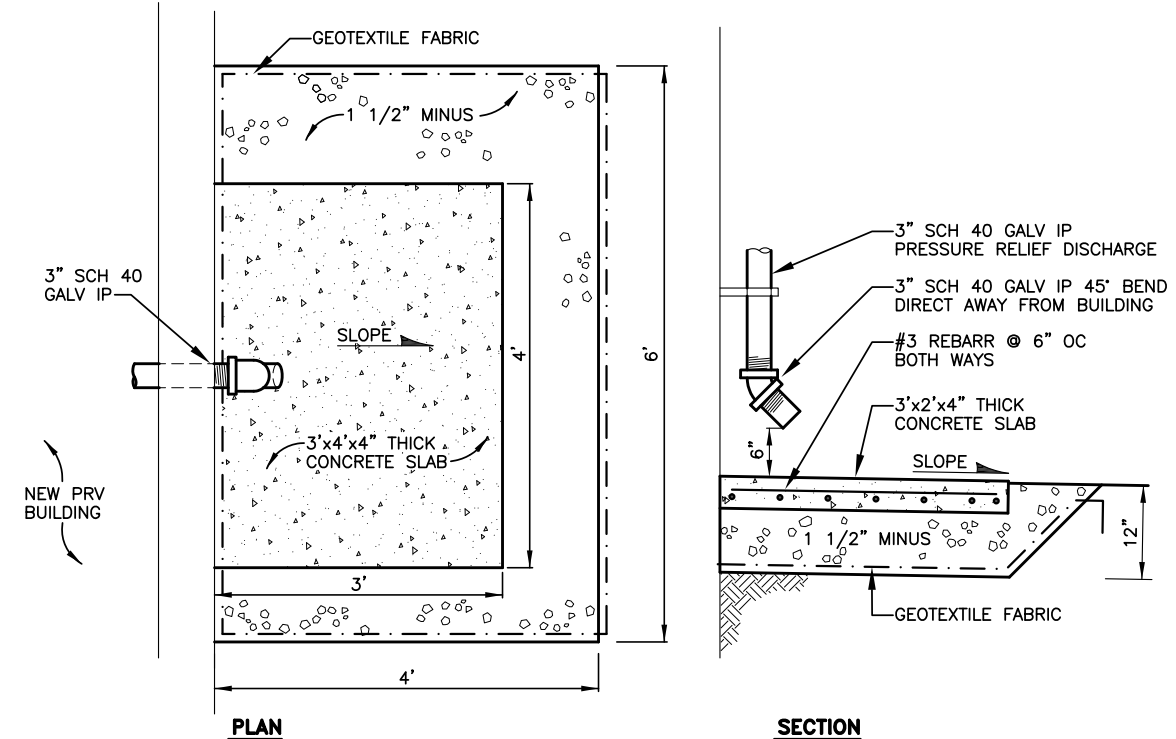
SCALE: SHOWN    DESIGNED: MZD    CHECKED: MJD    DRAWN: MZD    DATE: 4/23/19

User: MDERAEVE Apr 24, 2019 - 9:51am  
 Drawing: Z:\PROJECTS\2019\1911 HOMER A-FRAME PRV\NELSON\DWG\CIVIL\08 32130074\_C2-3\_C2-4.DWG - Layout: C2.4  
 Xrefs: 32130074\_BORD.DWG - Images: None

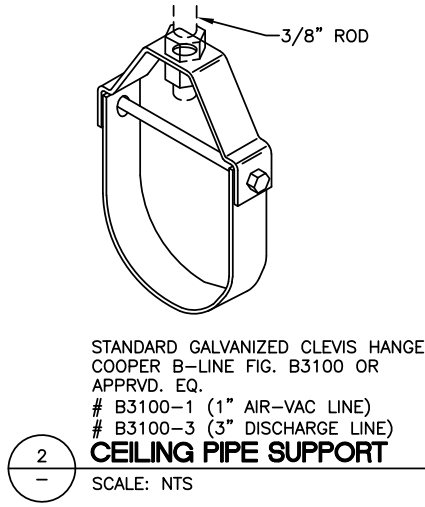


**NOTES**  
 1 REFER TO SHEET C2.2 FOR KEY AND NOTES.

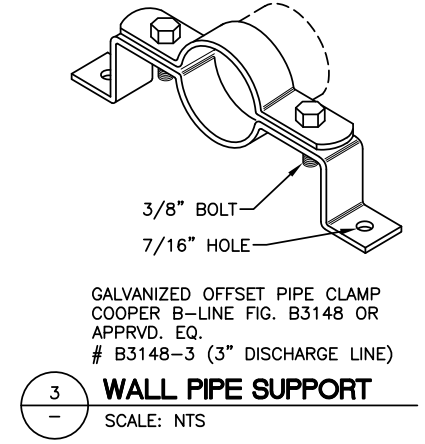
**A PRV PIPING SECTION**  
 SCALE: NTS



**1 DISCHARGE OUTFALL**  
 SCALE: NTS



**2 CEILING PIPE SUPPORT**  
 SCALE: NTS



**3 WALL PIPE SUPPORT**  
 SCALE: NTS

**FOR CONSTRUCTION**

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NO.	DATE	BY	DESCRIPTION	

Project No. 1911

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STATE OF ALASKA  
 Matthew J. Dura  
 CE-12457  
 04/23/19  
 Registered Professional Engineer

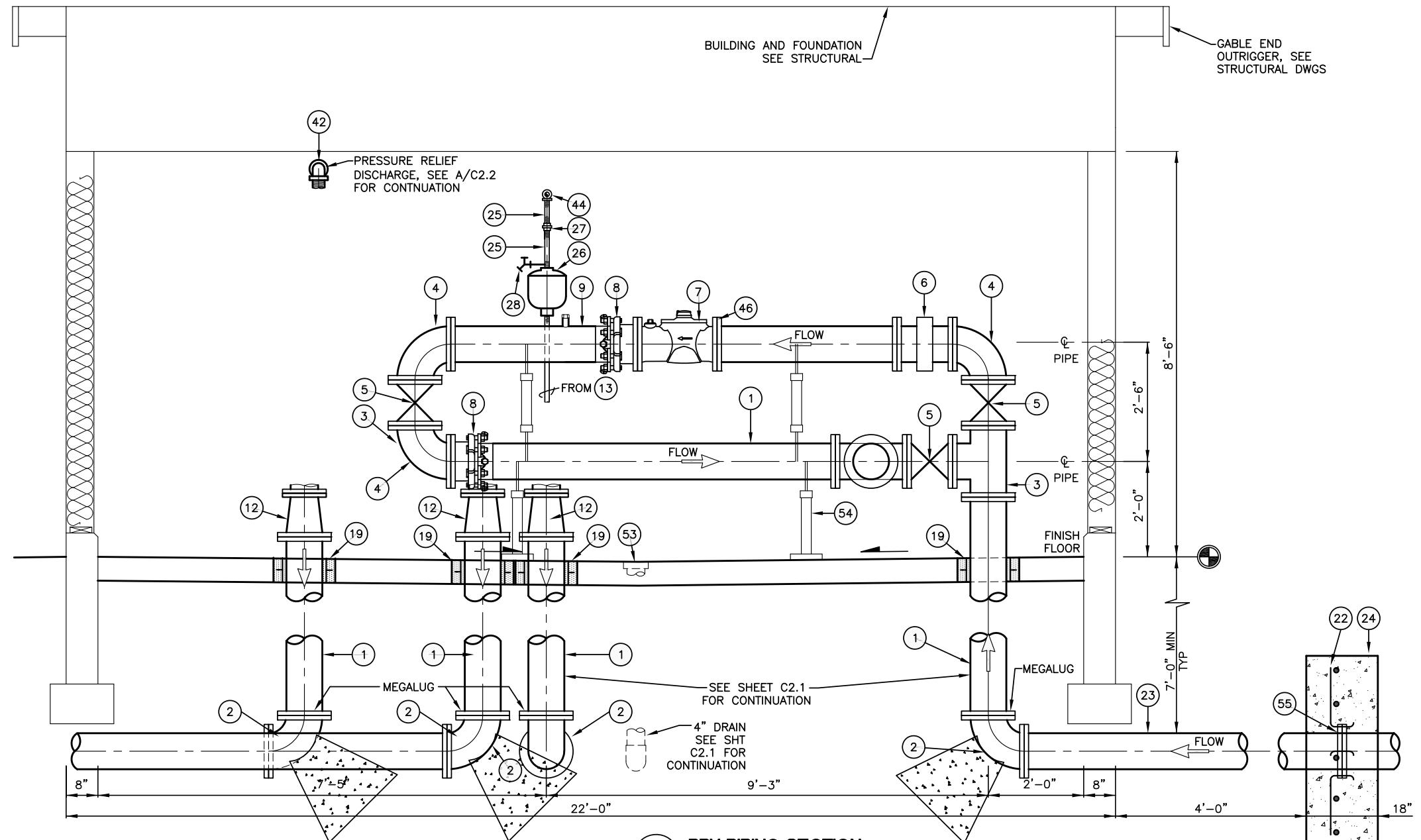
**HOMER A-FRAME PRV REPLACEMENT  
 MAIN STREET & DEHEL STREET SITE**

**PRV PIPING SECTION A, DETAILS, AND NOTES**

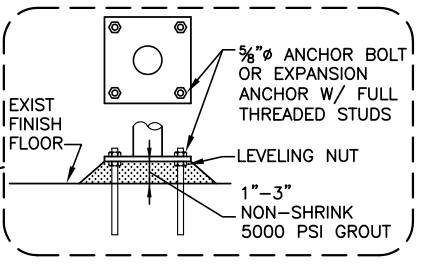
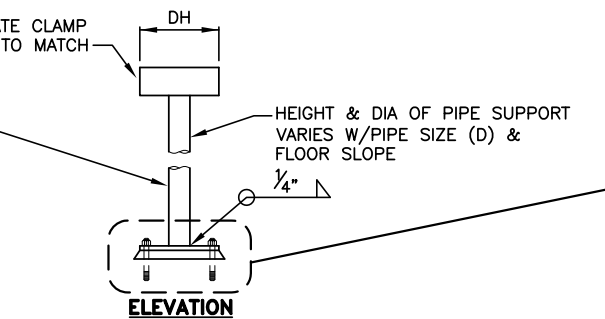
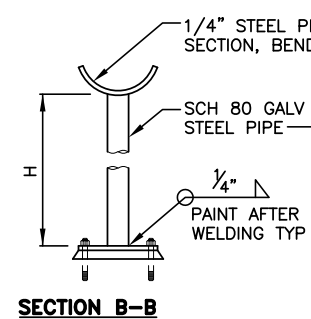
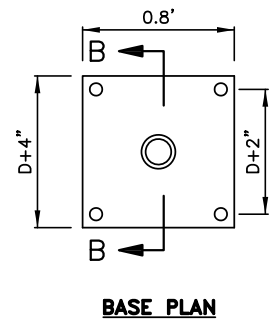
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SHEET NO.  
**C2.4**  
 SHEET 10 OF 20

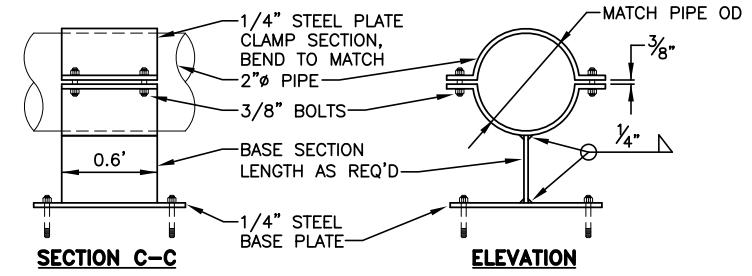
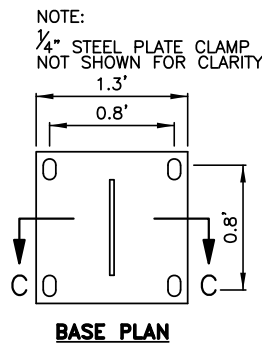
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 Drawing: Z:\A\PROJECTS\2019\1911 HOMER A-FRAME PRV\NELSON\DWG\CIVIL\08 32130074\_C2-3\_C2-4.DWG - Layout: C2.5  
 Xrefs: 32130074\_BORD.DWG - Images: None



**B PRV PIPING SECTION**  
 SCALE: NTS



**1 FLOOR PIPE SUPPORT DETAILS**  
 SCALE: NTS



NOTE:  
 1/4" STEEL PLATE CLAMP NOT SHOWN FOR CLARITY


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HOMER A-FRAME PRV REPLACEMENT  
 MAIN STREET & DEHEL STREET SITE

**PRV PIPING SECTION B AND DETAILS**

SCALE: SHOWN    DESIGNED: MZD    CHECKED: MJD    DRAWN: MZD    DATE: 4/23/19

SHEET NO.  
**C2.5**

SHEET 11 OF 20

User: MDERAEVE Apr 23, 2019 - 4:25pm  
 Drawing: Z:\A\PROJECTS\2019\1911 HOMER A-FRAME PRV\NELSON\DWG\STRUCTURAL\01 SO.1--NOTES.DWG - Layout: S0.1  
 Xrefs: 32130074\_BORD.DWG - Images: None

**GENERAL**

ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO REQUIREMENTS OF THE INTERNATIONAL CODE COUNCIL INTERNATIONAL BUILDING CODE (IBC) 2012 EDITION. WHERE EXPLICIT DETAILS ARE NOT SHOWN OR DESCRIBED, THE MINIMUM REQUIREMENTS OF THE ABOVE CODE SHALL APPLY. UNLESS OTHERWISE NOTED, ALL CODES, STANDARDS AND OTHER PUBLICATIONS CITED SHALL REFER TO THE LATEST EDITION.

**LOCATION**

THESE STRUCTURAL DRAWINGS ARE INTENDED FOR THE CONSTRUCTION OF (1) BUILDING IN HOMER, ALASKA

**DESIGN LOADS**

IN ADDITION TO DEAD LOADS, THE FOLLOWING LIVE LOADS WERE USED FOR DESIGN:

ROOF:GROUND SNOW LOAD Pg = 40 PSF  
 FLAT-ROOF SNOW LOAD Pf = 40 PSF  
 SNOW EXPOSURE FACTOR Ce = 1.0  
 SNOW LOAD IMPORT FACTOR Is = 1.1

WIND: BASIC WIND SPEED (3 SEC GUST) V = 159 MPH  
 EXPOSURE B EXP = 1.0  
 RISK CATEGORY III-IV

METHOD 1 SIMPLIFIED PROCEDURE USED FOR DESIGN COMP & CLADDING WIND LOADS TO BE USED FOR DESIGN PER ASCE 7-10.

SEISMIC: SEISMIC IMPORTANCE FACTOR Ie = 1.5  
 SPECT. RESPONSE ACCEL. Ss=150%, S1=60%  
 SITE CLASS D  
 SPECTRAL RESPONSE COEFF. Sds = 1.00  
 SEISMIC DESIGN CATEGORY: D  
 SIMPLIFIED DESIGN PROCEDURE PER ASCE 7-10 12-14 USED FOR DESIGN.  
 BUILDING SEISMIC BASE SHEAR V = 5.3 KIP  
 SEISMIC RESPONSE COEFF. Cs = 0.16  
 RESPONSE MODIFICATION FACTOR R = 6.5

LATERAL LOADS ARE RESISTED BY LIGHT FRAMED WOOD SHEAR WALLS AND FLEXIBLE WOOD DIAPHRAGMS.  
 FLOOR LIVE LOAD:  
 -LIGHT INDUSTRIAL STORAGE=125 PSF

**SITE WORK**

EXCAVATE UNDER BUILDING FOOTPRINT AS REQUIRED TO REMOVE ALL ORGANIC MATERIAL AND FROST SUSCEPTIBLE SOILS. CONSTRUCT FOUNDATION ON NATIVE NON-FROST SUSCEPTIBLE SAND OR GRAVEL. COMPACT IN SITU SOILS WHERE EXCAVATION REQUIRED TO REMOVE FROST SUSCEPTIBLE SOILS EXTENDS BELOW BOTTOM OF FOOTING, BACKFILL TO BOTTOM OF FOOTING ELEVATION IN 1 FOOT LIFTS WITH NON-FROST SUSCEPTIBLE GRAVEL. COMPACT EACH LIFT TO 95% MAX DRY DENSITY.

**DEFERRED SUBMITTALS**

SUBMITTALS LISTED BELOW SHALL BE SUBMITTED TO THE ENGINEER OF RECORD AND THE BUILDING OFFICIAL FOR REVIEW PRIOR TO CONSTRUCTION OF COMPONENTS.  
 1.) WOOD ROOF TRUSSES  
 2.) ROOFING FASTENING

**FOUNDATION INSULATION**

FOUNDATION INSULATION SHALL BE ASTM C578 TYP VI EXTRUDED POLYSTYRENE INSULATION, WITH 40 PSI MINIMUM COMPRESSIVE STRENGTH. EXPANDED POLYSTYRENE INSULATION ASTM C578 TYP IX MAY BE SUBSTITUTED IF THE THICKNESS IS INCREASED BY 1.5 TIMES WHAT IS SPECIFIED IN THE DRAWINGS.

**FOUNDATIONS**

EXCAVATE AND REMOVE ALL ORGANIC MATTER, DEBRIS AND FROST SUSCEPTIBLE SOILS FROM UNDER THE BUILDING FOOTPRINT AND TO 24" BEYOND THE BUILDING FOOTPRINT, TO A DEPTH INDICATED ON DRAWINGS. PLACE ALL INTERIOR AND EXTERIOR FOOTINGS ON NATURAL UNDISTURBED, NON-FROST SUSCEPTIBLE (N.F.S.) SOIL OR ON COMPACTED NON-FROST SUSCEPTIBLE GRAVEL BACKFILL FREE OF ORGANIC MATTER AND DEBRIS, AND CONFORMING TO THE FOLLOWING GRADATION:

NON-FROST SUSCEPTIBLE GRAVEL BACKFILL SIEVE:	PERCENT PASSING:
3"	100
1"	80 - 100
#4	30 - 70
#200	0 - 5

NO MORE THAN 3% OF PARTICLES BY WEIGHT SHALL BE FINER THAN 0.02 MM. BACKFILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 12 INCHES IN LOOSE THICKNESS AND COMPACTED TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM SPECIFICATION D-1557.

**CONCRETE**

MIXING, SELECTION OF MATERIALS, AND PLACING OF ALL CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE IBC, CHAPTER 19. AN AIR ENTRAINING AGENT SHALL BE USED IN ALL CONCRETE MIXES FOR CONCRETE WORK WHICH IS TO BE EXPOSED TO EARTH OR WEATHER. AIR ENTRAINMENT SHALL BE 5% +/- 1% BY VOLUME. ALL CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (F'C) = 3000 P.S.I.. CONCRETE FOR INTERIOR AND EXTERIOR SLABS SHALL CONTAIN 0.1% BY VOLUME 'GENESIS FIBER' COLLATED FIBRILLATED POLYPROPYLENE FIBER PER CUBIC YARD OF CONCRETE. THE FIBER SHALL BE THOROUGHLY MIXED INTO THE CONCRETE IN TRANSIT TO THE SITE, IN ACCORDANCE WITH THE FIBER MANUFACTURER'S RECOMMENDATIONS.

**REINFORCING STEEL**

UNLESS NOTED OTHERWISE, ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO IBC CHAPTER 19. REINFORCING BARS SHALL BE GRADE 60. REINFORCING STEEL SHALL BE SECURELY TIED IN PLACE WITH #16 DOUBLE ANNEALED IRON WIRE. REINFORCING IN FOOTINGS SHALL BE SUPPORTED ON WELL CURED CONCRETE BLOCKING OR APPROVED METAL CHAIRS. REINFORCING BARS SHALL BE SPLICED BY A LAP OF AT LEAST 30 BAR DIAMETERS. A MINIMUM LAP FOR ALL BARS SHALL BE 24". CONCRETE COVER OVER REINFORCING SHALL BE 3" FOR CONCRETE CAST AGAINST EARTH. CONCRETE COVER FOR FORMED CONCRETE THAT WILL BE EXPOSED TO WEATHER OR EARTH SHALL BE 2" MINIMUM FOR #6 THROUGH #18 BARS AND 1 1/2" MINIMUM FOR #5 BARS AND SMALLER, INCLUDING WELDED WIRE MESH (WWM). OTHER REINFORCEMENT SHALL HAVE A MINIMUM COVERAGE OF NOT LESS THAN 3/4".

**STEEL ROOFING PANELS-STANDING SEAM**

ARCHITECTURAL/STRUCTURAL INTEGRAL STANDING SEAM PANEL, 24 GAUGE, 16" COVERAGE WITH 1 3/4" INTEGRAL STANDING SEAM RIB, SNAP TOGETHER SYSTEM WITH FACTORY APPLIED SIDE LAP SEALANT. CONCEALED CLIP DESIGNED FOR THERMAL MOVEMENT. KYNAR 500 PVDF FACTORY APPLIED FINISH. UL263 FIRE RESISTANCE. VERTICAL SEAM, STRIATED PAN. 'METAL SALES MAGNA LOK'.

PANELS SHALL BE CONNECTED TO ROOF DECKING WITH VERTICAL SEAM CLIPS AS SPECIFIED PER MANUFACTURE FOR THE BUILDING DESIGN WIND LOADS.

PROVIDE COLOR MATCHED FACTORY TRIMS AT RAKE, RIDGE AND EAVE. INSTALL TRIMS PER MFR'S RECOMMENDATIONS.

**SAWN LUMBER AND TIMBER**

LUMBER SHALL CONFORM TO THE CLASSIFICATION, DEFINITION, AND GRADING REQUIREMENTS OF IBC CHAPTER 23 WITH ALLOWABLE UNIT STRESSES AS GIVEN IN THE AMERICAN FOREST & PAPER ASSOCIATION 'NATIONAL DESIGN SPECIFICATION 2012 SUPPLEMENT', TABLE 4A. LUMBER SHALL BE GRADE MARKED BY THE WEST COAST LUMBER INSPECTION BUREAU /WESTERN WOOD PRODUCTS ASSOCIATION.

ITEM	SPECIES
4 X AND LARGER	DOUGLAS FIR #2
BEARING WALL PLATES	HEM FIR #2
BEARING WALL STUDS	HEM FIR #2
ALL OTHER LUMBER	HEM FIR #2

ALL LUMBER SHALL BE FASTENED IN CONFORMANCE WITH TABLE 2304.9.1 OF THE IBC, UNLESS NOTED OTHERWISE. FASTENERS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. FASTEN ALL JOIST BLOCKING TO PLATES WITH (4) 16D MINIMUM AND FASTEN ALL WALL PLATES TO WOOD FLOORS WITH 16D AT 6" ON CENTER TYPICAL. DOUBLE TOP PLATES SHALL OVERLAP 8'-0" MINIMUM AND SHALL BE SPLICED TOGETHER WITH (40) 16D NAILS. (2" O/C STAGGERED MINIMUM UNLESS NOTED OTHERWISE.)

PROVIDE JOIST/BEAM HANGERS WITH LOAD CAPACITY EQUAL TO SUPPORTED MEMBER SHEAR LOAD CAPACITY FOR ALL MEMBERS NOT OTHERWISE PROVIDED WITH DIRECT BEARING SUPPORT. PROVIDE A MINIMUM OF (2) KING STUDS AND (2) CRIPPLE STUDS FOR ALL BEARING WALL HEADERS. PROVIDE A MINIMUM OF (1)KING STUD AND (1) CRIPPLE STUD AT NON-BEARING WALL HEADERS. PROVIDE SOLID BLOCKING SUPPORT FOR BEAMS AND HEADERS CONTINUOUS DOWN TO FOUNDATIONS. MINIMUM HEADER OVER OPENINGS IN BEARING WALLS SHALL BE 4X12 DF#1 UNLESS NOTED OTHERWISE. MINIMUM HEADER IN NON-BEARING INTERIOR PARTITION WALLS SHALL BE A SINGLE 2X8.

BOLT HEADS AND NUTS BEARING AGAINST WOOD TO BE PROVIDED WITH FLAT WASHERS. SOLID BLOCKING OF NOT LESS THAN 2" NOMINAL THICKNESS SHALL BE PROVIDED AT ENDS AND AT ALL SUPPORTS OF JOISTS AND RAFTERS, UNLESS SHOWN OTHERWISE. BEAM AND JOIST HANGERS SHALL HAVE A CAPACITY EQUAL TO THE SHEAR STRENGTH OF THE BEAM OR JOIST WHICH IT IS SUPPORTING, UNLESS NOTED OTHERWISE. ALL METAL FRAMING ANCHORS AND HANGERS SHOWN ON DRAWINGS SHALL BE "STRONG TIE CONNECTORS" AS MANUFACTURED BY SIMPSON COMPANY OR APPROVED EQUAL. ALL SIMPSON CONNECTORS IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE TYPE 304 OR TYPE 316 STAINLESS STEEL.

**PRESSURE TREATED WOOD**

ALL WOOD INDICATED AS PRESSURE TREATED, (PT) SHALL BE PRESSURE TREATED (PT) IN ACCORDANCE THE AMERICAN WOOD PRESERVER'S ASSOCIATION STANDARD U1-02. THE PRESERVATIVE SHALL BE ALKALINE COPPER QUAT (ACQ). ALL WOOD SHALL BE TREATED TO A RETENTION OF 0.60 PCF AS REQUIRED FOR 'GROUND CONTACT' ALL PRESSURE TREATED WOOD SHALL BE APPROPRIATELY MARKED ATTESTING TO COMPLIANCE WITH THESE REQUIREMENTS. LUMBER SHALL BE DRIED AFTER TREATMENT TO A MOISTURE CONTENT OF 19% OR LESS. ALL BOLTS, NAILS AND SIMPSON CONNECTORS IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE TYPE 304 OR TYPE 316 STAINLESS STEEL. ANCHOR BOLTS MAY BE HOT DIPPED GALVANIZED.

**PLYWOOD**

ALL PLYWOOD SHALL CONFORM TO IBC STANDARD 23-2 AND SHALL BE AMERICAN PLYWOOD ASSOCIATION GRADE TRADE MARKED. PLYWOOD SHALL BE GROUP I OR GROUP II DOUGLAS FIR. ALL PANELS SHALL BE NOMINAL 4' X 8' PANELS. UTILIZE FULL SHEETS WHEREVER POSSIBLE. LAY FACE GRAIN OF ROOF AND FLOOR SHEATHING PANELS PERPENDICULAR TO JOISTS AND WITH PANEL CONTINUOUS OVER THREE OR MORE SPANS. STAGGER END JOINTS OF SUCCESSIVE COURSES 4' - 0". WALL SHEATHING SHALL BE INSTALLED WITH THE FACE GRAIN PARALLEL TO STUDS, (LONG DIMENSION VERTICAL).

**ROOF SHEATHING:** SHALL BE 5/8" THICK GRADE APA 40/20 SPAN RATED PLYWOOD WITH EXTERIOR GLUE. ROOF SHEATHING SHALL BE FASTENED TO END SUPPORTS WITH 10D GALVANIZED NAILS (0.148"x3") AT 6" O/C. AT BLOCKED DIAPHRAGM LOCATIONS, FASTEN PLYWOOD TO FRAMING AT ALL PANEL EDGES WITH 10D GALVANIZED NAILS @ 4" O/C. AT ALL LOCATIONS, FASTEN PLYWOOD TO INTERMEDIATE SUPPORTS WITH 10D GALVANIZED NAILS AT 12 INCHES ON CENTER. PROVIDE 2X4 BLOCKING ALONG ALL PANEL EDGES WHERE SHOWN ON THE DRAWINGS. FASTEN ROOF SHEATHING TO BLOCKING OVER EXTERIOR WALLS WITH 10D GALVANIZED NAILS AT 4" O/C.

**WALL SHEATHING:** EXCEPT WHERE NOTED OTHERWISE, WALL SHEATHING SHALL BE 3/4" THICK STRUCTURAL 1 PLYWOOD WITH EXTERIOR GLUE AND SHALL BE FASTENED TO INTERIOR FACE OF FRAMING WITH 10D GALV NAILS @ 6" O.C ALONG PANEL EDGES AND 10D GALV NAILS @ 12" O/C ALONG INTERMEDIATE FRAMING. WALL SHEATHING SHALL BE BLOCKED AT ALL EDGES WITH NOMINAL 2" SOLID BLOCKING.

**WALL SIDING:** SHALL BE 5/8" THICK STRUCTURAL 1 SHEATHING WITH TEXTURE 1-11 (T1-11). GROOVES SHALL HAVE A MAXIMUM WIDTH OF 3/8" AND A MAXIMUM DEPTH OF 1/4". WALL SIDING SHALL BE APA RATED 16 OC SPAN RATED. WALL SIDING SHALL BE FASTENED TO SUPPORTS WITH 10D NAILS AT 6" O/C AT PANEL EDGES AND 12" O/C AT FIELD SUPPORTS UNLESS OTHERWISE NOTED IN THE STRUCTURAL DRAWINGS. WALL SHEATHING SHALL BE BLOCKED AT ALL PANEL EDGES AND AS SHOWN ON DRAWINGS.

**ANCHOR BOLTS AND CONCRETE EXPANSION ANCHORS**

ANCHOR BOLTS, THREADED RODS AND CONCRETE EXPANSION ANCHORS SHALL CONFORM TO ASTM F1554 GRADE 36. CONCRETE EXPANSION ANCHORS (KB) SHALL BE "HILTI KWIK BOLT TZ" CONCRETE EXPANSION ANCHORS OR STRUCTURAL EQUIVALENT, INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ANCHOR BOLTS SHALL BE PROVIDED WITH HEX HEAD NUTS AND 3"x3"x1/4" STEEL PLATE WASHERS CONFORMING TO TABLE 1.

TABLE 1		
BOLT	NUT	WASHER
F1554 GR.36	A563 GR. A	F436 TYPE 1

WHERE BOLTS OR RODS ARE USED WITH CEDAR SILL PLATES, BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. ALL FASTENERS IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE HOT DIPPED GALVANIZED OR SHALL BE STAINLESS STEEL. PROVIDE 5/8" X 7" ANCHOR BOLTS AT 48" O/C SPACING UNLESS NOTED OTHERWISE AND WITHIN 6" OF WALL OPENINGS AND BUILDING CORNERS.

**FOR CONSTRUCTION**

HOMER A-FRAME PRV REPLACEMENT  
 MAIN STREET & DEHEL STREET SITE

**GENERAL STRUCTURAL NOTES**


SCALE: SHOWN    DESIGNED: MJD    CHECKED: MJD    DRAWN: CAM    DATE: 4/23/19    SHEET 12 OF 20

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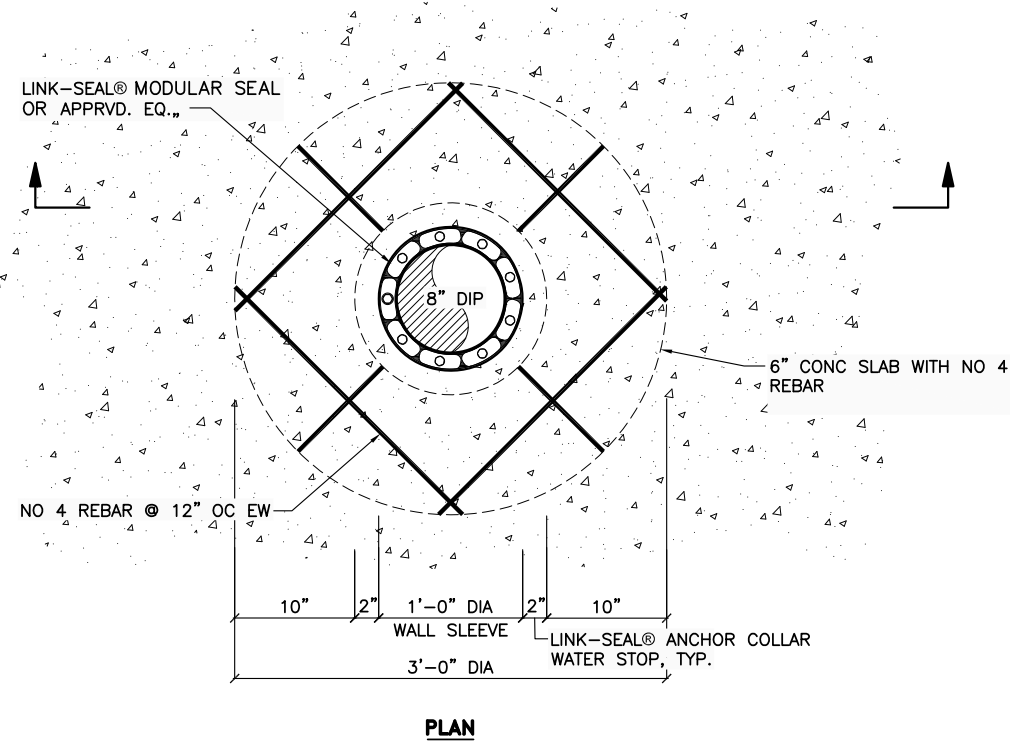
CITY OF HOMER, ALASKA  
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 HOMER, ALASKA 99603  
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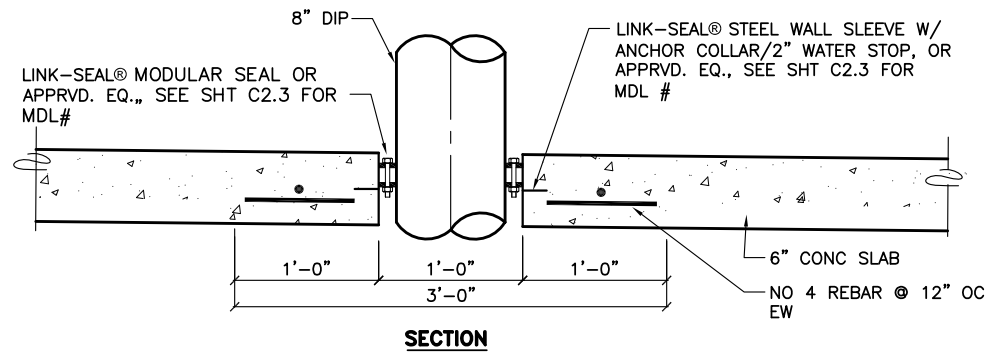
SHEET NO. **S0.1**

SHEET 12 OF 20

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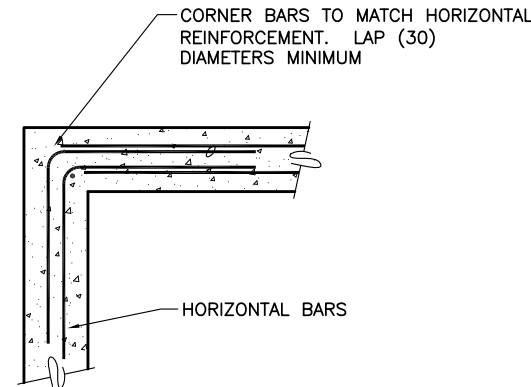


PLAN

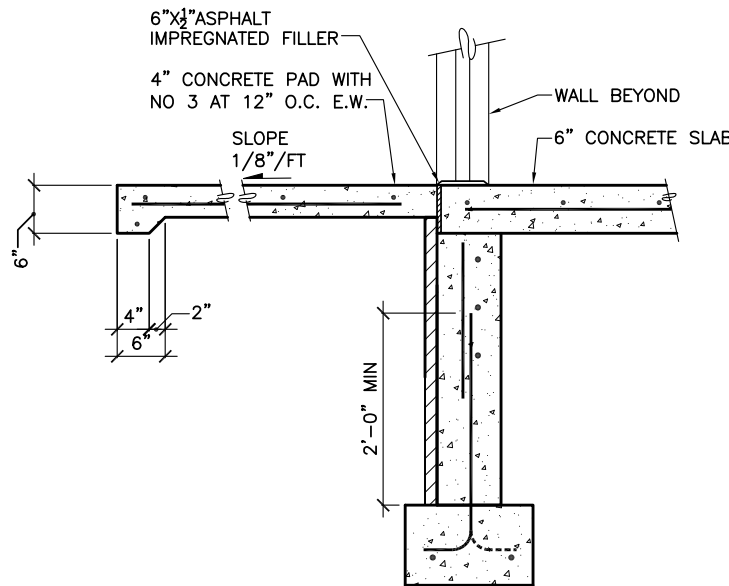


SECTION

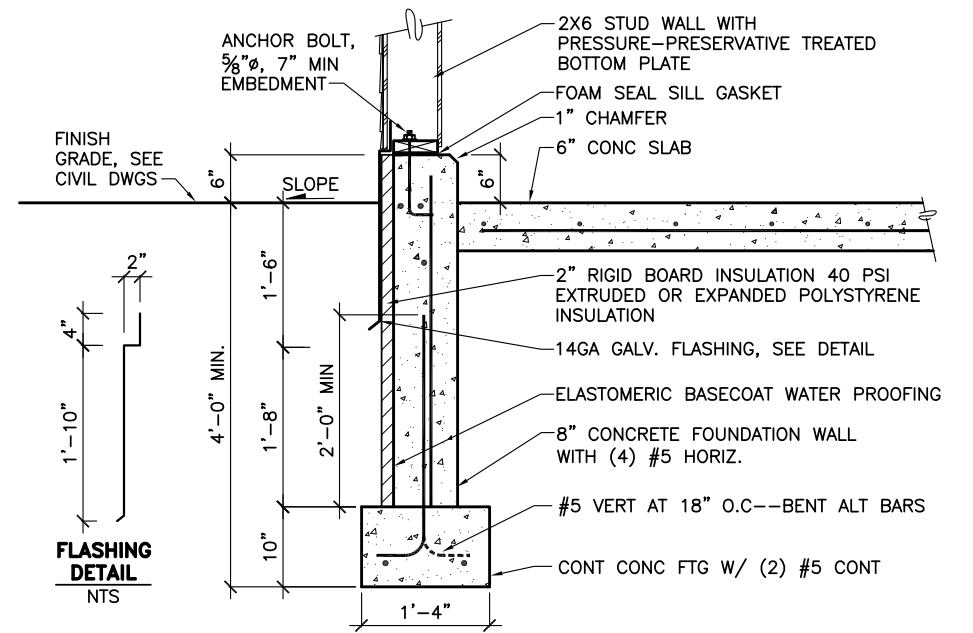
1 FLOOR PENETRATION DETAIL  
 SCALE: 1-1/2"=1'-0" (22x34)/ 3/4"=1'-0" (11x17)



2 TYPICAL CONCRETE REINFORCING DETAIL  
 SCALE: 1"=1'-0" (22x34)/ 1/2"=1'-0" (11x17)

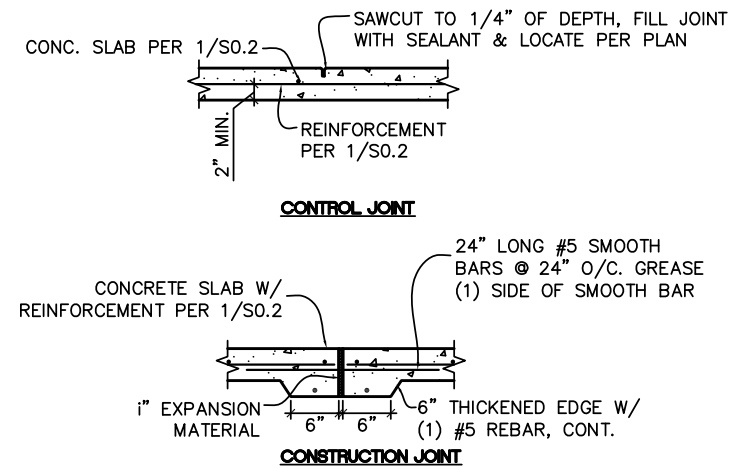


4 FOUNDATION AT DOOR  
 SCALE: 1"=1'-0" (22x34)/ 1/2"=1'-0" (11x17)



SEE NOTES ON SHEET S1.2 FOR BACKFILL/COMPACTION AND OTHER REQUIREMENTS.

3 TYPICAL FOUNDATION DETAIL  
 SCALE: 1"=1'-0" (22x34)/ 1/2"=1'-0" (11x17)



NOTES:  
 1.) CONTROL JOINTS MAY BE REPLACED W/ CONSTRUCTION JOINT, AT SLABS ON GRADE ONLY.  
 2.) SAW CUT JOINTS SHALL BE CUT WITHIN 24HRS OF POUR

5 CONTROL/ CONSTRUCTION JOINT  
 SCALE: 1"=1'-0" (22x34)/ 1/2"=1'-0" (11x17)

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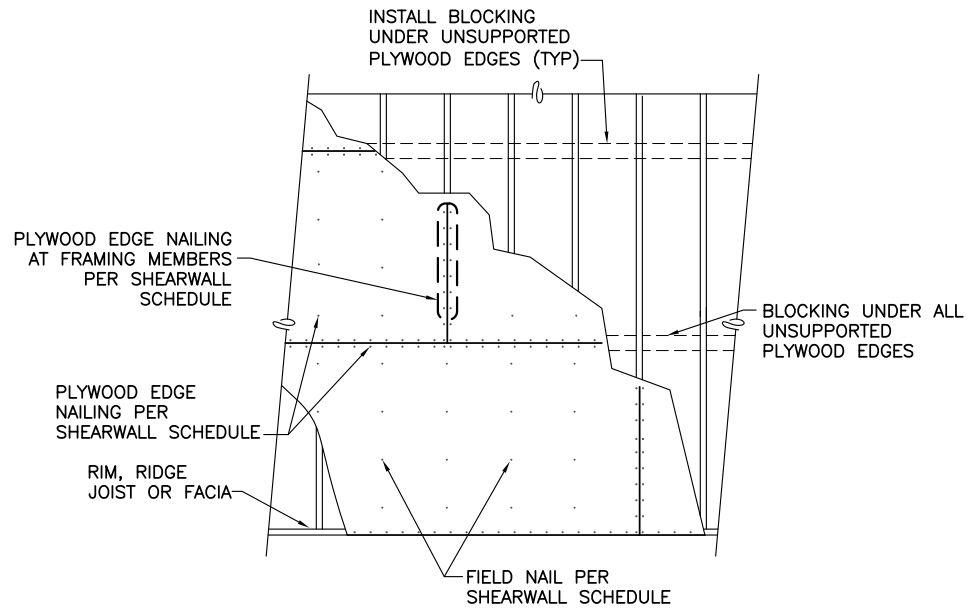
HOMER A-FRAME PRV REPLACEMENT  
 MAIN STREET & DEHEL STREET SITE

FOUNDATION DETAILS

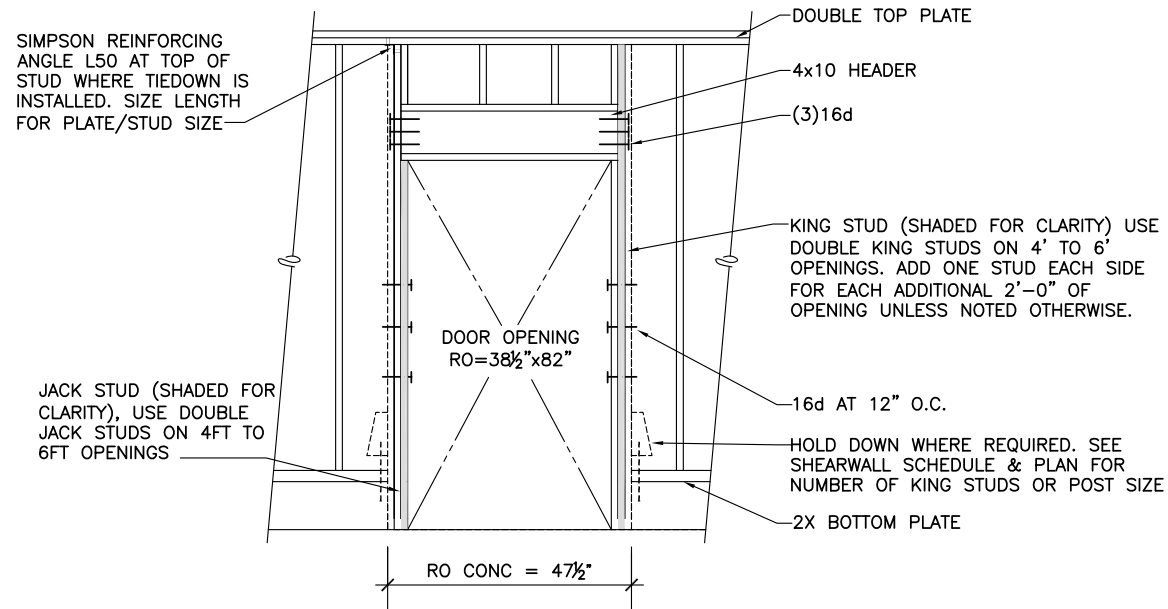
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SHEET NO.  
**S0.2**

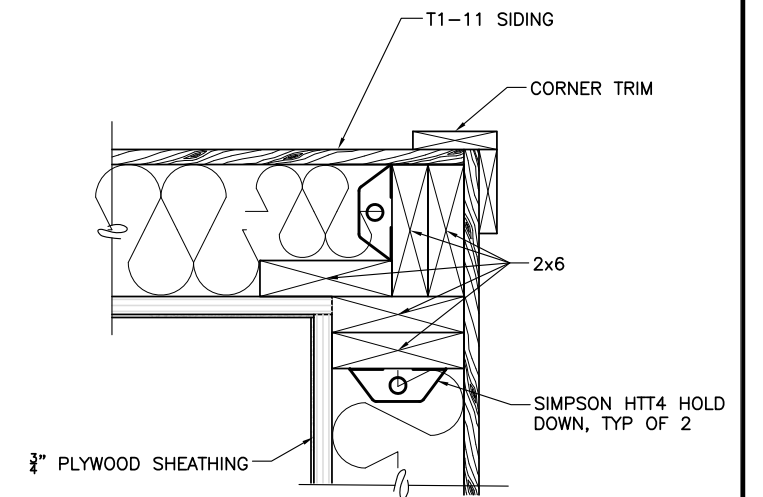
SHEET 13 OF 20



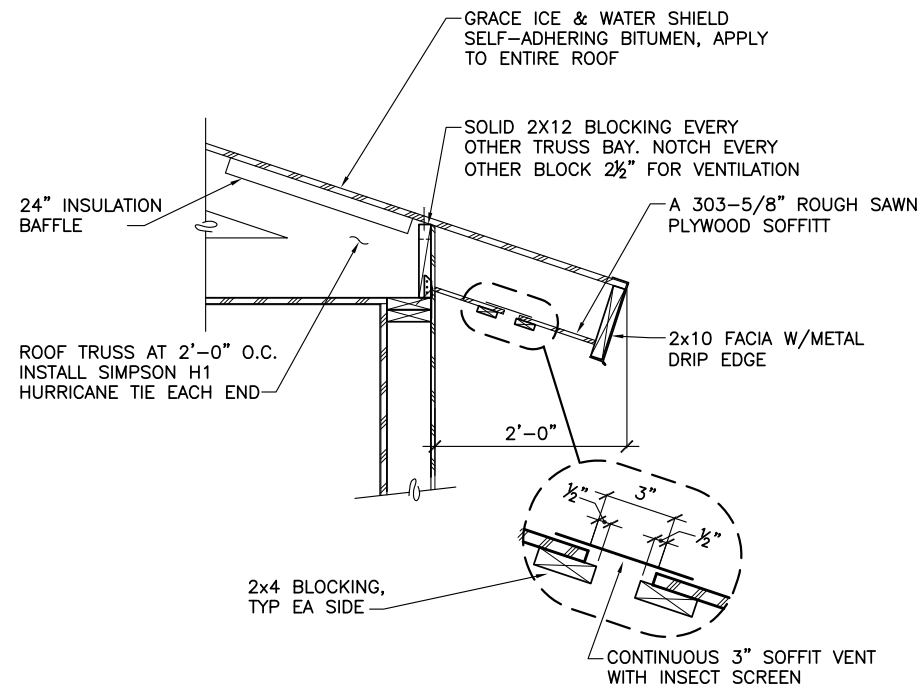
1 HORIZONTAL PLYWOOD NAILING PATTERN  
SCALE: 1"=1'-0" (22x34)/ 1/2"=1'-0" (11x17)



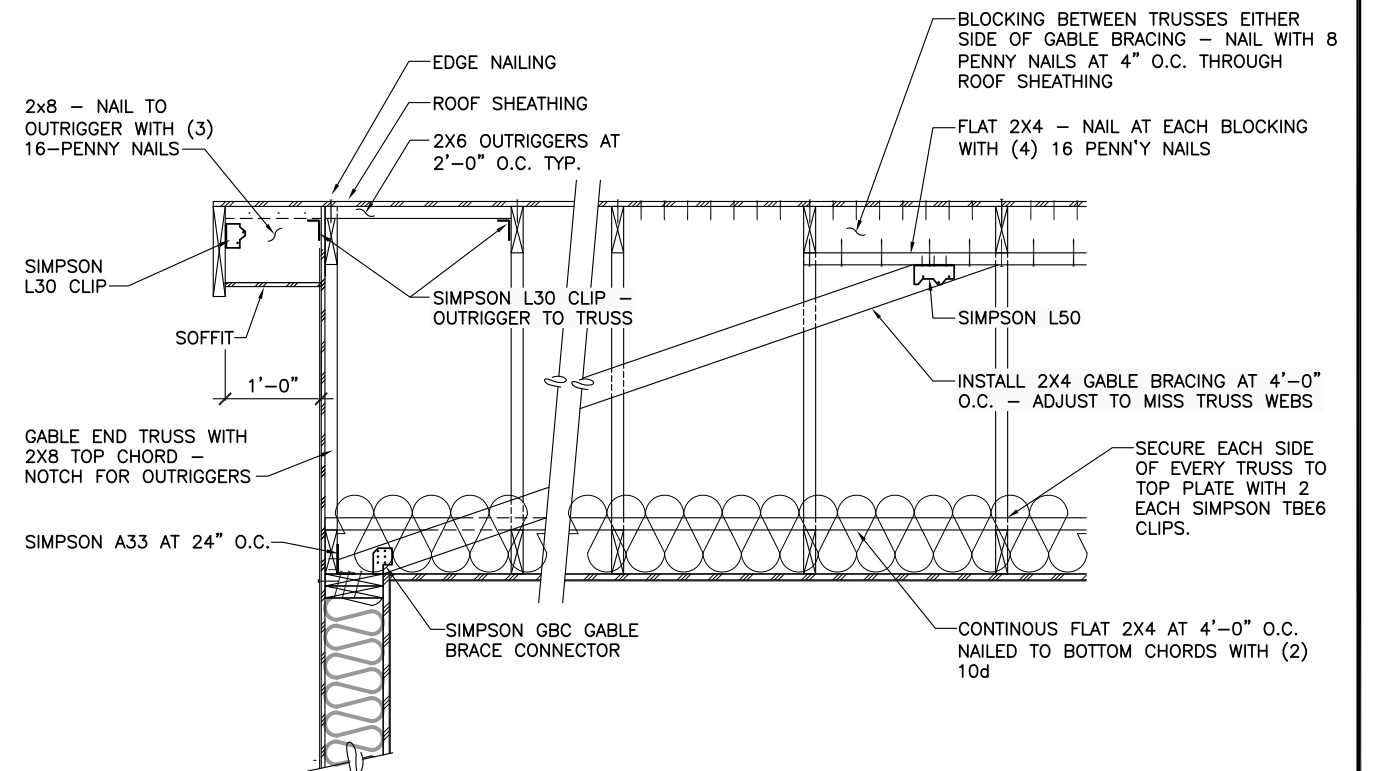
2 WALL FRAMING AT DOOR OPENING  
SCALE: 1"=1'-0" (22x34)/ 1/2"=1'-0" (11x17)



3 TYPICAL BUILDING CORNER DETAIL  
SCALE: 1"=1'-0" (22x34)/ 1/2"=1'-0" (11x17)



4 TYPICAL EAVE DETAIL  
SCALE: 1"=1'-0" (22x34)/ 1/2"=1'-0" (11x17)



5 GABLE END ROOF DETAIL  
SCALE: 1"=1'-0" (22x34)/ 1/2"=1'-0" (11x17)

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Matthew S. Ojima  
CE - 12457  
04/23/19  
Registered Professional Engineer

HOMER A-FRAME PRV REPLACEMENT  
MAIN STREET & DEHEL STREET SITE

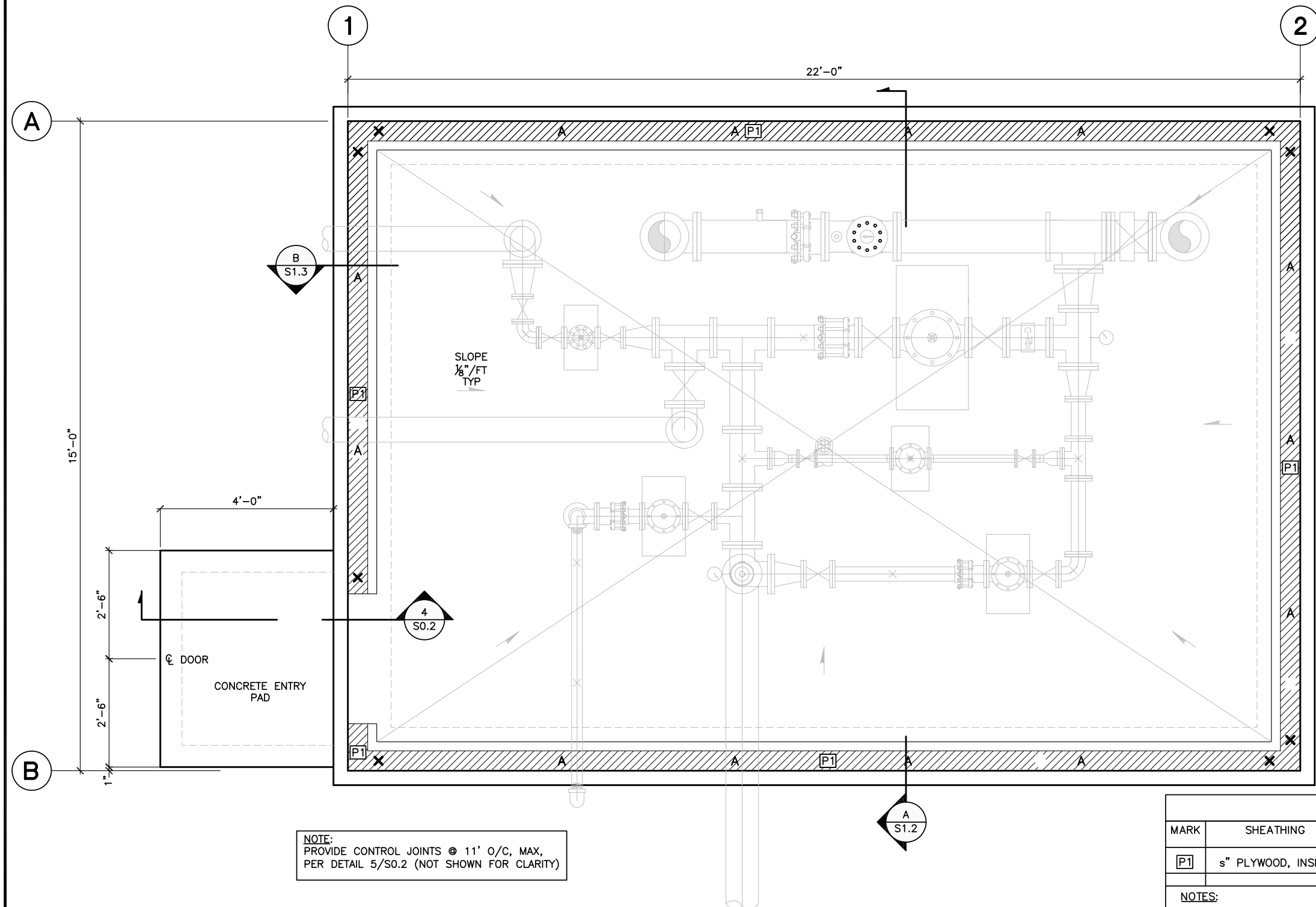
**TYPICAL FRAMING DETAILS**

SCALE: SHOWN    DESIGNED: MJD    CHECKED: MJD    DRAWN: CAM    DATE: 4/23/19

SHEET NO.  
**S0.3**

SHEET 14 OF 20

User: MDERAEVE Apr 23, 2019 - 4:29pm  
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 Xrefs: 32130074\_BOARD.DWG - Images: None



NOTE:  
 PROVIDE CONTROL JOINTS @ 11' O/C, MAX,  
 PER DETAIL 5/SO.2 (NOT SHOWN FOR CLARITY)

1 FOUNDATION PLAN  
 SCALE: 1"=1'-0" (22x34)/ 1/2"=1'-0" (11x17)

- SHEARWALL SCHEDULE NOTES:**
- UNLESS NOTED OTHERWISE, ALL PANEL EDGES TO BE BLOCKED.
  - THE BASE PLATE NAILING APPLIES ONLY TO THOSE SHEAR WALLS WHERE SHEATHING IS NOT CONTINUOUS TO A WALL OR FOUNDATION WALL.
  - 3/16" OSB OR PLYWOOD MAY BE SUBSTITUTED FOR THE 1/2" OSB OR PLYWOOD IN SHEAR WALL SHEATHING IF STUDS ARE SPACED EQUAL TO OR LESS THAN 16" OC OR THE PANELS ARE APPLIED WITH THEIR LONG DIMENSION PERPENDICULAR TO THE STUDS WHEN STUD SPACING IS GREATER THAN 16" OC.
  - INSTALL ANCHOR BOLTS IN CONCRETE STEMWALL AT SPACING AS SHOWN ON THIS SHEET WITH "X" AND "A". USE 3/8"Ø GALV (ASTM F1554) ROD, 7" MIN EMBEDMENT (5/8" x12 x3 x4). SEE NOTE 6.
  - USE SIMPSON HTT4 HOLD DOWNS AT LOCATIONS INDICATED WITH "X" (8 LOCATIONS). COORDINATE PRECISE LOCATIONS WITH CORNER FRAMING DETAIL AND PRODUCT DATA.
  - SILL PLATES SUPPORTED DIRECTLY ON CONCRETE FOUNDATIONS SHALL BE ANCHORED TO THE FOUNDATION WITH BOLTS SPACED A MAXIMUM OF 6' O.C. THERE SHALL BE A MINIMUM OF TWO BOLTS FOR EACH PLATE SECTION WITH ONE BOLT LOCATED NOT MORE THAN 12" OR LESS THAN SEVEN BOLT DIAMETERS FROM EACH END OF THE PLATE SECTION. A WASHER SIZED TO COVER THE HOLE IN THE PLATE SHALL BE INSTALLED ON EACH BOLT AND A NUT SHALL BE USED TO TIGHTEN THE WASHER TO THE PLATE.

FIRST FLOOR SHEARWALL SCHEDULE				
MARK	SHEATHING	NAILING		ANCHORS
		EDGE	FIELD	
P1	s" PLYWOOD, INSIDE	10D NAILS @ 6" O/C	10D NAILS @ 12" O/C	p"x7" J-BOLTS @ 48" O/C

NOTES:  
 - ALL J-BOLTS AT SHEARWALL SILL PLATES SHALL BE PROVIDED WITH HOT-DIPPED GALVANIZED 3"x3"xr" PLATE WASHERS.

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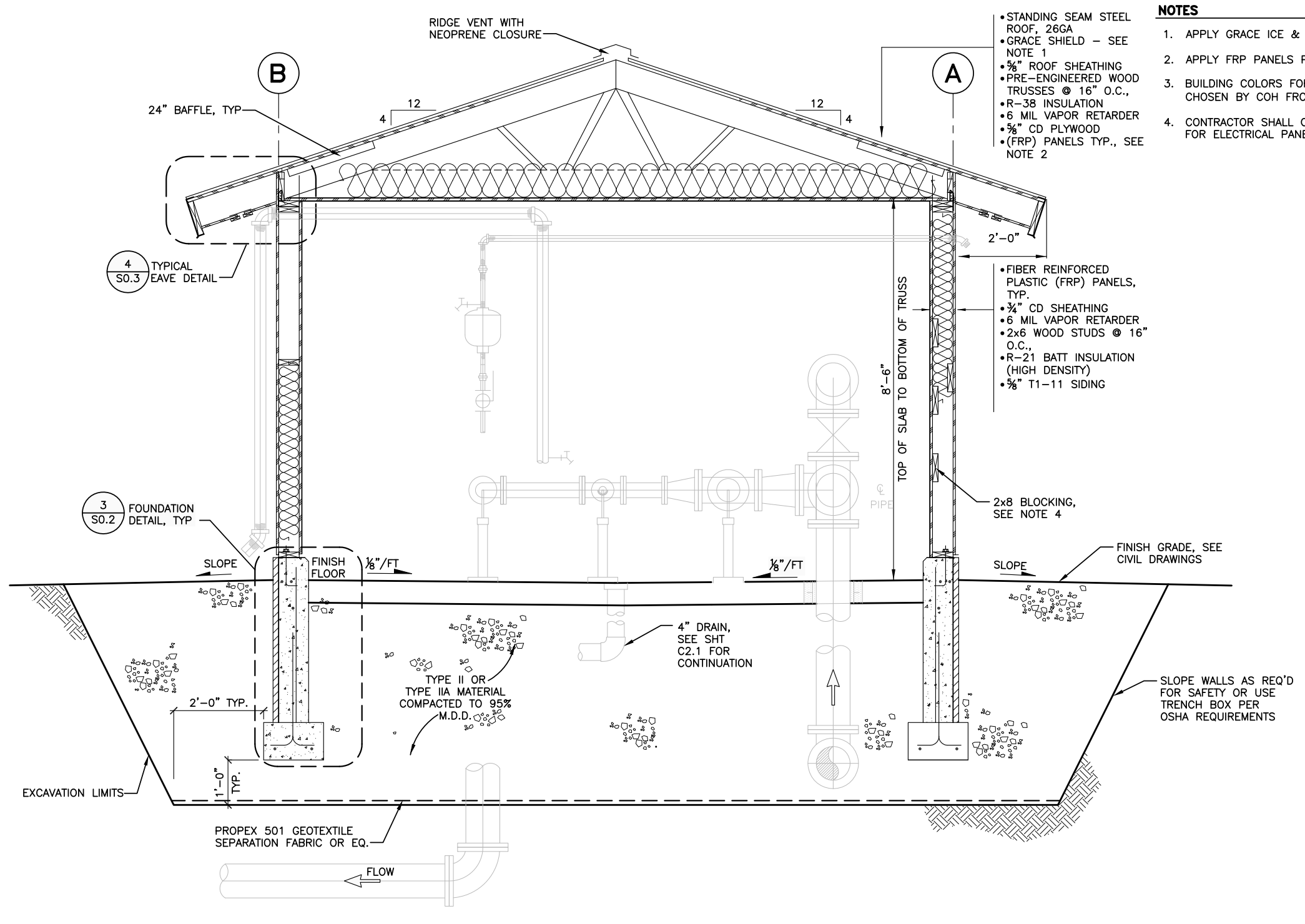
HOMER A-FRAME PRV REPLACEMENT  
 MAIN STREET & DEHEL STREET SITE

**FOUNDATION FLOOR PLAN,  
 SCHEDULES, AND NOTES**

SCALE: SHOWN    DESIGNED: MJD    CHECKED: MJD    DRAWN: CAM    DATE: 4/23/19

SHEET NO. **S1.1**  
 SHEET 15 OF 20

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 Xrefs: 32130074\_BOARD.DWG - Images: None



- STANDING SEAM STEEL ROOF, 26GA
- GRACE SHIELD - SEE NOTE 1
- 5/8" ROOF SHEATHING
- PRE-ENGINEERED WOOD TRUSSES @ 16" O.C.,
- R-38 INSULATION
- 6 MIL VAPOR RETARDER
- 5/8" CD PLYWOOD
- (FRP) PANELS TYP., SEE NOTE 2

**NOTES**


1. APPLY GRACE ICE & WATER SHIELD SELF ADHERING ROOF UNDERLAYMENT TO ENTIRE ROOF.
2. APPLY FRP PANELS PER MANUFACTURER'S INSTRUCTIONS AND ADHESIVE MANUFACTURER'S INSTRUCTIONS.
3. BUILDING COLORS FOR STEEL ROOF, FLASHING, TRIM, EXTERIOR WALLS, FRP PANELS, AND DOOR TO BE CHOSEN BY COH FROM STANDARD MANUFACTURER'S COLORS.
4. CONTRACTOR SHALL COORDINATE LOCATION (TOP & BOTTOM OF PANELS) OF CONTINUOUS 2x8 BLOCKING FOR ELECTRICAL PANELS AND WALL-MOUNTED FIXTURES.

**A BUILDING SECTION**  
 SCALE: 3/4"=1'-0" (22x34)/ 3/8"=1'-0" (11x17)


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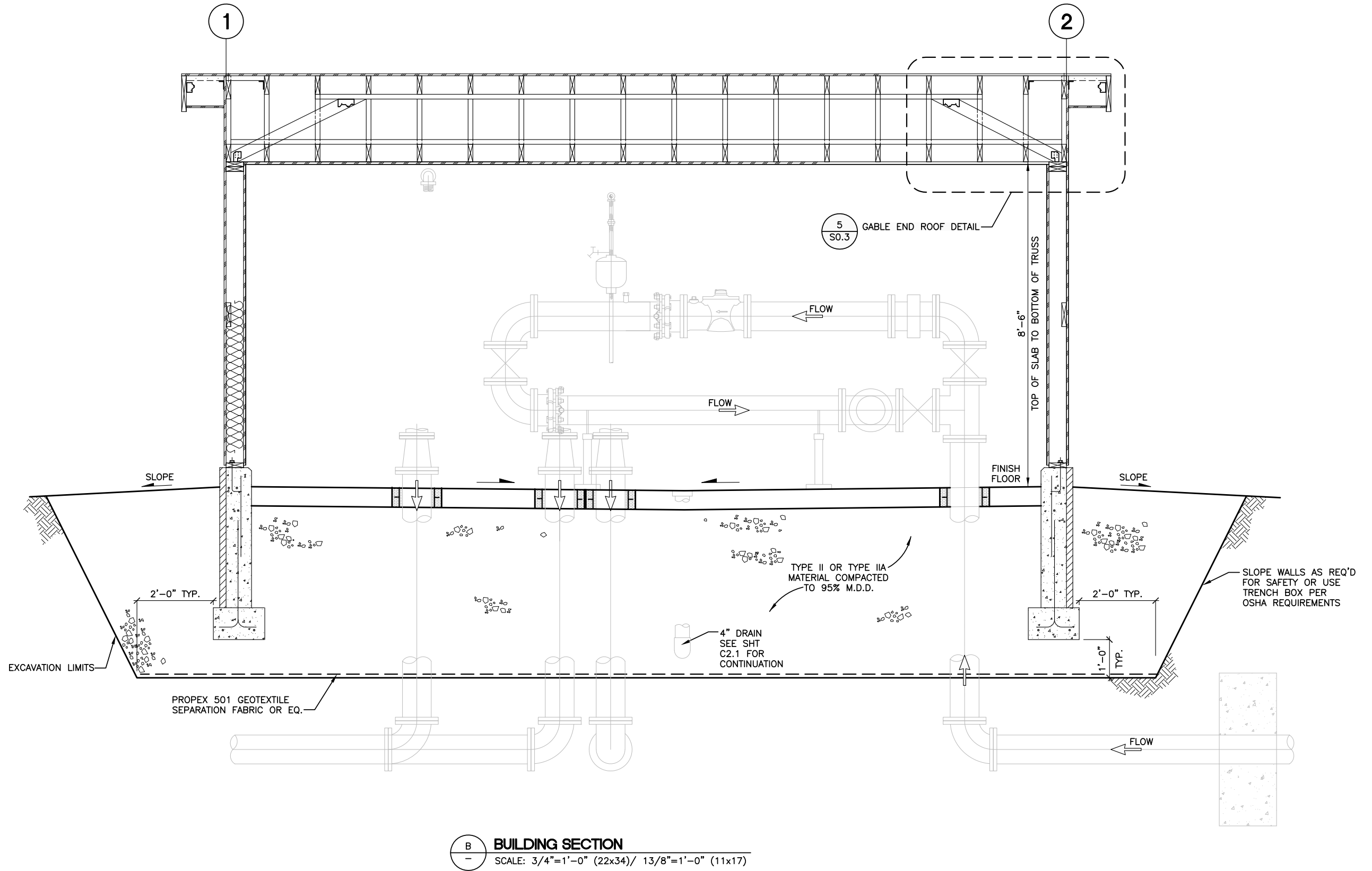


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 Registered Professional Engineer

HOMER A-FRAME PRV REPLACEMENT MAIN STREET & DEHEL STREET SITE				SHEET NO.
BUILDING SECTION A, AND NOTES				S1.2
SCALE: SHOWN	DESIGNED: MJD	CHECKED: MJD	DRAWN: CAM	DATE: 4/23/19
SHEET 16 OF 20				



User: MDERAEV Apr 23, 2019 - 4:32pm  
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 Xrefs: 32130074\_BOARD.DWG - Images: None



**B BUILDING SECTION**  
 SCALE: 3/4"=1'-0" (22x34)/ 13/8"=1'-0" (11x17)

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**HOMER A-FRAME PRV REPLACEMENT  
 MAIN STREET & DEHEL STREET SITE**












**BUILDING SECTION B**

SCALE: SHOWN    DESIGNED: MJD    CHECKED: MJD    DRAWN: CAM    DATE: 4/23/19

SHEET NO.  
**S1.3**  
 SHEET 17 OF 20

User: OKA Apr 19, 2019 - 4:52pm  
 Drawing: P:\PROJECTS\BILL NELSON\HOMER A-FRAME PRV DWGS\ELEC\E1 SPECIFICATIONS LEGEND AND ABBREVIATIONS.DWG - Layout: E1 SPECIFICATIONS LEGEND AND ABBREVIATIONS  
 Xrefs: X A-FRAME\_BORDER.DWG JHF-SIGN.DWG - Images: None

**ELECTRICAL LEGEND**

-  JUNCTION BOX
-  GROUND ROD
- CONDUIT RUN UNDERGROUND OR IN CONCRETE
- \_\_\_\_\_ EXPOSED CONDUIT, GRC UNLESS OTHERWISE SHOWN
- OHE — OVERHEAD ELECTRIC UTILITY
- CONDUIT RUN - CHANGE IN ELEVATION
-  LIQUID-TIGHT FLEXIBLE CONDUIT
-  DISCONNECT SWITCH
-  CONTROL PANEL OR CONTROLLER
-  PANELBOARD
-  120V DUPLEX GROUND FAULT INTERRUPTING RECEPTACLE, NEMA CONFIGURATION 5-15R
-  KILOWATT-HOUR METER
-  MOLDED CASE CIRCUIT BREAKER, X = AMPERE RATING, Y = NO. OF POLES, \* = GFI PROTECTED
-  HEATER
-  120V SNAP SWITCH, NEMA 3R

**ABBREVIATIONS**

- A AMPERE
- AFG ABOVE FINISH GRADE
- BCU BARE COPPER
- C CONDUIT
- CP CONTROL PANEL
- CU COPPER
- E EMERGENCY
- (E) EXISTING
- FLA FULL LOAD AMPERES
- G GROUND CONDUCTOR
- GFI GROUND FAULT INTERRUPTING
- GRC GALVANIZED RIGID (STEEL) CONDUIT
- GRD GROUND
- HEA HOMER ELECTRIC ASSOCIATION
- HDPE HIGH DENSITY POLYETHYLENE CONDUIT
- KVA KILO-VOLT-AMPERES
- LTF LIQUID-TIGHT FLEXIBLE CONDUIT (METALLIC)
- (N) NEW
- NC NORMALLY CLOSED
- NO NORMALLY OPEN, NUMBER
- PH PHASE
- PR PAIR
- SCADA SUPERVISORY CONTROL AND DATA ACQUISITION
- SIG SIGNAL
- TWSH TWISTED WIRE SHIELDED
- TYP TYPICAL
- UON UNLESS OTHERWISE NOTED
- V VOLTS
- W WATTS
- WP WEATHERPROOF
- XFMR TRANSFORMER

**CIRCUIT AND DEVICE LEGEND**

- A1,a GROUP OR EQUIPMENT IDENTIFICATION.  
 "A" DENOTES PANEL NAME  
 "1" DENOTES CIRCUIT NUMBER  
 "a" DENOTES SWITCH LEG AS INDICATED.
- \$3,a SWITCH IDENTIFICATION.  
 "3" DENOTES SWITCH CONFIGURATION  
 "a" DENOTES SWITCH LEG AS INDICATED.

**ELECTRICAL SPECIFICATIONS**

**PART 1- GENERAL**

- 1.1 SYSTEM DESCRIPTION:
  - A. SCOPE OF WORK: DEMOLISH, FURNISH, INSTALL, TEST AND PLACE INTO SATISFACTORY AND SUCCESSFUL OPERATION ALL MATERIALS, EQUIPMENT, DEVICES AND NECESSARY APPURTENANCES TO PROVIDE COMPLETE SYSTEM POWER, LIGHTING AND CONTROLS AS INDICATED ON THE DRAWINGS AND THESE SPECIFICATIONS.
  - B. ALL COMPONENTS FOR THE PROJECT SHALL BE LISTED OR LABELED BY UL (UNDERWRITERS LABORATORIES), FM (FACTORY MUTUAL) OR OTHER AGENCIES RECOGNIZED BY THE STATE OF ALASKA MECHANICAL INSPECTIONS DIVISION. WORK SHALL COMPLY WITH ALL LISTED AND APPLICABLE INDUSTRY STANDARDS, CODES, LOCAL ORDINANCES AND MANUFACTURER'S INSTRUCTIONS.
  - C. SYSTEM SHALL BE COMPLETE AND SHALL INCLUDE ALL TERMINATIONS AND SPLICES TO PROVIDE A FUNCTIONAL SYSTEM.
  - D. PROJECT CONDITIONS: CONTRACTOR SHALL VERIFY IN THE FIELD THAT DIMENSIONS, ROUTING AND CONNECTION LOCATIONS SHOWN ON THE DRAWINGS ARE REASONABLY ACCURATE.
- 1.2 STANDARDS AND CODES:
  - A. NFPA 70 - NATIONAL ELECTRIC CODE, LATEST ADOPTED ADDITION.
  - B. IBC - INTERNATIONAL BUILDING CODE, LATEST ADOPTED ADDITION.
  - C. IFC - INTERNATIONAL FIRE CODE, LATEST ADOPTED ADDITION.
  - D. LOCAL CODES AND AMENDMENTS.
- 1.3 SUBMITTALS:
  - A. GENERAL: PROVIDE SUBMITTALS OF ALL MATERIAL AND EQUIPMENT. INCLUDE CATALOG NUMBERS, PERFORMANCE DATA, WIRING DIAGRAMS, AND ROUGH-IN DIMENSIONS.
  - B. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INCLUDE INSTRUCTIONS FOR STORAGE, HANDLING, PROTECTION, EXAMINATION, PREPARATION AND INSTALLATION OF PRODUCTS.
- 1.4 OPERATION AND MAINTENANCE DATA:
  - A. PROVIDE ALL MANUFACTURER'S RELEVANT MAINTENANCE AND OPERATING INSTRUCTIONS INCLUDING PROCEDURES NECESSARY FOR SYSTEM START-UP, OPERATION, EMERGENCY OPERATION AND SHUTDOWN.
  - B. MANUAL SHALL BE INDEXED, LABELED AND SHALL INCLUDE MAINTENANCE INSTRUCTIONS, PRODUCT DATA, SHOP DRAWINGS AND STEP BY STEP PROCEDURES FOR INSPECTION, REPAIR, CLEANING AND CALIBRATION.
- PART 2 - PRODUCTS**
- 2.1 IDENTIFICATION:
  - A. PROVIDE ENGRAVED LAMINATED PLASTIC NAMEPLATES WITH BLACK LETTERS ON A WHITE BACKGROUND TO IDENTIFY ALL ELECTRICAL DISTRIBUTION AND CONTROL EQUIPMENT, AND LOADS SERVED AS NOTED ON THE DRAWINGS.

**ELECTRICAL SPECIFICATIONS**

- B. LETTER HEIGHTS SHALL BE 1/8 INCH FOR INDIVIDUAL SWITCHES, MOTOR STARTERS AND 1/2 INCH ON PANELBOARDS AND CONTROL PANELS. SECURE NAMEPLATES TO EQUIPMENT FRONTS USING SCREWS OR RIVETS.
- C. PROVIDE WIRE MARKERS FOR ALL POWER AND CONTROL CIRCUITS IDENTIFYING BRANCH OR FEEDER CIRCUIT AND WIRE NUMBER INDICATED ON CONTROL SYSTEM SHOP DRAWINGS.
- D. PROVIDE ARC FLASH WARNING LABELS, EQUIPMENT SHORT CIRCUIT CURRENT RATING LABELS, AND AVAILABLE FAULT CURRENT LABELS IN ACCORDANCE WITH ARTICLE 110 OF THE NEC.
- 2.2 CONDUCTORS :
  - A. ALL WIRING SHALL BE COPPER WITH TYPE XHHW-2 INSULATION UNLESS OTHERWISE NOTED. TYPE SIS OR MTW INSULATION SHALL BE ACCEPTABLE FOR CONTROL PANEL WIRING ONLY.
  - B. MINIMUM BRANCH CIRCUIT CONDUCTOR SIZE SHALL BE #12 AWG. MINIMUM CONTROL CIRCUIT SIZE SHALL BE #18 AWG. MULTI-PAIR CONTROL CABLES SHALL BE RATED FOR DIRECT BURIAL.
  - C. COLOR CODING SHALL BE AS FOLLOWS AND CONSISTENT THROUGHOUT THE ENTIRE INSTALLATION.
    - 1. 120/240 V, 1PH, 3W:  
 PHASE A - BLACK, PHASE B - RED,  
 NEUTRAL - WHITE.
  - D. USE PROPERLY SIZED INSULATED WIRE CONNECTORS WITH PLASTIC CAPS FOR ALL CONDUCTORS #8 AWG AND SMALLER. TERMINATE #6 AND LARGER WITH CRIMP OR COMPRESSION TYPE CONNECTORS INSTALLED PER THE MANUFACTURERS RECOMMENDATIONS AND INSULATE WITH PROPERLY SIZED 600 VOLT RATED HEAT SHRINK TUBING AND ELECTRICAL TAPE.
- 2.3 CONDUIT:
  - A. ALL WIRING SHALL BE INSTALLED IN GALVANIZED RIGID METALLIC CONDUIT (GRC) UNLESS OTHERWISE NOTED. ALL FITTINGS, CONNECTORS, BOXES, ETC. SHALL BE APPROVED FOR USE AS GROUNDING MEANS.
  - B. UTILIZE SHORT EXTENSIONS (36 INCH MINIMUM) OF FLEXIBLE, LOW TEMPERATURE LIQUIDTIGHT CONDUIT FOR CONNECTIONS OF ALL MOTORS AND OTHER EQUIPMENT SUBJECT TO VIBRATION IN NON-HAZARDOUS AREAS. USE EXPLOSION-PROOF FLEXIBLE COUPLINGS FOR CONNECTION IN HAZARDOUS AREAS AND AS SHOWN.
  - C. COMPLETELY AND THOROUGHLY CLEAN AND SWAB RACEWAY SYSTEM BEFORE INSTALLING CONDUCTORS.
  - D. ALL UNDERGROUND CONDUIT SHALL BE BURIED A MINIMUM OF 18 INCHES, AND IN ACCORDANCE WITH NEC.
- 2.4 JUNCTION & DEVICE BOXES:
  - A. NON-HAZARDOUS LOCATIONS: PROVIDE CAST STEEL BOXES WITH THREADED HUBS AND GASKETED COVERS.
  - B. HAZARDOUS LOCATIONS: PROVIDE BOXES RATED FOR THE LOCATION AND USE.
- 2.5 WIRING DEVICES:
  - A. SWITCHES: NEMA WD 1, HEAVY DUTY, SPEC GRADE, 20A, 120VAC GENERAL-USE.
  - B. RECEPTACLES: NEMA WD 1, HEAVY DUTY, SPEC GRADE, 20A, 120VAC DUPLEX.

**ELECTRICAL SPECIFICATIONS**

- 2.6 DISCONNECT SWITCHES:
  - A. MANUFACTURER
    - 1. SQUARE D OR APPROVED EQUAL
  - B. PROVIDE UL LISTED, HEAVY DUTY, NON-FUSIBLE, QUICK-MAKE/BREAK, LOAD INTERRUPTER ENCLOSED KNIFE SWITCHES WITH EXTERNALLY OPERABLE HANDLE INTERLOCKED TO PREVENT OPENING FRONT COVER IN THE "ON" POSITION, WITH HANDLE LOCKABLE IN THE "OFF" POSITION.
  - C. NEMA KS 1, INTERIOR: NEMA TYPE 1 (NON-HAZARDOUS), EXTERIOR: NEMA TYPE 3R (NON-HAZARDOUS).
- 2.7 PANELBOARDS AND CIRCUIT BREAKERS:
  - A. MANUFACTURER
    - 1. SQUARE D OR APPROVED EQUAL
  - B. NEMA KS1, PANEL 'A': PANELBOARD SHALL BE ENCLOSED, DEAD-FRONT CONSTRUCTION WITH COPPER BUSSES, NEMA TYPE 3R ENCLOSURE.
  - C. DISTRIBUTION CIRCUIT BREAKERS: NEMA AB1, MOLDED CASE, INTEGRAL THERMAL AND ADJUSTABLE INSTANTANEOUS MAGNETIC TRIP FOR EACH POLE.
  - D. BRANCH CIRCUIT BREAKERS: NEMA AB1, MOLDED CASE, BOLT-ON THERMAL MAGNETIC TRIP WITH COMMON TRIP HANDLE FOR ALL POLES.
  - E. PROVIDE A TYPED SCHEDULE WITH CIRCUIT NUMBERS AND DESCRIPTIONS OF CONNECTED LOADS. CIRCUIT NUMBERS SHALL BE ODD ON THE LEFT SIDE AND EVEN ON THE RIGHT SIDE, TOP TO BOTTOM, LEFT TO RIGHT.
- 2.8 LIGHTING:
  - A. PROVIDE ALL LIGHTING EQUIPMENT OR APPROVED EQUAL AS SHOWN ON THE DRAWINGS AND DESCRIBED IN THE FIXTURE SCHEDULE.
  - B. PROVIDE LIGHTING EQUIPMENT COMPLETE, WIRED, ASSEMBLED WITH PROPER FLANGES, MOUNTING SUPPORTS, HARDWARE, ETC.
- 2.9 GROUNDING AND BONDING:
  - A. ALL GROUNDING AND BONDING SHALL COMPLY WITH NEC, STANDARDS AND CODES LISTED IN PART 1, MANUFACTURER'S RECOMMENDATIONS AND LOCAL CODES.
  - B. ALL RACEWAYS SHALL INCLUDE A GREEN EQUIPMENT GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH TABLE 250.122 OF THE NEC.
- 2.11 EQUIPMENT CONNECTIONS:
  - A. PROVIDE WIRING AND CONNECTION TO EQUIPMENT REQUIRING ELECTRICAL POWER BUT SPECIFIED UNDER OTHER DIVISIONS OF THE SPECIFICATIONS. REVIEW SUBMITTALS PRIOR TO INSTALLATION AND ROUGH-IN. VERIFY SIZE, AND TYPE OF CONNECTIONS.
- 2.12 PENETRATIONS:
  - A. ALL ELECTRICAL PENETRATIONS THROUGH BELOW GRADE CONCRETE STRUCTURES SHALL BE GROUTED AND SEALED WATERTIGHT BOTH INSIDE AND OUTSIDE THE CONDUITS IN ACCORDANCE WITH NEC AND THE MANUFACTURERS INSTRUCTIONS. MATERIALS SHALL BE SUITABLE FOR BELOW GRADE WET LOCATIONS.

**ELECTRICAL SPECIFICATIONS**

- PART 3 - EXECUTION
- 3.1 GENERAL:
  - A. INSTALLATION OF ALL WORK SHALL BE MADE SO THAT ALL COMPONENT PARTS ARE INSTALLED AND FUNCTION AS A COMPLETE, WORKABLE SYSTEM.
  - B. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE (NEC), NECA 1, AND THE STANDARDS AND CODES LISTED IN PART 1. WHERE QUESTIONS ARISE REGARDING WHICH REQUIREMENTS AND STANDARDS APPLY, THE MORE STRINGENT SHALL PREVAIL.
  - C. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS AND RECOMMENDATIONS OF THE PRODUCT MANUFACTURER.
  - D. REPLACE AND/OR REPAIR TO ORIGINAL (OR BETTER) CONDITION ANY EXISTING STRUCTURES, MATERIALS, EQUIPMENT, ETC. INADVERTENTLY DAMAGED OR DEMOLISHED DURING THE COURSE OF CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
- 3.2 TESTING
  - A. TEST ALL SERVICE FEEDERS AND POWER CONDUCTORS PRIOR TO TERMINATION WITH A MEGOHM METER PER THE MANUFACTURER'S RECOMMENDATIONS. REPLACE ALL CONDUCTORS EXHIBITING LESS THAN 50 MEGOHM IMPEDENCE. REPEAT TESTING AS REQUIRED TO VERIFY COMPLIANCE.

**FOR CONSTRUCTION**

REVISIONS			
NO.	DATE	BY	DESCRIPTION




**EDC, INC.**  
 213 W. FIREWEED LANE  
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Project No. 1911



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John H. Faschan  
 EE 8286  
 4/23/2019

HOMER A-FRAME PRV REPLACEMENT  
 MAIN STREET & DEHEL STREET SITE

**SPECIFICATIONS LEGEND AND  
 ABBREVIATIONS**

SCALE: SHOWN    DESIGNED: CW    CHECKED: JHF    DRAWN: CW    DATE: 4/23/2019

SHEET NO.	E1
SHEET 18 OF 20	

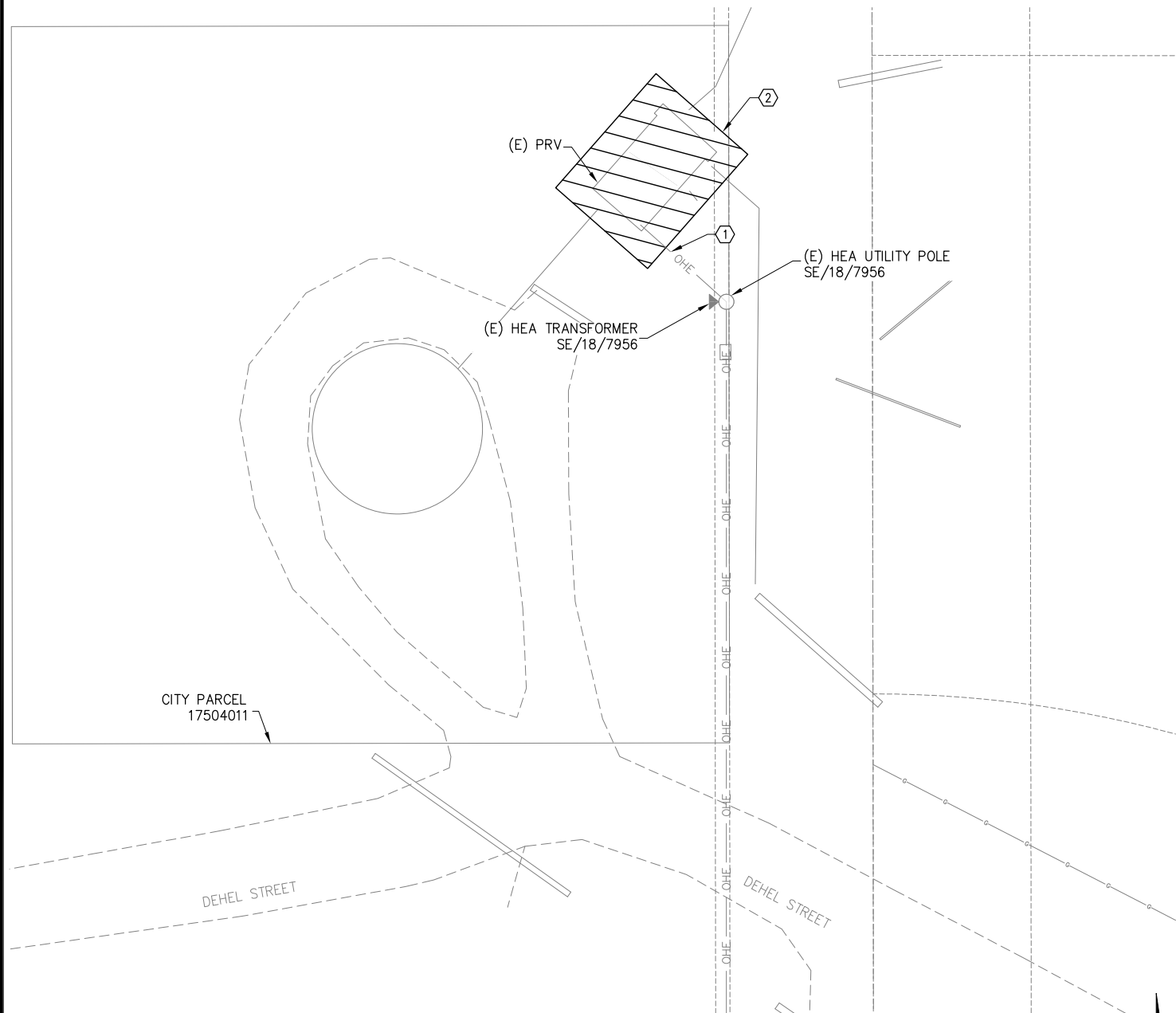
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**CALL BEFORE YOU DIG**

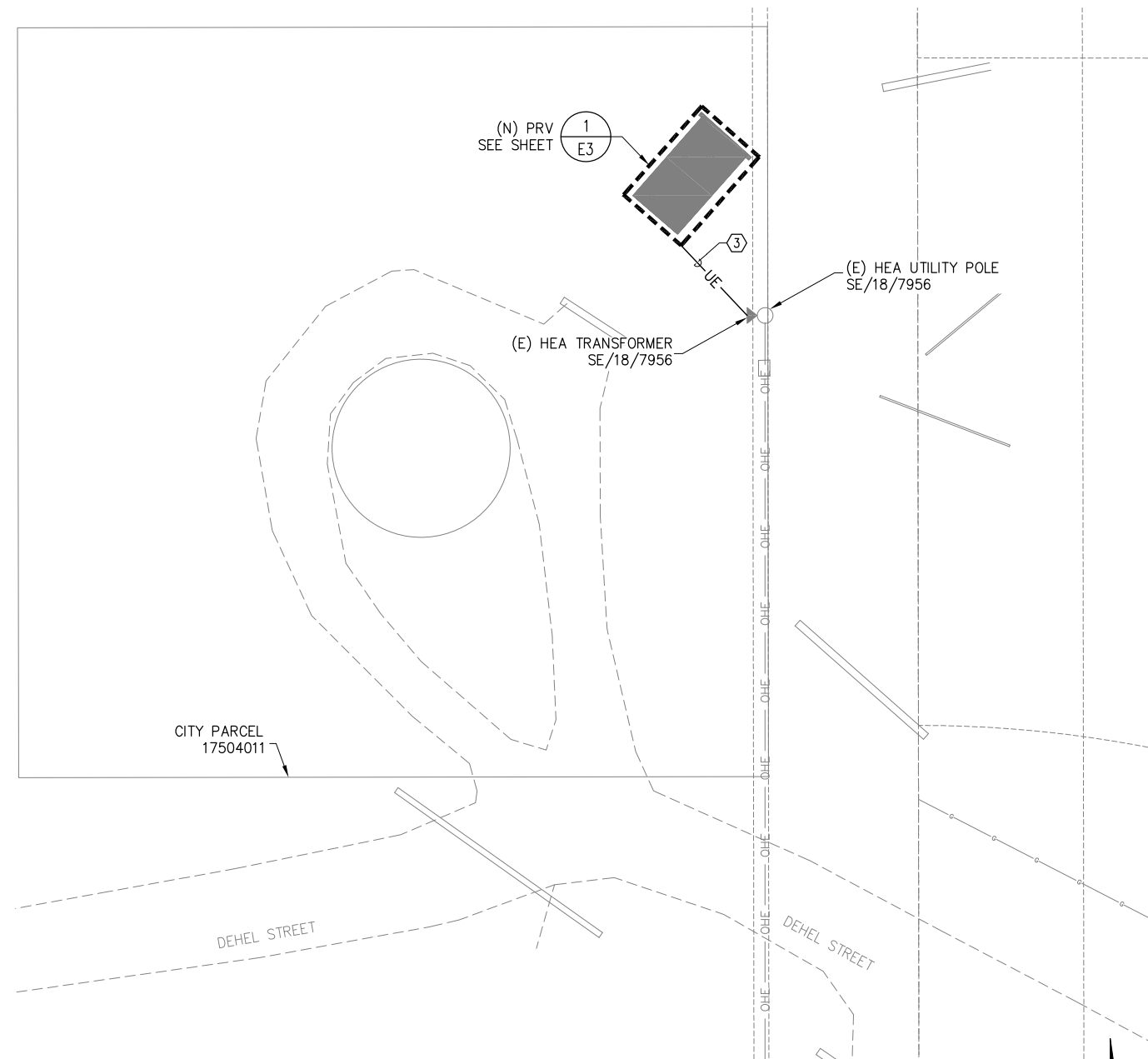
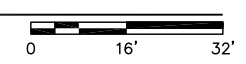
ALL UTILITIES MAY NOT BE SHOWN IN THE PLANS. THE CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES WITHIN WORK AREA PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY UTILITY CONFLICTS BETWEEN PROPOSED STRUCTURES & UTILITIES. ADJUSTMENTS OF ALL STRUCTURES MAY BE NECESSARY TO AVOID UTILITY CONFLICTS. ADJUSTMENTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. HAND DIG WITHIN 36" OF ALL UTILITIES NOT SCHEDULED FOR DEMOLITION.

**SHEET NOTES**

- ① COORDINATE WITH HEA TO DISCONNECT (E) SERVICE DROP.
- ② DEMOLISH ALL ELECTRICAL IN (E) VAULT.
- ③ (N) 1Ø, 120/240V SERVICE LATERALS BY HEA.



**1 DEMOLITION PLAN**  
 E2 SCALE: 1/16" = 1'-0"



**2 SITE PLAN**  
 E2 SCALE: 1/16" = 1'-0"



**FOR CONSTRUCTION**

REVISIONS			
NO.	DATE	BY	DESCRIPTION

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 4/23/2019

HOMER A-FRAME PRV REPLACEMENT  
 MAIN STREET & DEHEL STREET SITE

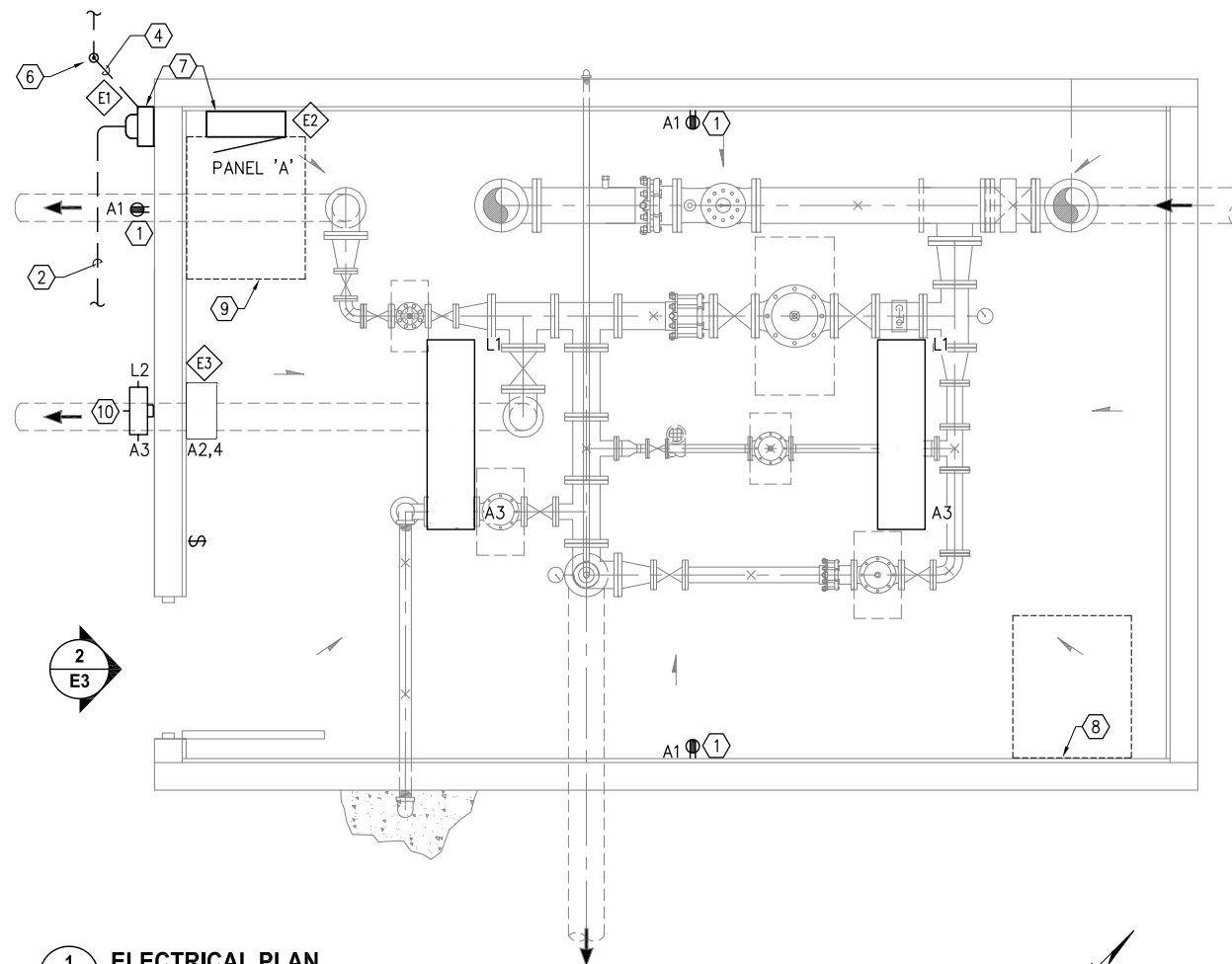
**SITE PLAN**

SCALE: SHOWN    DESIGNED: CW    CHECKED: JHF    DRAWN: CW    DATE: 4/23/2019

SHEET NO.  
**E2**

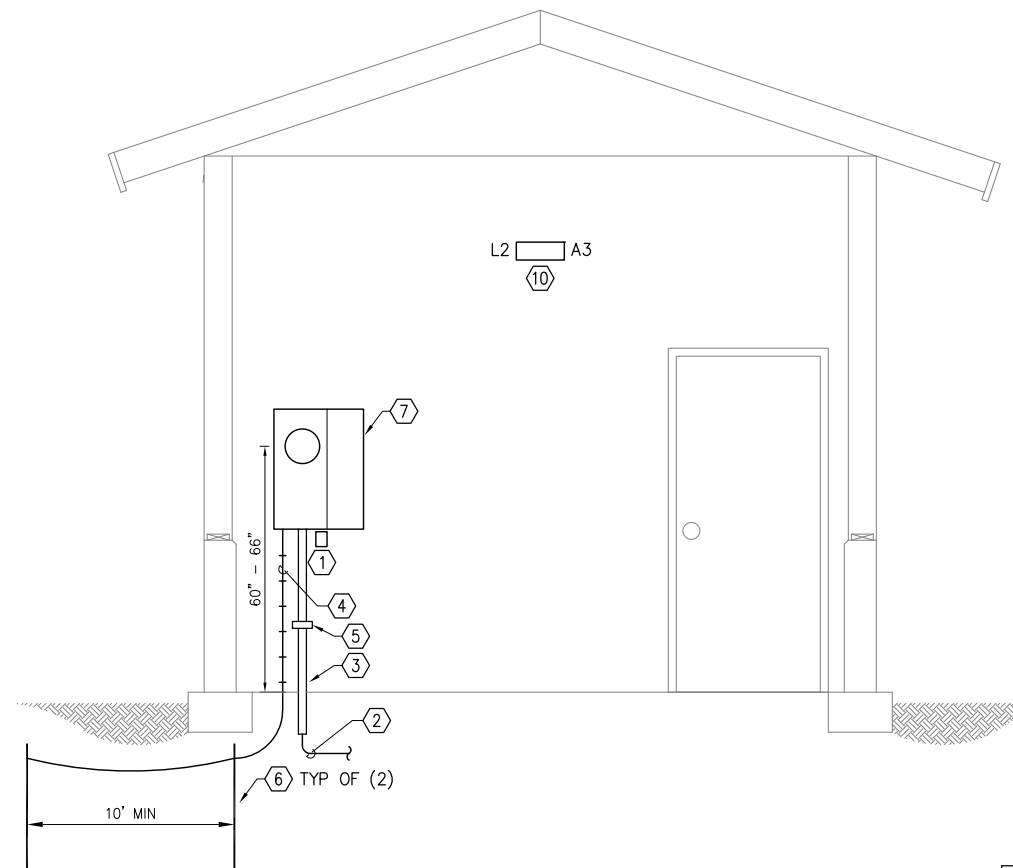
SHEET 19 OF 20

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 Xrefs: (DIESEL\_evaluation\_failed) - Images: None



**1 ELECTRICAL PLAN**  
 E3 SCALE: 1/2" = 1'-0"

PANEL SCHEDULE 'A'											
VOLT: 240/120 BUS: 100			LOCATION: SW INTERIOR WALL				MIN. A.I.C. RATING: 10,000 ENCLOSURE: NEMA 3R MOUNTING: SURFACE				
MAIN: MLO											
CKT	TRIP	LOAD DESCRIPTION	KVA	LOAD	A	B	LOAD	KVA	LOAD DESCRIPTION	TRIP	CKT
1	15/1	RECEPTACLES	0.6	R	2.1	C	1.5		UNIT HEATER	20/2	2
3	15/1	LIGHTING	0.2	L		1.7	C	1.5			4
5	20/1	SPARE			0.0				SCADA (FUTURE)	20/1	6
7		SPACE			0.0				SPACE		8
9		SPACE			0.0				SPACE		10
11		SPACE			0.0				SPACE		12
13		SPACE			0.0				SPACE		14
15		SPACE			0.0				SPACE		16
17		SPACE			0.0				SPACE		18
			2.1		1.7						
TOTAL KVA: 3.8 AMPS: 15.8											
SUMMARY BY LOAD TYPE											
	PH A	PH B	FEED	TOTAL KVA	NEC%	NEC TOTAL	NOTES:				
L LIGHTING	0.0	0.2			1.25	0.0					
R RECEPTACLES	0.6	0.0			10K+50%	0.0					
M MOTORS	0.0	0.0			1.00	0.0					
LM LARGEST MOTOR	0.0	0.0			1.25	0.0					
C CONTINUOUS	1.5	1.5			1.25	0.0					
N NON-CONTINUOUS	0.0	0.0			1.00	0.0					
S SPARE	0.0	0.0			1.00	0.0					
X NON-COINCIDENT	0.0	0.0			0.00	0.0					
O OTHER	0.0	0.0			1.00	0.0					
F FEEDER	0.0	0.0									
TOTAL KVA (PHASE)	2.1	1.7				0.0					
TOTAL AMPERES	17.5	14.2				0.0					
PHASE BALANCE, AB PERCENT	A-B	B-A									
	55	45									

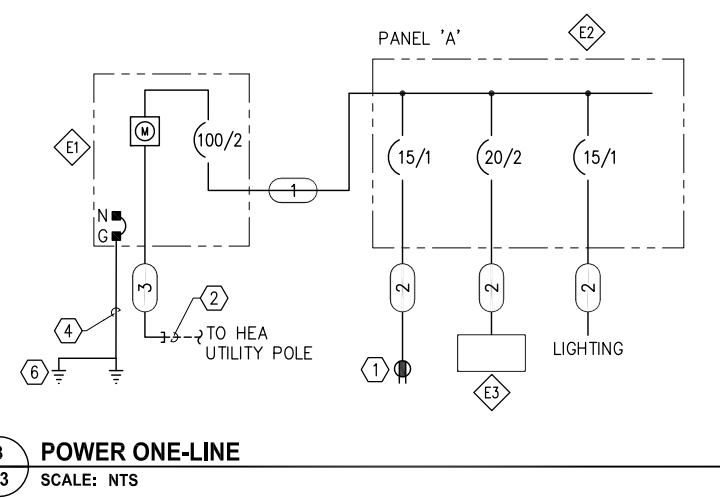


**2 ELECTRICAL SERVICE & METER/MAIN DETAIL**  
 E3 SCALE: 1/2" = 1'-0"

- SHEET NOTES:**
- GFI WEATHER-PROOF RECEPTACLE. FOR EXTERIOR PROVIDE WHILE-IN-USE COVER, TAYMAC CAT#MX3200 OR APPROVED EQUAL. FOR INTERIOR PROVIDE NEMA 3R CAST BOX WITH HINGED COVER.
  - NEW 120/240V, SINGLE-PHASE SERVICE LATERALS BY HOMER ELECTRIC ASSOCIATION (HEA).
  - 10' OF 2" FLEXIBLE NON-METALLIC CONDUIT.
  - #6 AWG CONTINUOUS CU WIRE STAPLED EVERY 6". CONNECT TO GROUND RODS USING THE EXOTHERMIC WELD METHOD. TERMINATE GROUND WIRE IN METER/MAIN.
  - GALVANIZED STEEL CONDUIT CLAMP, AS REQUIRED.
  - 3/4"x10' COPPER CLAD STEEL GROUND ROD MIN OF 12" BELOW GRADE.
  - PROVIDE MARKINGS IN ACCORDANCE WITH ARTICLE 110 OF THE NEC. THIS SHALL INCLUDE, AS A MINIMUM: EQUIPMENT RATINGS, APPLICABLE HAZARD WARNINGS, AVAILABLE SHORT CIRCUIT CURRENT, AND DISCONNECTING MEANS.
  - MAINTAIN CLEAR SPACE FOR FUTURE SCADA PANEL.
  - MAINTAIN 30" WIDE X 36" DEEP IN FRONT OF PANEL PER NEC ARTICLE 110.26
  - EXTERIOR LUMINAIRE W/ PHOTOCELL CONTROL.

CIRCUIT SCHEDULE	
TAG	DESCRIPTION
1	1 1/4"C, (3)#2 & (1)#8 GND
2	1/2"C, (2)#12 & (1)#12 GND
3	2" NON-METALLIC LIQUID-TIGHT W/ SERVICE LATERALS BY HEA

COMPONENT SCHEDULE		
ITEM NO.	DESCRIPTION	MANUFACTURER OR EQUAL
E1	SURFACE MOUNT NEMA 3R, 100A, 240V, 1Ø METER/MAIN, COORDINATE WITH HEA.	CIRCLE AW CAT#U214MTBMS84
E2	100A, 240/120V, 1Ø NEMA 3R, 18 SPACE PANELBOARD 'A'	SQUARE D CAT#NQ18L1C
E3	240V, 3KW HEATER. PROVIDE LINE VOLTAGE THERMOSTAT FOR HEATER CONTROL.	QMARK CAT#MUH0321



**3 POWER ONE-LINE**  
 E3 SCALE: NTS

FIXTURE SCHEDULE					
TYPE	LAMP SIZE	TYPE	HEIGHT	DESCRIPTION	MANUFACTURER
L1	51W LED	CEILING SURFACE	8'-0"	IP65 RATED, LINEAR LED	CREE: WS450L57KSSL
L2	25W LED	WALL MOUNT	9'-0"	WALL PACK LED W/ PHOTOCELL	CREE: XSPWA02MG-ITP

**FOR CONSTRUCTION**

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 4/23/2019

HOMER A-FRAME PRV REPLACEMENT  
 MAIN STREET & DEHEL STREET SITE

**ELECTRICAL PLAN**

SHEET NO. **E3**

SCALE: SHOWN    DESIGNED: CW    CHECKED: JHF    DRAWN: CW    DATE: 4/23/2019    SHEET 20 OF 20