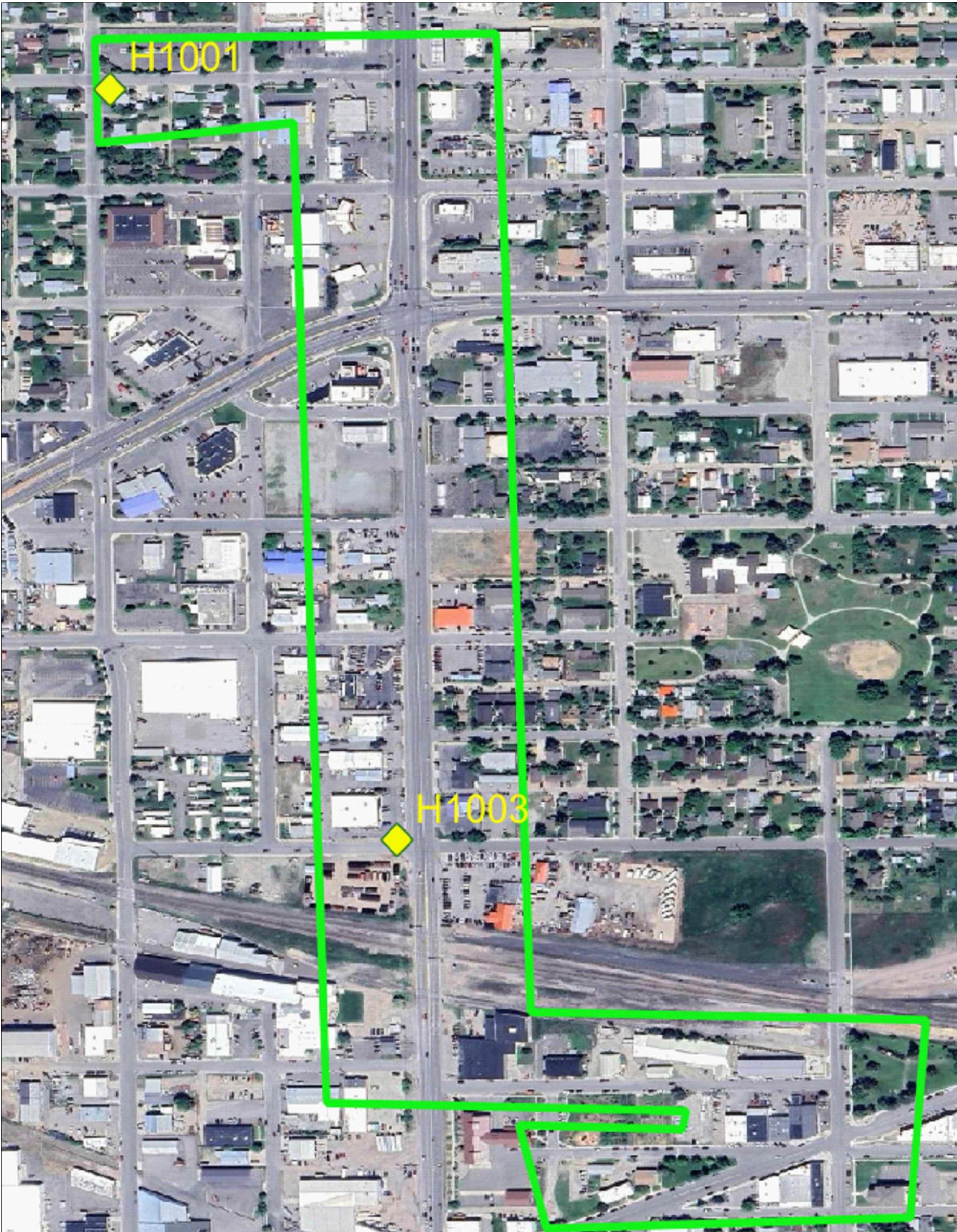
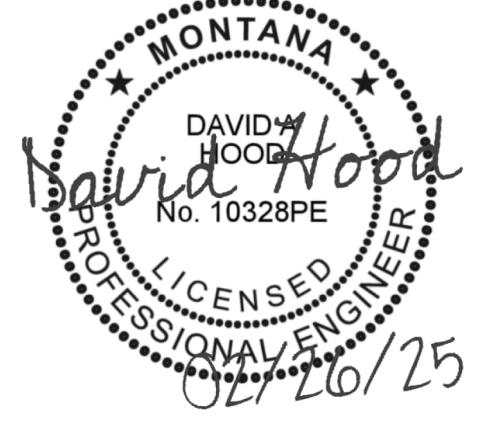


PERMITTING AGENCY:  
CITY OF HELENA

ROUTE 1  
5517454  
1236 HELENA AVE, HELENA ,MT, 59601



BUILD	
Bore footage:	0
Bore Pits:	0
Potholes :	0
New Aerial:	1768'
Lash:	0
New Vaults:	0
Existing Vaults:	0
New Pedestals:	0
Existing Pedestals:	0
Overpull Existing Conduit:	0
Total Project Footage:	1768'



CUSTOMER:

ORDER #:

ISSUED: DUE:

ADDRESS:

SERVICE TYPE:

ASSIGNMENT:

TEST: dB @ kHz

SPECIAL NOTES:

**PERMITS**

CITY	YES
TCP	YES
JPN	YES
RR	YES
DOT (MDT)	YES

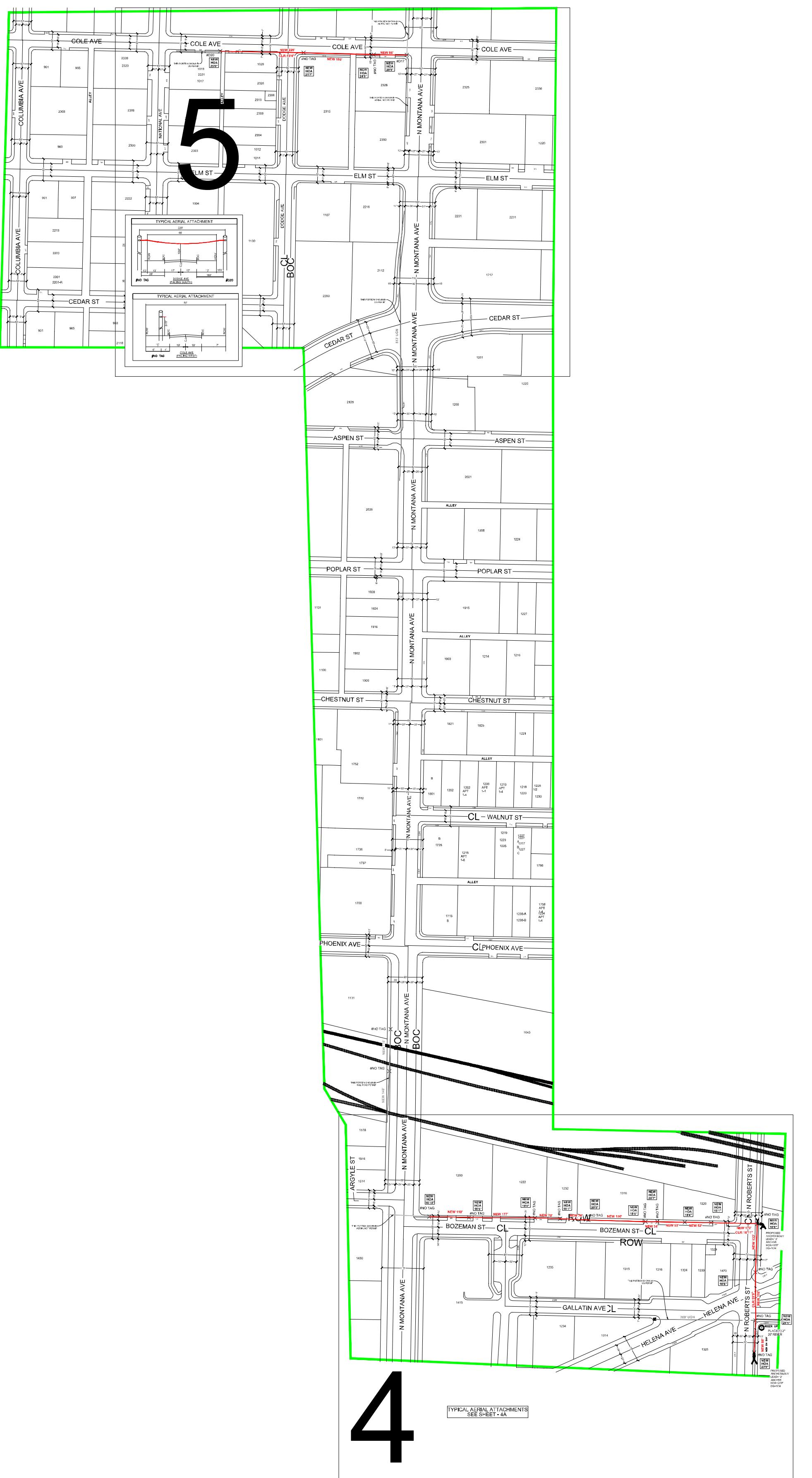
**REVISIONS**

07-18-23	CENTILLION SOLUTIONS LLC	SC
04-04-24	REDLINES	1
02-07-25	REDLINES	2



HLNAMTX1- F1 ROUTE 1  
1236 HELENA AVE, HELENA, MT 59601

PROJECT NUMBER:	5517454	C.O. AREA: HELENA
EXCH. CODE:	MT HELENA	
DRAWN DATE:	02/07/2025	CONTRACTOR: LEWIS AND CLARK
ENGR:	CHAD JERALD	PHONE: 208-255-9624
FILE:		HLNAMTX1-5517454-F1-ROUTE 1-HELENA-MT AERIAL PERMIT REV2 27-2LDVIG
SCALE:	N/A	TAX DISTRICT: N/A
DWG:	01	
TWNSHP:	T10N	RNG: R3W
SEC:		S29



**MONTANA**  
DAVID HODD  
No. 10328PE  
LICENSED PROFESSIONAL ENGINEER  
07/26/25

CUSTOMER:		
ORDER #:		
ISSUED:	DUE:	
ADDRESS:		
SERVICE TYPE:		
ASSIGNMENT:		
TEST: dB @ kHz		
SPECIAL NOTES:		
<b>PERMITS</b>		
CITY	YES	
TCP	YES	
JPN	YES	
RR	YES	
DOT (MDT)	YES	
REVISIONS		
07-18-23	CENTILLION SOLUTIONS LLC	SC
04-04-24	REDLINES	1
02-07-25	REDLINES	2
ziply fiber		
<b>HLNAMTX1- F1 ROUTE 1</b> <b>1236 HELENA AVE, HELENA, MT 59601</b>		
PROJECT NUMBER:	5517454	C.O. AREA: HELENA EXCH. CODE: MT HELENA
DRAWN DATE:	02/07/2025	ENGR: CHAD JERALD PHONE: 208-255-9624
SCALE:	N/A	CONTY: LEWIS AND CLARK FILE: HLNAMTX1-5517454-F1-ROUTE 1-HELENA-MT AERIAL PERMIT REV2 27-2LDIVG
TWNSHP:	T10N	TAX DISTRICT: N/A
RNG:	R3W	DWG 02
SEC: S29		

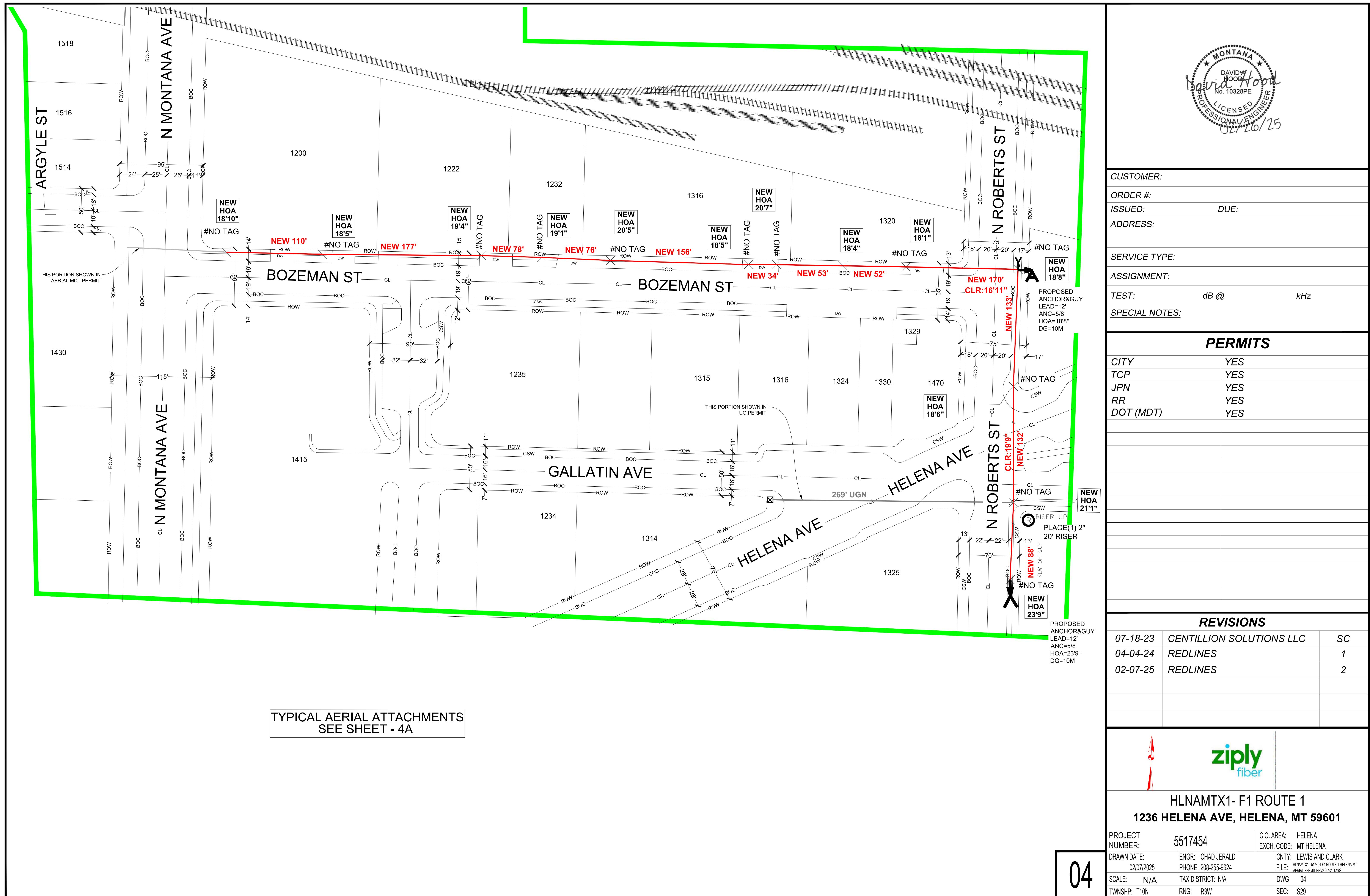
AERIAL LEGEND	
ANC	ANCHOR
CA ARM	CABLE ARM
CATV	CABLE TV
DG	DOWN GUY
DG&A	DOWN GUY & ANCHOR
F	FIBER
FGA	FIBER GLASS ARM
F/S	FIELD SIDE
GA	GUARD ARM
HOA	HEIGHT OF ATTACHMENT
M/R	MAKE READY
OHG	OVERHEAD GUY
R/S	ROAD SIDE
SLAN	LIGHT OR POWER COMPANY INVENTORY NUMBER
SWA	SIDEWALK ANCHOR AND GUY
T	TELEPHONE
TERM	TERMINAL
TRANS	TRANSFORMER

CABLE ARM ATTACHMENT LOCATION:

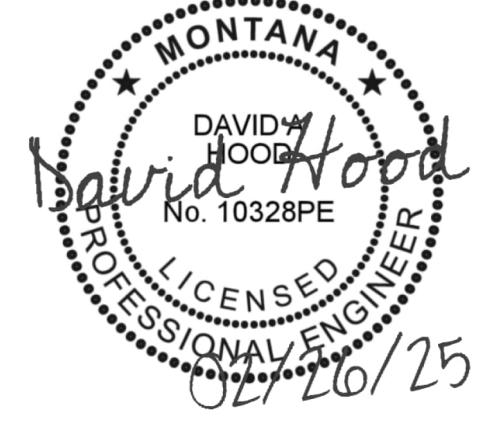
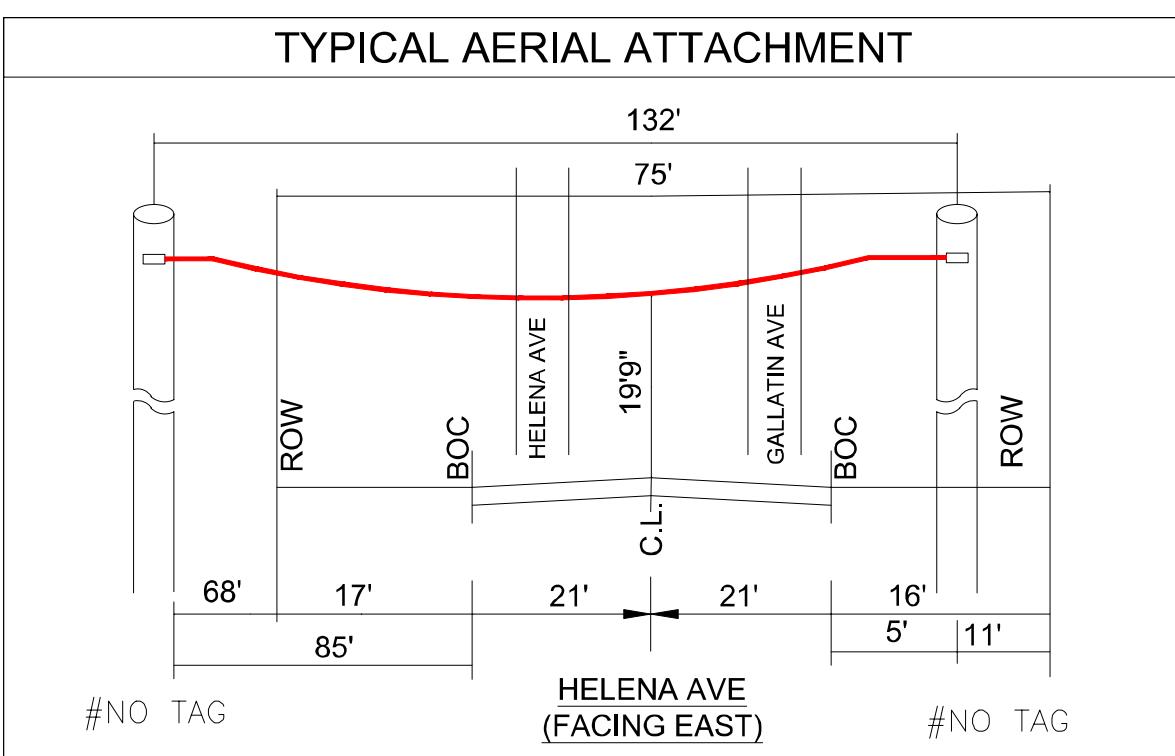
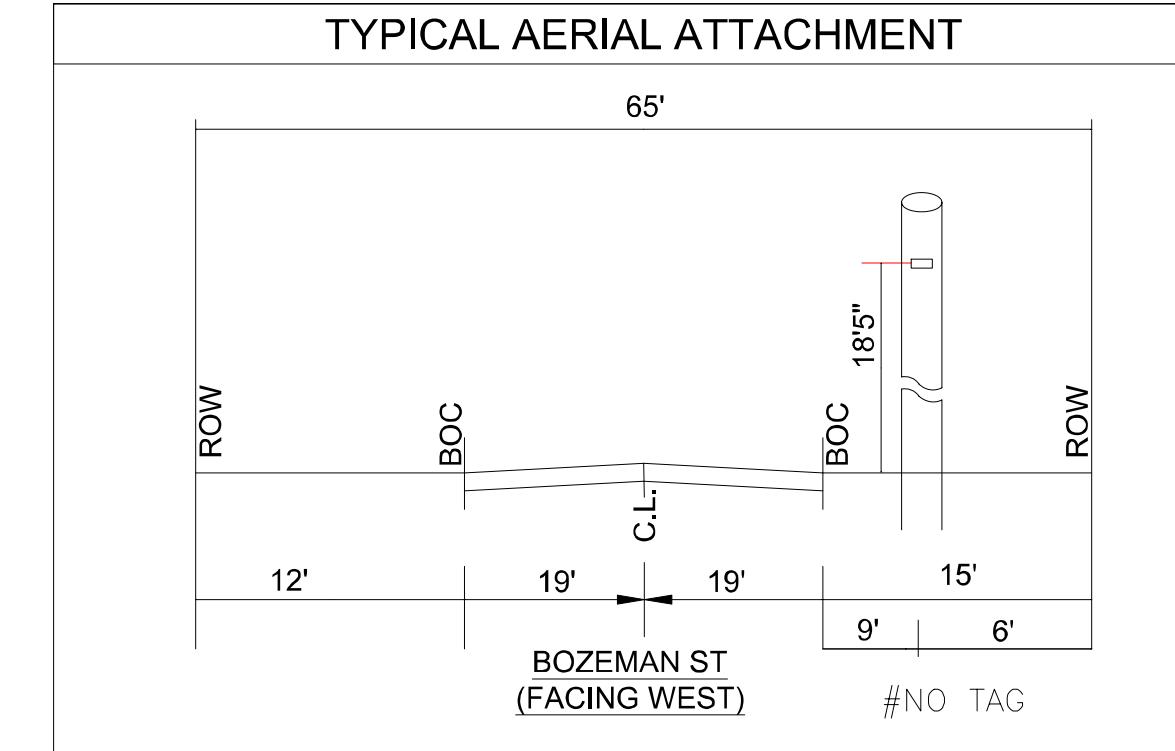
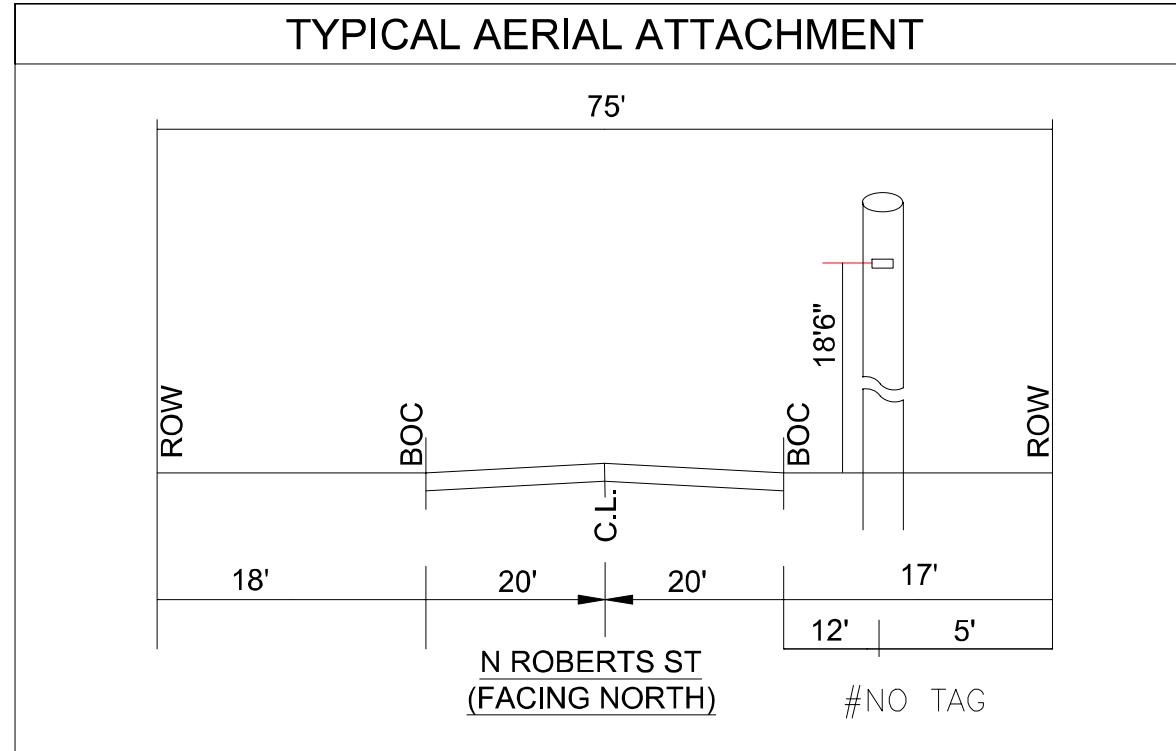
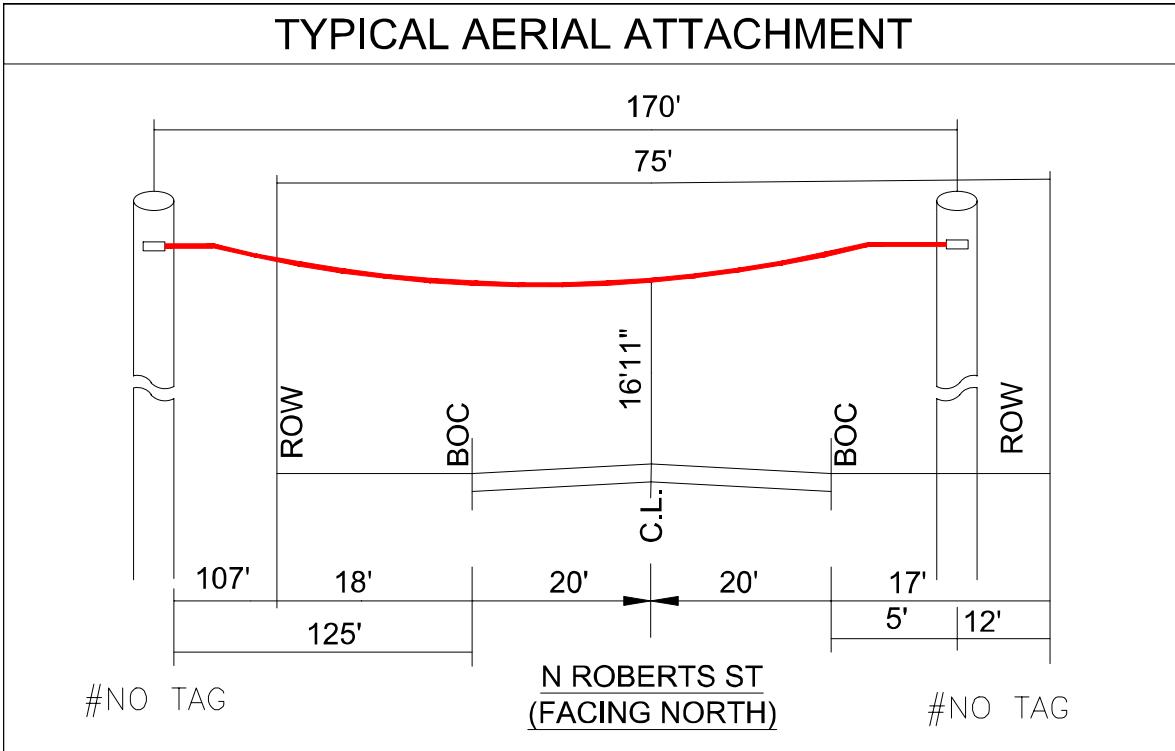
TF	TOP FIELD SIDE
TS	TOP STREET SIDE
TIP	TOP INSIDE POSITION
TIS	TOP INSIDE STREET SIDE
TMP	TOP MIDDLE POSITION
TOP	TOP OUTSIDE POSITION
TOS	TOP OUTSIDE STREET SIDE
BF	BOTTOM FIELD SIDE
BS	BOTTOM STREET SIDE
BIP	BOTTOM INSIDE POSITION
BIS	BOTTOM INSIDE STREET SIDE
BMP	BOTTOM MIDDLE POSITION
BUP	BOTTOM OUTSIDE POSITION
BOS	BOTTOM OUTSIDE STREET SIDE

LEGEND	
	- RISER
	- UG ROUTE
	- VAULT
	- AERIAL ROUTE
	- POWER USE POLE
	- NEW GUY WITH ANCHOR
	- NEW GUY WITH SIDEWALK ANCHOR
	- STREET CL
	- DRIVE WAY
	- EDGE OF BRIDGE
	- BACK OF CURB
	- EDGE OF PAVEMENT
	- RIGHT OF WAY

CUSTOMER:		
ORDER #:		
ISSUED:	DUEDATE:	
ADDRESS:		
SERVICE TYPE:		
ASSIGNMENT:		
TEST:	dB @ kHz	
SPECIAL NOTES:		
PERMITS		
CITY	YES	
TCP	YES	
JPN	YES	
RR	YES	
DOT (MDT)	YES	
REVISIONS		
07-18-23	CENTILLION SOLUTIONS LLC	SC
04-04-24	REDLINES	1
02-07-25	REDLINES	2
HLNAMTX1- F1 ROUTE 1 1236 HELENA AVE, HELENA, MT 59601		
PROJECT NUMBER:	5517454	C.O. AREA: HELENA EXCH. CODE: MT HELENA
DRAWN DATE:	02/07/2025	CONTRACT: LEWIS AND CLARK PHONE: 208-255-9624 FILE: HLNAMTX1-5517454-F1-ROUTE 1-HELENA-MT-AERIAL PERMIT REV2-27-2025.DWG
SCALE:	N/A	TAX DISTRICT: N/A DWG: 03
TWNNSHP:	T10N	RNG: R3W SEC: S29



FOR DESIGN  
SEE SHEET - 4



CUSTOMER:

ORDER #:

ISSUED:

DUE:

ADDRESS:

SERVICE TYPE:

ASSIGNMENT:

TEST: dB @ kHz

SPECIAL NOTES:

### PERMITS

CITY	YES
TCP	YES
JPN	YES
RR	YES
DOT (MDT)	YES

### REVISIONS

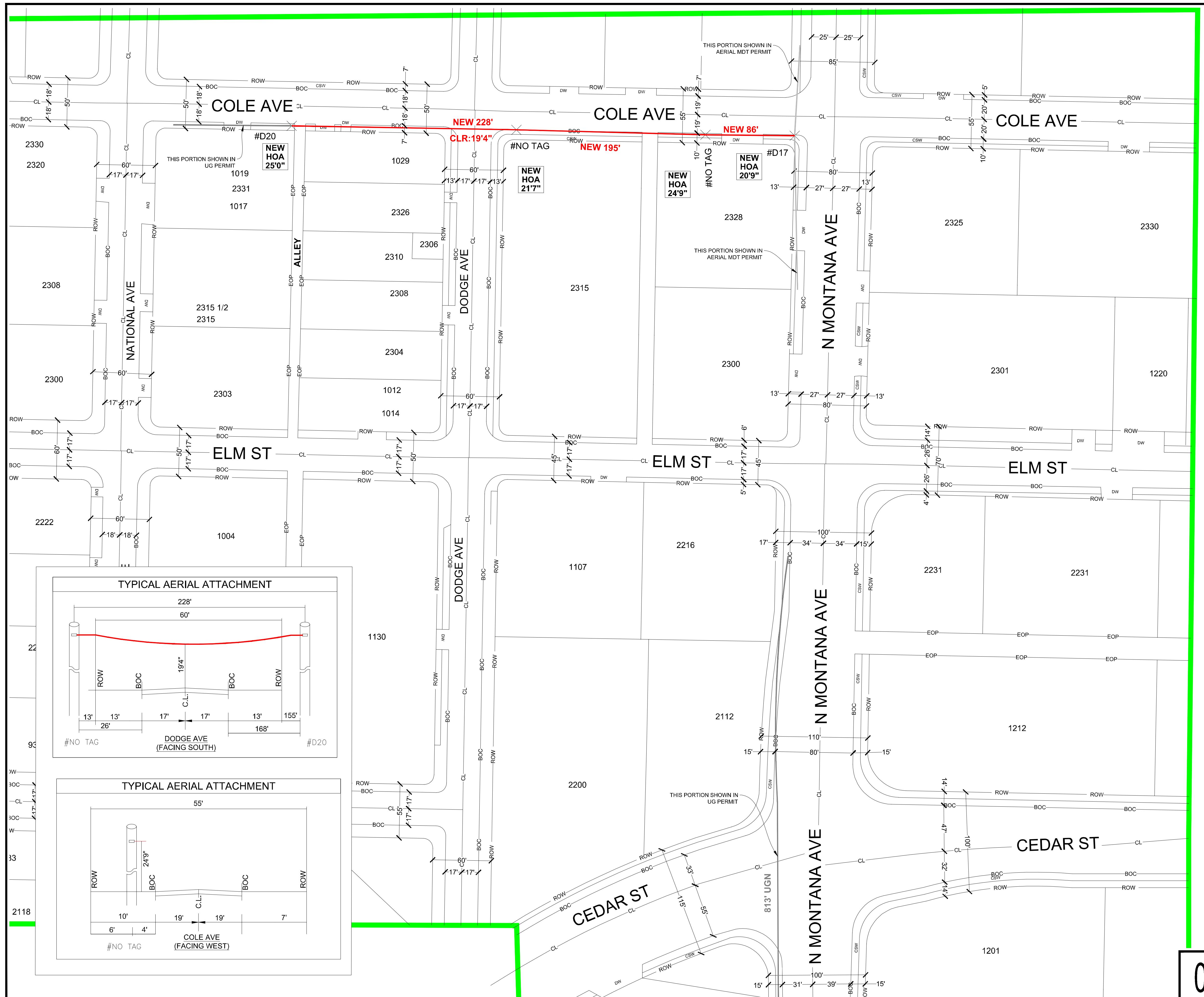
07-18-23	CENTILLION SOLUTIONS LLC	SC
04-04-24	REDLINES	1
02-07-25	REDLINES	2



HLNAMTX1- F1 ROUTE 1  
1236 HELENA AVE, HELENA, MT 59601

PROJECT NUMBER:	5517454	C.O. AREA: HELENA EXCH. CODE: MT HELENA
DRAWN DATE:	02/07/2025	CONTRACTOR: LEWIS AND CLARK PHONE: 208-255-9624 FILE: HLNAMTX1-5517454-F1-ROUTE 1-HELENA-MT-AERIAL PERMIT REV2 2/7-2025.DWG
SCALE:	N/A	TAX DISTRICT: N/A DWG 4A
TWNSHP:	T10N	RNG: R3W SEC: S29

4A



# PERMITTING AGENCY: CITY OF HELENA



A circular professional engineer license seal. The outer ring contains the word "PROFESSIONAL" at the bottom and "ENGINEER" at the top, separated by a vertical line. The inner circle features the name "DAVID A HOOD" above the number "No. 10328PE". At the very top of the inner circle is the word "MONTANA". The date "02/26/25" is stamped at the bottom of the inner circle. Two stars are positioned on either side of the name.

## **INDEX OF SHEET**

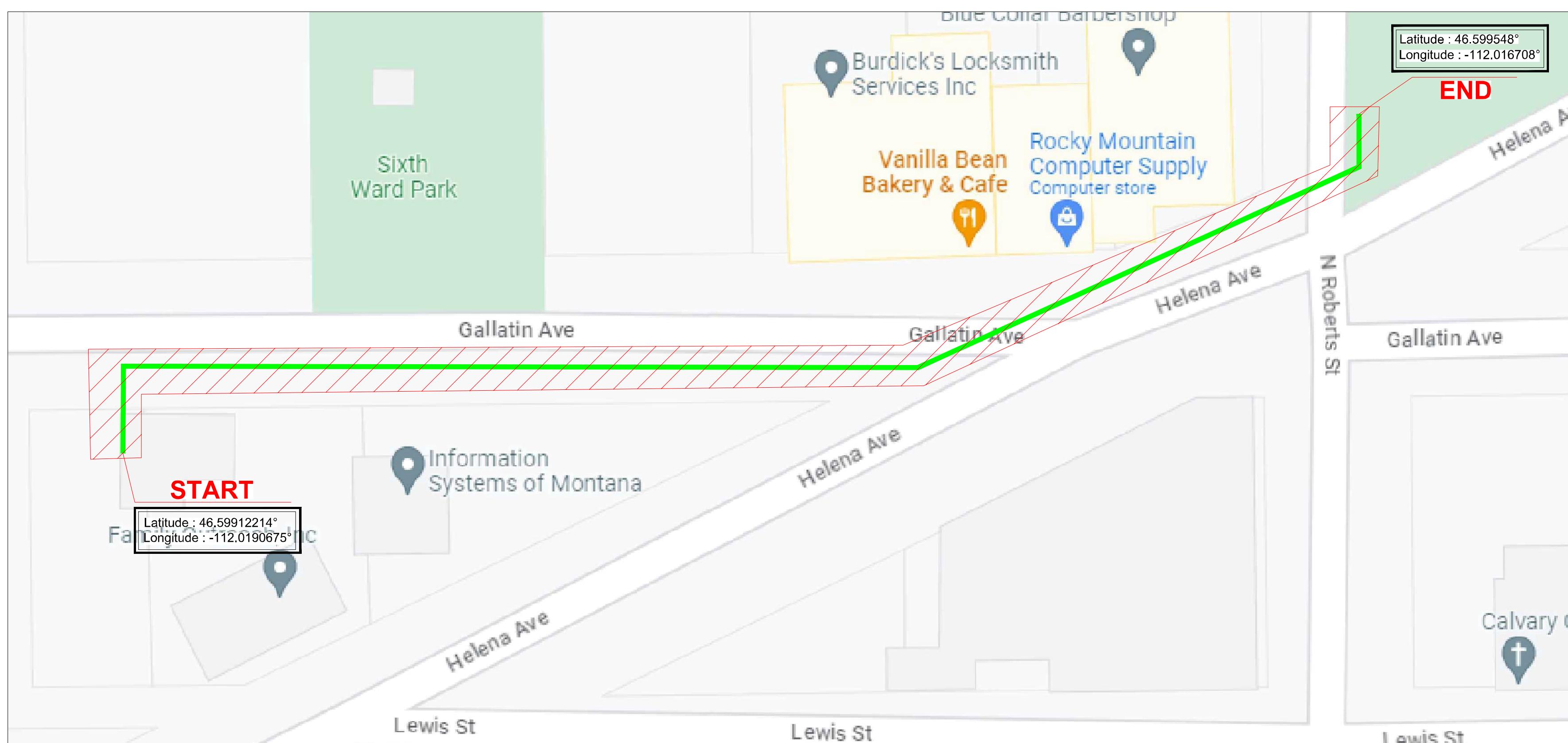
- 001 OF 007. COVER SHEET
  - 002 OF 007. LEGEND
  - 003 OF 007. ADDITIONAL NOTES & DETAILS
  - 004 OF 007. HH DETAILS
  - 005 OF 007. PLAN OVERVIEW
  - 006 OF 007. PLAN VIEW -1
  - 007 OF 007. PLAN VIEW -2

# CONSTRUCTION PACKAGE #5517454

**1236 HELENA AVE,  
HELENA, MT 59601**

# UG PERMIT

# VICINITY MAP



# PICK UP POINT

**RISER POLE  
#NO TAG**

## MATERIALS:

- (1) NEW 3'X5' HH  
(1) NEW 2'X3' HH  
245' OF 1-2" PVC CONDUIT  
419' OF 1-2" HDPE CONDUIT

# PATH FOOTAGE:

**BORE = 419'  
TRENCH = 245'  
RISER= 20'**

**CUSTOMER:**

*ORDER #:*

**ISSUED:** \_\_\_\_\_ **DUE:** \_\_\_\_\_

**ADDRESS:**

***SERVICE TYPE:***

## ASSIGNMENT:

**SPECIAL NOTES:**

## **PERMITS**

CITY	YES
TCP	YES
JPN	YES
RR	YES
DOT (MDT)	YES

## **REVISI<sup>N</sup>S**

11-17-22	CENTILLION SOLUTIONS LLC	SC
04-04-24	REDLINES	1



HINAMTX1- F1 ROUTE 1

**1236 HELENA AVE. HELENA, MT 59601**

PROJECT NUMBER:	5517454	C.O. AREA: HELENA EXCH. CODE: MT HELENA
DRAWN DATE:  02/07/2024	ENGR: CHAD JERALD  PHONE: 208-255-9624	CNTY: LEWIS AND CLARK  FILE: HLNAME1-5517454-F1 ROUTE 1-HELENA-MT UG PERM CITY REV2 02-07-25.DWG
SCALE: N/A	TAX DISTRICT: N/A	DWG 01
TWNSHP: T10N	RNG: R3W	SEC: S29

01

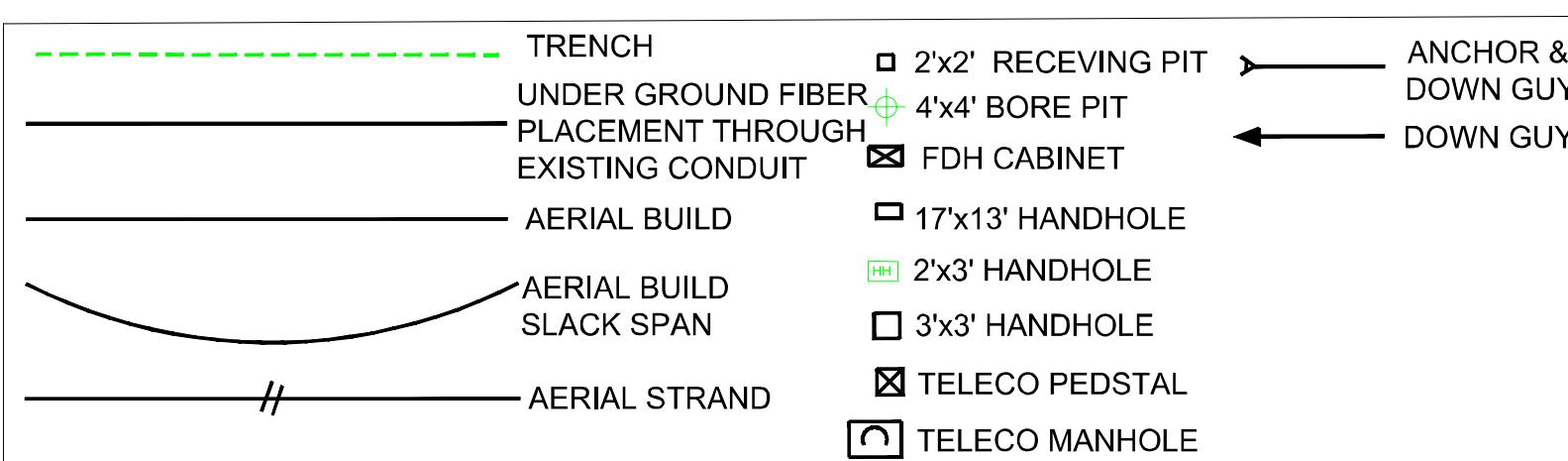
## AERIAL LEGEND

ANC	ANCHOR	WA	WOOD ARM
CA ARM	CABLE ARM	AA	ALLEY ARM
CATV	CABLE TV	MA	METAL (SEATTLE) ARM
DG	DOWN GUY	CA	COMPOSITE (PUPU) ARM
DGA	DOWN GUARD ARM		
FGA	FIBER GLASS ARM		
F/S	FIELD SIDE		
GA	GUARD ARM		
HOA	HEIGHT OF ATTACHMENT		
M/R	MAKE READY		
OHG	OVERHEAD GUY		
R/S	ROAD SIDE		
SLAN	LIGHT OR POWER COMPANY INVENTORY NUMBER		
SWA	SIDEWALK ANCHOR AND GUY		
T	TELEPHONE		
TERM	TERMINAL		
TRANS	TRANSFORMER		
TAPE & SHAPE	REQUEST FOR POWER COMPANY TO CLEAN UP SECONDARY POWER CABLES AND/OR TOP OF RISER CABLES SO PROPOSED CABLES CAN BE ATTACHED WITHOUT VIOLATING THE 40' RULE		
CABLE ARM ATTACHMENT LOCATION:			
TF	TOP FIELD SIDE	FS	FIELD SIDE
TS	TOP STREET SIDE	RS	ROAD SIDE
TIP	TOP INSIDE POSITION	DE	DEAD END ATTACHEMT
TIS	TOP INSIDE STREET POSITION	FDE	FALSE DEAD END ATTACHMENT
TMP	TOP MIDDLE POSITION	IM	INTEGRATED MESSENGER
TOP	TOP OUTSIDE POSITION	SLM A	STREET LIGHT MAST ARM
TOS	TOP OUTSIDE STREET POSITION	DL	DRIP LOOP
BF	BOTTOM FIELD SIDE		
BS	BOTTOM STREET SIDE		
BIP	BOTTOM INSIDE SIDE		
BIS	BOTTOM INSIDE STREET SIDE		
BMP	BOTTOM MIDDLE POSITION		
BOS	BOTTOM OUTSIDE STREET SIDE		

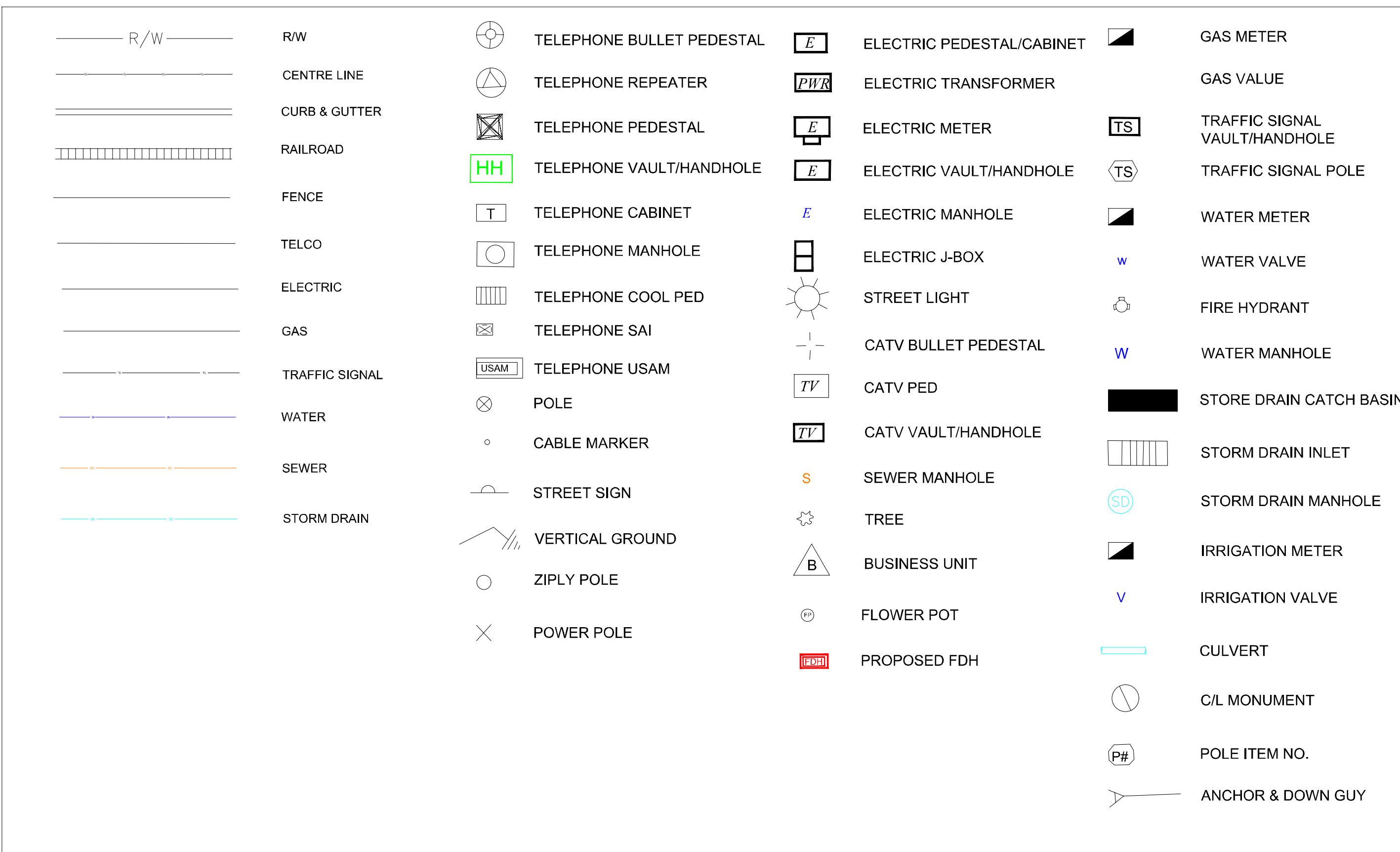
## ABBREVIATIONS:

BLDG	BUILDING	PED	PEDESTAL (UTILITY)
C/L	CENTER LINE	PVC	POLYVINYL CHLORIDE
CONC	CONCRETE	P/L	PROPERTY LINE
CSW	CONCRETE SIDE WALK	RR	RAIL ROAD
DW	DRIVEWAY	R/W	RIGHT OF WAY
EOC	EDGE OF CURB	SL	STREET LIGHT
EOP	EDGE OF PAVEMENT	W-BLDG	WALL TO BUILDING
ETW	ETW LINE	W-P	WALL TO POLE
HH	HANDHOLE	W-W	WALL TO WALL
MH	MAN HOLE	P.U.E	PUBLIC UTILITY EASEMENT
NTS	NOT TO SCALE		

## PROPOSED EQUIPMENT LEGEND

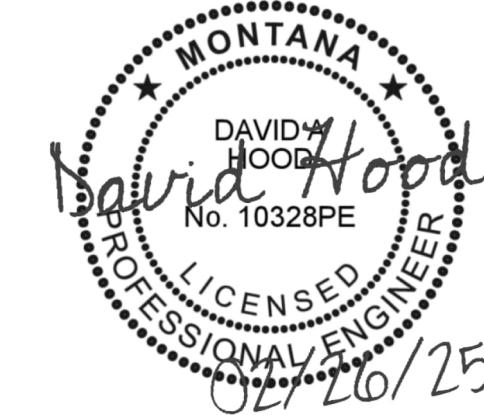


## EXISTING EQUIPMENT LEGEND



### CONSTRUCTION NOTES:

1. CALL UTILITY LOCATE AT 811, 72 HOURS PRIOR TO TRENCHING OR DIGGING.
2. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY FIELD INSPECTION AND A SEARCH OF THE AVAILABLE CITY OR COUNTY RECORDS. SINCE THE ACTUAL LOCATION AND NATURE OF THE UNDERGROUND FACILITIES MAY BE SOMEWHAT DIFFERENT FROM THAT SHOWN, THE CONTRACTOR IS REQUIRED TO VERIFY PRIOR TO EXCAVATION.
3. FOR UNDERGROUND ACTIVITY: TEST AND VENTILATE MANHOLE/UTILITY VAULT PRIOR TO ENTRY. PLACE WARNING DEVICES AND WORK AREA PROTECTION AS REQUIRED, AND USE EYE AND HEAD SAFETY PROTECTION PER FEDERAL, STATE, AND LOCAL REGULATIONS.
4. ALL EXCAVATION, TRENCHING, AND SHORING IS TO ADHERE TO THE CODE OF FEDERAL REGULATIONS (CFR) 1926.650 SUBPART P.
  - a. PROVIDE ALL PITS WITH 1'X1' SLOPE AT ONE END OF EXCAVATION FOR TECHNICIAN INGRESS/EGRESS.
  - b. EXCAVATED SPOILS ARE TO BE NO LESS THAN 24" FROM EDGE OF PIT OR TRENCH.
  - c. BARRICADE ALL OPEN PITS AND TRENCHING FOR PUBLIC SAFETY. ALL BARRICADES MUST BE EQUIPPED WITH FLASHING LIGHTS FOR NIGHT VISIBILITY.
  - d. FOR PITS GREATER THAN 4' IN DEPTH, USE APPROPRIATE SHORING FOR WALL STABILITY
5. TRENCH COVER IS TO BE 36" MINIMUM AND FREE OF ROCKS, DEBRIS, AND CLOUDS. THE TRENCH IS TO BE A MINIMUM OF 36" COVER IN DEVELOPED AREAS AND A MINIMUM OF 48" OF COVER IN UNDEVELOPED AREAS (ANY VARIANCE FROM THESE STANDARDS WILL BE SPECIFIED ON THE PLANS).
6. TRENCH CROSSINGS SHALL BE BACKFILLED WITH CDF HAVING A COMPRESSIVE STRENGTH OF 50 PSI AT 28-DAY COMPRESSIVE STRENGTH.
7. ALL ASPHALT/CONCRETE AND LANDSCAPING REMOVED, DISTURBED, OR DAMAGES AS A RESULT OF CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER.
8. NORMAL/GUIDED-BORING METHOD RECOMMENDED WHEN BORING.
9. ADHERE TO AIRTIGHT GUIDELINES UNLESS OTHERWISE NOTED.
10. BOND BURIED/AERIAL FACILITIES AS REQUIRED BY JURISDICTIONAL AGENCY(S).
11. AERIAL FACILITIES ARE TO BE TESTED PRIOR TO BEGINNING WORK PER STATE AND LOCAL REGULATIONS.
12. ALL WORK AREA PROTECTION FOR TRAFFIC CONTROL IS TO BE WITH APPROVED WARNING DEVICES AND PLACED PER STATE DEPARTMENT OF TRANSPORTATION AND/OR PUBLIC WORKS ENGINEERING DEPARTMENT STANDARDS AND SPECIFICATIONS. IF REQUIRED, A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE REQUESTING PERMITTING AGENCY. PRIOR TO BEGINNING WORK, PERMITTING AGENCIES MUST BE NOTIFIED 48 HOURS IN ADVANCE OF CONSTRUCTION ACTIVITIES.
13. EXISTING PEDESTRIAN CROSSWALKS AND WALKING AREAS SHALL BE MAINTAINED AT ALL TIMES. AS NECESSARY, TEMPORARY PEDESTRIAN CROSSWALKS AND WALKING AREAS SHALL BE PROVIDED AND MAINTAINED PER STATE DEPARTMENT OF TRANSPORTATION AND/OR PUBLIC WORKS ENGINEERING DEPARTMENT STANDARDS AND SPECIFICATIONS.
14. THE PROVIDED FOOTAGES ARE ESTIMATES. FOOTAGES TO BE VERIFIED PRIOR TO CONSTRUCTIONS.



CUSTOMER:

ORDER #:

ISSUED: DUE:

ADDRESS:

SERVICE TYPE:

ASSIGNMENT:

TEST: dB @ kHz

SPECIAL NOTES:

## PERMITS

CITY	YES
TCP	YES
JPN	YES
RR	YES
DOT (MDT)	YES

## REVISIONS

11-17-22	CENTILLION SOLUTIONS LLC	SC
04-04-24	REDLINES	1
02-07-25	REDLINES	2



HLNAMTX1 F1 ROUTE 1  
1236 HELENA AVE, HELENA, MT 59601

PROJECT NUMBER:	5517454	C.O. AREA: HELENA
EXCH. CODE:	MT HELENA	
DRAWN DATE:	02/07/2024	CONY: LEWIS AND CLARK
ENGR:	CHAD JERALD	FILE: HLNAMTX1-5517454-1 ROUTE 1-HELENA-MTG PERMIT
PHONE:	208-255-9624	CITY: HELENA
SCALE:	N/A	TAX DISTRICT: N/A
TWNSHP:	T10N	DWG: 02
RNG:	R3W	SEC: S29

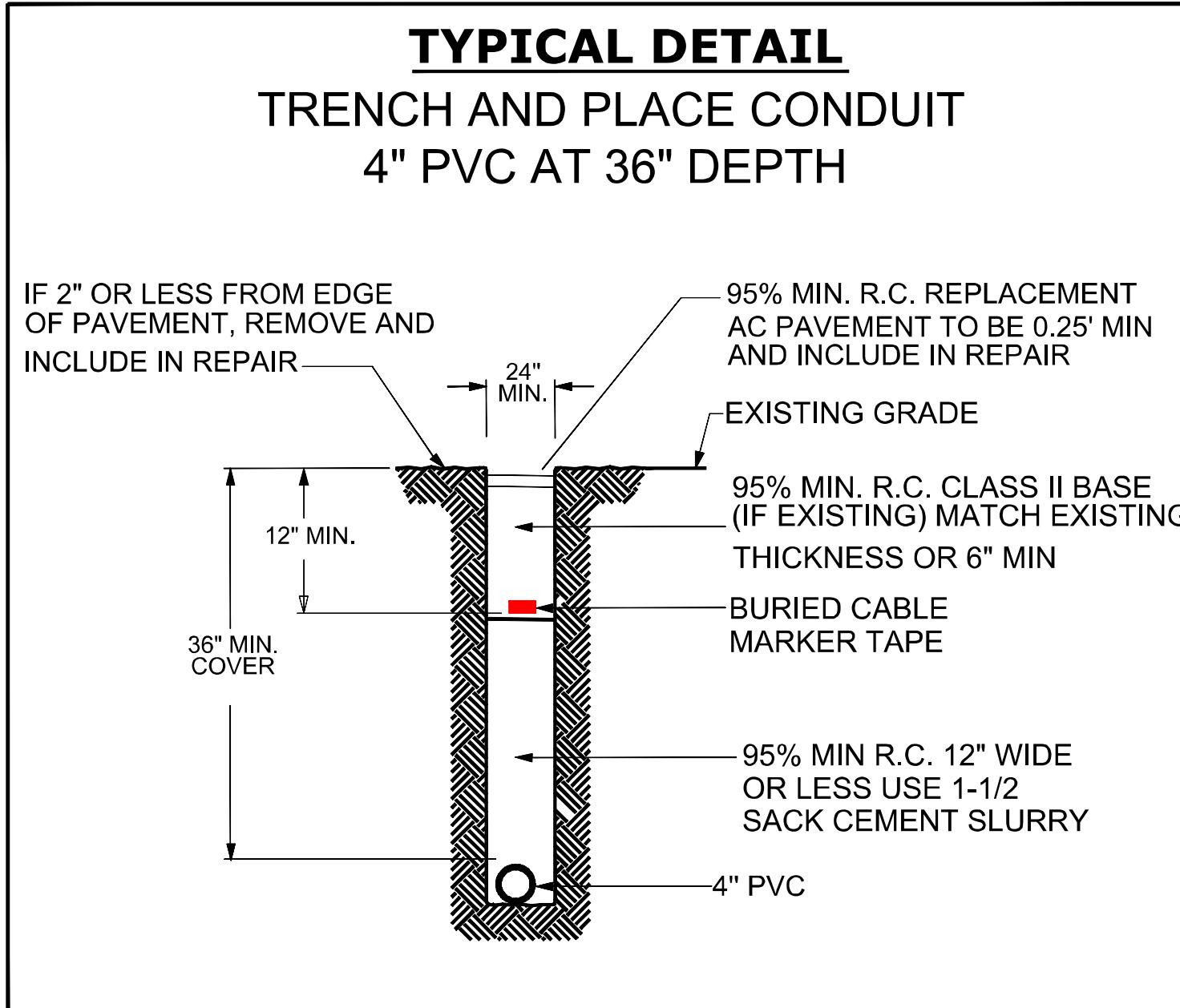
## ADDITIONAL NOTES & DETAILS

### ADDITIONAL NOTES

1. EXCEPT AS OTHERWISE NOTED, CONTRACTOR SHALL MAINTAIN A MINIMUM OF 24 INCHES OF SEPARATION FROM EXISTING UTILITIES.
2. CONTRACTOR SHALL POTHOLE EACH UTILITY TO DETERMINE SIZE, LOCATION, AND DEPTH PRIOR TO CROSSING.
3. CONTRACTOR IS CAUTIONED TO PROTECT SEWER MANHOLES, CATCH BASINS, LATERALS AND INLETS.
4. CONTRACTOR WILL PROVIDE BARRICADING TO INSURE CORRECT TRAFFIC CONTROL WHILE MAINTAINING VEHICULAR TRAFFIC AT ALL TIMES.
5. RESTORATION TO BE IN COMPLIANCE WITH ZIPLY AND APPLICABLE PERMITTING AGENCIES.
6. BONDING AND GROUNDING PER NES.

### PUBLIC UTILITY NOTE

CONTRACTOR SHALL NOTIFY ALL PUBLIC UTILITY COMPANIES (GAS, ELECTRIC, TELEPHONE, SEWER, WATER, ETC) PRIOR TO COMMENCING ANY CONSTRUCTION. THESE COMPANIES WILL LOCATE, ON THE GROUND, THE LOCATION OF ALL CONDUITS, DUCTS, UNDERGROUND PIPING, ETC., ADJOINING & CROSSING PROPOSED CONSTRUCTION.



CUSTOMER:

ORDER #:

ISSUED: DUE:

ADDRESS:

SERVICE TYPE:

ASSIGNMENT:

TEST: dB @ kHz

SPECIAL NOTES:

### PERMITS

CITY	YES
TCP	YES
JPN	YES
RR	YES
DOT (MDT)	YES

### REVISIONS

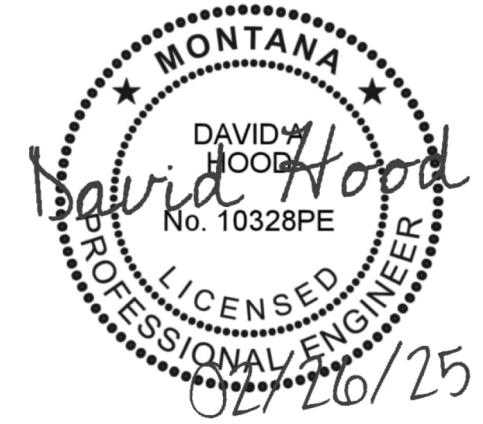
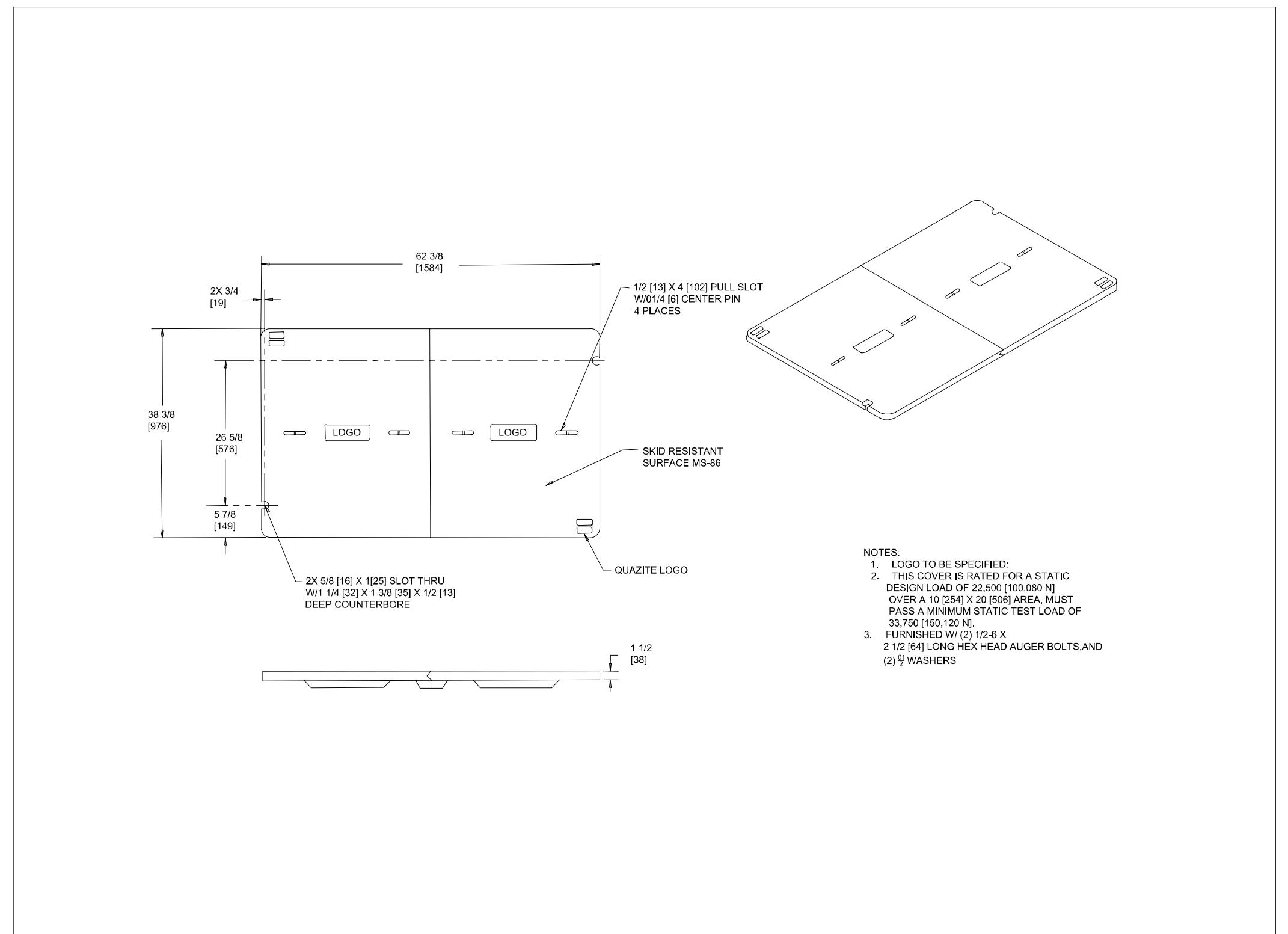
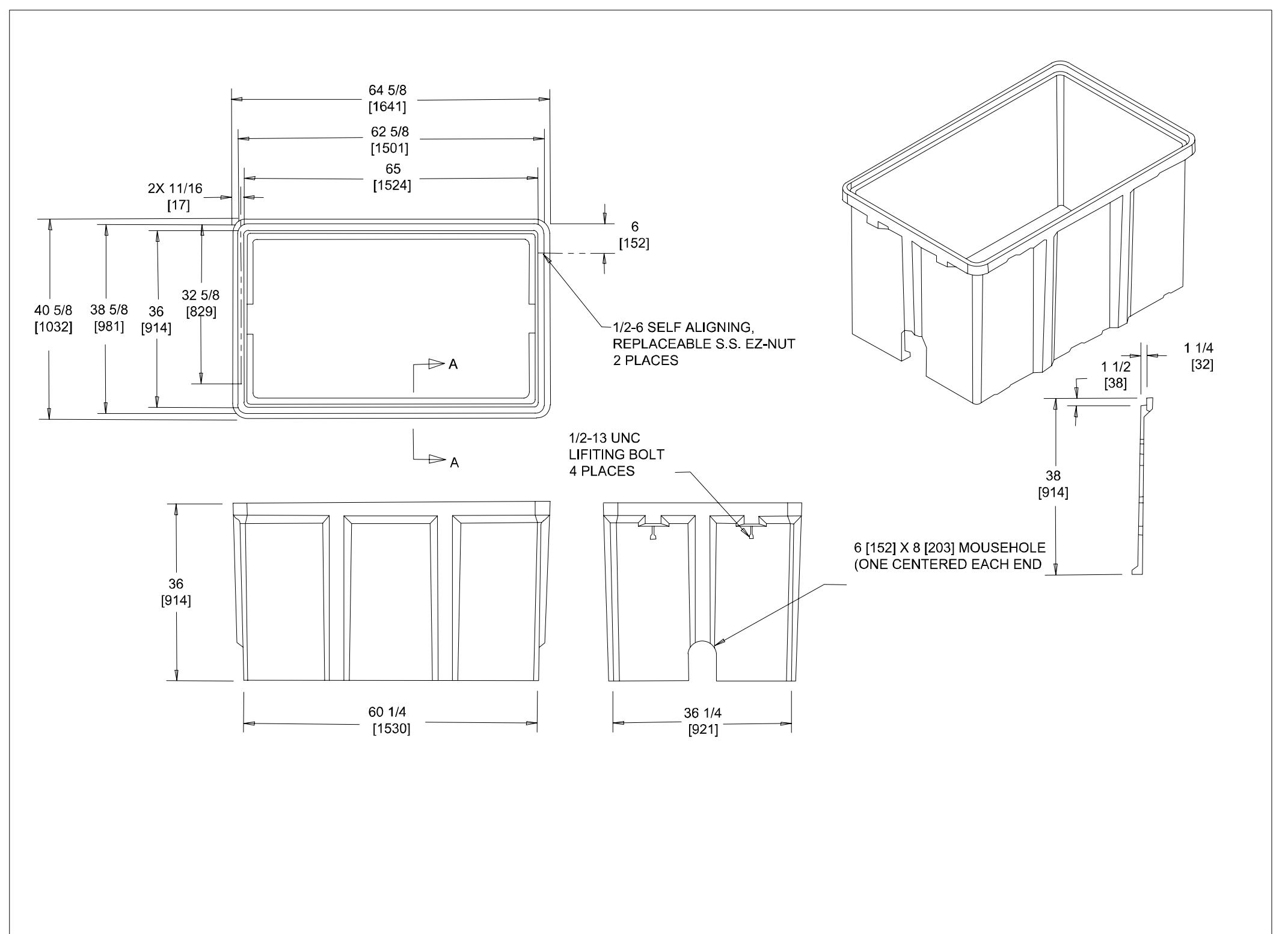
11-17-22	CENTILLION SOLUTIONS LLC	SC
04-04-24	REDLINES	1
02-07-25	REDLINES	2



HLNAMTX1- F1 ROUTE 1  
1236 HELENA AVE, HELENA, MT 59601

PROJECT NUMBER:	5517454	C.O. AREA: HELENA EXCH. CODE: MT HELENA
DRAWN DATE:	ENGR: CHAD JERALD 02/07/2024	CTY: LEWIS AND CLARK FILE: HLNAMTX1-5517454-F1 ROUTE 1-HELENA-MTG PERMIT CITY: HELENA-ZIPLY-F1
SCALE: N/A	TAX DISTRICT: N/A	DWG 03
TWNSHP: T10N	RNG: R3W	SEC: S29

### 36" x 60" x 36" HANDHOLE DETAILS



CUSTOMER:

ORDER #:

ISSUED: DUE:

ADDRESS:

SERVICE TYPE:

ASSIGNMENT:

TEST: dB @ kHz

SPECIAL NOTES:

### PERMITS

CITY	YES
TCP	YES
JPN	YES
RR	YES
DOT (MDT)	YES

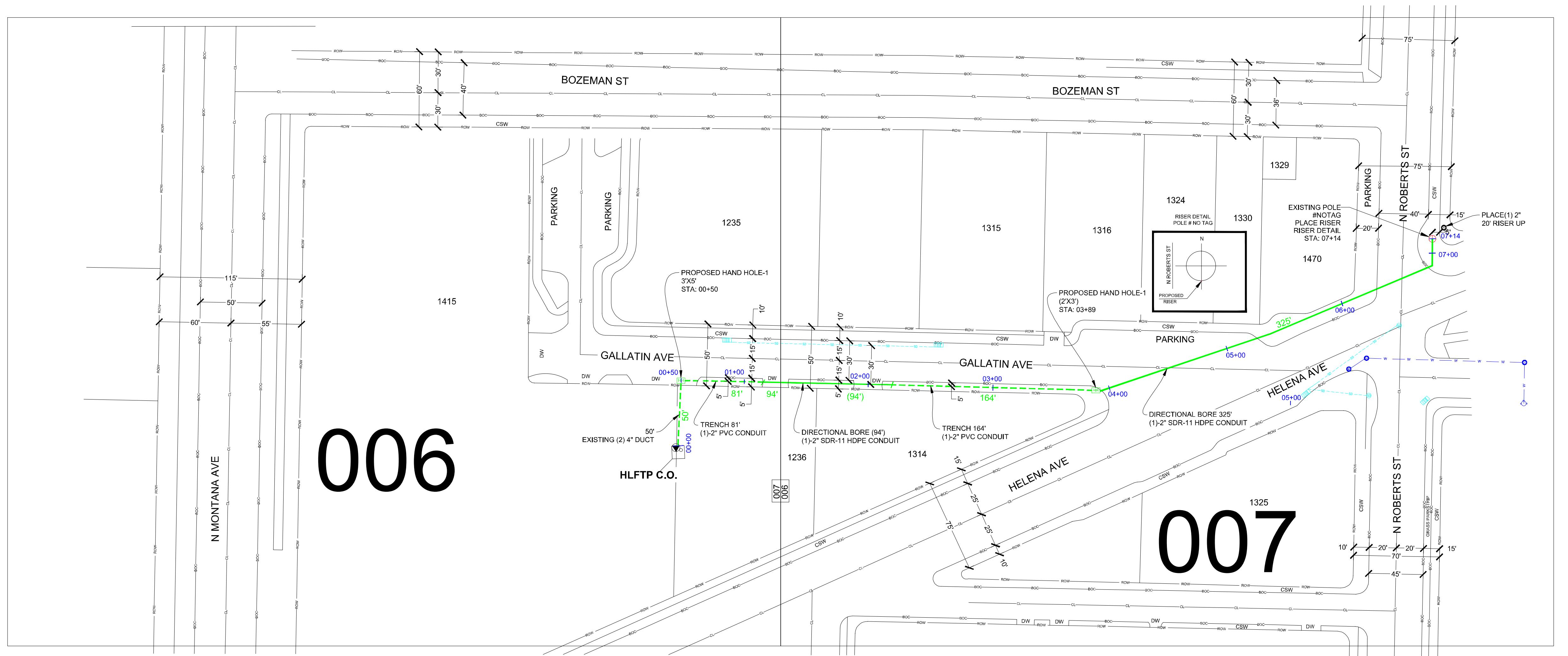
### REVISIONS

11-17-22	CENTILLION SOLUTIONS LLC	SC
04-04-24	REDLINES	1
02-07-25	REDLINES	2



HLNAMTX1- F1 ROUTE 1  
1236 HELENA AVE, HELENA, MT 59601

PROJECT NUMBER:	5517454	C.O. AREA: LEWIS AND CLARK EXCH. CODE: MT HELENA
DRAWN DATE:	ENGR: CHAD JERALD 02/07/2024	CTY: HELENA FILE: HLNAMTX1-5517454-1 ROUTE 1-HELENA-MTG PERMIT CITY REV 02/07/2024.DWG
SCALE: N/A	TAX DISTRICT: N/A	DWG 04
TWNSHP: T10N	RNG: R3W	SEC: S29



05



CUSTOMER:

ORDER #:

ISSUED: DUE:

ADDRESS:

SERVICE TYPE:

ASSIGNMENT:

TEST: dB @ kHz

SPECIAL NOTES:

### PERMITS

CITY	YES
TCP	YES
JPN	YES
RR	YES
DOT (MDT)	YES

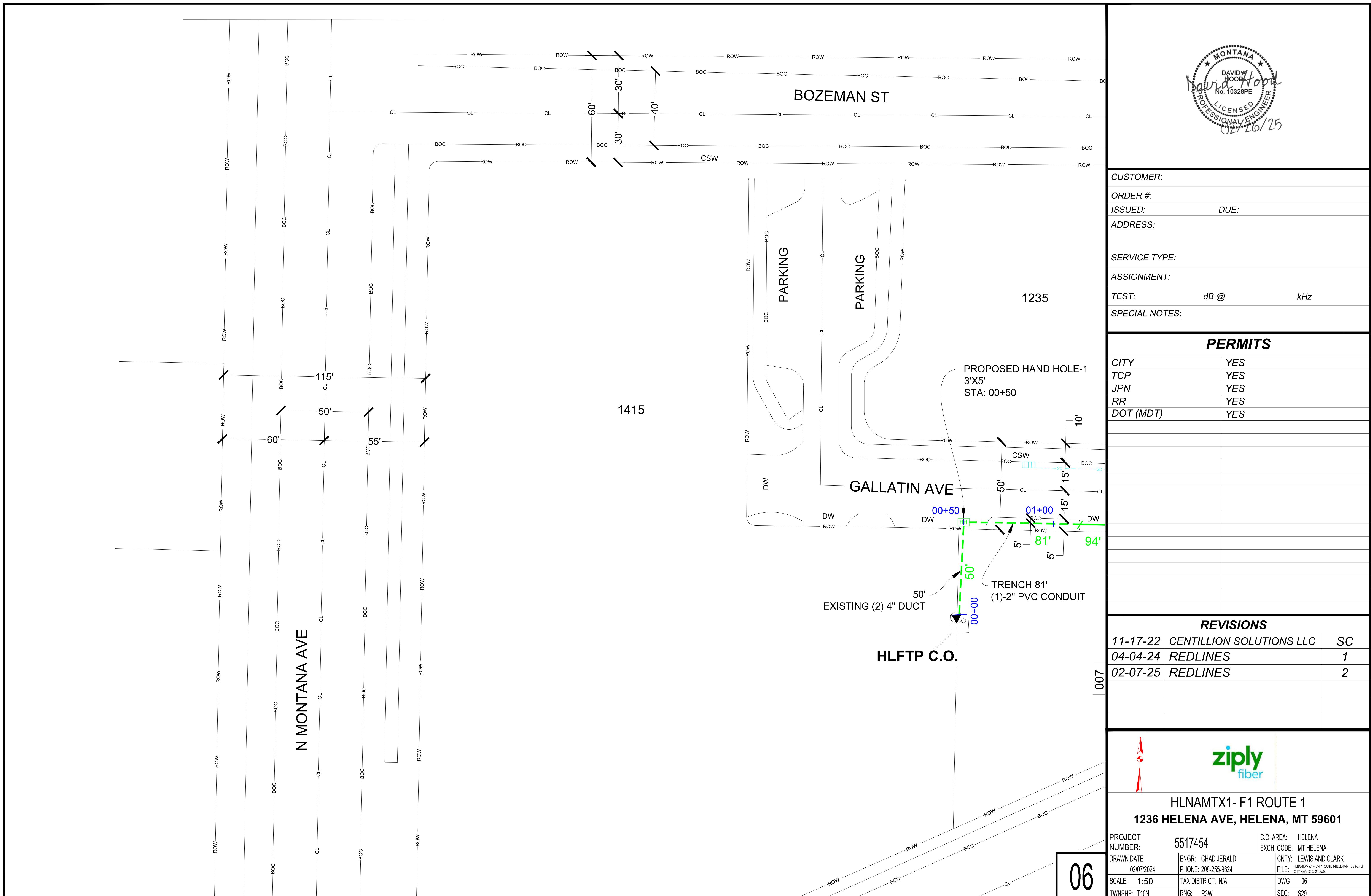
### REVISIONS

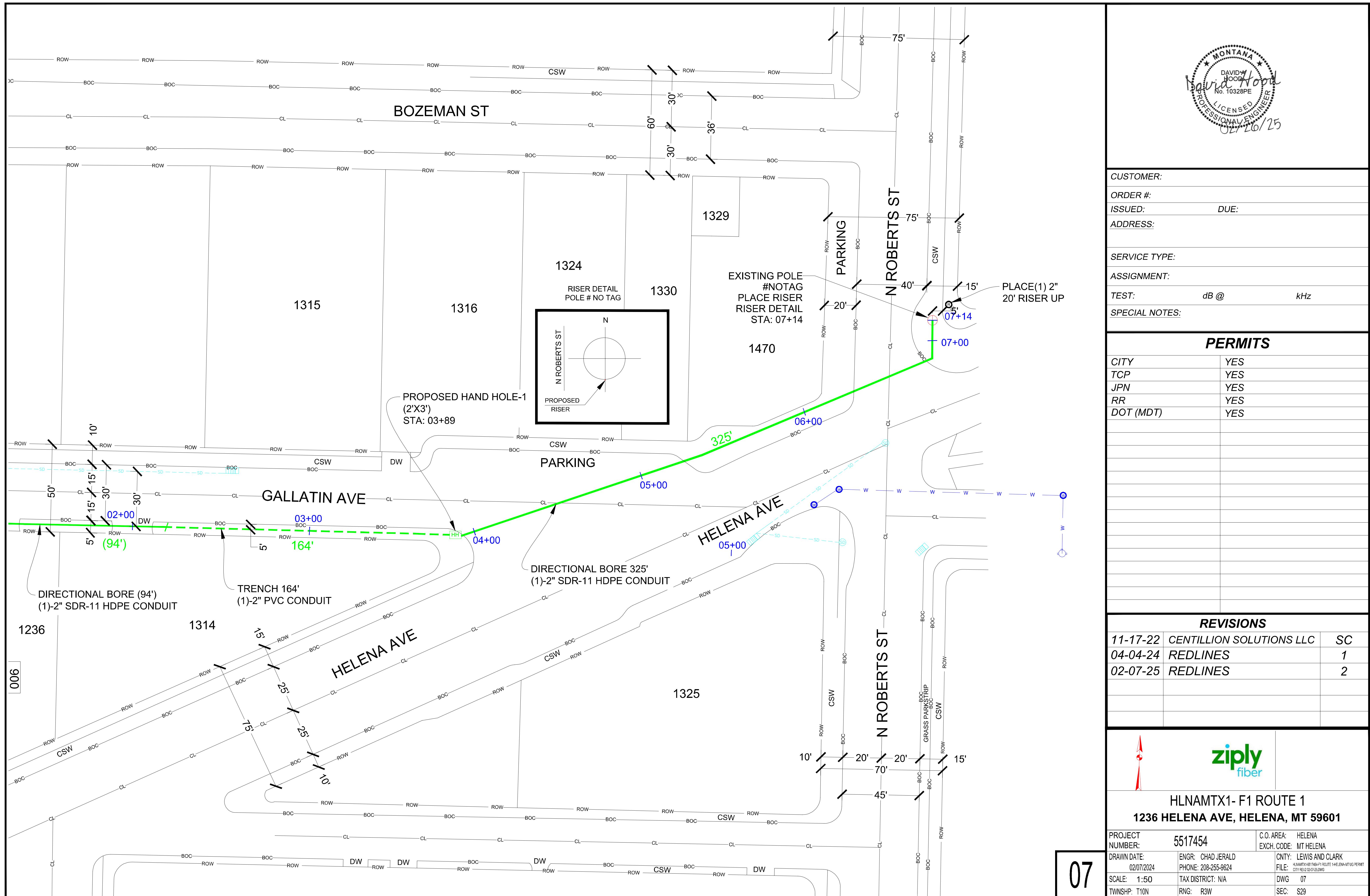
11-17-22	CENTILLION SOLUTIONS LLC	SC
04-04-24	REDLINES	1
02-07-25	REDLINES	2



HLNAMTX1- F1 ROUTE 1  
1236 HELENA AVE, HELENA, MT 59601

PROJECT NUMBER:	5517454	C.O. AREA: HELENA
EXCH. CODE:	MT HELENA	
DRAWN DATE:	02/07/2024	CONTRACTOR: LEWIS AND CLARK
PHONE:	208-255-9624	FILE: HLNAMTX1-5517454-F1 ROUTE 1-HELENA-MTUG PERMIT
SCALE:	N/A	TAX DISTRICT: N/A
DWG:	05	
TWNSHP:	T10N	RNG: R3W
SEC:	S29	

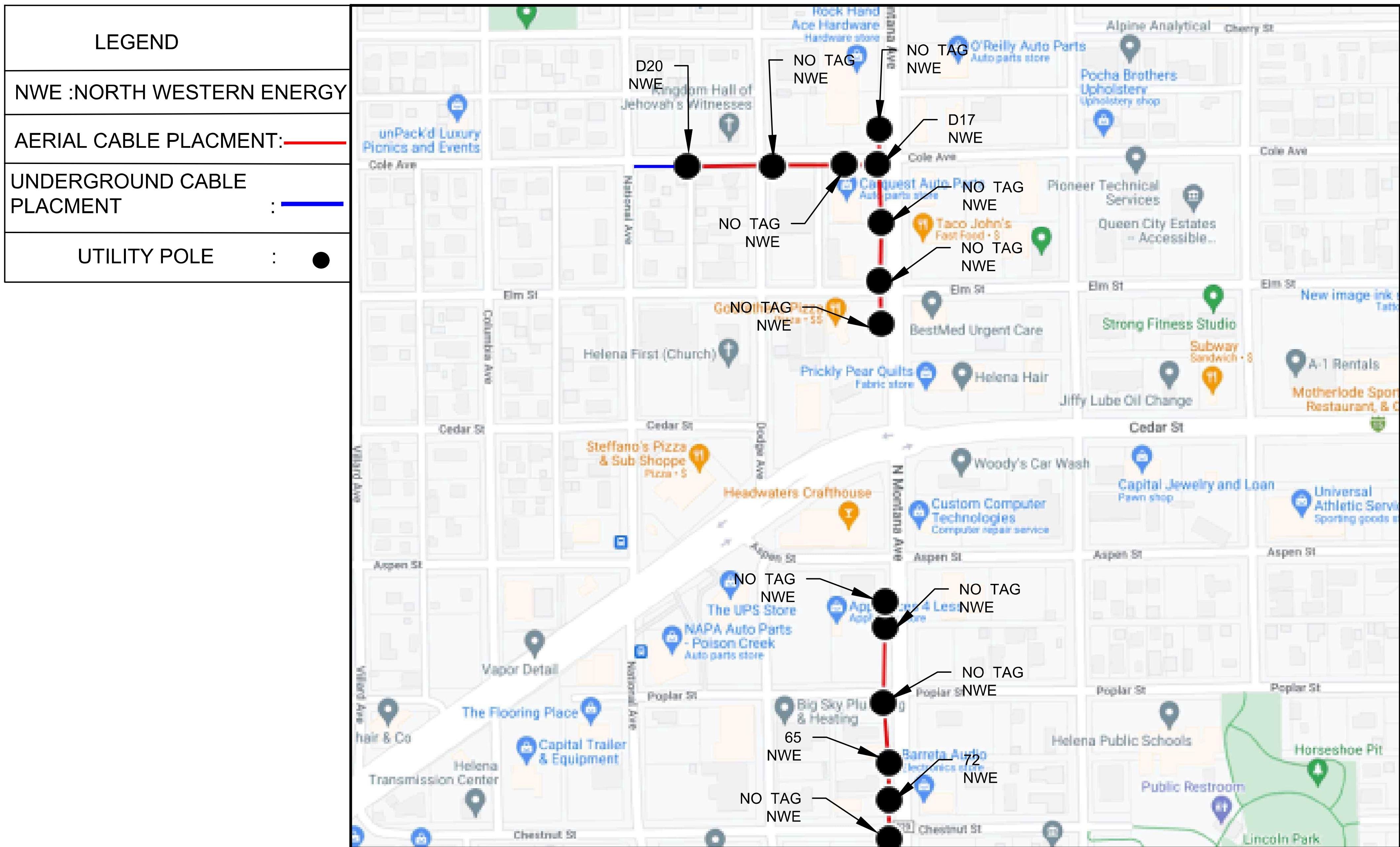




**TRAFFIC CONTROL TO ACCESS AERIAL AND UNDERGROUND CABLES**

**CITY OF HELENA**

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# CON'D ON MAP #2

# CABLE PLACEMENT MAP#1

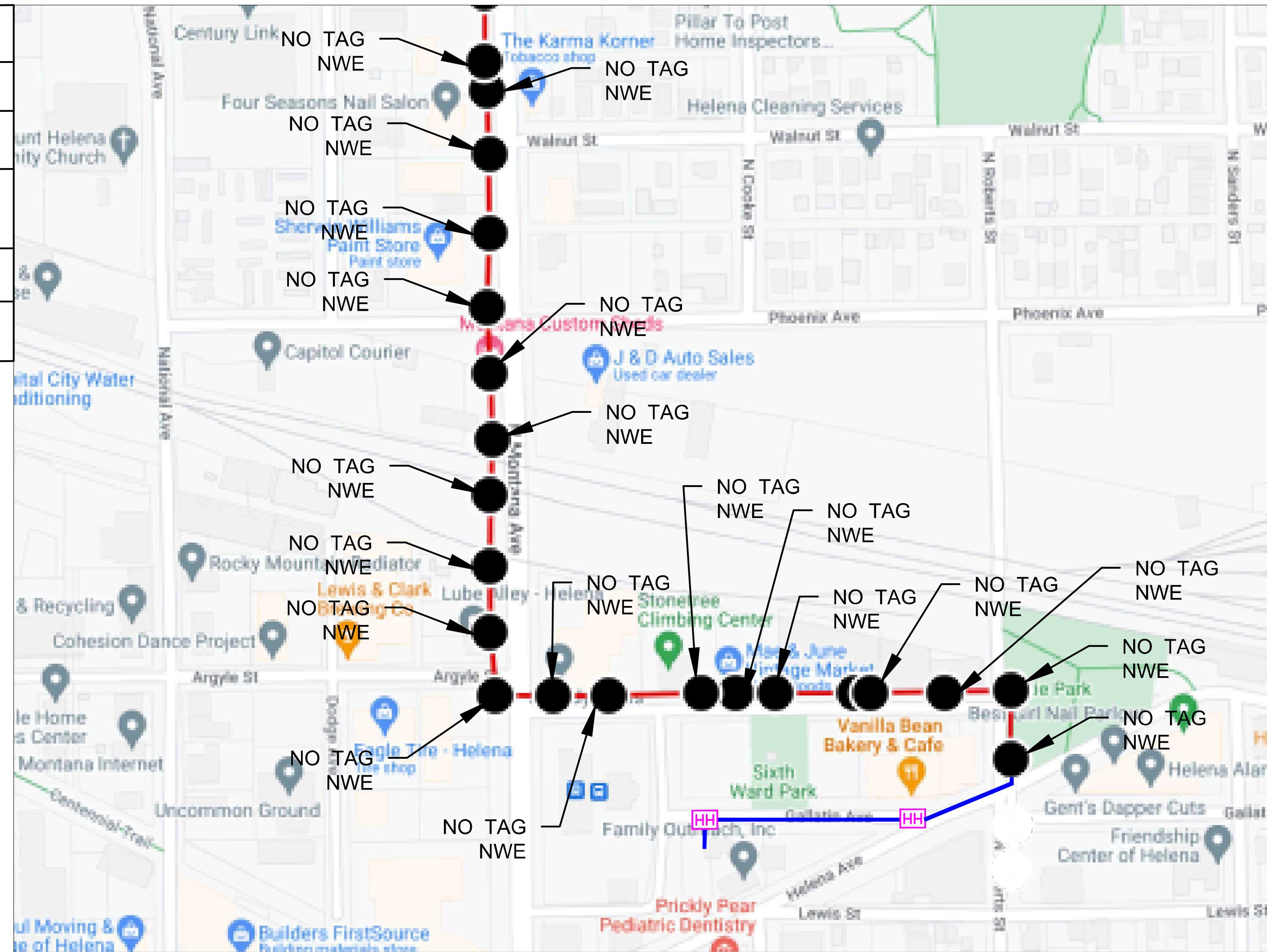
SITE ID # HLNAMTX1 5517454 F1 ROUTE 1

001

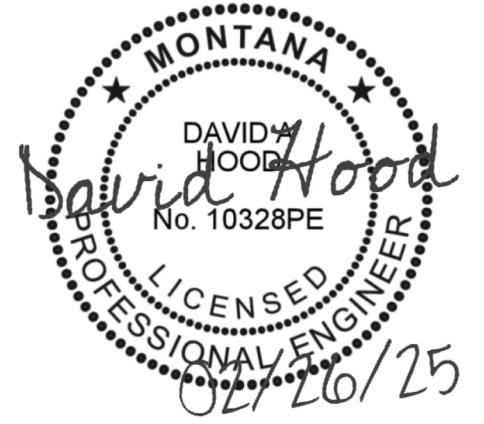
# TRAFFIC CONTROL TO ACCESS AERIAL AND UNDERGROUND CABLES

# CON'D ON MAP #1

LEGEND	
NORTH WESTERN ENERGY: NWE	
AERIAL CABLE PLACEMENT	: 
UNDERGROUND CABLE PLACEMENT	: 
UTILITY POLE	: 
HANDHOLE	: 



# CABLE PLACEMENT MAP#2



**Table 6C-3. Taper Length Criteria for Temporary Traffic Control Zones**

Type of Taper	Taper Length
Merging Taper	at least L
Shifting Taper	at least 0.5 L
Shoulder Taper	at least 0.33 L
One-Lane, Two-Way Traffic Taper	50 feet minimum, 100 feet maximum
Downstream Taper	50 feet minimum, 100 feet maximum

Note: Use Table 6C-4 to calculate L

## **Table 6C-4. Formulas for Determining Taper Length**

Speed (S)	Taper Length (L) in feet
40 mph or less	$L = \frac{WS^2}{60}$
45 mph or more	$L = WS$

Where: L = taper length in feet

**W** = width of offset in feet

S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

### **Table 6H-3. Meaning of Letter Codes on Typical Application Diagrams**

Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed)*	100 feet	100 feet	100 feet
Urban (high speed)*	350 feet	350 feet	350 feet
Rural	500 feet	500 feet	500 feet
Expressway / Freeway	1,000 feet	1,500 feet	2,640 feet

- \* Speed category to be determined by highway agency

**\*\* The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The “first sign” is the sign in a three-sign series that is closest to the TTC zone. The “third sign” is the sign that is furthest upstream from the TTC zone.)**



**CUSTOMER:**

*ORDER #:*

**ISSUED:** \_\_\_\_\_ **DUE:** \_\_\_\_\_

**ADDRESS:**

**SERVICE TYPE:**

## **ASSIGNMENT:**

*TEST:*                                   *dB @*                                   *kHz*

**SPECIAL NOTES:**

PERMITS

CITY	YES
TCP	YES
JPN	YES
RR	YES
DOT(MDT)	YES

# **REVISIONS**

07-18-23	CENTILLION SOLUTIONS LLC	SC
04-04-24	REDLINES	1
02-17-25	REDLINES	2

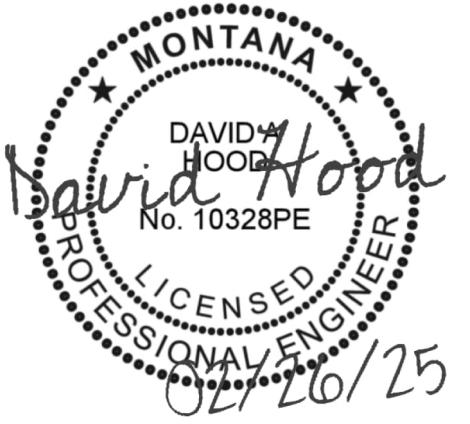


**HLNAMTX1 F1 ROUTE 1  
36 HELENA AVE, HELENA MT 59601**

PROJECT NUMBER:	5517454	C.O. AREA: HLNAMTX1 EXCH. CODE: MT HELENA
DRAWN DATE:  02/17/2025	ENGR: CHAD JERALD  PHONE: 208-255-9624	CNTY: LEWIS AND CLARK  FILE: HLNAMTX1-5517454-F1 ROUTE 1-HELENA-MT TCF REV2 02-17-25.DWG
SCALE: N/A	TAX DISTRICT: N/A	DWG 003 OF 006
TWNSHP: T10N	RNG: R3W	SEC: S29

003

# AERIAL AND UNDERGROUND CABLE PLACEMENT ALONG ROAD - MUTCD TA-13



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**Notes for Figure 6H-13—Typical Application 13**  
**Temporary Road Closure**

**Support:**

1. Conditions represented are a planned closure not exceeding 20 minutes during the daytime.

**Standard:**

2. A flagger or uniformed law enforcement officer shall be used for this application. The flagger, if used for this application, shall follow the procedures provided in Sections 6E.07 and 6E.08.

**Guidance:**

3. *The uniformed law enforcement officer, if used for this application, should follow the procedures provided in Sections 6E.07 and 6E.08.*

**Option:**

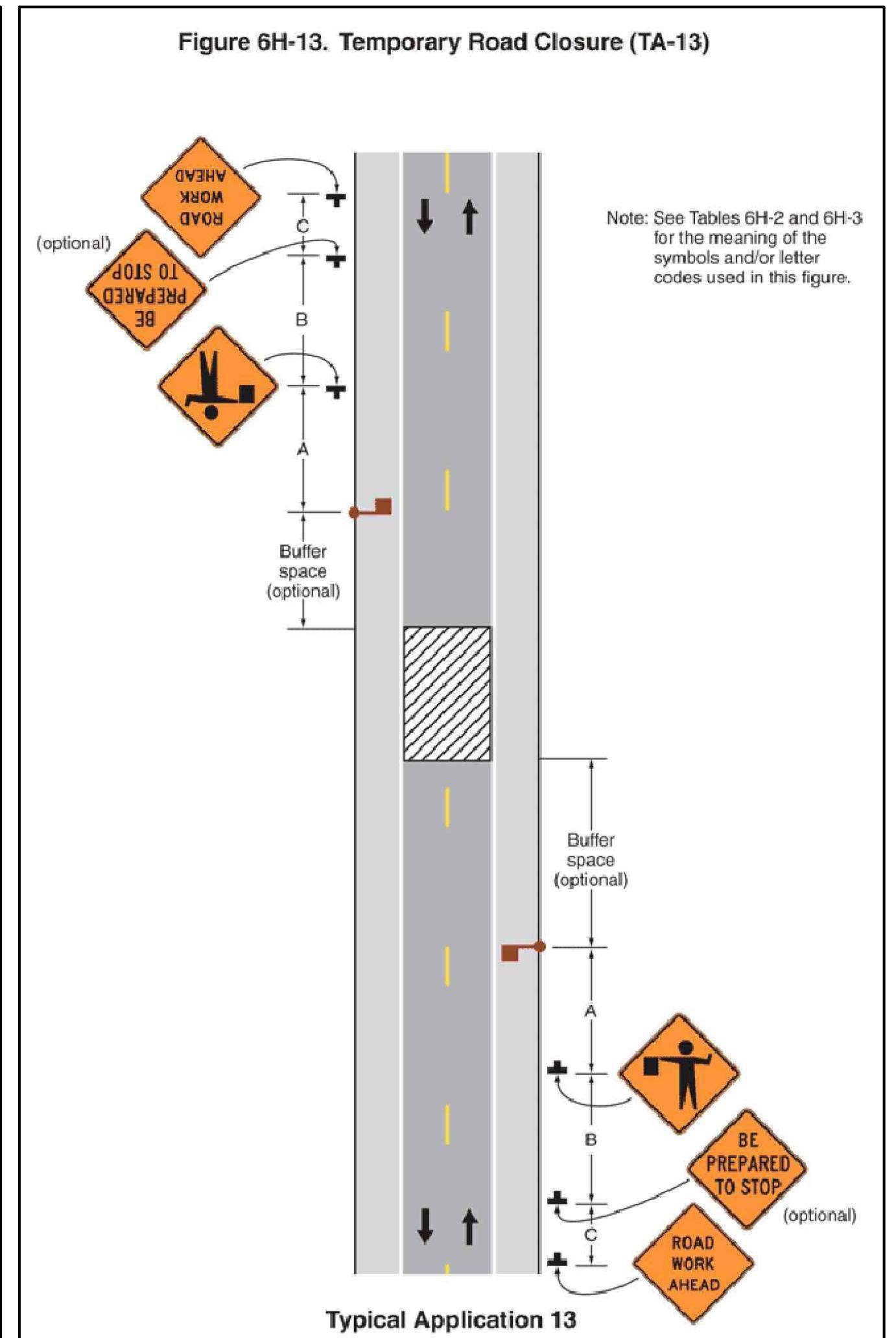
4. A BE PREPARED TO STOP sign may be added to the sign series.

**Guidance:**

5. *When used, the BE PREPARED TO STOP sign should be located before the Flagger symbol sign.*

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December 2009



# AERIAL CABLE PLACEMENT :

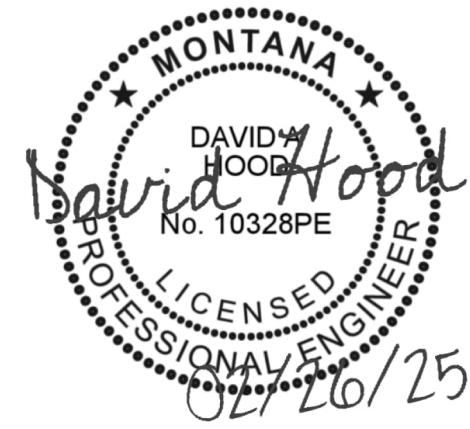
- ALONG COLE AVE AT INTERSECTION WITH DODGE AVE.
  - ACROSS N MONTANA AVE AT INTERSECTION WITH BOZEMAN ST.
  - ALONG BOZEMAN ST AT INTERSECTION WITH N ROBERTS ST.
  - ALONG N ROBERT ST AT INTERSECTION WITH HELENA AVE.
  - ALONG ALLEY IN BETWEEN COLE AVE AND ELM AT INTERSECTION WITH DODGE AVE.
  - ALONG N MONTANA AVE AT INTERSECTION WITH COLE AVE.
  - ALONG N MONTANA AVE AT INTERSECTION WITH ELM ST AVE.
  - ALONG N MONTANA AVE AT INTERSECTION WITH POPLAR ST.
  - ALONG N MONTANA AVE AT INTERSECTION WITH CHESTNUT ST.
  - ALONG N MONTANA AVE AT INTERSECTION WITH PHOENIX AVE.

# UNDER GROUND CABLE PLACEMENT :

- ALONG GALLATIN AVE AT INTERSECTION WITH N ROBERTS ST.
  - ALONG GALLATIN AVE AT INTERSECTION WITH N HELENA AVE.
  - ALONG N MONTANA AVE AT INTERSECTION WITH CEDAR ST.
  - ALONG N MONTANA AVE AT INTERSECTION WITH ASPEN ST.

		
<b>HLNAMTX1 F1 ROUTE 1</b> <b>1236 HELENA AVE, HELENA MT 59601</b>		
JECT	5517454	C.O. AREA: HLNAMTX1
BER:		EXCH. CODE: MT HELENA
DATE: 02/17/2025	ENGR: CHAD JERALD PHONE: 208-255-9624	CNTY: LEWIS AND CLARK FILE: HLNAMTX1-5517454-F1 ROUTE 1-HELENA-MT TCP REV2.02-17-25.DWG
: N/A	TAX DISTRICT: N/A	DWG 004 OF 006
HP: T10N	RNG: R3W	SEC: S29

# AERIAL AND UNDERGROUND CABLE PLACEMENT ALONG ROAD - MUTCD TA-33



## AERIAL CABLE PLACEMENT :

- ALONG N MONTANA AVE IN BETWEEN COLE AVE AND ELM ST.
  - ALONG N MONTANA AVE IN BETWEEN ASPEN ST AND POPLAR ST.
  - ALONG N MONTANA AVE IN BETWEEN POPLAR ST AND CHESTNUT ST.
  - ALONG N MONTANA AVE IN BETWEEN CHESTNUT ST AND PHOENIX AVE.
  - ALONG N MONTANA AVE IN BETWEEN PHOENIX AVE AND BOZEMAN ST.

# UNDER GROUND CABLE PLACEMENT :

- ALONG N MONTANA AVE IN BETWEEN ELM ST AND CEDER ST.
  - ALONG N MONTANA AVE IN BETWEEN CEDER ST AND ASPEN ST.

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**Notes for Figure 6H-33—Typical Application 33  
Stationary Lane Closure on a Divided Highway**

**Standard:**

1. This information also shall be used when work is being performed in the lane adjacent to the median on a divided highway. In this case, the LEFT LANE CLOSED signs and the corresponding Lane Ends signs shall be substituted.
2. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed as needed.

**Guidance:**

3. When paved shoulders having a width of 8 feet or more are closed, channelizing devices should be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.

**Option:**

4. A truck-mounted attenuator may be used on the work vehicle and/or shadow vehicle.

**Support:**

5. Where conditions permit, restricting all vehicles, equipment, workers, and their activities to one side of the roadway might be advantageous.

**Standard:**

6. An arrow board shall be used when a freeway lane is closed. When more than one freeway lane is closed, a separate arrow board shall be used for each closed lane.

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**Figure 6H-33. Stationary Lane Closure on a Divided Highway (TA-33)**

**A - LONG-TERM AND INTERMEDIATE**

**B - SHORT-TERM**

**Typical Application 33**

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

LEGEND		SEE TABLE 'A' FOR SIGN AND CHANNELIZER DEVICE SPACING AND TAPER LENGTH					
		TRAFFIC CONTROL CHART					
SPEED LIMIT	MINIMUM TAPER LENGTH			MAXIMUM CHANNELIZER SPACING			
	MERGING	SHIFTING	SHOULDER	TAPER	TANGENT	DOWNTREAM	
25 MPH							
ADVANCED WARNING SIGN SPACING							
ROAD TYPE		DISTANCE BETWEEN SIGNS					
		A	B	C			
STREET		100'	100'	100'			

## **GENERAL TRAFFIC CONTROL NOTES:**

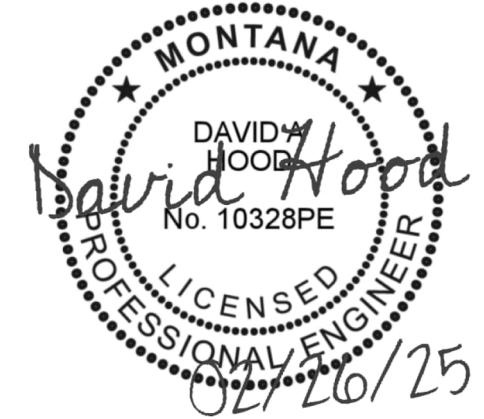
- |                           |                |   |
|---------------------------|----------------|---|
| CHANNELIZER<br>ING        | DOWN<br>STREAM | 1. TRAFFIC CONTROL PLAN SHALL CONFORM TO THE MOST CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND STATE STANDARD PLANS.<br>2. NO LANE CLOSURES PERMITTED BEFORE 9:00A AND AFTER 3:00P, MONDAY-FRIDAY, EXCLUDING HOLIDAYS<br>3. ALL AFFECTED RESIDENTS, BUSINESS, AGENCIES, AND SCHOOLS SHALL BE GIVEN 72 HOURS NOTICE PRIOR TO THE START OF WORK AND THEIR ACCESS SHALL BE MAINTAINED AT ALL TIMES<br>4. MAINTAIN SAFE PED ACCESS & DRIVEWAY ACCESS, POST TEMPORARY NO PARKING SIGNS 72 HRS PRIOR TO ANY WORK<br>5. ALL CONFLICTING SIGNS, STRIPING OR PAVEMENT MARKING SHALL BE COVERED OR REMOVED AND REPLACED WHEN WORK IS COMPLETED<br>6. TRAFFIC DIRECTION THROUGH A SIGNALIZED INTERSECTIONS SHALL BE CONDUCTED BY A UNIFORMED POLICE OFFICER OR COMMUNITY SERVICE OFFICER ONLY. SHOULD WORK REQUIRE A SIGNAL OVERRIDE, ARRANGEMENTS SHALL BE MADE WITH THE CITY POLICE DEPT AND TRANSPORTATION ENGINEERING DEPT AT LEAST 14 DAYS PRIOR TO START OF WORK. |
| C<br>GNS                  |                |   |
| C<br>POINT OF RESTRICTION |                |   |
| 00'                       |                | 005   |

**zipl**y  
fiber

**HLNAMTX1 F1 ROUTE 1  
1236 HELENA AVE, HELENA MT 59601**

CT R:	5517454	C.O. AREA: HLNAMTX1 EXCH. CODE: MT HELENA
ATE: 2/17/2025	ENGR: CHAD JERALD PHONE: 208-255-9624	CNTY: LEWIS AND CLARK FILE: HLNAMTX1-5517454-F1 ROUTE 1-HELENA-MT TCP REV 02-17-25.DWG
N/A	TAX DISTRICT: N/A	DWG 005 OF 006
T10N	RNG: R3W	SEC: S29

# AERIAL CABLE PLACEMENT ALONG ROAD - MUTCD TA-3



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### Notes for Figure 6H-3—Typical Application 3 Work on the Shoulders

#### Guidance:

1. A SHOULDER WORK sign should be placed on the left side of the roadway for a divided or one-way street only if the left shoulder is affected.

#### Option:

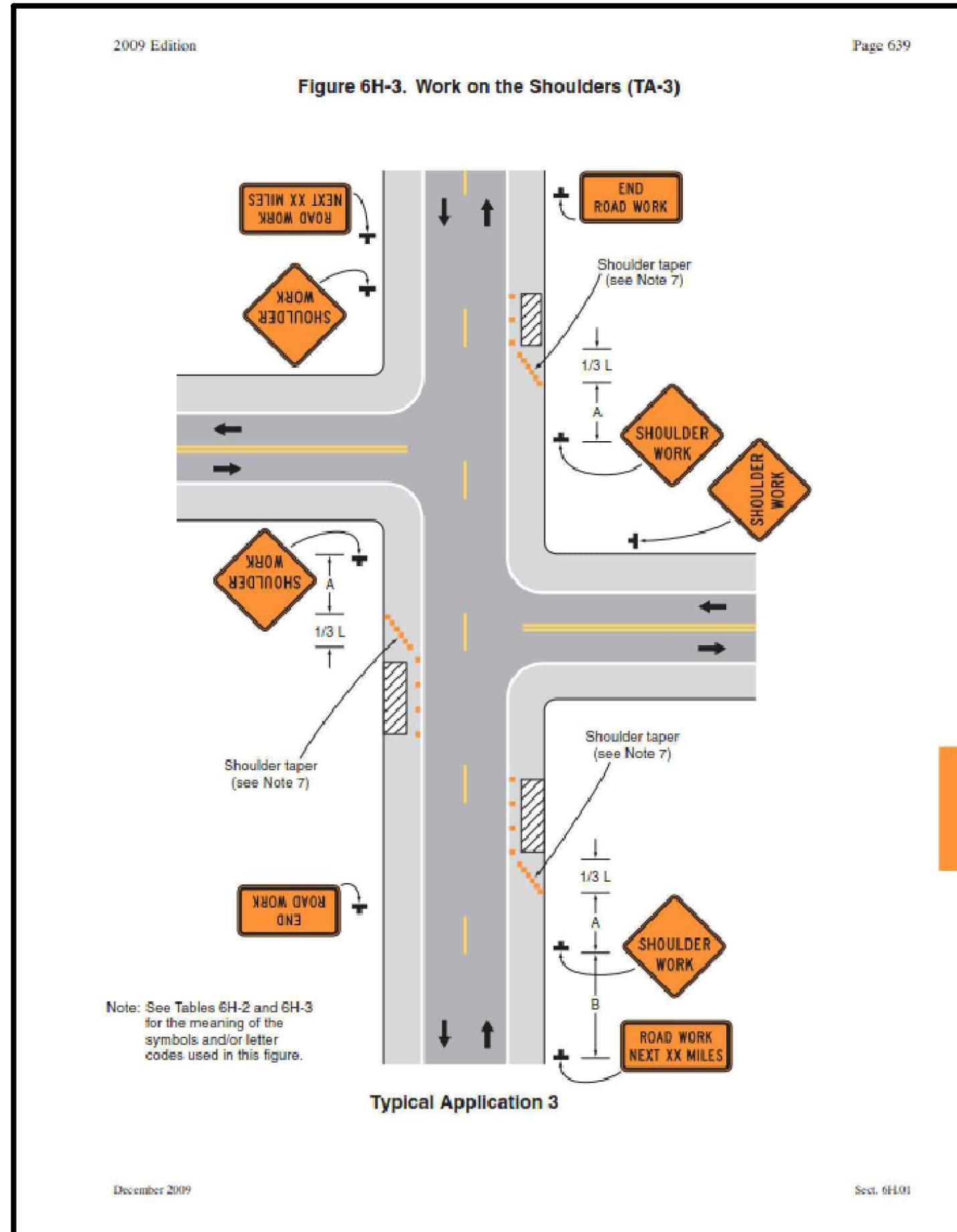
2. The Workers symbol signs may be used instead of SHOULDER WORK signs.
3. The SHOULDER WORK AHEAD sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.
4. For short duration operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.
5. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

#### Standard:

6. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.
7. When paved shoulders having a width of 8 feet or more are closed, at least one advance warning sign shall be used. In addition, channelizing devices shall be used to close the shoulder in advance to delineate the beginning of the work space and direct vehicular traffic to remain within the traveled way.

Sect. 6H.01

December 2009



## AERIAL CABLE PLACEMENT :

- ALONG COLE AVE IN BETWEEN NATIONAL AVE AND N MONTNANA AVE.  
ALONG BOZEMAN ST IN BETWEEN N MONTNANA AVE AND  
N ROBERTS ST.  
ALONG N ROBERTS ST IN BETWEEN BOZEMAN ST AND HELENA AVE.  
ALONG GALLATIN IN BETWEEN N ROBERTS ST AND N MONTANA AVE.

			
<b>HLNAMTX1 F1 ROUTE 1</b> <b>1236 HELENA AVE, HELENA MT 59601</b>			
OBJECT MBER:	5517454	C.O. AREA:	HLNAMTX1
		EXCH. CODE:	MT HELENA
BUILD DATE: 02/17/2025	ENGR: CHAD JERALD PHONE: 208-255-9624	CNTY:	LEWIS AND CLARK
ROLE: N/A	TAX DISTRICT: N/A	DWG	006 OF 006
NSHP: T10N	RNG: R3W	SEC:	S29

<u>LEGEND</u>		SEE TABLE 'A' FOR SIGN AND CHANNELIZER DEVICE SPACING AND TAPER LENGTH					
		TRAFFIC CONTROL CHART					
SPEED LIMIT	MINIMUM TAPER LENGTH			MAXIMUM CHANNELIZER SPACING			
	MERGING	SHIFTING	SHOULDER	TAPER	TANGENT	DOWNTREAM	
25 MPH							
ADVANCED WARNING SIGN SPACING							
DISTANCE BETWEEN SIGNS							
ROAD TYPE		A	B	C			
		1ST SIGN TO 2ND SIGN	2ND SIGN TO 3RD SIGN	3RD SIGN TO POINT OF RESTRICTION			
STREET		100'	100'	100'			