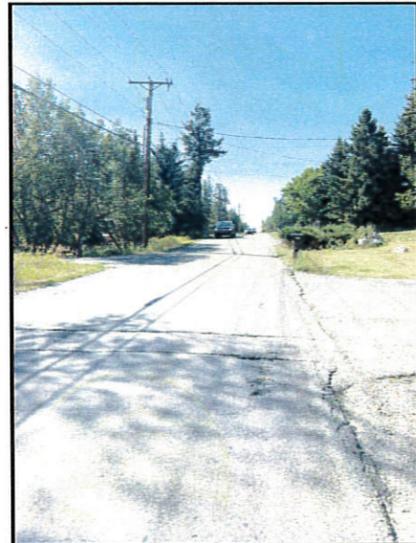
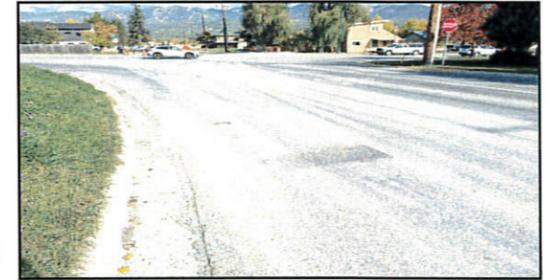


Karrow Avenue Roadway Reconstruction Project



Prepared for:
City of Whitefish
Whitefish, Montana



Ryan E. Mitchell, PE, PLS

General Sheets: G-1 - G-25
Civil Sheets: ES-1 - ES-2, TC-1 - TC-2,
C1-1 - C1-6, C2-1 - C2-17,
C3-1 - C3-5, C4-1 - C4-5,
C5-1 - C5-7, U-1 - U-5,
XS-1 - XS-16



Daniel L. Tintzman, PE

General Sheets: G-26 - G-28
Electrical Sheets: E-1 - E-3



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QA/QC Approved by: Craig Jenneskens, P.E.
Date: March 2024
RPA Project No.: 23208.000



SHEET INDEX

GENERAL

G-1	SHEET INDEX
G-2	DRAWING FORMAT AND ABBREVIATIONS
G-3	LEGEND AND GENERAL NOTES
G-4	PROJECT OVERVIEW AND SURVEY CONTROL
G-5	HAUL ROUTE PLAN
G-6	TYPICAL SECTION
G-7 - G-12	TYPICAL DETAILS
G-13 - G14	SANITARY SEWER DETAILS
G-15 - G-16	WATER SYSTEM DETAILS
G-17 - G-20	STORM DRAINAGE DETAILS
G-21	RETAINING WALL DETAILS
G-22	RAILING AND FENCING DETAILS
G-23	FENCING DETAIL
G-24	SIGN DETAIL AND SCHEDULE
G-25	MAILBOX DETAIL
G-26 - G-28	STREET LIGHTING DETAILS

EROSION & SEDIMENT

ES-1	EROSION AND SEDIMENT CONTROL PLAN
ES-2	EROSION AND SEDIMENT CONTROL DETAILS

TRAFFIC CONTROL

TC-1	TRAFFIC CONTROL PLAN
TC-2	TRAFFIC CONTROL DETAIL

CIVIL

DEMOLITION

C1-1	DEMOLITION OVERVIEW
C1-2 - C1-6	DEMOLITION PLAN

ROADWAY

C2-1	ROADWAY OVERVIEW
C2-2 - C2-6	ROADWAY PLAN AND PROFILES
C2-7	RETAINING WALL #1 PLAN AND PROFILE
C2-8	RETAINING WALLS #2 & #3 PLANS AND PROFILES
C2-9- C2-13	INTERSECTION DETAIL
C2-14 - C2-17	STRIPING, SIGNING, MAILBOX AND FENCING PLAN

SANITARY SEWER

C3-1	SANITARY SEWER OVERVIEW
C3-2 - C3-3	SANITARY SEWER PLAN AND PROFILE
C3-4	SANITARY SEWER PLAN
C3-5	SANITARY SEWER STRUCTURE TABLE

WATER SYSTEM

C4-1	WATER SYSTEM OVERVIEW
C4-2 - C4-3	WATER SYSTEM PLANS
C4-4 - C4-5	WATER SYSTEM PLAN AND PROFILE

STORM DRAINAGE

C5-1	STORM DRAINAGE OVERVIEW
C5-2 - C5-6	STORM DRAINAGE PLAN AND PROFILE
C5-7	STORM DRAINAGE STRUCTURE TABLES

ELECTRICAL

E-1	STREET LIGHTING OVERVIEW
E-2 - E-3	STREET LIGHTING PLANS

UTILITY CONDUITS

U-1	UTILITY CONDUIT OVERVIEW
U-2 - U-5	UTILITY CONDUIT PLAN

CROSS SECTIONS

XS-1 - XS-16	ROADWAY CROSS SECTIONS
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SYM	REVISION	BY	APPR	DATE

A PAULLY	March 2024
DESIGNED BY	DATE
M. ROGERS	23208.000
DRAWN BY	PROJECT NO.
R. MITCHELL	General_KAR
CHECKED BY	FILE

PROJECT TITLE
**KARROW AVENUE ROADWAY
 RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
SHEET INDEX

SHEET
G-1



LEGEND

DESCRIPTION	EXISTING SYMBOL	PROPOSED SYMBOL
ASPHALT PAVEMENT		
CONCRETE		
GRAVEL		
RIGHT-OF-WAY, PROPERTY LINE		
PROPERTY PIN MONUMENT		
SURVEY CONTROL POINT		
CONTOURS	MAJOR MINOR 	
CONSTRUCTION LIMITS		
GAS		
UNDERGROUND POWER		
UNDERGROUND FIBER OPTICS		
UNDERGROUND TELEPHONE		
UNDERGROUND TELEVISION		
FIBER OPTICS OR PHONE PEDESTAL		
TELEVISION PEDESTAL		
OVERHEAD UTILITIES		
ELECTRICAL VAULT		
STREET LIGHTING SYSTEMS		
SANITARY SEWER CLEANOUT		
SANITARY SEWER LINE AND MANHOLE		
WATER LINE AND APPURTENANCES		
WATER MANHOLE		
FIRE HYDRANT		
STORM DRAIN LINE AND MANHOLE		
DRAINAGE		
CULVERT		
DRAINAGE DITCH		
FENCE	CHAIN LINK WOOD 	
TREES, SHRUBS AND STUMPS		
SIGN		
MAILBOX		

GENERAL NOTES

GENERAL NOTES AND LEGEND FOR SHEETS INVOLVING CIVIL WORK ARE SHOWN ON THIS SHEET. UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS, ALL WORK WILL CONFORM TO THESE CONSTRUCTION DRAWINGS AND SPECIFICATIONS, MPWSS (7th EDITION) AND THE CITY OF WHITEFISH'S STANDARDS FOR DESIGN AND CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS REQUIRED FOR CONSTRUCTION ACTIVITIES. FIRE DEPARTMENT, RESIDENTS AND BUSINESSES MUST BE PROVIDED ACCESS TO ALL BUILDINGS DURING CONSTRUCTION.

MATCH LINES:

- WHERE NEW PAVEMENT, SIDEWALK OR CURB AND GUTTER MEET EXISTING, SAW THE MATCH LINE TO A NEAT LINE AND DEPTH AS REQUIRED TO PROVIDE A SMOOTH AND NEAT FACE. NO SEPARATE PAYMENT WILL BE MADE FOR SAWCUTS.
- PROVIDE EXPANSION JOINTS AT THE INTERFACE BETWEEN NEW AND EXISTING CONCRETE.
- ALL SIDEWALK COLD JOINTS SHALL HAVE 12" SMOOTH DOWELS (1/2" DIAMETER) PLACED AT 2'-0" ON CENTER OR KEYWAYS INSTALLED TO PREVENT HEAVING.
- ALL CURB COLD JOINTS SHALL HAVE 12" SMOOTH DOWELS (1/2" DIAMETER) PLACED 8" ON CENTER TO PREVENT HEAVING.

CONCRETE:

- GRADE, ALIGNMENT AND FORMS SHALL BE INSPECTED BY THE ENGINEER PRIOR TO POURING.
- CONCRETE SHALL BE M-4500 WITH 3/4" MAXIMUM AGGREGATE AND A 28-DAY STRENGTH OF 4500 PSI, 5% TO 8% AIR CONTENT WITH A MAXIMUM SLUMP OF 4".
- CONCRETE SHALL INCLUDE THE USE OF FIBER MESH (0.75 POUNDS PER CUBIC YARD OF CONCRETE).
- CONTRACTOR SHALL SUBMIT JOINTING PLAN FOR CONCRETE TO ENGINEER PRIOR TO CONCRETE PLACEMENT.
- BROOM FINISH ALL CONCRETE.

MISCELLANEOUS:

- CURB RADII ARE MEASURED TO THE TOP BACK OF CURB.
- SUBGRADE COMPACTION COSTS SHALL BE INCLUDED IN UNIT PRICE BID FOR EXCAVATION AND EMBANKMENT.
- THE CONTRACTOR IS ENCOURAGED TO INVESTIGATE THE SITE PRIOR TO SUBMITTING A BID. INVESTIGATIONS THAT INCLUDE EXCAVATION ACTIVITIES MUST BE COORDINATED WITH THE ENGINEER AND APPROVED BY THE CITY. ALL INVESTIGATIONS MUST BE PERFORMED WITHIN THE TWO WEEK PERIOD PRIOR TO THE BID OPENING. TRAFFIC AND PEDESTRIAN CONTROL ASSOCIATED WITH THESE INVESTIGATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE APPROVED BY THE CITY.

EXISTING UTILITIES:

- EXISTING UNDERGROUND INSTALLATIONS AND PRIVATE UTILITIES SHOWN ARE FROM THE BEST INFORMATION AVAILABLE AT THE TIME OF DESIGN. ACCURACY OF SUCH INFORMATION IS NOT GUARANTEED AND SHALL BE VERIFIED BY THE CONTRACTOR. SERVICE LINES (i.e., WATER, POWER, SEWER, GAS, COMMUNICATIONS, DATA, IRRIGATION) MAY NOT BE BURIED AT EVEN DEPTHS OR AS INDICATED ON THE PLANS. THE CONTRACTOR SHALL NOTIFY EACH UTILITY COMPANY PRIOR TO EXCAVATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITY LOCATES.
- SUE WAS COMPLETED AT CRITICAL LOCATIONS AND INFORMATION IS AVAILABLE TO CONTRACTOR UPON REQUEST FROM ENGINEER.
- ALL POWER, TELEPHONE, CABLE, FIBER AND GAS WHICH INTERFERES WITH THE CONSTRUCTION SHALL BE REMOVED OR RELOCATED BY THE UTILITY COMPANY AT THE OWNER'S EXPENSE, UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL COORDINATE ALL NECESSARY UTILITY RELOCATION WORK WITH THE APPROPRIATE UTILITY COMPANY AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL FIELD VERIFY LINE AND GRADE OF EXISTING CONNECTIONS WELL IN ADVANCE OF MAKING THE CONNECTION.
- ALL EXISTING UTILITIES (INCLUDING WATER LINES) THAT ARE TO BE REMOVED OR ABANDONED SHALL BE CAPPED AND/OR PLUGGED AT THE TERMINATION POINTS AS SPECIFIED.

NEW UTILITIES:

- THE CONTRACTOR SHALL SUPPLY ALL NECESSARY FITTINGS, COUPLINGS, AND SPOOL PIECES FOR CONNECTING NEW UTILITIES TO EXISTING UTILITIES. THESE PLANS MAY NOT SHOW ALL REQUIRED COMPONENTS FOR MAKING THE CONNECTIONS.
- MAINTAIN PIPE GRADE OF WATER MAINS AND SERVICES AS SHOWN. THE MINIMUM DEPTH OF BURY TO THE TOP OF NEW PIPE IS 6'-0". WHERE AT LEAST 6'-0" OF COVER CANNOT BE MAINTAINED, INSTALL RIGID BOARD INSULATION AS DIRECTED BY THE ENGINEER. ACTUAL DEPTH OF BURY MAY EXCEED 6'-0" DUE TO EXISTING UTILITY CROSSINGS AND ACTUAL DEPTH OF BURY OF CONNECTING TO EXISTING WATER LINES
- THE CONTRACTOR MUST ENSURE THAT A MINIMUM OF 10'-0" (OUTSIDE WALL TO OUTSIDE WALL) OF CLEARANCE IS TO BE MAINTAINED HORIZONTALLY BETWEEN ALL WATER AND SEWER/STORM MAINS. THE CONTRACTOR MUST ALSO ENSURE THAT 1'-6" OF VERTICAL CLEARANCE IS MAINTAINED BETWEEN WATER AND SEWER/STORM MAINS THAT CROSS.
- THE CONTRACTOR SHALL NOTIFY THE CITY OF WHITEFISH PUBLIC WORKS DEPARTMENT A MINIMUM OF 24 HOURS PRIOR TO BEGINNING ANY WATER RELATED WORK.
- THE CONTRACTOR SHALL NOTIFY THE CITY OF WHITEFISH PUBLIC WORKS DEPARTMENT A MINIMUM OF 48 HOURS PRIOR TO ANY WATER MAIN TAPS. ALL TAPS (TAPPING SLEEVES & SERVICE SADDLES) SHALL BE PERFORMED BY THE CITY OF WHITEFISH PERSONNEL.
- CONTRACTOR SHALL PROVIDE, INSTALL AND TEST TAPPING SLEEVES & VALVES. THE ENGINEER OR CITY OF WHITEFISH PUBLIC WORKS DEPARTMENT PERSONNEL SHALL WITNESS THE TEST.
- TAPPING WILL NOT OCCUR ON FRIDAYS, THE DAY BEFORE GOVERNMENT HOLIDAYS, GOVERNMENT HOLIDAYS OR A WEEKEND.
- THERE WILL BE NO WATER OUTAGES ON FRIDAYS, THE DAY BEFORE GOVERNMENT HOLIDAYS, GOVERNMENT HOLIDAYS OR A WEEKEND.
- TEMPORARY WATER DISTRIBUTION, IF USED, SHALL BE COMPLETED IN ACCORDANCE WITH CIRCULAR DEQ-1, SECTION 8.15.
- ANY EXISTING OR NEW VALVES WHICH CONTROL THE CITY OF WHITEFISH'S WATER SUPPLY SHALL BE OPERATED BY CITY OF WHITEFISH PUBLIC WORKS DEPARTMENT PERSONNEL ONLY.
- ALL MECHANICAL JOINT FITTINGS TO BE PROVIDED WITH MEGALUGS, OR APPROVED EQUAL, AND CONCRETE THRUST BLOCKS MEETING MPWSS STANDARDS.
- SANITARY SEWER AND STORM DRAINAGE LINES SHALL BE SLOPED AT A UNIFORM GRADE BETWEEN ELEVATIONS SHOWN.

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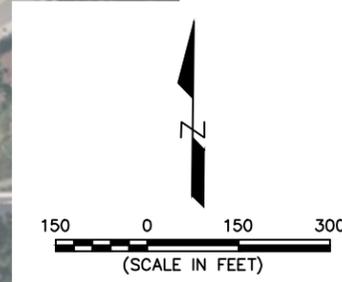
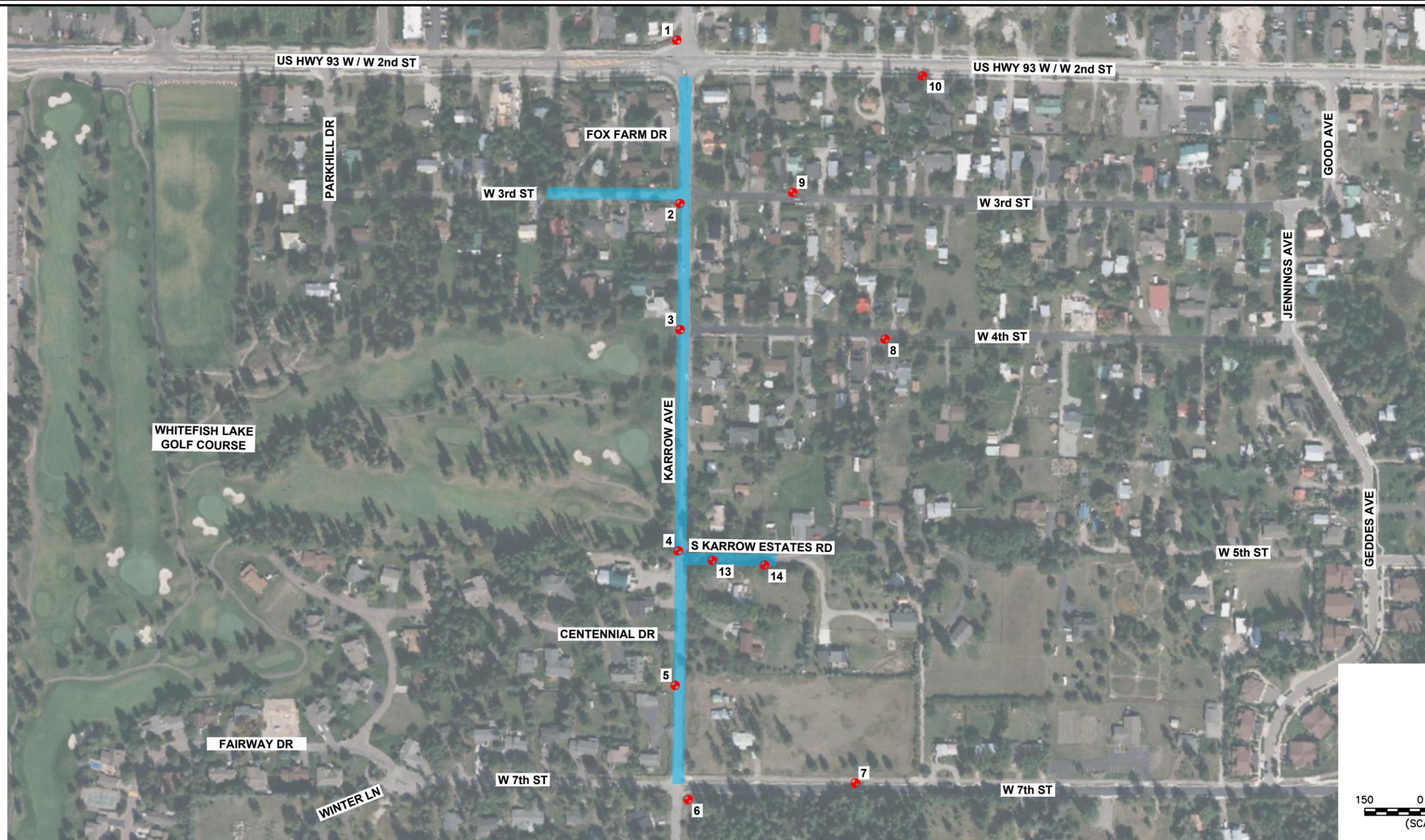
DATE	BY	APPR

REVISION	SYM	DATE	BY	APPR

March 2024	DESIGNED BY	23208.000	PROJECT NO.
	M. ROGERS	General_KAR	FILE
	R. MITCHELL		
	CHECKED BY		

PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
LEGEND AND GENERAL NOTES



SY#	REVISION	BY	APPR	DATE

March 2024	March 2024
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General_KAR	General_KAR
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PROJECT TITLE
**KARROW AVENUE ROADWAY
 RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**PROJECT OVERVIEW
 AND
 SURVEY CONTROL**

SHEET
G-4

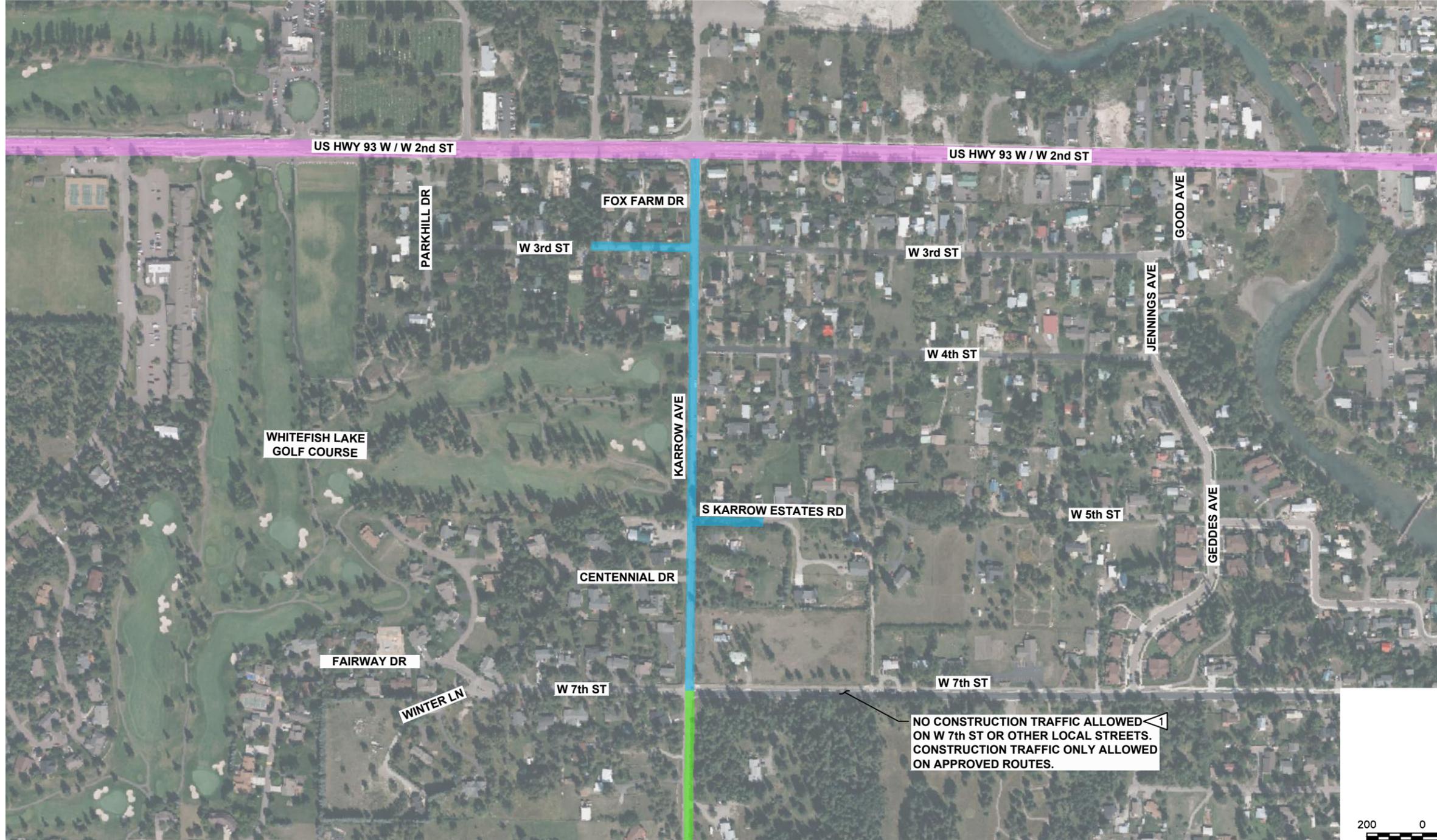
BASIS OF BEARINGS AND CONTROL:
 THIS CONTROL ORIGINALLY SURVEYED WITH GPS/GNSS
 PROJECT IS IN GRID BEARING AND GRID DISTANCE
 HORIZONTAL COORDINATES IN NAD83(2011) IFT SPC
 ELEVATION IS NAVD 88 (USED GEOID18)
 SURVEY PERFORMED ON JUNE 15, 2023

City of Whitefish - Karrow Avenue RPA Final Control Point Table				
Montana State Plane Coordinates (2500) NAD83(2011) International Foot Definition NAVD 88 Elevations				
Point	Northing	Easting	Elevation	Description
1	1553417.33	791102.35	3042.73	Found MDT 2" Aluminum Cap on 5/8" Rebar
2	1552976.15	791087.88	3048.04	Set RPA RPC On 30" Long 5/8" Rebar
3	1552636.36	791070.19	3055.46	Set RPA RPC On 30" Long 5/8" Rebar
4	1552040.53	791033.89	3065.23	Set RPA RPC On 30" Long 5/8" Rebar
5	1551678.23	791006.67	3083.77	Set RPA RPC On 30" Long 5/8" Rebar
6	1551368.11	791025.72	3095.97	Set RPA RPC On 30" Long 5/8" Rebar
7	1551389.46	791479.97	3064.13	Set RPA RPC On 30" Long 5/8" Rebar
8	1552581.85	791622.89	3043.01	Set RPA RPC On 30" Long 5/8" Rebar
9	1552990.16	791393.83	3040.84	Set RPA RPC On 30" Long 5/8" Rebar
10	1553285.91	791760.79	3036.32	Set RPA RPC On 30" Long 5/8" Rebar
13	1552009.57	791125.16	3063.64	Set RPA RPC On 30" Long 5/8" Rebar
14	1551989.86	791265.27	3060.51	Set RPA RPC On 30" Long 5/8" Rebar



NOTES:

- 1 CONSTRUCTION TRAFFIC (LOADED AND UNLOADED) SHALL ONLY USE THE PROJECT AREA AND APPROVED ROUTES SHOWN. USE OF ANY OTHER ROUTES SHALL BE PROHIBITED, UNLESS OTHERWISE APPROVED BY THE ENGINEER AND CITY.
- 2 CONTRACTOR SHALL FOLLOW ALL LOAD LIMIT REQUIREMENTS.



NO CONSTRUCTION TRAFFIC ALLOWED ON W 7th ST OR OTHER LOCAL STREETS. CONSTRUCTION TRAFFIC ONLY ALLOWED ON APPROVED ROUTES.

PROJECT AREA MDT ROUTE 1

 COUNTY ROUTE 2

SYM	REVISION	BY	APPR	DATE
1	ADDENDUM NO. 2	MCR	AP	03/24

March 2024	March 2024
DATE	DATE
23208.000	23208.000
PROJECT NO.	PROJECT NO.
General_KAR	General_KAR
FILE	FILE
A. PAULLY	DESIGNED BY
M. ROGERS	DESIGNED BY
R. MITCHELL	DRAWN BY
	CHECKED BY

PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
HAUL ROUTE PLAN

SHEET
G-5



TYPICAL ROADWAY SECTION INFORMATION TABLE		
STATION		DESCRIPTION
FROM	TO	
10+00.00	10+60.47	SEE INTERSECTION DETAIL - KARROW AVE AND W 7th ST
10+60.47	22+16.44	TYPICAL SECTION "A"
22+16.44	22+92.44	SEE INTERSECTION DETAIL - KARROW AVE AND W 4th ST
22+92.44	25+76.44	TYPICAL SECTION "A"
25+76.44	26+52.44	SEE INTERSECTION DETAIL - KARROW AVE AND W 3rd ST
26+52.44	27+45.43	TYPICAL SECTION "A"
27+45.43	28+45.00	SEE INTERSECTION DETAIL - KARROW AVE AND FOX FARM DR
28+45.00	29+40.00	SEE INTERSECTION DETAIL - KARROW AVE AND US HWY 2 / W 2nd ST

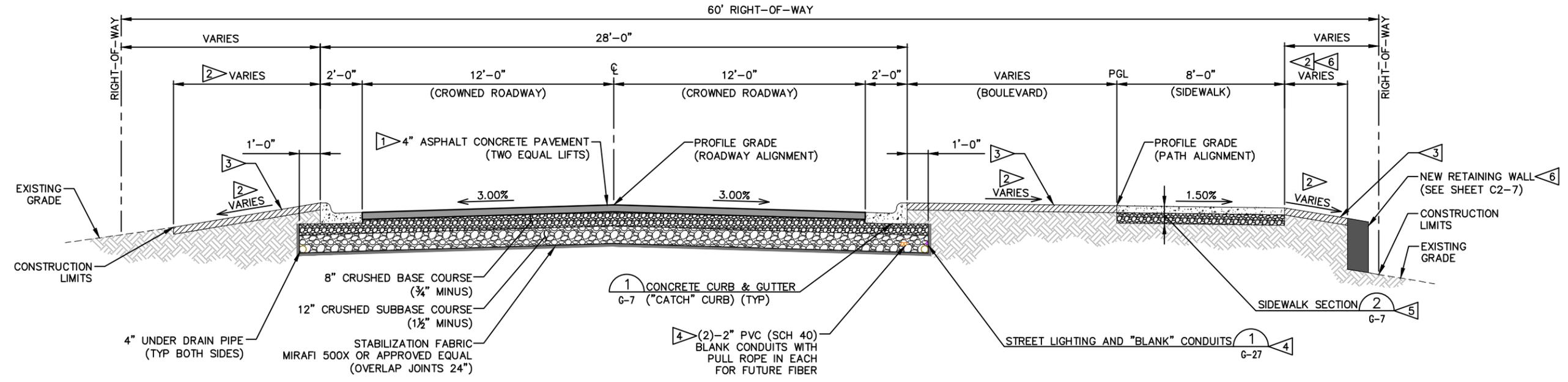
TYPICAL PATH SECTION INFORMATION TABLE		
STATION		DESCRIPTION
FROM	TO	
100+00.00	100+14.61	SEE INTERSECTION DETAIL - KARROW AVE AND W 7th ST
100+14.61	111+74.75	TYPICAL SECTION "A"
111+74.75	112+50.75	SEE INTERSECTION DETAIL - KARROW AVE AND W 4th ST
112+50.75	115+34.44	TYPICAL SECTION "A"
115+34.44	116+10.44	SEE INTERSECTION DETAIL - KARROW AVE AND W 3rd ST
116+10.44	117+03.79	TYPICAL SECTION "A"
117+03.79	118+04.48	SEE INTERSECTION DETAIL - KARROW AVE AND FOX FARM DR
118+04.48	118+74.45	SEE INTERSECTION DETAIL - KARROW AVE AND US HWY 2 / W 2nd ST

NOTES:

- 1 TACK COAT TO BE PLACED BETWEEN ASPHALT CONCRETE LIFTS.
- 2 SEE ROADWAY PLANS AND CROSS SECTIONS FOR MORE INFORMATION.
- 3 6" IMPORTED TOPSOIL, HYDROSEED, FERTILIZER AND MULCH PER SPECIAL PROVISIONS AND TECHNICAL SPECIFICATIONS.
- 4 SEE STREET LIGHTING AND UTILITY PLANS FOR CONDUITS SIZE/LOCATION.
- 5 SEE ROADWAY PLANS FOR DRIVEWAY APPROACH WITH SIDEWALK/PATH LOCATIONS.
- 6 INSTALL RETAINING WALL FROM ROADWAY STA. 10+50.00 TO 12+87.50.

SYN	REVISION	DATE	BY	APPR
	ADDENDUM NO. 3	03/24	MCR	AP

March 2024	DATE	23208.000	PROJECT NO.	General_KAR	FILE
A. PAULLY	DESIGNED BY	M. ROGERS	DRAWN BY	R. MITCHELL	CHECKED BY



TYPICAL ROADWAY SECTION A
SCALE: NONE
C2-2 - C2-6

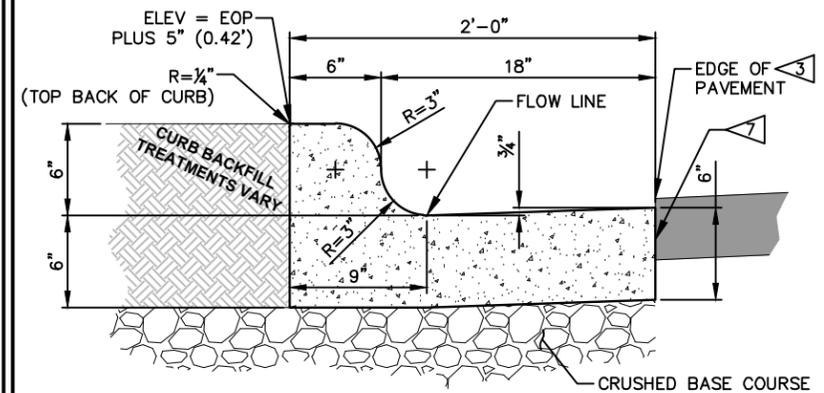
PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
TYPICAL SECTION

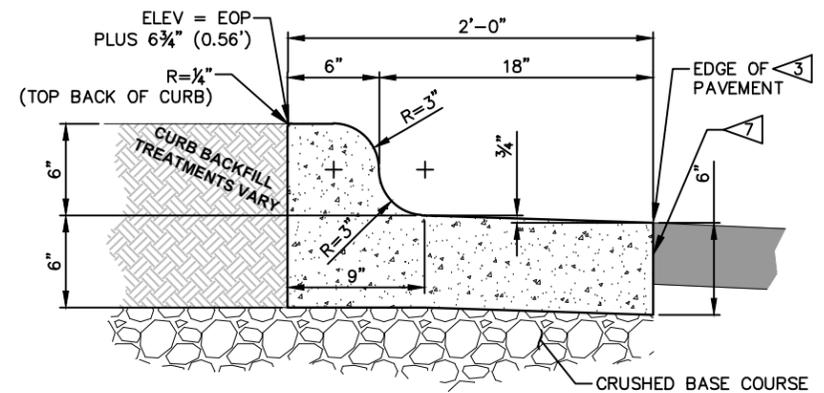
SHEET
G-6

NOTES:

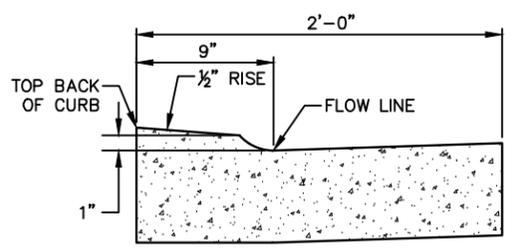
- EXPANSION AND CONTRACTION JOINTS SHALL BE PLACED IN ACCORDANCE WITH SPECIFICATION 02528.
- UNLESS OTHERWISE SPECIFIED, CONSTRUCTION MATERIALS AND PROCEDURES SHALL CONFORM TO MPWSS CURRENT EDITION.
- FINISHED PAVEMENT SURFACE SHALL BE $\frac{1}{8}$ " TO $\frac{1}{4}$ " ABOVE THE EDGE OF "CATCH" CURBS AND FLUSH WITH THE EDGE OF CURB OF "SPILL" CURBS.
- CONTRACTION JOINTS SHALL BE PLACED AT EVERY 15', SHALL HAVE A MINIMUM DEPTH OF $\frac{3}{4}$ " AND A MINIMUM WIDTH OF $\frac{1}{8}$ ". CONTRACTION JOINTS SHALL BE CONSTRUCTED BY SCORING. A TOOL SHALL BE USED WHICH WILL LEAVE CORNERS ROUNDED AND DESTROY AGGREGATE INTERLOCK FOR THE SPECIFIED MINIMUM DEPTH.
- INDIVIDUAL CONTRACTOR'S FORMS MAY VARY SLIGHTLY FROM THIS PATTERN. PATTERNS WHICH ACHIEVE ESSENTIALLY THE SAME RESULT AS THE ABOVE PATTERN MAY BE APPROVED BY THE CITY.
- VISIBLE EDGES SHALL BE FINISHED TO A RADIUS OF $\frac{1}{4}$ ", UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL TACK ALL VERTICAL SURFACES (MATCH LINES) PRIOR TO PAVING.
- CONTRACTOR TO APPLY BUTTERFIELD COLOR CLEAR GUARD FIRST SEAL, OR APPROVED EQUAL, TO FINISHED CONCRETE SURFACE.



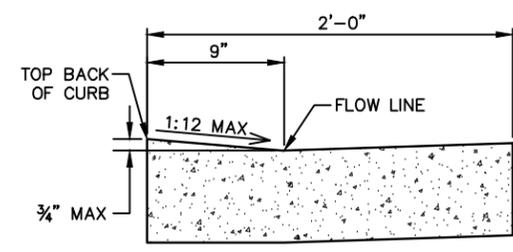
"CATCH" CURB



"SPILL" CURB



DRIVEWAY LAYDOWN

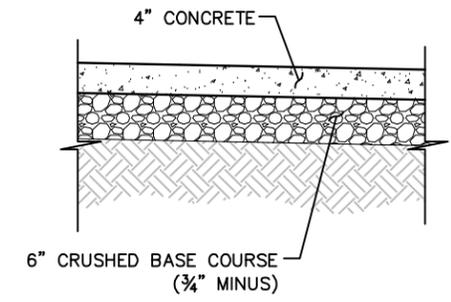


ACCESSIBLE RAMP LAYDOWN

CONCRETE CURB & GUTTER (1)
SCALE: NONE G-6, C2-9 - C2-13

NOTES:

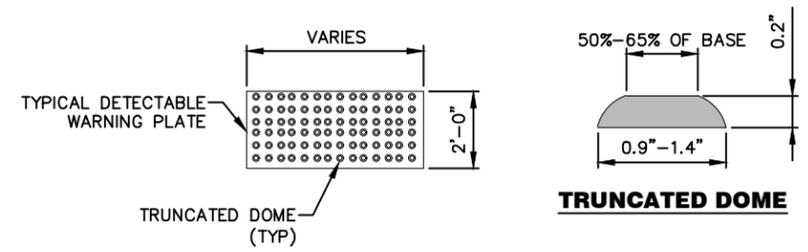
- $\frac{1}{2}$ " EXPANSION JOINT MATERIAL SHALL BE PLACED AT THE PC, PT AND AT 300' MAXIMUM SPACING.
- CONTRACTOR TO APPLY BUTTERFIELD COLOR CLEAR GUARD FIRST SEAL, OR APPROVED EQUAL, TO FINISHED CONCRETE SURFACE.



SIDEWALK SECTION (2)
SCALE: NONE G-6, C2-9 - C2-13

NOTES:

- THE DETECTABLE WARNING SHALL EXTEND THE FULL WIDTH AND 2'-0" DEPTH OF THE CURB RAMP, SHALL BE A CONTRASTING COLOR AND MEET THE TRUNCATED DOME CONFIGURATION AND DIMENSIONS SHOWN BELOW. (PER ADAAG 4.29.2)
- DETECTABLE WARNINGS MUST CONSIST OF RAISED TRUNCATED DOMES WITH A NOMINAL DIAMETER OF 0.90-INCHES TO 1.4-INCHES, A NOMINAL HEIGHT OF 0.20-INCH, AND BE SPACED AT 1.6-INCHES TO 2.4-INCHES FROM CENTER TO CENTER. THE COLOR OF THE DETECTABLE WARNING PLATE MUST CONTRAST WITH THE SURROUNDING SURFACES.
- INSTALL DETECTABLE WARNING PLATES AS REQUIRED AT EACH LOCATION SHOWN ON THE PLANS.
- DETECTABLE WARNING PLATES SHALL BE EAST JORDAN IRON WORKS 24"x24" (No. 00700571) OR 24"x30" (No. 00700721) GRAY IRON CAST IRON PLATES, OR APPROVED EQUAL.



DETECTABLE WARNING (3)
SCALE: NONE C2-10, C2-11

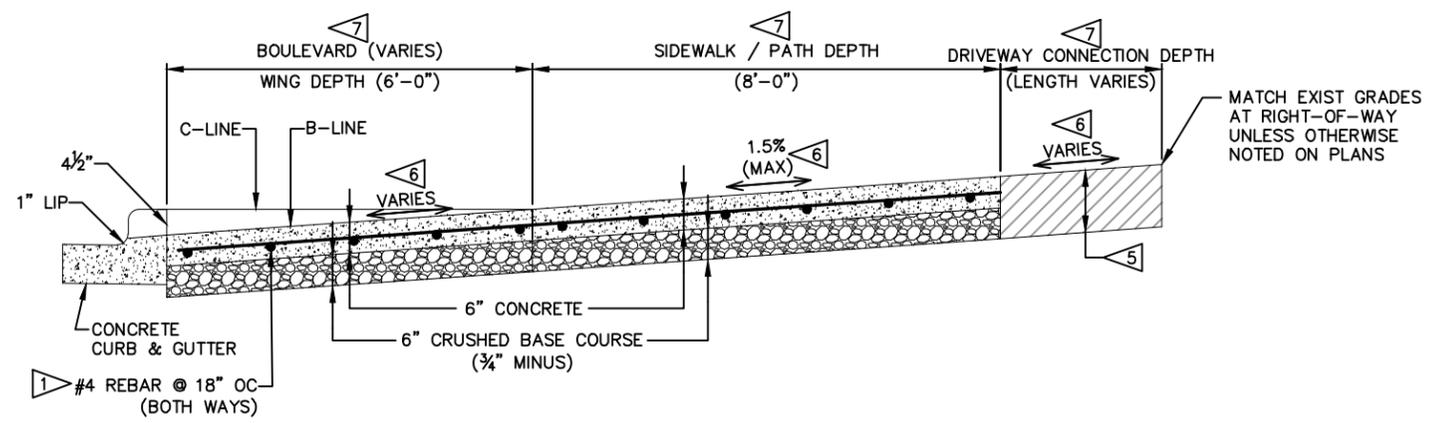
SYN	REVISION	BY	APPR	DATE

March 2024	March 2024	23208.000	General_KAR
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A PAULLY	M. ROGERS	R. MITCHELL	
DESIGNED BY	DRAWN BY	CHECKED BY	

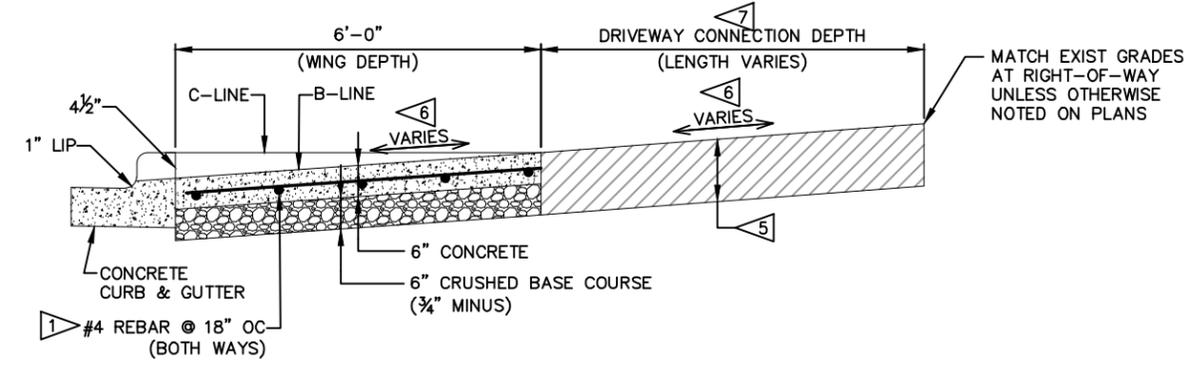
PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
TYPICAL DETAILS

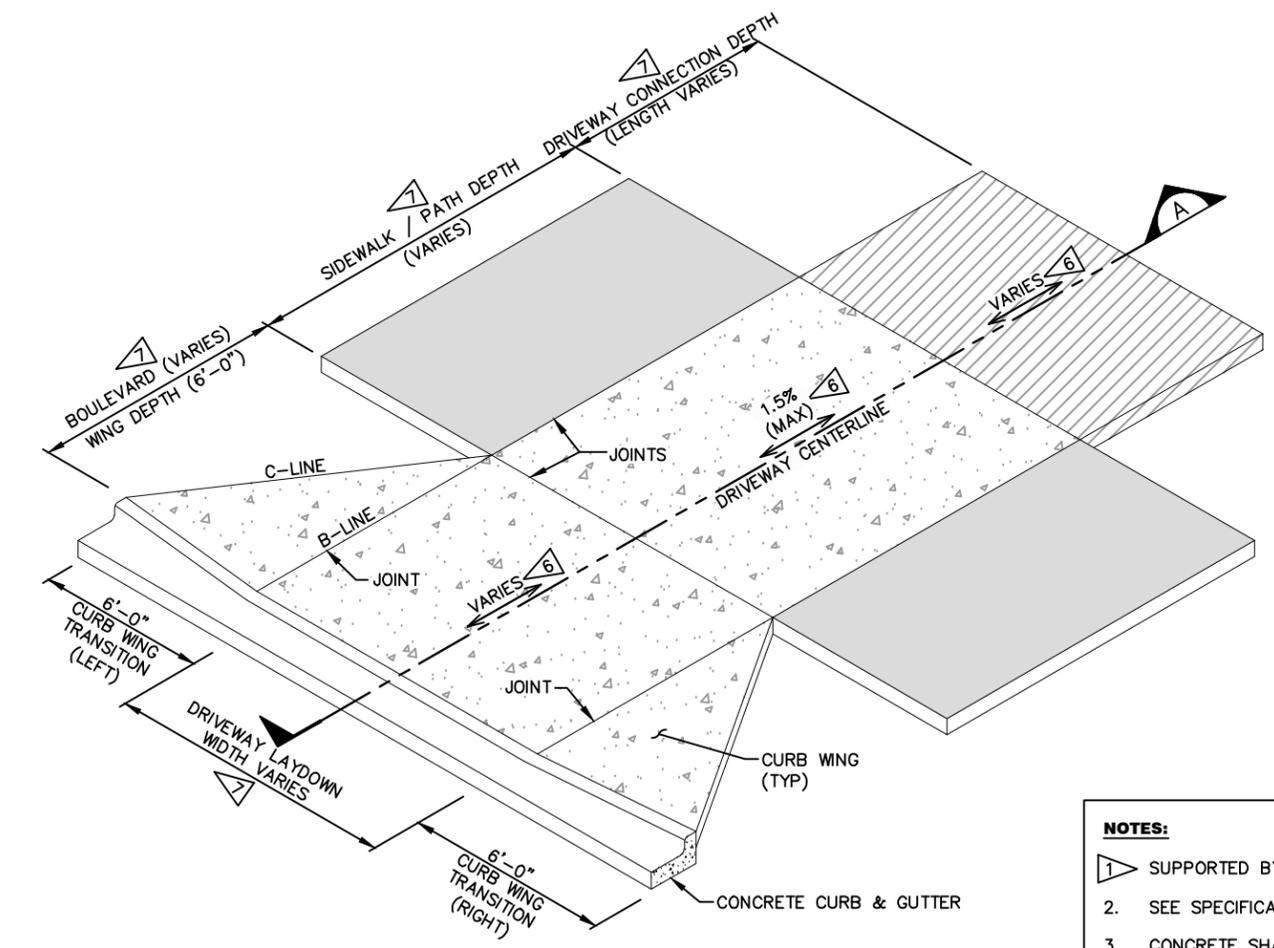
SHEET
G-7



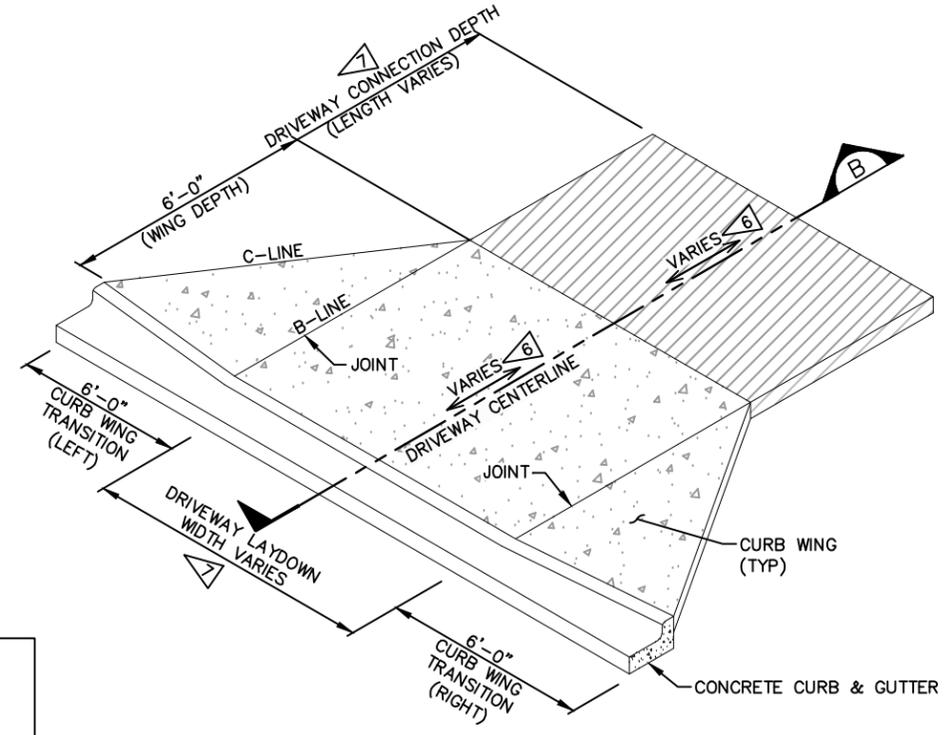
SECTION-A



SECTION-B



DRIVEWAY APPROACH W/ SIDEWALK OR PATH
SCALE: NONE
C2-2 - C2-6, C2-12



DRIVEWAY APPROACH
SCALE: NONE
C2-2 - C2-5

- 6" CONCRETE
- SIDEWALK / PATH
- DRIVEWAY CONNECTION

- NOTES:**
- 1 SUPPORTED BY 3" TALL CHAIRS IN ALL 6" CONCRETE.
 2. SEE SPECIFICATION 02529 FOR JOINT REQUIREMENTS.
 3. CONCRETE SHALL INCLUDE THE USE OF FIBER MESH (0.75 POUNDS PER CUBIC YARD OF CONCRETE).
 4. CURB WING TRANSITION LENGTH SHALL BE 6'-0", UNLESS NOTED OTHERWISE ON PLANS. (SEE DRIVEWAY INFORMATION TABLE, SHEET G-9)
 - 5 **DRIVEWAY CONNECTIONS:**
- ASPHALT SECTION: 3" ASPHALT CONCRETE PAVEMENT
9" CRUSHED BASE COURSE (3/4" MINUS)
- GRAVEL SECTION: 12" CRUSHED BASE COURSE (3/4" MINUS)
(SEE DRIVEWAY INFORMATION TABLE, SHEET G-9)
 - 6 SEE CROSS SECTIONS FOR SLOPES.
 - 7 SEE DRIVEWAY INFORMATION TABLE. (SEE SHEET G-9)
 8. CONTRACTOR TO APPLY BUTTERFIELD COLOR CLEAR GUARD FIRST SEAL, OR APPROVED EQUAL, TO FINISHED CONCRETE SURFACE.

SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	General_KAR	FILE
A PAULLY	DESIGNED BY	M. ROGERS	DRAWN BY	R. MITCHELL	CHECKED BY

PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
TYPICAL DETAILS

SHEET
G-8



NOTES:

- 1 CURB WINGS ARE REPLACED WITH PATH TRANSITION PANELS. SEE INTERSECTION DETAIL ON SHEET C2-12 FOR MORE INFORMATION.
- 2 LAYDOWN CURB ONLY FOR ACCESSORY ACCESS. NO OTHER DRIVEWAY IMPROVEMENTS.

SYM	REVISION	BY	APPR	DATE

March 2024	March 2024		
DATE	DATE		
DESIGNED BY	DESIGNED BY		
M. ROGERS	M. ROGERS		
DRAWN BY	DRAWN BY		
R. MITCHELL	R. MITCHELL		
CHECKED BY	CHECKED BY		

DRIVEWAY INFORMATION TABLE

DRIVEWAY (CL) STATION / OFFSET	DRIVEWAY WIDTH (FT)	CURB WING TRANSITION (FT)	BOULEVARD DEPTH (FT)	SIDEWALK (YES / NO)	SIDEWALK DEPTH (FT)	DRIVEWAY CONNECTION TYPE	DRIVEWAY CONNECTION DEPTH (FT)	ADDRESS
11+69.00, LT	18.0	6.0 LT / 6.0 RT	----	NO	----	ASPHALT	2.3	630 KARROW
12+88.00, LT	16.0	6.0 LT / 6.0 RT	----	NO	----	----	----	601 CENTENNIAL DR
13+07.50, RT	17.0	6.0 LT / 6.0 RT	6.0 LT / 6.0 RT	YES	8.0	GRAVEL	9.5	910 W 7th ST
14+27.19, LT	22.0	6.0 LT / 6.0 RT	----	NO	----	ASPHALT	2.8	CENTENNIAL DR
14+81.00, RT	18.0	6.0 LT / 6.0 RT	12.0 LT / 12.0 RT	YES	8.0	ASPHALT	15.9	535 KARROW
15+17.00, LT	22.0	6.0 LT / 6.0 RT	----	NO	----	ASPHALT	3.0	510 KARROW
15+77.00, LT	22.0	6.0 LT / 6.0 RT	----	NO	----	GRAVEL	3.1	500 KARROW
16+22.00, RT	22.0	6.0 LT / 6.0 RT	6.0 LT / 6.0 RT	YES	8.0	ASPHALT	8.8	S KARROW ESTATES RD
17+42.00, RT	18.0	6.0 LT / 6.0 RT	6.0 LT / 6.0 RT	YES	8.0	ASPHALT	9.0	467 KARROW
17+98.00, LT	16.0	6.0 LT / 6.0 RT	----	NO	----	----	----	WHITEFISH LAKE GOLF COURSE
18+19.00, RT	14.0	6.0 LT / 6.0 RT	6.0 LT / 6.0 RT	YES	8.0	ASPHALT	9.0	459 KARROW
19+36.00, RT	22.0	6.0 LT / 6.0 RT	6.0 LT / 6.0 RT	YES	8.0	ASPHALT	9.0	451, 443 & 441 KARROW
20+01.00, RT	22.0	6.0 LT / 6.0 RT	6.0 LT / 6.0 RT	YES	8.0	ASPHALT	9.0	439 KARROW
21+12.00, RT	20.0	6.0 LT / 6.0 RT	6.0 LT / 6.0 RT	YES	8.0	ASPHALT	9.0	533 W 4th ST
21+20.00, LT	16.0	6.0 LT / 6.0 RT	----	NO	----	----	----	WHITEFISH LAKE GOLF COURSE
22+93.00, LT	20.0	6.0 LT / 6.0 RT	----	NO	----	ASPHALT	3.7	334 KARROW
23+83.00, LT	36.0	6.0 LT / 6.0 RT	----	NO	----	ASPHALT	3.0	334 & 328 KARROW
23+89.00, RT	22.0	6.0 LT / 6.0 RT	6.0 LT / 6.0 RT	YES	8.0	ASPHALT	9.0	331 KARROW
24+25.00, RT	12.0	6.0 LT / 6.0 RT	6.0 LT / 6.0 RT	YES	8.0	----	----	331 KARROW
24+54.00, RT	22.0	6.0 LT / 6.0 RT	6.0 LT / 6.0 RT	YES	8.0	ASPHALT	9.0	323 KARROW
24+93.00, LT	18.0	6.0 LT / 6.0 RT	----	NO	----	GRAVEL	3.0	316 KARROW
25+21.00, LT	12.0	6.0 LT / 6.0 RT	----	NO	----	----	----	304 KARROW
VARIES, RT	21.4	6.0 LT / 6.0 RT	0.0 LT / VARIES	YES	8.0	ASPHALT	VARIES	225 KARROW
28+27.00, RT	18.0	6.0 LT / 6.0 RT	0.0 LT / 0.0 RT	YES	8.0	ASPHALT	VARIES	211 KARROW

PROJECT TITLE

KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT

Whitefish, Montana

SHEET TITLE

TYPICAL DETAILS

SHEET

G-9

MONUMENT PRESERVATION ACT:

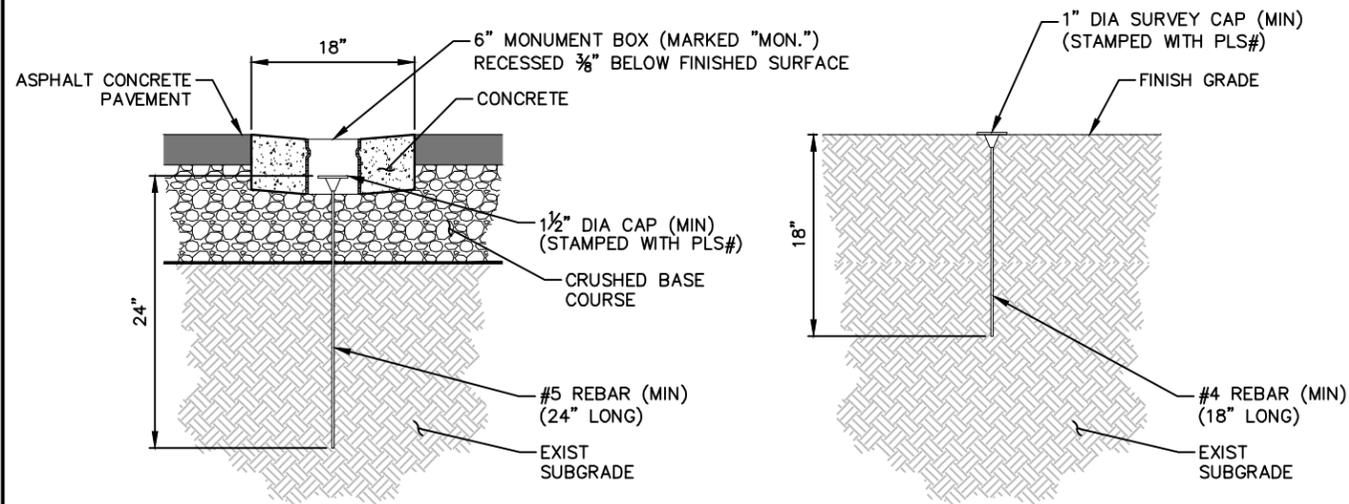
70-22-115. Monument preservation. (1) A public or private entity or person shall, before engaging in activity that will or is likely to disturb or destroy a monument or the accessories to a monument, require the following activities to be performed by a professional land surveyor, as defined in 37-67-101, or a qualified person under the direct supervision of a professional land surveyor:

- (a) locate and reference the monument or the accessories to the monument; and
- (b) file a corner record showing the location of the references to the monument or to the accessories to the monument as required in 70-22-104 and 70-22-105.

(2) A public or private entity or person shall within 30 days of completing activity that has disturbed or destroyed a monument or the accessories to a monument, require the following activities to be performed by a professional land surveyor, as defined in 37-67-101, or a qualified person under the direct supervision of a professional land surveyor.

- (a) restore or replace the monument or the accessories to the monument, using the references established in subsection (1)(b); and
- (b) file a new corner record as required in 70-22-104 and 77-22-105.

70-22-104. Filing of corner record required. A surveyor shall complete, sign, stamp with the surveyor's seal, and file with the county clerk and recorder of the county where the corner is situated a written record of corner establishment or restoration to be known as a "corner record" for every public land survey corner and accessory to the corner that is established, reestablished, monumented, remonumented, restored, rehabilitated, perpetuated, or used as control in any survey by the surveyor and within 90 days after the establishment unless the corner and its accessories are substantially as described in an existing corner record filed in accordance with the provisions of this part.

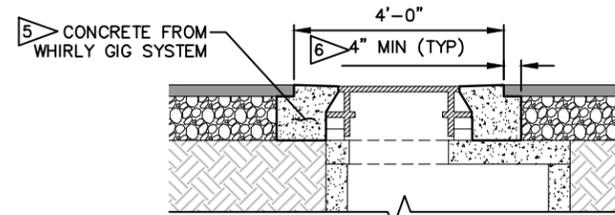


SURVEY MONUMENT 1
SCALE: NONE C2-3 - C2-6

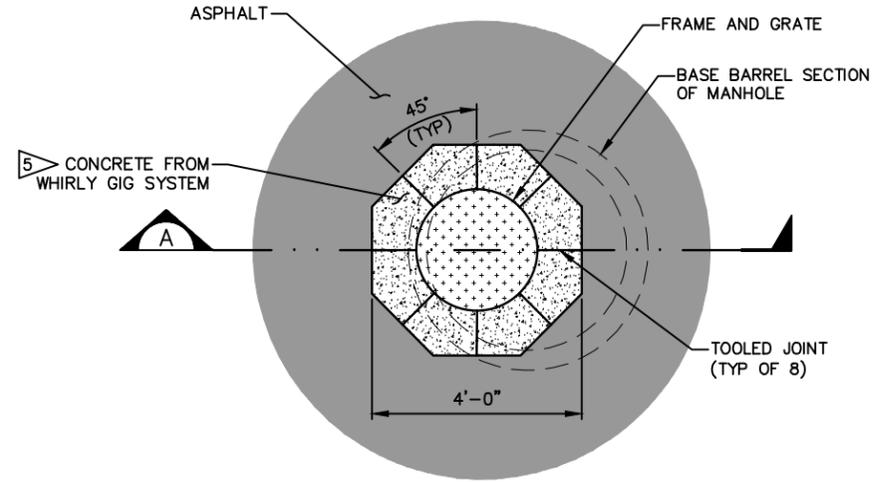
SURVEY MONUMENT - TURF 2
SCALE: NONE

NOTES:

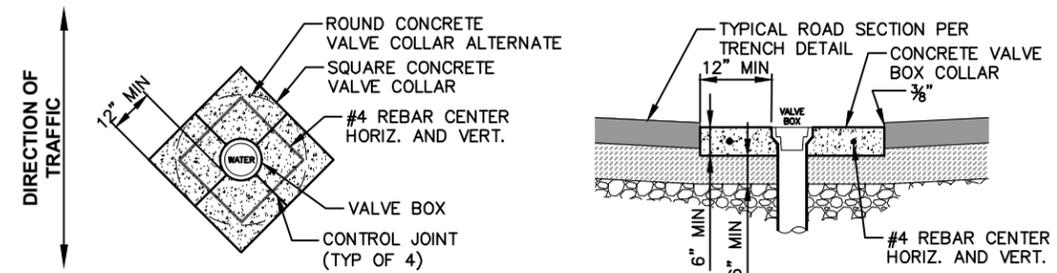
1. CONCRETE WHIRLY GIG SYSTEM AND CONCRETE COLLAR DETAILS TO ONLY BE IMPLEMENTED UNDER A PUNCH LIST OR WARRANTY SITUATION. (AS DEEMED NECESSARY BY THE ENGINEER)
2. ANY FRAME/GRATE/COVER WITHIN ROADWAY SURFACING THAT FAILS TO MEET THE SPECIFIED SURFACE TOLERANCES WILL BE REQUIRED TO BE RESET USING THE CONCRETE WHIRLY GIG SYSTEM.
3. CONCRETE SHALL INCLUDE THE USE OF FIBER MESH. (0.75 POUNDS PER CUBIC YARD OF CONCRETE)
4. FINISHED MANHOLE OR COMBINATION MANHOLE INLET COVER SHALL BE 1/4", ±1/8", BELOW FINISHED SURFACE.
5. CONCRETE SHALL BE TESTED FOR SLUMP, AIR AND COMPRESSION STRENGTH PER SPECIFICATION 02515.
6. CONCRETE SHALL BE "KEYED" UNDER ASPHALT TO PREVENT HEAVING.
7. CONTRACTOR TO APPLY BUTTERFIELD COLOR CLEAR GUARD FIRST SEAL, OR APPROVED EQUAL, TO FINISHED CONCRETE SURFACE.
8. ALL VISIBLE EDGES AND JOINTS SHALL BE ROUNDED WITH A 1/4" RADIUS EDGING TOOL.



SECTION-A



CONCRETE WHIRLY GIG SYSTEM 3
SCALE: NONE



PLAN VIEW

SECTION VIEW

CONCRETE COLLAR 4
SCALE: NONE



DATE	BY	REVISION

March 2024	
DATE	
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PROJECT NO.	
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FILE	

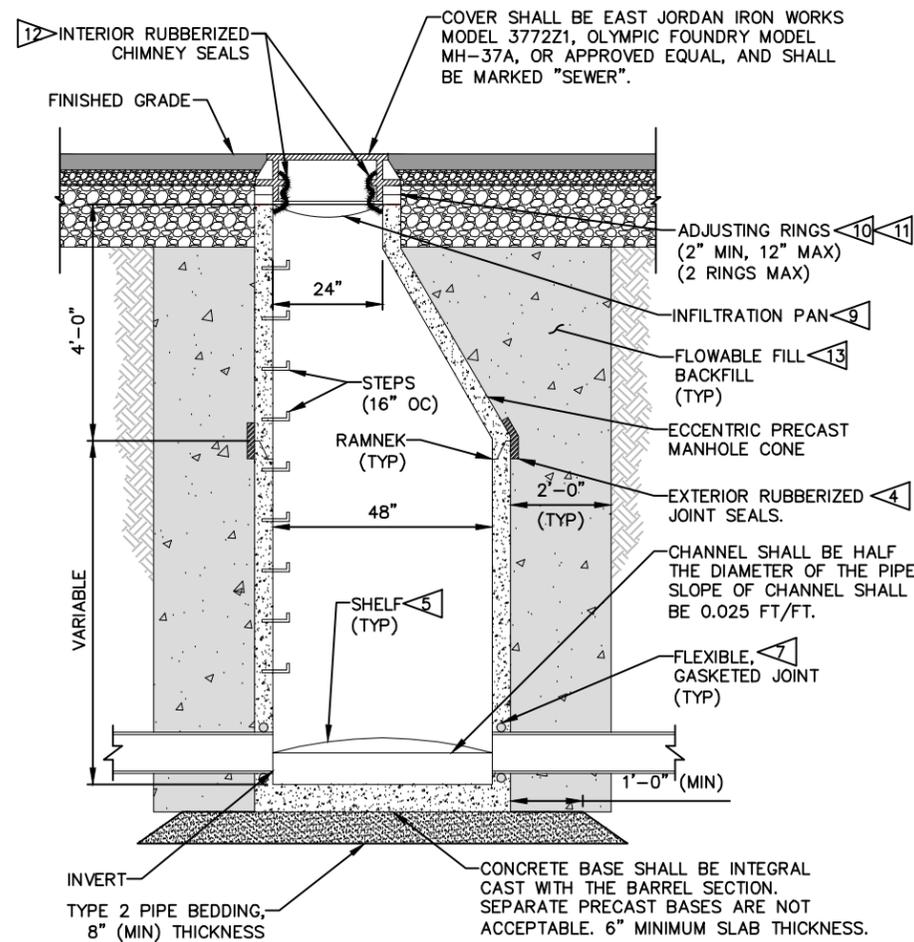
PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
TYPICAL DETAILS

SHEET
G-11

NOTES:

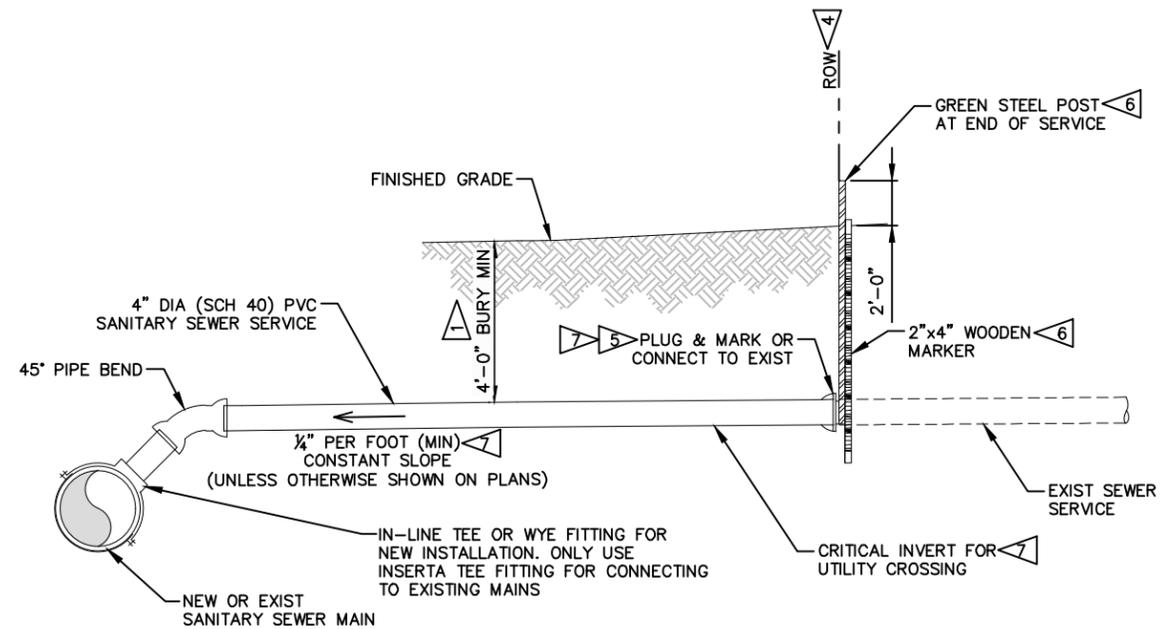
1. ALL MANHOLES NOT MANUFACTURED IN ACCORDANCE WITH ASTM C-478M-93 MUST HAVE BITUMINOUS OR COAL TAR EPOXY COAT ON EXTERIOR FOR DAMP PROOFING.
2. PRECAST REINFORCED CONCRETE MANHOLE RISER PER ASTM C-478.
3. ALL JOINTS BETWEEN MANHOLES SECTIONS, ADJUSTING RINGS, MANHOLE RING & TOP SECTION, AND AROUND SEWER PIPE INTO MANHOLE SHALL BE WATERTIGHT. JOINTING MATERIAL SHALL BE "RAMNEK" OR EQUAL FOR ALL JOINTS EXCEPT BETWEEN SEWER PIPE AND MANHOLE WALL.
4. EXTERIOR RUBBERIZED JOINT SEALS, MEETING ASTM C-877. TYPE II WITH A MINIMUM WIDTH OF 9".
5. SHELVES SHALL SLOPE AT 1" PER FOOT TOWARD CHANNEL.
6. FINISHED MANHOLES SHALL BE IN COMPLIANCE WITH THE SPECIFICATIONS.
7. CONNECTIONS SHALL BE DESIGNED TO BE WATERTIGHT UNDER SUBMERGED CONDITIONS.
8. ALL MANHOLES SHALL BE TESTED PER THE SPECIFICATIONS.
9. INFILTRATION PAN SHALL BE PARSON - HIGH DENSITY POLYETHYLENE WITH DRAIN HOLE (VENTED), MEETING ASTM D-1248, OR APPROVED EQUAL.
10. SET MANHOLE FRAME AND COVER TO FINISHED GRADE USING LADTECH POLYETHYLENE MANHOLE ADJUSTING RINGS (WEDGE DESIGN) OR APPROVED EQUAL WHEN MANHOLE IS LOCATED WITHIN A STREET, ALLEY OR DRIVEWAY. USE RISER RINGS (2" MIN/12" MAX, 2 RINGS MAX) WHEN NOT WITHIN A STREET, ALLEY OR DRIVEWAY.
11. FINISHED MANHOLE COVER SHALL BE 1/4", ±1/8", BELOW FINISHED SURFACE. MAKE FINAL ADJUSTMENTS PRIOR TO PAVING.
12. NOT NEEDED IF CONCRETE WHIRLY GIG SYSTEM IS USED.
13. ALL SEWER MANHOLES SHALL BE BACKFILLED WITH FLOWABLE FILL TO PROVIDE TRENCH PLUGGING. CONTRACTOR SHALL PLACE 2'-0" WIDE "DONUT" OF FLOWABLE FILL AROUND EACH MANHOLE. MAXIMUM LIFT IS 7'-0" THICK. PLACE SECOND LIFT AFTER 24 HOURS CURE TIME. ALLOW 7 DAYS OF CURE TIME PRIOR TO PLACING ROADWAY FABRIC, GRAVEL, CONCRETE OR ASPHALT.



13 SANITARY SEWER MANHOLE
SCALE: NONE
C3-2, C3-3

NOTES:

1. ACTUAL DEPTH OF BURY FOR EACH SERVICE VARIES. SERVICES WITH LESS THAN 4'-0" OF BURY SHALL RECEIVE 4" OF RIGID INSULATION THE FULL WIDTH OF THE TRENCH.
2. ALL BACKFILL SHALL BE TYPE A UNLESS OTHERWISE NOTED.
3. SERVICE CONNECTION SHALL MEET ALL REQUIREMENTS OF THE UNIFORM PLUMBING CODE, INCLUDING REQUIRED CLEANOUTS.
4. SERVICE SHALL EXTEND TO THE RIGHT-OF-WAY LINE, UNLESS OTHERWISE SHOWN ON THE PLANS.
5. USE FERNCO 300 STAINLESS STEEL NEOPRENE SHIELDED FOUR CLAMP BAND COUPLING (OR APPROVED EQUAL) AND FITTINGS AS REQUIRED WHEN CONNECTING TO EXISTING.
6. DO NOT INSTALL WHEN CONNECTING TO EXISTING SERVICE.
7. SEE SANITARY SEWER PLANS FOR SERVICES THAT HAVE SPECIFIC INVERT GRADES AT STORM MAIN CROSSINGS, WATER MAIN CROSSINGS AND END CAPS.



SANITARY SEWER SERVICE
SCALE: NONE
C3-2 - C3-4



DATE	BY	APPR	REVISION	SYM

March 2024				
DATE				
DESIGNED BY	A. PAULLY			
DRAWN BY	M. ROGERS			
PROJECT NO.	23208.000			
General	KAR			
CHECKED BY	R. MITCHELL			
FILE				

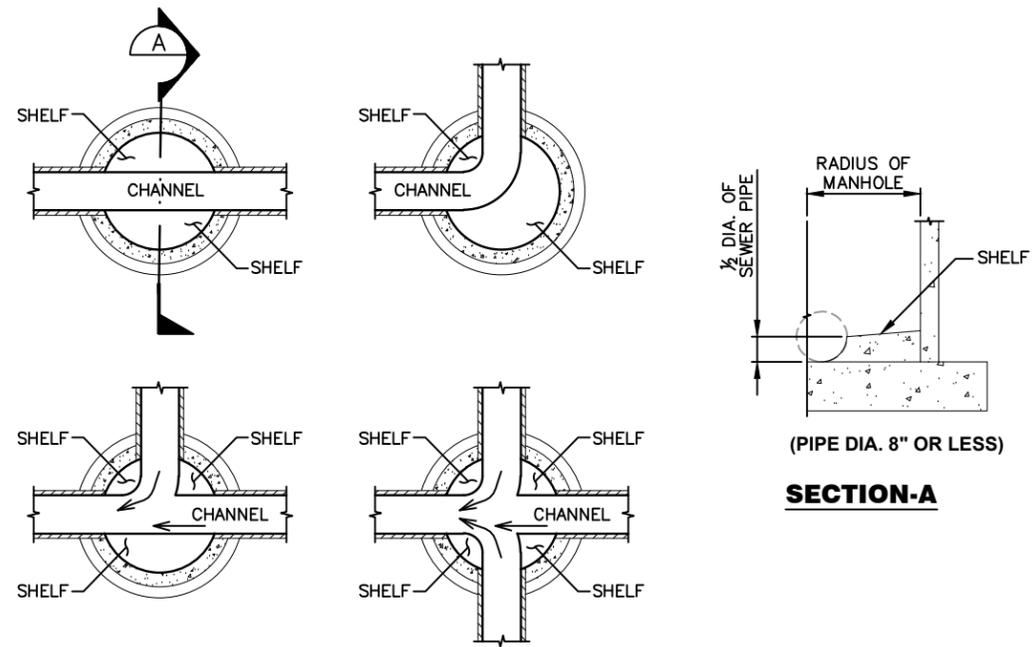
PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
SANITARY SEWER DETAILS

SHEET
G-13

NOTES:

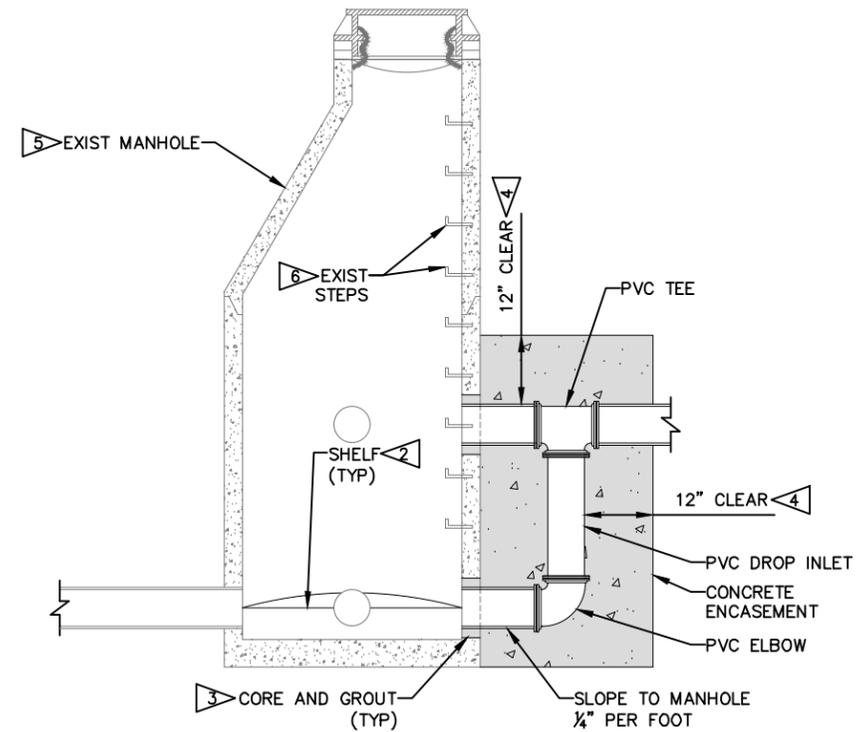
1. SHELVES SHALL SLOPE AT 1" PER FOOT TOWARD CHANNEL.
2. CHANNEL SHALL BE HALF THE DIAMETER OF THE PIPE. SLOPE OF CHANNEL SHALL BE 0.025 FT/FT.
3. ALL EXISTING SANITARY SEWER MANHOLES RECEIVING NEW CONNECTIONS SHALL BE CORED. NEW PIPES SHALL BE GROUTED TO MANHOLE WALLS TO PROVIDED WATERTIGHT SEAL. RECONSTRUCT NEW/EXISTING CHANNELS AS SHOWN.



TYPICAL MANHOLE CHANNEL 1
SCALE: NONE

NOTES:

1. ALL PVC USED FOR DROP INLET SHALL BE SDR 35.
2. SHELVES SHALL SLOPE AT 1" PER FOOT TOWARD CHANNEL. (SEE TYPICAL MANHOLE CHANNEL DETAIL)
3. CONNECTIONS SHALL BE DESIGNED TO BE WATERTIGHT UNDER SUBMERGED CONDITIONS.
4. PROVIDE 12" CLEAR CONCRETE ENCASEMENT AROUND ALL SIDES OF NEW PIPE.
5. ADJUST UPPER MANHOLE SECTION TO BE ROTATED TO ALIGN LID BETWEEN EXIST AND NEW DROP CONNECTIONS. (SEE STRUCTURE TABLE FOR ANGLE INFORMATION)
6. EXIST STEPS TO BE REMOVED, AS NEEDED AND NEW STEPS INSTALLED AND ALIGNED WITH LID.



EXIST SANITARY SEWER MANHOLE (DROP) 2
SCALE: NONE



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PROJECT NO.	General_KAR
FILE	General_KAR

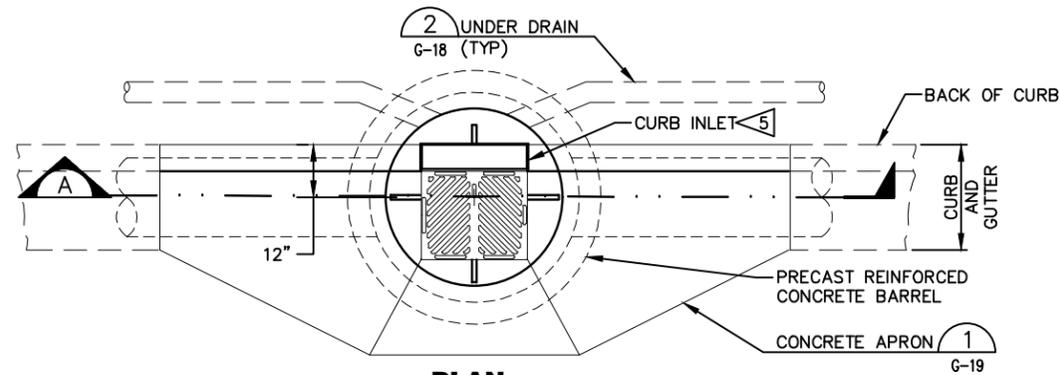
PROJECT TITLE
**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**SANITARY SEWER
DETAILS**

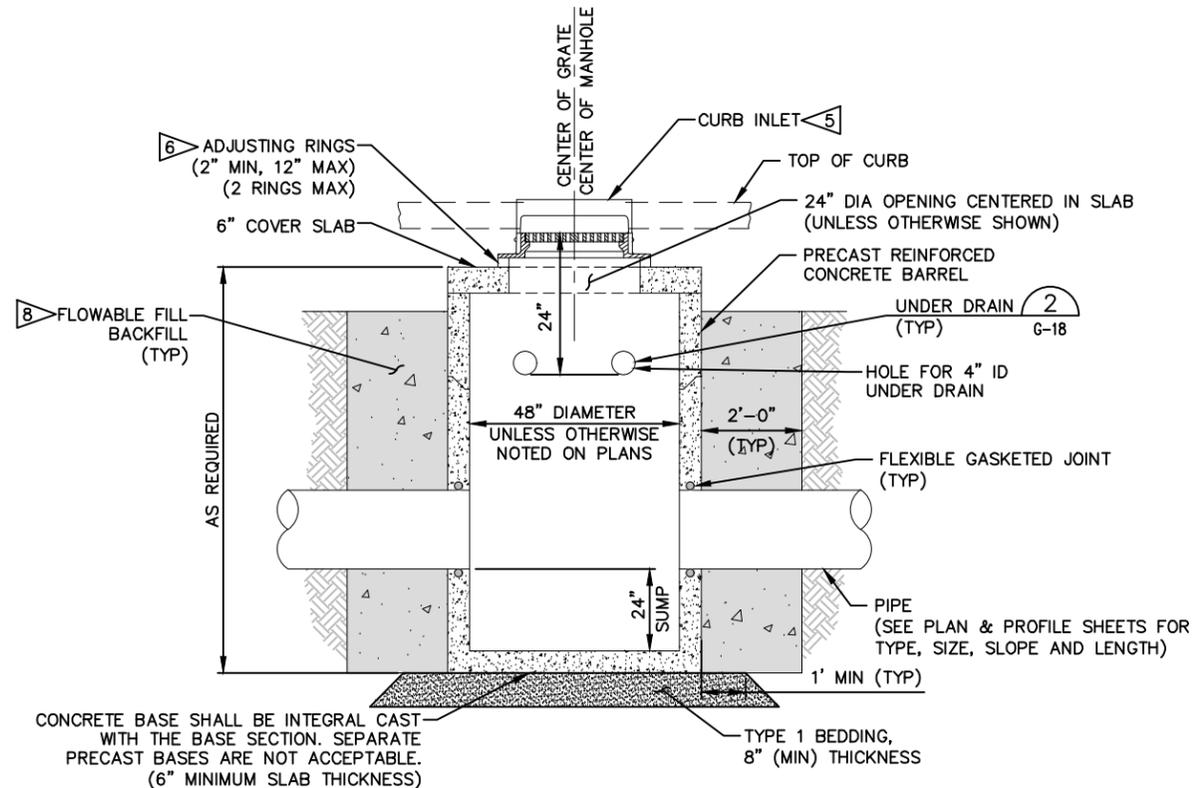
SHEET
G-14

NOTES:

1. FRAME AND COVER ARE TO BE PLACED AS SHOWN ON PLANS.
2. ALL JOINTS BETWEEN MANHOLES SECTIONS, MANHOLE FRAME AND TOP SECTION, AND AROUND STORM PIPE INTO MANHOLE SHALL BE WATERTIGHT. JOINTING MATERIAL BETWEEN BARREL SECTIONS SHALL BE "RAMNEK", OR APPROVED EQUAL.
3. PRECAST REINFORCED CONCRETE MANHOLES SHALL CONFORM TO ASTM C-478.
4. ALL MANHOLES SHALL BE CONSTRUCTED TO HANDLE HS-20 LOADING.
5. COMBINATION MANHOLE INLET WITHIN FULL HEIGHT CURB SHALL BE EAST JORDAN IRON WORKS 7752 CURB AND GUTTER INLET WITH 7750 M1 (HERRINGBONE) GRATE, OR APPROVED EQUAL (UNLESS OTHERWISE SHOWN ON PLANS). "DUMP NO POLLUTANTS, OUTFALL TO STREAM" SHALL BE FORGED IN TOP OF HOOD.
6. SET MANHOLE FRAME AND COVER TO FINISHED GRADE USING LADTECH POLYETHYLENE MANHOLE ADJUSTING RINGS (WEDGE DESIGN) OR APPROVED EQUAL WHEN MANHOLE IS LOCATED WITHIN A STREET, ALLEY OR DRIVEWAY. USE RISER RINGS (2" MIN/12" MAX, 2 RINGS MAX) WHEN NOT WITHIN A STREET, ALLEY OR DRIVEWAY.
7. ALL HOLES IN NEW MANHOLES AND INLETS SHALL BE CAST OR CORED. UNDER DRAIN HOLES MAY BE "ROTO-HAMMERED" IN THE FIELD.
8. ALL STORM STRUCTURES WITHIN ROADWAY SECTION SHALL BE BACKFILLED WITH FLOWABLE FILL TO PROVIDE TRENCH PLUGGING. CONTRACTOR SHALL PLACE 2'-0" WIDE "DONUT" OF FLOWABLE FILL AROUND EACH MANHOLE. MAXIMUM LIFT IS 7'-0" THICK. PLACE SECOND LIFT AFTER 24 HOURS CURE TIME. ALLOW 7 DAYS OF CURE TIME PRIOR TO PLACING ROADWAY FABRIC, GRAVEL, CONCRETE OR ASPHALT.



PLAN

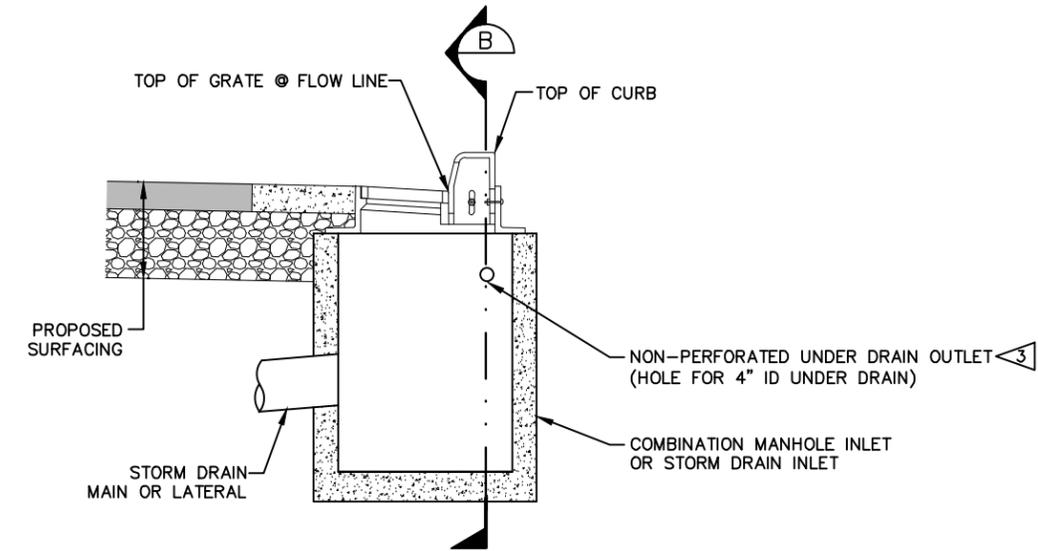


SECTION-A

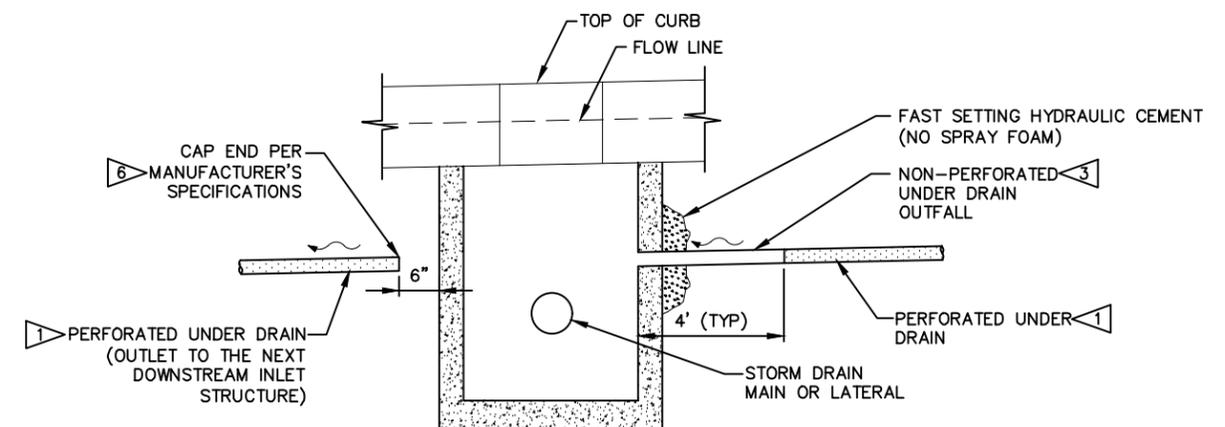
8 COMBINATION MANHOLE INLET 1
SCALE: NONE
C5-2 - C5-5

NOTES:

1. USE 4" DIAMETER DUAL WALL PERFORATED HDPE PIPE CONFORMING TO AASHTO M 252-TYPE S, WITH SLOTTED PERFORATIONS. MINIMUM PIPE STIFFNESS SHALL BE 50 PSI. PIPE SHALL BE ADS N-12 OR APPROVED EQUAL.
2. USE SPLICES, FITTINGS, AND CONNECTIONS WITH SUFFICIENT STRENGTH TO WITHSTAND CONSTRUCTION HANDLING AND PERMANENT LOADING, AND THAT WILL NOT IMPEDE FLOW OR DAMAGE THE PERFORATED PIPE.
3. USE 4" NON-PERFORATED HDPE PIPE MEETING AASHTO M 252-TYPE S, FOR UNDER DRAIN OUTFALLS. NON-PERFORATED PIPE SHALL MEET ALL SPECIFICATIONS AS NOTED ABOVE.
4. UNDER DRAIN HOLES IN NEW INLETS MAY BE "ROTO-HAMMERED" IN THE FIELD.
5. INSTALL UNDER DRAINS WITH ALL NEW CURB & GUTTER AND VALLEY GUTTER, UNLESS OTHERWISE NOTED.
6. CONNECT BOTH UNDER DRAINS TO INLET AT ROADWAY SAG LOCATIONS.



SECTION-B



UNDER DRAIN 2
SCALE: NONE
G-17, G-18



SYN	REVISION	BY	APPR	DATE

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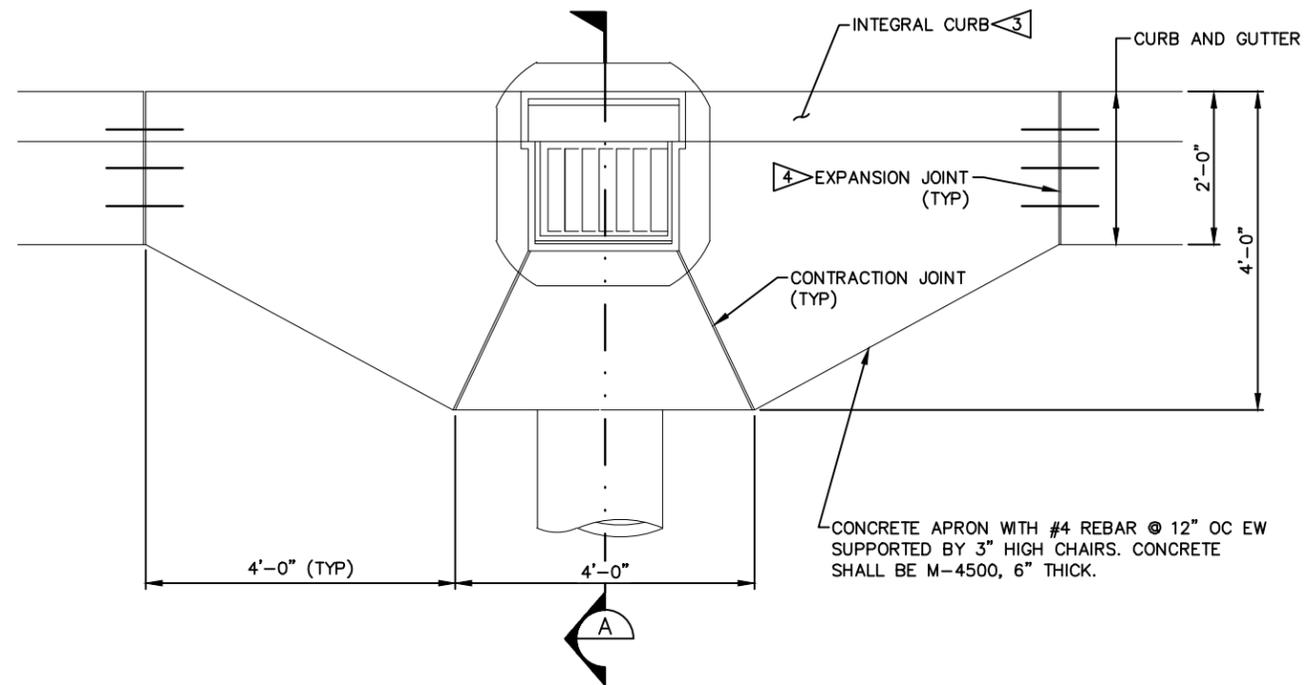
PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
STORM DRAINAGE DETAILS

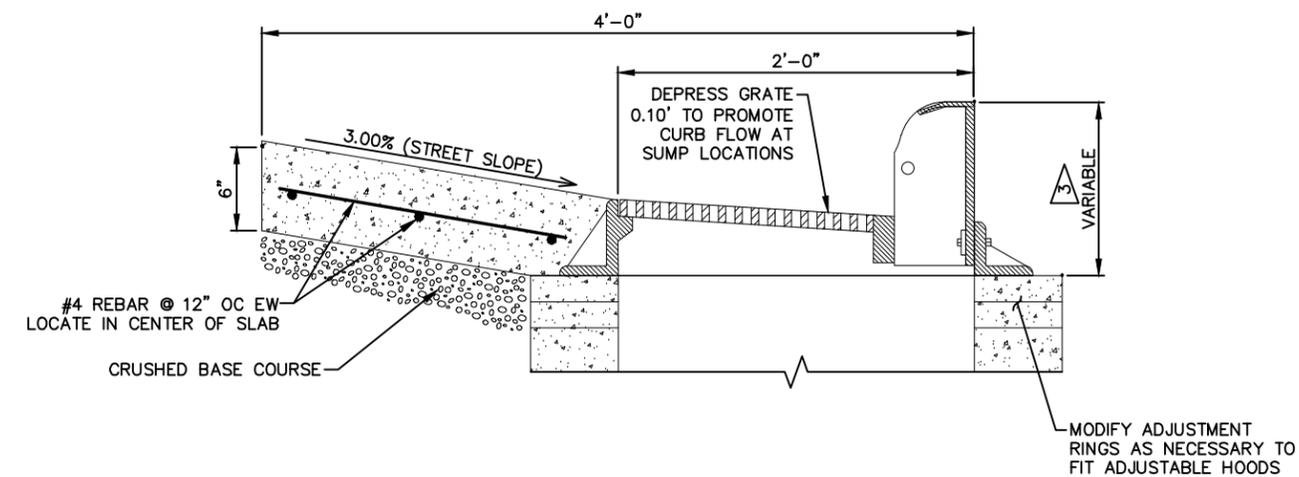
SHEET
G-18

NOTES:

1. PROVIDE CONCRETE APRONS AT ALL STORM INLETS AND COMBINATION MANHOLE INLETS WITHIN FULL HEIGHT CURB, UNLESS OTHERWISE SHOWN ON THE PLANS.
2. CONCRETE SHALL INCLUDE THE USE OF FIBER MESH (0.75 POUNDS PER CUBIC YARD OF CONCRETE).
3. ADJUST CURB HEIGHT AT DRIVEWAY WINGS AS NECESSARY.
4. CONCRETE APRON EXPANSION JOINTS SHALL HAVE 12" SMOOTH DOWELS (1/2" DIAMETER) PLACED 8" ON CENTER TO PREVENT HEAVING.



PLAN



SECTION-A

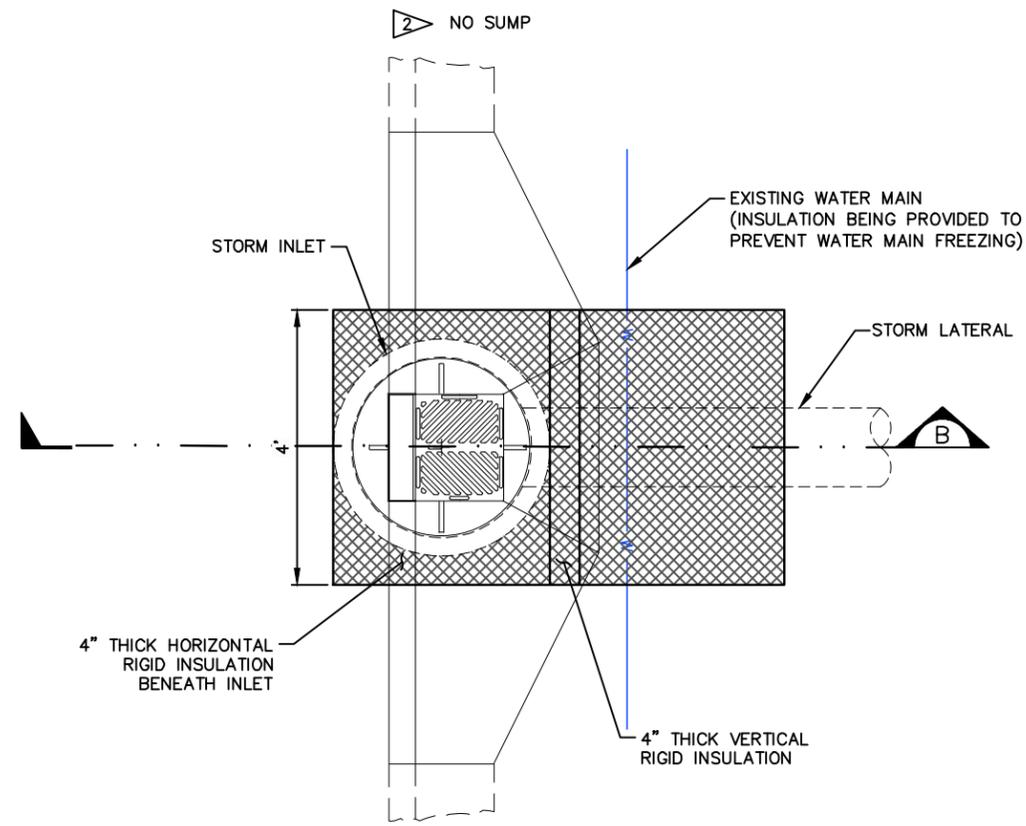
CONCRETE APRON

SCALE: NONE

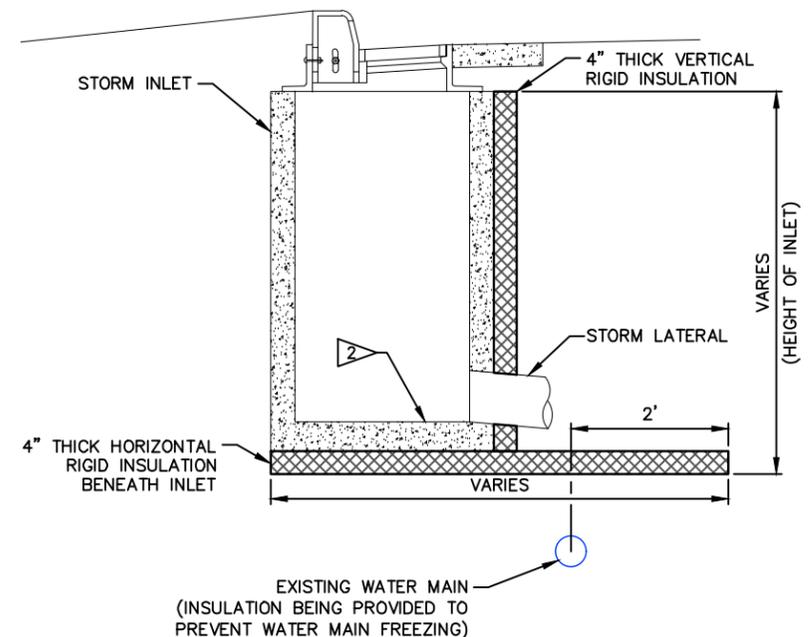
1
G-17, G-18

NOTES:

1. RIGID INSULATION SHALL BE INCIDENTAL TO THE PRICE OF THE STORM INLET.



PLAN



SECTION-B

STORM INLET INSULATION

SCALE: NONE

2
C5-2 - C5-5

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SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	General_KAR	FILE
A PAULLY	DESIGNED BY	M. ROGERS	DRAWN BY	R. MITCHELL	CHECKED BY

PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
STORM DRAINAGE DETAILS

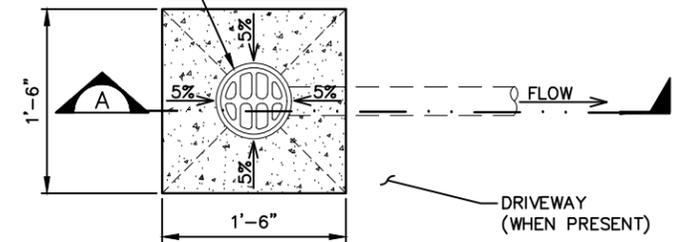
SHEET
G-19



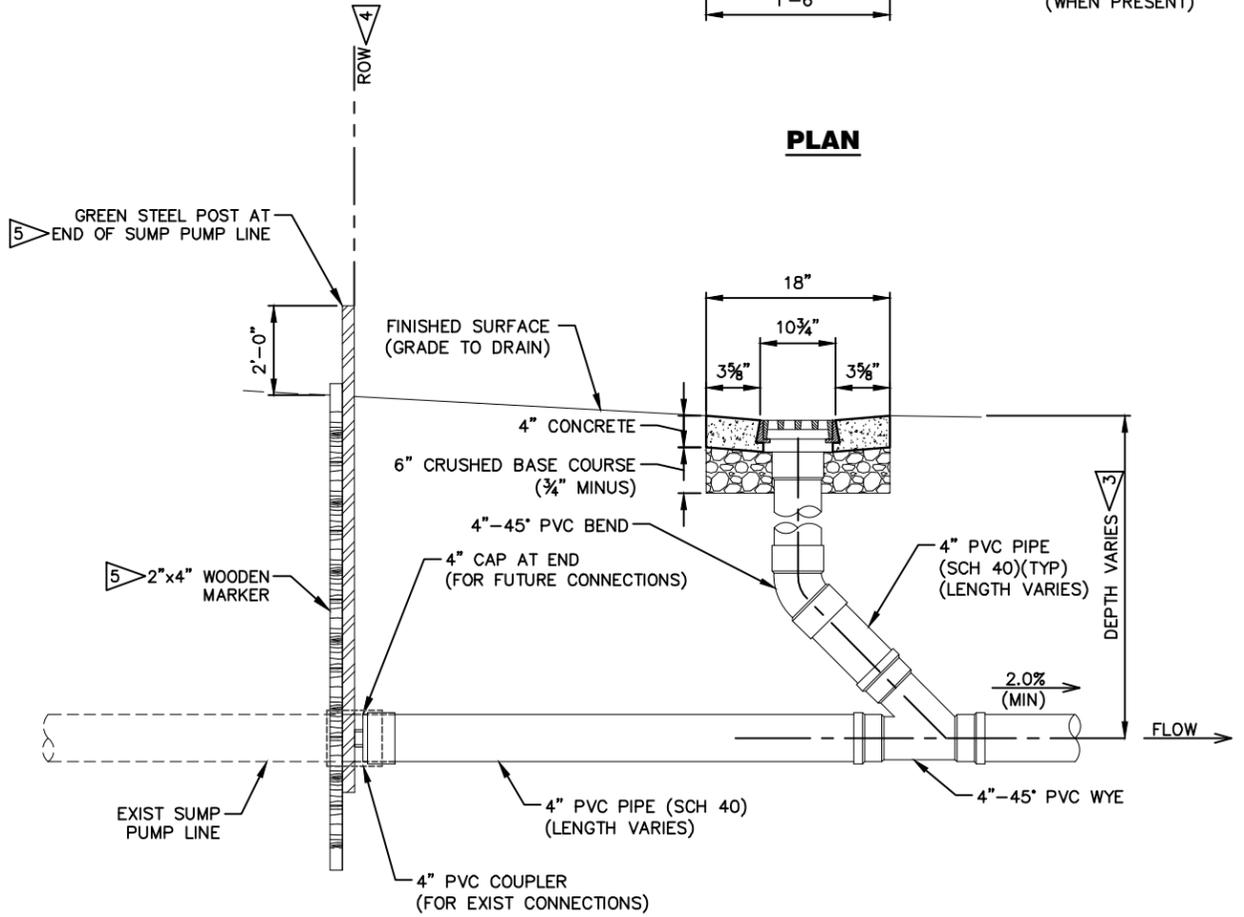
NOTES:

1. BEDDING MATERIAL WITHIN 6" OF THE SUMP PIPE SHALL BE TYPE 1 PIPE BEDDING.
2. SUITABLE NATIVE MATERIAL SHALL BE USED FOR SUMP PUMP CONNECTION BACKFILL.
3. INSTALL AS DEEP AS POSSIBLE WHILE MAINTAINING 2.0% POSITIVE PIPE SLOPE.
4. SUMP PUMP CONNECTION SHALL EXTEND TO THE RIGHT-OF-WAY LINE, UNLESS OTHERWISE SHOWN ON THE PLANS.
5. DO NOT INSTALL WHEN CONNECTING TO EXISTING SUMP PUMP.

NEENAH FOUNDRY COMPANY CASTING
FRAME: NF-4370 124 B
GRATE: NF-437000120 B
(OR APPROVED EQUAL)



PLAN



SECTION-A

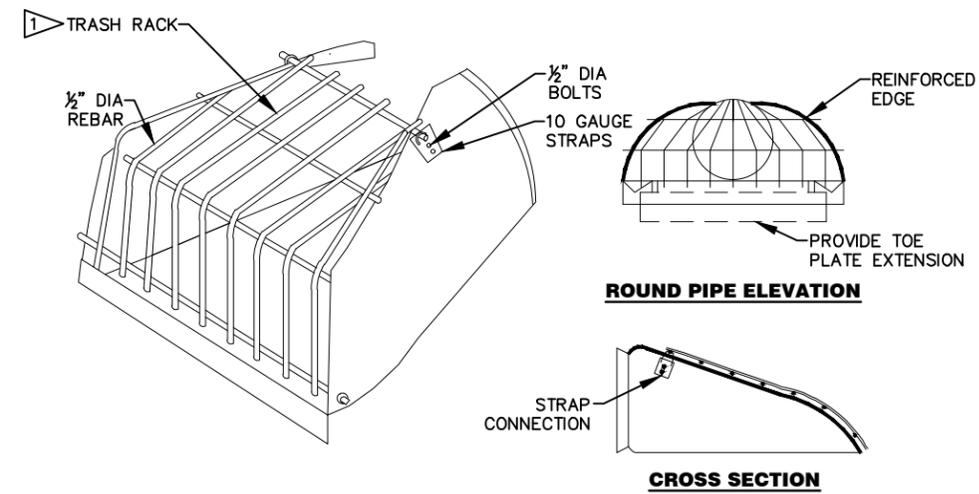
SUMP PUMP CONNECTION 1
SCALE: NONE C5-2, C5-4, C5-5

NOTES:

1. TRASH RACK BARS TO BE BLACK STEEL.
2. PAINT WITH HIGH ZINC COATING AFTER FABRICATION.
3. PLANT FIT TRASH RACK CONFIGURATION.

OPTIONAL:

1. BOLT THROUGH BOTTOM SECTION WITH NUT.
2. LAY OPEN ON BOTTOM FOR "HINGE" EFFECT.
3. LAST CROSS BAR MAY BE THROUGH BOTTOM SECTION UPON REQUEST.



ROUND PIPE ELEVATION

CROSS SECTION

PIPE FETS 2
SCALE: NONE C5-2

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SYMBOL	REVISION	BY	APPR.	DATE

DESIGNED BY A. PAULLY	DATE March 2024
DRAWN BY M. ROGERS	PROJECT NO. 23208.000
CHECKED BY R. MITCHELL	General KAR
FILE	FILE

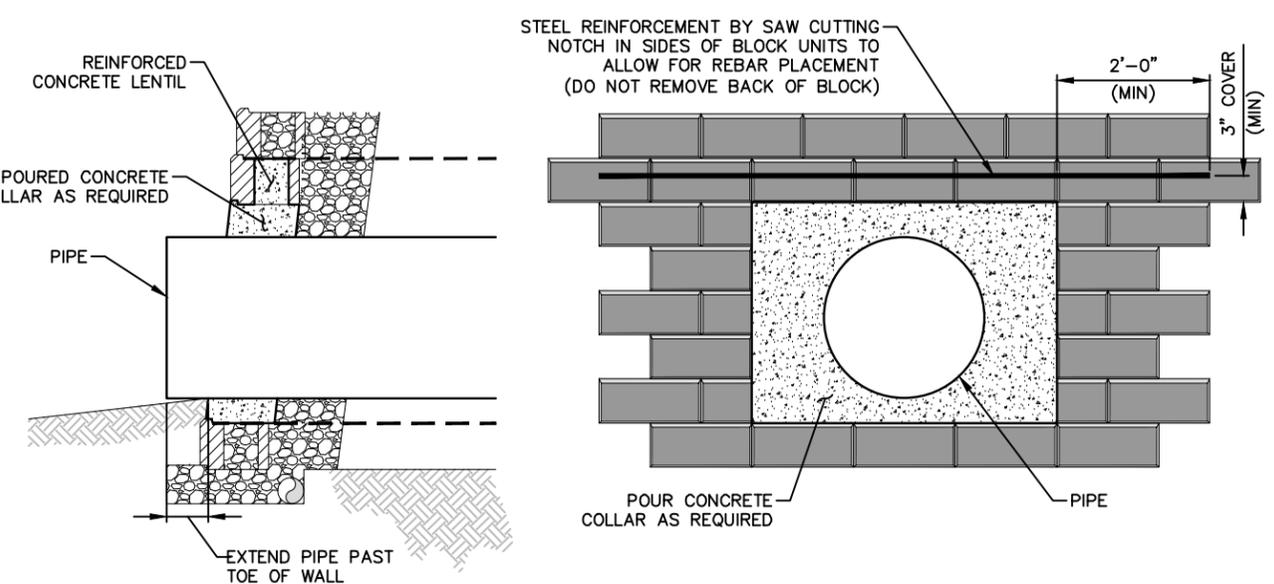
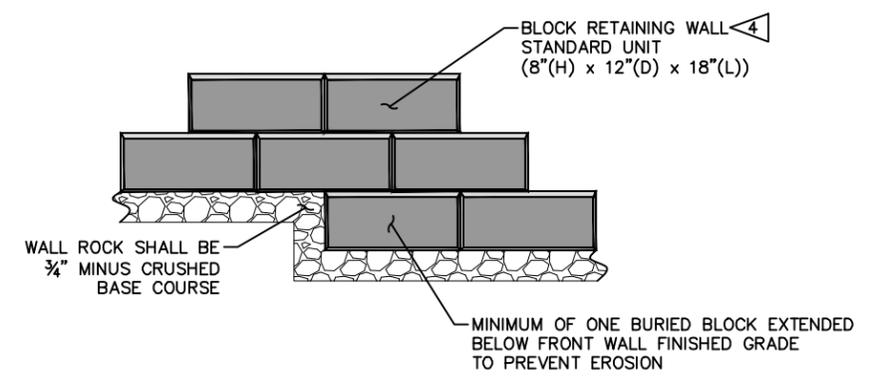
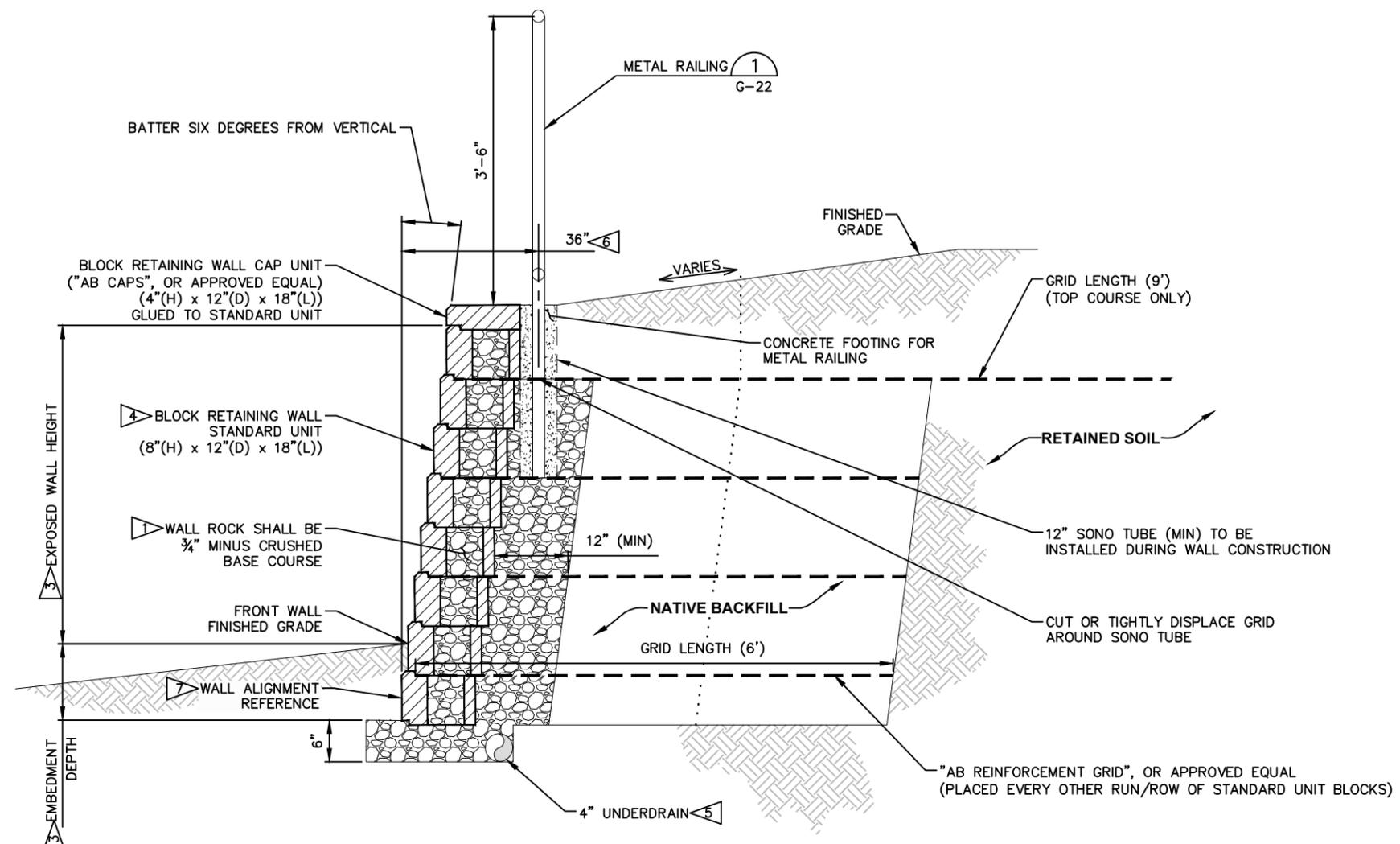
PROJECT TITLE
**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**STORM DRAINAGE
DETAILS**

SHEET
G-20

NOTES:

- 1 WALL ROCK MUST BE PLACED IN CORES.
- 2 INSTALL RETAINING WALL PER MANUFACTURE'S RECOMMENDATIONS.
- 3 SEE RETAINING WALL PLAN AND PROFILE SHEETS.
- 4 BLOCK RETAINING WALL STANDARD UNIT SHALL BE "AB CLASSIC" BY ALLAN BLOCK, OR APPROVED EQUAL. BLOCK COLOR SHALL BE GRAY. CONTRACTOR WILL BE RESPONSIBLE FOR SUBMITTING STAMPED ENGINEERING DRAWINGS (STATE OF MONTANA) IF ALTERNATE WALL PRODUCTS AND DESIGN ARE CHOSEN.
- 5 USE 4" UNDERDRAIN DUAL WALL PERFORATED HDPE PIPE CONFORMING TO AASHTO M 252-TYPE S, WITH SLOTTED PERFORATIONS. MINIMUM PIPE STIFFNESS SHALL BE 50 PSI. PIPE SHALL BE ADS N-12, OR APPROVED EQUAL. DAYLIGHT UNDERDRAIN PIPES AS SHOWN ON THE PLANS.
- 6 UNLESS OTHERWISE SHOWN ON PLANS.
- 7 WALL ALIGNMENT BASED ON "FACE" OF LOWEST COURSE OF BLOCKS.



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R. MITCHELL	General_KAR
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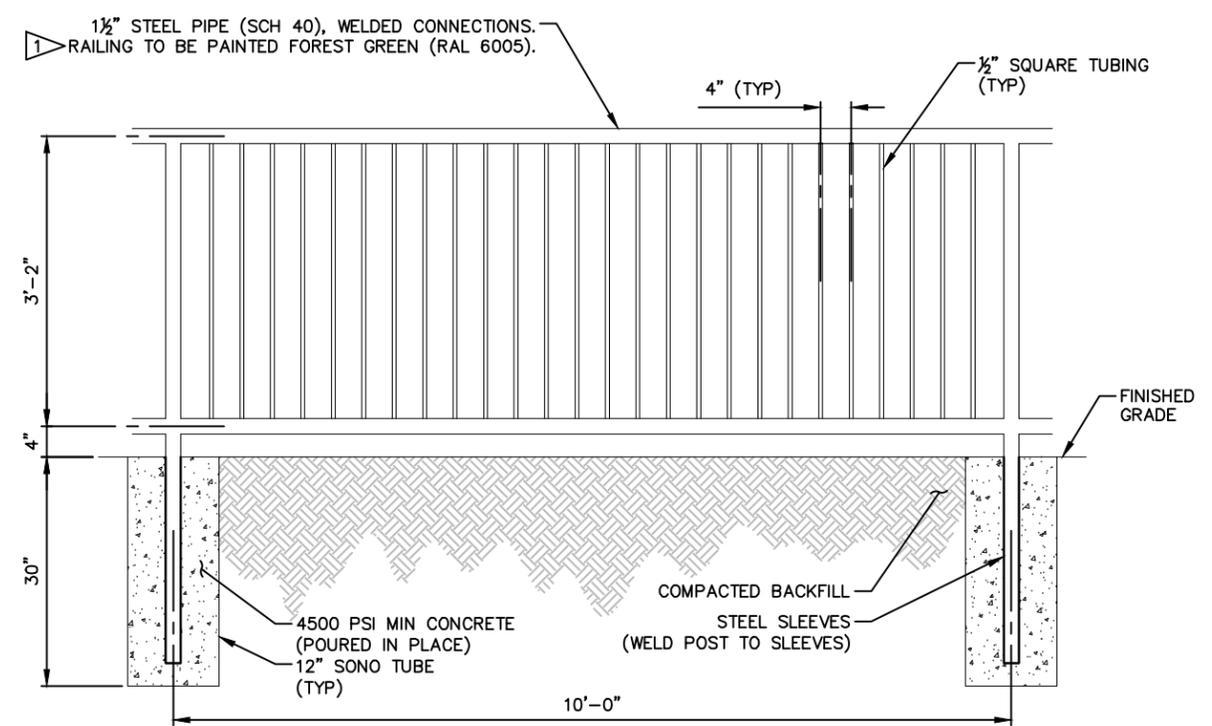
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KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
RETAINING WALL DETAILS

SHEET
G-21

NOTES:

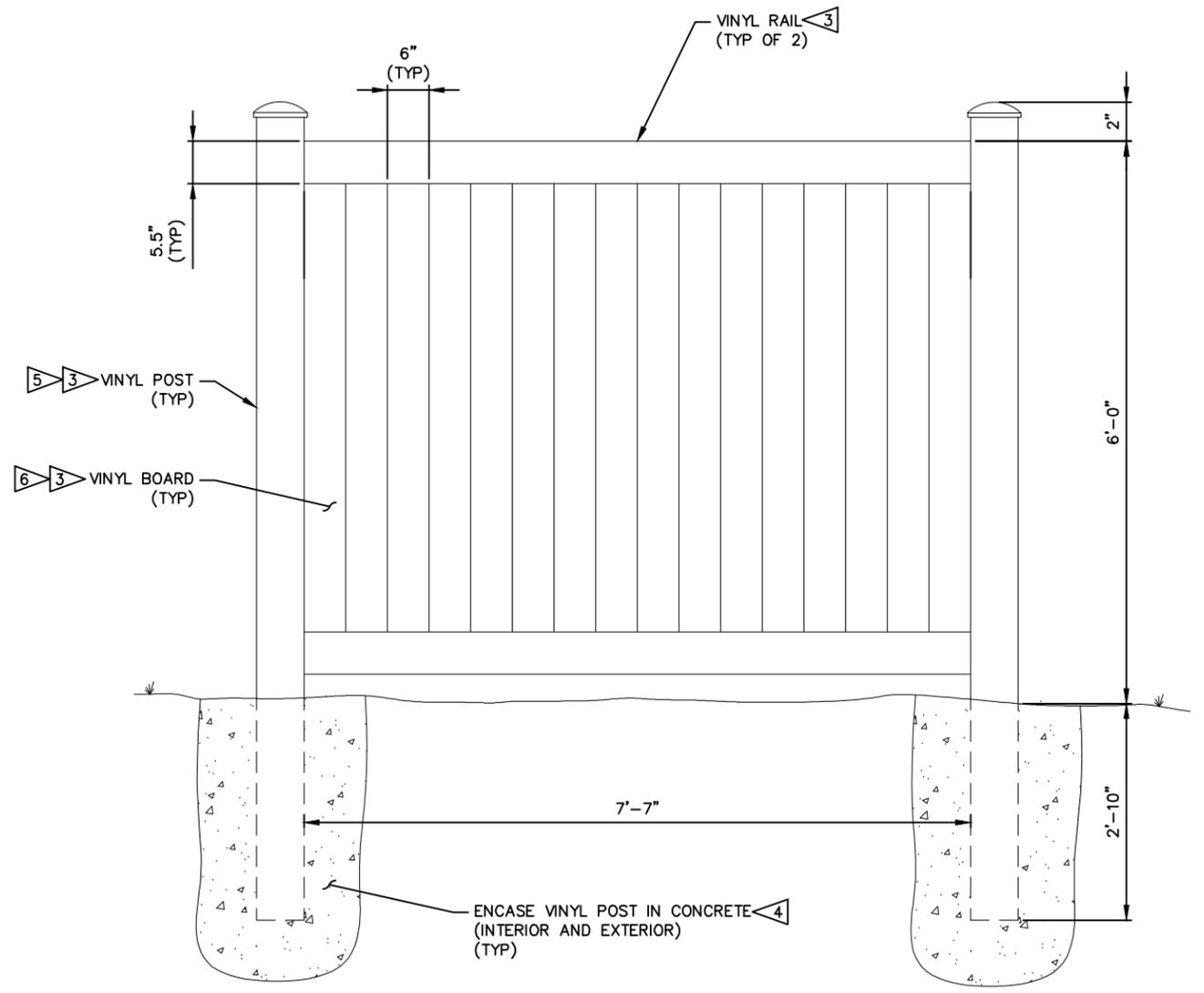
- 1 RAILING PANELS SHALL BE FABRICATED AND PAINTED OFF SITE. ONSITE TACK WELDS FOR INSTALLATION SHALL RECEIVE "TOUCH-UP" PAINT, AS NEEDED.



METAL RAILING 1
SCALE: NONE G-21

NOTES:

- 1. INSTALL WITH ROUTED POSTS. NO EXPOSED FASTENERS OR BRACKETS ALLOWED.
- 2. U-CHANNEL EDGINGS SHALL BE 7/8" x 1".
- 3 FENCE SHALL BE GRAY IN COLOR.
- 4 POST FOOTING SHALL BE A MINIMUM OF 10 INCHES IN DIAMETER AND A MINIMUM OF 36 INCHES IN DEPTH.
- 5 VINYL LINE POST SHALL BE 5" x 5" x 108" AND INCLUDE EXTERNAL PYRAMID POST CAP.
- 6 THERE SHALL BE NO SPACE BETWEEN VINYL BOARDS.



VINYL PRIVACY FENCE 2
SCALE: NONE C2-17

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R. MITCHELL			General_KAR	
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			General_KAR	

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KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
RAILING AND FENCING DETAILS

SHEET
G-22

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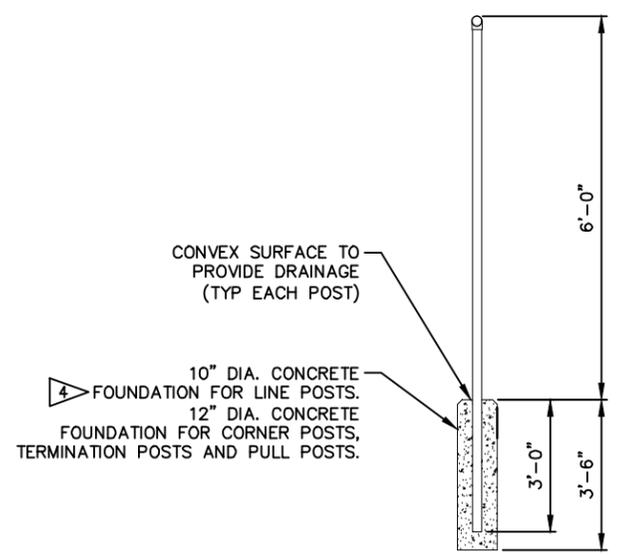
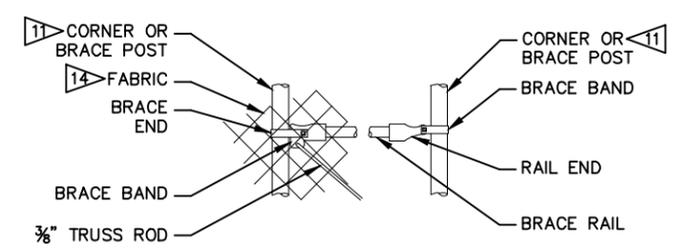
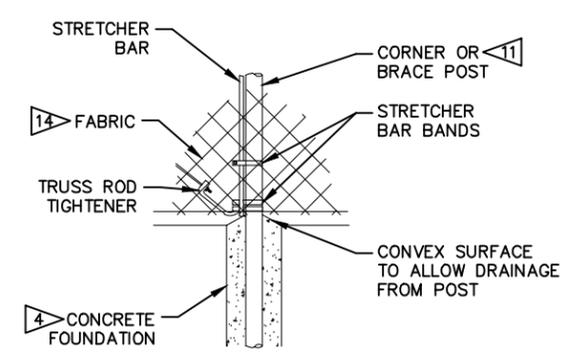
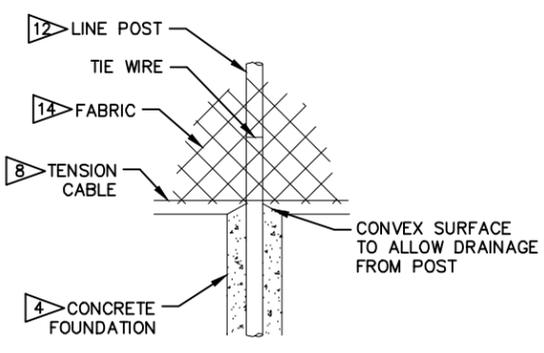
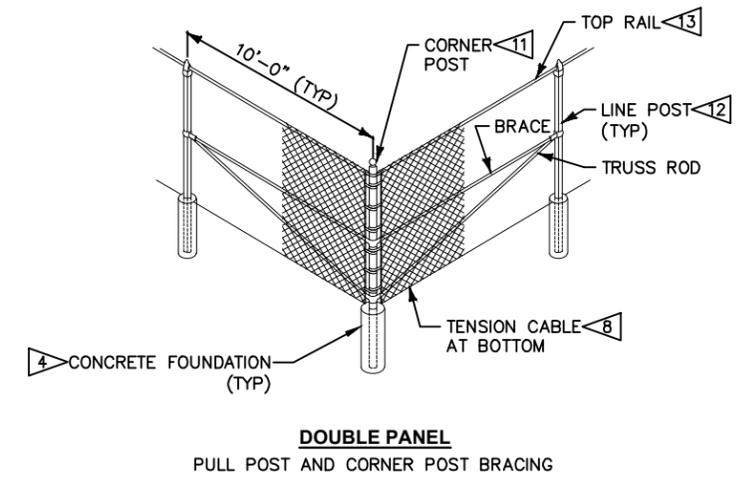
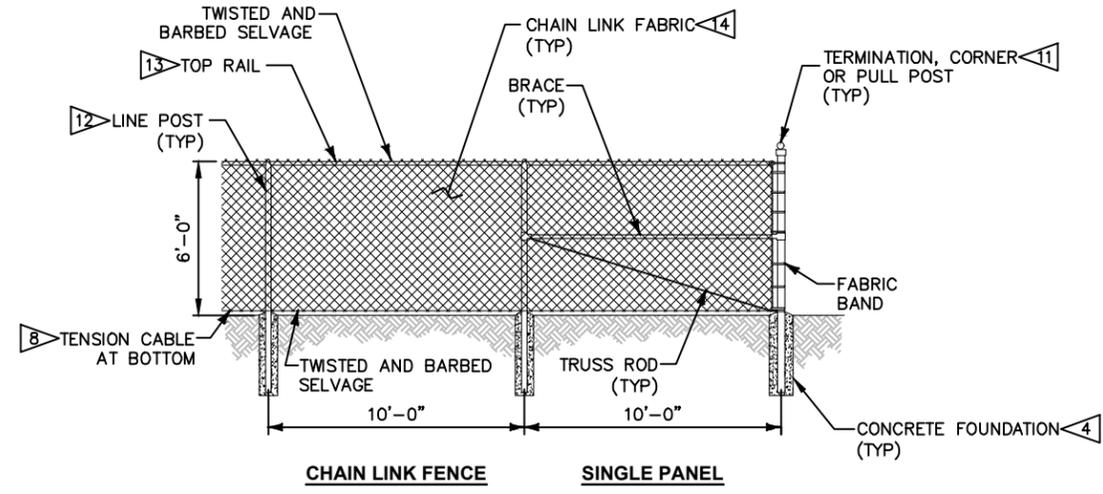
PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
FENCING DETAIL

SHEET
G-23

NOTES:

- SEE TECHNICAL SPECIFICATIONS FOR MATERIALS.
- A SINGLE PANEL SHALL BE PLACED AT EVERY END OF CHAIN LINK FENCE.
- PULL POST BRACING ON 6' FENCE SHALL BE THE SAME AS CORNER BRACING SHOWN IN THE DETAIL.
- ALL CONCRETE SHALL BE MADE USING 3/4" AGGREGATE & 602 LBS OF CEMENT PER CUBIC YARD OF CONCRETE AND SHALL HAVE A SLUMP OF 5" WITH COMPRESSIVE STRENGTH OF 3,000 PSI.
- DOUBLE PANELS SHALL BE INSTALLED NO MORE THAN 300' APART ON TANGENT AND USED FOR PULLING. SUCH PANELS SHALL BE PLACED AT EACH CORNER SHARPER THAN 5.00 DEGREES AND BE EVENLY SPACED BETWEEN 20' OF CENTRAL ANGLE (10' DEFLECTION) APART, BUT NOT MORE THAN 250' APART ON ANY CURVE.
- THE HEIGHT OF THE FABRIC WILL BE 6' AND SHALL BE PLACED NO MORE THAN 2" FROM THE GROUND.
- THE DEPTH OF THE CONCRETE FOOTINGS SHALL BE AT LEAST 3'-6" WITH A MINIMUM POST EMBEDMENT OF 3'-0".
- CONTRACTOR SHALL PROVIDE TENSION CABLE AROUND THE BOTTOM OF THE FENCE THROUGHOUT.
- CONTRACTOR SHALL ATTACH FABRIC TO POSTS USING WIRE TIES (AT 14" INTERVALS). CONTRACTOR SHALL ATTACH FABRIC TO TOP RAIL USING WIRE TIES (AT 18" INTERVALS).
- GAPS NO GREATER THAN 2" WILL BE PERMITTED INCLUDING THE TERMINATION AT BUILDING FACES.
- TERMINATION, CORNER OR PULL POSTS SHALL BE 2 3/8" DIA (20 WEIGHT).
- LINE POSTS SHALL BE 1 7/8" DIA (20 WEIGHT).
- TOP RAIL TUBING SHALL BE 1 5/8" DIA.
- NEW CHAIN LINK FABRIC SHALL BE WOVEN FROM 9-GAUGE WIRE GREEN PVC COATED TO MATCH EXISTING FENCE, UNLESS OTHERWISE SHOWN ON THE PLANS.



BOTTOM FENCE

BRACE RAIL

LINE POST

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NOTES:

1. GALVANIZE ALL MATERIALS PER AASHTO M 111.
2. STAKE MAILBOX LOCATIONS BEFORE INSTALLATION FOR PROPER HEIGHT AND DISTANCE FROM THE ROADWAY. ONCE STAKED, NOTIFY THE ENGINEER AND THE POST OFFICE. THE ENGINEER AND POSTMASTER/MAIL CARRIER ARE ALLOWED 48 HOURS TO REVIEW AND MODIFY THE STAKED LOCATIONS PRIOR TO FINAL INSTALLATION.
3. OTHER CRASH TESTED MAILBOX SUPPORTS AND ASSEMBLIES MAY ALSO BE USED.
4. THE FACE OF THE MAILBOX TO BE OFFSET 8"-12" FROM THE EDGE OF THE ASPHALT SHOULDER OR 12" FROM THE FACE OF THE CURB.
5. FOR MULTIPLE MAILBOX INSTALLATIONS, SPACE THE MAILBOX SUPPORTS A MINIMUM DISTANCE OF 12" APART, UNLESS OTHERWISE SHOWN ON THE PLANS.
6. USE MAILBOXES MEETING THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.
7. SEE "A GUIDE TO MAILBOX SAFETY IN MONTANA", CURRENT EDITION, FOR ADDITIONAL INFORMATION.
8. CONTRACTOR SHALL USE ARCHITECTURAL MAILBOXES'S UNIVERSAL MAILBOX ADAPTER FOR 4x4 WOODEN POST (MODEL 7540), OR APPROVED EQUAL.

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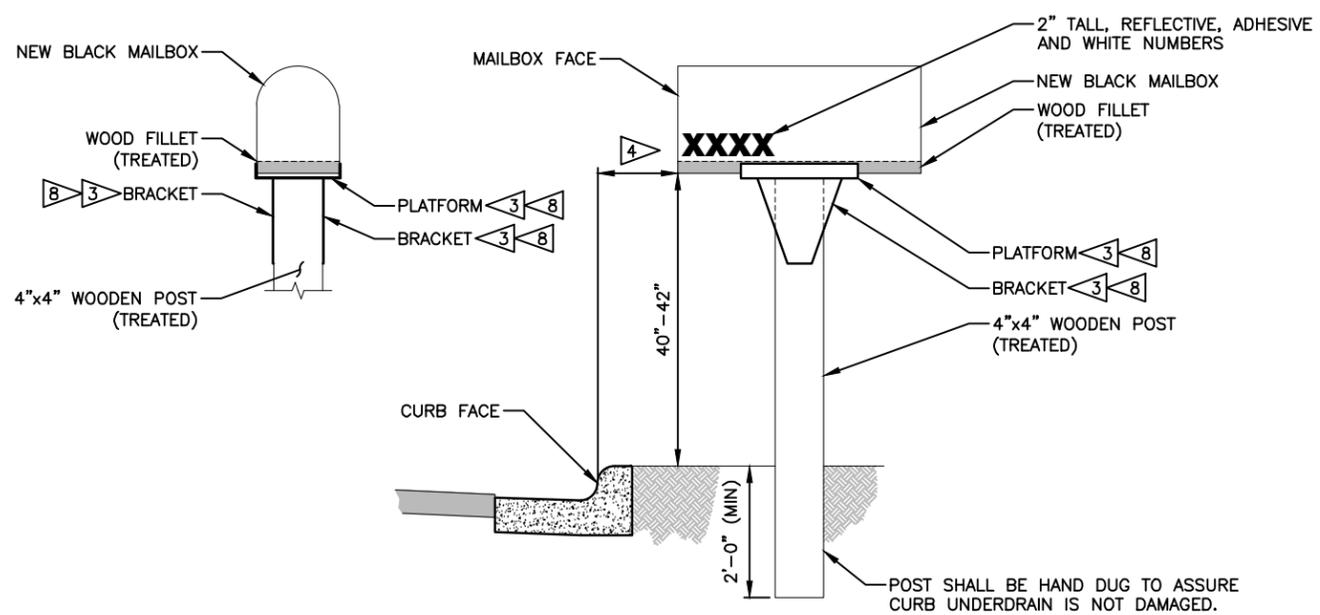
March 2024	March 2024
DATE	DATE
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PROJECT NO.	PROJECT NO.
General_KAR	General_KAR
FILE	FILE
A PAULY	DESIGNED BY
M. ROGERS	DESIGNED BY
R. MITCHELL	DRAWN BY
R. MITCHELL	DRAWN BY
	CHECKED BY

PROJECT TITLE
**KARROW AVENUE ROADWAY
 RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
MAILBOX DETAIL

SHEET
G-25

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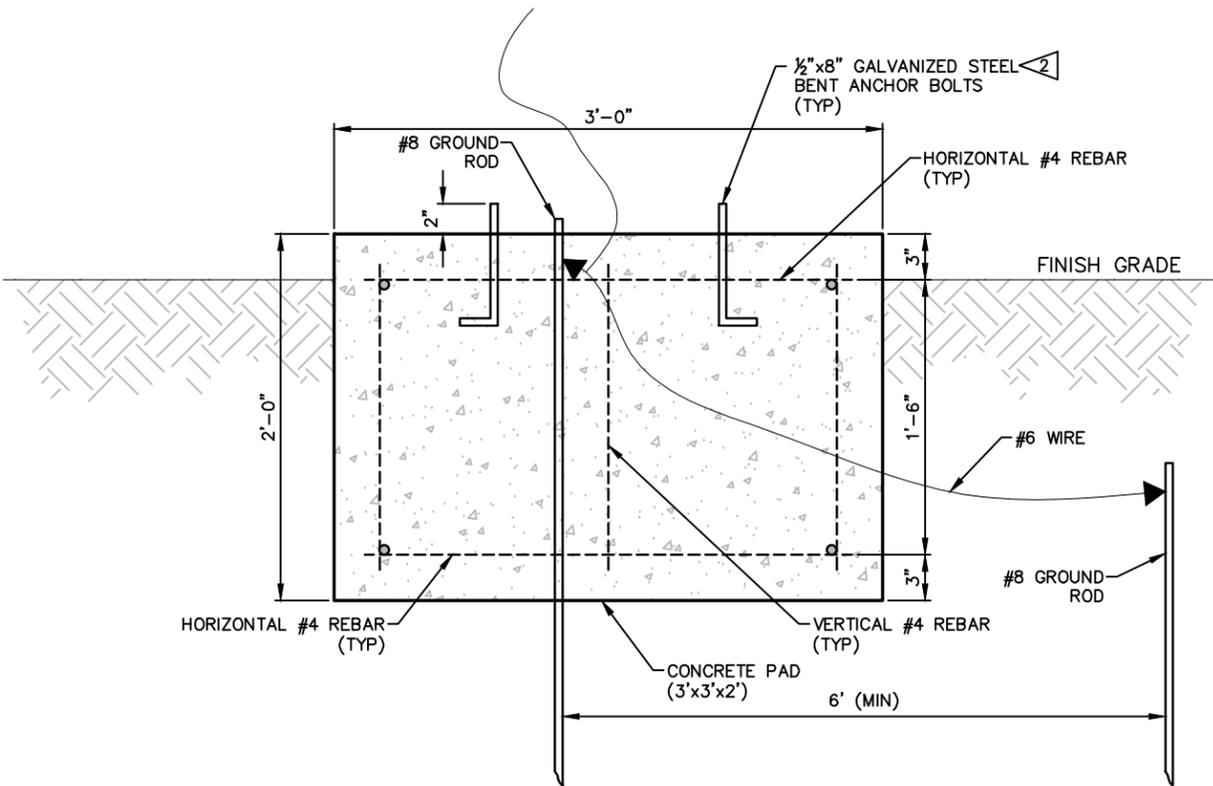
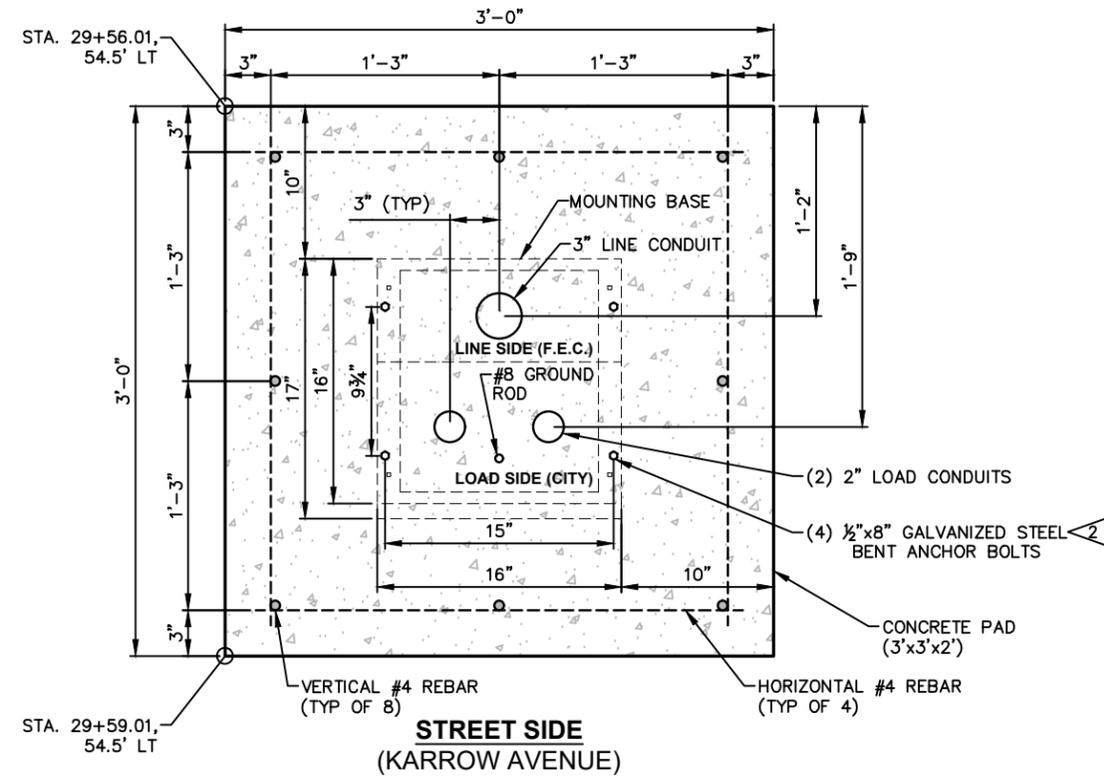
SINGLE MAILBOX ASSEMBLY 3

MAILBOX 1
 SCALE: NONE C2-14 - C2-17

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Kalispell, MT 59904 Fax: 406.756.1625
KBEngineers@centurytel.net

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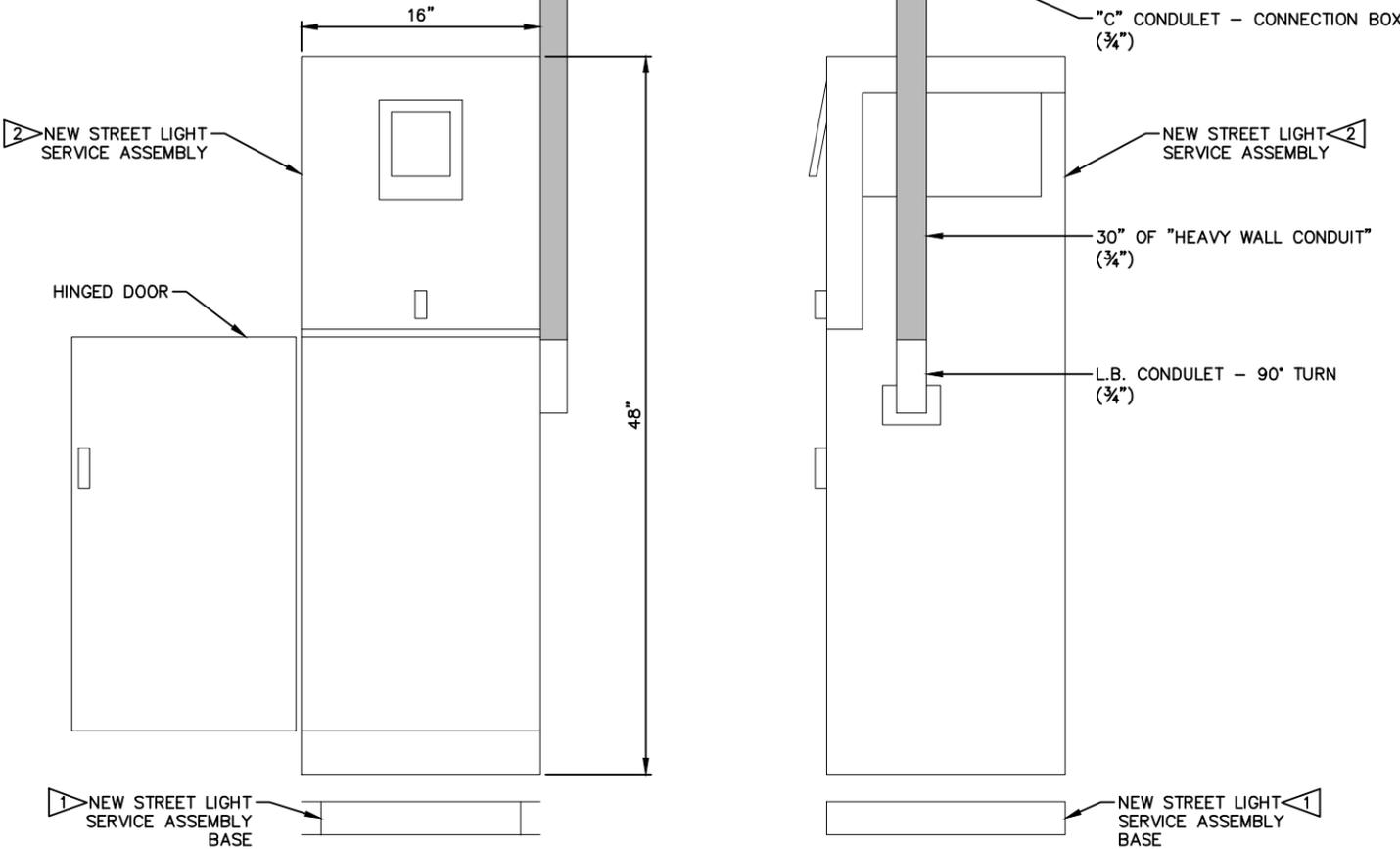
- TWO #8 (8' LONG) COPPER CLAD GROUND RODS. INSTALL 6' APART. #6 AWG GROUND WIRE WITH 6' FREE CONDUCTOR FOR CONNECTION TO SERVICE.
- ANCHOR BOLTS AND NUTS SHALL BE CORROSION RESISTANT AND INSTALLED WITH ANTI-SEIZE COMPOUND ON THREADS.



ELECTRICAL SERVICE BASE 1
SCALE: NONE E-3

NOTES:

- NEW STREET LIGHT SERVICE ASSEMBLY SHALL BE 100 AMP, 120/240 VOLT, 1 PHASE AND BE BOLTED TO SERVICE BASE WITH FIXED ANCHORS IN REINFORCED CONCRETE PAD. (MILBANK CP-16DMNT-CALT, OR APPROVED EQUAL)
- NEW STREET LIGHT SERVICE ASSEMBLY. (MILBANK CP3B-1-1-1-1-5-A-2-2)



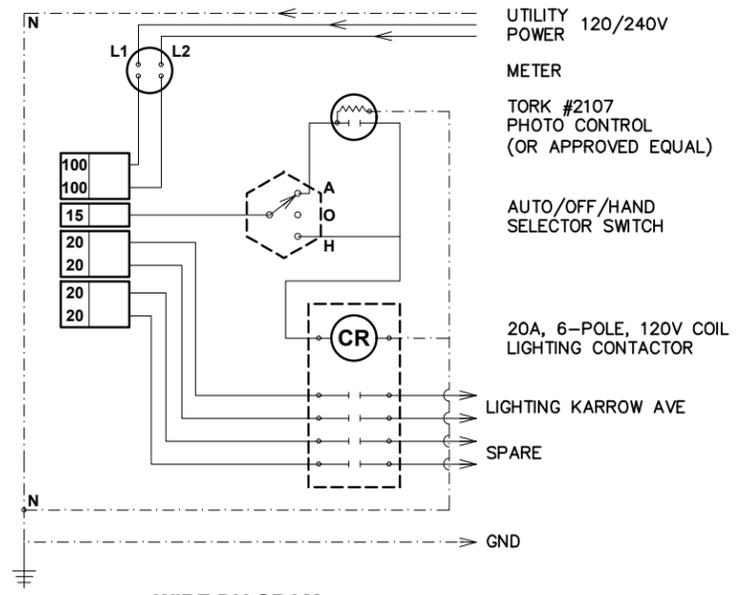
STREET LIGHT ELECTRICAL SERVICE

CONTROL PHOTOCELL	15 A	1	2	100 A 2 POLE SERVICE DISCONNECT
SPARE	SPACE	3	4	KARROW AVE
SPARE	SPACE	5	6	20 A 2 POLE
SPARE	SPACE	7	8	20 A 2 POLE
SPARE	SPACE	9	10	20 A 2 POLE
SPARE	SPACE	11	12	20 A 2 POLE
SPARE	SPACE	13	14	SPACE
SPARE	SPACE	15	16	SPACE

SERVICE ASSEMBLY (SA 1)

SERVICE BREAKER SCHEDULE		
100 AMP	2 POLE	MAIN SERVICE DISCONNECT
15 AMP	1 POLE	CONTROL CIRCUIT
20 AMP	2 POLE	LIGHTING KARROW AVE
20 AMP	2 POLE	SPARE

ELECTRICAL SERVICE AND WIRE DIAGRAM 2
SCALE: NONE E-3



WIRE DIAGRAM

SYN	REVISION	BY	DATE

March 2024	DATE	23208.000	PROJECT NO.
D. TINTZMAN	DESIGNED BY	M. ROGERS	DRAWN BY
R. MITCHELL	CHECKED BY	General_KAR	FILE

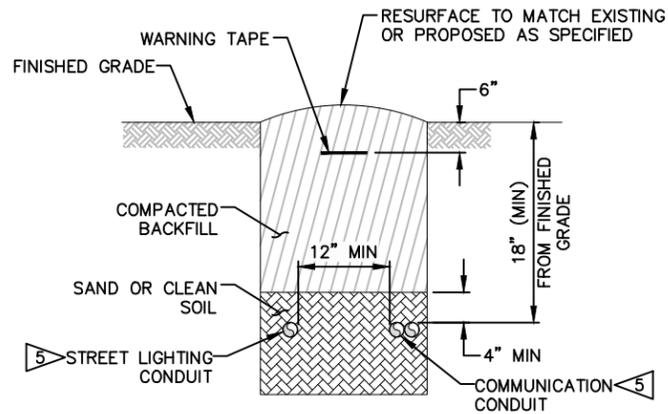
PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
STREET LIGHTING DETAILS

SHEET
G-26

NOTES:

1. ALL CONDUIT WORK COMPLETED BY GENERAL CONTRACTORS IS TO BE INSPECTED BY THE LICENSED ELECTRICAL CONTRACTOR PRIOR TO BURIAL.
2. MINIMUM SIZE CONDUIT TO BE USED IS 1 1/4" SCHEDULE 40 PVC, BURIED AT A DEPTH OF NOT LESS THAN 18".
3. CONDUIT WHERE ENTERING AND EXITING LIGHT BASES AND GROUND BOXES SHALL BE SEALED FROM DIRT, DEBRIS, AND RODENTS (DUX SEAL, PERMA SEAL, ETC.).
4. PULL BOXES SHALL BE OF MATERIAL SHOWN AND INSTALLED FLUSH WITH FINISHED GRADE, OR NO MORE THAN 1" BELOW FINISHED GRADE. PULL BOXES SHALL NOT BE INSTALLED HIGHER THAN FINISHED GRADE. PULL BOXES SHALL BE ARRANGED TO DRAIN (GRAVEL BOTTOM, ETC.).
5. WHEN CONDUITS RUN ADJACENT TO STREET, SEE TYPICAL SECTION. PROVIDE 12" OF SEPARATION BETWEEN POWER AND COMMUNICATION CONDUITS WHEN POSSIBLE.
6. BROOKS PULL BOX (NO. 38-EXTENSION, WT. 127 LBS) WITH STEEL COVER (SUPERIMPOSED) BOLT DOWN (NO. 38-PB, WT. 36 LBS) PER CITY OF WHITEFISH'S DECORATIVE STREET LIGHTING STANDARDS, OR APPROVED EQUAL.

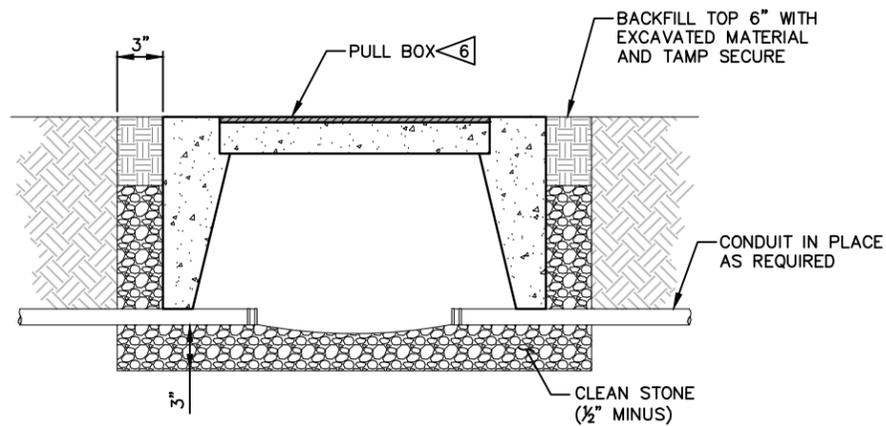


(SEE STREET LIGHTING AND UTILITY PLANS FOR CONDUIT SIZES)

STREET LIGHTING AND "BLANK" CONDUITS

SCALE: NONE

G-6, E-2, E-3, U-2 - U-5



TYPE 1 PULL BOX

SCALE: NONE

E-3, U-2 - U-5

NOTES:

1. STREET LIGHTING LUMINAIRES, POLES AND BASES TO BE PROVIDED BY THE OWNER. STREET LIGHTING LUMINAIRES, POLES AND BASES TO BE ASSEMBLED AND INSTALLED BY THE CONTRACTOR.
2. LUMINAIRE POLE FOUNDATIONS PROVIDED AND INSTALLED BY CONTRACTOR.
3. PROVIDED BY OWNER.

LUMINAIRE: AG10T4D-VS3AR-3MHS-34W-2200K-120-277-F30-PT-SD-GM-SM-CP5493
 POLE: MSL #14EFA-5-TT/3x3-16.5WF(NAME)-LEG-J (GREEN)
 BASE: MSL #WF-16.5"Wx48"H-50D-HDEB-J (GREEN)
 COLOR: "J" GREEN, RAL6005

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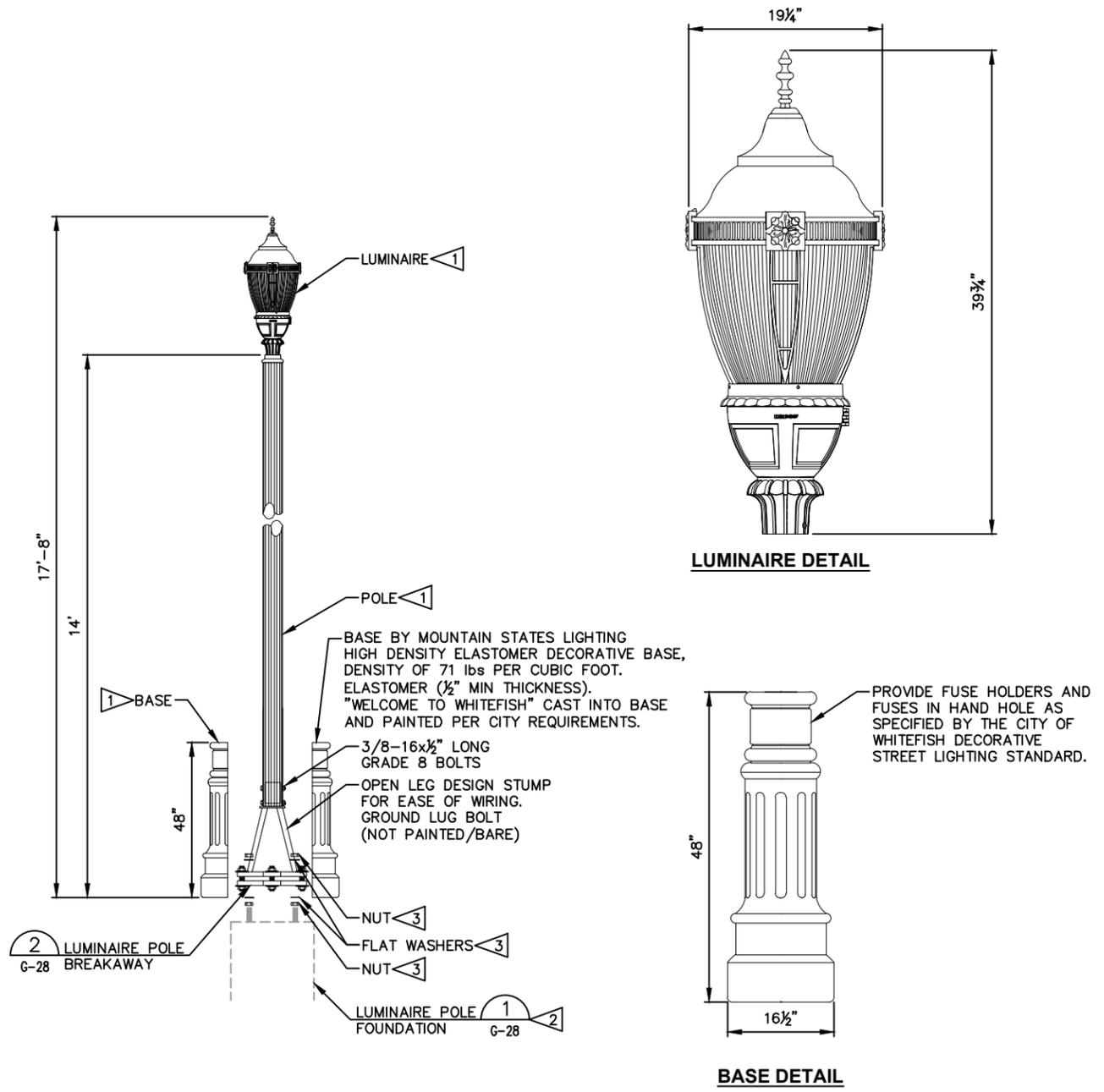
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PROJECT TITLE
**KARROW AVENUE ROADWAY
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Whitefish, Montana

SHEET TITLE
**STREET LIGHTING
 DETAILS**

SHEET
G-27



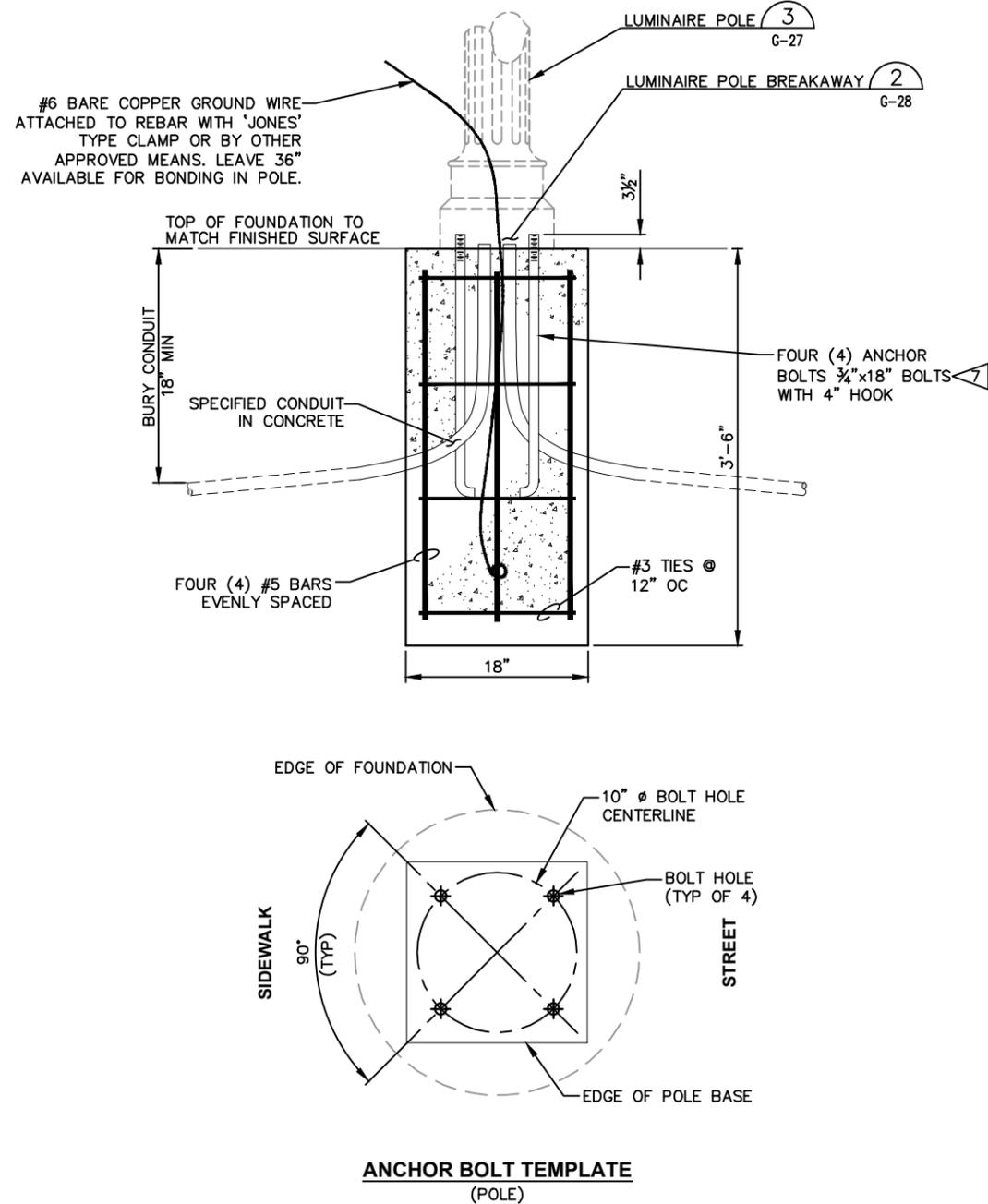
LUMINAIRE POLE

SCALE: NONE

G-28

NOTES:

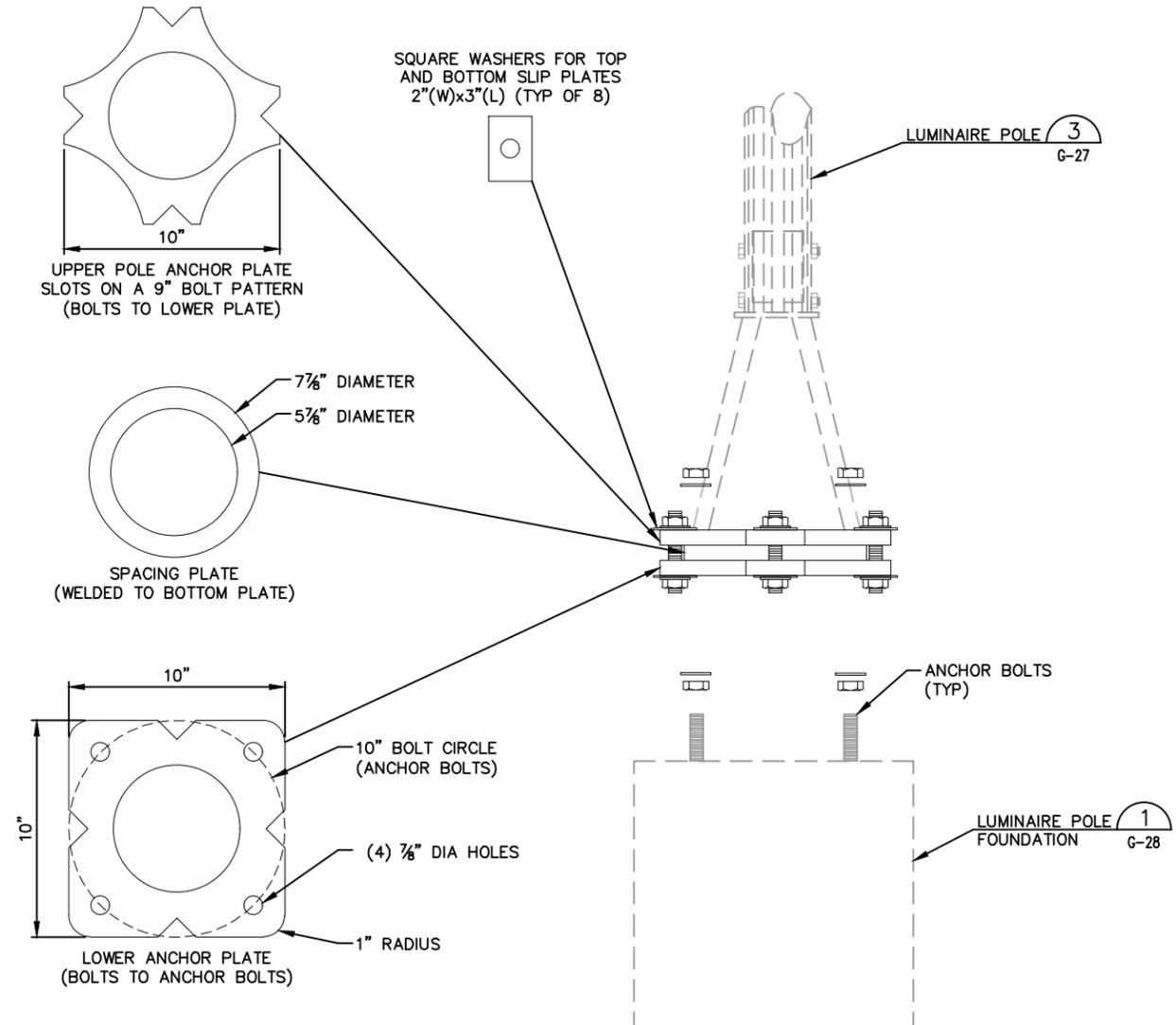
- LUMINAIRE POLE FOUNDATIONS PROVIDED AND INSTALLED BY CONTRACTOR.
- GROUND LIGHT POLE BASES PER MANUFACTURER'S RECOMMENDATIONS. ALL GROUNDING MATERIAL AND LABOR TO BE INCLUDED IN PRICE OF FOUNDATION.
- SET ANCHOR BOLTS WITH 3½" OF THREADS EXPOSED.
- ALL LIGHT POLE FOUNDATIONS SHALL BE CAST IN PLACE. PRECAST LIGHT POLE FOUNDATIONS SHALL NOT BE USED.
- LIGHT POLE FOUNDATION SHALL BE BACKFILLED USING SUITABLE ON-SITE MATERIAL. BACKFILL TO BE COMPACTED TO 95% OF ASTM D-698.
- TOP OF FOUNDATION SHALL BE PLUMB SO THE BASE SITS FLAT ON THE FOUNDATION.
- PROVIDED BY OWNER.



LUMINAIRE POLE FOUNDATION 1
SCALE: NONE G-27, G-28, E-2, E-3

NOTES:

- BREAKAWAY ASSEMBLY TO BE PROVIDED BY THE OWNER. BREAKAWAY ASSEMBLY TO BE ASSEMBLED AND INSTALLED BY THE CONTRACTOR.



LUMINAIRE POLE BREAKAWAY 2
SCALE: NONE G-27, G-28

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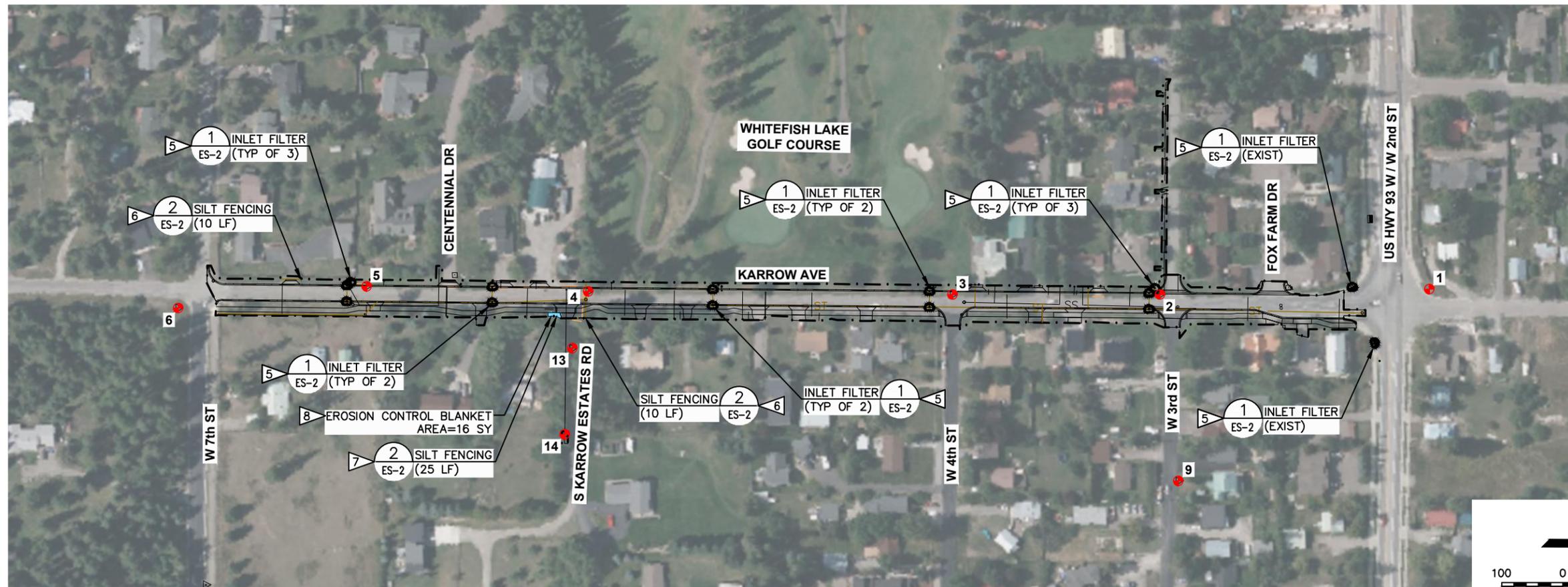
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PROJECT TITLE
**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**STREET LIGHTING
DETAILS**

SHEET
G-28



EROSION CONTROL NOTES:

1. GRADE AND COMPACT AREA OF EROSION CONTROL BLANKET INSTALLATION AS DIRECTED AND APPROVED BY ENGINEER. SUBGRADE SHALL BE UNIFORM AND SMOOTH. REMOVE ALL ROCKS, CLODS, VEGETATION OR OTHER OBJECTS SO THE INSTALLED BLANKET WILL HAVE DIRECT CONTACT WITH SOIL SURFACE.
2. DO NOT MULCH AREAS WHERE EROSION CONTROL BLANKET IS TO BE PLACED. SEED AND FERTILIZER SHALL BE PLACED BY BROADCASTING METHODS. DO NOT HYDROSEED EROSION CONTROL BLANKET AREAS.
3. INSTALL EROSION CONTROL BLANKET PER MANUFACTURER'S INSTALLATION RECOMMENDATIONS. EROSION CONTROL BLANKET SHALL BE KEYS AT TOP AND BOTTOM. GROUND ANCHORING DEVICES SHALL BE INSTALLED AND PROVIDED.
4. EROSION CONTROL BLANKET SHALL BE "PROPEX-LANDLOK CS2", OR APPROVED EQUAL.

5. TYPICAL ON ALL STORM INLETS (EXISTING AND NEW). PRIOR TO STARTING CONSTRUCTION ALL EXISTING INLETS SHALL RECEIVE INLET FILTERS.
6. SILT FENCING SHALL BE CENTERED 2' DOWNSTREAM OF CULVERT OUTLET.
7. SILT FENCING SHALL BE ALONG CONSTRUCTION LIMITS.
8. AREA OF DISTURBANCE BETWEEN PATH AND CONSTRUCTION LIMITS ON EASTERN SIDE OF ROADWAY. EROSION CONTROL BLANKET SHALL BE PLACED OVER TOPSOIL THAT HAS BEEN SEED AND FERTILIZED BY BROADCAST METHODS. AREA LOCATED FROM STA. 15+91 TO 16+13 RT. (SEE ROADWAY PLANS FOR KARROW AVE CENTERLINE ALIGNMENT)

CITY OF WHITEFISH NOTES:

1. AS A MINIMUM, ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE CITY OF WHITEFISH ENGINEERING STANDARDS, DECEMBER 2019, AND THE MONTANA DEPARTMENT OF TRANSPORTATION EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs) MANUAL. DETAILED EXAMPLES AND DESCRIPTIONS OF THESE BMPs ARE INCLUDED IN THE MDT MANUAL.
2. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES. THIS COPY SHALL BE MADE AVAILABLE TO THE CITY OF WHITEFISH PUBLIC WORKS DEPARTMENT UPON REQUEST.
3. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN ANY AREA NOT ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE CITY OF WHITEFISH PUBLIC WORKS DEPARTMENT FOR REVIEW AND APPROVAL.
4. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING AND GRADING. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE CITY OF WHITEFISH PUBLIC WORKS DEPARTMENT.
5. THE CITY OF WHITEFISH PUBLIC WORKS DEPARTMENT MUST BE NOTIFIED PRIOR TO DEWATERING OPERATIONS. WATER MUST BE PUMPED THROUGH AN APPROVED FILTERING DEVICE. THE CITY OF WHITEFISH MAY SUSPEND DEWATERING OPERATIONS IF POLLUTION IS OBSERVED.
6. THE CONTRACTOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL DEVICES AT LEAST ONCE EVERY TWO WEEKS AND AT LEAST ONCE A DAY DURING RAINFALL EVENTS. THE CONTRACTOR SHALL PERFORM ANY REPAIRS OR MAINTENANCE IMMEDIATELY IN ORDER TO ENSURE EFFECTIVE EROSION AND SEDIMENT CONTROL.
7. THE CONTRACTOR SHALL MAINTAIN A RECORD OF ALL INSPECTIONS AND MAINTENANCE ACTIVITIES AT THE PROJECT SITE. THIS RECORD SHALL BE MADE AVAILABLE TO THE CITY OF WHITEFISH PUBLIC WORKS DEPARTMENT UPON REQUEST.
8. UNLESS CONFINED IN A PREDEFINED BERMED CONTAINMENT AREA, THE CLEANING OF CEMENT TRUCK DELIVERY CHUTES IS PROHIBITED AT THE JOB SITE. THE DISCHARGE OF WATER CONTAINING WASTE CEMENT TO THE STORM SEWER IS PROHIBITED.
9. BMPs SHALL BE LEFT IN PLACE AND MAINTAINED BY THE CONTRACTOR UNTIL ADEQUATE VEGETATION HAS BEEN ESTABLISHED TO PROTECT THE AREAS FROM EROSION. CONTRACTOR SHALL REMOVE ALL BMP's ONCE STABILIZATION HAS BEEN ACHIEVED.

LEGEND



EROSION AND SEDIMENT CONTROL BMP's SHOWN ON THIS SHEET ARE THE MINIMUM THAT NEED TO BE INSTALLED. THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. IT HAS BEEN DEVELOPED TO SATISFY THE CITY OF WHITEFISH'S ENGINEERING STANDARDS, DECEMBER 2019, CHAPTER 5, 5.1.7 - BR-6 EROSION AND SEDIMENT CONTROL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL CONSTRUCTION STORM WATER RELATED PERMITS AND PROPER IMPLEMENTATION OF ANY AND ALL CONSTRUCTION RELATED BMP's ABOVE AND BEYOND WHAT IS SHOWN ON THIS SHEET.

SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Erosion_KAR	FILE
A PAULLY	DESIGNED BY	M. ROGERS	DRAWN BY	R. MITCHELL	CHECKED BY

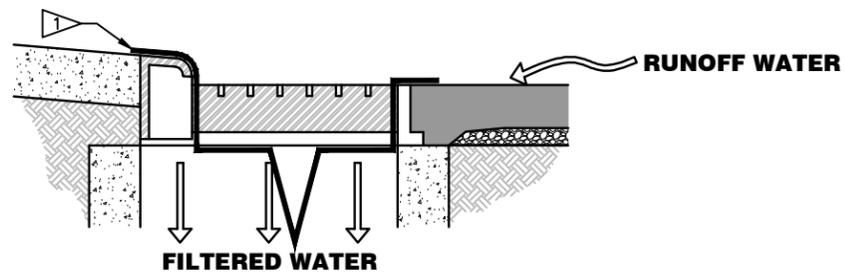
PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
EROSION AND SEDIMENT CONTROL PLAN

SHEET
ES-1

NOTES:

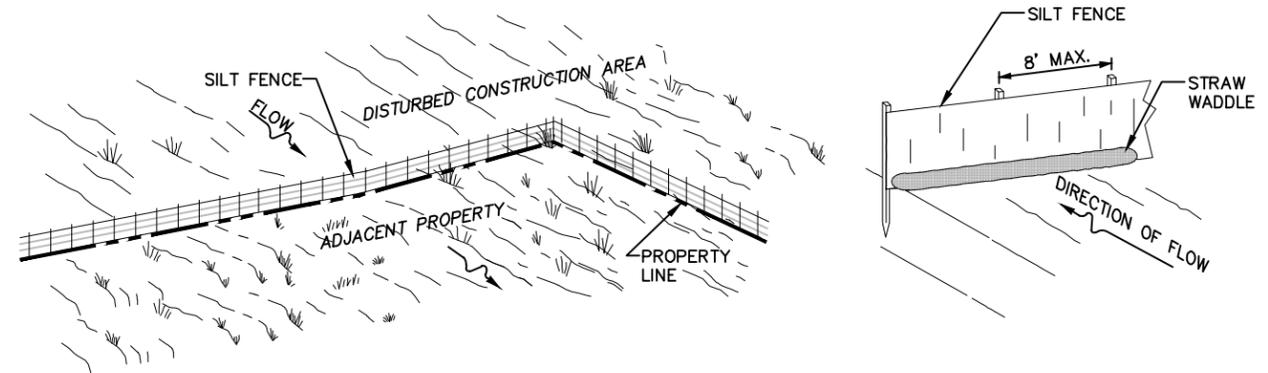
- 1. CONTRACTOR SHALL USE ULTRATECH DRAIN GUARD 9217, OR APPROVED EQUAL, ON ALL DRAIN INLETS.



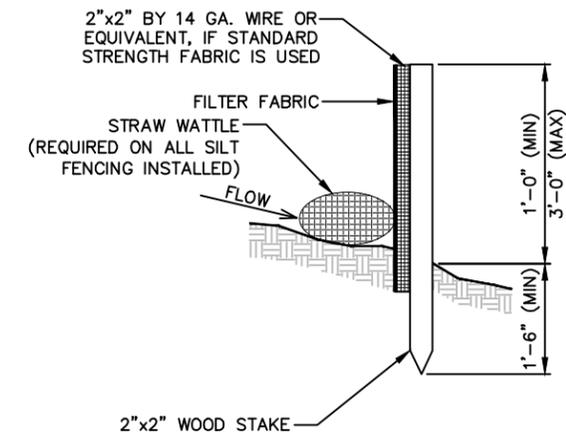
INLET FILTER 1
SCALE: NONE ES-1

NOTES:

1. FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOURS WHENEVER POSSIBLE.
2. SILT FENCE (SF) IS A FILTER FABRIC SEDIMENT BARRIER (SINGLE OR SERIES) STRETCHED AND ATTACHED TO SUPPORTING POSTS. THE FENCE BOTTOM IS ENTRENCHED.
3. JOINTS IN FILTER FABRIC SHALL BE SPICED AT POSTS. USE STAPLES, WIRE RINGS, OR EQUIVALENT TO ATTACH FABRIC TO POSTS.
4. SILT FENCES ARE USED FOR SHEET OR CONCENTRATED FLOWS TO ASSIST IN SEDIMENT CONTROL BY RETAINING SOME OF THE ERODED SOIL PARTICLES AND SLOWING THE RUNOFF VELOCITY TO ALLOW PARTICLE SETTLING. APPLICATIONS INCLUDE DITCH SEDIMENT TRAPS, WATER RESOURCE PROTECTION, INLET/OUTLET PROTECTION, BANK PROTECTION, TOE OF SLOPE PROTECTION, AND CHANNEL CHANGES. INSTALL SEDIMENT CONTROL FENCES PRIOR TO DISTURBING AREAS REQUIRING THIS BMP OR AS SLOPE GRADES ARE ACHIEVED. MAXIMUM CUT OR FILL SLOPE FOR A SEDIMENT CONTROL FENCE IS 2:1. USE 2-INCH BY 2-INCH (NOMINAL) WOODEN STAKES. DO NOT USE METAL STAKES.
5. SILT FENCES ARE USED BETWEEN THE EDGE OF CONSTRUCTION DISTURBANCE AND A WATER RESOURCE, CRITICAL RESOURCE, OR RIGHT-OF-WAY LINE THAT IS ADJACENT TO CONSTRUCTION ACTIVITY. IN DITCHES AND SWELLS THE ENDS OF THE FENCE CURVE UPSTREAM TO PREVENT FLOW FROM BY-PASSING THE FENCE. POSITION THE BARRIER TO PREVENT SILT FROM ENTERING THE DRAINAGE. DO NOT PLACE THE BARRIER ACROSS LIVE STREAMS. REMOVE SEDIMENT FROM BEHIND THE FENCE WHEN IT ACCUMULATES TO ONE-THIRD THE ORIGINAL HEIGHT. EITHER GRADE AND SEED OR REMOVE THE SEDIMENT DEPOSITS PRIOR TO REMOVAL OF THE FENCE.



SILT FENCE LOCATION
(TYPICAL)



SILT FENCING 2
SCALE: NONE ES-1



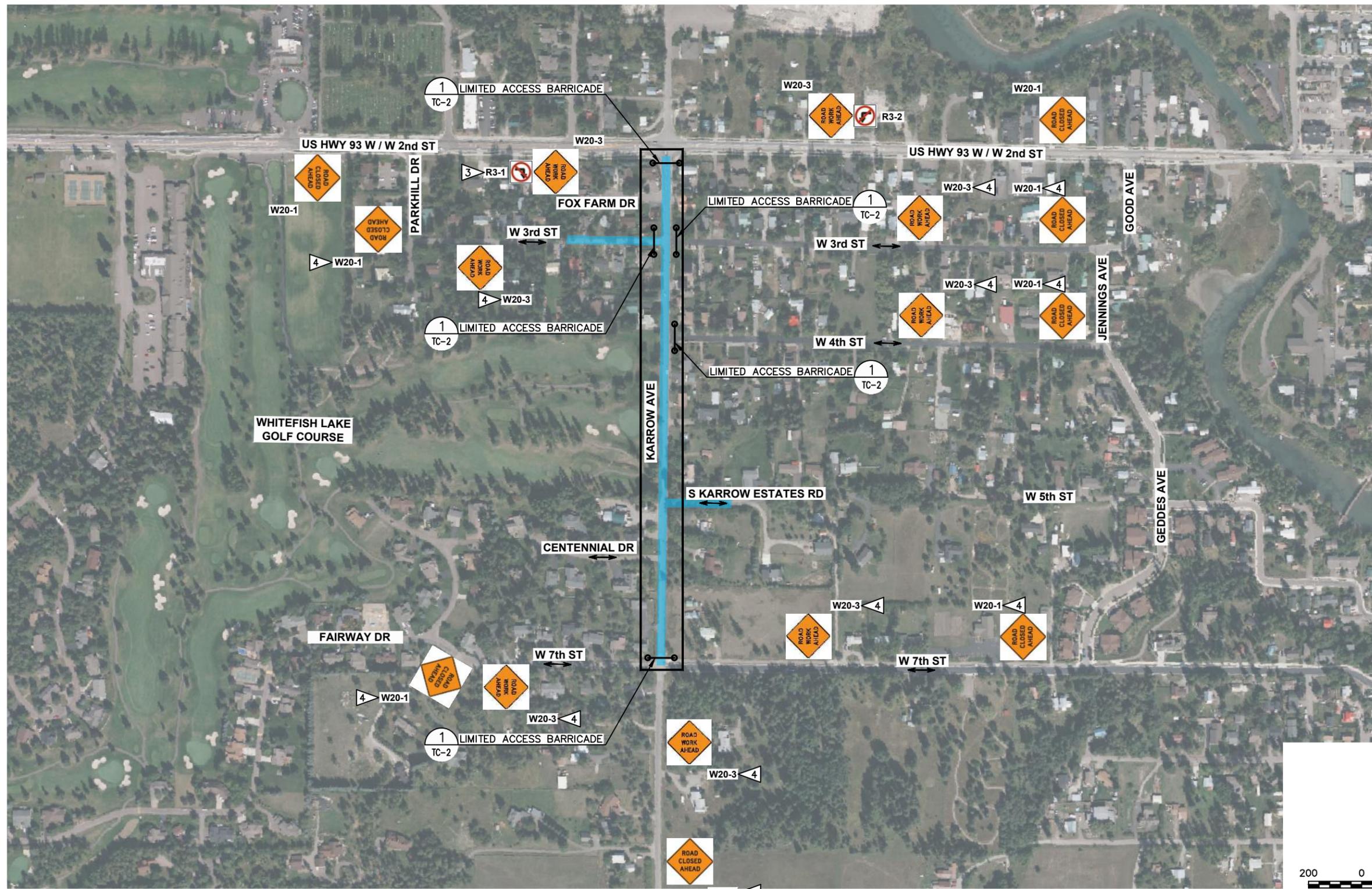
SYN	REVISION	BY	APPR.	DATE

March 2024	March 2024
DESIGNED BY	DATE
M. ROGERS	23208.000
DRAWN BY	PROJECT NO.
R. MITCHELL	Erosion_KAR
CHECKED BY	FILE

PROJECT TITLE
**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**EROSION AND SEDIMENT
CONTROL DETAILS**

SHEET
ES-2



NOTES:

1. SEE SPECIAL PROVISIONS FOR WORK AREA, VEHICULAR ACCESS AND STREET CLOSURE REQUIREMENTS.
2. CONTRACTOR TO COORDINATE EXACT LOCATION OF TEMPORARY MAIL BOX CLUSTER WITH ENGINEER AND POST MASTER. (SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS)
3. SIGN TO BE PLACED DIRECTLY OVER EXISTING "RIGHT ONLY" SIGN.
4. CONTRACTOR TO INSTALL "LOCAL TRAFFIC ONLY" SIGNS IN THESE LOCATIONS. (NOT SHOWN FOR CLARITY)

LEGEND

- PROJECT AREA
- WORK AREA
- LIMITED ACCESS BARRICADE (LOCAL TRAFFIC ONLY)
- TWO-WAY, TWO LANE TRAFFIC (10-FOOT WIDE LANES) (FLOW DIRECTION)

SYM	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Traffic_KAR	FILE
A PAULY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

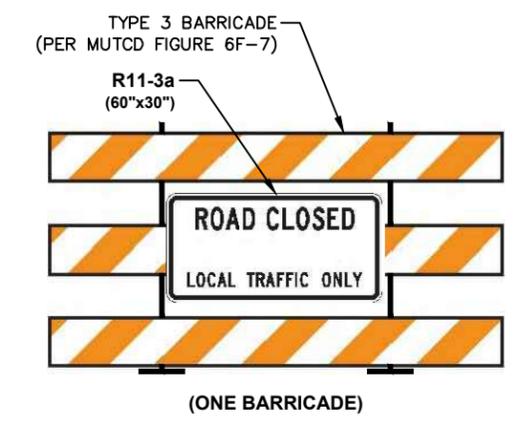
SHEET TITLE
TRAFFIC CONTROL PLAN

SHEET
TC-1



NOTES:

1. CONTRACTOR SHALL SECURE AND MAINTAIN ALL TRAFFIC CONTROL DEVICES THROUGH THE DURATION OF THE PROJECT. IF NOT MOUNTED ON PERMANENT POSTS, A MINIMUM OF (4) FOUR SAND BAG SHALL BE USED AT EACH SUPPORT POST.
2. BARRICADES MOVED FOR INGRESS AND EGRESS OF CONSTRUCTION TRAFFIC SHALL BE IMMEDIATELY REPLACED.



LIMITED ACCESS BARRICADE 1
SCALE: NONE TC-1

SYM	REVISION	BY	APPR	DATE

DESIGNED BY	March 2024
DRAWN BY	DATE
CHECKED BY	23208.000
PROJECT NO.	PROJECT NO.
FILE	Traffic_KAR
FILE	FILE

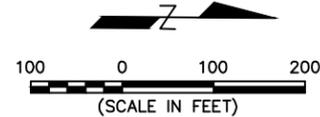
PROJECT TITLE
**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**TRAFFIC CONTROL
DETAIL**

SHEET
TC-2



CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.



LEGEND (APPLIES TO ALL DEMOLITION SHEETS)

- | | |
|--|---|
|  EXIST ASPHALT TO REMAIN |  EXIST ASPHALT TO BE REMOVED |
|  EXIST CONCRETE TO REMAIN |  EXIST CONCRETE TO BE REMOVED |
|  EXIST GRAVEL TO REMAIN |  EXIST GRAVEL TO BE REMOVED |
|  EXIST BUILDING |  EXIST CURB TO BE REMOVED |
|  EXIST UTILITY TO BE ABANDONED "IN-PLACE" |  EXIST UTILITY TO BE REMOVED |
| |  EXIST TREES, BRUSH, SHRUBS AND STUMPS TO BE REMOVED |



SYM	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Demmo_KAR	FILE
A PAULLY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

PROJECT TITLE
**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

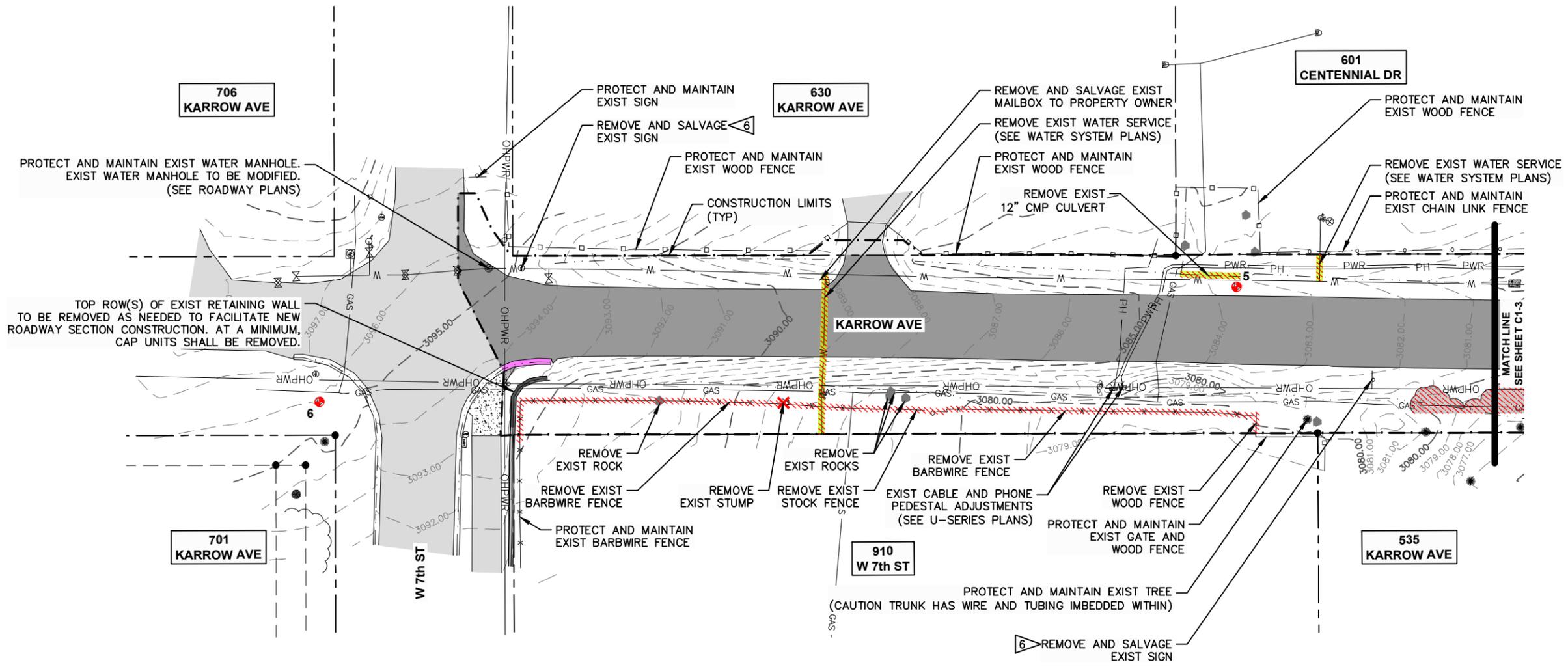
SHEET TITLE
**DEMOLITION
OVERVIEW**

SHEET
C1-1

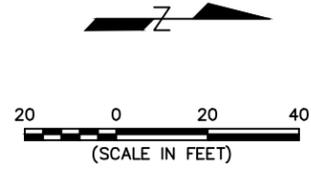


NOTES:

1. CONTOURS SHOWN ON DEMOLITION PLANS ARE EXISTING CONTOURS.
 2. PROTECT AND MAINTAIN ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES NOT SHOWN TO BE REMOVED.
 3. PROTECT AND MAINTAIN ALL EXISTING UTILITY PEDESTALS AND VAULTS NOT SHOWN TO BE REMOVED.
 4. PROTECT AND MAINTAIN ALL EXISTING WATER LINES, VALVES, AND FIRE HYDRANTS NOT SHOWN TO BE REMOVED.
 5. PROTECT AND MAINTAIN ALL EXISTING TREES, BUSHES, SHRUBS AND LANDSCAPE ROCKS NOT SHOWN TO BE REMOVED.
- 6 ▷ SALVAGE FOR RE-USE BY THE CITY.



CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.



SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Demo_KAR	FILE
A PAULY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
DEMOLITION PLAN

SHEET
C1-2



SYN	REVISION	BY	DATE

March 2024	DATE	23208.000	PROJECT NO.	Demo_KAR	FILE
A PAULY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

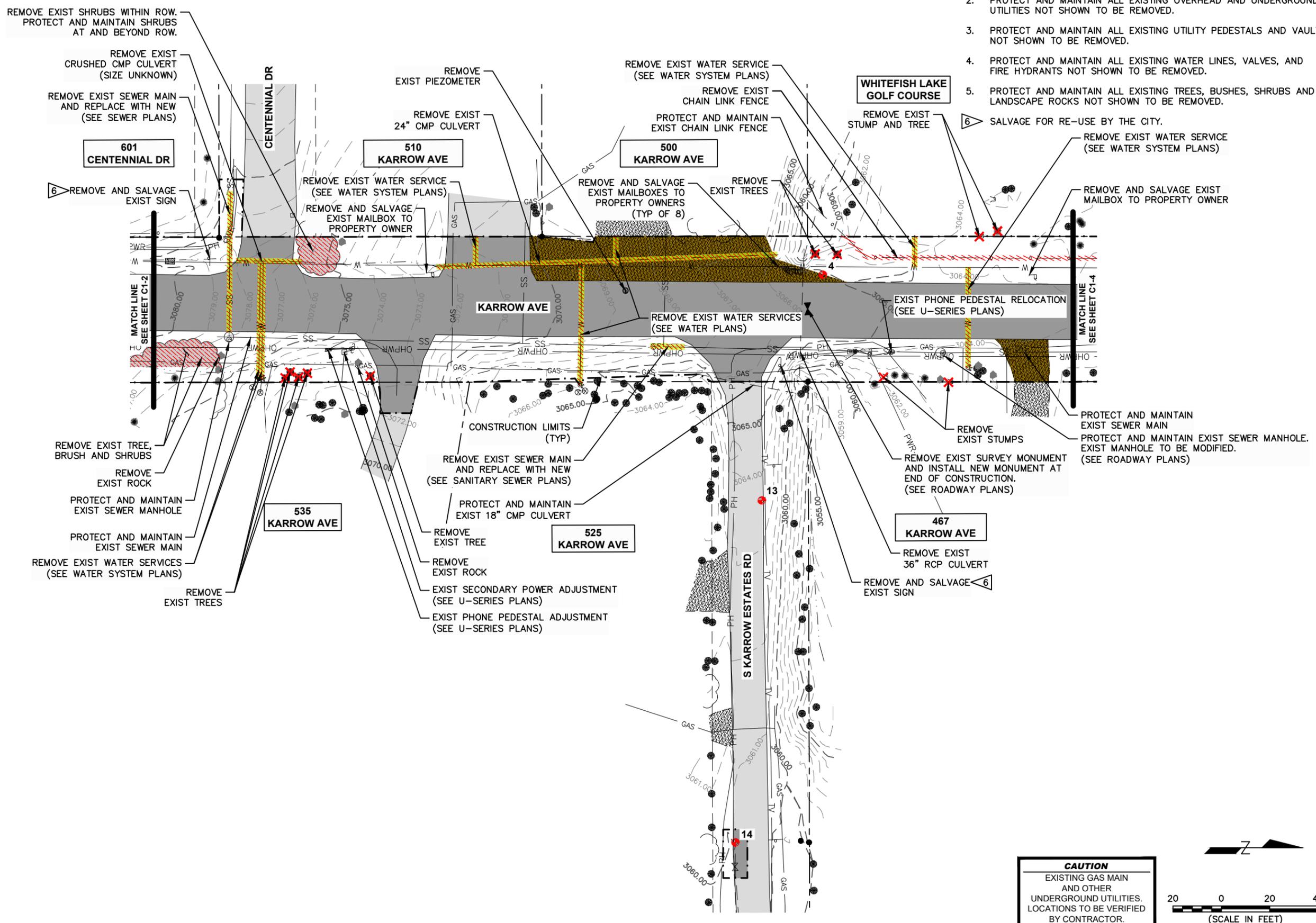
PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
DEMOLITION PLAN

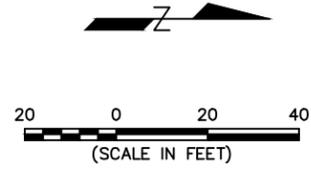
SHEET
C1-3

NOTES:

1. CONTOURS SHOWN ON DEMOLITION PLANS ARE EXISTING CONTOURS.
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5. PROTECT AND MAINTAIN ALL EXISTING TREES, BUSHES, SHRUBS AND LANDSCAPE ROCKS NOT SHOWN TO BE REMOVED.
6. SALVAGE FOR RE-USE BY THE CITY.



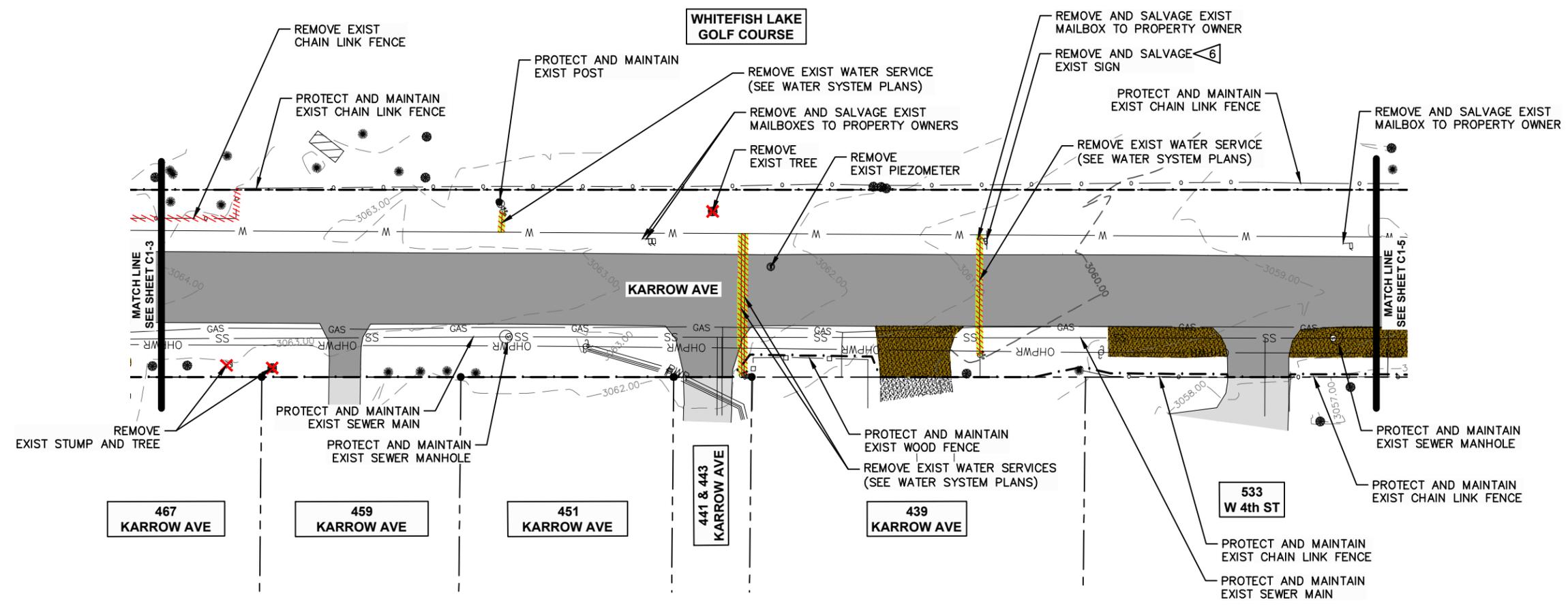
CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.



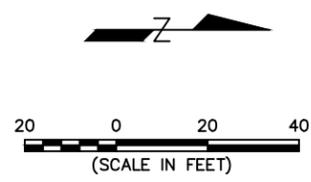


NOTES:

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6. SALVAGE FOR RE-USE BY THE CITY.



CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.



SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.		
A PAULY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

PROJECT TITLE
**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**DEMOLITION
PLAN**

SHEET
C1-4



SYMBOL	REVISION	BY	APPR	DATE

APPAULY	DESIGNED BY	March 2024	DATE
M. ROGERS	DESIGNED BY	23208.000	PROJECT NO.
R. MITCHELL	DRAWN BY	Demo_KAR	FILE
	CHECKED BY		

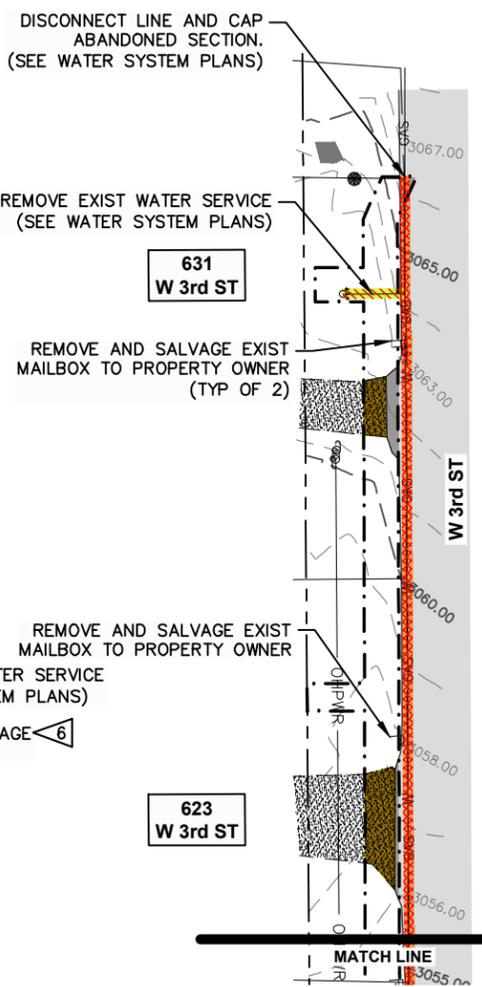
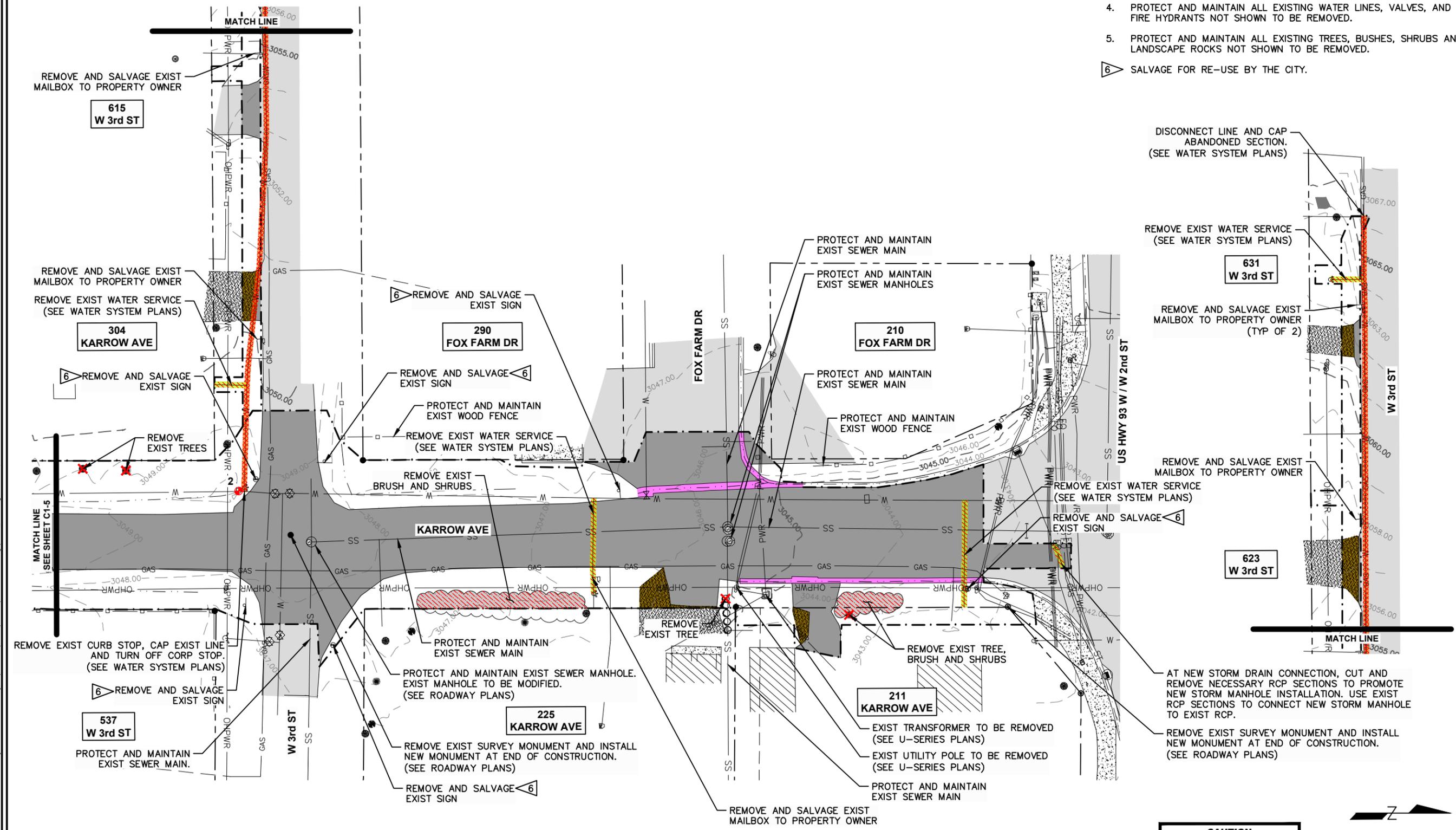
PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
DEMOLITION PLAN

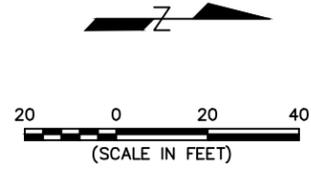
SHEET
C1-6

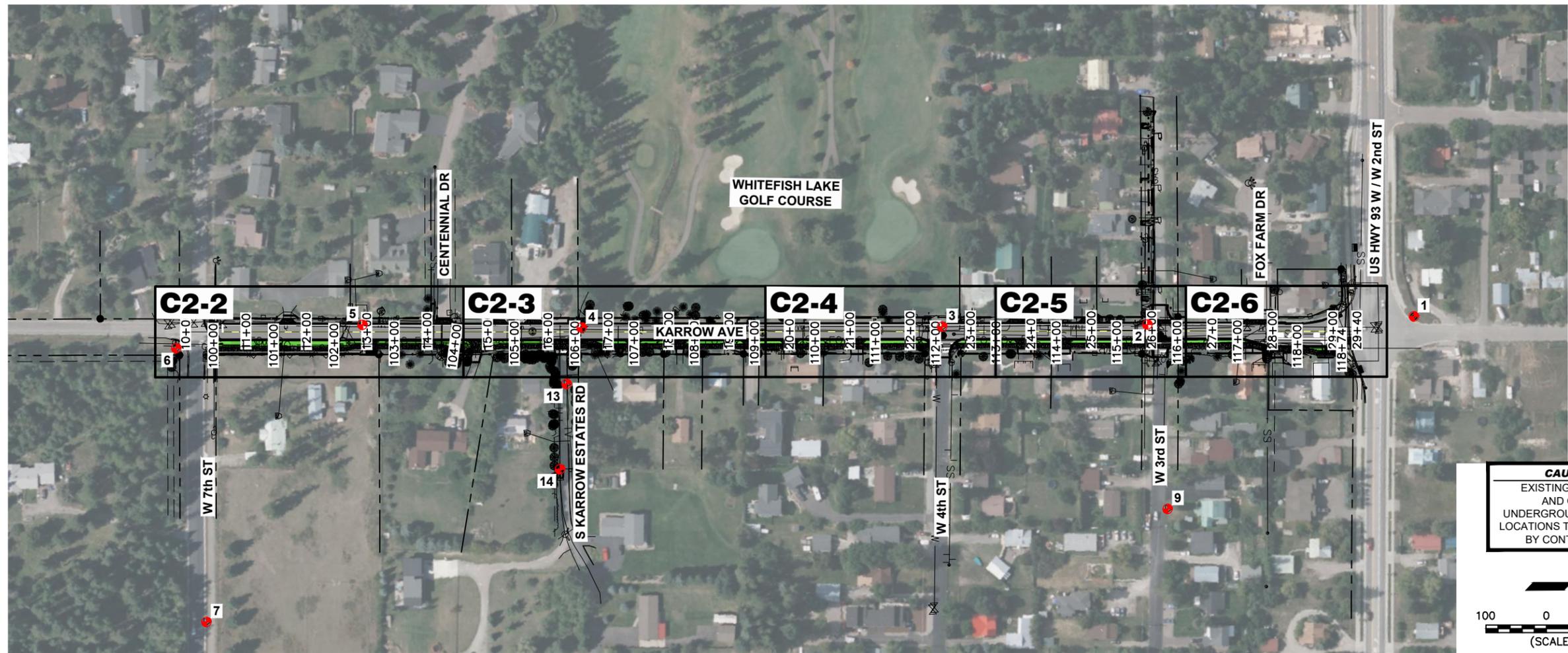
NOTES:

1. CONTOURS SHOWN ON DEMOLITION PLANS ARE EXISTING CONTOURS.
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 5. PROTECT AND MAINTAIN ALL EXISTING TREES, BUSHES, SHRUBS AND LANDSCAPE ROCKS NOT SHOWN TO BE REMOVED.
6. SALVAGE FOR RE-USE BY THE CITY.

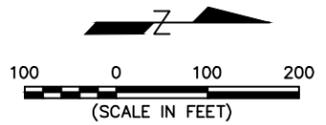


CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.





CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.



NOTES:

1. PROPOSED UTILITIES:
- SS SEE C3-SERIES SHEETS
 - W SEE C4-SERIES SHEETS
 - ST SEE C5-SERIES SHEETS
 - E SEE E-SERIES SHEETS
 - FO SEE U-SERIES SHEETS

LEGEND (APPLIES TO ALL C2-SERIES SHEETS)

- EXIST ASPHALT
- EXIST CONCRETE
- EXIST GRAVEL
- EXIST BUILDING
- NEW ASPHALT
- NEW CONCRETE
- NEW GRAVEL
- NEW BOULEVARD

KARROW AVE ROADWAY CENTERLINE ALIGNMENT COORDINATE TABLE

SEGMENT	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING	LENGTH	LINE/CHORD DIRECTION
L1	10+00.00	1551384.81	790999.81	16+50.22	1552033.74	791040.76	650.22	N3° 36' 39.86"E
L2	16+50.22	1552033.74	791040.76	27+49.34	1553130.80	791108.03	1099.12	N3° 30' 31.86"E
L3	27+49.34	1553130.80	791108.03	27+94.35	1553175.65	791111.78	45.01	N4° 46' 54.77"E
L4	27+94.35	1553175.65	791111.78	28+94.65	1553275.77	791117.92	100.31	N3° 30' 31.86"E
L5	28+94.65	1553275.77	791117.92	29+40.00	1553321.03	791120.70	45.35	N3° 30' 31.86"E

PATH EDGE ALIGNMENT COORDINATE TABLE (WEST EDGE)

SEGMENT	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING	LENGTH	LINE/CHORD DIRECTION
L6	100+00.00	1551429.07	791026.65	102+14.14	1551642.78	791040.13	214.14	N3° 36' 39.86"E
L7	102+14.14	1551642.78	791040.13	102+34.54	1551662.99	791037.40	20.40	N7° 41' 55.90"W
L8	102+34.54	1551662.99	791037.40	103+59.54	1551787.75	791045.28	125.00	N3° 36' 39.86"E
L9	103+59.54	1551787.75	791045.28	104+04.93	1551832.28	791054.10	45.40	N11° 12' 20.57"E
L10	104+04.93	1551832.28	791054.10	104+44.93	1551872.20	791056.62	40.00	N3° 36' 39.86"E
L11	104+44.93	1551872.20	791056.62	104+75.53	1551902.52	791052.52	30.59	N7° 41' 55.90"W
L12	104+75.53	1551902.52	791052.52	106+00.53	1552027.27	791060.39	125.00	N3° 36' 39.86"E
L13	106+00.53	1552027.27	791060.39	106+21.44	1552047.63	791055.64	20.91	N13° 08' 16.06"W
L14	106+21.44	1552047.63	791055.64	106+31.44	1552057.62	791056.25	10.00	N3° 30' 31.86"E
L15	106+31.44	1552057.62	791056.25	106+47.60	1552072.22	791063.16	16.16	N25° 18' 36.94"E
L16	106+47.60	1552072.22	791063.16	108+41.60	1552265.86	791075.03	194.00	N3° 30' 31.86"E

PATH EDGE ALIGNMENT COORDINATE TABLE (WEST EDGE)

SEGMENT	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING	LENGTH	LINE/CHORD DIRECTION
L17	108+41.60	1552265.86	791075.03	108+51.79	1552275.96	791073.65	10.20	N7° 48' 03.89"W
L18	108+51.79	1552275.96	791073.65	108+56.79	1552280.95	791073.95	5.00	N3° 30' 31.86"E
L19	108+56.79	1552280.95	791073.95	108+66.99	1552290.81	791076.56	10.20	N14° 49' 07.62"E
L20	108+66.99	1552290.81	791076.56	116+67.99	1553090.31	791125.58	801.00	N3° 30' 31.86"E
L21	116+67.99	1553090.31	791125.58	116+78.04	1553100.35	791125.20	10.05	N2° 12' 06.27"W
L22	116+78.04	1553100.35	791125.20	117+24.69	1553146.91	791128.05	46.65	N3° 30' 31.86"E
L23	117+24.69	1553146.91	791128.05	117+53.51	1553174.06	791137.73	28.82	N19° 37' 20.17"E
L24	117+53.51	1553174.06	791137.73	118+09.16	1553229.61	791141.14	55.65	N3° 30' 31.86"E
L25	118+09.16	1553229.61	791141.14	118+34.87	1553254.19	791148.66	25.71	N17° 00' 16.50"E
L26	118+34.87	1553254.19	791148.66	118+74.45	1553293.69	791151.08	39.58	N3° 30' 31.86"E

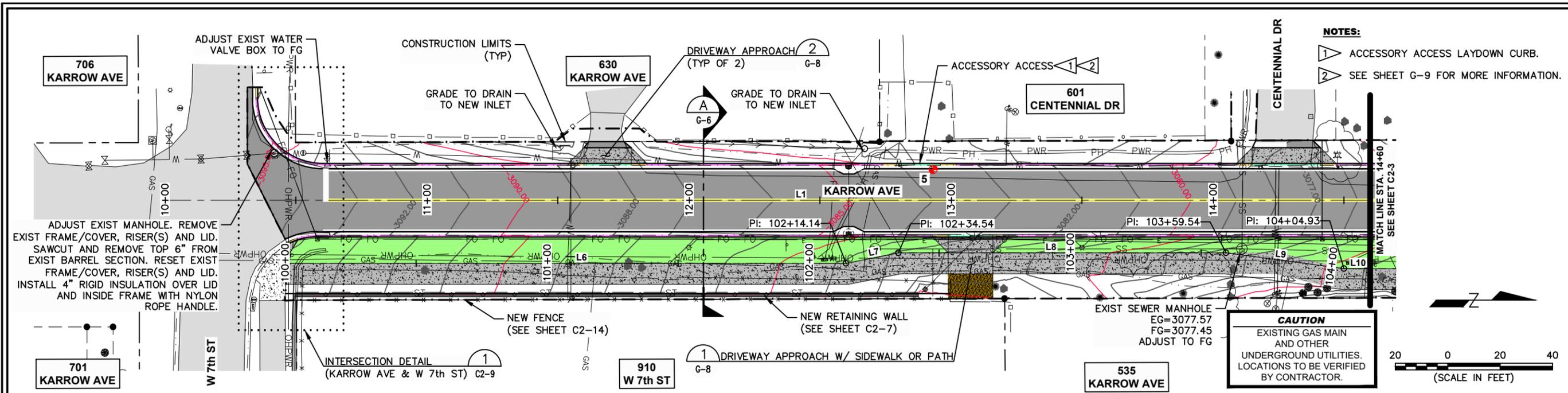
SYN	REVISION	BY	APPR	DATE

March 2024	March 2024			
DATE	DATE			
23208.000	23208.000			
PROJECT NO.	PROJECT NO.			
Road_KAR	Road_KAR			
FILE	FILE			

PROJECT TITLE
**KARROW AVENUE
RECONSTRUCTION PROJECT**
Whitefish, Montana

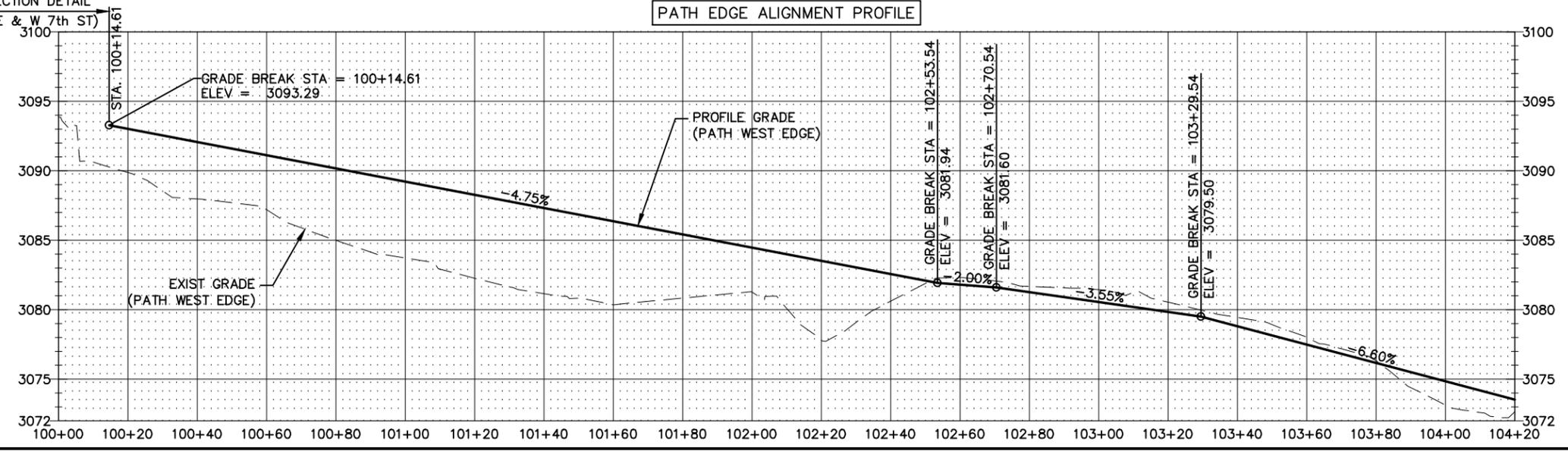
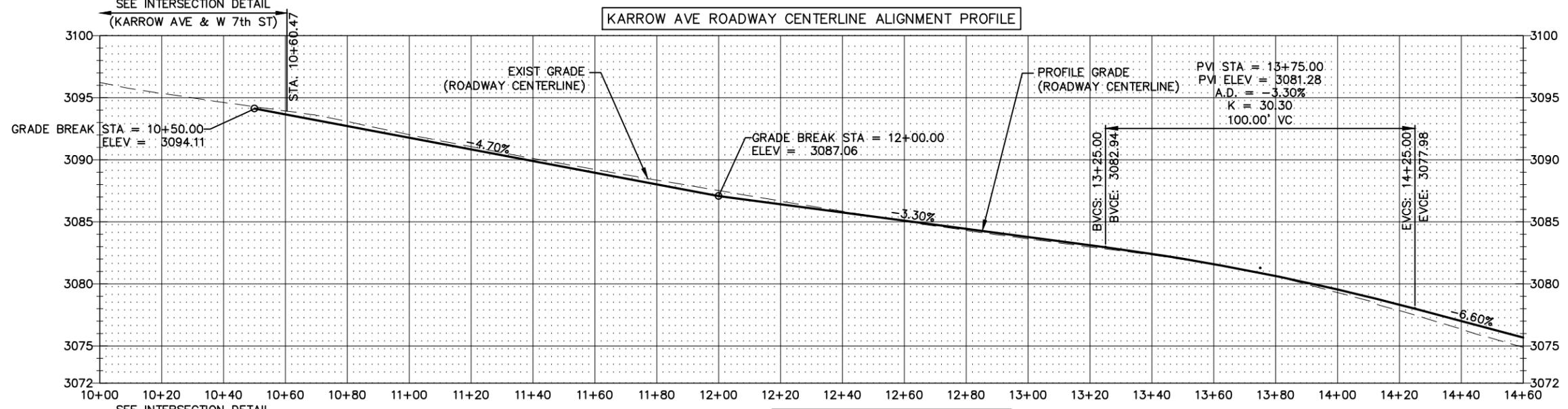
SHEET TITLE
**ROADWAY
OVERVIEW**

SHEET
C2-1



SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Road_KAR	FILE
A PAULLY	DESIGNED BY	M. ROGERS	DRAWN BY	R. MITCHELL	CHECKED BY

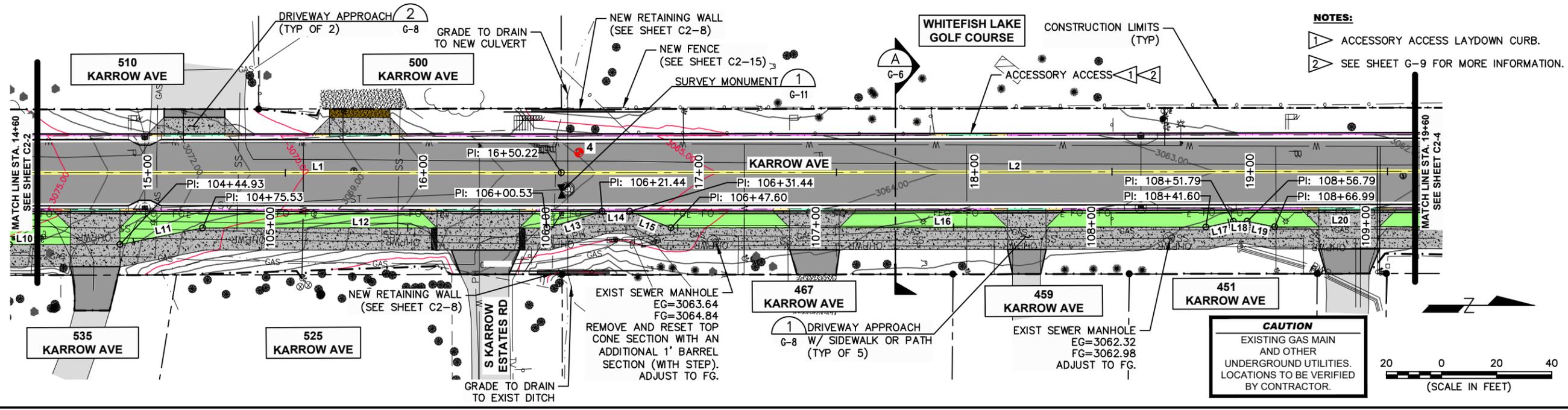


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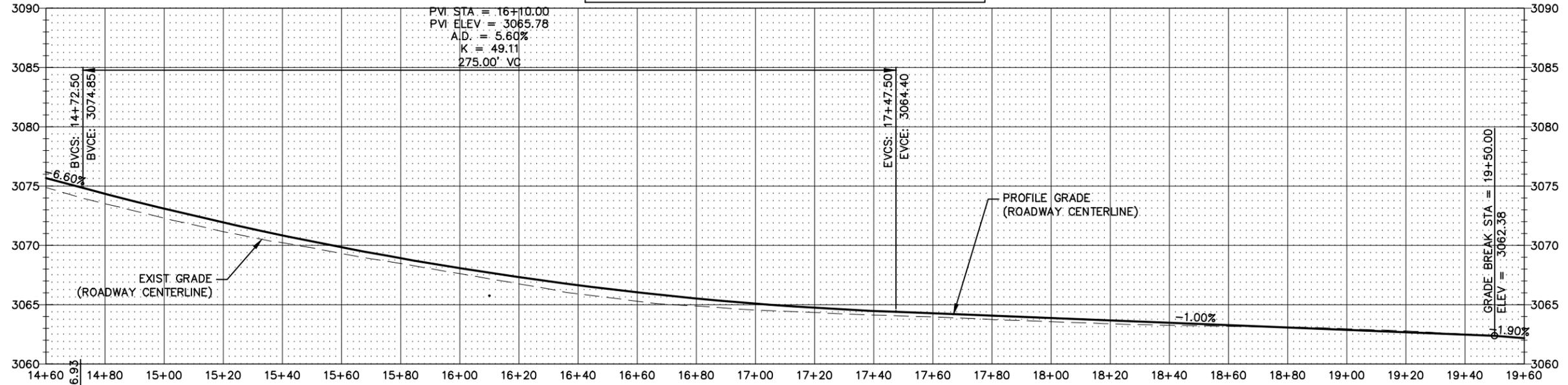
PROJECT TITLE
**KARROW AVENUE
 RECONSTRUCTION PROJECT**
 Whitefish, Montana

SHEET TITLE
**ROADWAY
 PLAN AND PROFILES**
STA. 10+00 TO 14+60

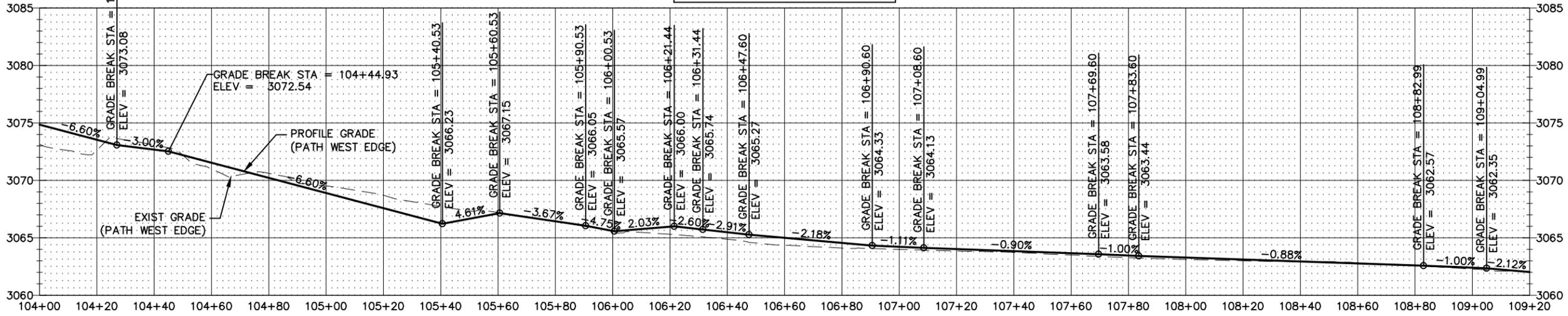
SHEET
C2-2



KARROW AVE ROADWAY CENTERLINE ALIGNMENT PROFILE



PATH EDGE ALIGNMENT PROFILE



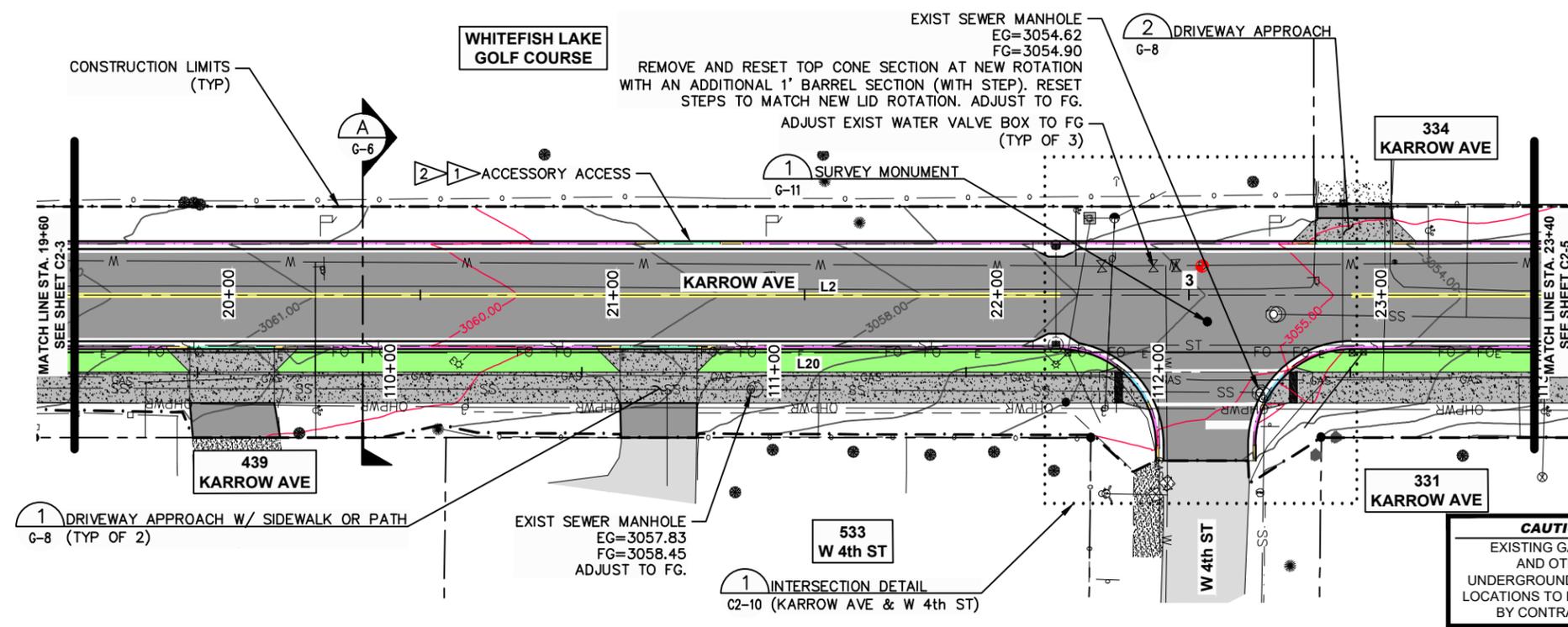
SYN	REVISION	BY	APPR	DATE

March 2024	DATE
23208.000	PROJECT NO.
Road_KAR	FILE

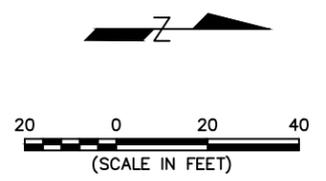
PROJECT TITLE
**KARROW AVENUE
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**ROADWAY
PLAN AND PROFILES
STA. 14+60 TO 19+60**

SHEET
C2-3



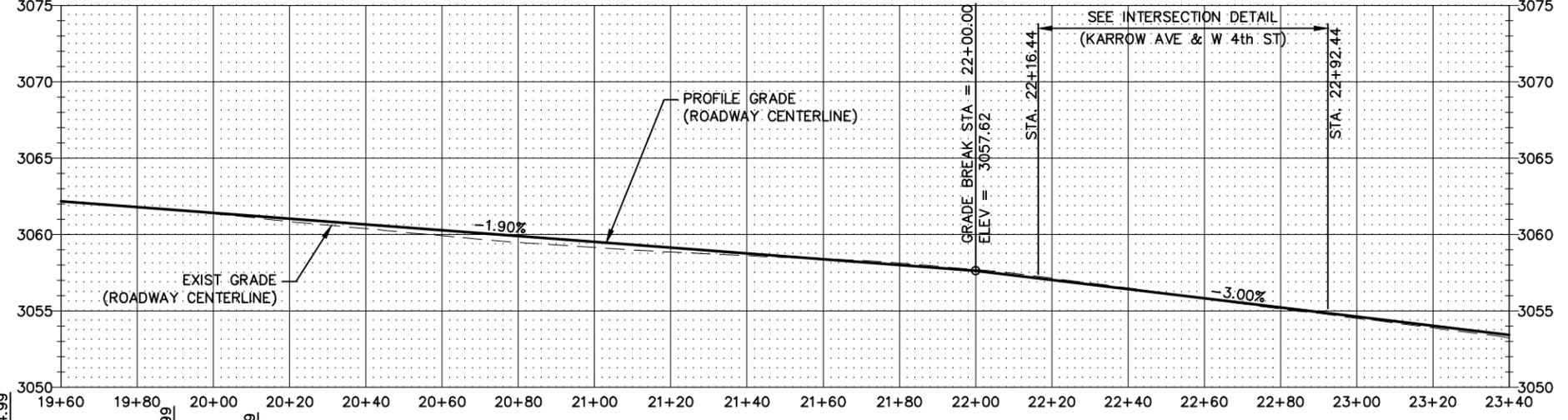
- NOTES:**
- 1 ACCESSORY ACCESS LAYDOWN CURB.
 - 2 SEE SHEET G-9 FOR MORE INFORMATION.



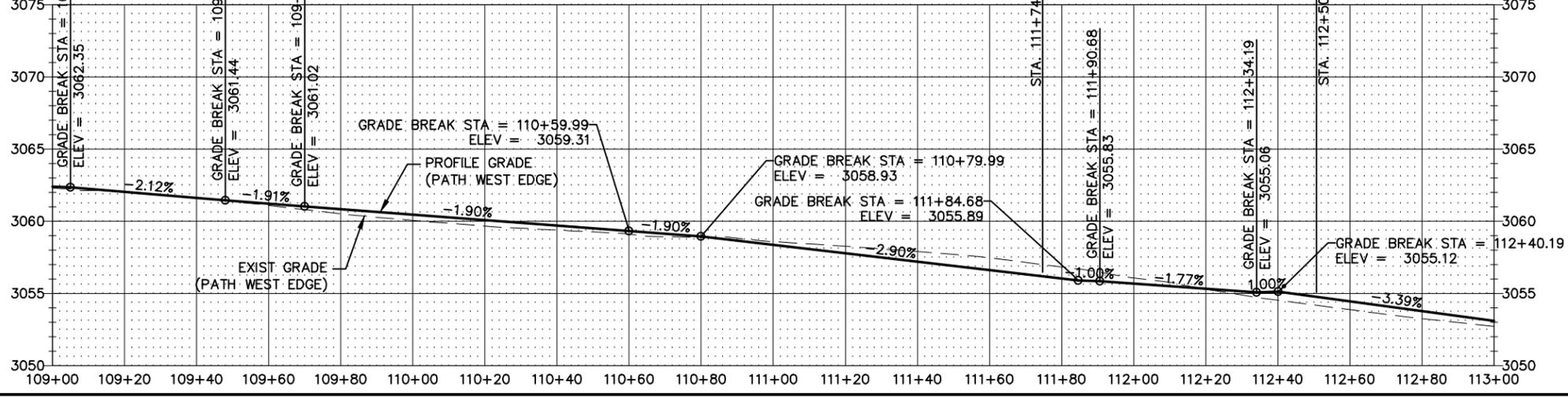
SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Road_KAR	FILE
A PAULLY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

KARROW AVE ROADWAY CENTERLINE ALIGNMENT PROFILE



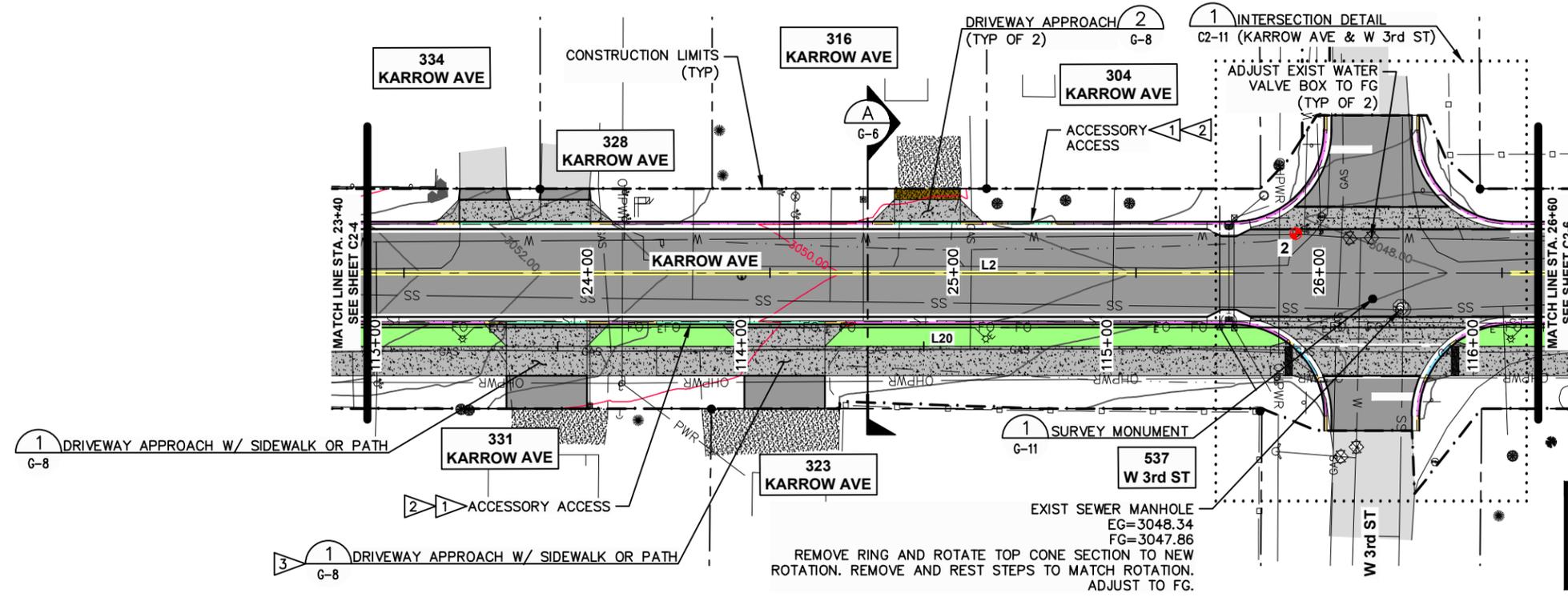
PATH EDGE ALIGNMENT PROFILE



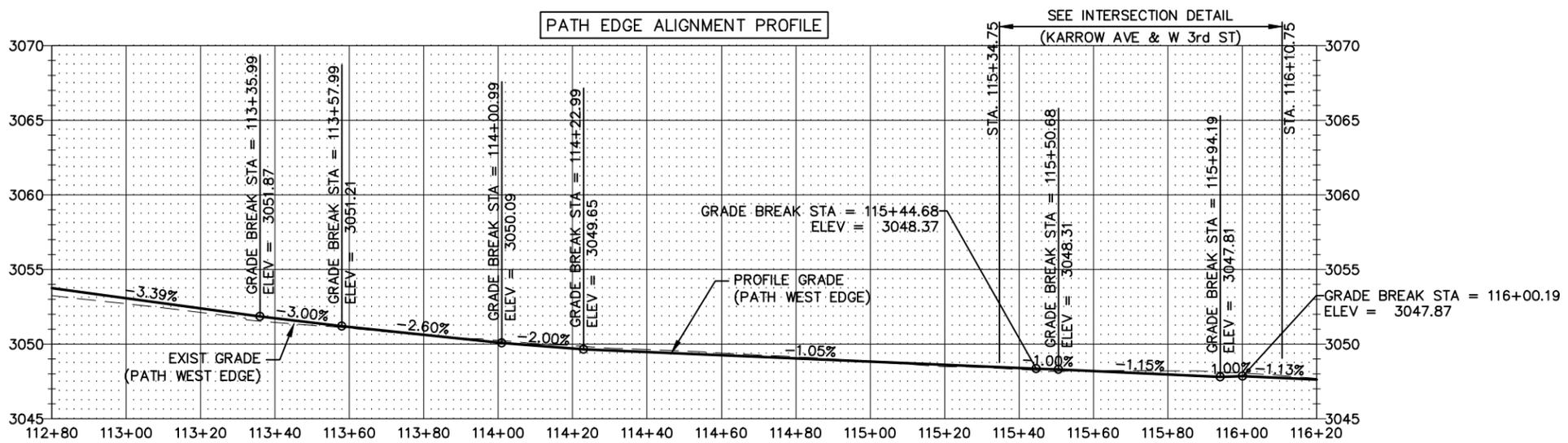
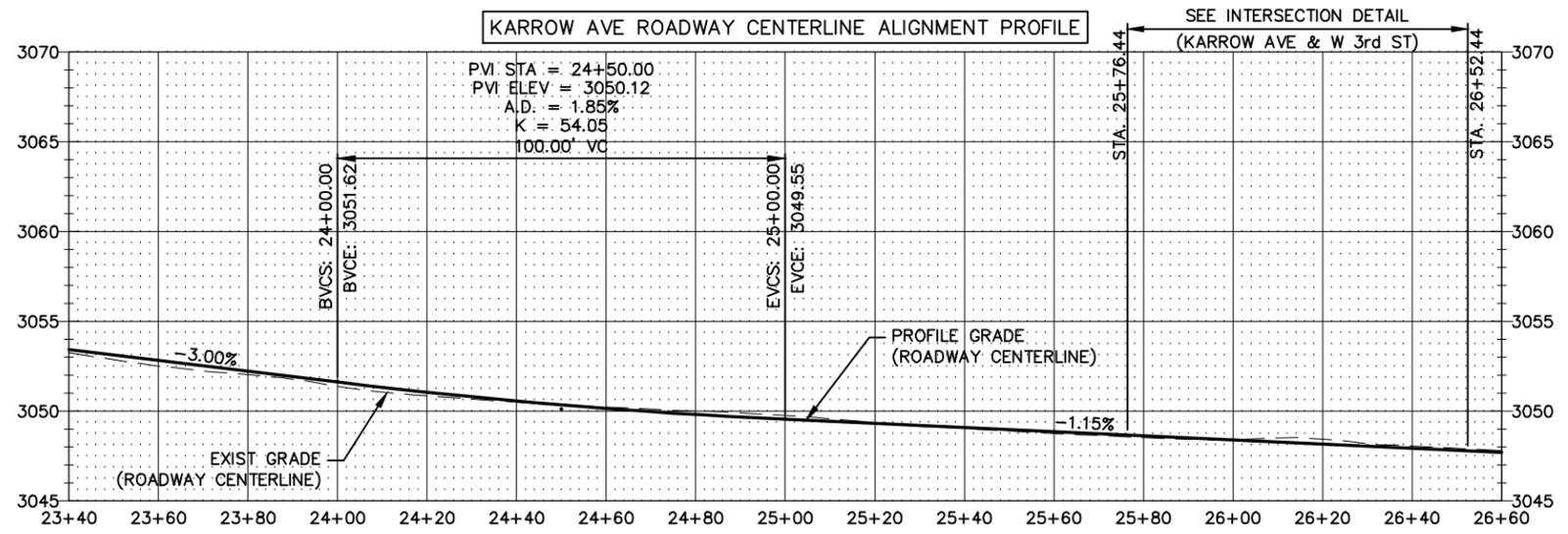
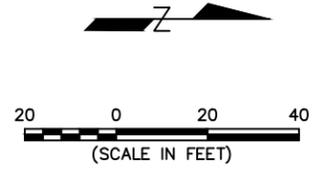
PROJECT TITLE
**KARROW AVENUE
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**ROADWAY
PLAN AND PROFILES**
STA 19+60 TO 23+40

SHEET
C2-4



- NOTES:**
- 1 ACCESSORY ACCESS LAYDOWN CURB.
 - 2 SEE SHEET G-9 FOR MORE INFORMATION.
 - 3 DRIVEWAY SECTION TO BE EXTENDED ALONG SIDEWALK FROM STA. 113+76.99 TO 114+00.99.



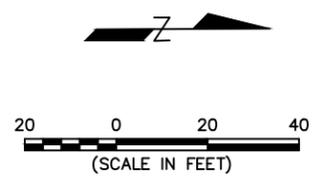
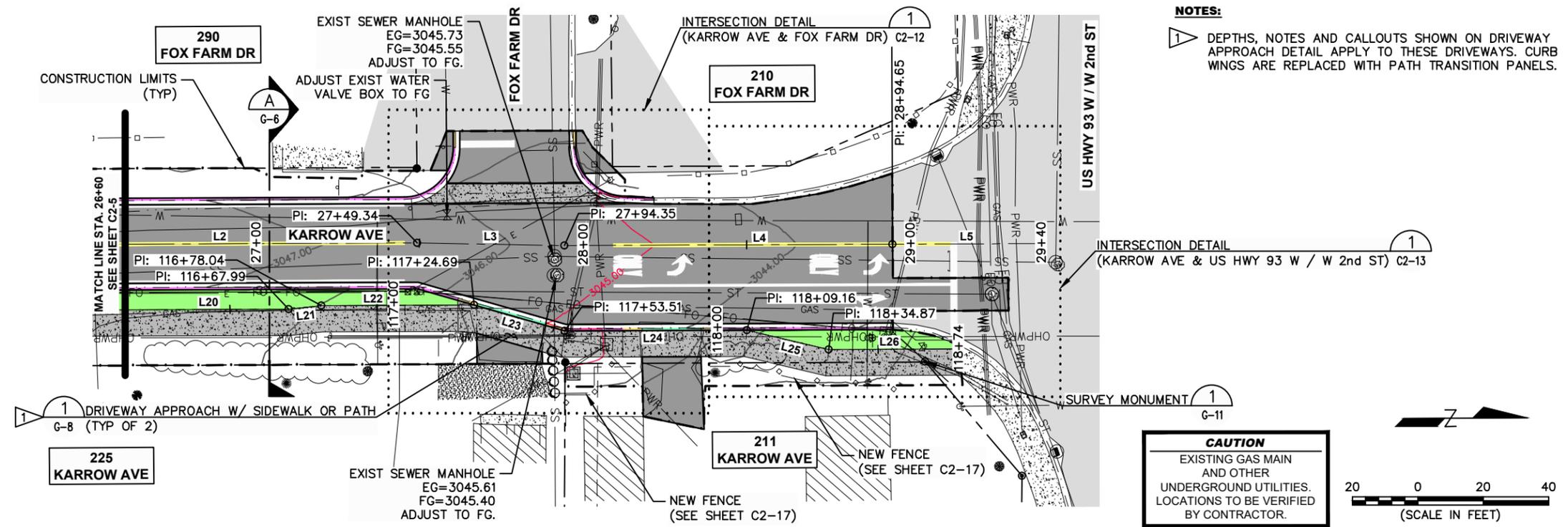
SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Road_KAR	FILE
A PAULLY	DESIGNED BY	M. ROGERS	DRAWN BY	R. MITCHELL	CHECKED BY

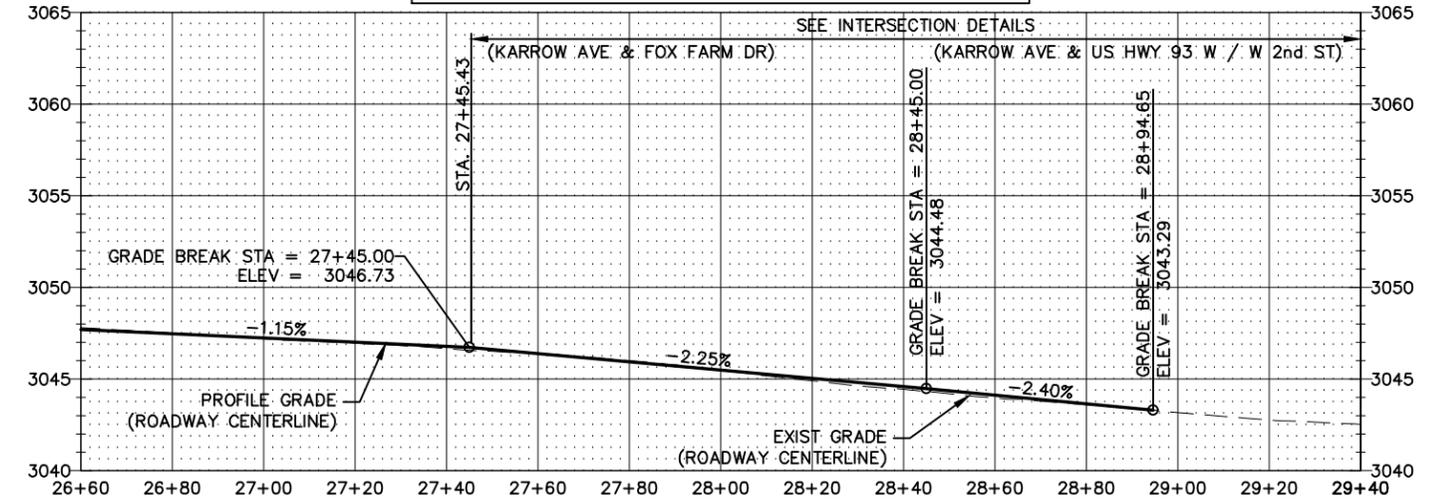
PROJECT TITLE
KARROW AVENUE RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
ROADWAY PLAN AND PROFILES
STA. 23+40 TO 26+60

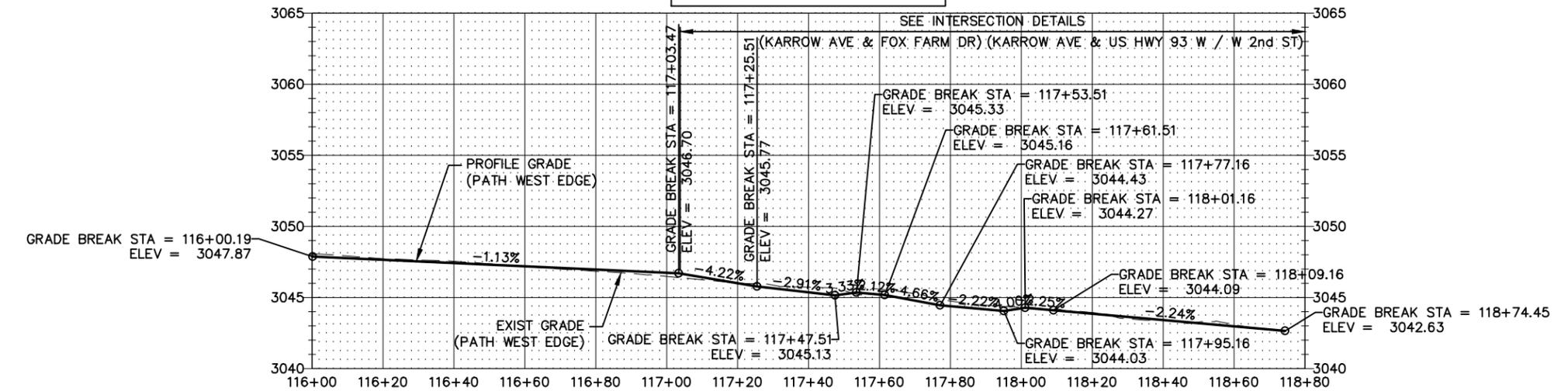
SHEET
C2-5



KARROW AVE ROADWAY CENTERLINE ALIGNMENT PROFILE



PATH EDGE ALIGNMENT PROFILE



SYN	REVISION	BY	APPR	DATE

APPAULY	March 2024
DESIGNED BY	DATE
M. ROGERS	23208.000
DRAWN BY	PROJECT NO.
R. MITCHELL	Road_KAR
CHECKED BY	FILE

PROJECT TITLE
**KARROW AVENUE
 RECONSTRUCTION PROJECT**
 Whitefish, Montana

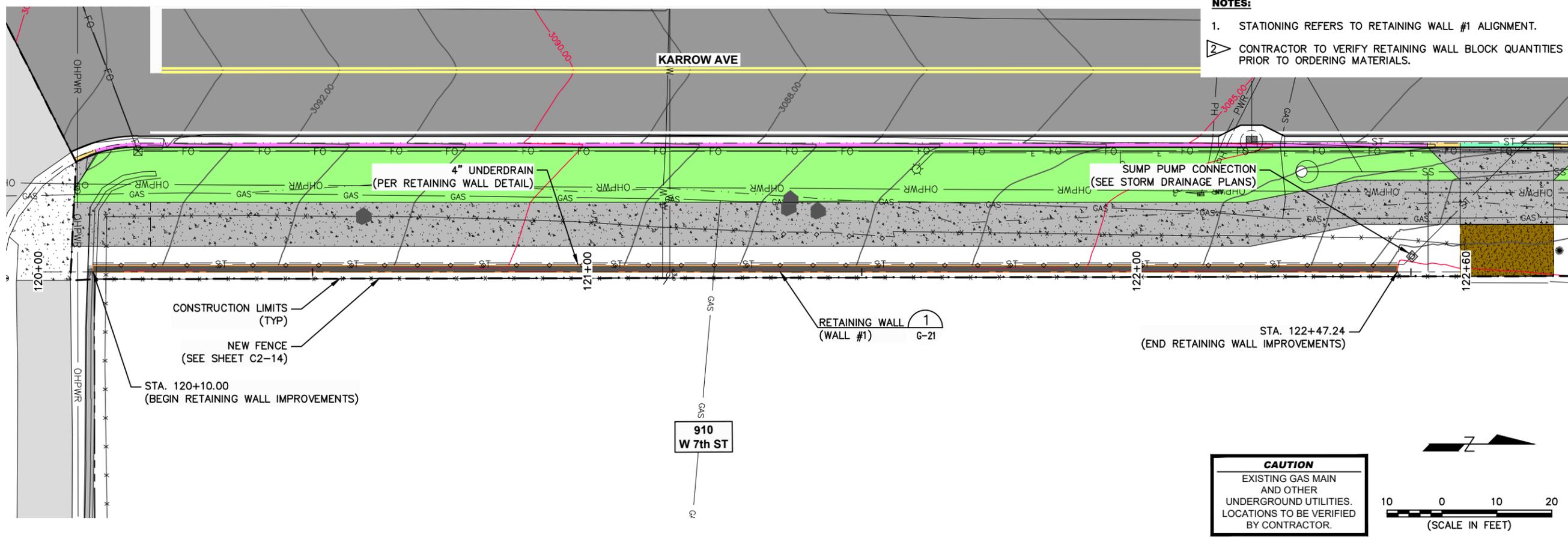
SHEET TITLE
**ROADWAY
 PLAN AND PROFILES**
 STA. 26+60 TO 29+40

SHEET
C2-6

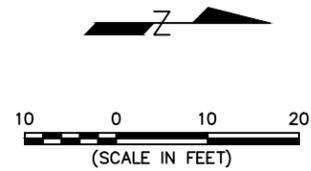


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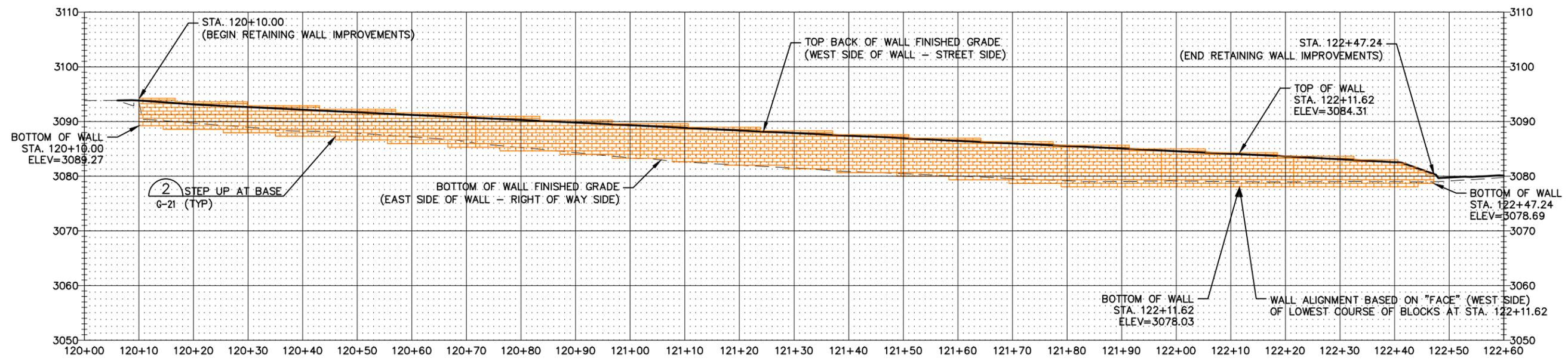
1. STATIONING REFERS TO RETAINING WALL #1 ALIGNMENT.
2. CONTRACTOR TO VERIFY RETAINING WALL BLOCK QUANTITIES PRIOR TO ORDERING MATERIALS.



CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.



RETAINING WALL #1 ALIGNMENT COORDINATE TABLE				
STATION	RETAINING WALL ELEMENT	NORTHING	EASTING	DESCRIPTION
120+00.00	PI	1551422.42	791038.92	Begin Retaining Wall Alignment
120+10.00	PI	1551432.40	791039.55	Begin Retaining Wall Improvements
122+47.24	PI	1551669.17	791054.49	End Retaining Wall Improvements
122+60.00	PI	1551669.43	791054.51	End Retaining Wall Alignment



RETAINING WALL #1 BLOCK INFORMATION TABLE		
TOTAL NUMBER OF BLOCKS	TOTAL NUMBER OF FULL CAPS	TOTAL NUMBER OF HALF CAPS
1,441	162	9

SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Road_KAR	FILE
A PAULLY	DESIGNED BY	M. ROGERS	DRAWN BY	R. MITCHELL	CHECKED BY

PROJECT TITLE
**KARROW AVENUE
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**RETAINING WALL #1
PLAN AND PROFILE
STA. 120+00 TO 122+60**

SHEET

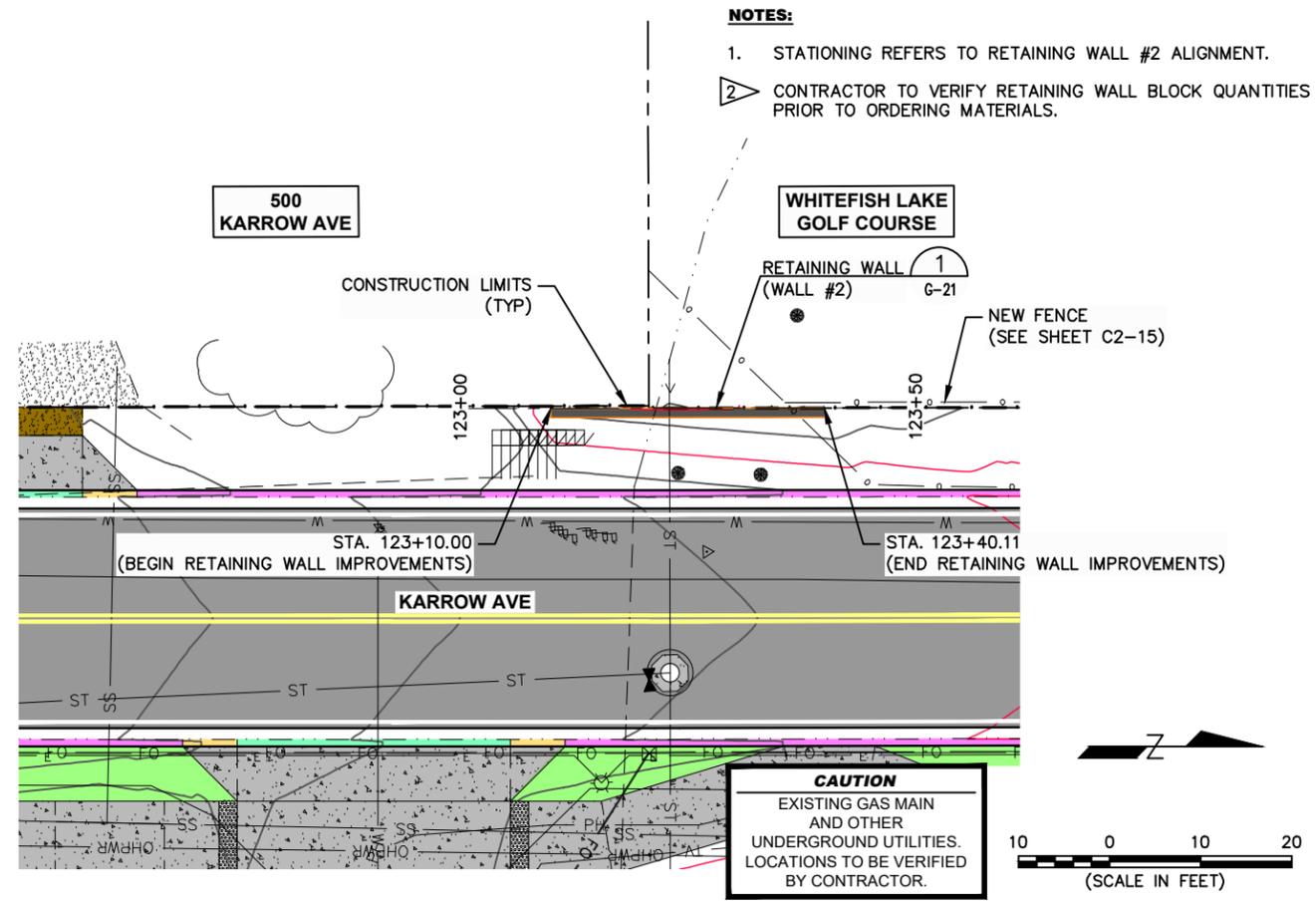
C2-7

BY	APPR	DATE
REVISION		
SYM		
March 2024	DATE	23208.000
DESIGNED BY	M. ROGERS	PROJECT NO.
DRAWN BY	R. MITCHELL	FILE
CHECKED BY		

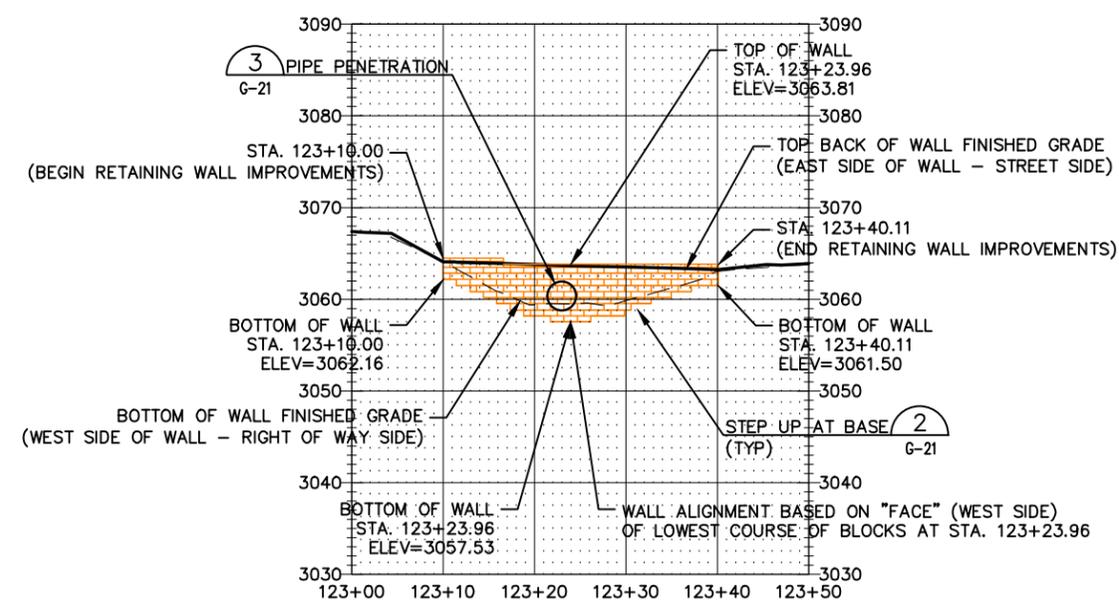
PROJECT TITLE
**KARROW AVENUE
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**RETAINING WALLS #2 & #3
PLANS AND PROFILES**

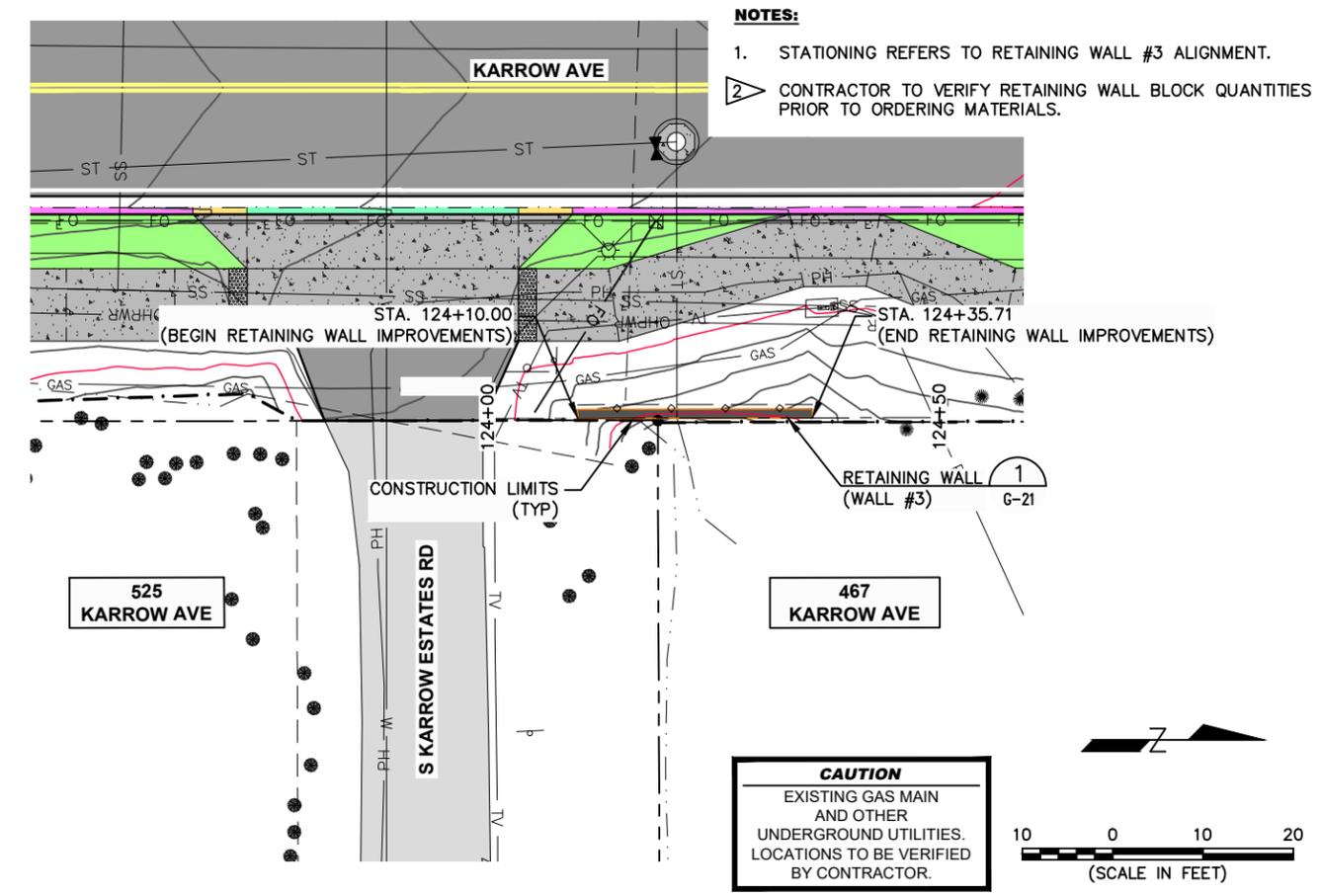
SHEET
C2-8



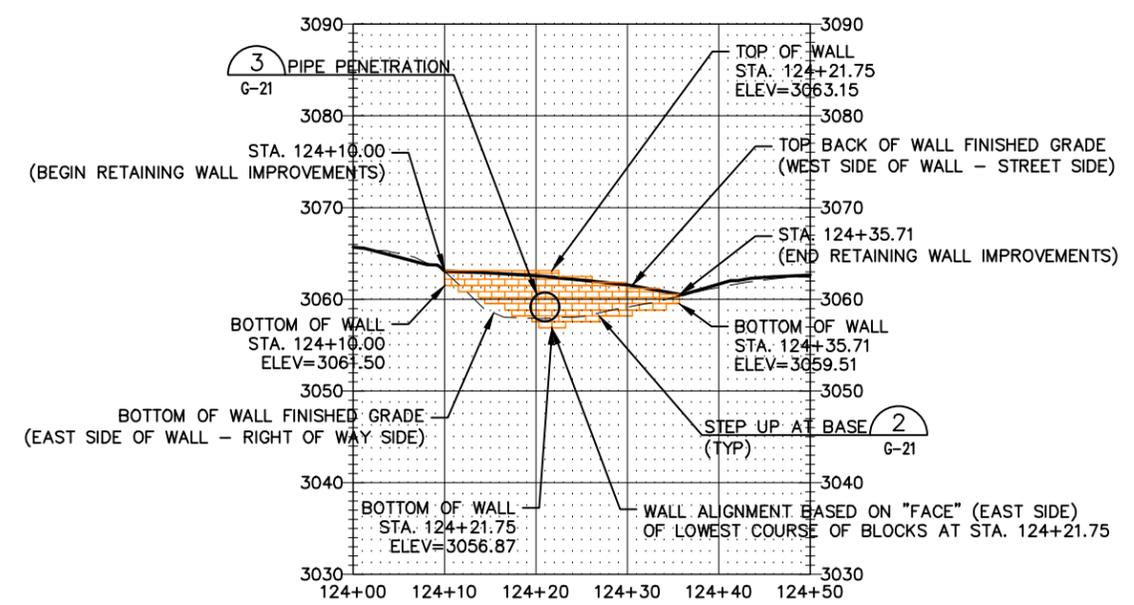
STATION	RETAINING WALL ELEMENT	NORTHING	EASTING	DESCRIPTION
123+00.00	PI	1552014.46	791016.53	Begin Retaining Wall Alignment
123+10.00	PI	1552024.45	791017.15	Begin Retaining Wall Improvements
123+40.11	PI	1552054.50	791018.99	End Retaining Wall Improvements
123+50.00	PI	1552054.39	791018.98	End Retaining Wall Alignment



TOTAL NUMBER OF BLOCKS	TOTAL NUMBER OF FULL CAPS	TOTAL NUMBER OF HALF CAPS
126	20	2



STATION	RETAINING WALL ELEMENT	NORTHING	EASTING	DESCRIPTION
124+00.00	PI	1552012.82	791076.05	Begin Retaining Wall Alignment
124+10.00	PI	1552022.80	791076.66	Begin Retaining Wall Improvements
124+35.71	PI	1552048.46	791078.23	End Retaining Wall Improvements
124+50.00	PI	1552048.75	791078.25	End Retaining Wall Alignment



TOTAL NUMBER OF BLOCKS	TOTAL NUMBER OF FULL CAPS	TOTAL NUMBER OF HALF CAPS
90	18	5



CURVE DATA TABLE									
Curve #	Length	Delta	Radius	Center Northing	Center Easting	Start Northing	Start Easting	End Northing	End Easting
C1	39.27	090°00'00"	25.00	1551447.62	790964.69	1551422.67	790963.12	1551446.04	790989.64
C2	11.71	026°50'55"	25.00	1551440.44	791042.39	1551430.58	791019.42	1551442.01	791017.44

NOTES:

- SPOT ELEVATIONS ARE FINISH GRADE.
- ELEVATIONS SHOWN AS (30XX.XX) ARE AT EXISTING GRADE. CONTRACTOR TO MATCH EXISTING ELEVATIONS AT ALL TIE-INS.
- CONTOURS SHOWN ON THIS SHEET ARE FINISHED CONTOURS.
- WHERE NEW SIDEWALK MEETS EXISTING CONCRETE, MATCH LINE SHALL RECEIVE 12" SMOOTH DOWELS (1/2" DIAMETER) PLACED AT 2'-0" ON CENTER. (MATCH EXIST ELEVATIONS)
- WHERE NEW CURB MEETS EXISTING CURB, MATCH LINE SHALL RECEIVE 12" SMOOTH DOWELS (1/2" DIAMETER) PLACED AT 8" ON CENTER. (MATCH EXIST ELEVATIONS)
- TRANSITION CURB SHALL BE 4'-0" (TYP) ON THIS SHEET, UNLESS SHOWN OTHERWISE.
- ASPHALT CONCRETE PAVEMENT, CRUSHED BASE COURSE, CRUSHED SUBBASE COURSE AND STABILIZATION FABRIC DEPTHS, NOTES AND CALLOUTS SHOWN IN SECTION "A" APPLY ON INTERSECTION AND GRADING DETAILS.
- STATIONING REFERS TO PATH EDGE ALIGNMENT.
- BEGIN KARROW AVE ROADWAY ALIGNMENT PROFILE.
- BEGIN PATH EDGE ALIGNMENT PROFILE.

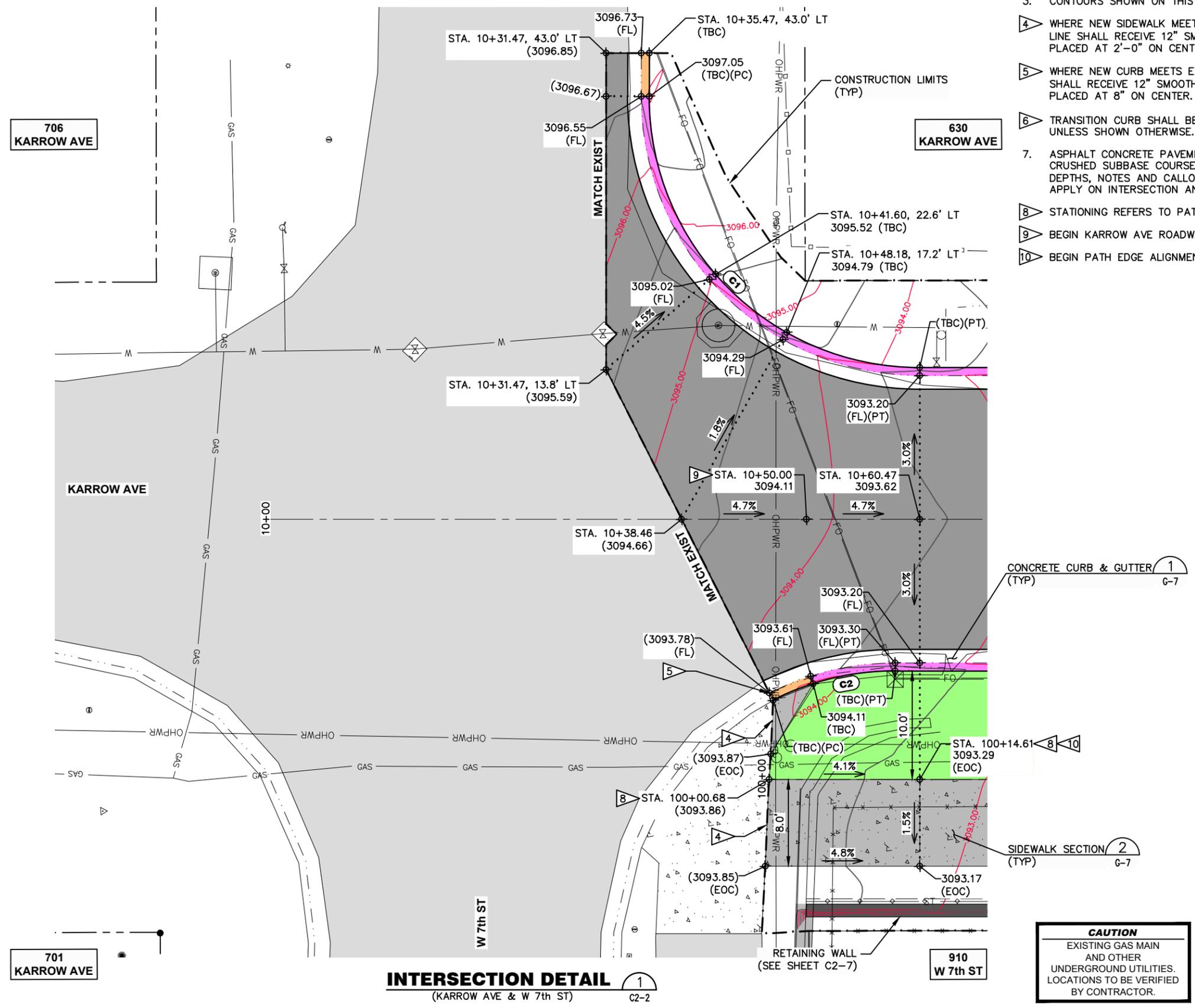
SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Intersections_KAR	FILE
A PAULLY	DESIGNED BY	M. ROGERS	DRAWN BY	R. MITCHELL	CHECKED BY

PROJECT TITLE
**KARROW AVENUE
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**INTERSECTION
DETAIL
(KARROW AVE & W 7th ST)**

SHEET
C2-9



INTERSECTION DETAIL
(KARROW AVE & W 7th ST)
C2-2

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CURVE DATA TABLE									
Curve #	Length	Delta	Radius	Center Northing	Center Easting	Start Northing	Start Easting	End Northing	End Easting
C5	39.27	090°00'00"	25.00	1552596.51	791114.34	1552598.04	791089.39	1552621.47	791115.87
C6	39.27	090°00'00"	25.00	1552672.37	791118.99	1552647.42	791117.46	1552673.90	791094.04

NOTES:

1. SPOT ELEVATIONS ARE FINISH GRADE.
2. ELEVATIONS SHOWN AS (30XX.XX) ARE AT EXISTING GRADE. CONTRACTOR TO MATCH EXISTING ELEVATIONS AT ALL TIE-INS.
3. CONTOURS SHOWN ON THIS SHEET ARE FINISHED CONTOURS.
4. TRANSITION CURB SHALL BE 2'-0" (TYP) ON THIS SHEET, UNLESS SHOWN OTHERWISE.
5. STATIONING REFERS TO PATH EDGE ALIGNMENT.
6. ASPHALT CONCRETE PAVEMENT, CRUSHED BASE COURSE, CRUSHED SUBBASE COURSE AND STABILIZATION FABRIC DEPTHS, NOTES AND CALLOUTS SHOWN IN SECTION "A" APPLY ON INTERSECTION AND GRADING DETAILS.

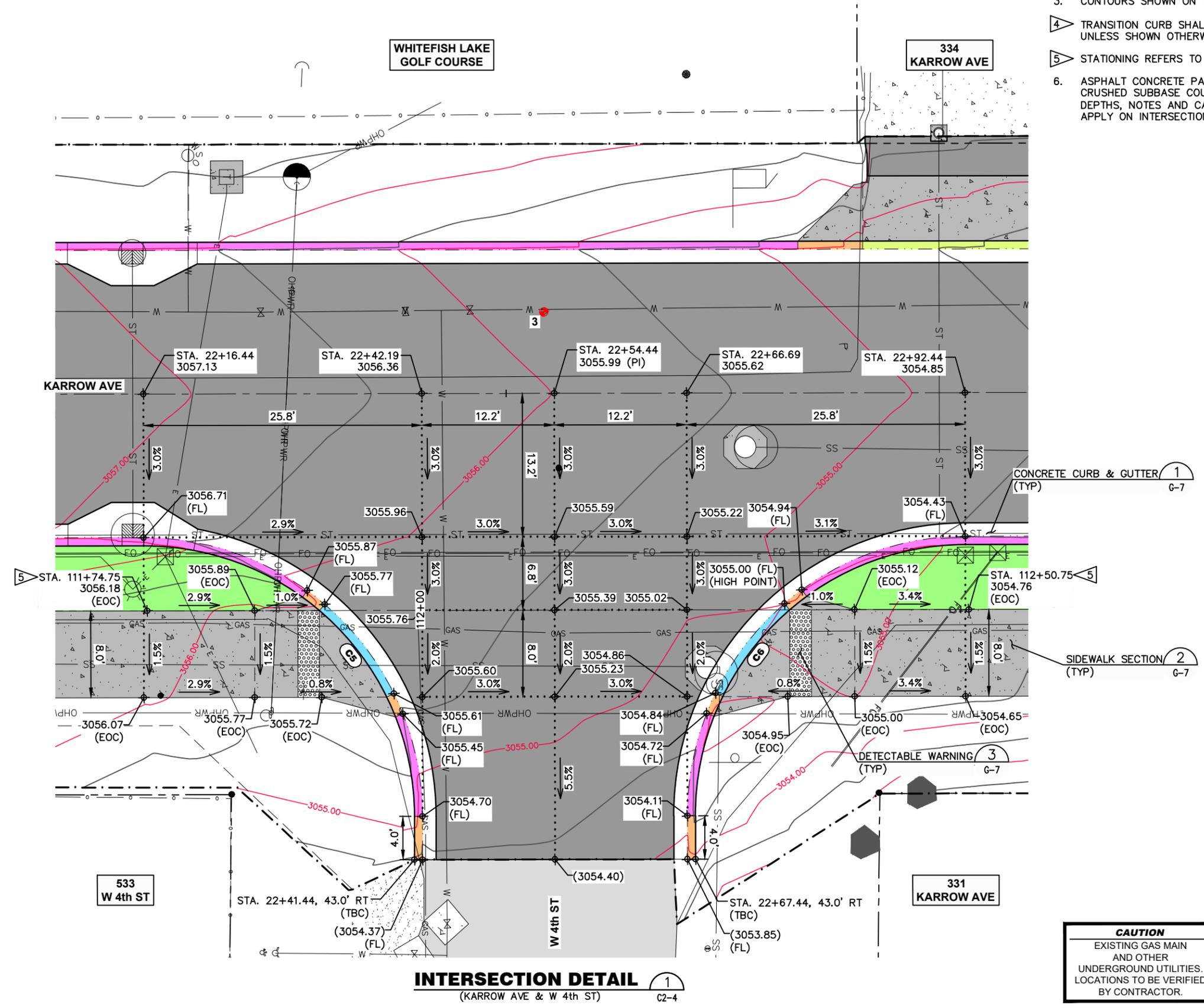
SYMBOL	REVISION	BY	DATE

APPROVED BY	March 2024
DESIGNED BY	DATE
M. ROGERS	23208.000
DRAWN BY	PROJECT NO.
R. MITCHELL	Intersections_KAR
CHECKED BY	FILE

PROJECT TITLE
KARROW AVENUE RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
INTERSECTION DETAIL
(KARROW AVE & W 4th ST)

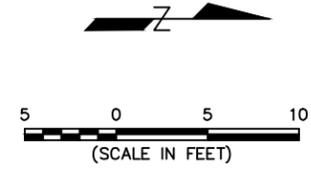
SHEET
C2-10



LEGEND

- NEW FULL HEIGHT CURB & GUTTER
- NEW TRANSITION CURB & GUTTER
- NEW ACCESSIBLE RAMP LAYDOWN CURB & GUTTER
- NEW DRIVEWAY LAYDOWN CURB & GUTTER

CAUTION
EXISTING GAS MAIN AND OTHER UNDERGROUND UTILITIES. LOCATIONS TO BE VERIFIED BY CONTRACTOR.



INTERSECTION DETAIL 1
(KARROW AVE & W 4th ST) C2-4



CURVE DATA TABLE									
Curve #	Length	Delta	Radius	Center Northing	Center Easting	Start Northing	Start Easting	End Northing	End Easting
C11	23.56	090°00'00"	15.00	1553128.67	791078.84	1553127.75	791093.82	1553143.64	791079.76
C12	23.56	090°00'00"	15.00	1553196.05	791082.98	1553181.07	791082.06	1553195.13	791097.95

NOTES:

- SPOT ELEVATIONS ARE FINISH GRADE.
- ELEVATIONS SHOWN AS (30XX.XX) ARE AT EXISTING GRADE. CONTRACTOR TO MATCH EXISTING ELEVATIONS AT ALL TIE-INS.
- CONTOURS SHOWN ON THIS SHEET ARE FINISHED CONTOURS.
- WHERE NEW CURB MEETS EXISTING CURB, MATCH LINE SHALL RECEIVE 12" SMOOTH DOWELS (1/2" DIAMETER) PLACED AT 8" ON CENTER. (MATCH EXIST ELEVATIONS)
- TRANSITION CURB SHALL BE 6'-0" (TYP) ON THIS SHEET, UNLESS SHOWN OTHERWISE.
- STATIONING REFERS TO PATH EDGE ALIGNMENT.
- ASPHALT CONCRETE PAVEMENT, CRUSHED BASE COURSE, CRUSHED SUBBASE COURSE AND STABILIZATION FABRIC DEPTHS, NOTES AND CALLOUTS SHOWN IN SECTION "A" APPLY ON INTERSECTION AND GRADING DETAILS.
- DEPTHS, NOTES AND CALLOUTS SHOWN ON DRIVEWAY APPROACH DETAIL APPLY TO THESE DRIVEWAYS. CURB WINGS ARE REPLACED WITH PATH TRANSITION PANELS.

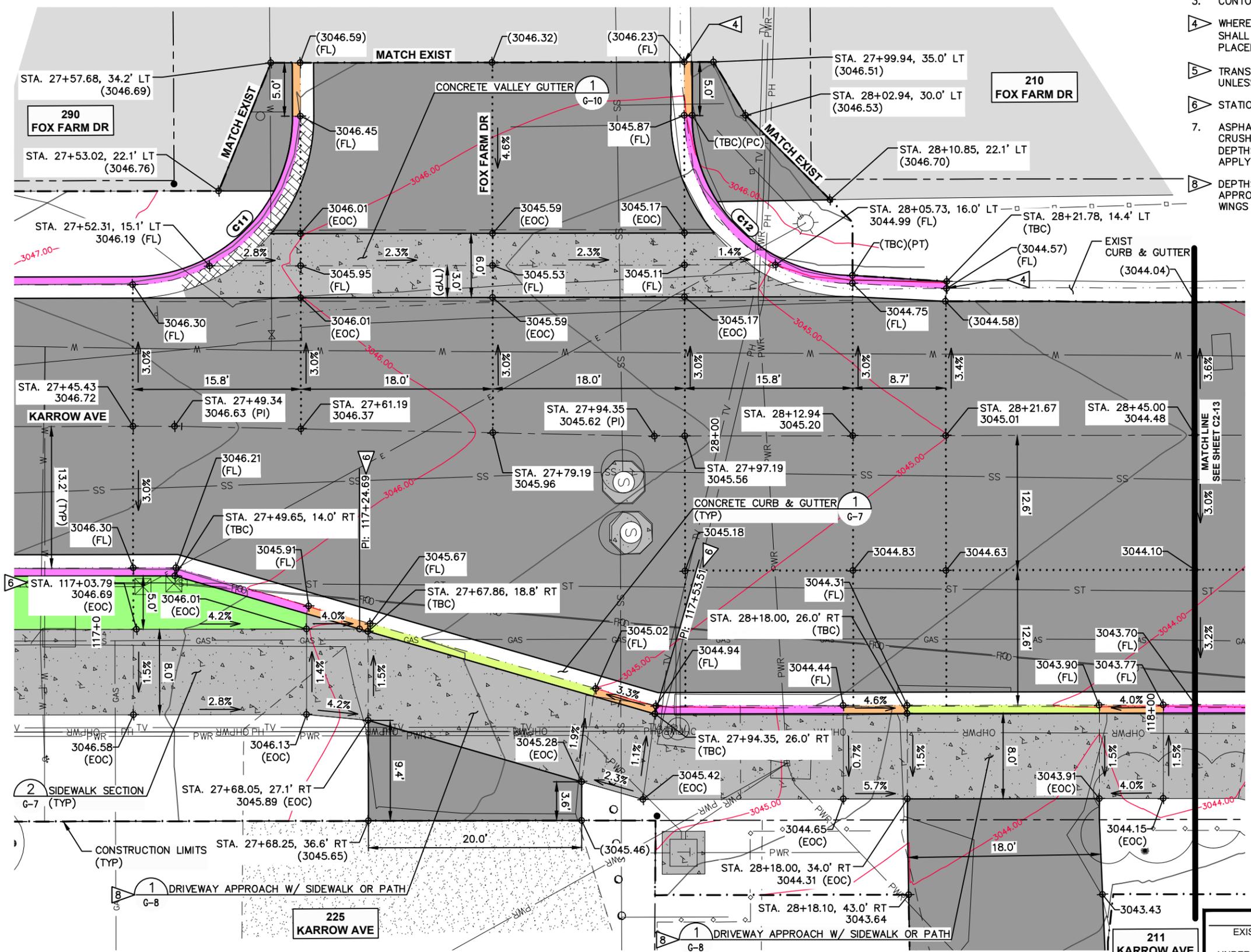
SYMBOL	REVISION	DATE	BY	APPR.

APPAULY	March 2024	DATE	23208.000	PROJECT NO.	Intersections_KAR
DESIGNED BY	M. ROGERS	DRAWN BY	R. MITCHELL	CHECKED BY	

PROJECT TITLE
KARROW AVENUE RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
INTERSECTION DETAIL
(KARROW AVE & FOX FARM DR)

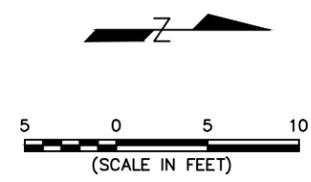
SHEET
C2-12



LEGEND

- NEW FULL HEIGHT CURB & GUTTER
- NEW TRANSITION CURB & GUTTER
- NEW DRIVEWAY LAYDOWN CURB & GUTTER
- NEW "SPILL" CURB & GUTTER

CAUTION
EXISTING GAS MAIN AND OTHER UNDERGROUND UTILITIES. LOCATIONS TO BE VERIFIED BY CONTRACTOR.



INTERSECTION DETAIL
(KARROW AVE & FOX FARM DR) C2-6



SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.
A. PAULLY	DESIGNED BY	M. ROGERS	DRAWN BY
	CHECKED BY	R. MITCHELL	INTERSECTIONS_KAR
			FILE

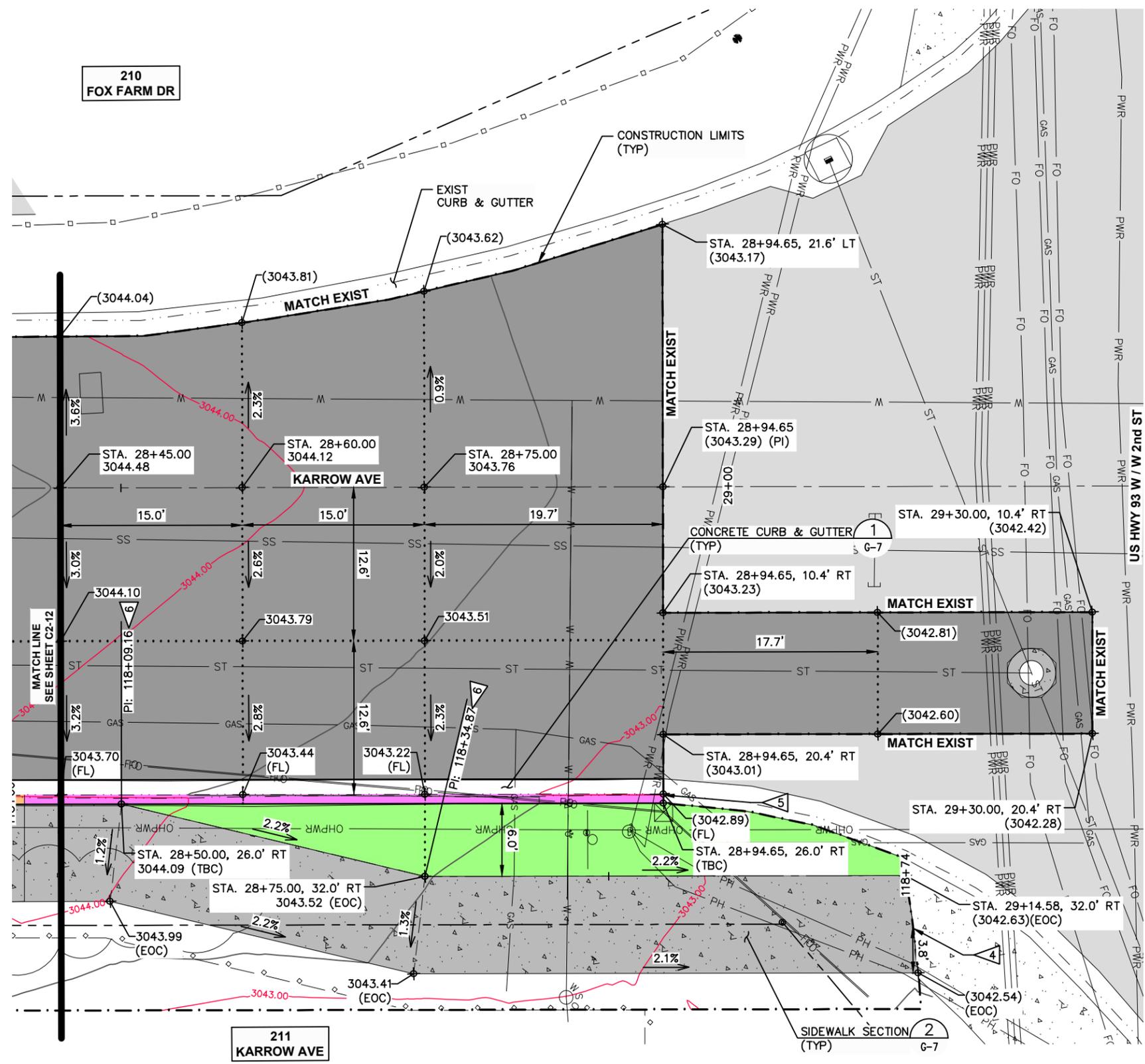
PROJECT TITLE
**KARROW AVENUE
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**INTERSECTION
DETAIL
(KARROW AVE & W 2nd ST)**

SHEET
C2-13

NOTES:

- SPOT ELEVATIONS ARE FINISH GRADE.
- ELEVATIONS SHOWN AS (30XX.XX) ARE AT EXISTING GRADE. CONTRACTOR TO MATCH EXISTING ELEVATIONS AT ALL TIE-INS.
- CONTOURS SHOWN ON THIS SHEET ARE FINISHED CONTOURS.
- WHERE NEW SIDEWALK MEETS EXISTING CONCRETE, MATCH LINE SHALL RECEIVE 12" SMOOTH DOWELS (1/2" DIAMETER) PLACED AT 2'-0" ON CENTER. (MATCH EXIST ELEVATIONS)
- WHERE NEW CURB MEETS EXISTING CURB, MATCH LINE SHALL RECEIVE 12" SMOOTH DOWELS (1/2" DIAMETER) PLACED AT 8" ON CENTER. (MATCH EXIST ELEVATIONS)
- STATIONING REFERS TO PATH EDGE ALIGNMENT.
- ASPHALT CONCRETE PAVEMENT, CRUSHED BASE COURSE, CRUSHED SUBBASE COURSE AND STABILIZATION FABRIC DEPTHS, NOTES AND CALLOUTS SHOWN IN SECTION "A" APPLY ON INTERSECTION AND GRADING DETAILS.



INTERSECTION DETAIL
(KARROW AVE & US HIGHWAY 93 W / W 2nd ST) 1 C2-6

LEGEND

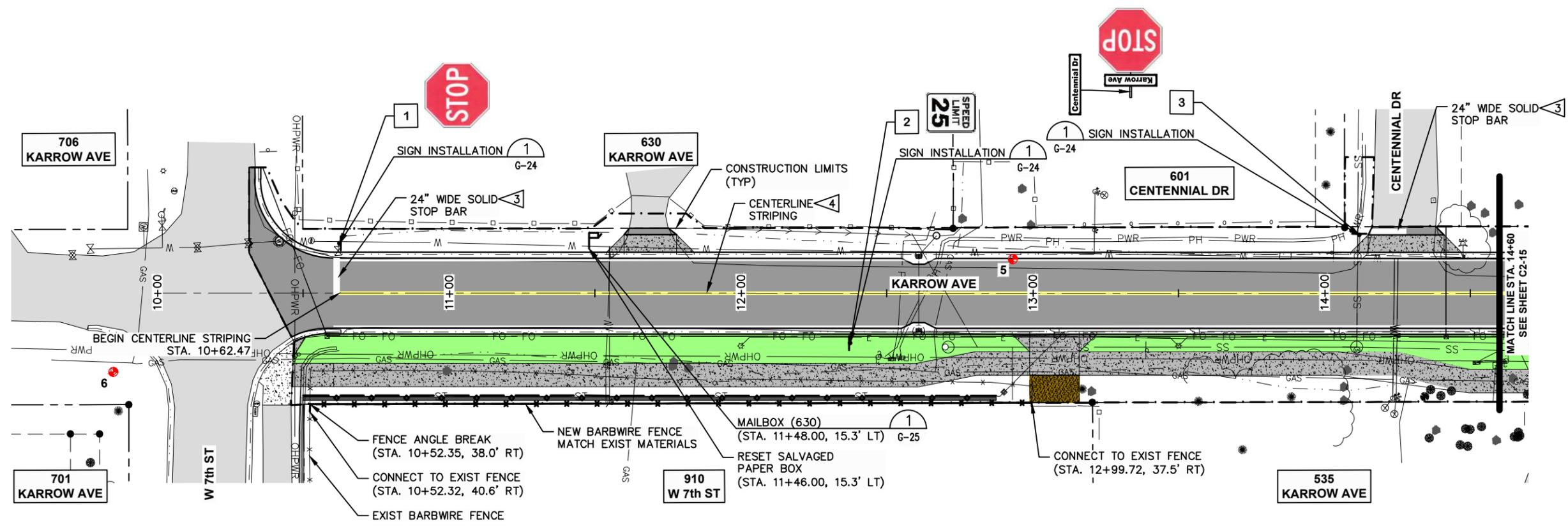
- NEW FULL HEIGHT CURB & GUTTER
- NEW TRANSITION CURB & GUTTER

CAUTION
EXISTING GAS MAIN AND OTHER UNDERGROUND UTILITIES. LOCATIONS TO BE VERIFIED BY CONTRACTOR.

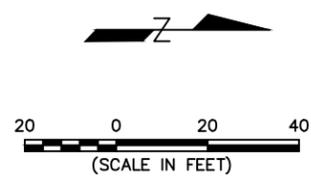
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NOTES:

1. SEE SHEET G-24 FOR THE ROADWAY SIGN SCHEDULE.
2. STATIONING REFERS TO KARROW AVE ROADWAY CENTERLINE ALIGNMENT.
3. WHITE EPOXY OR HIGH PERFORMANCE RETROREFLECTIVE PREFORMED THERMOPLASTIC MARKINGS. (CONTRACTOR'S CHOICE)
4. 2-4" WIDE SOLID YELLOW EPOXY STRIPES WITH 4" GAP BETWEEN.



CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.



SYM	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Striping_KAR	FILE
A PAULLY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

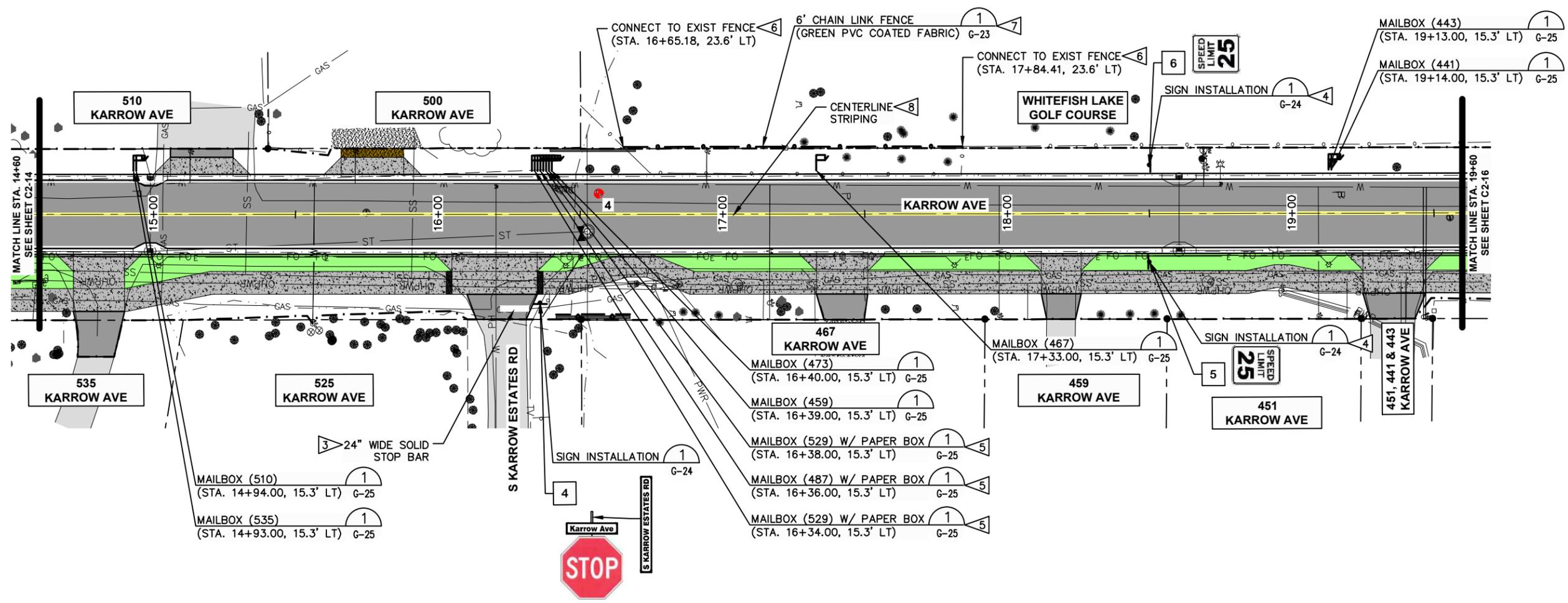
PROJECT TITLE
**KARROW AVENUE
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**STRIPING, SIGNING,
MAILBOX AND
FENCING PLAN**

SHEET
C2-14

NOTES:

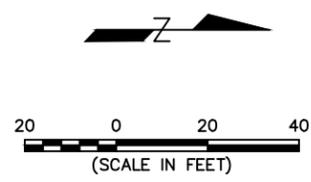
1. SEE SHEET G-24 FOR THE ROADWAY SIGN SCHEDULE.
2. STATIONING REFERS TO KARROW AVE ROADWAY CENTERLINE ALIGNMENT.
3. WHITE EPOXY OR HIGH PERFORMANCE RETROREFLECTIVE PREFORMED THERMOPLASTIC MARKINGS. (CONTRACTOR'S CHOICE)
4. ADD TO SIGN: SAFEPACE 100 11" RADAR FEEDBACK SIGN (MODEL: SP100, SOLAR, WHITE), OR APPROVED EQUAL.
5. PAPER BOX SPACED 1-FOOT SOUTH OF ADDRESS MAILBOX. (TYP OF 3)
6. CONNECT EXIST CHAIN LINK FENCE TO NEW CHAIN LINK FENCE WITH CHAIN LINK FENCE HARDWARE.
7. THIS FENCE SEGMENT SHALL BE GREEN (PVC COATED) TO MATCH EXIST FENCE. CONTRACTOR MAY SALVAGE EXIST FABRIC FOR RE-USE.
8. 2-4" WIDE SOLID YELLOW EPOXY STRIPES WITH 4" GAP BETWEEN.



MATCH LINE STA. 14+60
SEE SHEET C2-14

MATCH LINE STA. 19+60
SEE SHEET C2-16

CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.



SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Striping_KAR	FILE
A PAULY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

PROJECT TITLE
**KARROW AVENUE
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**STRIPING, SIGNING,
MAILBOX AND
FENCING PLAN**

SHEET
C2-15



NOTES:

1. SEE SHEET G-24 FOR THE ROADWAY SIGN SCHEDULE.
2. STATIONING REFERS TO KARROW AVE ROADWAY CENTERLINE ALIGNMENT.
3. CROSSWALK MARKINGS SHALL BE 8" WIDE SOLID STRIPES SEPARATED BY 8'-0" (INSIDE TO INSIDE).
4. WHITE EPOXY OR HIGH PERFORMANCE RETROREFLECTIVE PREFORMED THERMOPLASTIC MARKINGS. (CONTRACTOR'S CHOICE)
5. 2-4" WIDE SOLID YELLOW EPOXY STRIPES WITH 4" GAP BETWEEN.

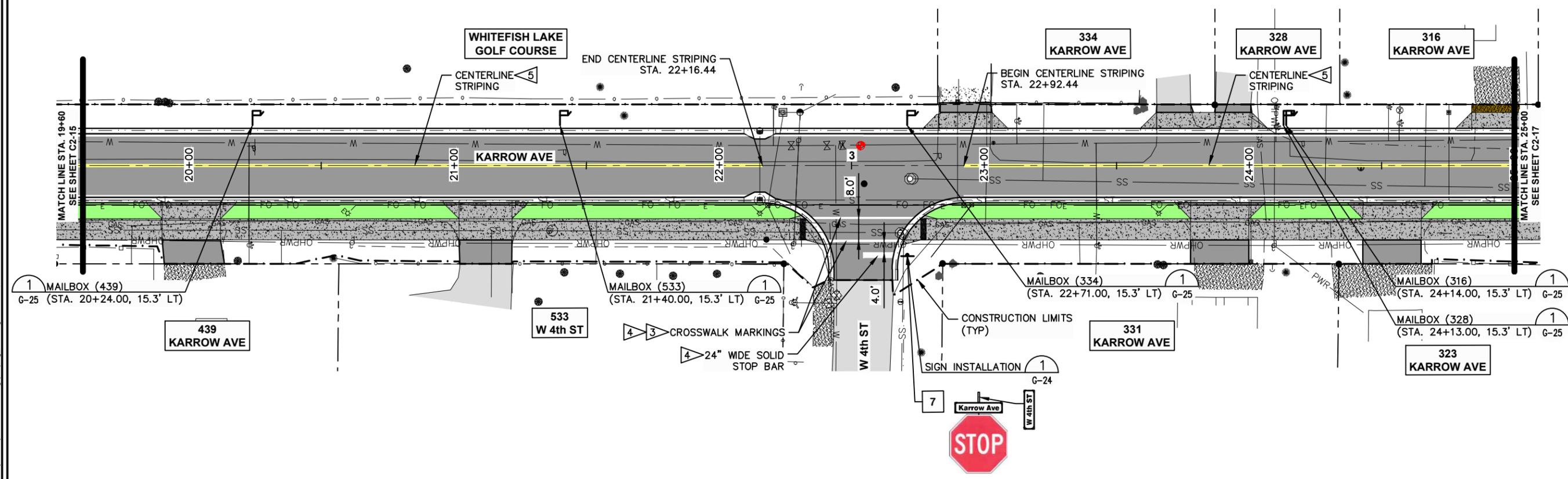
SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Striping_KAR	FILE
A PAULY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

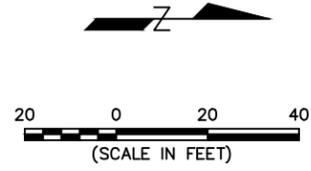
PROJECT TITLE
**KARROW AVENUE
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**STRIPING, SIGNING,
MAILBOX AND
FENCING PLAN**

SHEET
C2-16



CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.

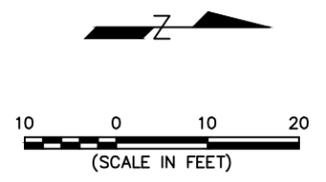
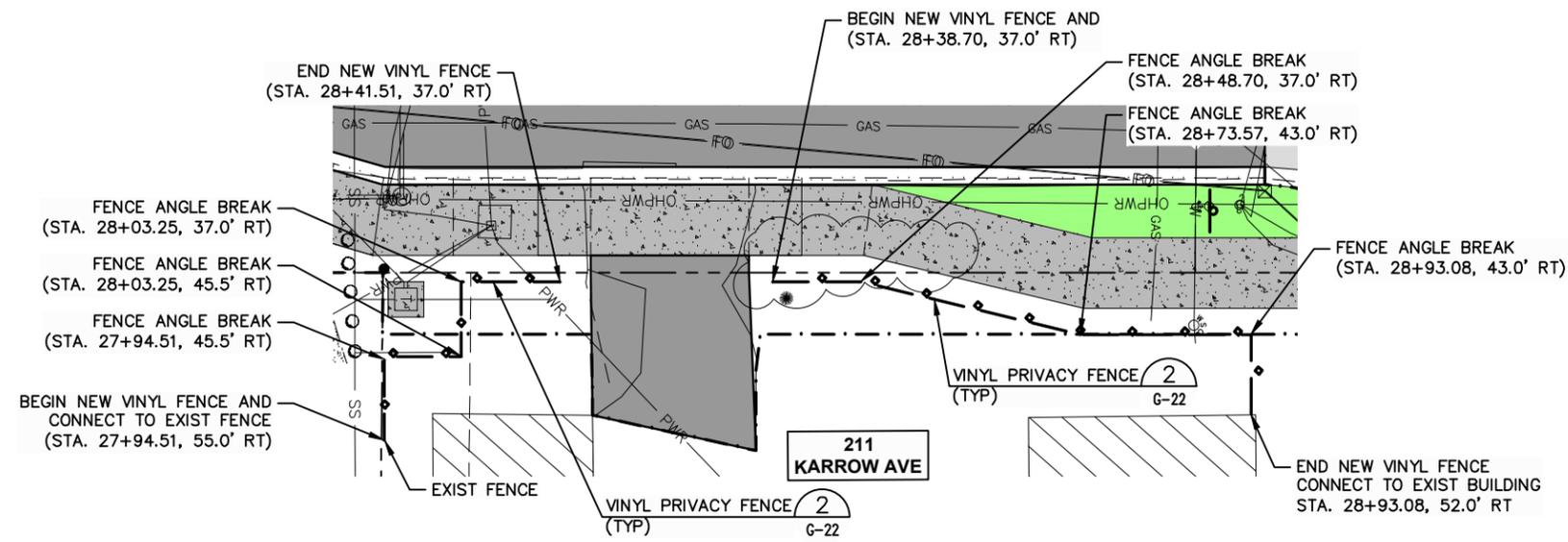
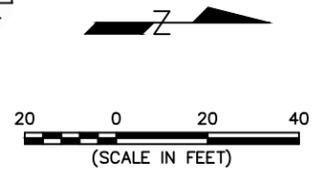
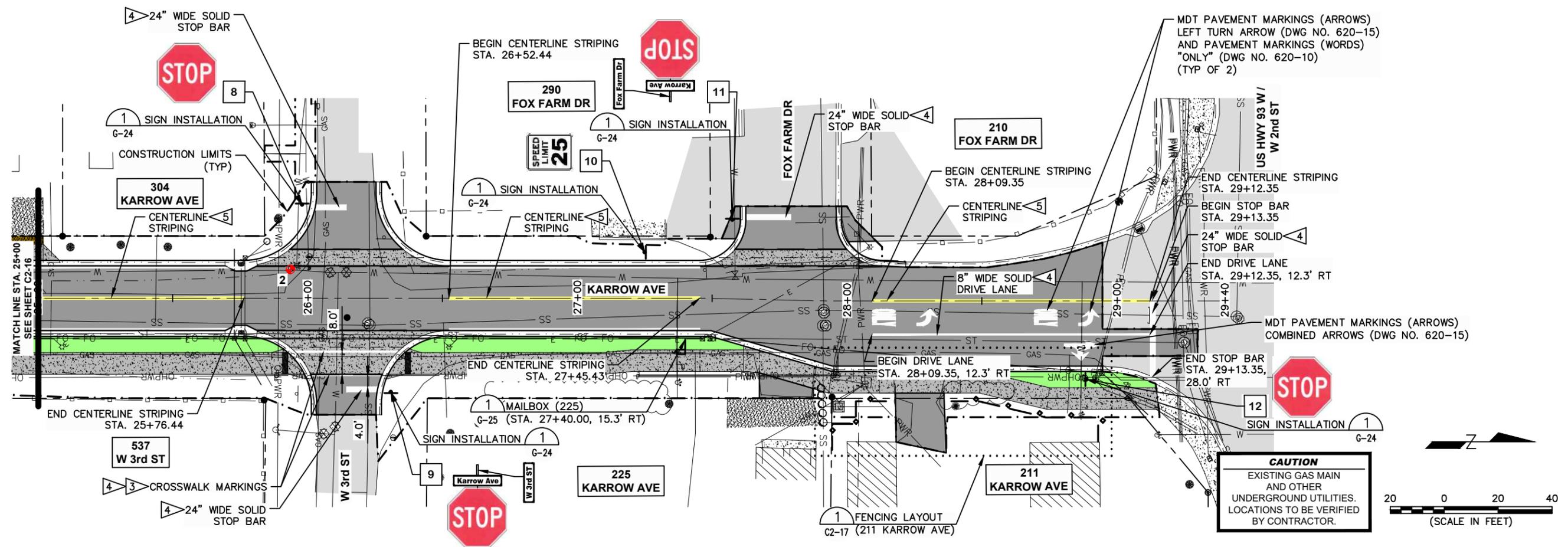


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NOTES:

- SEE SHEET G-24 FOR THE ROADWAY SIGN SCHEDULE.
- STATIONING REFERS TO KARROW AVE ROADWAY CENTERLINE ALIGNMENT.
- CROSSWALK MARKINGS SHALL BE 8" WIDE SOLID STRIPES SEPARATED BY 8'-0" (INSIDE TO INSIDE).
- WHITE EPOXY OR HIGH PERFORMANCE RETROREFLECTIVE PREFORMED THERMOPLASTIC MARKINGS. (CONTRACTOR'S CHOICE)
- 2-4" WIDE SOLID YELLOW EPOXY STRIPES WITH 4" GAP BETWEEN.



FENCING LAYOUT 1
(211 KARROW AVE) C2-17

F:\filedev\23208.000 - Karrow Avenue Roadway Reconstruction Project\F_CADD\Sheets\Construction_Dwg\Striping_KAR.dwg Mar 01, 2024

SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Striping_KAR	FILE
A PAULY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

PROJECT TITLE
KARROW AVENUE RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
STRIPING, SIGNING, MAILBOX AND FENCING PLAN

SHEET
C2-17



SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Sewer_KAR	FILE
A PAULY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

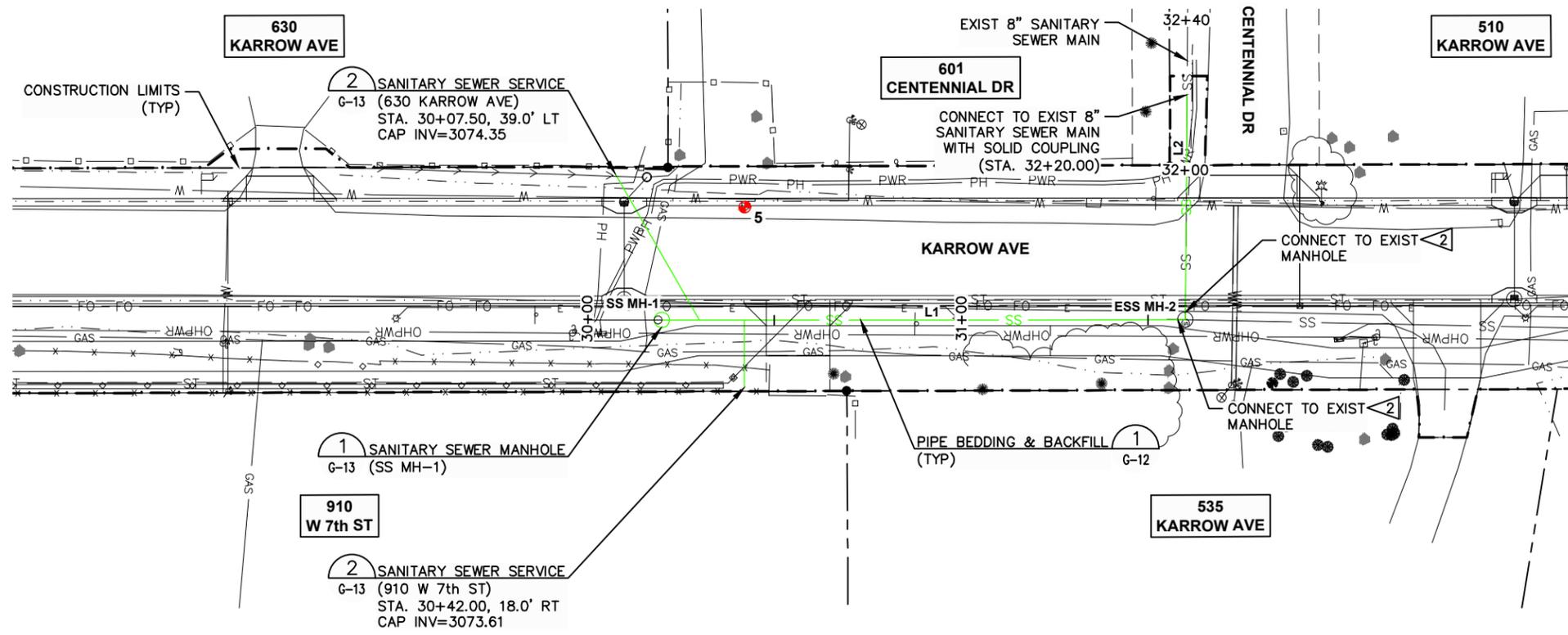
SHEET TITLE
SANITARY SEWER OVERVIEW

SHEET
C3-1

- NOTES:**
- PROPOSED UTILITIES:
— SS — SEE C3—SERIES SHEETS
— W — SEE C4—SERIES SHEETS
— ST — SEE C5—SERIES SHEETS
— E — SEE E—SERIES SHEETS
— FO — SEE U—SERIES SHEETS
 - SEE SHEET C3-5 FOR SANITARY SEWER STRUCTURE TABLE.
 - PIPE LENGTHS AND SLOPE SHOWN ARE FROM INSIDE EDGE OF STRUCTURE TO INSIDE EDGE OF STRUCTURE. PAYMENT WILL BE CENTER TO CENTER OF STRUCTURE.

SANITARY SEWER ALIGNMENT (SOUTH) COORDINATE TABLE								
SEGMENT	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING	LENGTH	LINE/CHORD DIRECTION
L1	30+00.00	1551634.24	791034.06	31+60.00	1551793.92	791044.14	160.00	N3° 36' 39.86"E
L2	31+60.00	1551793.92	791044.14	32+40.00	1551799.55	790964.34	80.00	N85° 57' 53.82"W

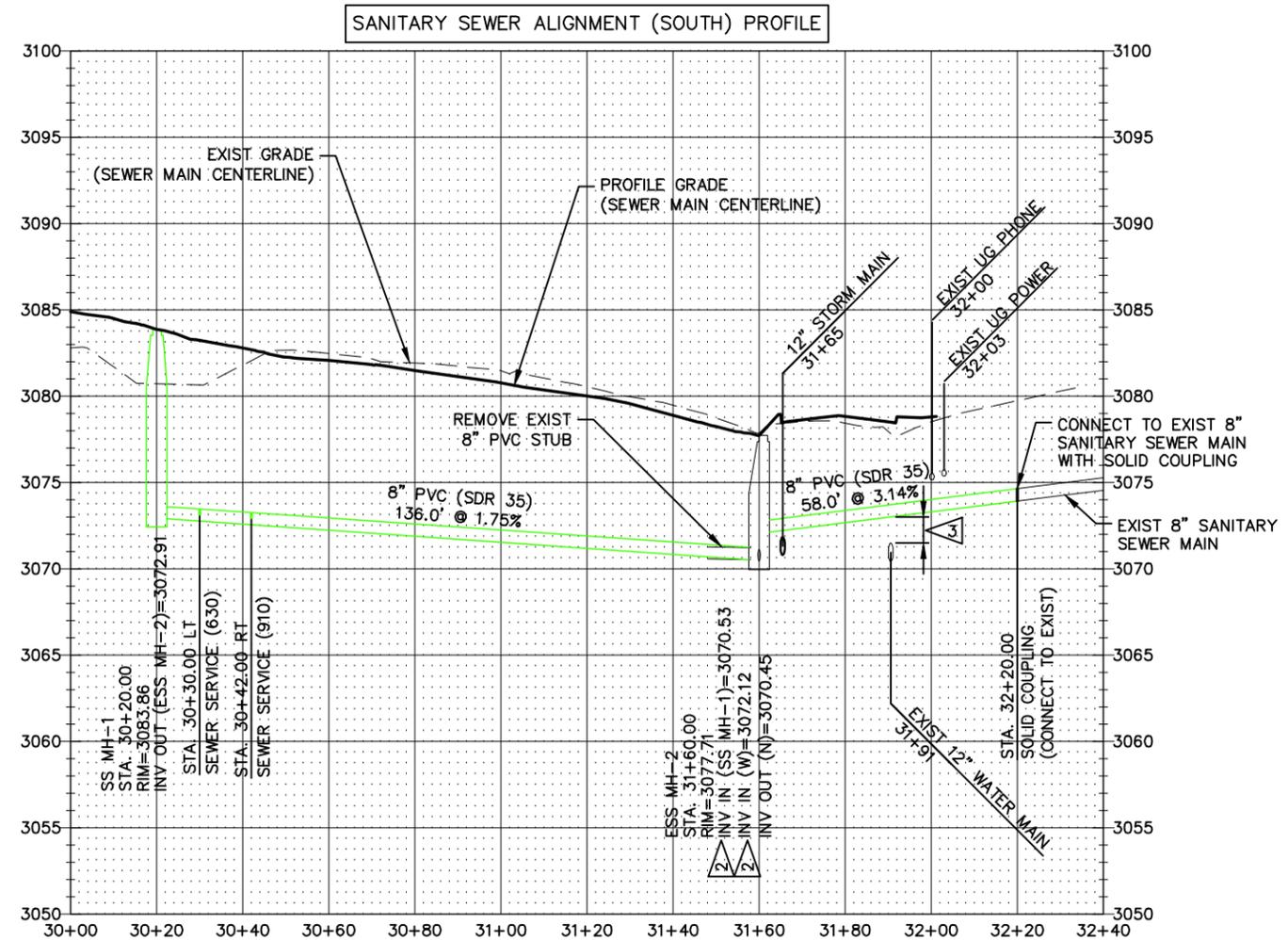
SANITARY SEWER ALIGNMENT (NORTH) COORDINATE TABLE								
SEGMENT	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING	LENGTH	LINE/CHORD DIRECTION
L3	40+00.00	1552635.22	791082.36	43+70.00	1553004.17	791110.27	370.00	N4° 19' 32.16"E
L4	43+70.00	1553004.17	791110.27	44+40.00	1553008.11	791040.38	70.00	N86° 46' 20.19"W



- NOTES:**
1. STATIONING REFERS TO SANITARY SEWER ALIGNMENT (SOUTH).
 2. CONTRACTOR SHALL GROUT PIPE AND SURROUND CONNECTION WITH FLOWABLE FILL BACKFILL TO ASSURE WATERTIGHT CONNECTION.
 3. 18" SEPARATION (MIN).

SYN	REVISION	BY	DATE

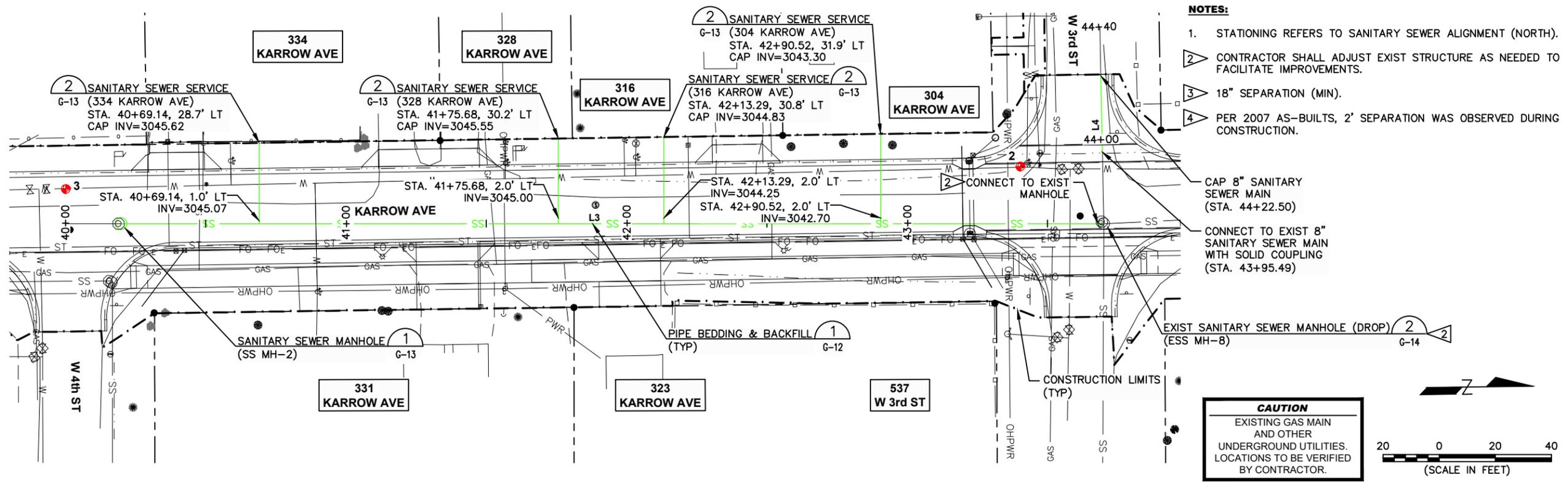
March 2024	DATE	23208.000	PROJECT NO.
A PAULLY	DESIGNED BY	R MITCHELL	SEWER, KAR
M ROGERS	DRAWN BY		
	CHECKED BY		



PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
SANITARY SEWER PLAN AND PROFILE
STA. 30+00 TO 32+40

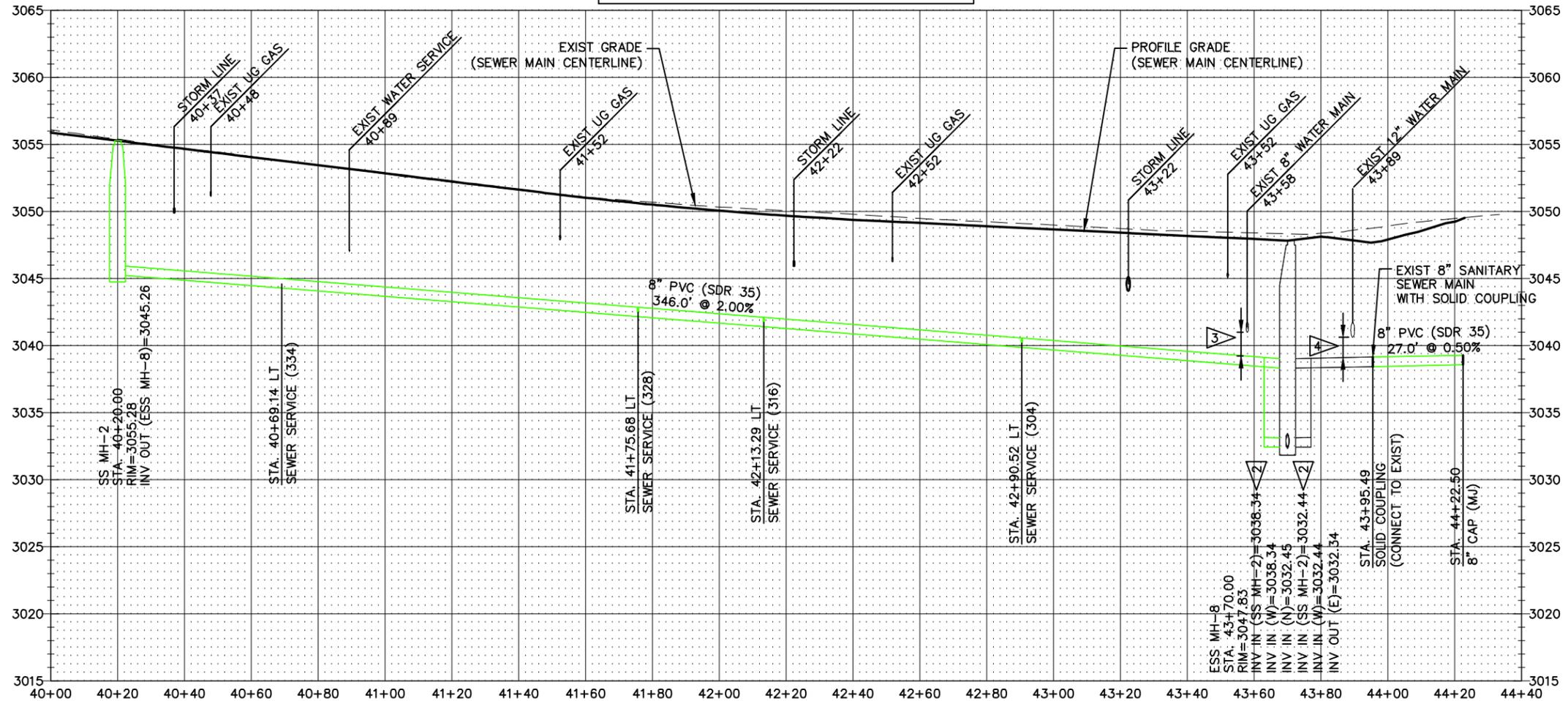
SHEET
C3-2



DATE	BY	APPR	REVISION
March 2024	A PAULLY		
23208.000	M. ROGERS		
	R. MITCHELL		

DATE	PROJECT NO.	FILE
March 2024	23208.000	Sewer_KAR

SANITARY SEWER ALIGNMENT (NORTH) PROFILE



PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
SANITARY SEWER PLAN AND PROFILE
STA. 40+00 TO 44+40

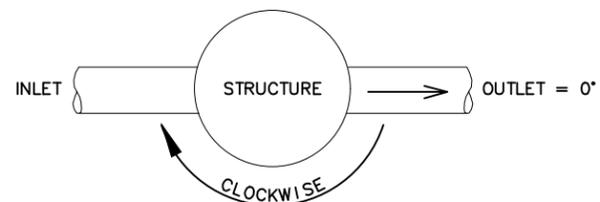
SHEET
C3-3

F:\alredes\23208.000 - Karrow Avenue Roadway Reconstruction Project\F_CADD\Sheets\Construction Drawings\KAR.dwg Mar 01, 2024



NOTES:

- 1 STATIONING REFERS TO SANITARY SEWER (SOUTH) ALIGNMENT.
- 2 STATIONING REFERS TO SANITARY SEWER (NORTH) ALIGNMENT.
- 3. NORTHING AND EASTING REFERS TO CENTER OF STRUCTURE.



SANITARY SEWER STRUCTURE TABLE							
STRUCTURE	STATION & OFFSET	NORTHING	EASTING	RIM & TYPE	PIPES IN	PIPES OUT	ANGLES
SS MH-1	1 30+20.00, 0.0' RT	1551654.20	791035.32	RIM = 3083.86 48" ECCENTRIC		8" PVC (SDR 35) INV OUT = 3072.91 (N)	
ESS MH-2	1 31+60.00, 0.0' RT	1551793.92	791044.14	RIM = 3077.71 48" ECCENTRIC	8" PVC (SDR 35) INV IN = 3070.53 (S) 8" PVC (SDR 35) INV IN = 3072.12 (W)	8" PVC (EXIST) INV OUT = 3070.45 (N)	
SS MH-2	2 40+20.00, 0.0' RT	1552655.16	791083.87	RIM = 3055.28 48" ECCENTRIC		8" PVC (SDR 35) INV OUT = 3045.26 (N)	
ESS MH-8	2 43+70.00, 0.0' RT	1553004.17	791110.27	RIM = 3047.83 48" ECCENTRIC	8" PVC (SDR 35) INV IN = 3038.34 (S) 8" PVC (EXIST) INV IN = 3038.34 (W) 12" PVC (EXIST) INV IN = 3032.45 (N) 8" PVC (SDR 35) INV IN = 3032.44 (S) 8" PVC (EXIST) INV IN = 3032.44 (W)	12" PVC (EXIST) INV OUT = 3032.34 (E)	

SYN	REVISION	BY	APPR	DATE

March 2024	March 2024
DATE	DATE
23208.000	23208.000
PROJECT NO.	PROJECT NO.
Sewer_KAR	Sewer_KAR
FILE	FILE
A PAULLY	DESIGNED BY
M. ROGERS	DRAWN BY
R. MITCHELL	CHECKED BY

PROJECT TITLE
**KARROW AVENUE ROADWAY
 RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**SANITARY SEWER
 STRUCTURE TABLE**

SHEET
C3-5

SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Water_KAR	FILE
A PAULLY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

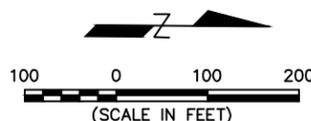
PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
WATER SYSTEM OVERVIEW

SHEET
C4-1



CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.



NOTES:

- PROPOSED UTILITIES:
 - SS ——— SEE C3-SERIES SHEETS
 - W ——— SEE C4-SERIES SHEETS
 - ST ——— SEE C5-SERIES SHEETS
 - E ——— SEE E-SERIES SHEETS
 - FO ——— SEE U-SERIES SHEETS
- IF AN EXISTING WATER SERVICE IS FOUND TO BE CONSTRUCTED WITH MATERIALS AND IN A MANNER CONSISTENT WITH THE CURRENT CITY OF WHITEFISH ENGINEERING STANDARDS, THEN IT MAY REMAIN AS IS AND BE PROTECTED AND MAINTAINED BY THE CONTRACTOR INSTEAD OF RECONSTRUCTED. FINAL DETERMINATION FOR WHETHER OR NOT A SERVICE MAY REMAIN AS IS SHALL BE MADE BY THE ENGINEER.

S KARROW ESTATES RD WATER ALIGNMENT COORDINATE TABLE

SEGMENT	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING	LENGTH	LINE/CHORD DIRECTION
L1	50+00.00	1552005.93	791008.24	52+80.00	1551988.30	791287.68	280.00	S86° 23' 20.14"E

W 3rd ST WATER ALIGNMENT COORDINATE TABLE

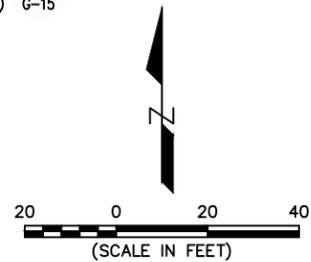
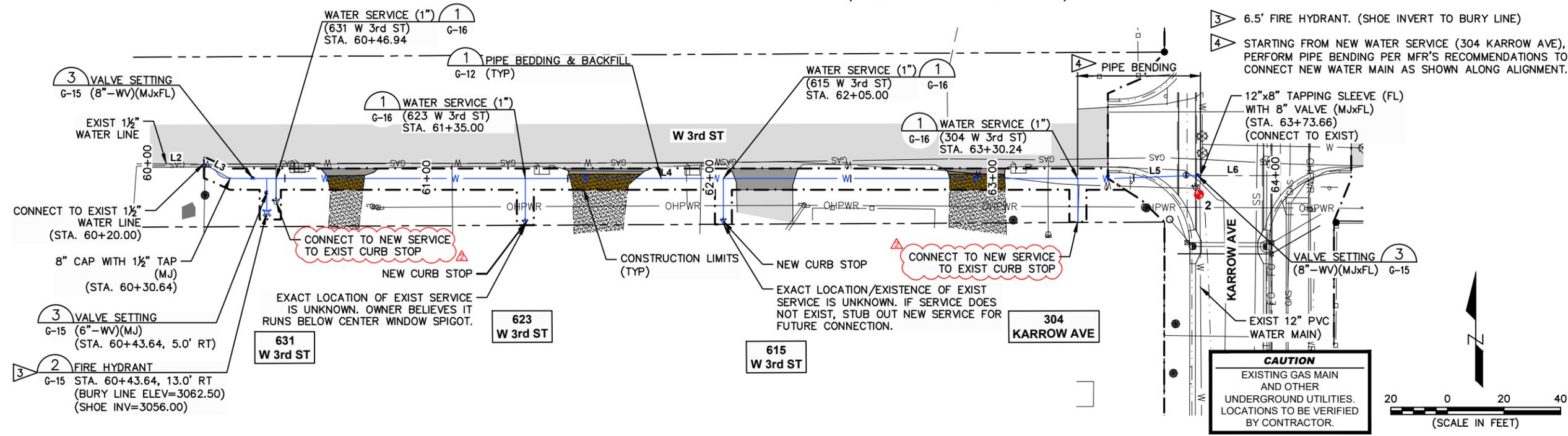
SEGMENT	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING	LENGTH	LINE/CHORD DIRECTION
L2	60+00.00	1553009.73	790717.48	60+20.00	1553008.47	790737.44	20.00	S86° 22' 44.39"E
L3	60+20.00	1553008.47	790737.44	60+30.11	1553002.83	790745.83	10.11	S56° 04' 35.40"E
L4	60+30.11	1553002.83	790745.83	63+41.00	1552983.80	791056.15	310.90	S86° 29' 28.14"E
L5	63+41.00	1552983.80	791056.15	63+69.66	1552983.05	791084.79	28.65	S88° 29' 28.14"E
L6	63+69.66	1552983.05	791084.79	64+00.00	1552981.19	791115.07	30.34	S86° 29' 28.14"E

LEGEND (APPLIES TO ALL C4-SERIES SHEETS)

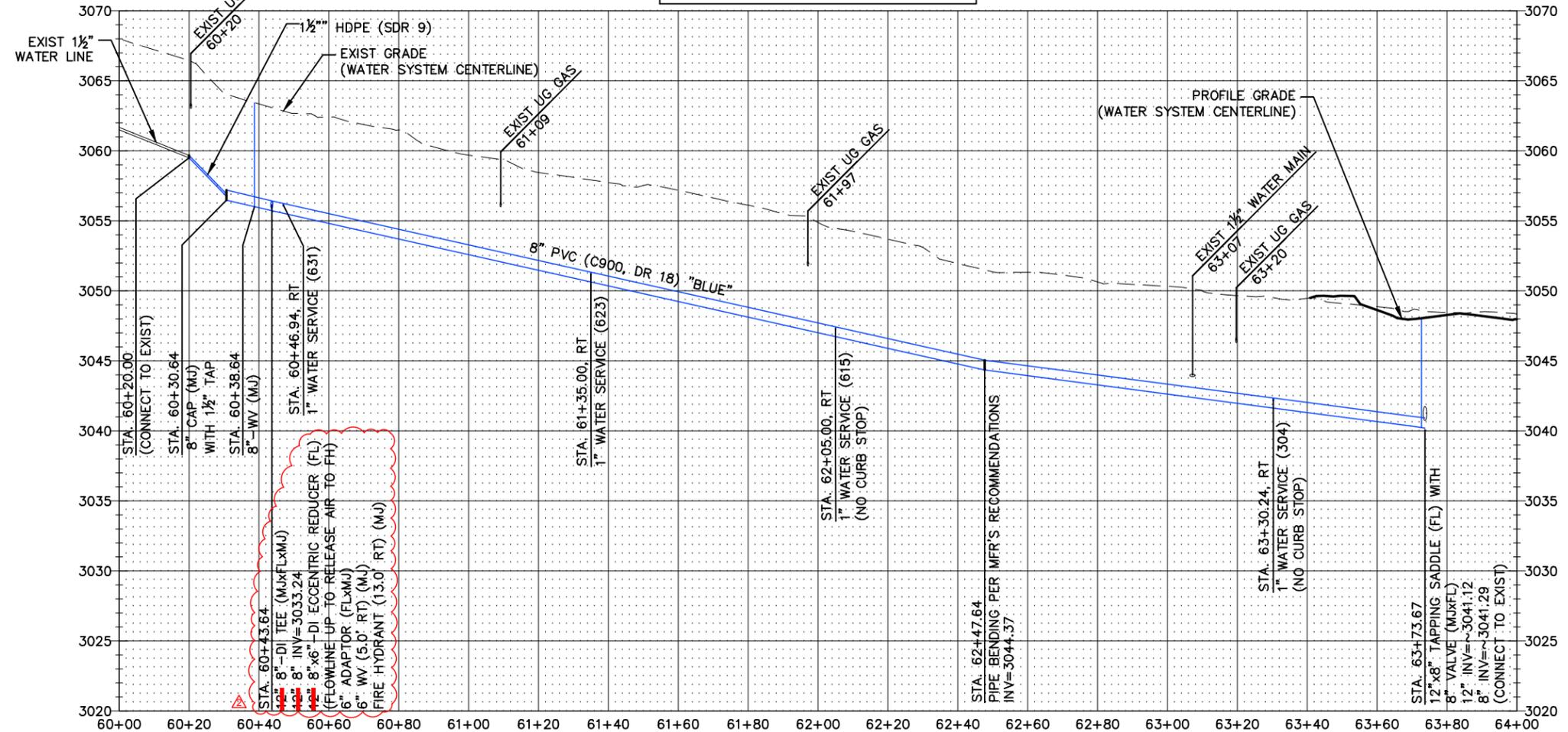
- EXIST ASPHALT
- NEW ASPHALT
- EXIST CONCRETE
- NEW GRAVEL
- EXIST GRAVEL
- EXIST BUILDING

NOTES:

1. STATIONING REFERS TO W 3rd ST WATER ALIGNMENT. (UNLESS SHOWN OTHERWISE ON PLANS)
2. STATIONING FOR WATER LINES REFERS TO WHERE WATER SERVICE CONNECTS TO WATER MAIN.
3. 6.5" FIRE HYDRANT. (SHOE INVERT TO BURY LINE)
4. STARTING FROM NEW WATER SERVICE (304 KARROW AVE), PERFORM PIPE BENDING PER MFR'S RECOMMENDATIONS TO CONNECT NEW WATER MAIN AS SHOWN ALONG ALIGNMENT.



W 3rd ST WATER ALIGNMENT PROFILE



F:\v\redes\23208.000 - Karrow Avenue Roadway Reconstruction Project\F_CADD\Sheets\Construction_Dwg\Water_KAR.dwg Mar 14, 2024

BY	APPR	DATE
MCR	AP	03/24

SYMBOL	REVISION	ADDITION NO.
Δ	NO. 2	

DATE	PROJECT NO.	FILE
March 2024	23208.000	Water_KAR

DESIGNED BY	DRAWN BY	CHECKED BY
M. ROGERS	R. MITCHELL	

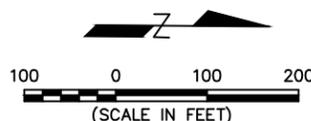
PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
WATER SYSTEM PLAN AND PROFILE
STA. 60+00 TO 64+00

SHEET
C4-5



CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.



NOTES:

- PROPOSED UTILITIES:
 — SS — SEE C3—SERIES SHEETS
 — W — SEE C4—SERIES SHEETS
 — ST — SEE C5—SERIES SHEETS
 — E — SEE E—SERIES SHEETS
 — FO — SEE U—SERIES SHEETS
- STATIONING REFER TO STORM DRAINAGE ALIGNMENT.
(UNLESS SHOWN OTHERWISE ON PLANS)
- SEE SHEET C5-7 FOR STORM DRAINAGE STRUCTURE TABLES.
- PIPE LENGTHS AND SLOPE SHOWN ARE FROM INSIDE EDGE
OF STRUCTURE TO INSIDE EDGE OF STRUCTURE. PAYMENT
WILL BE CENTER TO CENTER OF STRUCTURE.

STORM DRAINAGE ALIGNMENT COORDINATE TABLE								
SEGMENT	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING	LENGTH	LINE/CHORD DIRECTION
L1	70+00.00	1551624.51	791027.96	72+58.00	1551882.00	791044.21	258.00	N3° 36' 40.57"E
L2	72+58.00	1551882.00	791044.21	74+11.67	1552035.65	791046.89	153.67	N0° 59' 55.34"E
L3	74+11.67	1552035.65	791046.89	75+99.74	1552222.81	791065.38	188.07	N5° 38' 30.68"E
L4	75+99.74	1552222.81	791065.38	83+34.74	1552956.43	791110.36	735.00	N3° 30' 31.86"E
L5	83+34.74	1552956.43	791110.36	86+84.31	1553305.12	791135.10	349.56	N4° 03' 31.68"E
L6	86+84.31	1553305.12	791135.10	87+20.00	1553316.16	791169.04	35.69	N71° 58' 53.33"E

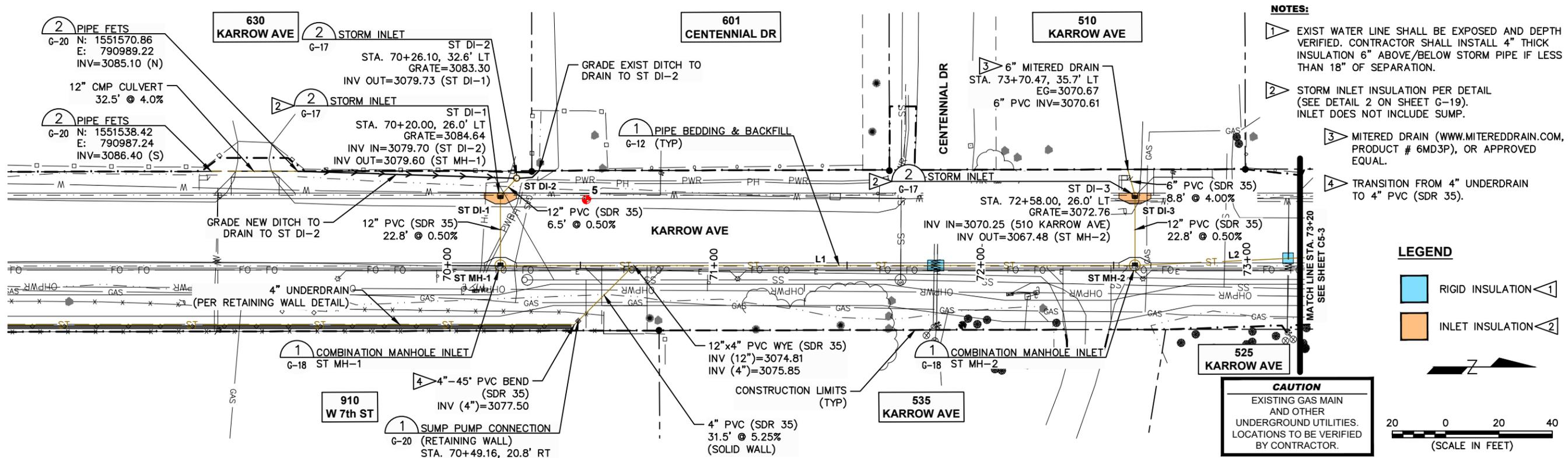
SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Storm_KAR	FILE
A PAULY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

PROJECT TITLE
**KARROW AVENUE ROADWAY
 RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**STORM DRAINAGE
 OVERVIEW**

SHEET
C5-1



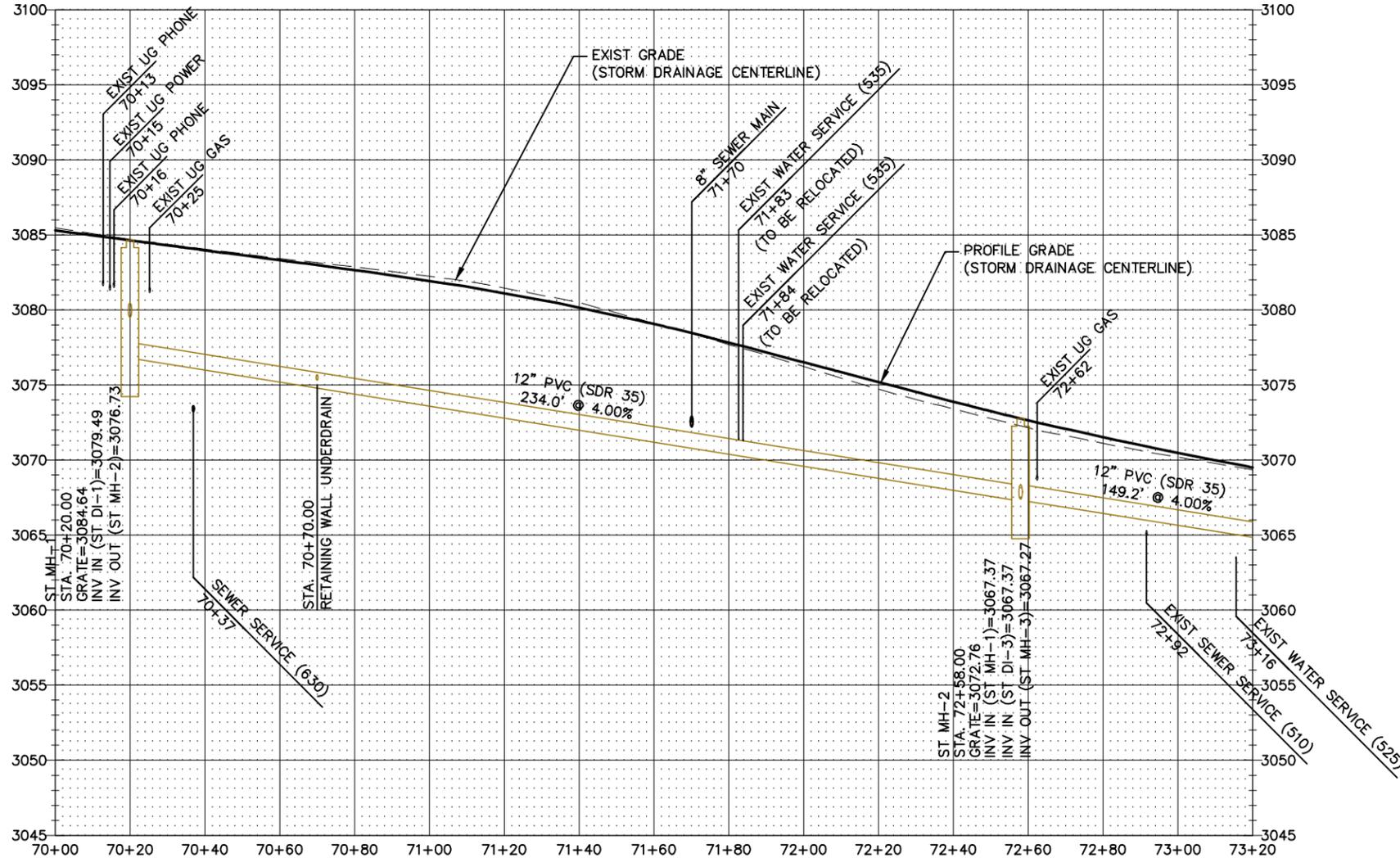
- NOTES:**
- EXIST WATER LINE SHALL BE EXPOSED AND DEPTH VERIFIED. CONTRACTOR SHALL INSTALL 4" THICK INSULATION 6" ABOVE/BELOW STORM PIPE IF LESS THAN 18" OF SEPARATION.
 - STORM INLET INSULATION PER DETAIL (SEE DETAIL 2 ON SHEET G-19). INLET DOES NOT INCLUDE SUMP.
 - MITERED DRAIN (WWW.MITEREDRAIN.COM, PRODUCT # 6MD3P), OR APPROVED EQUAL.
 - TRANSITION FROM 4" UNDERDRAIN TO 4" PVC (SDR 35).

LEGEND

- RIGID INSULATION
- INLET INSULATION

CAUTION
EXISTING GAS MAIN AND OTHER UNDERGROUND UTILITIES. LOCATIONS TO BE VERIFIED BY CONTRACTOR.

20 0 20 40
(SCALE IN FEET)

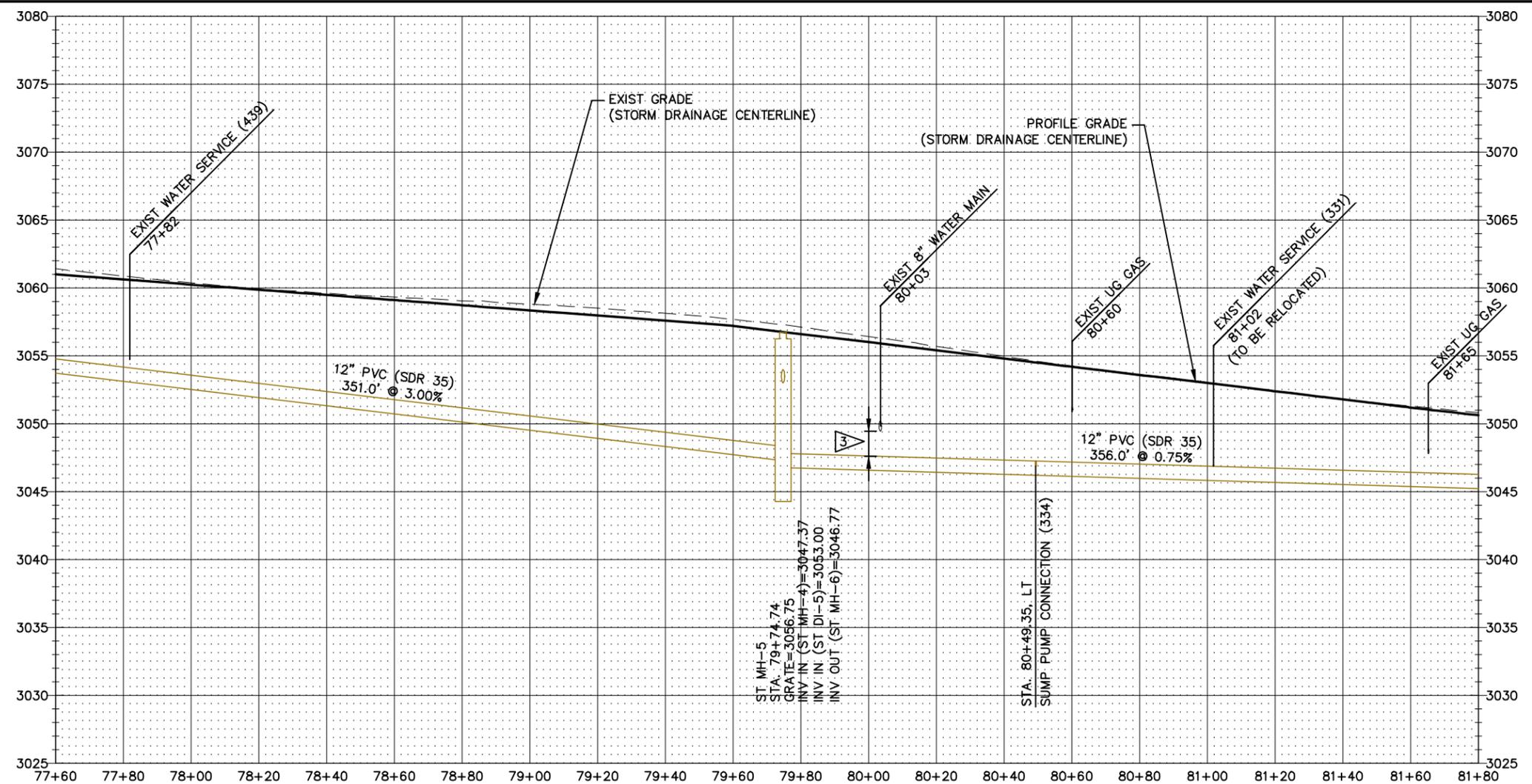
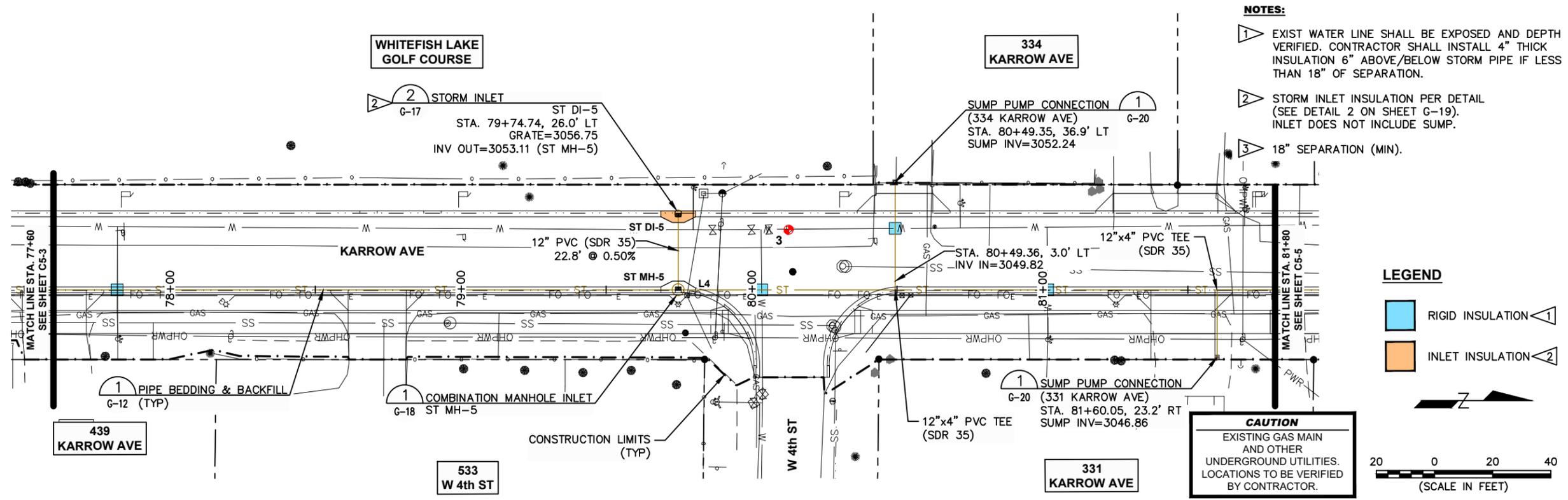


DATE	BY	APPR.	REVISION
March 2024	A. PAULLY		
	DESIGNED BY		
	DATE		
	23208.000		
	DESIGNED BY		
	M. ROGERS		
	PROJECT NO.		
	23208.000		
	DRAWN BY		
	R. MITCHELL		
	CHECKED BY		
	Storm_KAR		
	FILE		

PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
STORM DRAINAGE PLAN AND PROFILE
STA. 70+00 TO 73+20

SHEET
C5-2



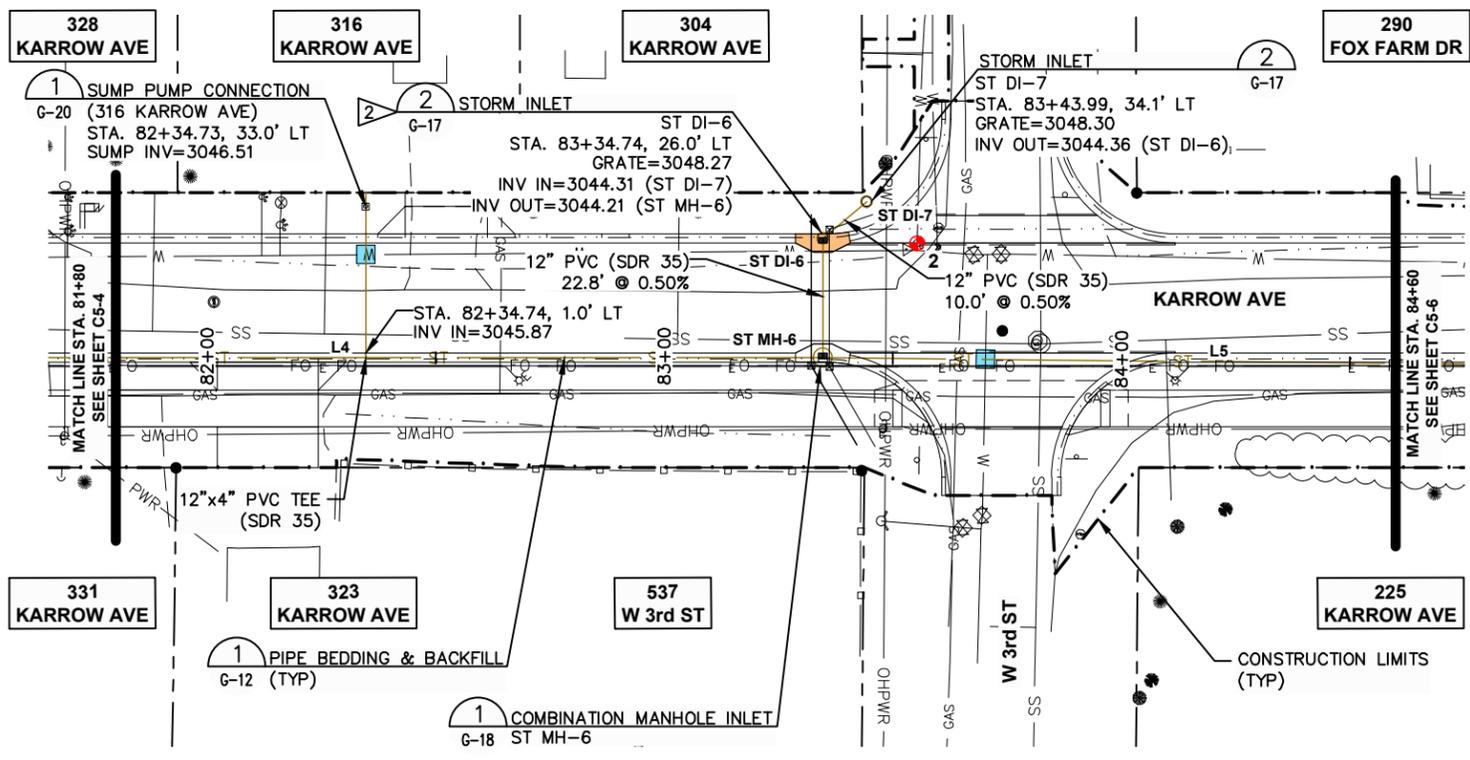
SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Storm_KAR	FILE
A PAULLY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
 Whitefish, Montana

SHEET TITLE
STORM DRAINAGE PLAN AND PROFILE
STA. 77+60 TO 81+80

SHEET
C5-4



NOTES:

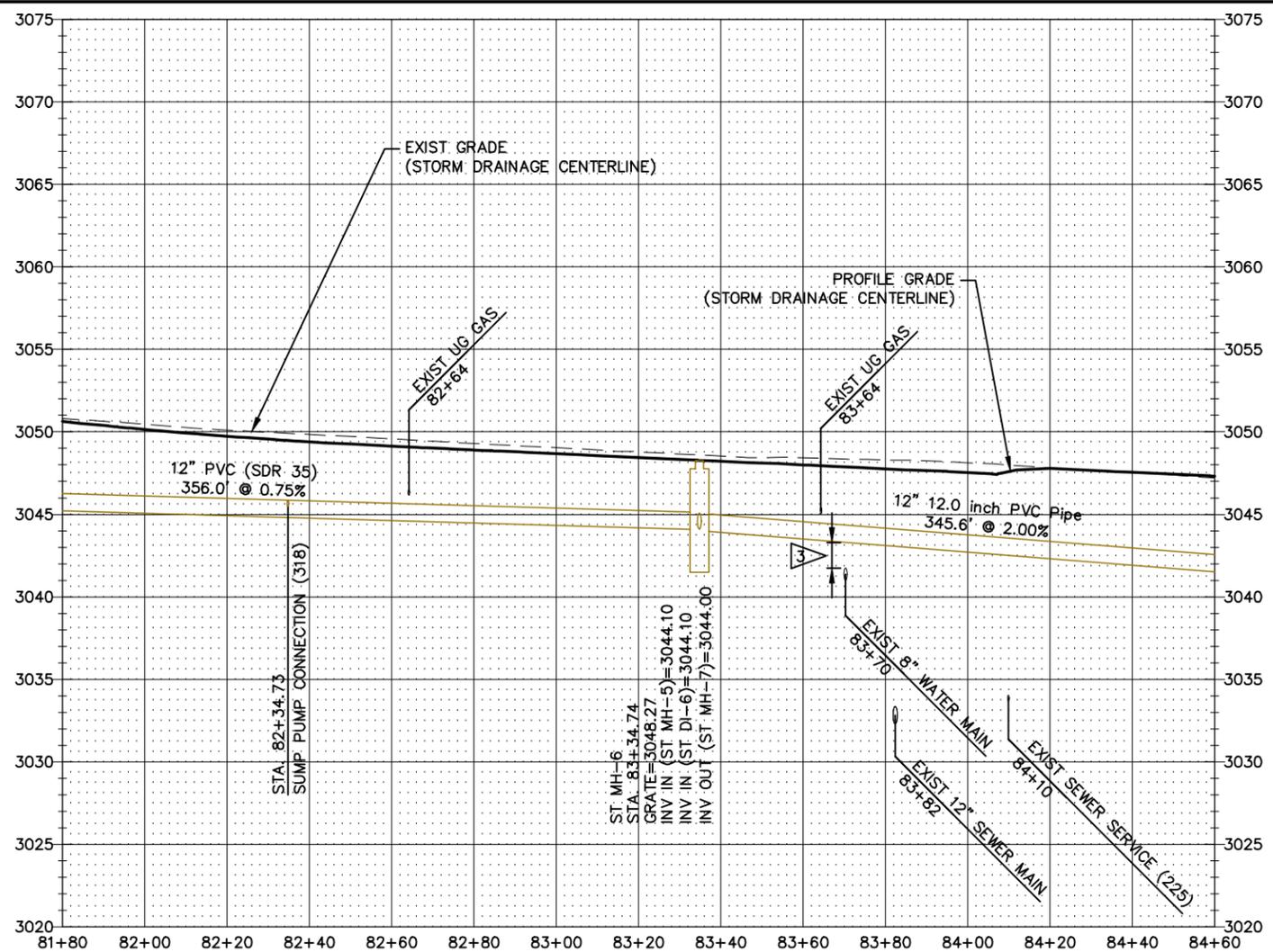
- 1 EXIST WATER LINE SHALL BE EXPOSED AND DEPTH VERIFIED. CONTRACTOR SHALL INSTALL 4" THICK INSULATION 6" ABOVE/BELOW STORM PIPE IF LESS THAN 18" OF SEPARATION.
- 2 STORM INLET INSULATION PER DETAIL (SEE DETAIL 2 ON SHEET G-19). INLET DOES NOT INCLUDE SUMP.
- 3 18" SEPARATION (MIN).

LEGEND

- RIGID INSULATION 1
- INLET INSULATION 2



CAUTION
EXISTING GAS MAIN AND OTHER UNDERGROUND UTILITIES. LOCATIONS TO BE VERIFIED BY CONTRACTOR.



SYMBOL	REVISION	BY	APPR.	DATE

March 2024	DATE	23208.000	PROJECT NO.	Storm_KAR	FILE
A PAULLY	DESIGNED BY	M. ROGERS	DRAWN BY	R. MITCHELL	CHECKED BY

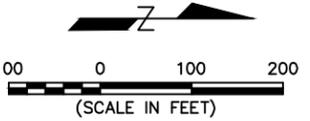
PROJECT TITLE
KARROW AVENUE ROADWAY RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
STORM DRAINAGE PLAN AND PROFILE
STA. 81+80 TO 84+60

SHEET
C5-5



CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.



- NOTES:**
- PROPOSED UTILITIES:
 - SS SEE C3-SERIES SHEETS
 - W SEE C4-SERIES SHEETS
 - ST SEE C5-SERIES SHEETS
 - E SEE E-SERIES SHEETS
 - FO SEE U-SERIES SHEETS
 - SA # = SERVICE ASSEMBLY
PB # = PULL BOX
LP # = LUMINAIRE POLE (STREET LIGHT)
LTS = LIGHTING CONDUCTOR
GND = GROUND CONDUCTOR
 - LABEL ALL CONDUCTORS IN PULL BOXES WITH CIRCUIT NUMBERS AND WHAT THEY ARE DESIGNATED FOR.
 - ALL EQUIPMENT FURNISHED SHALL BE NEW. MEET THE STANDARDS OF NEMA & UL, BARE THEIR LABELS WHEREVER STANDARDS HAVE BEEN ESTABLISHED AND LABEL WHERE SERVICE IS AVAILABLE.
 - INSTALL PULL ROPES THROUGH EACH PIECE OF CONDUIT INSTALLED.
 - ALL CONDUIT WORK MUST BE INSPECTED BY THE CONTRACTOR'S LICENSED ELECTRICAL CONTRACTOR PRIOR TO BURIAL.
 - CONDUIT SHALL BE SEALED FROM DIRT, DEBRIS AND RODENTS (DUX SEAL, PERMA SEAL, ECT.) WHERE ENTERING AND EXITING STREET LIGHT BASES AND PULL BOXES.
 - INSTALL ALL STREET LIGHTING ELEMENTS IN ACCORDANCE WITH THE CITY OF WHITEFISH'S DECORATIVE STREET LIGHTING STANDARDS (2017 UPDATE) AS FOUND AT WWW.CITYOFWHITEFISH.ORG.

SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Electrical_KAR	FILE
D.TINTZMAN	DESIGNED BY	M.ROGERS	DRAWN BY	R.MITCHELL	CHECKED BY

PROJECT TITLE
**KARROW AVENUE
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**STREET LIGHTING
OVERVIEW**

SHEET
E-1



ELECTRICAL CONSULTANT
K.B. Engineering, Inc.
P.O. Box 8694 Ph: 406.212.1624
Kalispell, MT 59904 Fax: 406.756.1625
KBengineers@centurytel.net

CONDUIT AND WIRE SCHEDULE				
TAG #	CONDUIT SIZE	WIRE SIZE	FROM	TO
1	1-1/4"	2#8 LTS, 1#10 GND	LP 1	LP 2
2	1-1/4"	2#8 LTS, 1#10 GND	LP 2	LP 3
3	1-1/4"	2#8 LTS, 1#10 GND	LP 3	LP 4
4	1-1/4"	2#8 LTS, 1#10 GND	LP 4	LP 5
5	1-1/4"	2#8 LTS, 1#10 GND	LP 5	LP 6
6	1-1/4"	2#8 LTS, 1#10 GND	LP 6	LP 7

NOTE: ALL CONDUCTORS SHALL BE TYPE THWN

- NOTES:**
- STATIONING REFERS TO KARROW AVENUE ROADWAY ALIGNMENT CENTERLINE.
(UNLESS OTHERWISE SHOWN ON PLANS)

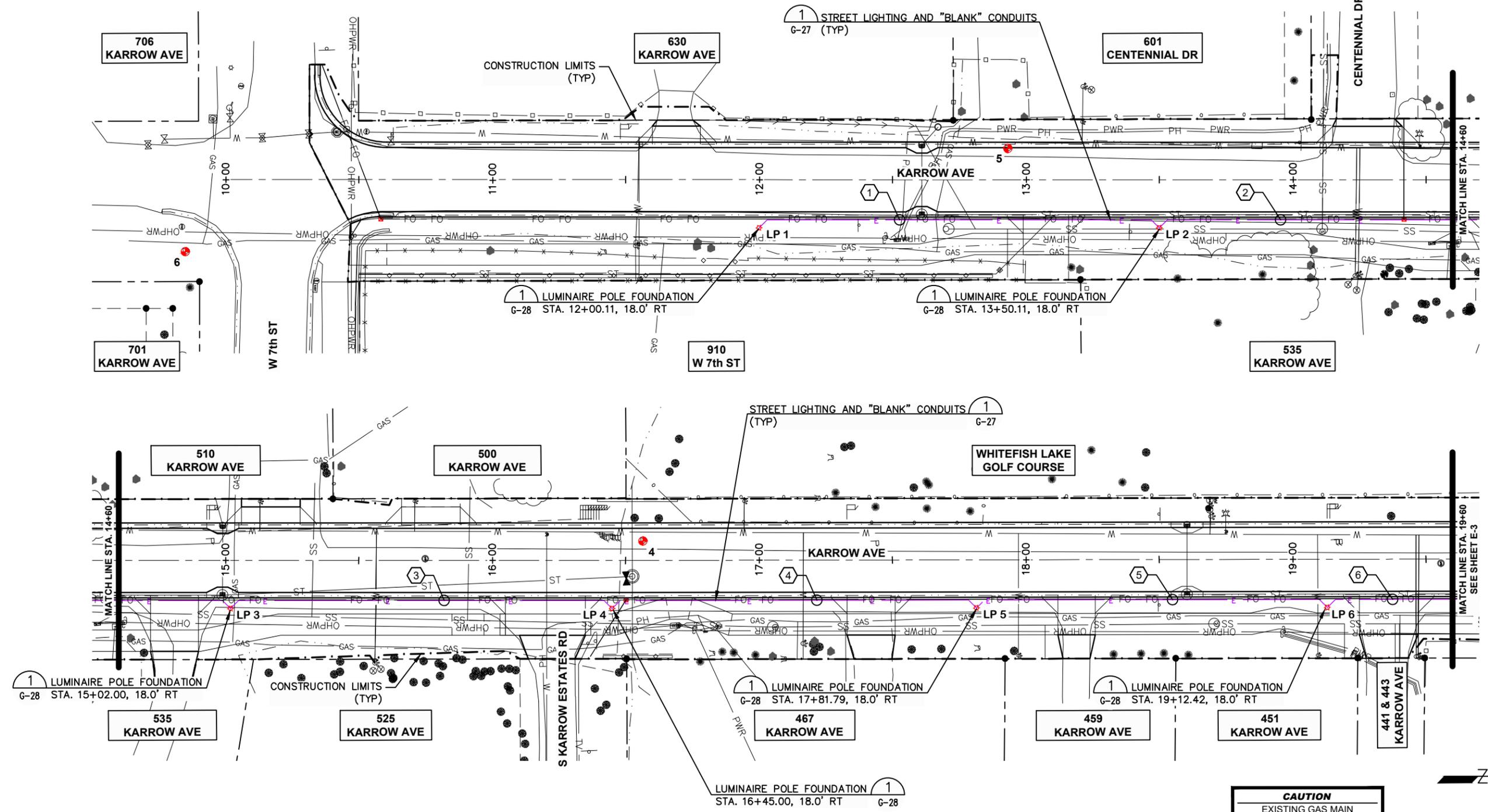
SYMBOL	REVISION	BY	DATE

March 2024	DATE	23208.000	PROJECT NO.		FILE
D. TINTZMAN	DESIGNED BY	M. ROGERS	DRAWN BY	R. MITCHELL	CHECKED BY

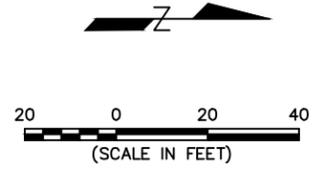
PROJECT TITLE
KARROW AVENUE RECONSTRUCTION PROJECT
Whitefish, Montana

SHEET TITLE
STREET LIGHTING PLANS

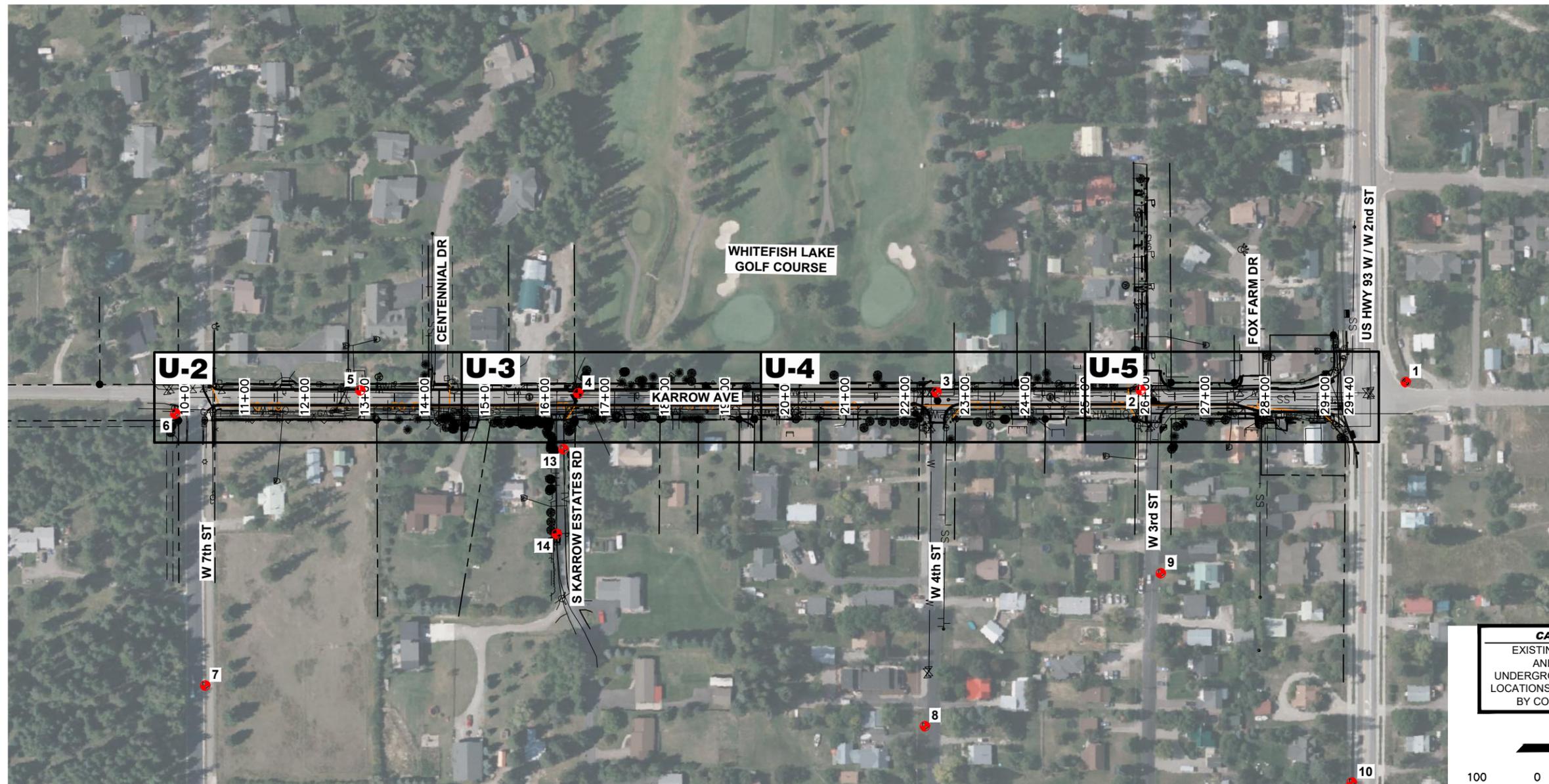
SHEET
E-2



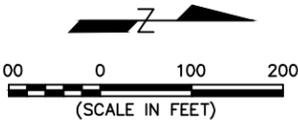
CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.



F:\vfiledev\23208.000 - Karrow Avenue Roadway Reconstruction Project\F_CADD\Sheets\Construction_Dwg\Electrical_KAR.dwg Feb 29, 2024



CAUTION
EXISTING GAS MAIN
AND OTHER
UNDERGROUND UTILITIES.
LOCATIONS TO BE VERIFIED
BY CONTRACTOR.



NOTES:

1. PROPOSED UTILITIES:
 - SS — SEE C3-SERIES SHEETS
 - W — SEE C4-SERIES SHEETS
 - ST — SEE C5-SERIES SHEETS
 - E — SEE E-SERIES SHEETS
 - FO — SEE U-SERIES SHEETS
2. FPB# = FIBER PULL BOX
3. ALL EQUIPMENT FURNISHED SHALL BE NEW. MEET THE STANDARDS OF NEMA & UL, BARE THEIR LABELS WHEREVER STANDARDS HAVE BEEN ESTABLISHED AND LABEL WHERE SERVICE IS AVAILABLE.
4. ALL CONDUIT WORK MUST BE INSPECTED BY THE CONTRACTOR'S LICENSED ELECTRICAL CONTRACTOR PRIOR TO BURIAL.
5. CONDUIT SHALL BE SEALED FROM DIRT, DEBRIS AND RODENTS (DUX SEAL, PERMA SEAL, ECT.) WHERE ENTERING AND EXITING PULL BOXES.
6. CONDUITS SHOWN ON THESE SHEETS ARE FOR FUTURE FIBER OPTICS.

SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Utility_KAR	FILE
A PAULLY	DESIGNED BY	M ROGERS	DRAWN BY	R MITCHELL	CHECKED BY

PROJECT TITLE
**KARROW AVENUE
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**UTILITY CONDUIT
OVERVIEW**

SHEET
U-1



SYM	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.		FILE
A PAULY	DESIGNED BY	M. ROGERS	DRAWN BY	R. MITCHELL	CHECKED BY

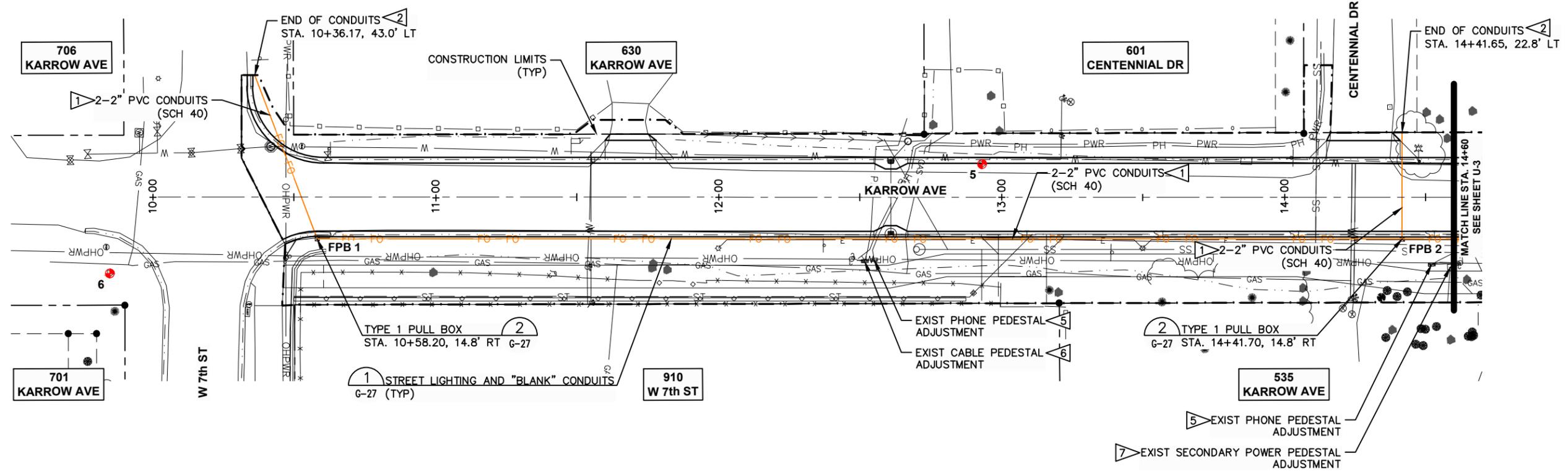
PROJECT TITLE
**KARROW AVENUE
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**UTILITY CONDUIT
PLAN**

SHEET
U-2

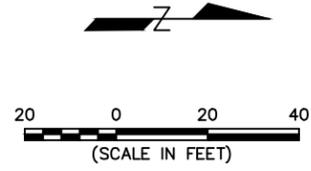
NOTES:

- 1 ▷ CONTRACTOR SHALL INSTALL PULL ROPES IN EMPTY CONDUITS.
- 2 ▷ CONTRACTOR SHALL CAP & SEAL CONDUIT AND INSTALL 18"x $\frac{3}{8}$ " REBAR AT TERMINATING POINTS OF CONDUITS.
3. ALL CONDUITS SHOWN ON THIS SHEET SHALL BE PVC (SCH 40).
4. STATIONING REFERS TO KARROW AVE ROADWAY CENTERLINE ALIGNMENT. (UNLESS OTHERWISE SHOWN ON PLANS)
- 5 ▷ CONTRACTOR TO COORDINATE THE RAISING (~3 FEET) OF THIS EXISTING PHONE PEDESTAL WITH LUMEN. IT IS SUGGESTED THAT THE CONTRACTOR PLACE A 30" DIAMETER CONCRETE BARREL AROUND THE PEDESTAL AND THEN PLACE FILL. WHEN LUMEN IS READY TO RAISE THE PEDESTAL, THE BARREL SHALL BE MOVED TO FINISH THE ADJUSTMENT WITH THE PLACEMENT OF THE REMAINING FILL.
- 6 ▷ CONTRACTOR TO COORDINATE THE RAISING (~1 FOOT) OF THIS EXISTING CABLE PEDESTAL WITH CHARTER SPECTRUM. IT IS SUGGESTED THAT THE CONTRACTOR PLACE A 30" DIAMETER CONCRETE BARREL AROUND THE PEDESTAL AND THEN PLACE FILL. WHEN CHARTER SPECTRUM IS READY TO RAISE THE PEDESTAL, THE BARREL SHALL BE MOVED TO FINISH THE ADJUSTMENT WITH THE PLACEMENT OF THE REMAINING FILL.
- 7 ▷ CONTRACTOR TO COORDINATE THE RAISING (~1 FOOT) OF THIS EXISTING SECONDARY POWER PEDESTAL WITH FLATHEAD ELECTRIC COOP. IT IS SUGGESTED THAT THE CONTRACTOR PLACE A 30" DIAMETER CONCRETE BARREL AROUND THE PEDESTAL AND THEN PLACE FILL. WHEN FLATHEAD ELECTRIC COOP IS READY TO RAISE THE PEDESTAL, THE BARREL SHALL BE MOVED TO FINISH THE ADJUSTMENT WITH THE PLACEMENT OF THE REMAINING FILL.



DISCLAIMER
INFORMATION SHOWN ON THIS SHEET IS FOR HORIZONTAL AND VERTICAL POSITIONING OF PROPOSED UTILITIES. THIS IS NOT A UTILITY DESIGN. DESIGN PARAMETERS SUCH AS, BUT NOT LIMITED TO, MAIN MATERIALS, SIZE, FITTINGS, ETC. TO BE DETERMINED BY UTILITY COMPANY.

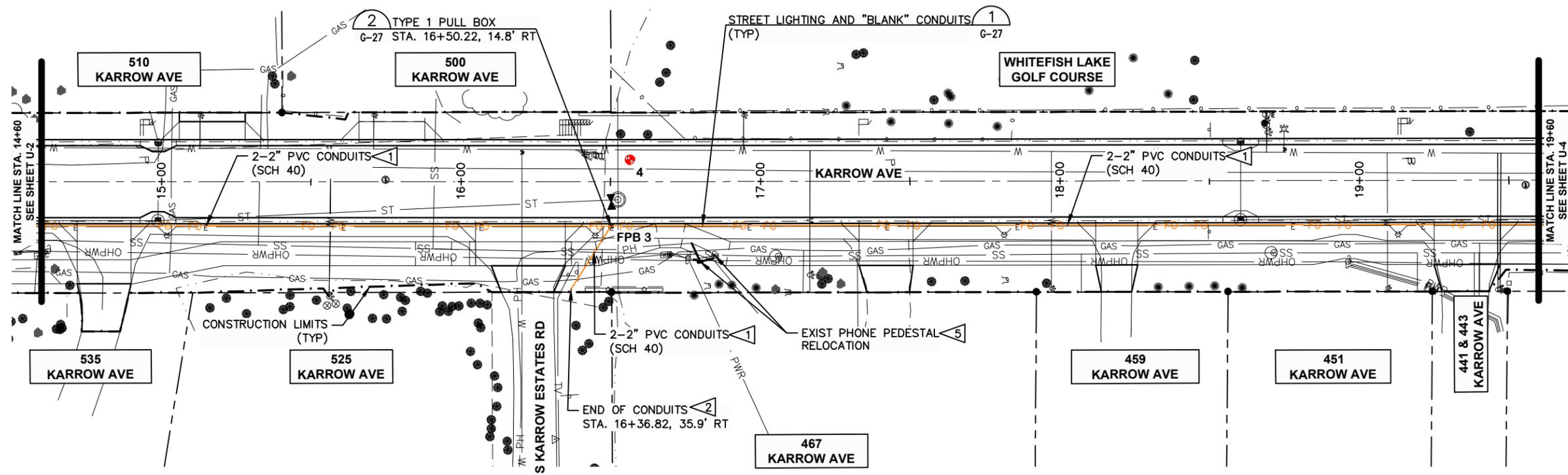
CAUTION
EXISTING GAS MAIN AND OTHER UNDERGROUND UTILITIES. LOCATIONS TO BE VERIFIED BY CONTRACTOR.





NOTES:

1. CONTRACTOR SHALL INSTALL PULL ROPES IN EMPTY CONDUITS.
2. CONTRACTOR SHALL CAP & SEAL CONDUIT AND INSTALL 18"x3/8" REBAR AT TERMINATING POINTS OF CONDUITS.
3. ALL CONDUITS SHOWN ON THIS SHEET SHALL BE PVC (SCH 40).
4. STATIONING REFERS TO KARROW AVE ROADWAY CENTERLINE ALIGNMENT. (UNLESS OTHERWISE SHOWN ON PLANS)
5. CONTRACTOR TO COORDINATE THE RELOCATION OF AN EXISTING PHONE PEDESTAL WITH LUMEN APPROXIMATELY 5' SOUTH AND 2' EAST. EXISTING PEDESTAL IS AT STA. 16+84.89, 24.7' RT. RELOCATION LOCATION IS STA. 16+79.89, 26.7' RT.



SYN	REVISION	BY	APPR	DATE

March 2024	DATE	23208.000	PROJECT NO.	Utility_KAR	FILE
A PAULY	DESIGNED BY	M. ROGERS	DRAWN BY	R. MITCHELL	CHECKED BY

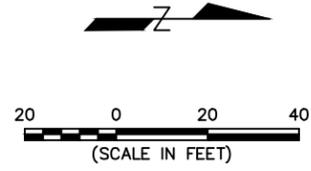
PROJECT TITLE
**KARROW AVENUE
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET TITLE
**UTILITY CONDUIT
PLAN**

SHEET
U-3

DISCLAIMER
INFORMATION SHOWN ON THIS SHEET IS FOR HORIZONTAL AND VERTICAL POSITIONING OF PROPOSED UTILITIES. THIS IS NOT A UTILITY DESIGN. DESIGN PARAMETERS SUCH AS, BUT NOT LIMITED TO, MAIN MATERIALS, SIZE, FITTINGS, ETC. TO BE DETERMINED BY UTILITY COMPANY.

CAUTION
EXISTING GAS MAIN AND OTHER UNDERGROUND UTILITIES. LOCATIONS TO BE VERIFIED BY CONTRACTOR.





NOTES:

1. CONTRACTOR SHALL INSTALL PULL ROPES IN EMPTY CONDUITS.
2. CONTRACTOR SHALL CAP & SEAL CONDUIT AND INSTALL 18"x $\frac{3}{8}$ " REBAR AT TERMINATING POINTS OF CONDUITS.
3. ALL CONDUITS SHOWN ON THIS SHEET SHALL BE PVC (SCH 40).
4. STATIONING REFERS TO KARROW AVE ROADWAY CENTERLINE ALIGNMENT (UNLESS OTHERWISE SHOWN ON PLANS)
5. CONTRACTOR TO COORDINATE POLE REMOVAL AND REPLACEMENT SCHEDULE WITH FLATHEAD ELECTRIC COOP.

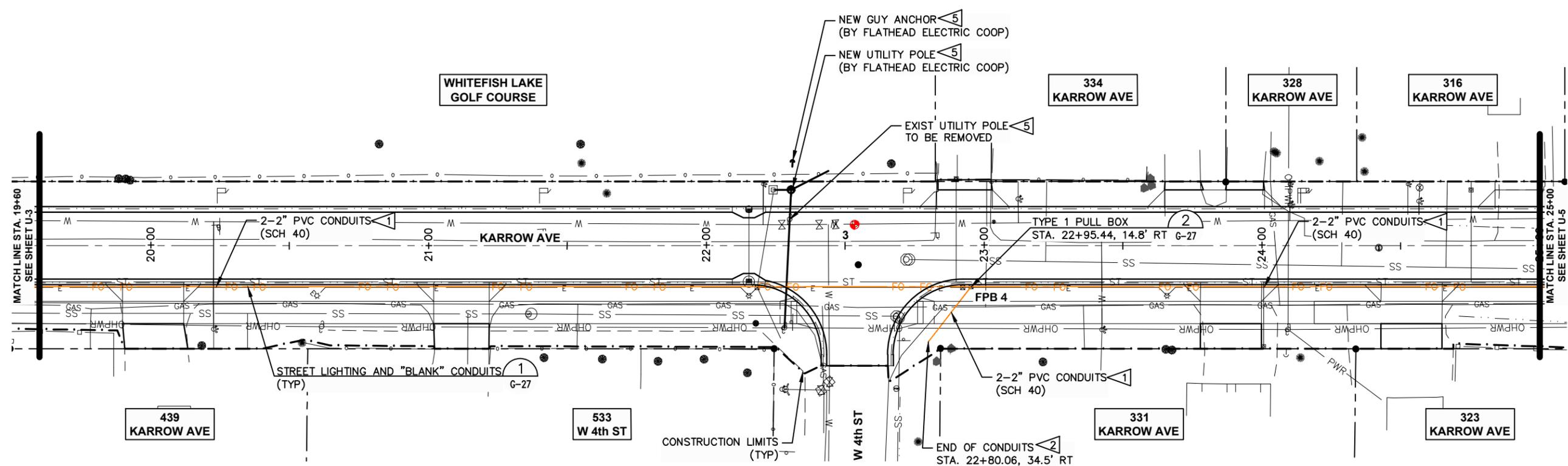
SYMBOL	REVISION	BY	DATE

APPROVED BY	March 2024
DESIGNED BY	DATE
M. ROGERS	23208.000
BRAWNBY	PROJECT NO.
R. MITCHELL	Utility_KAR
CHECKED BY	FILE

PROJECT TITLE
KARROW AVENUE RECONSTRUCTION PROJECT
Whitefish, Montana

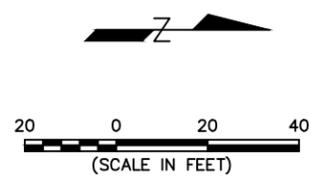
SHEET TITLE
UTILITY CONDUIT PLAN

SHEET
U-4



DISCLAIMER
INFORMATION SHOWN ON THIS SHEET IS FOR HORIZONTAL AND VERTICAL POSITIONING OF PROPOSED UTILITIES. THIS IS NOT A UTILITY DESIGN. DESIGN PARAMETERS SUCH AS, BUT NOT LIMITED TO, MAIN MATERIALS, SIZE, FITTINGS, ETC. TO BE DETERMINED BY UTILITY COMPANY.

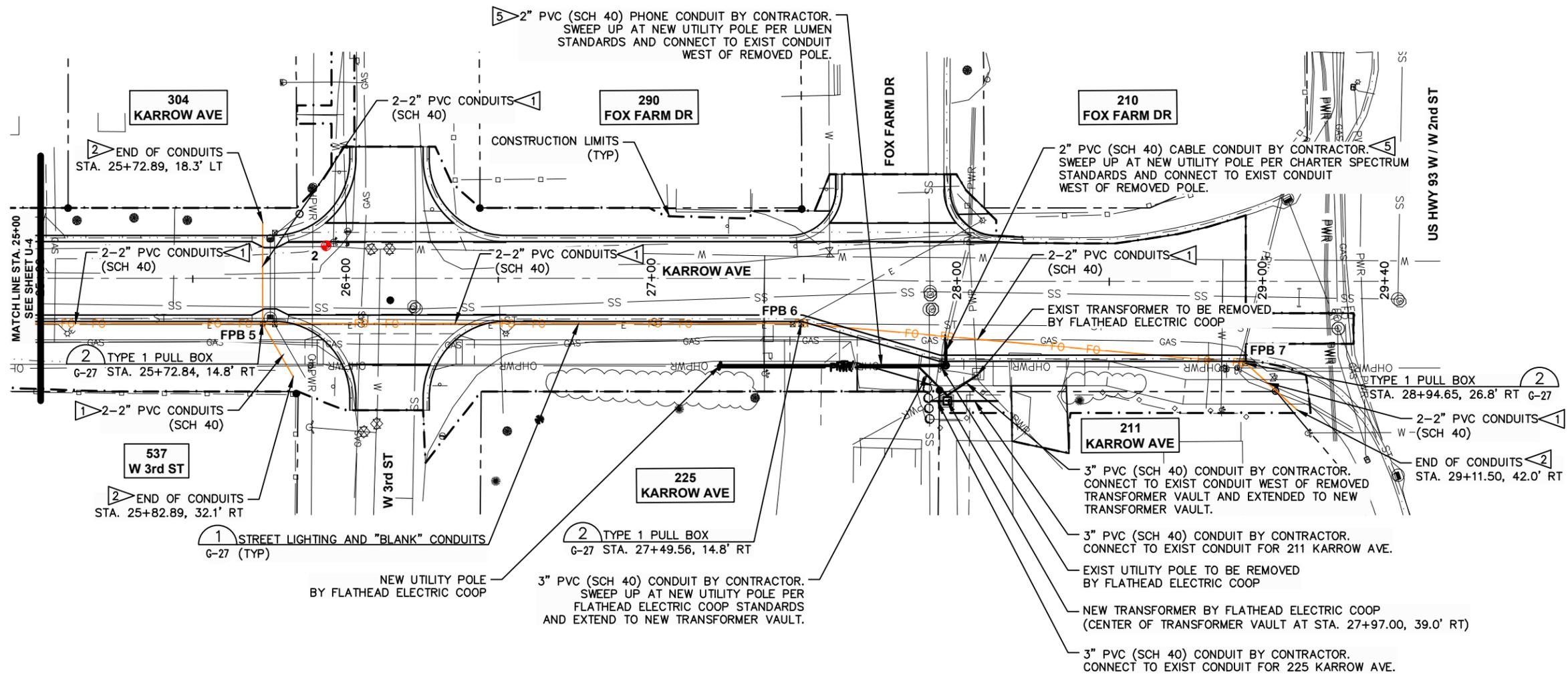
CAUTION
EXISTING GAS MAIN AND OTHER UNDERGROUND UTILITIES. LOCATIONS TO BE VERIFIED BY CONTRACTOR.





NOTES:

1. CONTRACTOR SHALL INSTALL PULL ROPES IN EMPTY CONDUITS.
2. CONTRACTOR SHALL CAP & SEAL CONDUIT AND INSTALL 18"x3/8" REBAR AT TERMINATING POINTS OF CONDUITS.
3. ALL CONDUITS SHOWN ON THIS SHEET SHALL BE PVC (SCH 40).
4. STATIONING REFERS TO KARROW AVE ROADWAY CENTERLINE ALIGNMENT. (UNLESS OTHERWISE SHOWN ON PLANS)
5. CONTRACTOR TO COORDINATE NEW CONDUIT WORK WITH LUMEN AND CHARTER SPECTRUM. UTILITY COMPANIES MAY PROVIDE A PULL BOX FOR CONTRACTOR TO INSTALL AT STA. 27+96.51, 27.4' RT.

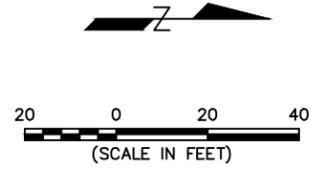


DISCLAIMER

INFORMATION SHOWN ON THIS SHEET IS FOR HORIZONTAL AND VERTICAL POSITIONING OF PROPOSED UTILITIES. THIS IS NOT A UTILITY DESIGN. DESIGN PARAMETERS SUCH AS, BUT NOT LIMITED TO, MAIN MATERIALS, SIZE, FITTINGS, ETC. TO BE DETERMINED BY UTILITY COMPANY.

CAUTION

EXISTING GAS MAIN AND OTHER UNDERGROUND UTILITIES. LOCATIONS TO BE VERIFIED BY CONTRACTOR.



SYN	REVISION	BY	APPR	DATE

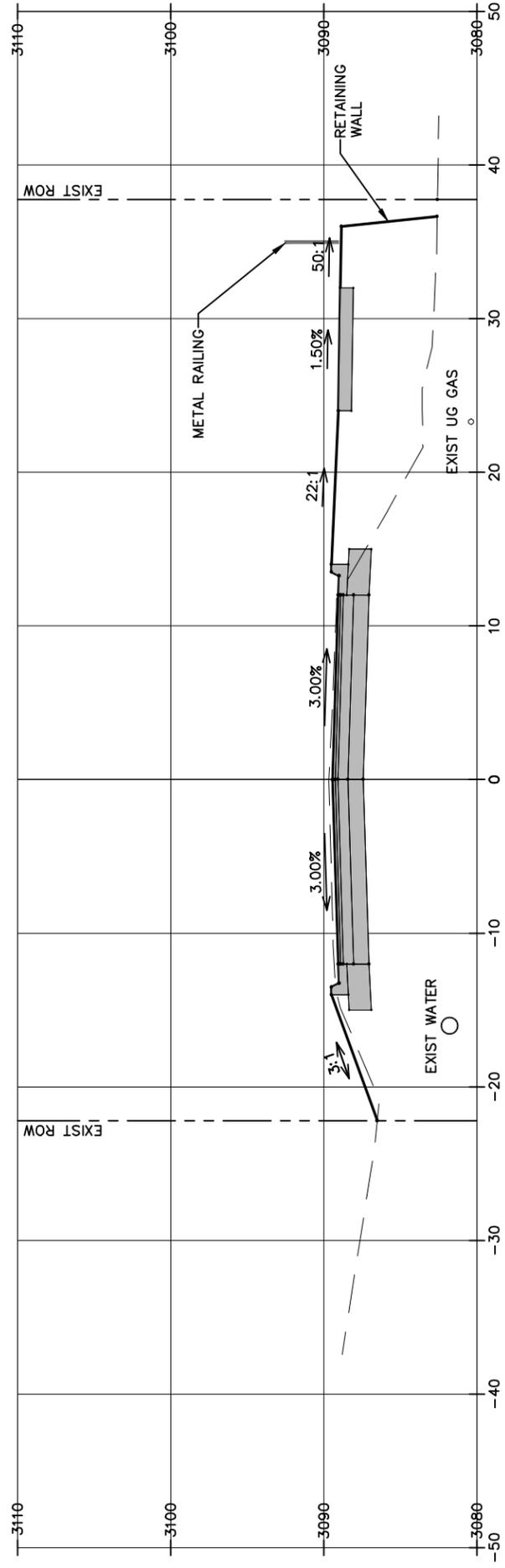
March 2024	DATE	23208.000	PROJECT NO.	Utility_KAR	FILE
A PAULLY	DESIGNED BY	M. ROGERS	DRAWN BY	R. MITCHELL	CHECKED BY

PROJECT TITLE
KARROW AVENUE RECONSTRUCTION PROJECT
Whitefish, Montana

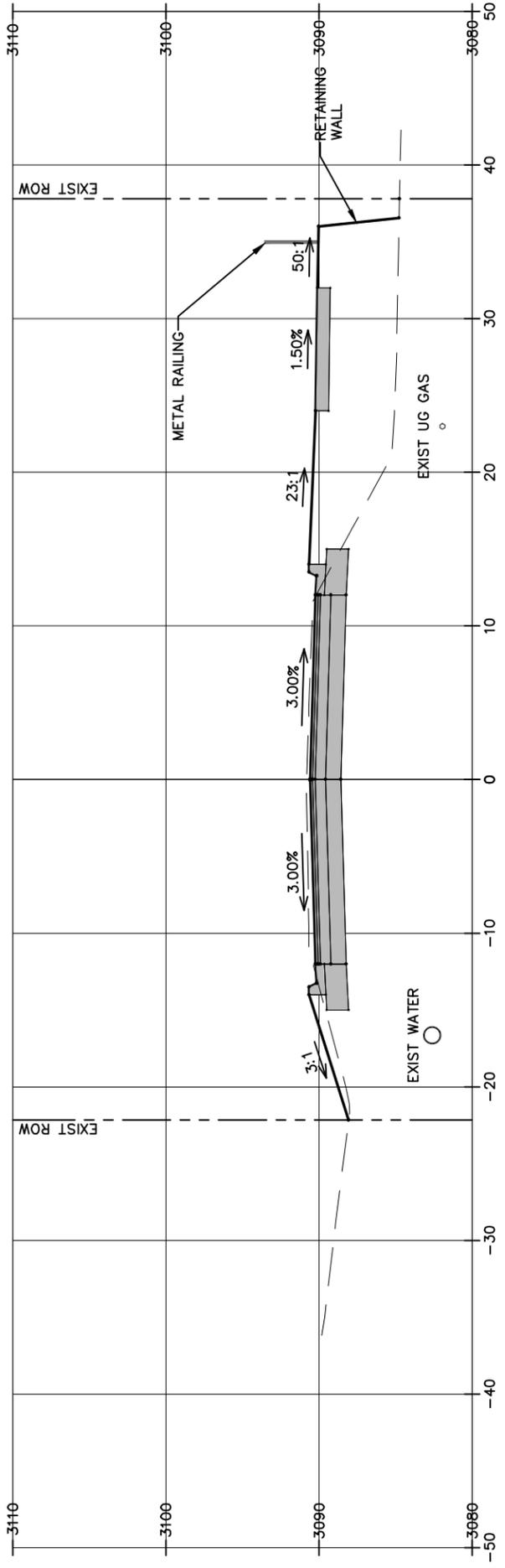
SHEET TITLE
UTILITY CONDUIT PLAN

SHEET
U-5

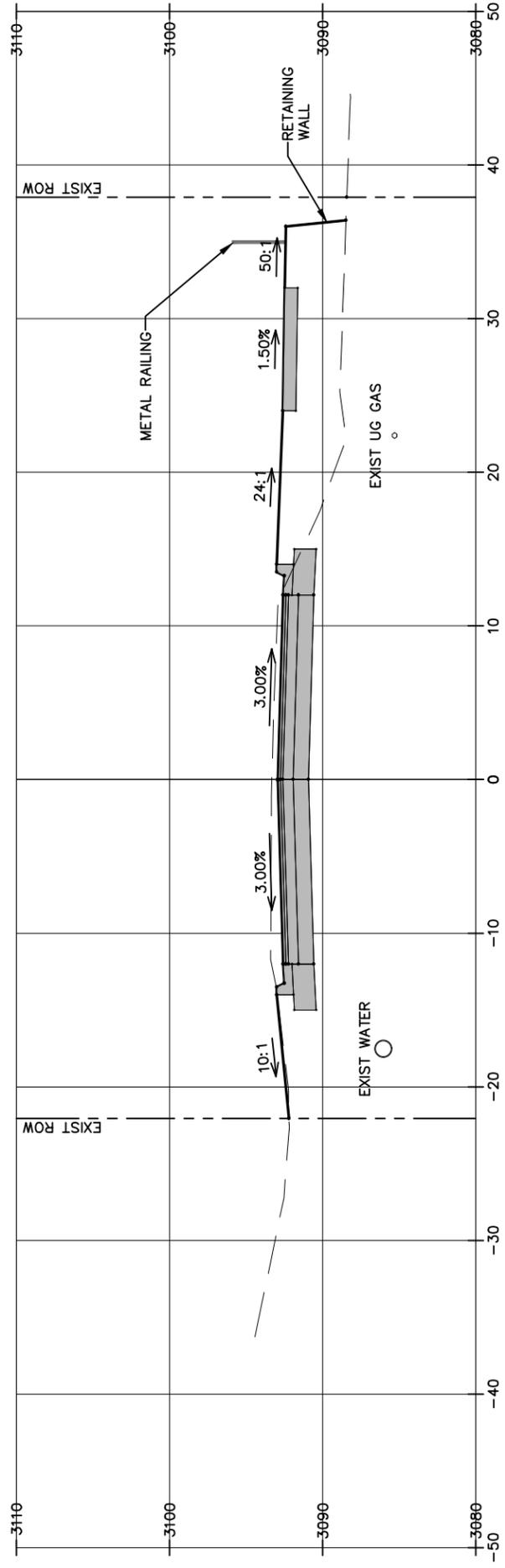
11+50.00



11+25.00



10+75.00



SHEET

XS-1

SHEET TITLE

**ROADWAY
CROSS SECTIONS**

PROJECT TITLE

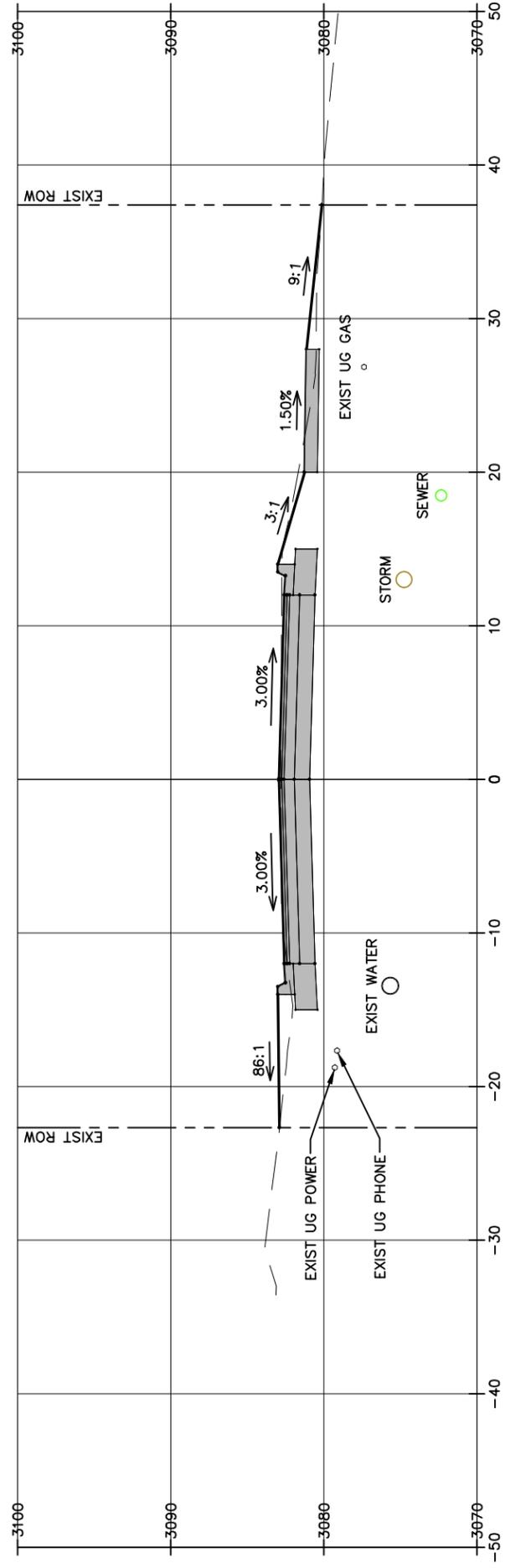
**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

DESIGNED BY: A. PAULY
DRAWN BY: M. ROGERS
CHECKED BY: R. MITCHELL
DATE: March 2024
PROJECT NO.: 23208.000
Cross Sections_KAR
FILE

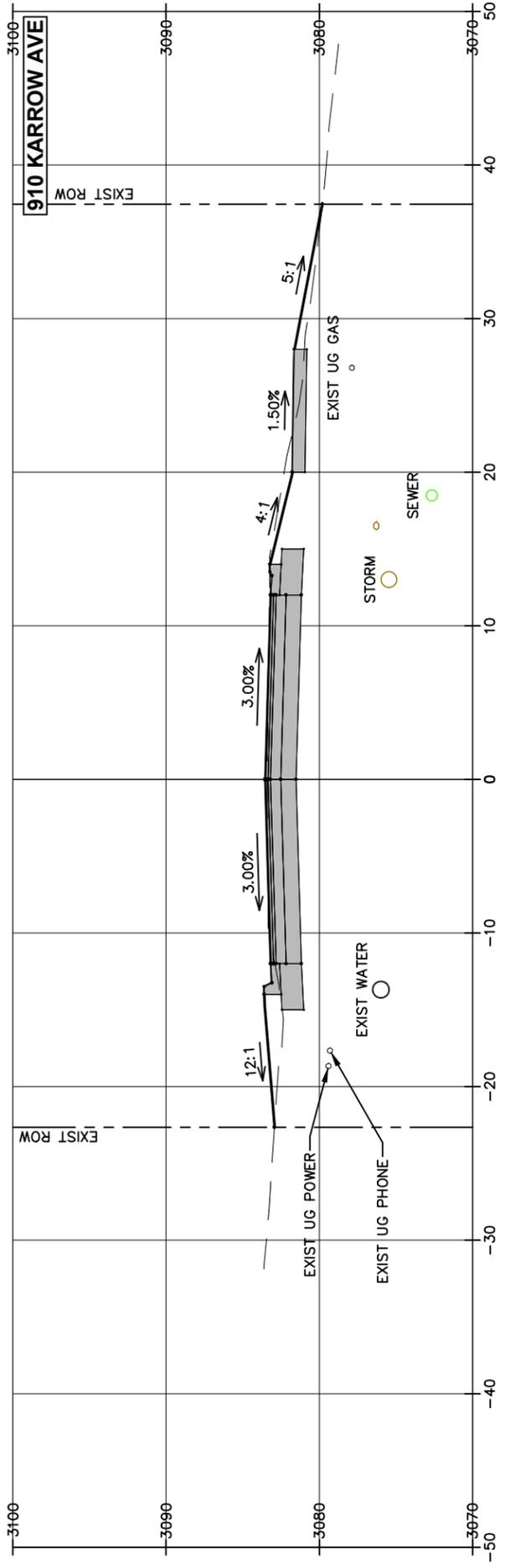
REVISION

SYM	REVISION	BY	APPR	DATE

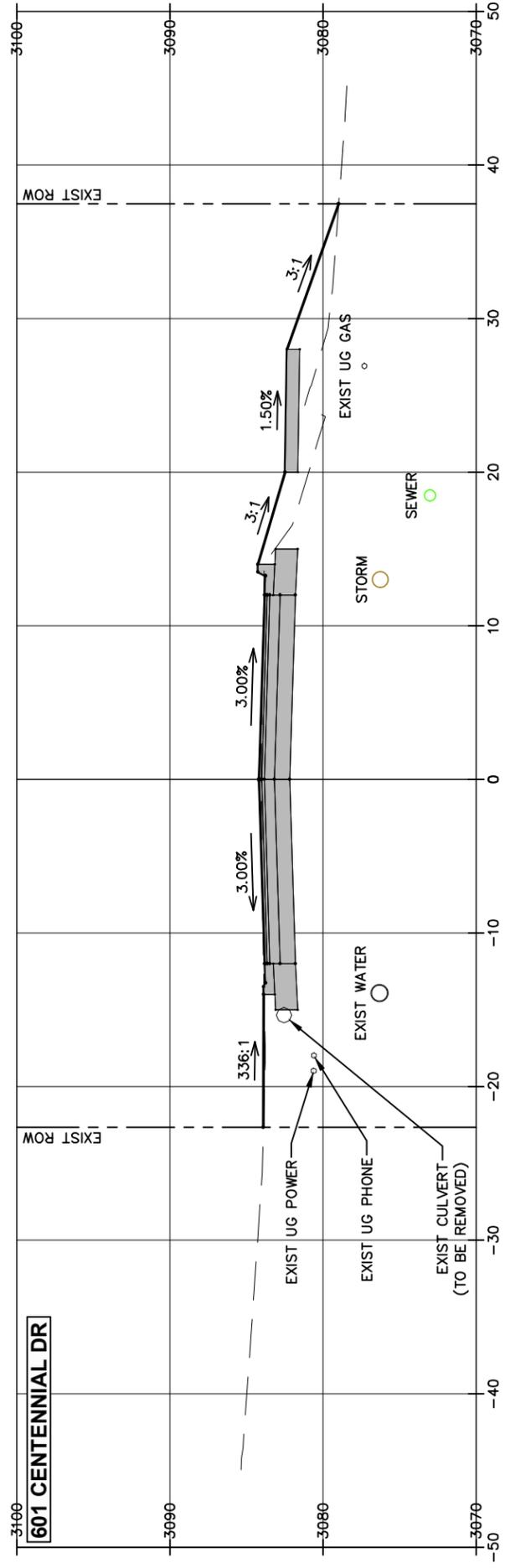
13+25.00



13+07.50



12+88.00



SHEET

XS-3

SHEET TITLE

**ROADWAY
CROSS SECTIONS**

PROJECT TITLE

**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

A. PAULY
DESIGNED BY

M. ROGERS
DRAWN BY

R. MITCHELL
CHECKED BY

March 2024
DATE

23208.000
PROJECT NO.

Cross Sections_KAR
FILE

SYM

REVISION

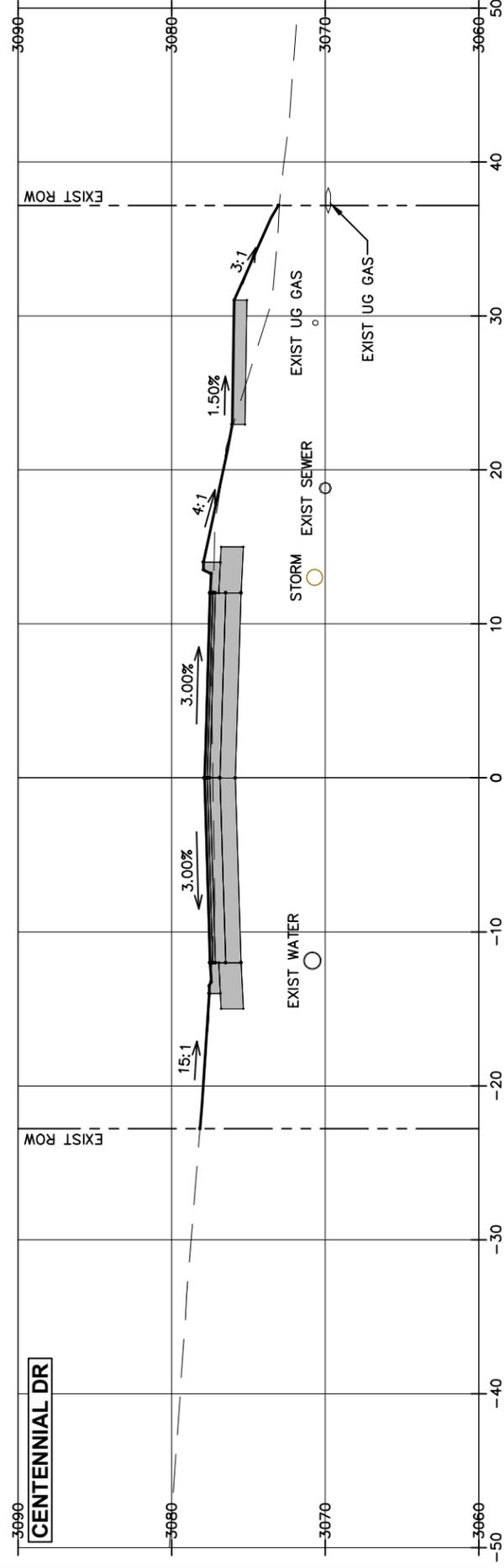
BY

APPR.

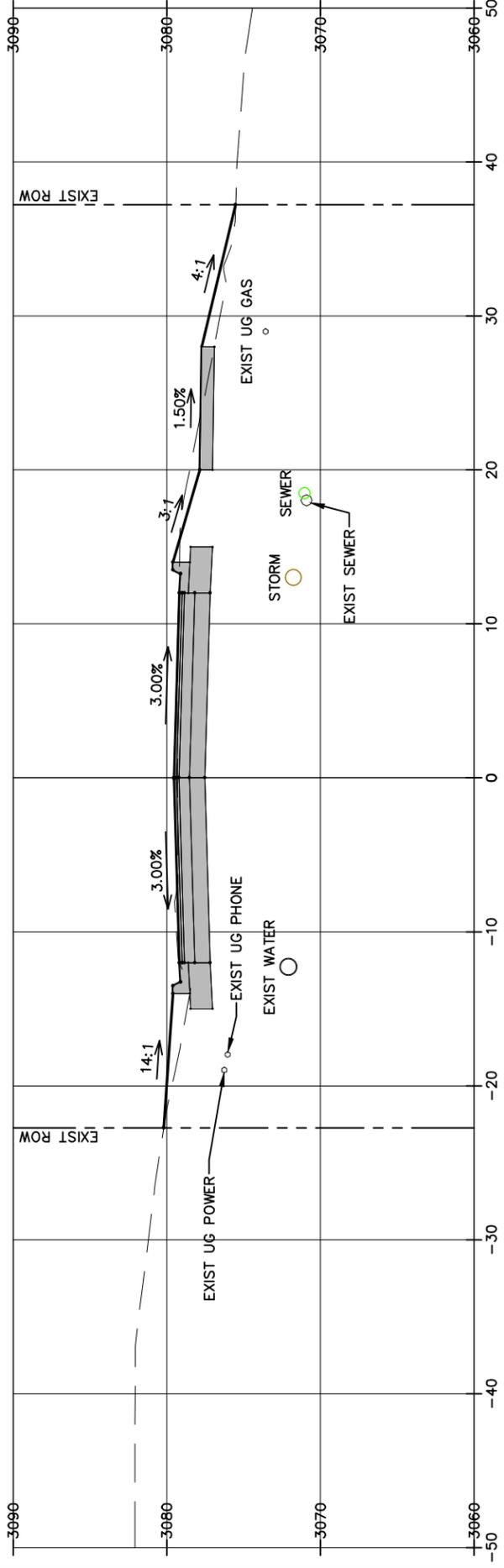
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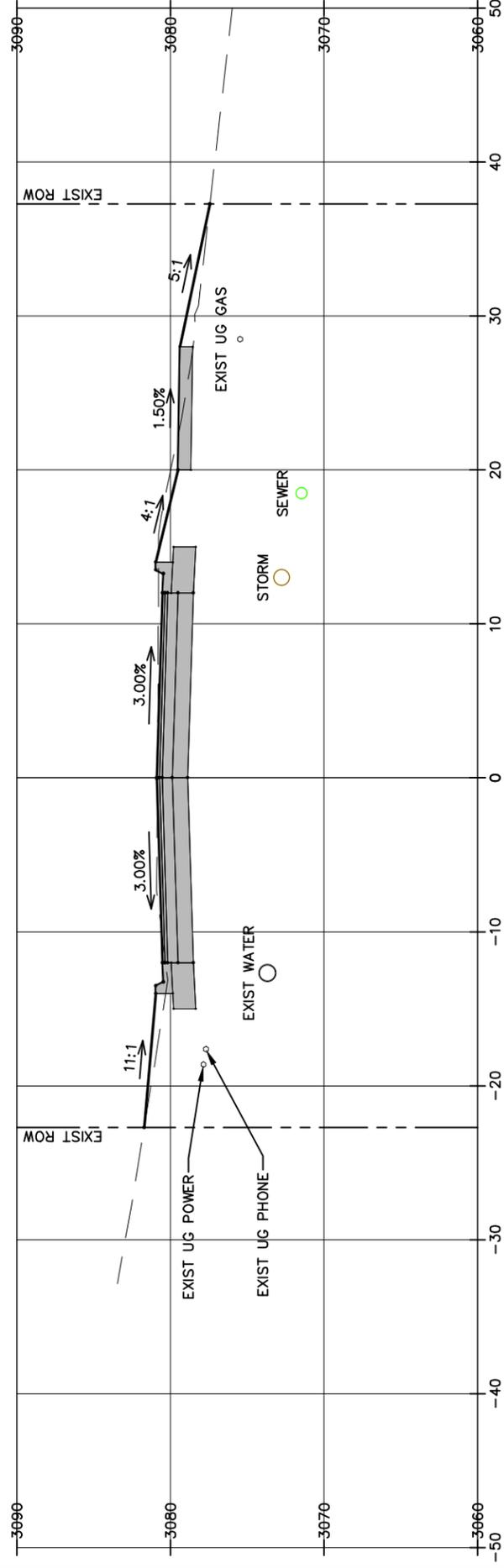
14+27.19



14+00.00



13+75.00



SHEET TITLE

**ROADWAY
CROSS SECTIONS**

**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET

XS-4

A. PAULY
DESIGNED BY

M. ROGERS
DRAWN BY

R. MITCHELL
CHECKED BY

March 2024
DATE

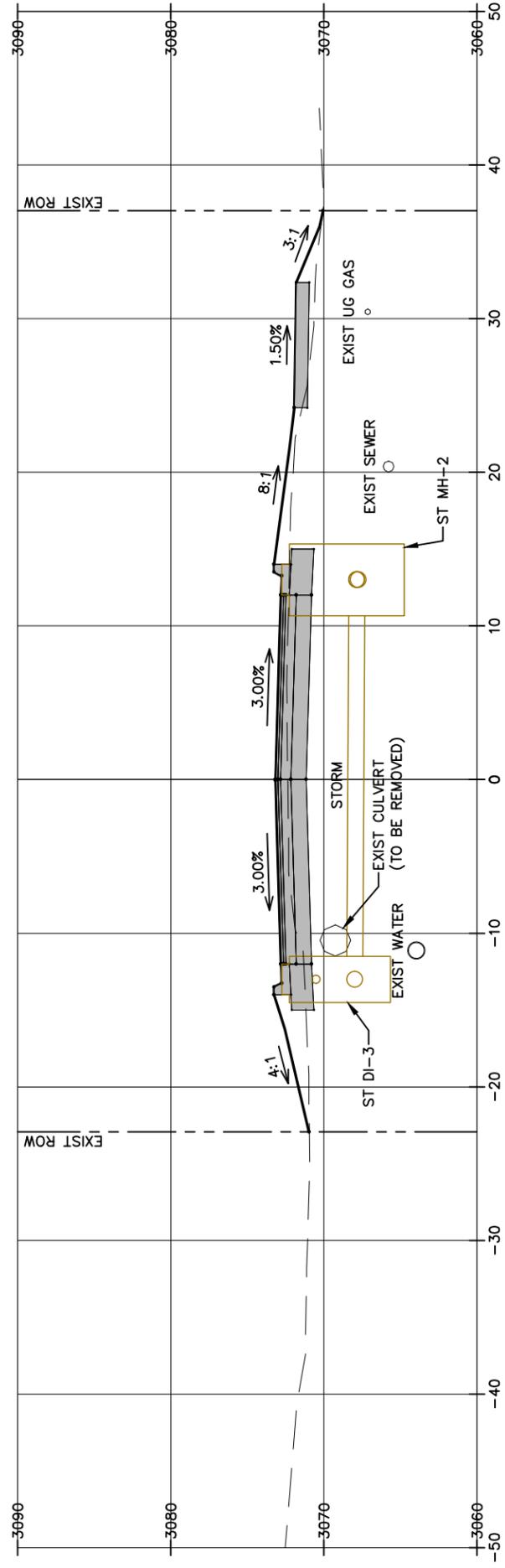
23208.000
PROJECT NO.

Cross Sections_KAR
FILE

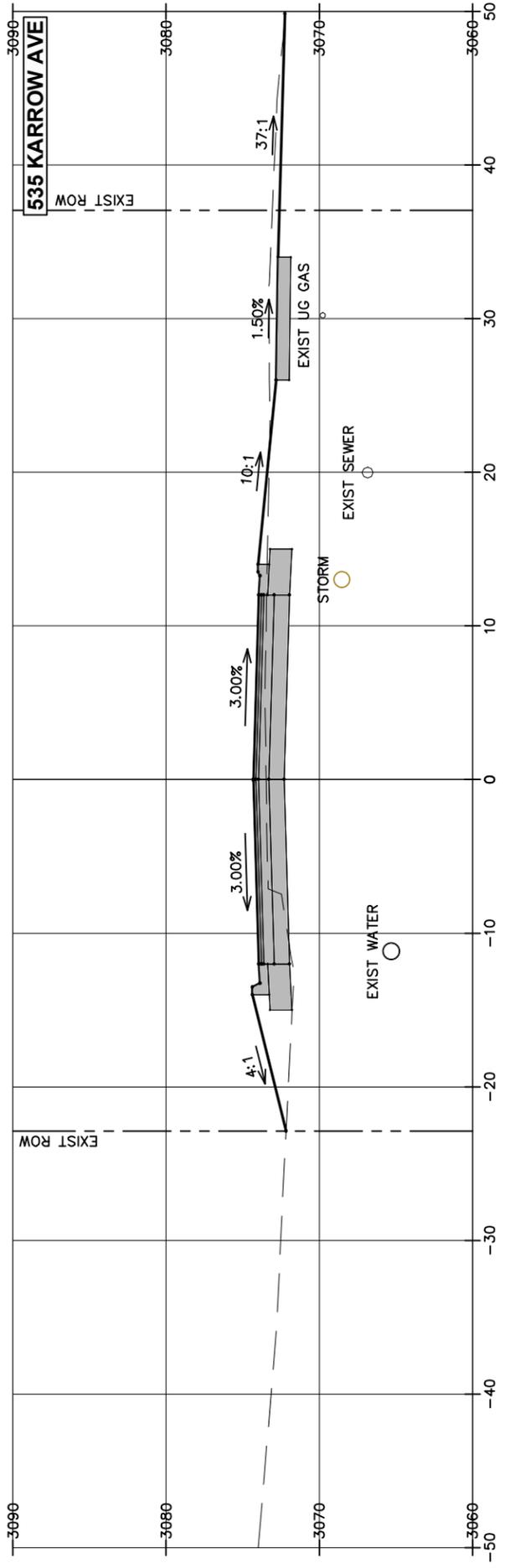
SYM	REVISION	BY	APPR.	DATE



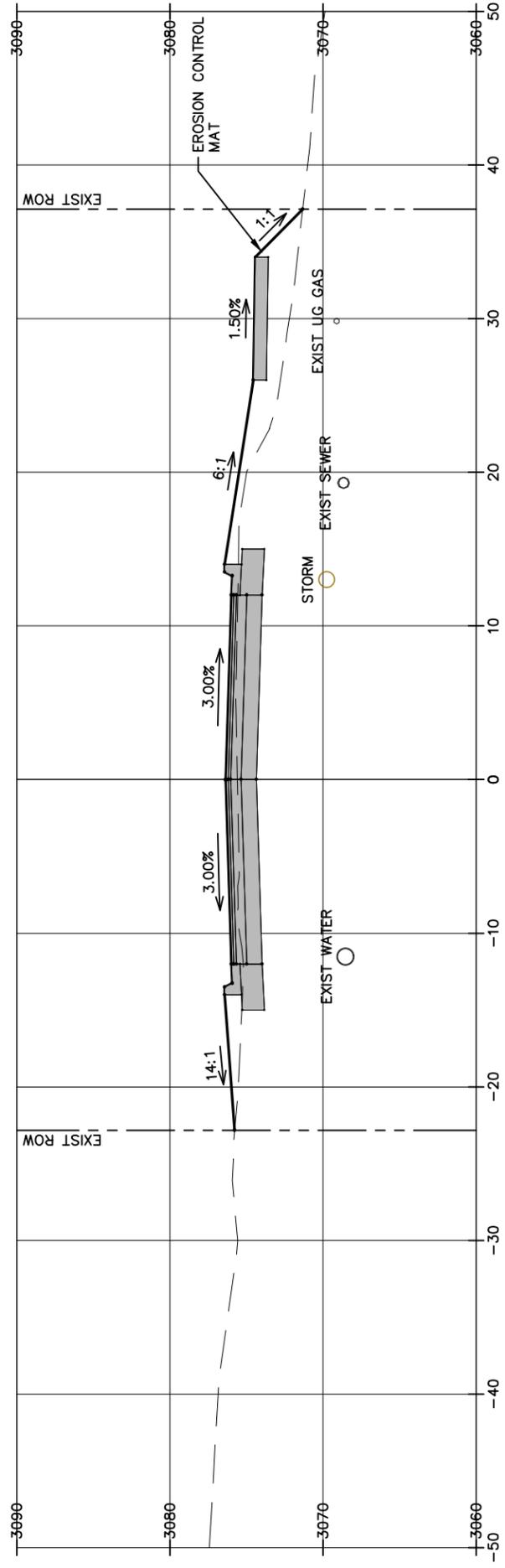
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14+81.00



14+50.00



SHEET

XS-5

SHEET TITLE

**ROADWAY
CROSS SECTIONS**

PROJECT TITLE

**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

DESIGNED BY

A. PAULY

DATE

March 2024

DRAWN BY

M. ROGERS

CHECKED BY

R. MITCHELL

PROJECT NO.

23208.000

FILE

Cross Sections_KAR

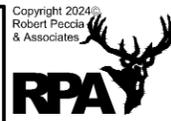
REVISION

SYM

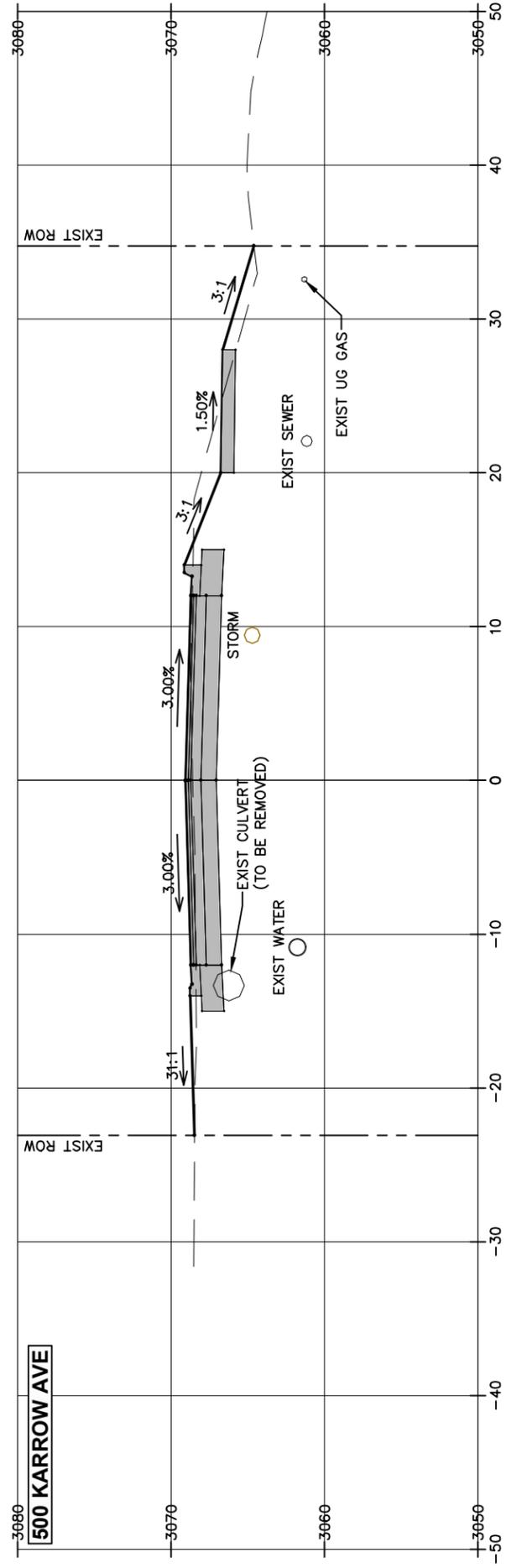
BY

APPR.

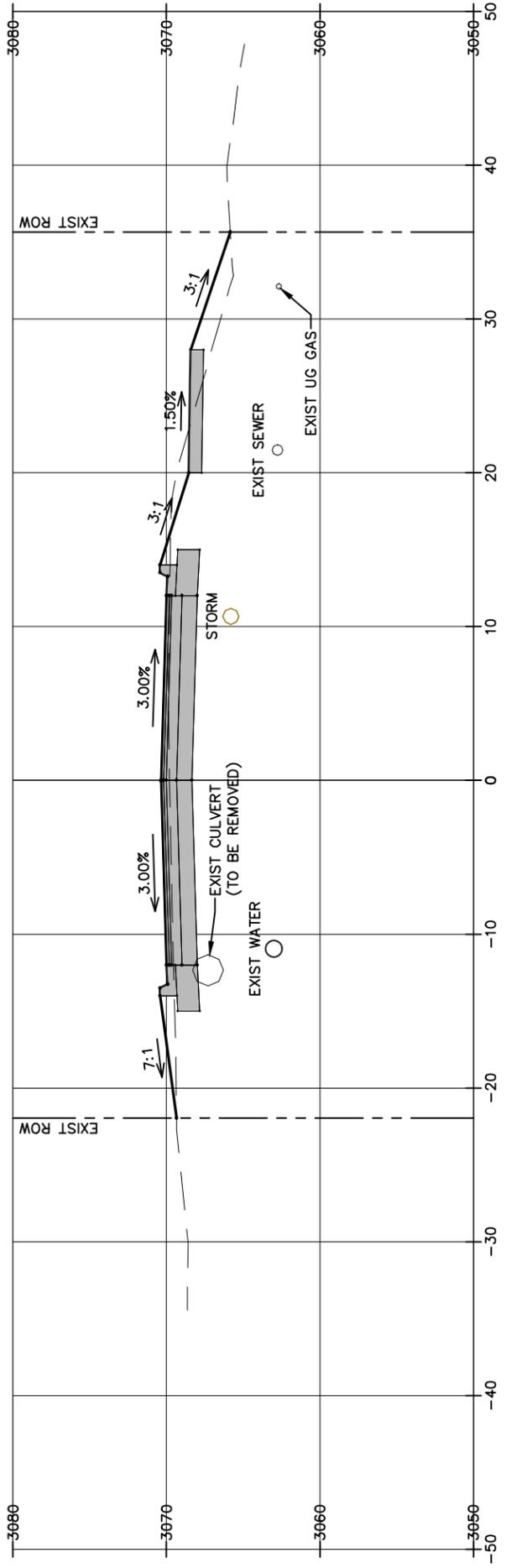
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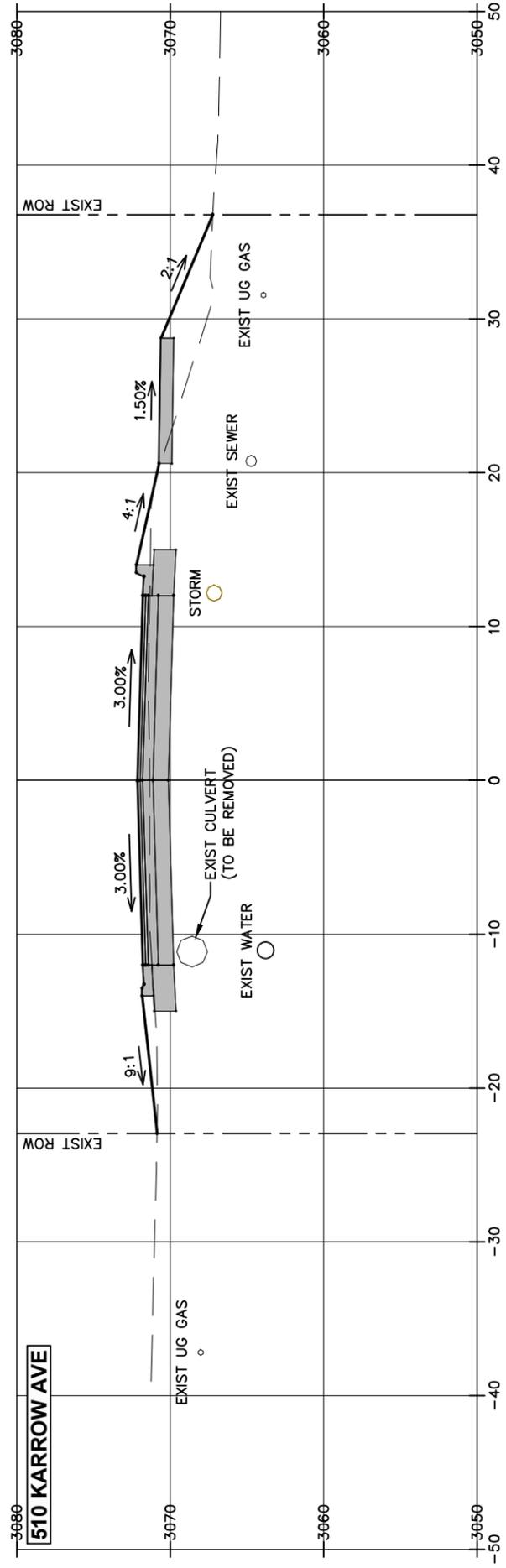
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15+50.00



15+17.00



SHEET
XS-6

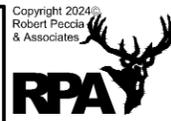
SHEET TITLE
**ROADWAY
CROSS SECTIONS**

PROJECT TITLE
**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

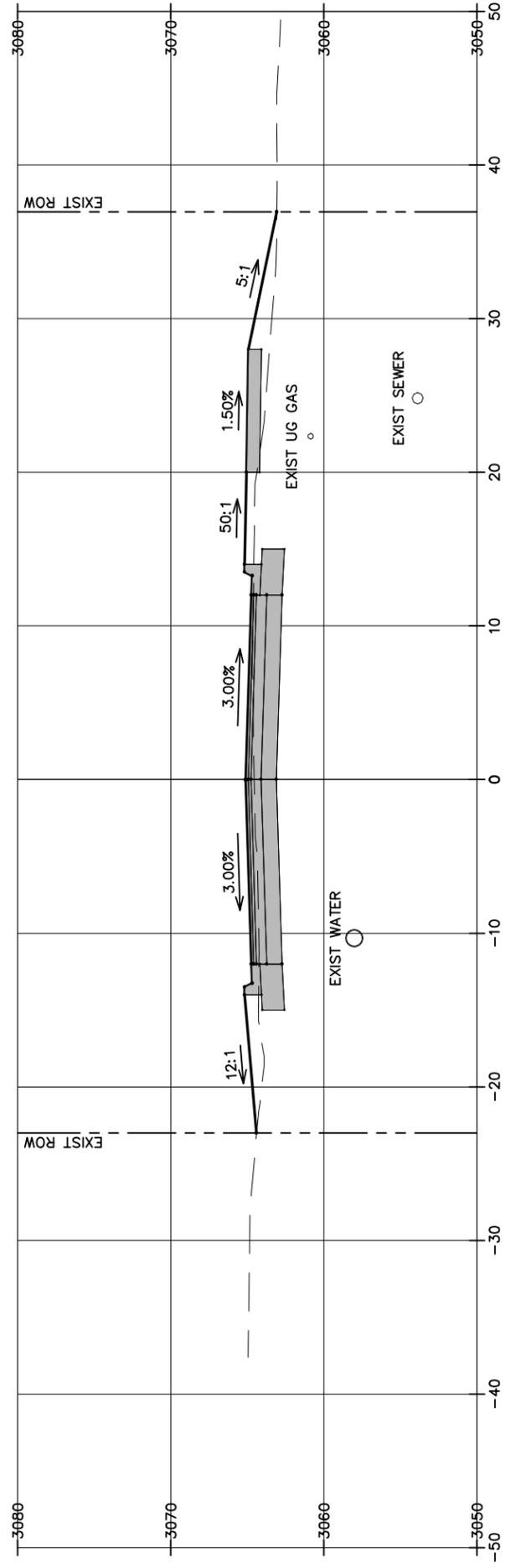
A. PAULY
DESIGNED BY
M. ROGERS
DRAWN BY
R. MITCHELL
CHECKED BY

March 2024
DATE
23208.000
PROJECT NO.
Cross Sections_KAR
FILE

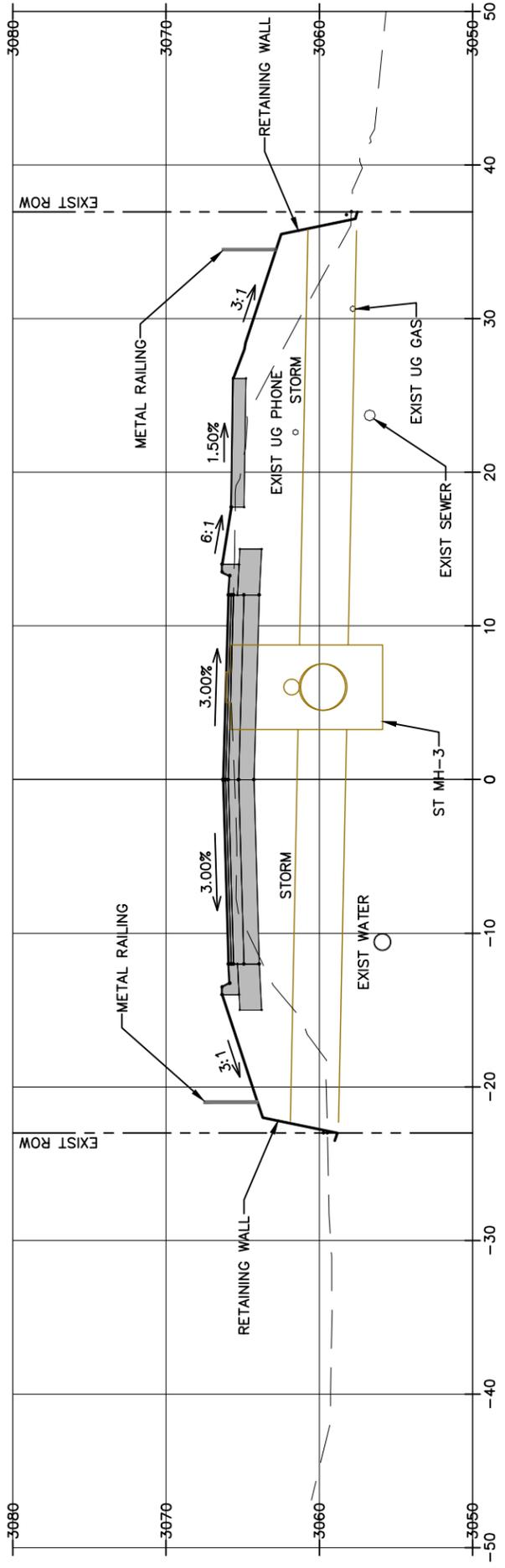
SYM	REVISION	BY	APPR.	DATE



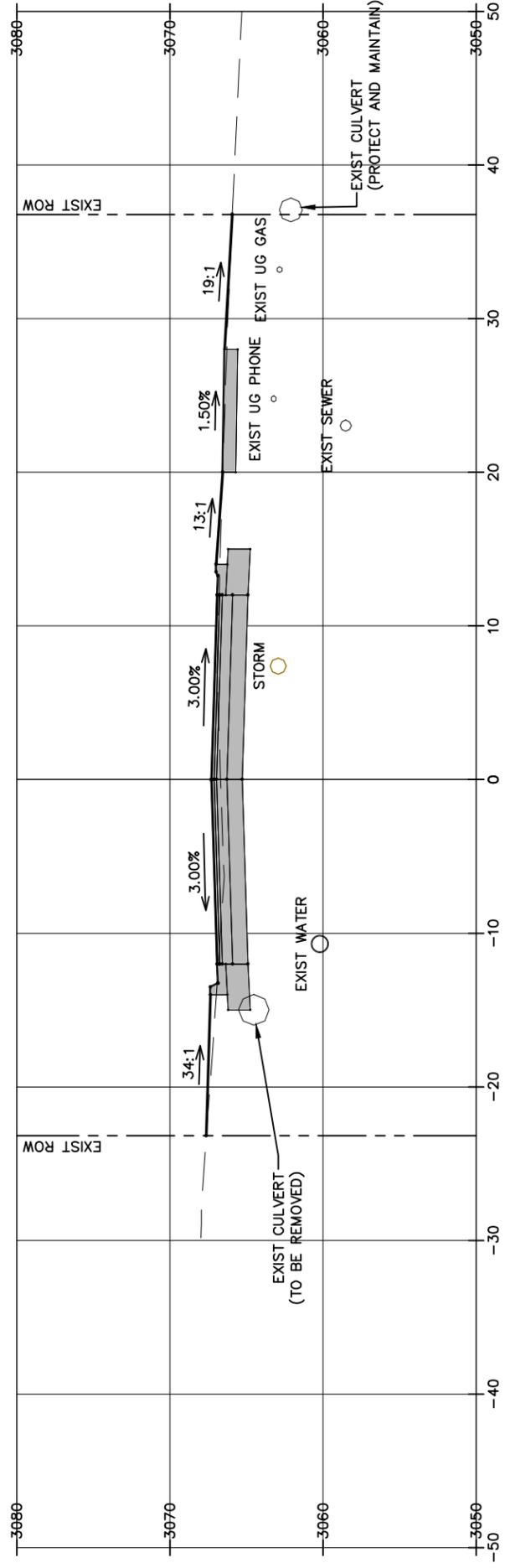
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16+52.50



16+22.00



SHEET

XS-7

SHEET TITLE

**ROADWAY
CROSS SECTIONS**

PROJECT TITLE

**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

DESIGNED BY

M. ROGERS

DATE

March 2024

SYM

REVISION

BY

APPR.

DATE

CHECKED BY

R. MITCHELL

CROSS SECTIONS

KAR

FILE

PROJECT NO.

23208.000

DATE

March 2024

BY

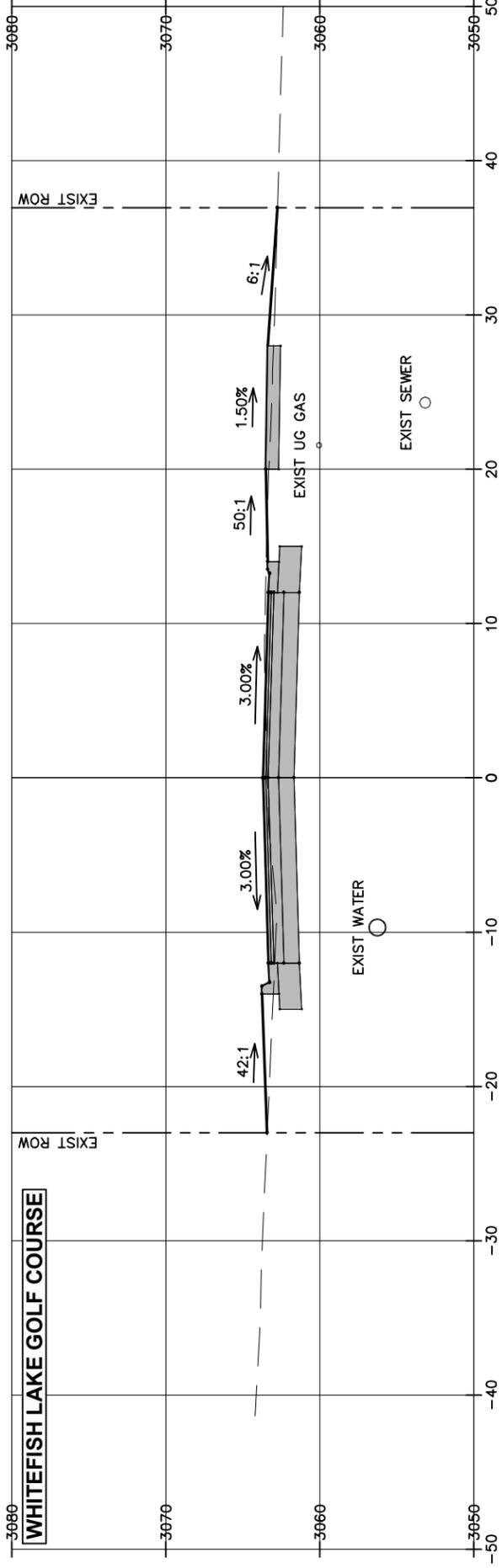
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DATE

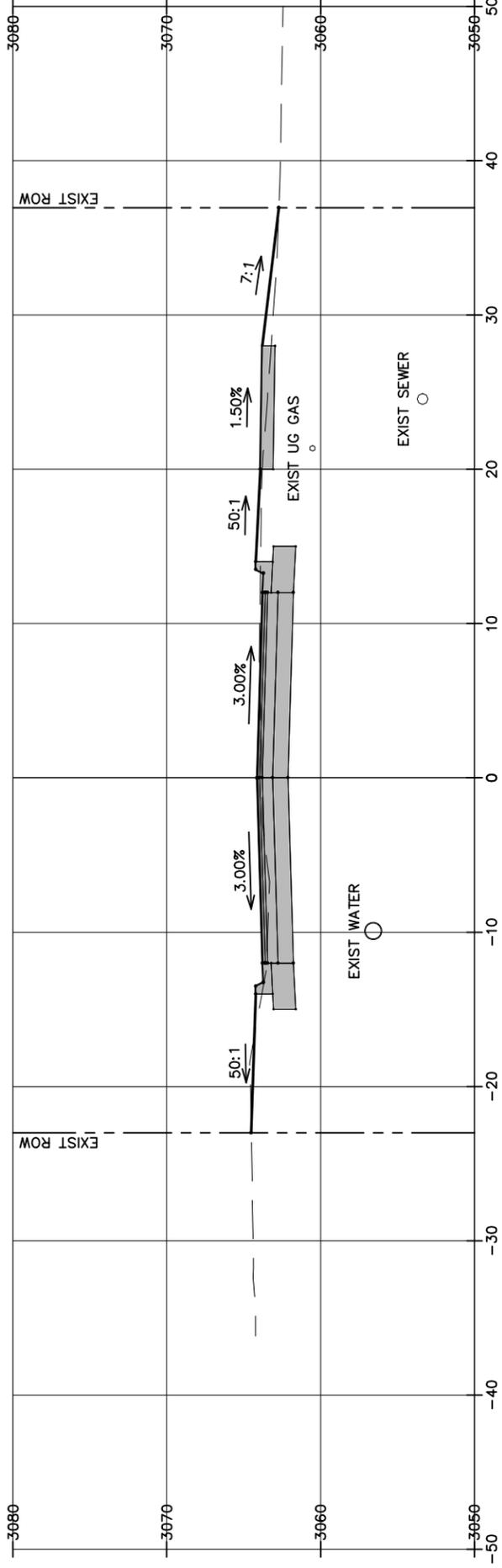
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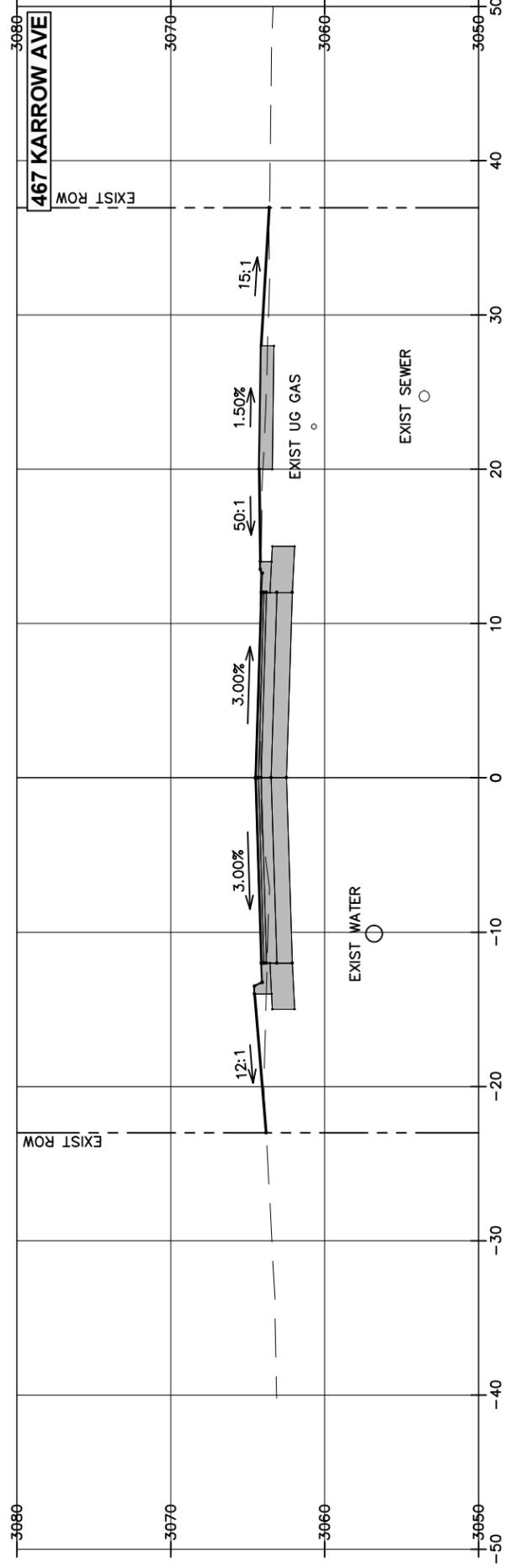
18+19.00



17+75.00



17+42.00



SHEET

XS-8

SHEET TITLE

**ROADWAY
CROSS SECTIONS**

PROJECT TITLE

**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

DESIGNED BY

A. PAULY

DATE

March 2024

DRAWN BY

M. ROGERS

CHECKED BY

R. MITCHELL

CROSS SECTIONS

KAR

FILE

REVISION

BY

APPR.

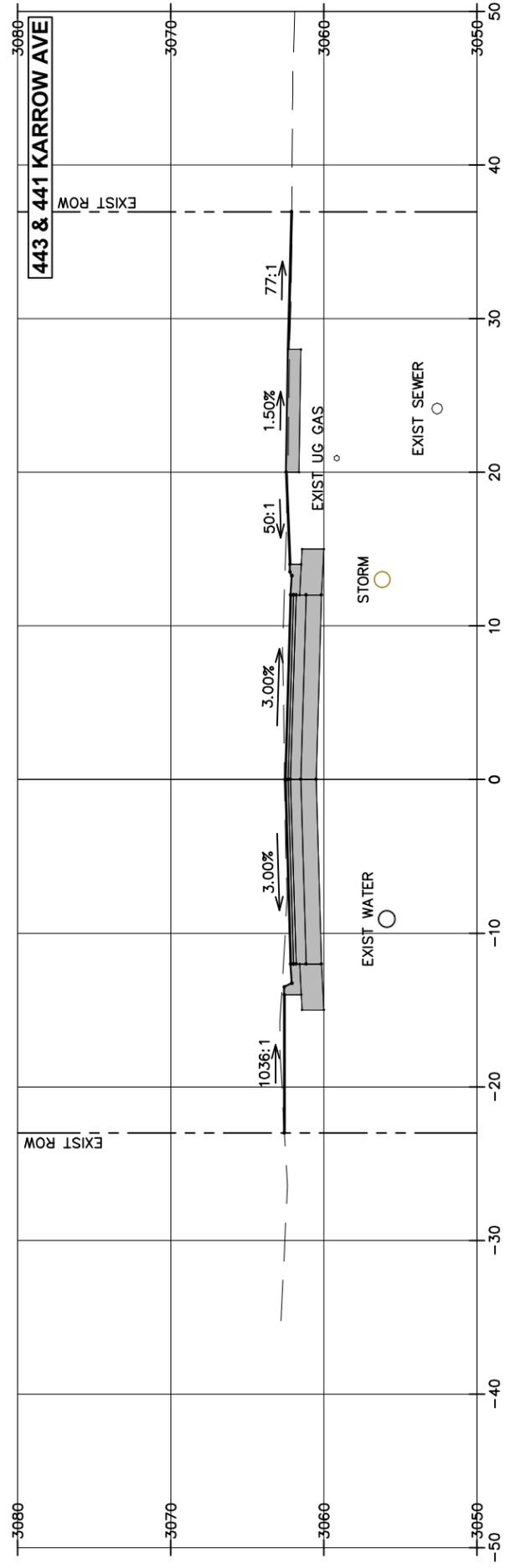
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SYM

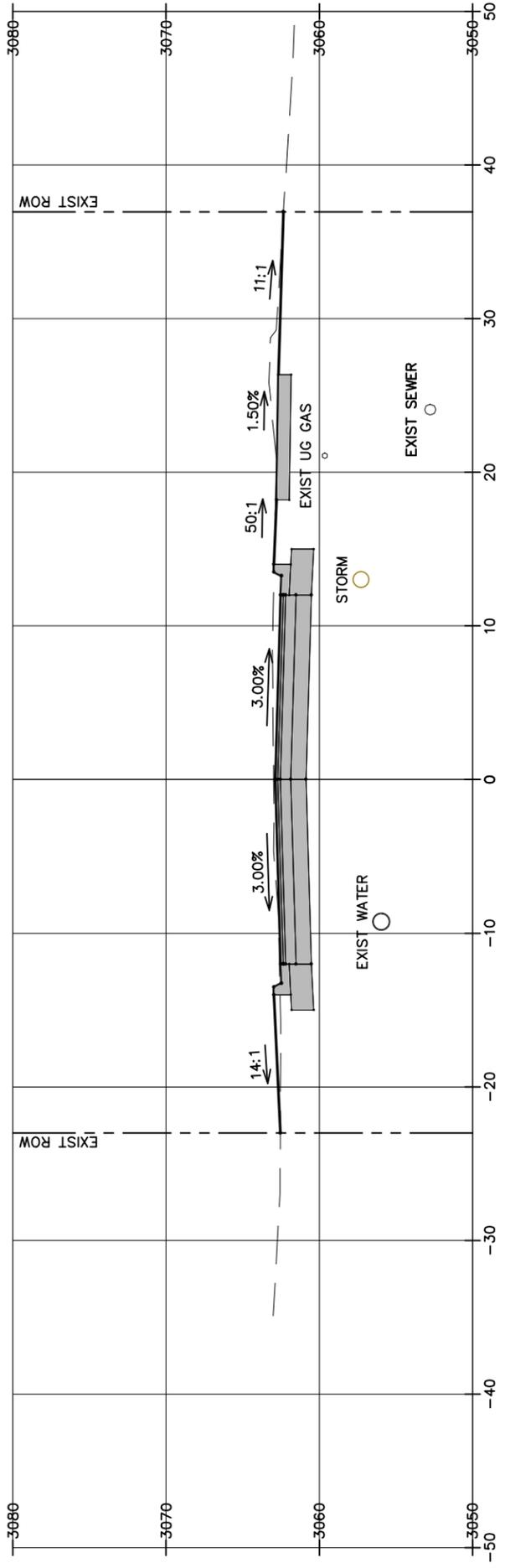
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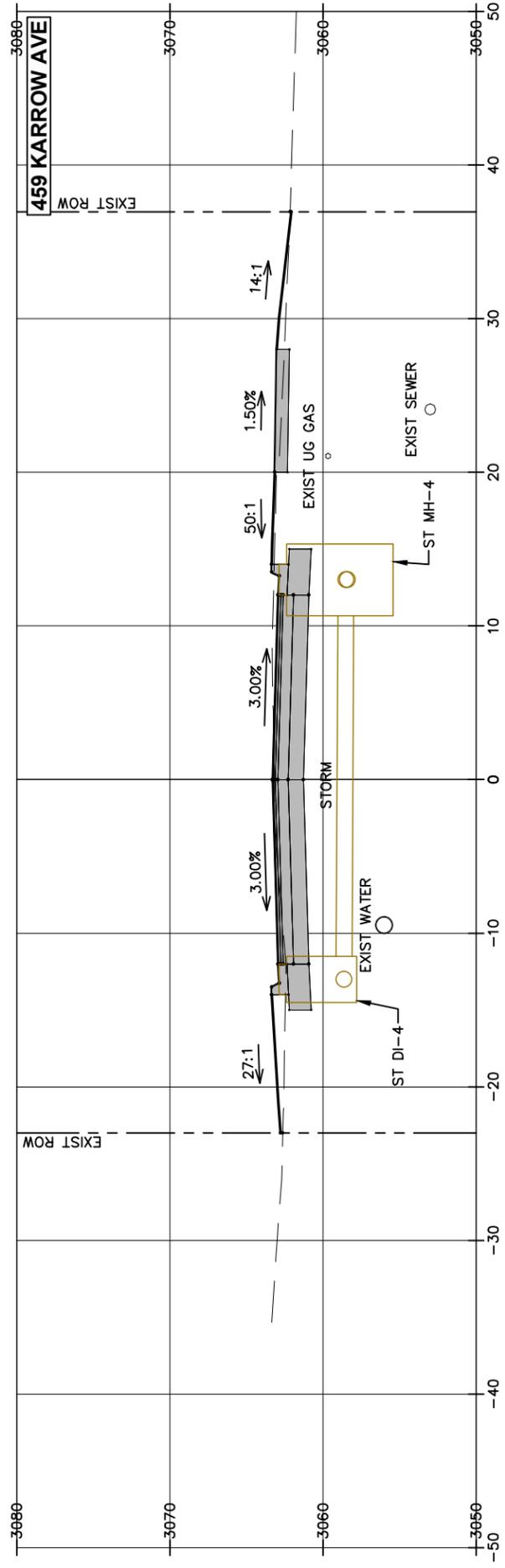
19+36.00



19+00.00



18+60.44



SHEET

XS-9

SHEET TITLE

**ROADWAY
CROSS SECTIONS**

PROJECT TITLE

**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

DESIGNED BY

M. ROGERS

DRAWN BY

R. MITCHELL

CHECKED BY

DATE

March 2024

PROJECT NO.

23208.000

Cross Sections_KAR

FILE

SYM

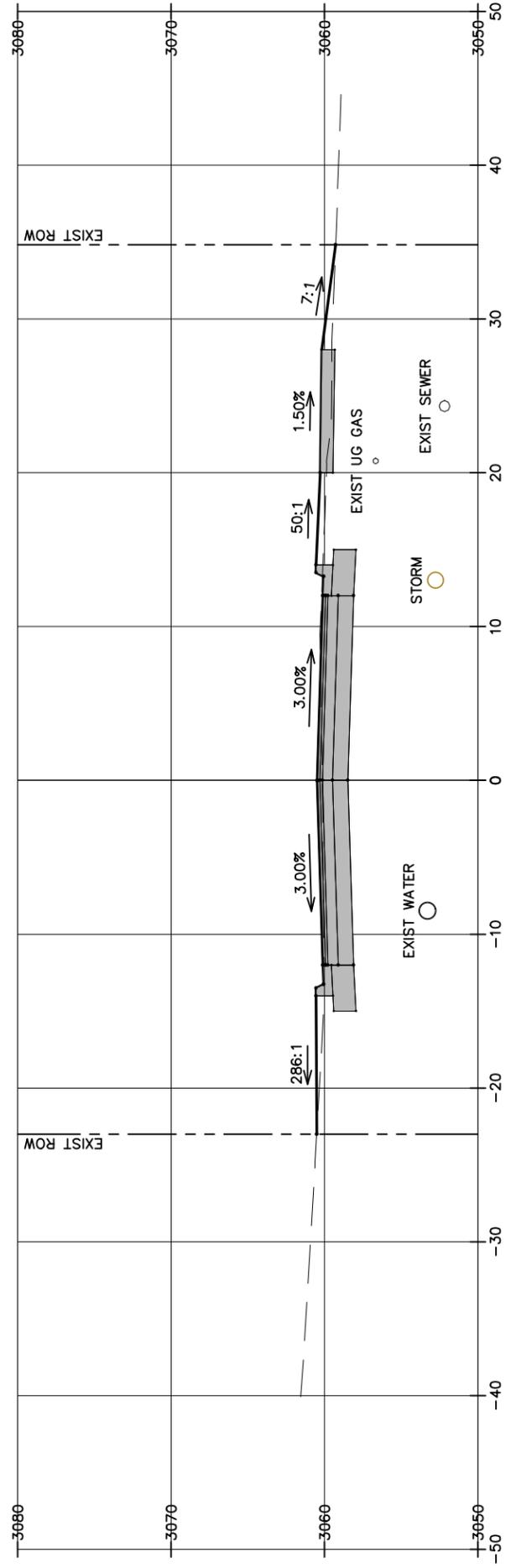
REVISION

BY

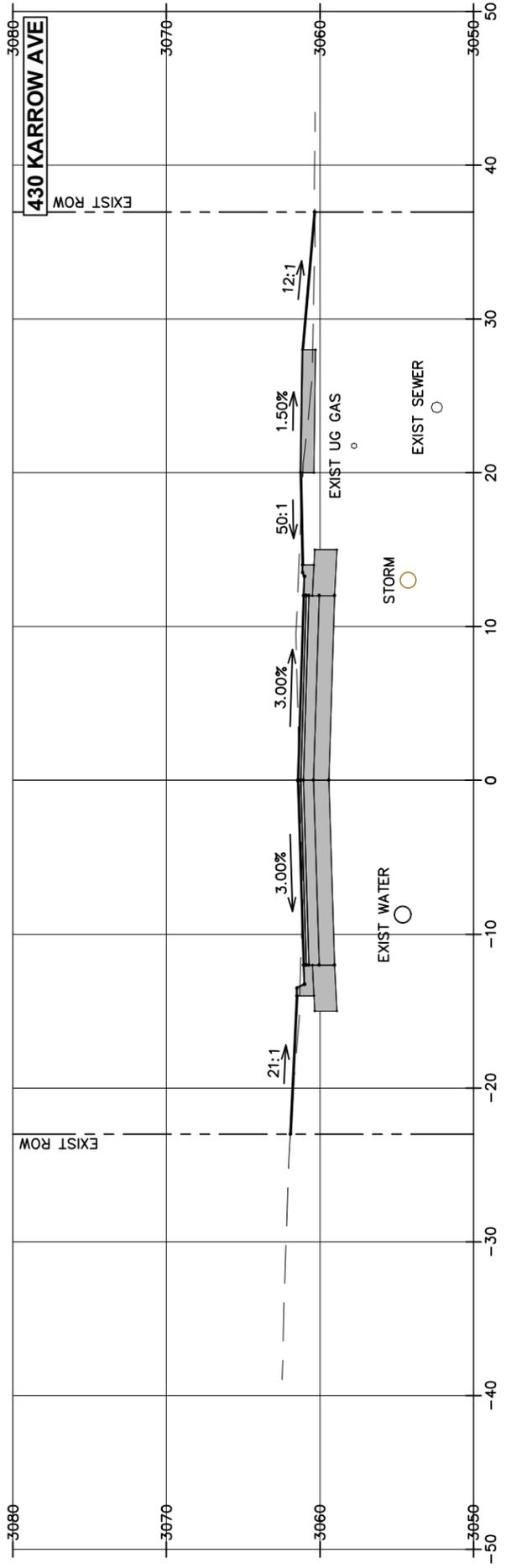
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DATE

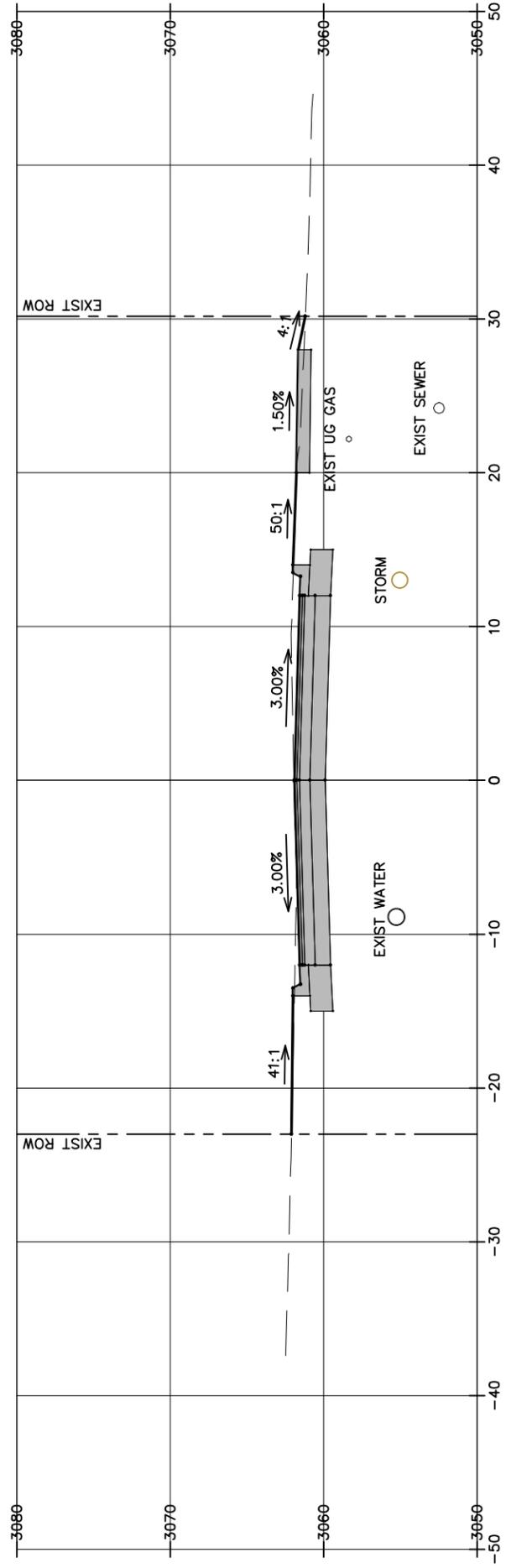
20+50.00



20+01.00



19+75.00



SHEET
XS-10

SHEET TITLE
**ROADWAY
CROSS SECTIONS**

PROJECT TITLE
**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

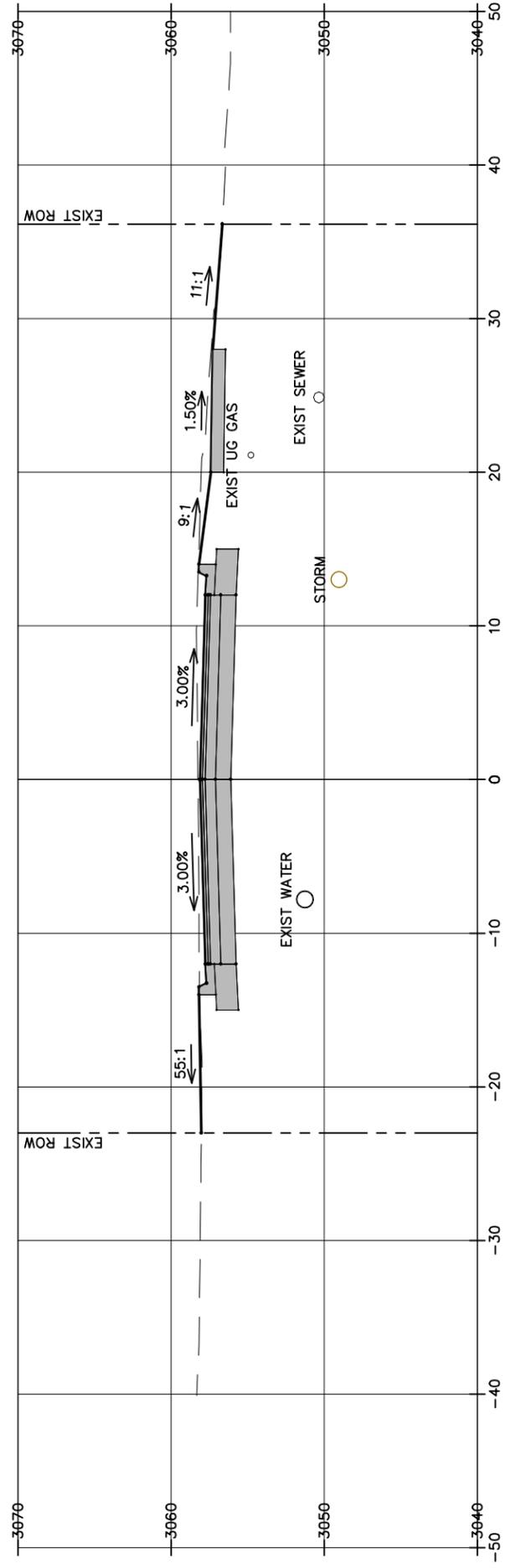
A. PAULY
DESIGNED BY
M. ROGERS
DRAWN BY
R. MITCHELL
CHECKED BY

March 2024
DATE
23208.000
PROJECT NO.
Cross Sections_KAR
FILE

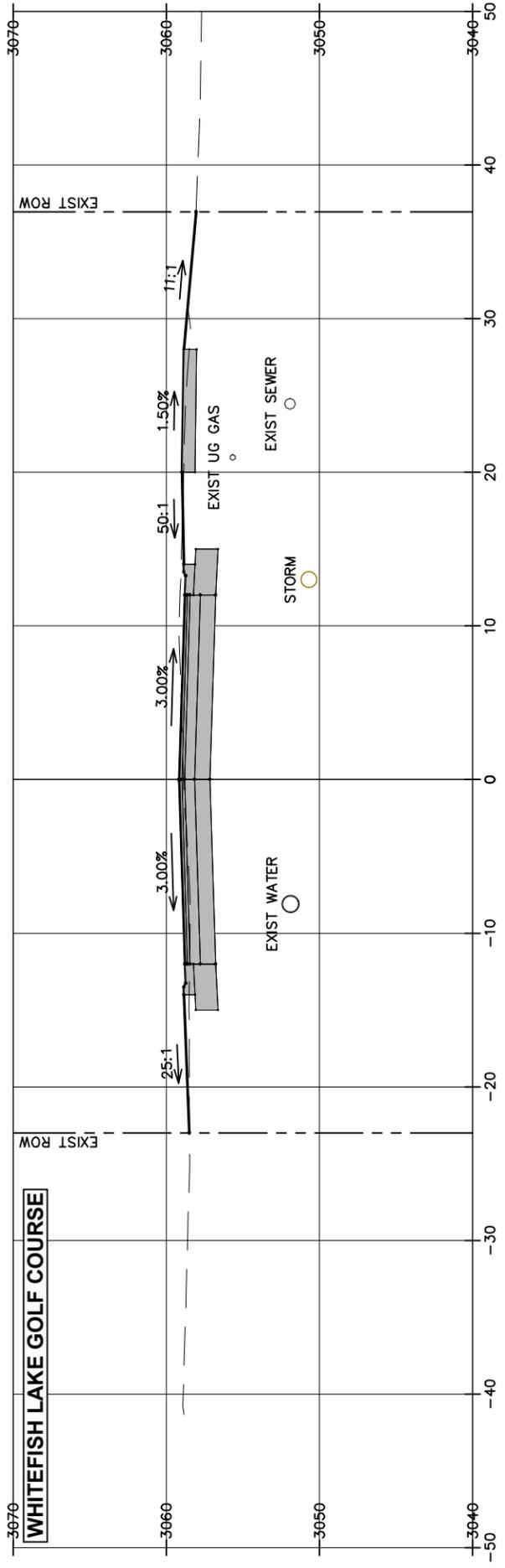
SYM	REVISION	BY	APPR.	DATE



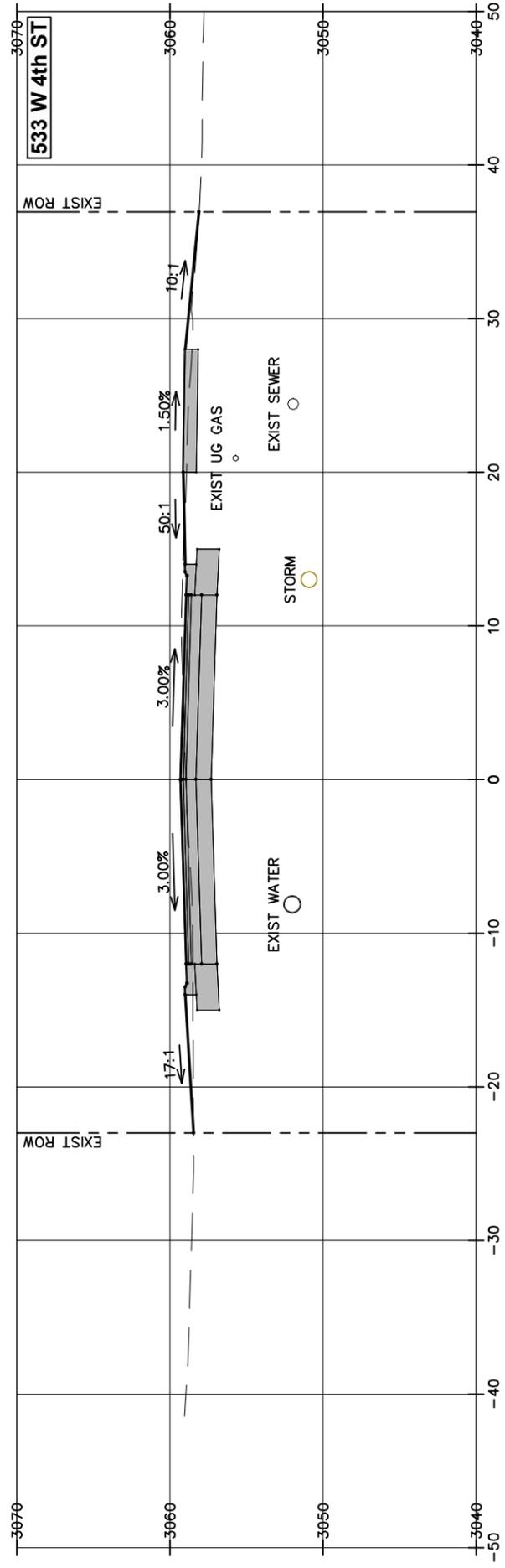
21+75.00



21+20.00



21+12.00



SHEET
XS-11

SHEET TITLE
**ROADWAY
CROSS SECTIONS**

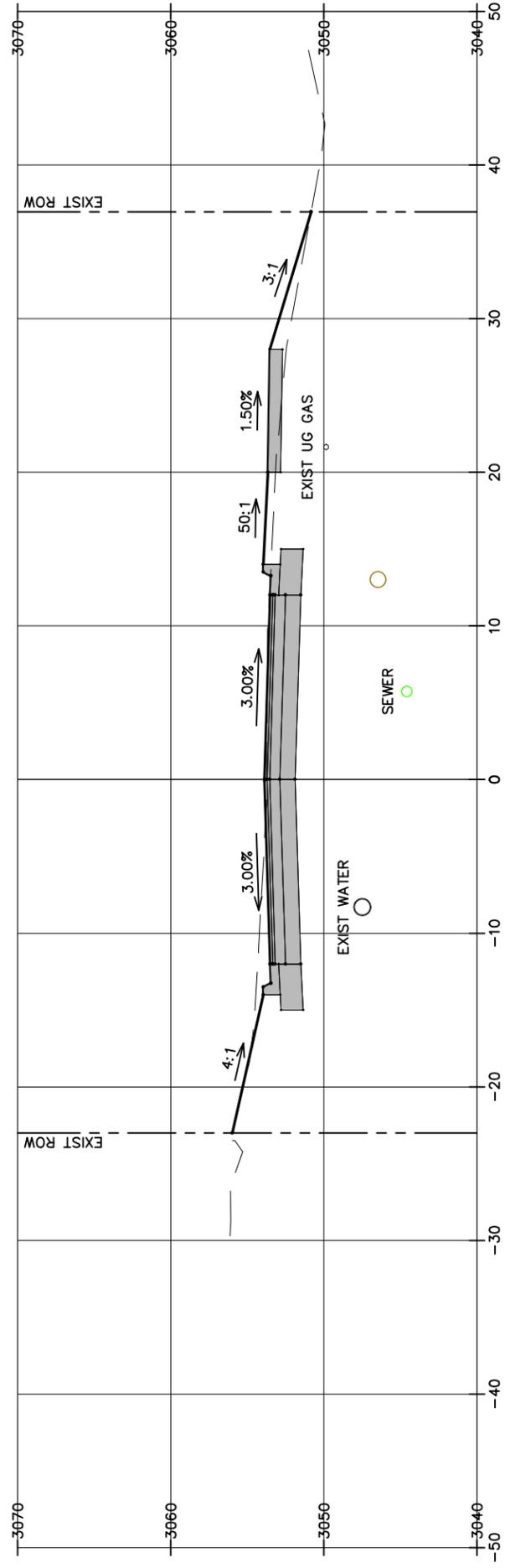
PROJECT TITLE
**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

A. PAULY
DESIGNED BY
M. ROGERS
DRAWN BY
R. MITCHELL
CHECKED BY

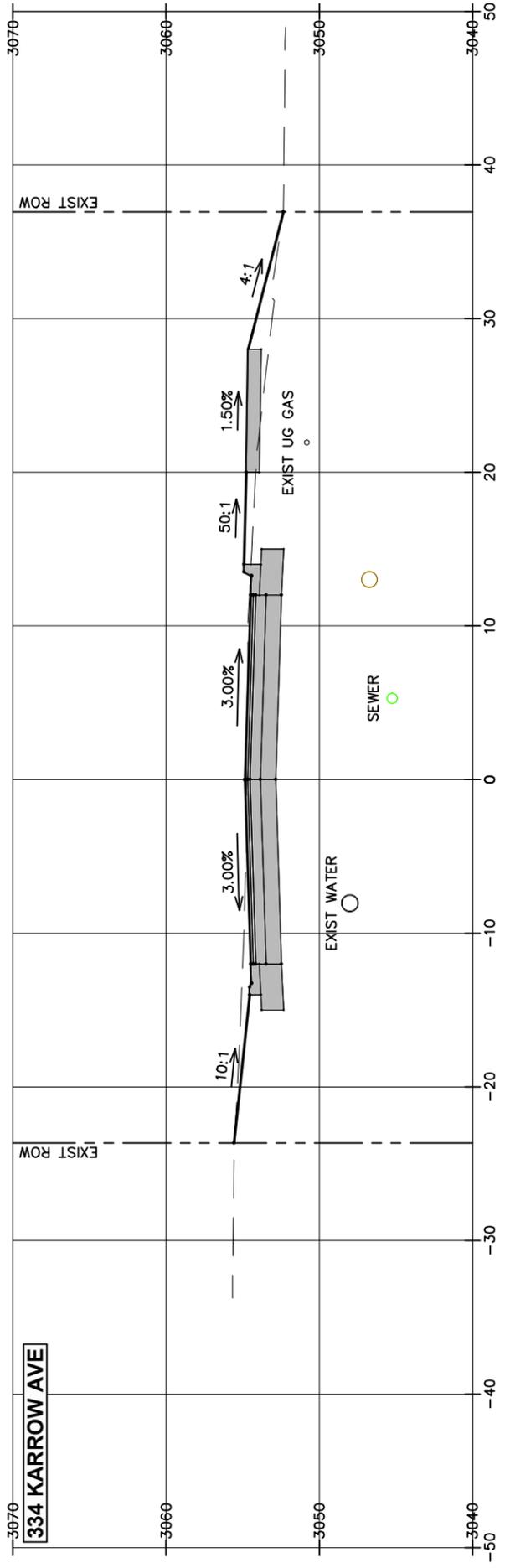
March 2024
DATE
23208.000
PROJECT NO.
Cross Sections_KAR
FILE

SYM	REVISION	BY	APPR.	DATE

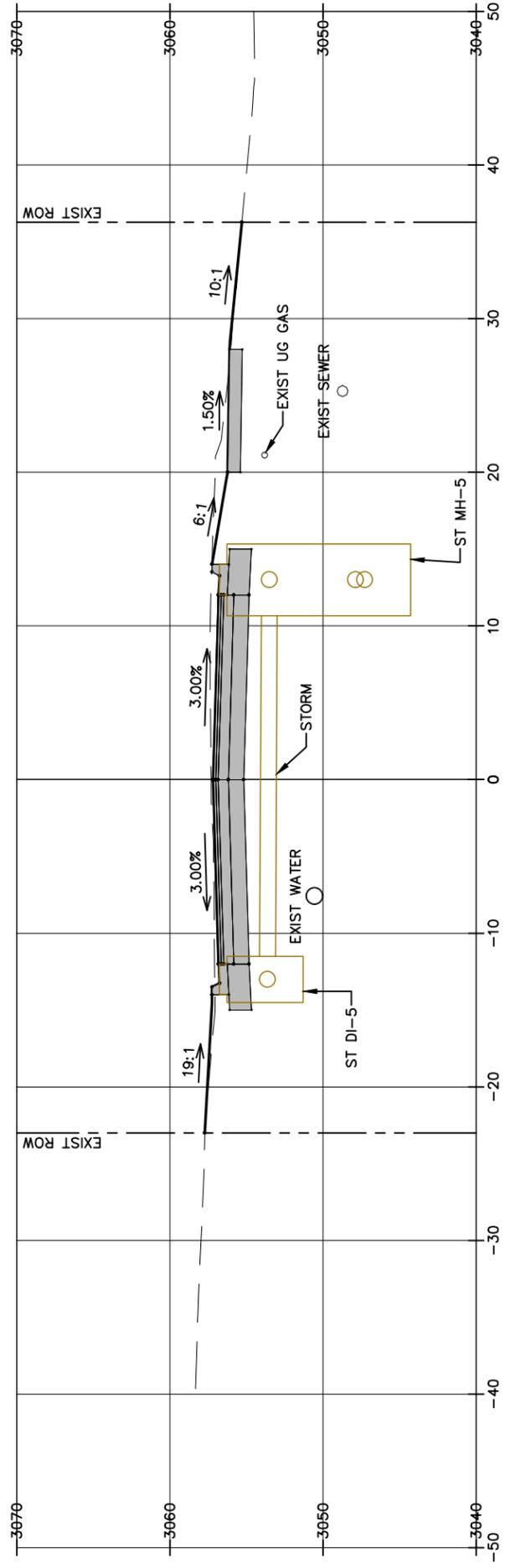
23+25.00



22+93.00



22+15.44



SHEET
XS-12

SHEET TITLE
**ROADWAY
CROSS SECTIONS**

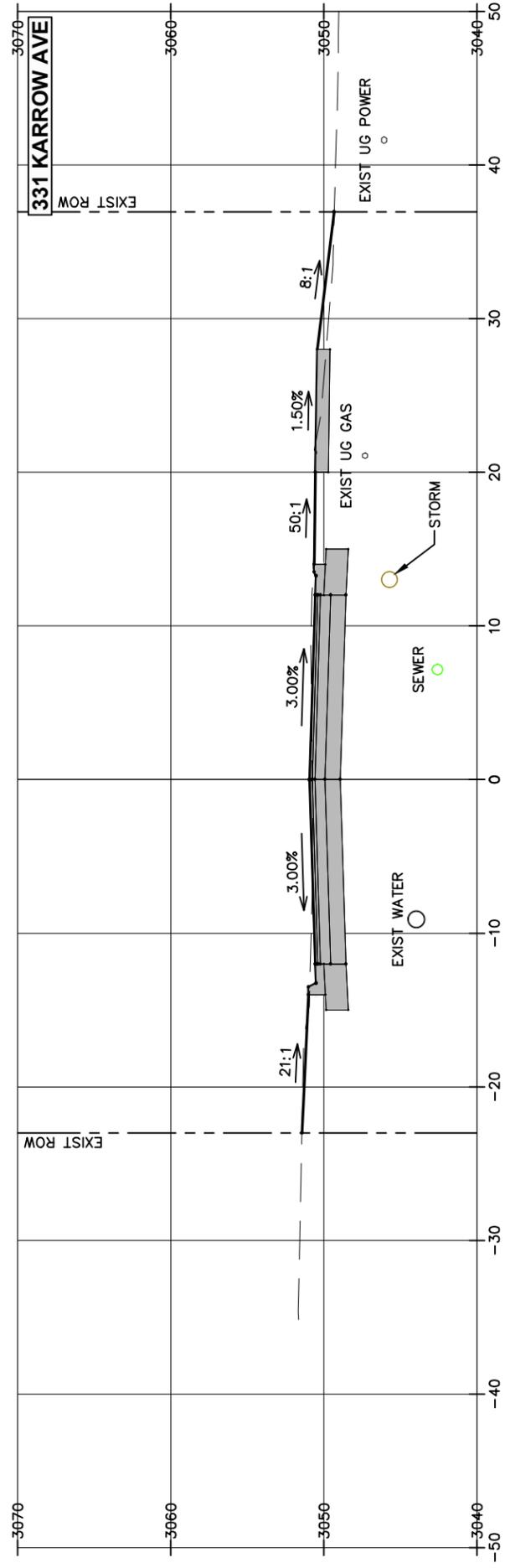
PROJECT TITLE
**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

A. PAULY
DESIGNED BY
M. ROGERS
DRAWN BY
R. MITCHELL
CHECKED BY

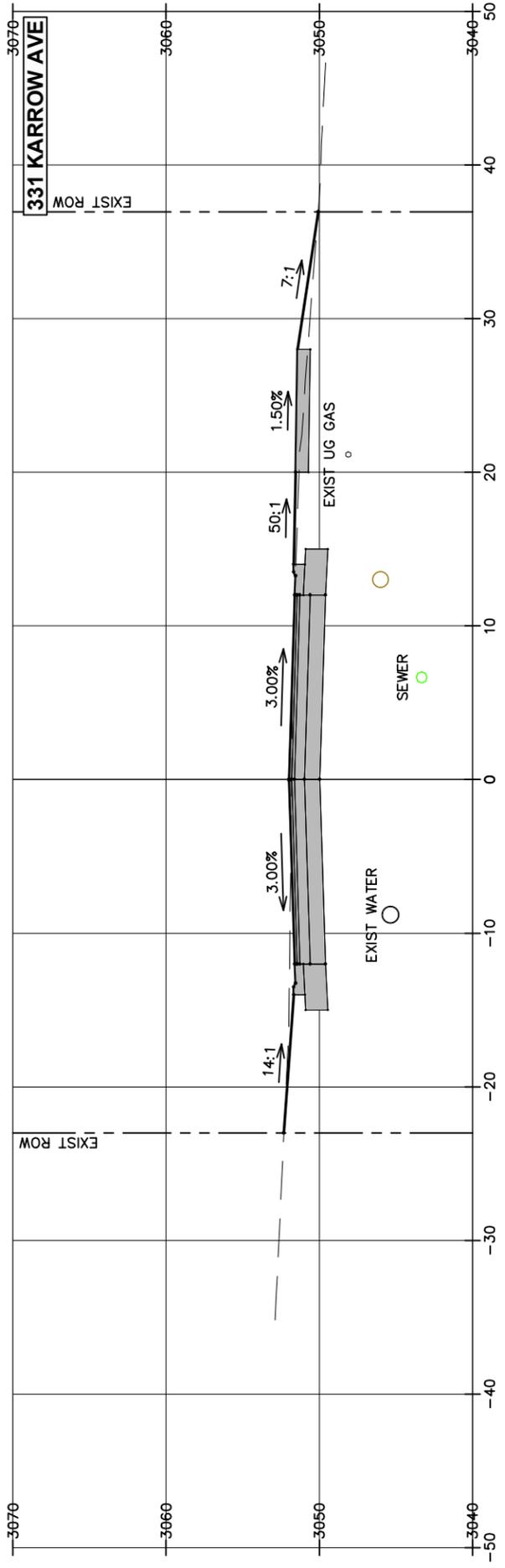
March 2024
DATE
23208.000
PROJECT NO.
Cross Sections_KAR
FILE

SYM	REVISION	BY	APPR.	DATE

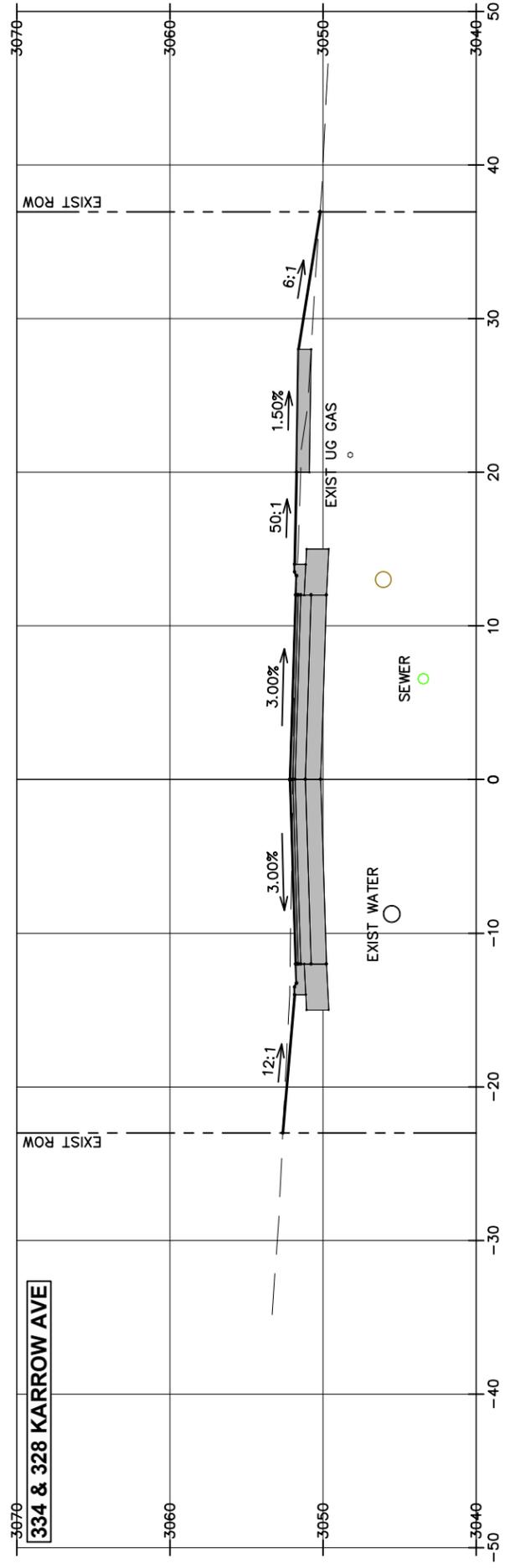
24+25.00



23+89.00



23+83.00



SHEET

XS-13

SHEET TITLE

**ROADWAY
CROSS SECTIONS**

PROJECT TITLE

**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

A. PAULY
DESIGNED BY
M. ROGERS
DRAWN BY
R. MITCHELL
CHECKED BY

March 2024
DATE
23208.000
PROJECT NO.
Cross Sections_KAR
FILE

SYM

REVISION

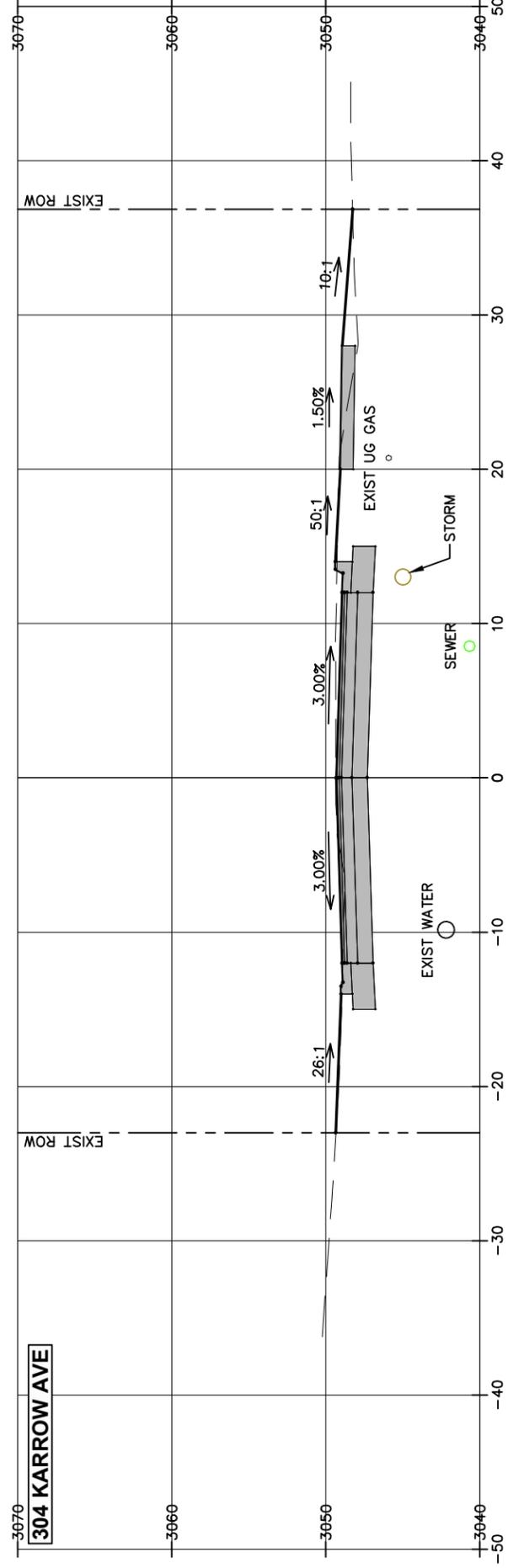
BY

APPR.

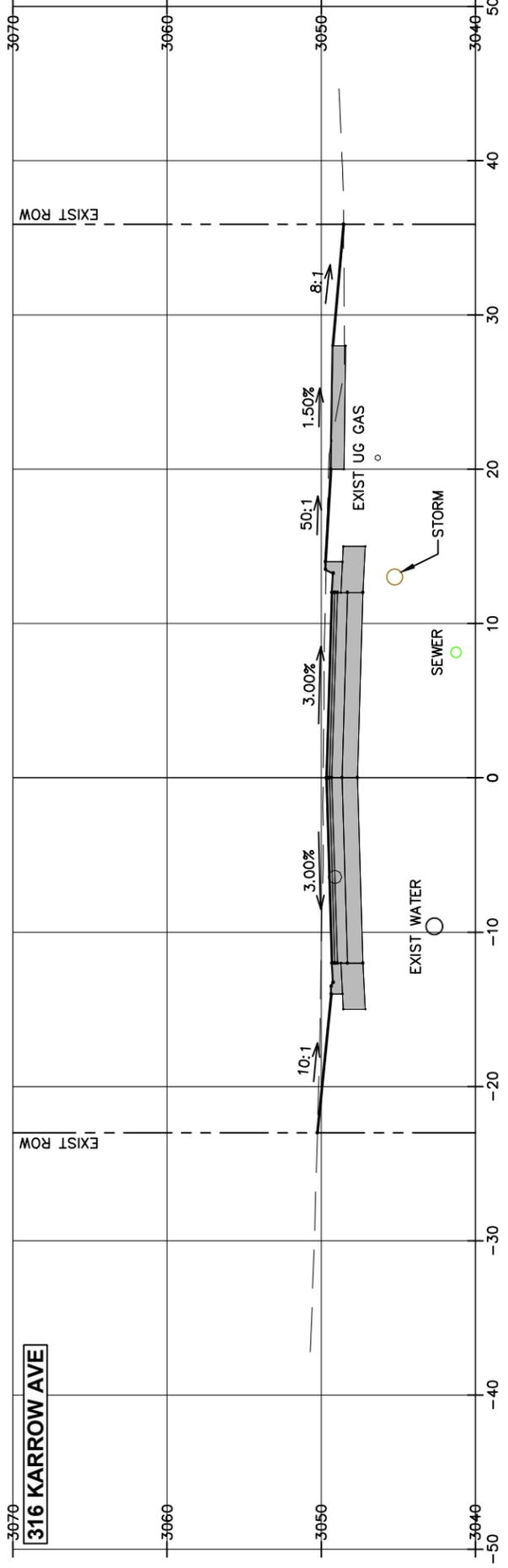
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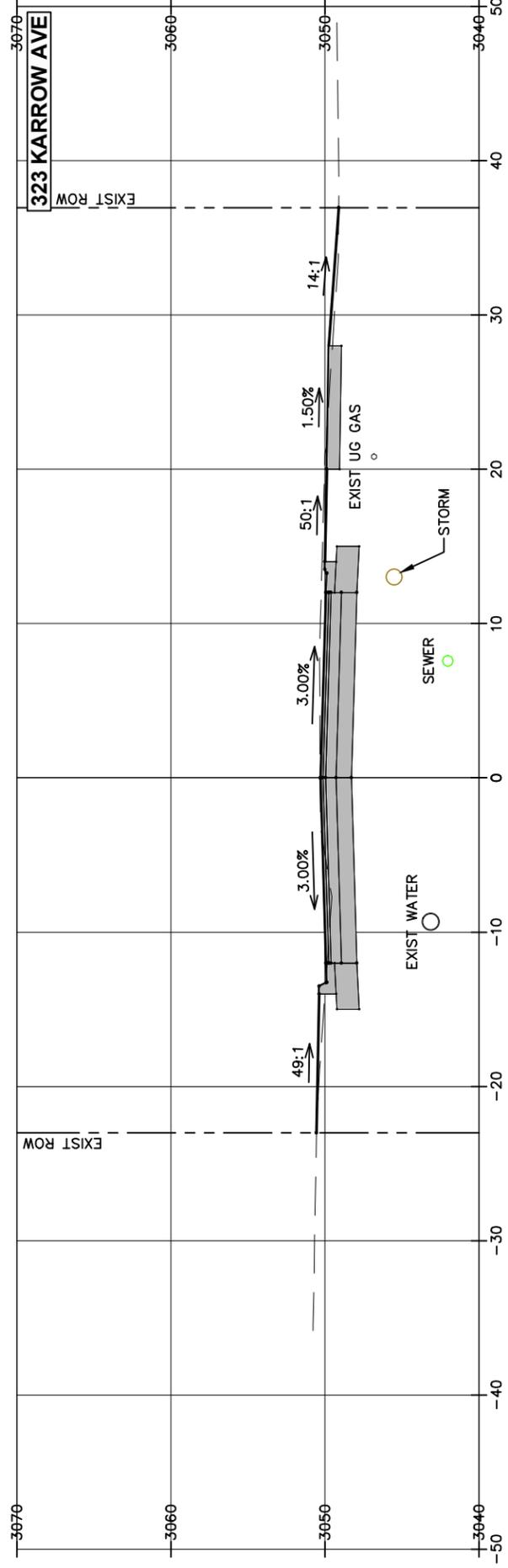
25+21.00



24+93.00



24+54.00



SHEET TITLE

**ROADWAY
CROSS SECTIONS**

PROJECT TITLE

**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

SHEET

XS-14

A. PAULY
DESIGNED BY
M. ROGERS
DRAWN BY
R. MITCHELL
CHECKED BY

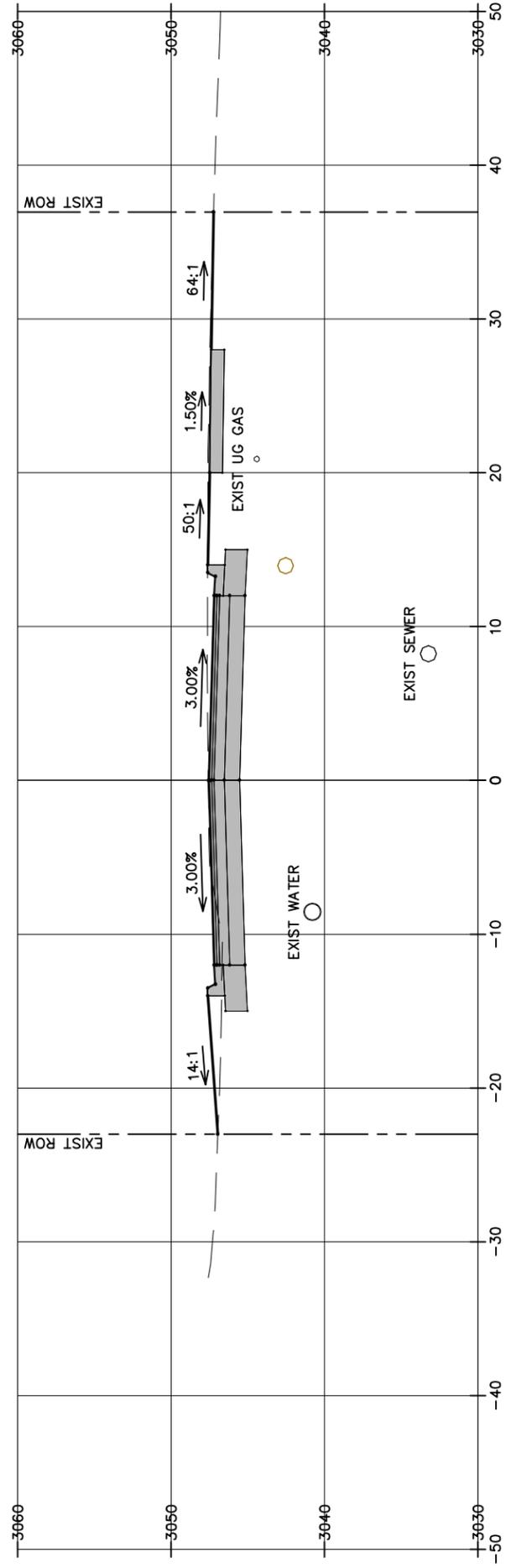
March 2024
DATE
23208.000
PROJECT NO.
Cross Sections_KAR
FILE

SYM REVISION

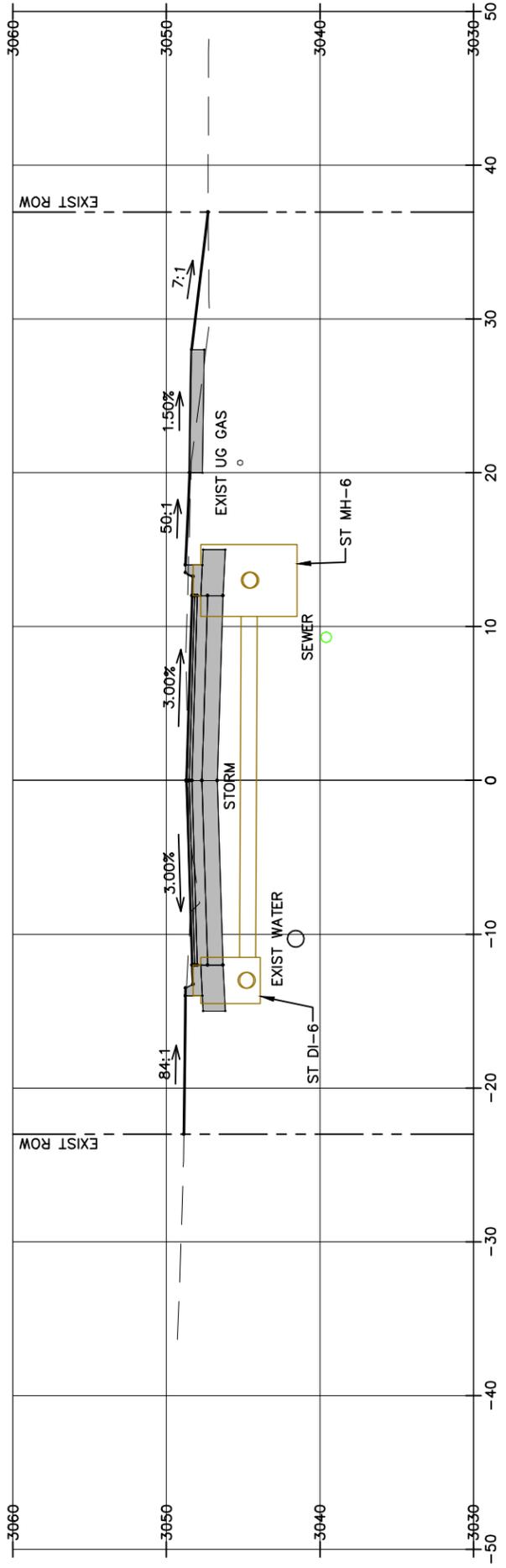
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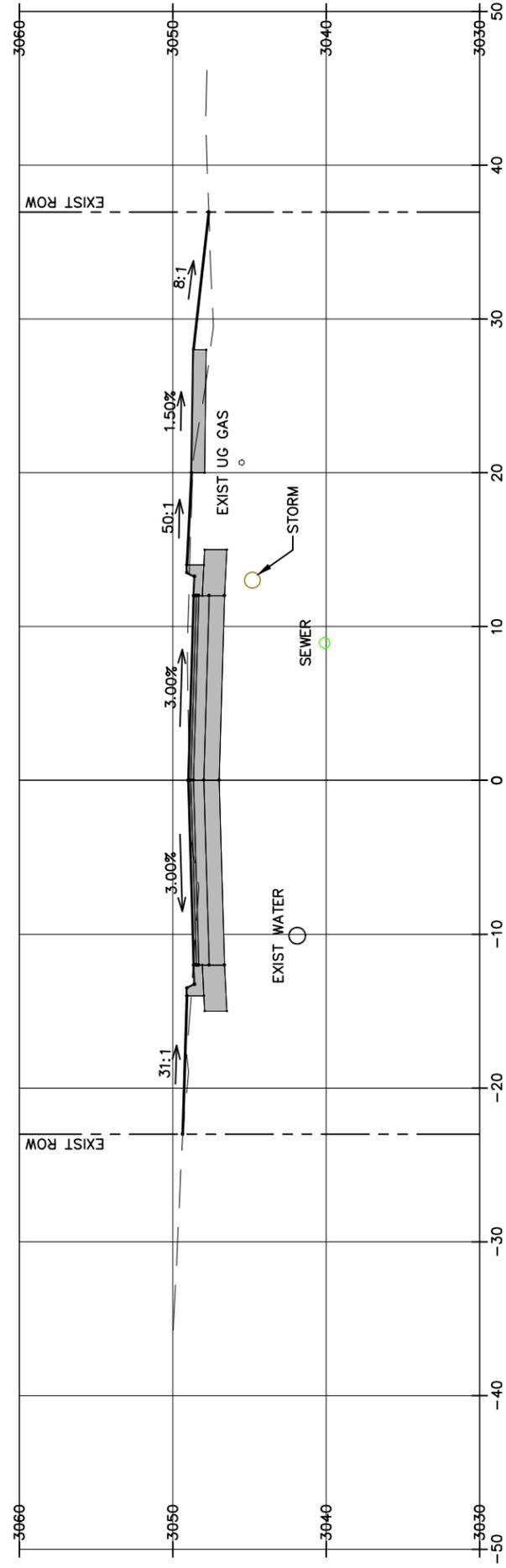
26+75.00



25+75.44



25+50.00



SHEET
XS-15

SHEET TITLE
**ROADWAY
CROSS SECTIONS**

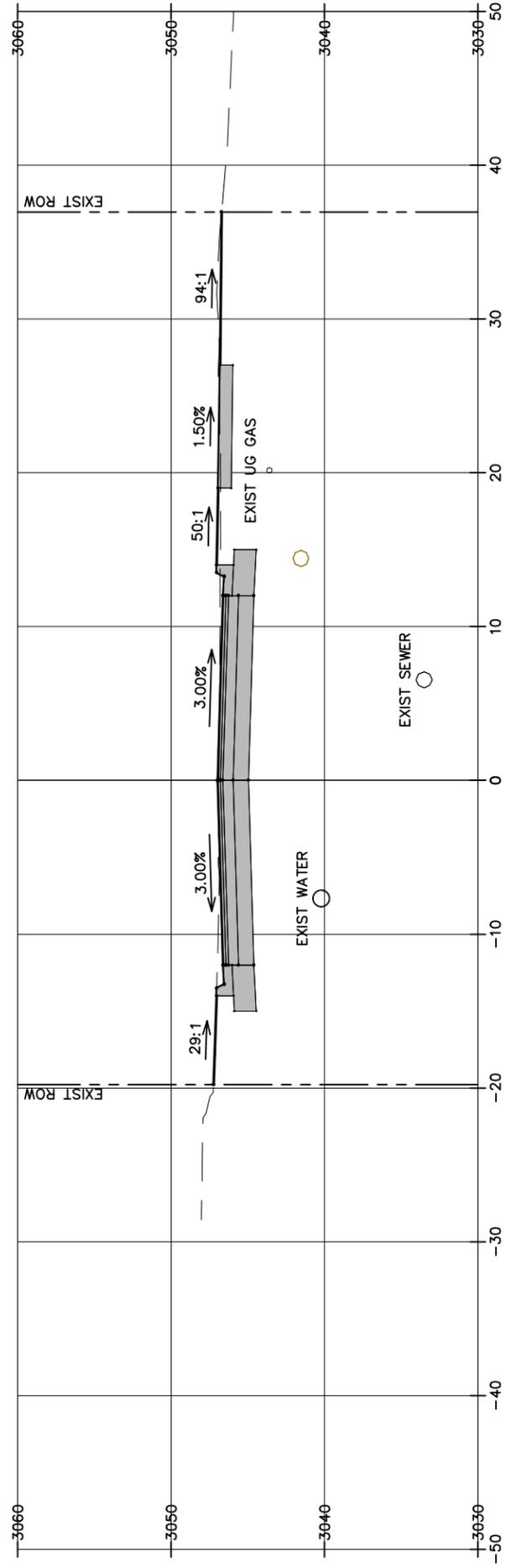
PROJECT TITLE
**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

DESIGNED BY: A. PAULY
DRAWN BY: M. ROGERS
CHECKED BY: R. MITCHELL
DATE: March 2024
PROJECT NO.: 23208.000
Cross Sections_KAR
FILE

SYM	REVISION	BY	APPR.	DATE



27+25.00



SHEET
XS-16

SHEET TITLE
**ROADWAY
CROSS SECTIONS**

PROJECT TITLE
**KARROW AVENUE ROADWAY
RECONSTRUCTION PROJECT**
Whitefish, Montana

A. PAULY
DESIGNED BY
M. ROGERS
DRAWN BY
R. MITCHELL
CHECKED BY

March 2024
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