

MASON COUNTY PUD 1

MASON COUNTY

WASHINGTON



LAKE ARROWHEAD WATER MAIN REPLACEMENT

PUD OFFICIALS

MIKE SHEETZ

DISTRICT 1 COMMISSIONER

RON GOLD

DISTRICT 2 COMMISSIONER

JACK JANDA

DISTRICT 3 COMMISSIONER

KRISTIN MASTELLER

GENERAL MANAGER

FUNDED THROUGH THE WASHINGTON STATE REVOLVING FUND (DWSRF)
PROGRAM WITH FEDERAL FUNDS FROM THE ENVIRONMENTAL
PROTECTION AGENCY. Project No. DWL27176



1130 RAINIER AVENUE SOUTH, SUITE 300
SEATTLE, WASHINGTON 98144 (206) 284-0860

AUG 2024
G&O #22249

ABBREVIATIONS

AC	ASBESTOS CEMENT PIPE	STD	STANDARD
ADJ	ADJUST	TB	THRUST BLOCK
ALT	ALTERNATE	TC	TOP OF CURB
ALUM	ALUMINUM	TEL	TELEPHONE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
AP	ANGLE POINT	THRD	THREADED
ASPH	ASPHALT	THRU	THROUGH
ASSY	ASSEMBLY	TYP	TYPICAL
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS	VERT	VERTICAL
AVE	AVENUE	W	WEST
BF	BLIND FLANGE	W/	WITH
BLDG	BUILDING	W/O	WITHOUT
BLK	BLOCK	WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
BO	BLOW OFF		
BOP	BEGINNING OF PROJECT		
BVCE	BEGIN VERTICAL CURVE ELEVATION		
BVCS	BEGIN VERTICAL CURVE STATION		
C	CONDUIT		
CAP	CORRUGATED ALUMINUM PIPE		
CB	CATCH BASIN		
CF	CUBIC FEET		
CFS	CUBIC FEET PER SECOND		
CICL	CAST IRON CLASS		
CLR	CLEARANCE		
CO	CLEANOUT		
CONC	CONCRETE		
CONN	CONNECTION		
CONT	CONTINUED/CONTINUOUS		
CPEP	CORRUGATED POLYETHYLENE PIPE		
CPLG	COUPLING		
CTR	CENTER		
CY	CUBIC YARD		
CL	CENTER LINE		
D	DRAIN		
DC	DEGREE OF CURVATURE		
DI	DUCTILE IRON		
DIA	DIAMETER		
DIM	DIMENSION		
DOT	DEPARTMENT OF TRANSPORTATION		
DWGS	DRAWING(S)		
E	EAST		
EA	EACH		
EL	ELEVATION		
ELEC	ELECTRICAL		
EOP	END OF PROJECT		
EXIST	EXISTING		
FIG	FIGURE		
FIN	FINISHED		
FL	FLANGE		
FT	FEET		
GA	GAUGE		
GALV	GALVANIZED		
GI	GALVANIZED IRON		
GV	GATE VALVE		
HDPE	HIGH DENSITY POLYETHYLENE PIPE		
ID	INSIDE DIAMETER		
IE	INVERT ELEVATION		
IN	INCH		
INV	INVERT		
L	LENGTH		
LB	POUND		
LF	LINEAR FEET		
MAX	MAXIMUM		
MFR	MANUFACTURER		
MH	MANHOLE		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
MJ	MECHANICAL JOINT		
N	NORTH		
NO	NUMBER		
NTS	NOT TO SCALE		
OC	ON CENTER		
OD	OUTSIDE DIAMETER		
PC	POINT OF CURVATURE		
PP	POWER POLE		
PRV	PRESSURE REDUCING VALVE		
PSC	PRESSURE SUSTAINING VALVE		
PT	POINT OF TANGENCY		
PVC	POLYVINYL CHLORIDE		
PVI	POINT OF VERTICAL INTERSECTION		
PVMT	PAVEMENT		
PVT	POINT OF VERTICAL TANGENT		
QTY	QUANTITY		
R	RADIUS		
R/W	RIGHT-OF-WAY		
RED	REDUCER		
REINF	REINFORCE		
REQD	REQUIRED		
RET	RETAINING		
RR	RAILROAD		
RPBA	REDUCED PRESSURE BACKFLOW ASSEMBLY		
S	SOUTH		
SCH	SCHEDULE		
SF	SQUARE FEET		
SHT	SHEET		
SL	SLOPE		
SPECS	SPECIFICATIONS		
SQ	SQUARE		
STA	STATION		

LINETYPES

EXISTING	PROPOSED	DESCRIPTION
<u>SURFACE FEATURES</u>		
		CURB (TYPE AS NOTED)
		CURB & GUTTER
		ASPHALT PAVEMENT
		GRAVEL SURFACING
		CONCRETE SURFACING
		CEMENT CONC. SIDEWALK
		FENCE/RAILING (TYPE AS NOTED)
		FENCE WITH GATE
		SILT FENCE/STRAW WATTLE
<u>SURVEY</u>		
		RIGHT-OF-WAY LINE
		CENTERLINE OF RIGHT-OF-WAY
		PROPERTY LINE
		CONTOUR LINE
<u>UTILITIES</u>		
		BURIED ELECTRICAL
		BURIED TELEPHONE/COMMUNICATIONS
		WATER MAIN (SIZE AS NOTED)
		FUTURE WATER MAIN
		STORM DRAIN (SIZE AS NOTED)
		CULVERT (SIZE & TYPE AS NOTED)
		DITCH CENTERLINE/THALWEG

SURFACE FEATURES/LANDSCAPING

EXISTING	PROPOSED	DESCRIPTION
		BUILDING
		APPROXIMATE DOORWAY LOCATION
		BUILDING EAVES
		RIP RAP
		ROCK WALL
		MODULAR BLOCK WALL
		SEGMENTAL BLOCK WALL
		SHRUB
		TREE (CONIFER)
		TREE (DECIDUOUS)

GENERAL NOTES

- IN GENERAL, EXISTING STRUCTURES AND FACILITIES ARE NOTED AS "EXISTING" AND ARE SHOWN IN LIGHT LINE WEIGHTS OR AS SCREENED BACKGROUND. NEW CONSTRUCTION, STRUCTURES, FACILITIES AND FEATURES ARE SHOWN IN HEAVY LINE WEIGHTS.
- MANY OF THE SYMBOLS SHOWN ON THIS LEGEND ARE USED ONLY WHERE THEY PROVIDE CLARITY AND ARE NOT NECESSARILY USED IN ALL APPLICATIONS. SOME CONTRACT DRAWINGS MAY HAVE ADDITIONAL LEGENDS APPLICABLE FOR THAT SPECIFIC DRAWING. SYMBOLS SHOWN ON SPECIFIC DRAWINGS GOVERN.
- THE CONTRACTOR SHALL VERIFY ALL PLANIMETRIC FEATURES AND DIMENSIONS PRIOR TO STARTING WORK AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS REFER TO THE HORIZONTAL AND VERTICAL PROJECTED PLANES, UNLESS OTHERWISE INDICATED.
- AT NO TIME SHALL CONCRETE, CONCRETE BY-PRODUCTS, SILTS AND SEDIMENTS, VEHICLE FLUIDS, PAINT, CHEMICALS, OR OTHER POLLUTING MATTER BE PERMITTED TO DISCHARGE TO THE TEMPORARY OR PERMANENT DRAINAGE SYSTEM, OR TO DISCHARGE FROM THE PROJECT SITE.

WATER SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		CAP/PLUG
		COUPLING/ADAPTER
		BOLLARD
		REDUCER
		THRUST BLOCK
		WATER METER
		WELL
<u>FIRE HYDRANT</u>		
		FIRE HYDRANT (3-NOZZLE)
<u>JOINTS</u>		
		FUSED FLANGE ADAPTER W/ BACKING RING /BLIND FLANGE
		MECHANICAL JOINT
<u>VALVES</u>		
		AIR/VACUUM RELIEF VALVE
		BLOW-OFF VALVE
		CHECK VALVE
		GATE VALVE
		WET TAP ASSEMBLY
<u>FUTURE VALVES & FITTINGS</u>		
		GATE VALVE
		FIRE HYDRANT (3-NOZZLE)
		FUSED FLANGE ADAPTER W/ BACKING RING /BLIND FLANGE

GAS/POWER/TELEPHONE SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		PAD MOUNT TRANSFORMER
		POWER VAULT (SIZE VARIES)
		TRANSMISSION TOWER
		UTILITY POLE
		UTILITY POLE W/ STREET LIGHT
		UTILITY POLE ANCHOR
		UTILITY PEDESTAL
		TELEPHONE VAULT (SIZE VARIES)

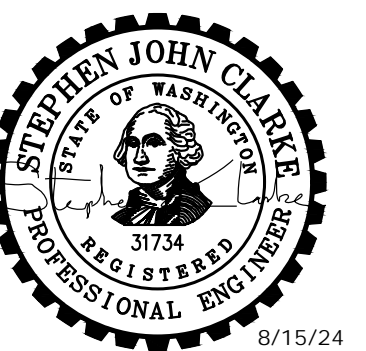
SURVEY SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		CONTROL POINT
		MONUMENT (IN CASE)
		MONUMENT (SURFACE)
		BENCH MARK
		BOUNDARY/PROPERTY CORNER
		IRON PIPE

SANITARY/STORM SEWER SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		STORM DRAIN MANHOLE/TYPE 2 CATCH BASIN (ACTUAL DIMENSION SHOWN FOR PROPOSED)
		STORM DRAIN CATCH BASIN, CONCRETE INLET, OR YARD/AREA DRAIN (ACTUAL DIMENSION SHOWN FOR PROPOSED)

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**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOUALLUM
RD., ELMA, WA 98541

No.	DATE	REVISION

ISSUED FOR: _____

ISSUE DATE: AUG 2024

APPROVED BY: S. CLARKE

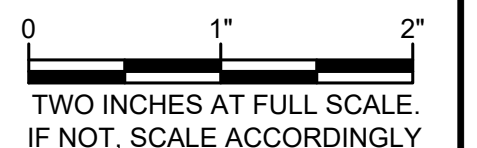
CHECKED BY: M. JOHNSON

DRAWN BY: P. SMILEY

DESIGNER: P. SMILEY

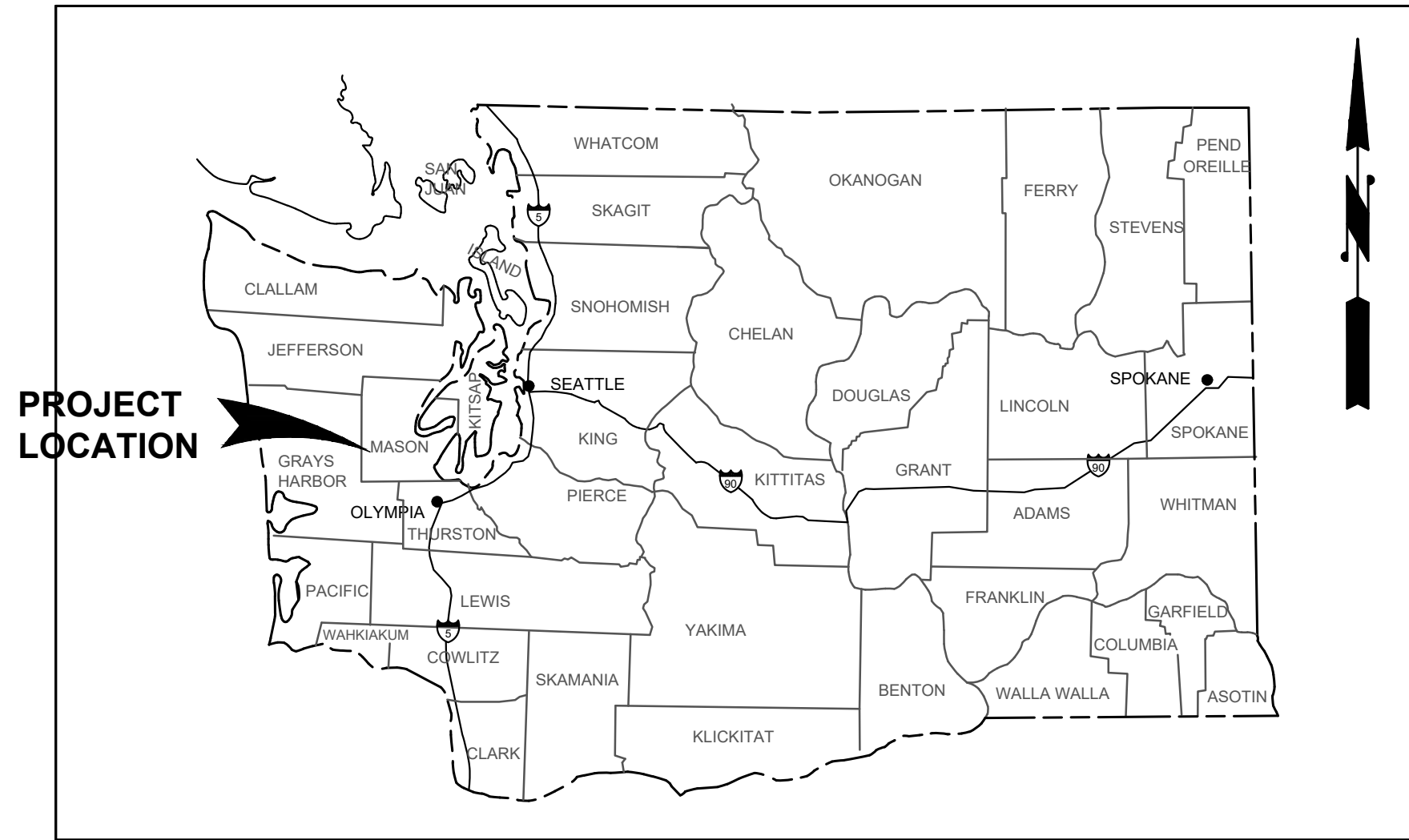
G & O JOB NO.: 22249

FILE: LEGEND.DWG



GENERAL

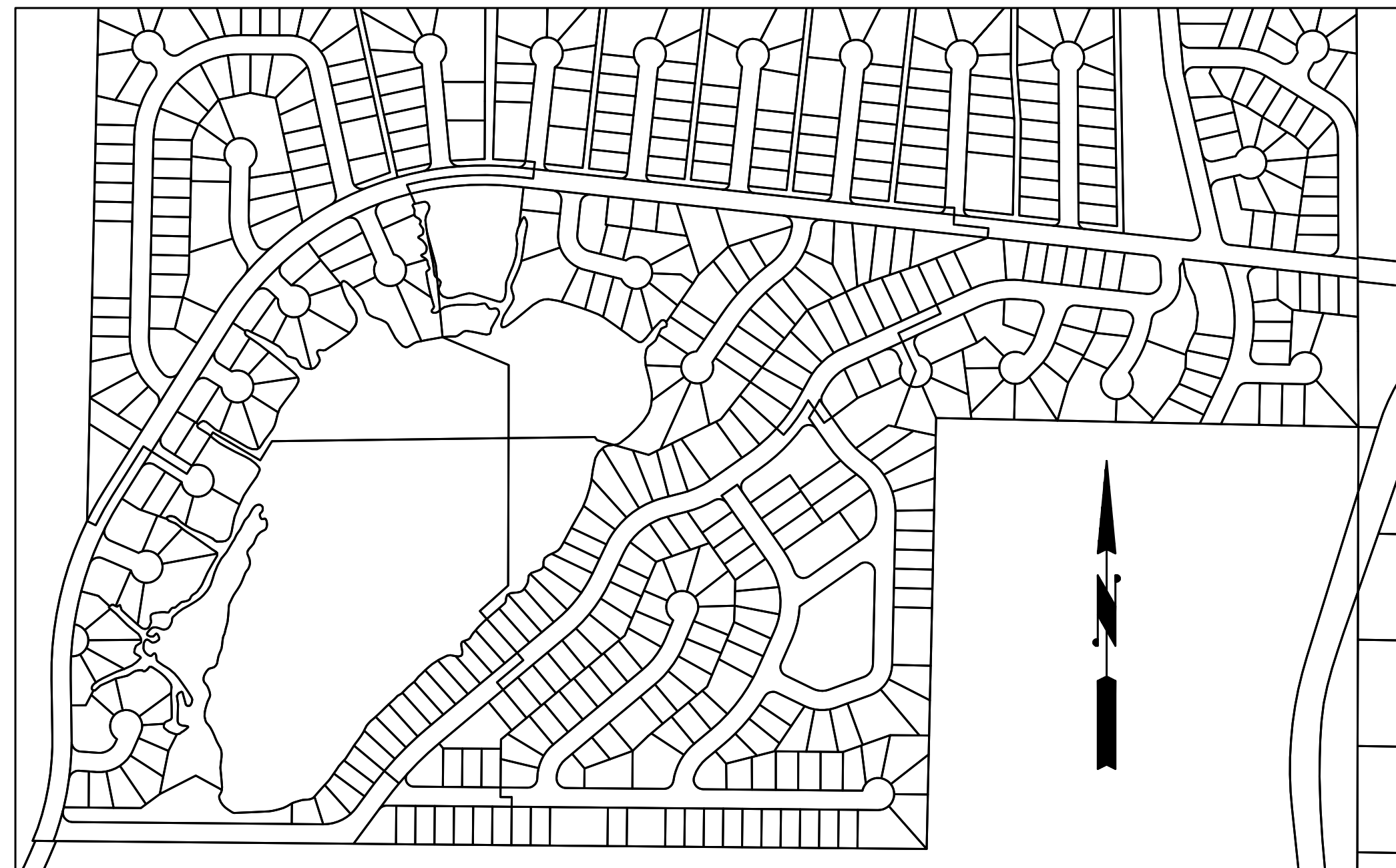
**ABBREVIATIONS,
SYMBOL LEGEND, AND
GENERAL NOTES**



VICINITY MAP
NTS



VICINITY MAP
NTS



PROJECT SITE
NTS

SHEET INDEX

SHEET	DESCRIPTION
--	COVER
G-1	ABBREVIATIONS, SYMBOL LEGEND, AND GENERAL NOTES
G-2	SHEET INDEX, VICINITY MAP, AND LOCATION MAP
G-3	SURVEY CONTROL PLAN
G-4	SURVEY CONTROL NOTES
G-5	SHEET KEYMAP
D-1	TESC NOTES & DETAILS
D-2	WATER MAIN DETAILS
D-3	WATER MAIN DETAILS
C-1	WOWA CT
C-2	W KIOWA PL
C-3	TEKOA PL
C-4	SEKIU PL
C-5	W HOKO PL
C-6	LOLO PL
C-7	QUEETS PL
C-8	SHEET FOR FUTURE CONSTRUCTION
C-9	KAMILICHIE TR
C-10	SHEET FOR FUTURE CONSTRUCTION
C-11	SHEET FOR FUTURE CONSTRUCTION
C-12	SHEET FOR FUTURE CONSTRUCTION
C-13	STA 30+00 TO 38+08
C-14	STA 38+08 TO 45+75
C-15	STA 45+75 TO 53+90
C-16	STA 53+90 TO 61+69
C-17	STA 61+69 TO 65+29 AND W TIPI CT
C-18	STA 65+29 TO 69+05 AND W CLOQUALLUM CT
C-19	STA 69+05 TO 71+50 AND CHINOOK CT
C-20	STA 71+50 TO 72+90 AND KALOCH LN
C-21	KALALOCH LN AND W KALAMA PL
C-22	SHEET FOR FUTURE CONSTRUCTION
C-23	SHEET FOR FUTURE CONSTRUCTION
C-24	SHEET FOR FUTURE CONSTRUCTION
C-25	HOQUIAM & SUQUAMISH TRAIL
C-26	W MAKAH TRAIL
C-27	W DOSEWALIPS TR
C-28	THUNDERBIRD DR (1)
C-29	THUNDERBIRD DR (2)
C-30	W TYEE PL

C-31	TOTEM DR
C-32	TOTEM DR AND SKOOKUM LN
C-33	PUYALLUP DR (1)
C-34	PUYALLUP DR (2)
C-35	W STAR LAKE DR AND MOWITCH CIRCLE
C-36	W STAR LAKE DR AND W CHIMACUM DR
C-37	W CHIMACUM DR AND PAPOOSE PL



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 CHECKED BY: _____ M. JOHNSON
 DRAWN BY: _____ P. SMILEY
 DESIGNER: _____ P. SMILEY
 G & O JOB NO.: _____ 22249
 FILE: _____ VICINITY.DWG

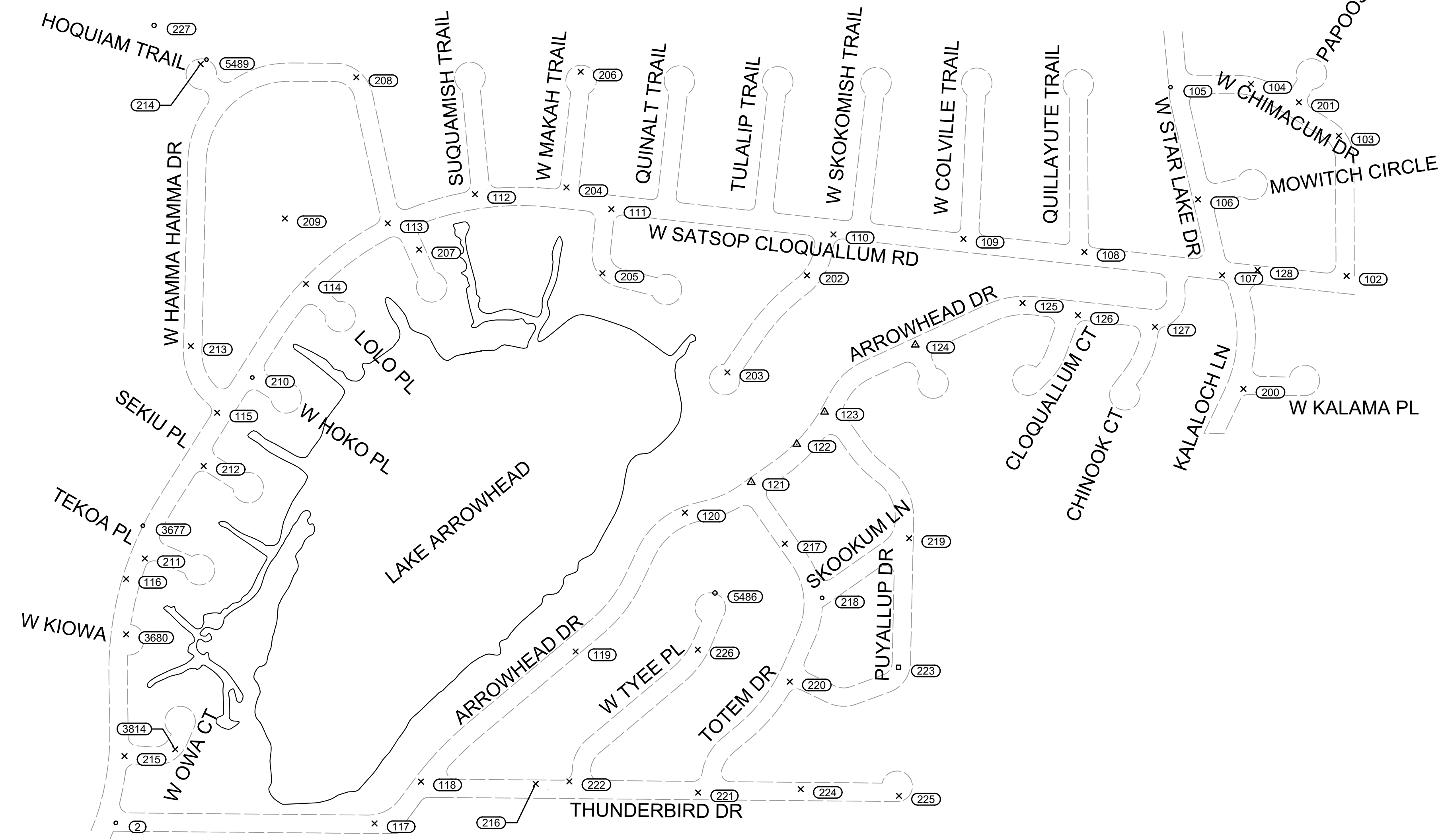
0 1" 2"
 TWO INCHES AT FULL SCALE.
 IF NOT, SCALE ACCORDINGLY

GENERAL

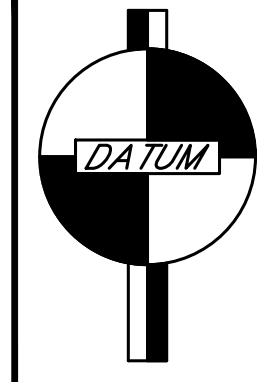
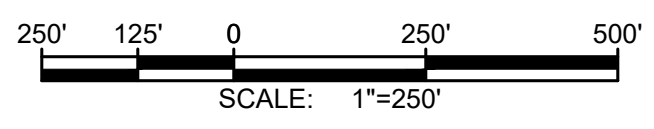
**SHEET INDEX, VICINITY
MAP, AND LOCATION
MAP**

DRAWING: **G-2** OF: **5**

M:\Mason County PUD 1\22249.00 Lake Arrowhead Water Main Replacement\01 Design\Plan\Set\General\Survey.dwg, 8/15/2024 11:54 AM, PATRICK SMILEY



SURVEY CONTROL
1" = 250'



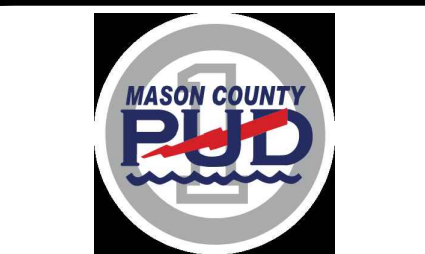
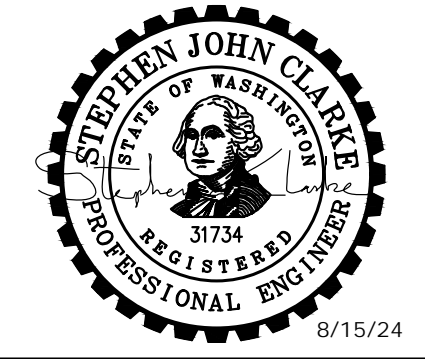
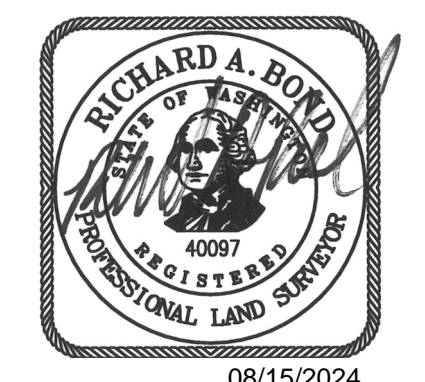
DATUM

VERTICAL: NAVD88
HORIZONTAL: NAD83/2011
W.S.P.C.S. S. ZONE

RIGHT-OF-WAY DISCLAIMER

THE RIGHT-OF-WAY AND/OR PROPERTY LINES SHOWN HEREON ARE BASED ON AVAILABLE INFORMATION, NOT ON A SURVEYED LOCATION AND ARE ONLY APPROXIMATE.

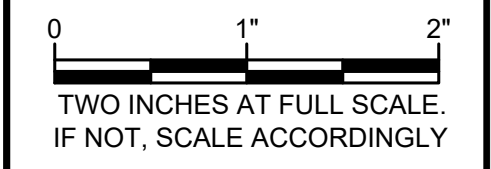
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No.	DATE	REVISION

ISSUED FOR: BID
ISSUE DATE: AUG 2024
APPROVED BY: M. JOHNSON
CHECKED BY: R. BOND
DRAWN BY: B. HAYDEN
DESIGNER: P. SMILEY
G & O JOB NO.: 22249
FILE: SURVEY.DWG



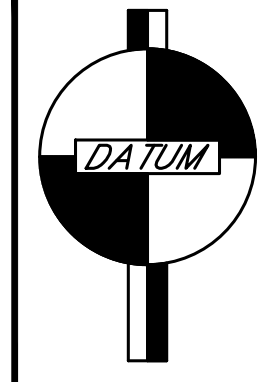
GENERAL

**SURVEY CONTROL
PLAN**

CONTROL COORDINATES TABLE

MASON COUNTY PUD 1 - LAKE ARROWHEAD WATER SYSTEM				
JOB NUMBER - 22249				
HORIZONTAL DATUM: NAD83/2011, EPOCH 2010.00 WASHINGTON PLANE COORDINATE SYSTEM, SOUTH ZONE, GRID NORTH MODIFIED GROUND COORDINATES, SCALED TO GROUND USING AVG. CGF OF 0.99994753270 AT BASE POINT G&O #101.				
VERTICAL DATUM: NAVD88 HOLDING WSDOT PUBLISHED ELEVATION ON WSDOT "LOST PRARIE" (G&O #1)				
POINT	NORTHING	EASTING	ELEV	DESCRIPTION
1	674868.85	958543.44	487.73	SFMC=FOUND MONUMENT IN CASE, WSDOT "LOST PRAIRIE" MON ID: 5421. DOWN 0.8' IN CASE.
2	668126.12	932681.38	341.42	SSS=SET SPIKE, SMALL MAG SPIKE DOWN 0.05' IN GRAVEL. S SIDE ARROWHEAD DR. 10' N10°E OF STREET NAME SIGN FOR "ARROWHEAD DR." 10' S OF WATER VALVE IN CONCRETE COLLAR. CENTERLINE GRAVEL ROAD, SW QUADRANT INTX ARROWHEAD DR & CLOQUALLUM.
100	669818.27	937288.44	346.38	SSN=SET NAIL, MAG NAIL W/ WHISKERS IN TRIANGLE SHOULDER BETWEEN SATSOP-CLOQUALLUM RD & W CLOQUALLUM RD. 8' FROM EDGE OF PAVEMENT ON BOTH SIDES.
101	669753.55	937768.51	346.72	SSN, 60-D NAIL W/ PINK WHISKERS AT GRADE IN GRAVEL SHOULDER. 5' S OF S EDGE OF ASPHALT OF CLOQUALLUM RD. 6' NW TOP CENTER OF 14" CMP CULVERT. 17' E OF CENTERLINE OF DRIVEWAY. 484' E OF G&O #100. 1ST DRIVEWAY E OF #100 TO SE.
102	669916.95	936709.08	336.41	SSN, SET MAG NAIL W/ WHISKERS E SIDE GRAVEL ACCESS ROAD "CHIMACUM DR." 15' N OF EDGE OF PAVEMENT OF SATSOP-CLOQUALLUM RD. 13.75' S OF PRIVATE RD/STREET NAME SIGN.
103	670375.51	936683.66	336.93	SSN, 60-D NAIL W/ WHISKERS, NE SIDE OF GRAVEL ACCESS ROAD. 15' SE OF CENTERLINE 1ST DRIVEWAY ON THE NE SIDE OF GRAVEL ROAD. 10' OF CPEP CULVERT.
104	670545.06	936396.09	337.62	SSN, 60-D NAIL W/ WHISKERS, N SIDE OF GRAVEL ACCESS ROAD. 3.5' N OF EDGE OF GRAVEL. 3' S OF TOP DITCH. 25' E OF CENTERLINE GRAVEL DRIVEWAY FOR EMPTY LOT. SECOND DRIVEWAY ON N SIDE FROM NORTH-SOUTH ROAD.
105	670535.10	936132.73	337.18	SSRC=SET 5/8" REBAR W/ RED PLASTIC "G&O CONTROL" CAP, TOP OF DITCH ACROSS FROM INTX OF GRAVEL ACCESS ROAD & STAR LAKE RD. 22.5' N OF CHAIN LINK FENCE CORNER. 13.5' W OF EDGE OF PAVEMENT.
106	670167.52	936222.93	336.58	SSN, LARGE MAG NAIL W/ FLAGGING, W OF STAR LAKE ROAD IN GRAVEL DRIVE FOR UTILITY DEPOT. 3' W OF EDGE OF ASPHALT. 3' N OF S EDGE OF GRAVEL. 15' NE OF CONC CULVERT.
107	669919.02	936301.92	336.95	SSN, LARGE MAG NAIL W/ FLAGGING, SE QUADRANT INTX STAR LAKE RD & CLOQUALLUM RD. 2' S OF EDGE OF ASPHALT. 13' N OF MAILBOX ROW. 25' E OF STREET NAME SIGN.
108	669995.60	935850.88	337.50	SSN, LARGE MAG SPIKE W/ FLAGGING, NE QUADRANT INTX OF CLOQUALLUM RD & QUILLAUTE TRAIL. 3' N OF EDGE OF ASPHALT. 11' W OF MAILBOX POST. 2.5' FROM TOP OF DITCH.
109	670038.30	935455.05	337.95	SSN, LARGE MAG NAIL W/ WHISKERS, NW QUADRANT INTX COLVILLE TRAIL & SATSOP-CLOQUALLUM RD. 2.5' N OF EDGE OF PAVEMENT. 2' SSE OF PHONE RISER.
110	670052.81	935029.89	337.95	SSN, LARGE MAG NAIL W/ WHISKERS, SE QUADRANT DOSEWALIPS TRAIL & SATSOP-CLOQUALLUM RD. 7' S OF EDGE OF ASPHALT. 4.5' NW OF CULVERT.
111	670135.39	934303.23	339.84	SSN, LARGE MAG NAIL W/ WHISKERS. 5.5' S OF EDGE OF ASPHALT OF SATSOP-CLOQUALLUM RD IN SE QUADRANT INTX W/ KAMILCHIE TRAIL. 6.5' NW OF CULVERT. 14' N OF WATER METER.
112	670184.51	933856.84	338.73	SSN, 60-D NAIL W/ WHISKERS AT EDGE OF GRAVEL, NW QUADRANT INTX OF SATSOP-CLOQUALLUM RD & SUQUAMISH TRAIL. 10' N OF EDGE OF ASPHALT. 20' SE OF STREET NAME SIGN.
113	670088.99	933571.29	339.20	SSN, 60-D NAIL W/ WHISKERS IN GRASS. AT NW QUADRANT HAMMA HAMMA DR & SATSOP-CLOQUALLUM RD. 21' N60°E OF POWER POLE.
114	669890.91	933303.80	342.05	SSN, 60-D NAIL W/ BLUE WHISKERS. 5.5' E OF E MAILBOX (OF 6). 6' N OF N EDGE OF SATSOP-CLOQUALLUM RD. AT W EDGE GRAVEL OF HOQUIAM TRAIL.
115	669469.25	933013.23	341.96	SSN, 60-D NAIL W/ BLUE WHISKERS IN GRASS SHOULDER. SW QUADRANT INTX HAMMA HAMMA DR & SATSOP-CLOQUALLUM RD. 3.5' NE OF DITCH TOP AT PC OF CURVE. 15' N32°E OF PHONE PEDESTAL.
116	668924.93	932715.14	344.00	SSN, 60-D NAIL W/ BLUE WHISKERS AT GRADE. IN EDGE OF GRAVEL S SIDE DRIVEWAY TO CLEAR CUT. 3' N OF DITCH TOP. 8' W OF W EDGE OF ASPHALT SATSOP-CLOQUALLUM RD. 10' NW OF EDGE OF ASPHALT/GRAVEL AP. DRIVEWAY IS S OF TEKOA PL.
117	668124.58	933528.00	344.88	SSN, 60-D NAIL W/ BLUE WHISKERS DOWN 0.05' IN GRAVEL SHOULDER, S SIDE OF ARROWHEAD DR. 1.25' NW OF S DITCH TOP. 3.5' S OF S EDGE OF GRAVEL. S29°E OF W END OF WOOD FENCE ALONG N EDGE OF GRAVEL AT HOUSE #60.
118	668261.42	933679.89	355.34	SSN, 60-D NAIL W/ BLUE WHISKERS IN DIRT SHOULDER. 4' W OF W EDGE OF GRAVEL OF ARROWHEAD DR. SW QUADRANT INTX ARROWHEAD DR & W THUNDERBIRD DR. 7.5' SSE OF FIRE HYDRANT.
119	668687.40	934186.02	371.10	SSN, 60-D NAIL W/ BLUE WHISKERS AT SE EDGE OF ASPHALT ARROWHEAD DR. 12' SSW OF CENTERLINE DRIVEWAY TO #481.
120	669141.85	934543.71	345.18	SSN, 60-D NAIL W/ WHITE WHISKERS. 2' NW OF NW EDGE ASPHALT OF ARROWHEAD DR. IN CURVE. 47' SW OF CENTERLINE N DRIVEWAY TO LACC PARK. 8' SSE OF SSE FACE OF 12" FIR TREE.
121	669242.03	934760.75	353.67	SSNT, LARGE MAG NAIL W/ SMALL UNMARKED FLASHER. 0.5' S OF N EDGE OF ASPHALT ARROWHEAD DR. AT CENTERLINE EXTENDED OF TOTEM DR. 3' S OF CENTER OF LARGE MILLSAW BLADE "LAMPHEREIS."
122	669366.39	934909.58	362.75	SSNT, LARGE MAG NAIL W/ "G&O CONTROL" TAG, 1' W OF E EDGE OF ASPHALT OF ARROWHEAD DR. 103' S OF MAILBOX TO HOUSE #20. 162' S OF CENTERLINE EXTENDED OF SKOOKUM LN.
123	669471.79	935000.61	355.40	SSNT, LARGE MAG NAIL W/ "G&O CONTROL" TAG, 1' E OF W EDGE OF ASPHALT OF ARROWHEAD DR. INTX SKOOKUM LN & ARROWHEAD DR. CENTERLINE OF SKOOKUM EXTENDED.
124	669691.50	935297.53	362.80	SSNT, LARGE MAG NAIL W/ "G&O CONTROL" TAG, 1.1' SE OF NW EDGE OF ASPHALT OF ARROWHEAD DR. AT NE EDGE OF GRAVEL OF TIPI CT EXTENDED. 9' NE OF TIPI CT CENTERLINE EXTENDED.
125	669828.22	935648.69	369.44	SSN, 60-D NAIL W/ BLUE WHISKERS. 3.5' N OF N EDGE OF ASPHALT OF ARROWHEAD DR. 4' S OF S FACE OF 56" TREE STUMP. 36' E OF CENTERLINE EXTENDED OF DRIVEWAY TO #121.
126	669788.23	935829.83	372.92	SSN, 60-D NAIL W/ TURQUOISE WHISKERS. AT E EDGE OF GRAVEL IN CURVE. SE QUADRANT INTX CLOQUALLUM CT & ARROWHEAD DR. 15' WSW OF W FACE OF MAILBOX FOR #100W.
127	669750.11	936082.09	349.67	SSN, 60-D NAIL W/ BLUE WHISKERS. DOWN 0.1' IN GRAVEL. AT S EDGE OF GRAVEL CHINOOK CT IN CURVE. AT SE QUADRANT INTX CHINOOK & ARROWHEAD DR. 2' N OF GROUND TOP. 5.5' NE OF STREET NAME SIGN FOR "CHINOOK CT." 8' N OF N FACE OF 28" EVERGREEN.

128	669936.46	936417.86	336.35	SSN, 60-D NAIL W/ BLUE WHISKERS. DOWN 0.05' IN E EDGE OF GRAVEL DRIVEWAY TO #160W SATSOP-CLOQUALLUM RD. 4.5' N OF N EDGE OF ASPHALT SATSOP-CLOQUALLUM RD.
200	669547.21	936371.42	335.13	SSN, 60-D NAIL W/ WHISKERS. IN SE QUADRANT KALALACH LN & KALAMA PL. 3.5' SE OF EDGE OF GRAVEL. 20' NE OF POWER POLE. 15' N OF STREET NAME SIGN.
201	670485.23	936552.75	336.97	SSN, MAG NAIL W/ FLAGGING IN GRAVEL AT NE QUADRANT INTX PAPOOSE PL & CHIMACUM DR. 5' W OF EDGE OF GRAVEL. 17' S80°W OF STREET NAME SIGN FOR "PAPOOSE PL."
202	669918.62	934943.54	338.54	SSN, MAG SPIKE, NW SIDE OF DOSEWALIPS TRAIL NEAR 1ST DRIVEWAY NE SIDE OF ROAD. NE LINE EXTENDED.
203	669601.06	934682.89	339.33	SSN, 60-D NAIL W/ WHISKERS, W SIDE OF DOSEWALIPS TRAIL AT BEGINNING OF CULDESAC. 40' NW OF CORNER OF S PVC FENCE EXTENDED. 70' NE OF 48" SPRUCE & 36" CEDAR GROWING TOGETHER.
204	670206.76	934156.11	340.35	SSN, 60-D NAIL W/ WHISKERS, W EDGE OF GRAVEL MAKAH TRAIL. 30' N OF EDGE OF ASPHALT SATSOP-CLOQUALLUM RD. 18' SW OF DEAD END SIGN. 22' ENE OF STREET NAME SIGN.
205	669925.52	934273.87	338.40	SSN, 60-D NAIL W/ WHISKERS, S OF BEND IN KAMILCHE RD. 8' NE OF POWER POLE.
206	670585.57	934202.58	344.60	SSN, 60-D NAIL W/ WHISKERS, N END OF CULDESAC W MAKAH TRAIL.
207	670003.26	933674.38	337.87	SSN, 60-D NAIL W/ BLUE WHISKERS AT GRADE. AT E EDGE OF GRAVEL QUEETS PL. 15' S OF CENTERLINE 1ST DRIVEWAY ON LEFT TURNING INTO QUEETS. 15' WNW OF POWER POLE.
208	670567.03	933468.67	354.42	SSN, 60-D NAIL W/ BLUE WHISKERS IN GRASS SHOULDER. 2.5' SW OF DITCH TOP. 7' NE OF NE EDGE OF GRAVEL OF HAMMA HAMMA DR. IN CURVE 22' NW OF CENTERLINE DRIVEWAY LOT #33.
209	670105.18	933234.34	343.88	SSN, 60-D NAIL W/ BLUE WHISKERS IN GRAVEL RD. 3.5' E OF W EDGE GRAVEL OF HOQUIAM TRAIL. AT 20' CEDAR TREE. 57' N OF CENTERLINE GATED DRIVEWAY TO HOUSE #41.
210	669584.36	933128.07	342.88	SSS, MAG SPIKE AT GRADE. 6' W OF CENTERLINE OF HOKO PL. 10' S OF S EDGE ASPHALT SATSOP-CLOQUALLUM. S'61E OF WESTERLYMOST MAILBOX N OF N EDGE OF ASPHALT. MAILBOX FOR #24 "MCFARLAND."
211	668992.00	932776.19	341.29	SSN, 60-D NAIL W/ BLUE WHISKERS DOWN 0.05' IN GRASS. 7' E OF E EDGE OF ASPHALT SATSOP-CLOQUALLUM RD. 13' W OF N END OF CENTERLINE LANDSCAPING LINE. 24' S45°W OF STREET NAME SIGN FOR "TEKOA PL."
212	669294.52	932969.05	339.85	SSN, 60-D NAIL W/ BLUE WHISKERS IN GRASS. 8' S OF S EDGE OF GRAVEL SEKIU PL. 8.5' SW OF "DEAD END PVT RD" SIGN. 5' NNE OF N FACE OF POWER POLE.
213	669687.20	932926.75	346.37	SSN, 60-D NAIL W/ BLUE WHISKERS AT W EDGE OF GRAVEL HAMMA HAMMA DR. 29' N OF CENTERLINE DRIVEWAY TO #346.
214	670610.24	932959.17	370.05	SSN, 60-D NAIL W/ BLUE WHISKERS AT GRADE. 9' E OF E FACE OF POWER POLE W/ TRANSFORMER IN CENTER OF CULDESAC HOH CIRCLE.
215	668344.79	932709.96	345.39	SSN, 60-D NAIL W/ BLUE WHISKERS, 10' E OF E EDGE OF ASPHALT SATSOP-CLOQUALLUM DR. AT S EDGE OF GRAVEL OWA CT. 5.5' WNW OF WATER VALVE. 7.5' NNW OF STREET NAME SIGN FOR "OWA CT."
216	668254.26	934055.50	394.28	SSN, 60-D NAIL W/ BLUE WHISKERS, 0.5' S OF N EDGE GRAVEL THUNDERBIRD DR. 3.5' S OF DITCH TOP. W OF INTX W/ W TYEE PL. E OF #118 AT TOP OF HILL.
217	669040.39	934870.50	374.02	SSN, 60-D NAIL W/ BLUE WHISKERS, AT S EDGE OF GRAVEL TOTEM DR. CENTERLINE EXTENDED DRIVEWAY TO N. 33' W OF CENTERLINE DRIVEWAY TO #44.
218	668862.78	934992.79	370.03	SSS, MAG SPIKE, DOWN 0.05' IN GRAVEL. INTX TOTEM DR & SKOOKUM LN. 33' N09°W OF NNW FACE OF POWER POLE W/ LIGHT. 42' S60°W OF NNW FACE OF 36" EVERGREEN TREE AT PARK W OF RV DUMP. 48' SSE OF CENTERLINE DRIVEWAY TO #101W "KANE."
219	669058.11	935277.62	351.23	SSN, 60-D W/ BLUE WHISKERS AT N EDGE OF GRAVEL DRIVEWAY TO "DIV 7 LOT 2." 6' W OF W EDGE OF GRAVEL TO PUYALLUP DR.
220	668588.72	934886.73	371.10	SSN, 60-D W/ BLUE WHISKERS. INTX TOTEM DR & PUYALLUP DR.
221	668225.50	934587.30	381.10	SSN, 60-D W/ BLUE WHISKERS. SW QUADRANT INTX TOTEM DR & W THUNDERBIRD DR.
222	668261.95	934165.85	396.17	SSN, 60-D W/ WHITE WHISKERS. NW QUADRANT INTX W TYEE PL & W THUNDERBIRD DR.
223	668636.03	935242.42	370.17	SSHT=HUB W/ SMALL MAG NAIL, W/ BLUE WHISKERS IN GRASS AT TOP BANK/SHOULDER. E SIDE PUYALLUP DR.
224	668236.84	934922.95	384.08	SSN, 60-D NAIL W/ BLUE WHISKERS, DOWN 0.1' IN DIRT. 0.5' N OF N EDGE OF GRAVEL THUNDERBIRD DR. 18' W OF CENTERLINE DRIVEWAY TO "MORENO."
225	668214.72	935244.33	420.55	SSN, 60-D NAIL W/ BLUE WHISKERS AT GRADE IN DIRT. 2' S OF S EDGE OF GRAVEL THUNDERBIRD DR. 39' W OF CENTERLINE DRIVEWAY TO #290.
226	668693.41	934585.82	408.24	SSN, 60-D NAIL W/ BLUE WHISKERS DOWN 0.05' IN GRASS. 1' E OF E EDGE GRAVEL OF W TYEE PL. 6' SSE OF S END OF WOOD FENCE. W OF POWER POLE "MASON CO PUD 3 #003840."
227	670737.16	932806.69	383.66	SFRC=FOUND REBAR W/ CAP, 1/2" REBAR W/ YELLOW PLASTIC "K BLUHM" CAP. 16.22' S82°W OF 12" ALDER BEARING TREE W/ BLAZES & SECTION CORNER CARD. NW CORNER OF DIVISION 4 PLAT.
3677	669099.03	932769.83	344.33	SFP=FOUND PIPE, 1/2" INSIDE DIAMETER PIPE. 0.6' ABOVE GRADE. AT ALDER CLUSTER W/ FOUR BLAZES & BOUNDARY SIGN. SW TIP OF DIVISION 4 PLAT.
3680	668743.59	932715.65	341.30	SSN*TEMP, TEMPORARY CONTROL. MAG NAIL W/ FLAGGING. AT W KIOWA, JUST OFF SATSOP-CLOQUALLUM RD.
3814	668367.52	932875.94	340.66	SSN*TEMP, TEMPORARY CONTROL. MAG NAIL W/ FLAGGING. IN GRASS, S SHOULDER OWA CT, IN CURVE.
5486	668878.78	934641.96	404.49	SFRC, 5/8" REBAR W/ YELLOW PLASTIC "ROSE 44645" CAP.
5489	670625.12	932978.07	369.28	SFP, 7/8" OUTSIDE DIAMETER IRON PIPE. 0.2' ABOVE GRADE. AT PIPE MARKER.



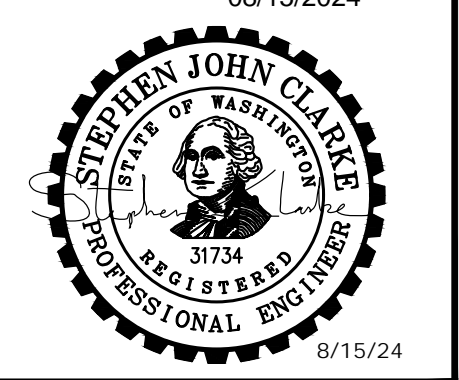
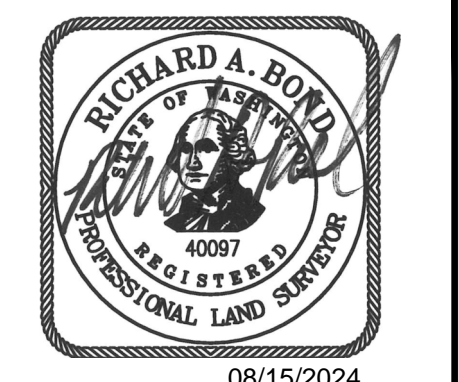
DATUM

VERTICAL: NAVD88
HORIZONTAL: NAD83/2011
W.S.P.C.S. S. ZONE

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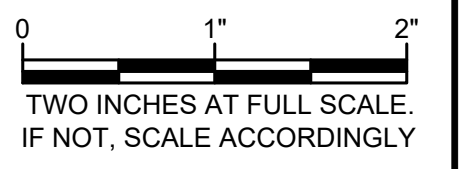
Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860



**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOQUALLUM
RD., ELMA, WA 98541

No.	DATE	REVISION

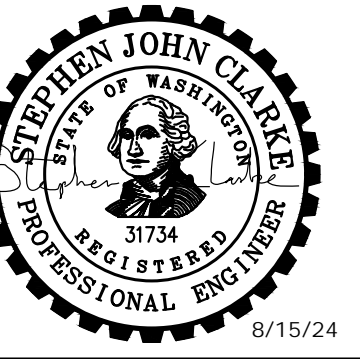
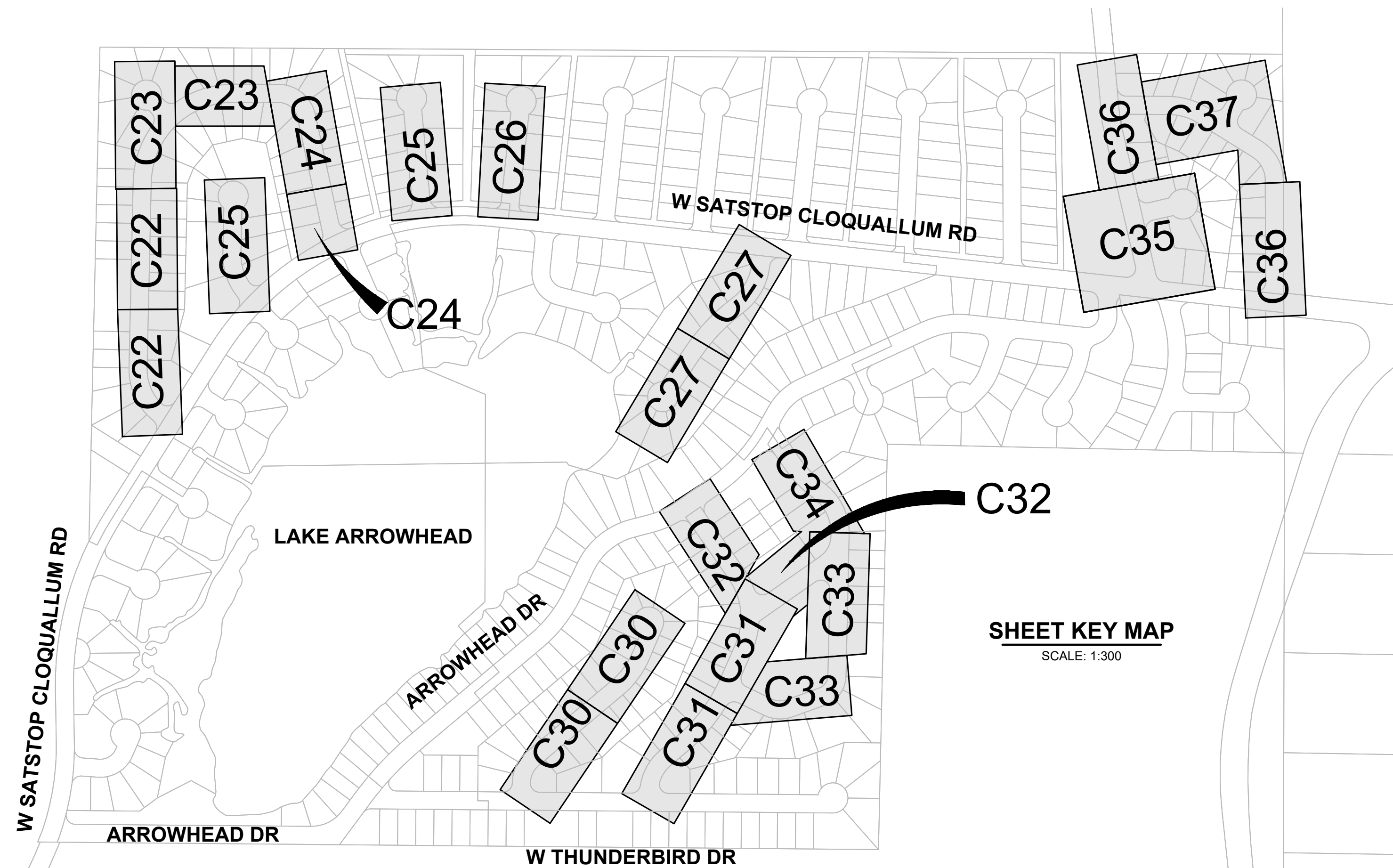
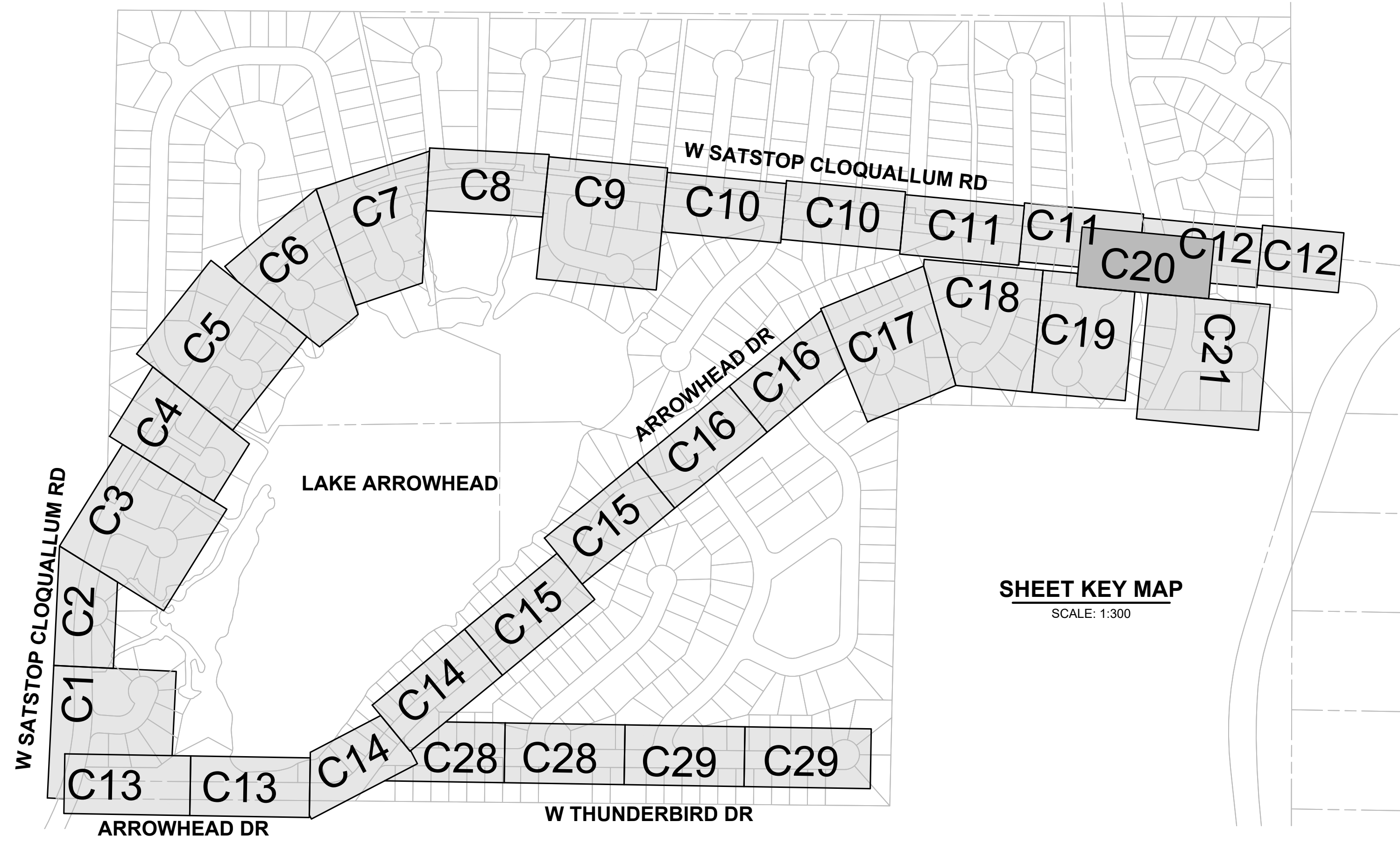
ISSUED FOR: BID
ISSUE DATE: AUG 2024
APPROVED BY: M. JOHNSON
CHECKED BY: R. BOND
DRAWN BY: B. HAYDEN
DESIGNER: P. SMILEY
G & O JOB NO.: 22249
FILE: SURVEY.DWG



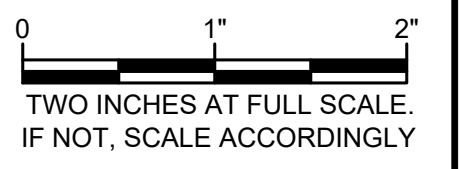
GENERAL

SURVEY CONTROL NOTES

M:\Mason County PUD 1\22249.00 Lake Arrowhead Water Main Replacement\01 Design\Plan\set\General\KEYMAP.dwg, 8/15/2024 11:55 AM, PATRICK SMILEY



No.	DATE	REVISION
ISSUED FOR: BID		
ISSUE DATE:		AUG 2024
APPROVED BY:		S. CLARKE
CHECKED BY:		M. JOHNSON
DRAWN BY:		P. SMILEY
DESIGNER:		P. SMILEY
G & O JOB NO.:		22249
FILE:		KEYMAP.DWG



GENERAL

SHEET KEYMAP

T.E.S.C. NOTES

GENERAL NOTES FOR TARGETED DRAINAGE PLAN:

- ALL GRADING SHALL COMPLY WITH PERMIT CONDITIONS, CURRENT MASON COUNTY PUD AND MASON COUNTY CODES AND DEVELOPMENT STANDARDS, AND STATE (WSDOT) STANDARD SPECIFICATIONS, CURRENT EDITION.
- IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY THE CONTRACTOR'S ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES THAT MAY BE NEEDED TO PROTECT THE NATURAL FEATURES OR ADJACENT PROPERTIES.
- THE TEMPORARY EROSION/SEDIMENTATION CONTROL FACILITIES SHALL BE CONSTRUCTED PRIOR TO ANY GRADING OR SITE WORK. THESE FACILITIES MUST BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION AND LANDSCAPING IS COMPLETED AND WITHIN 30 DAYS OF FINAL SITE STABILIZATION OR UNTIL THE POTENTIAL FOR ON-SITE EROSION HAS PASSED.
- ALL PERSONS ENGAGING IN CONSTRUCTION ACTIVITIES SHALL PREVENT OR MINIMIZE EROSION AND SEDIMENTATION ON-SITE, AND SHALL PROTECT PROPERTIES AND WATER COURSES DOWNSTREAM FROM THE SITE.
- NON COMPLIANCE WITH THE EROSION CONTROL REQUIREMENTS, WATER QUALITY REQUIREMENTS AND/OR CLEARING LIMITS MAY RESULT IN REVOCATION OF PROJECT PERMITS, REVOCATION OF PLAN APPROVAL, AND BOND FORECLOSURES.
- PRIOR TO INITIATION OF SITE WORK, HIGHLY VISIBLE MARKERS SUCH AS ORANGE BARRIER FENCING OR FLAGGING SHALL BE USED TO IDENTIFY CLEARING LIMITS AND EXISTING NGPA AREAS.
- ALL STREETS SHALL BE KEPT CLEAR OF DIRT AND DEBRIS DURING EXCAVATION AND FILL OPERATIONS. SWEEP STREETS IMMEDIATELY WHEN DIRT HAS BEEN TRACKED ONTO PAVED SURFACES.
- STOCKPILES ARE TO BE LOCATED IN SAFE AREAS AND ADEQUATELY PROTECTED WITHIN 24 HOURS OF FORMATION TO PREVENT SOIL LOSS.
- STORM SEWER INLETS RECEIVING SITE STORM WATER RUNOFF DURING CONSTRUCTION SHALL BE PROTECTED SO THAT WATER WILL NOT ENTER THE INLET WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO MINIMIZE THE AMOUNT OF SEDIMENT ENTERING THE INLET.
- FROM MAY 1 TO SEPTEMBER 30, NO SOIL SHALL REMAIN EXPOSED FOR MORE THAN 7 DAYS. DENUDED AREAS SHALL BE COVERED BY MULCH, SOD, PLASTIC OR EQUIVALENT BMP LISTED IN THE WASHINGTON STATE DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FROM OCTOBER 1 TO APRIL 30. NO SOIL SHALL REMAIN EXPOSED FOR MORE THAN 2 DAYS. SEE WET SEASON SUPPLEMENTAL GRADING NOTES FOR ADDITIONAL BMP REQUIREMENTS.
- WATER RESULTING FROM THE DEWATERING OF TRENCHES AND EXCAVATIONS SHALL BE FILTERED PRIOR TO DISCHARGE AS REQUIRED TO MEET TURBIDITY PERMITS. DISCHARGE OF SURFACE WATER FROM THE SITE SHALL BE SUBJECT TO MONITORING BY THE OWNER, AND TREATMENT AND/OR DIVERSION TO THE SANITARY SEWER SYSTEM WHERE APPROPRIATE, IN ACCORDANCE WITH THESE PLANS AND PROJECT SPECIFICATIONS. MAXIMUM ALLOWABLE TURBIDITY SHALL BE 5 NTU OVER BACKGROUND. DIVERSION OF STORM WATER DISCHARGE TO THE SANITARY SEWER SYSTEM SHALL BE SUBJECT TO OWNERS APPROVAL AND TO ANY PRE-TREATMENT REQUIREMENTS IMPOSED BY THE OWNER.
- CONTRACTOR IS RESPONSIBLE FOR PREVENTING SURFACE WATER FROM RUNNING INTO EXCAVATIONS AND/OR PUMPING SURFACE RUN-OFF FROM EXCAVATION AND WORK AREA AS NEEDED.
- FILTER FABRIC FENCE AND ALL OTHER TESC MEASURES SHALL BE CHECKED IMMEDIATELY AFTER EACH RAINFALL EVENT IN EXCESS OF 0.1 INCH AND DAILY DURING PROLONGED RAIN EVENTS. MAINTENANCE AND REPAIR OF TESC FACILITIES AND STRUCTURES SHALL BE CONDUCTED IMMEDIATELY UPON RECOGNITION OF A PROBLEM OR DAMAGE. SEE ALSO NOTES ON SILTATION BARRIER MAINTENANCE, THIS SHEET.
- SEDIMENT DEPOSITS SHALL BE REMOVED FROM ALL TEMPORARY DRAINAGE FACILITIES AND STRUCTURES UPON REACHING A DEPTH OF 6 INCHES.
- SUFFICIENT TEST BMP MATERIALS AND SUPPLIES TO PROTECT THE ENTIRE SITE SHALL BE STOCK PILED ON SITE.
- CONSTRUCTION ACCEPTANCE WILL BE SUBJECT TO PLACEMENT OF STRAW OR WOOD FIBER MULCH OR EROSION CONTROL BLANKETS THAT FULFILLS THE REQUIREMENT OF THE APPROVED CONSTRUCTION PLANS AND MASON COUNTY DRAINAGE STANDARDS.
- IMMEDIATELY FOLLOWING FINISH GRADING, PERMANENT VEGETATION SHALL BE APPLIED. ALL DISTURBED AREAS NOT DESIGNATED FOR OTHER SURFACE RESTORATION SHALL MULCHED WITH STRAW OR WOOD FIBER MATERIAL.
- IF REQUIRED, SURFACE RUNOFF CONTROL MEASURES SUCH AS GRADIENT TERRACES, INTERCEPTOR DIKE/SWALES, LEVEL SPREADERS, AND SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO MULCHING.
- TRANSPORT ALL EXCAVATED MATERIALS OFF SITE TO APPROVED STORAGE LOCATION, EXCEPT AS ALLOWED IN THE SPECIFICATIONS. LIMIT TRUCK ACTIVITY TO PAVED AND GRAVELED SURFACES ONLY. MAINTAIN TRUCK ACCESS AREAS WHERE CLEAR OF DIRT AND SEDIMENT DURING PERIODS OF TRUCK ACTIVITY BY SWEEPING.
- ADDITIONAL REQUIREMENTS FOR UTILITIES. THE INSTALLATION OF UNDERGROUND UTILITY LINES SHALL BE SUBJECT TO THE FOLLOWING ADDITIONAL REQUIREMENTS:
 - NO MORE THAN FIVE HUNDRED (300) FEET OF TRENCH MAY REMAIN OPEN AT ONE TIME;
 - EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCHES, UNLESS INCONSISTENT WITH SAFETY OR SITE CONSTRAINTS

CONSTRUCTION SEQUENCE:

- ATTEND PRE-CONSTRUCTION MEETING.
- FLAG OR FENCE CLEARING LIMITS.
- INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.)
- CONSTRUCT SURFACE WATER CONTROLS IF NEEDED (INTERCEPTOR DIKES, STRAW BALE BARRIERS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR WATER MAIN CONSTRUCTION.
- MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH COUNTY REQUIREMENTS AND MANUFACTURER'S RECOMMENDATIONS.
- RELOCATE SURFACE WATER CONTROLS OR EROSION CONTROL MEASURES, OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH COUNTY REQUIREMENTS.
- COVER ALL AREAS THAT WILL BE UNWORKED FOR MORE THAN TWO DAYS BETWEEN OCTOBER 1ST AND APRIL 30TH OR SEVEN DAYS BETWEEN MAY 1ST AND SEPTEMBER 30TH WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING OR EQUIVALENT.
- STABILIZE ALL AREAS WITHIN SEVEN DAYS OF REACHING FINAL GRADE.
- PLACE STRAW OR FIBER MULCH ON ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
- UPON COMPLETION OF THE PROJECT, STABILIZE ALL DISTURBED AREAS AND REMOVE BMPS WHEN APPROPRIATE.

WET SEASON SUPPLEMENTAL GRADING NOTES (OCTOBER 1 THROUGH JUNE 30)

- CONSTRUCTION SEQUENCE SHALL BE MODIFIED TO MINIMIZE THE AREA OF UNSTABILIZED SOIL, WITH A MAXIMUM OF 1,000 SQUARE FEET EXPOSED AT ANY TIME.
- EARTHEN AREAS WITH THE POTENTIAL TO CONTRIBUTE SEDIMENTS DURING STORM EVENTS AND WHERE EARTH MOVEMENT IS NOT ANTICIPATED WITHIN 48-HOURS SHALL BE STABILIZED USING ONE OR MORE OF THE FOLLOWING BMPS INSTALLED IN ACCORDANCE WITH THE CURRENT MASON COUNTY DRAINAGE MANUAL: STRAW MULCH OF 4" THICKNESS, PLASTIC SHEETING, EROSION CONTROL BLANKETS.
- WET SEASON TEST MEASURES SHALL BE EXPANDED TO INCLUDE:
 - IMPLEMENT A PLAN TO PUMP TURBID WATER TO THE SANITARY SEWER SYSTEM OR TO PUMP TO ON SITE TANKS AND TREAT PRIOR TO DISCHARGE TO THE STORM SYSTEM. THE PLAN SHALL BE PRE-APPROVED BY THE OWNER PRIOR TO START OF WET SEASON GRADING AND SHALL BE SUBJECT TO MONITORING BY THE OWNER AS DESCRIBED IN THE SPECIFICATIONS. PUMPING TO THE SANITARY SEWER SYSTEM SHALL REQUIRE OWNERS APPROVAL AND SHALL BE SUBJECT TO SUCH CONDITIONS AS THE OWNER MAY IMPOSE, AS DESCRIBED IN THE SPECIFICATIONS.
 - STOCKPILE BUILDING MATERIALS ON PAVED AND/OR GRAVELED SURFACES TO MINIMIZE TRAFFIC ON ERODABLE SURFACES.
- SLOPES WITHOUT ESTABLISHED GROUND COVER SHALL BE STABILIZED WITH PLASTIC SHEETING, 6 MIL. MINIMUM. SHEETING SHALL BE ANCHORED WITH SANDBAGS LOCATED 5 FEET APART ON THE PERIMETER AND 10 FEET ON CENTER ELSEWHERE ON THE SHEETING. A MINIMUM OF 2 FEET OVERLAP IS REQUIRED FOR OVERLAPPING SHEETS.
- WHEN RAINFALL IS HEAVY (DEFINED AS SUFFICIENT TO PRODUCE SEDIMENT RUNOFF FROM EXPOSED DIRT), ALL EXPOSED EARTHWORK SHALL BE COVERED. NO OTHER CONSTRUCTION ACTIVITY SHALL OCCUR ON PERVIOUS SURFACES DURING THESE PERIODS OF HEAVY RAINFALL.
- ALL DRAINAGE SWALES AND AREAS WITH 2:1 OR GREATER SLOPES SHALL BE LINED WITH STAKED EROSION CONTROL BLANKETS.

CLEAR PLASTIC COVERINGS:

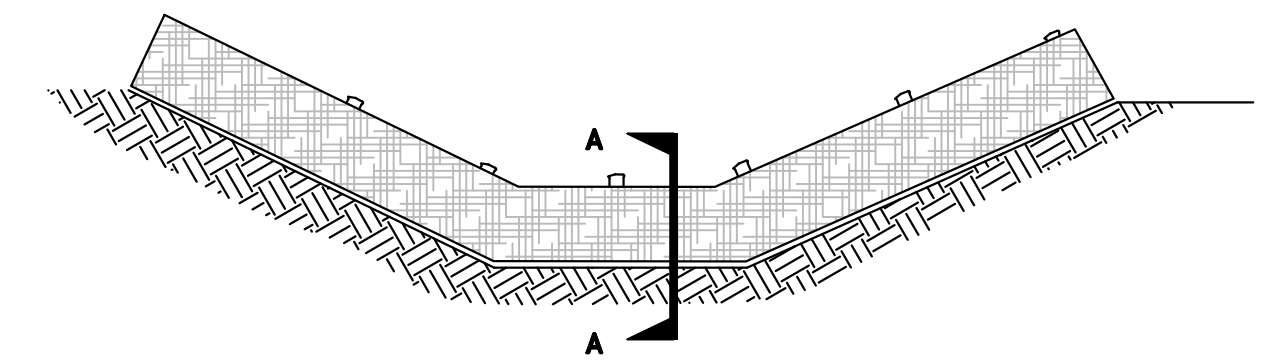
- CLEAR PLASTIC COVERINGS SHALL HAVE A MINIMUM THICKNESS OF 6 MIL AND MEET THE REQUIREMENTS OF WSDOT/APWA SECTION 9-14.5.
- COVERING SHALL BE INSTALLED AND MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR TIRES OR ROPES WITH A MAXIMUM 10 FOOT GRID SPACING IN ALL DIRECTIONS. ALL SEAMS SHALL BE TAPED OR WEIGHTED DOWN FULL LENGTH AND THERE SHALL BE AT LEAST A 1 TO 2 FOOT OVERLAP OF ALL SEAMS. SEAMS SHOULD THEN BE ROLLED AND STAKED OR TIED.
- WHEN THE COVERING IS USED ON BARE SOIL SLOPES, IT SHALL BE LEFT IN PLACE UNTIL STRAW OR WOOD FIBER MULCH IS APPLIED.
- SHEETING SHOULD BE TOED IN AT THE TOP OF THE SLOPE TO PREVENT SURFACE FLOW BENEATH THE PLASTIC.
- SHEETING SHOULD BE REMOVED AS SOON AS IS POSSIBLE TO PREVENT BURNING THE VEGETATION.
- CHECK SHEETING REGULARLY FOR RIPS AND PLACES WHERE THE PLASTIC MAY BE DISLODGED. CONTACT BETWEEN THE PLASTIC AND THE GROUND SHOULD ALWAYS BE MAINTAINED. ANY AIR BUBBLES FOUND SHOULD BE REMOVED IMMEDIATELY OR THE PLASTIC MAY RIP DURING THE NEXT WINDY PERIOD. RE-ANCHOR OR REPLACE THE PLASTIC AS NECESSARY.

FILTER FENCE:

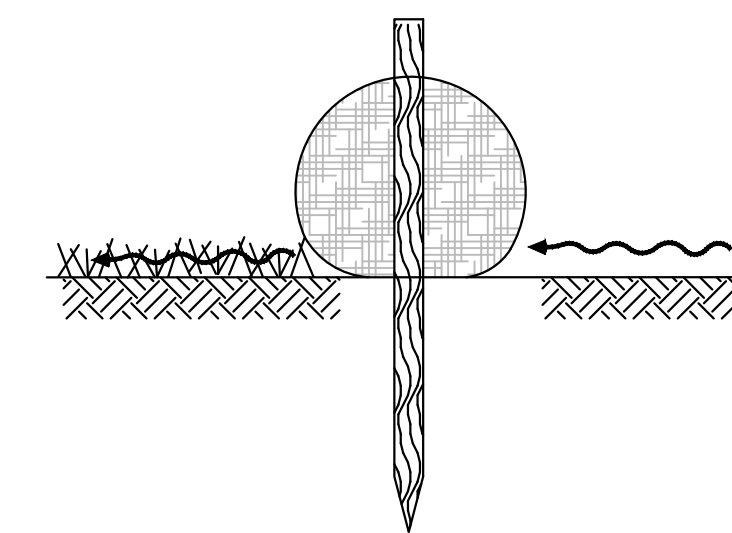
- THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6 INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST.
- POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 30 INCHES (WHERE PHYSICALLY POSSIBLE).
- A TRENCH SHALL BE EXCAVATED APPROXIMATELY 8 INCHES WIDE AND 8 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER. THE TRENCH SHALL BE CONSTRUCTED TO FOLLOW THE CONTOUR.
- WHEN SILT FILM FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING TIE WIRES, HOG RINGS, OR HEAVY-DUTY WIRE STAPLES AT LEAST 1 INCH LONG. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 4 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- SILT FILM FILTER FABRIC SHALL BE WIRED TO THE FENCE, AND 20 INCHES OF THE FABRIC SHALL EXTEND INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES. OTHER TYPES OF FABRIC MAY BE STAPLED TO THE FENCE.
- WHEN EXTRA-STRENGTH OR MONOFILAMENT FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF FILTER FENCE NOTE 5 APPLYING. EXTRA CARE SHOULD BE USED WHEN JOINING OR OVERLAPPING THESE STIFFER FABRICS.
- THE BASE OF THE SILT FENCE SHALL BE SECURED WITH COMPACTED NATIVE SOIL OR 3/4" MIN DIA WASHED GRAVEL. THE MATERIAL SHALL BE WELL BEDDED TO ENSURE GOOD CONTACT BETWEEN THE FABRIC AND THE TRENCH BOTTOM.
- FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED. RETAINED SEDIMENT MUST BE REMOVED AND PROPERLY DISPOSED OF AND MULCHED.

FILTER FENCE MAINTENANCE

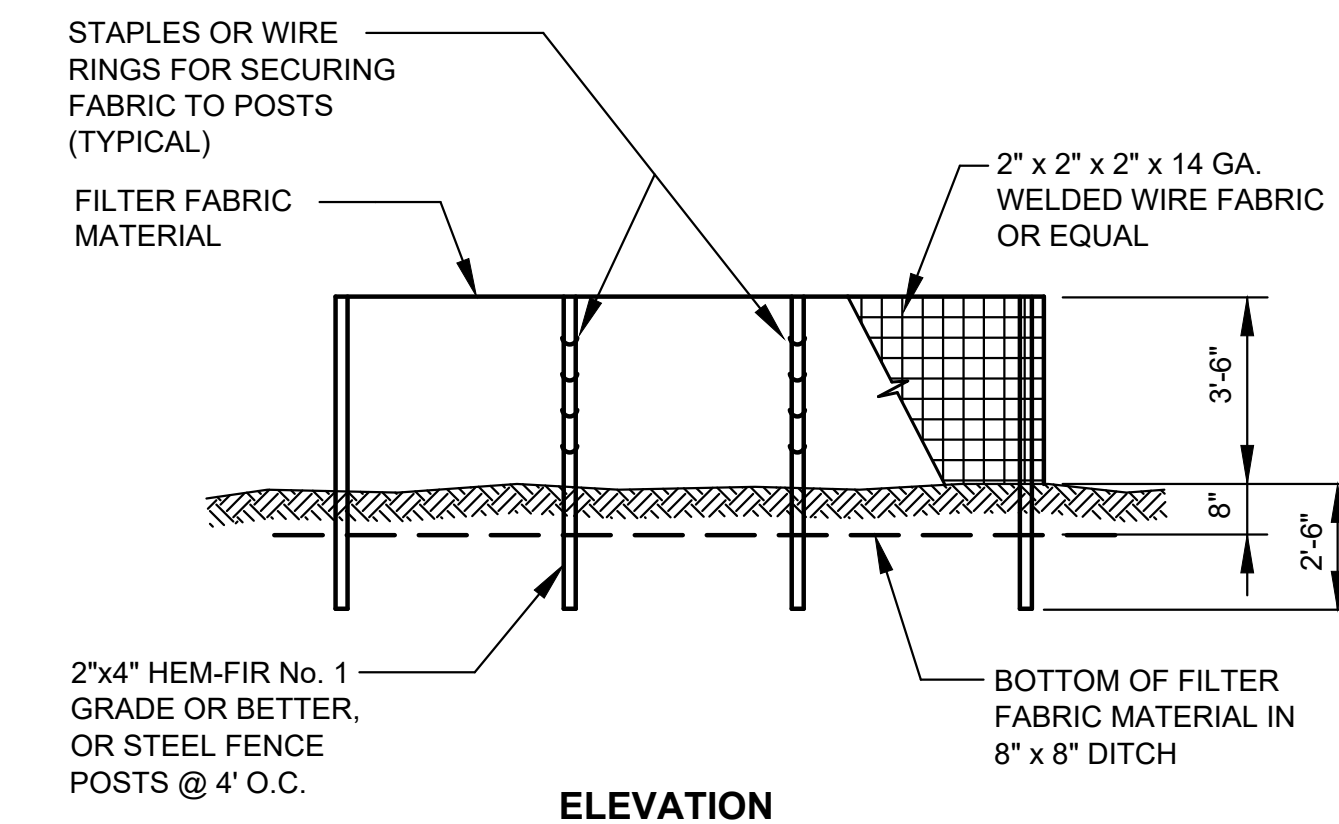
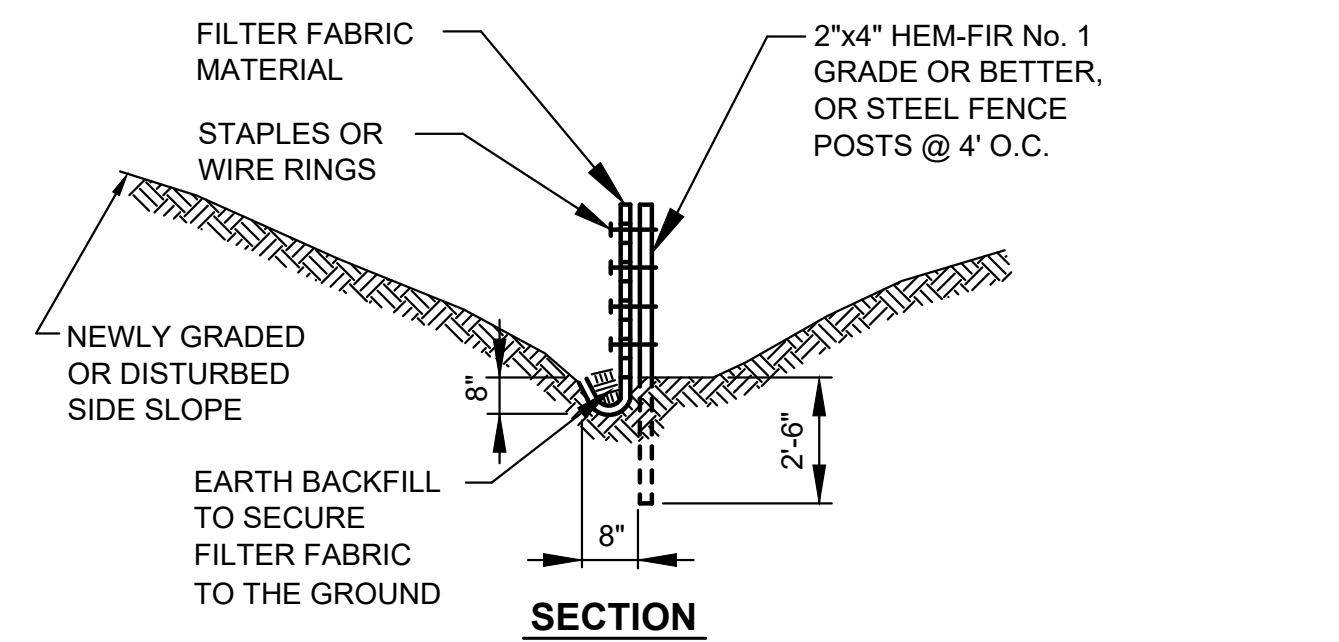
- INSPECT IMMEDIATELY AFTER EACH RAINFALL, AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIR AS NECESSARY.
- SEDIMENT MUST BE REMOVED WHEN IT REACHES APPROXIMATELY ONE THIRD THE HEIGHT OF THE FENCE, ESPECIALLY IF HEAVY RAINS ARE EXPECTED.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE FILTER FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY "BEST MANAGEMENT PRACTICES" ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.



PLACEMENT OF STRAW WATTLE



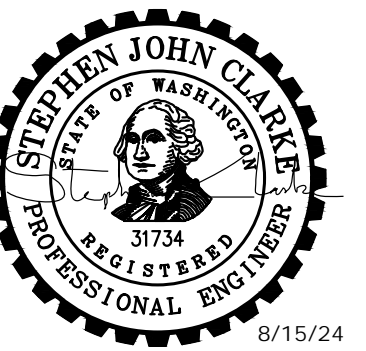
CROSS SECTION A-A



NOTES:

- WHERE POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL
- TEMPORARY SILTATION CONTROL SHALL BE CONSTRUCTED BY PLACING FILTER FABRIC FENCES ACROSS SWALES UTILIZING FILTER SYSTEM PRIOR TO DISCHARGE
- BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED AND SURFACE RESTORATION HAS BEEN COMPLETED
- RETURN SILTATION CONTROL AREAS TO ORIGINAL GROUND CONDITIONS, UNLESS SPECIFICALLY DIRECTED OTHERWISE BY THE ENGINEER

Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860



**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOUQUALLUM
RD., ELMA, WA 98541

No.	DATE	REVISION

ISSUED FOR: BID

ISSUE DATE: AUG 2024

APPROVED BY: S. CLARKE

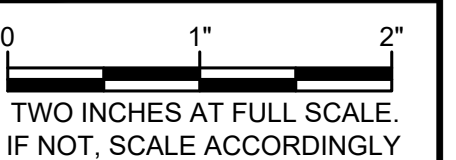
CHECKED BY: M. JOHNSON

DRAWN BY: P. SMILEY

DESIGNER: P. SMILEY

G & O JOB NO.: 22249

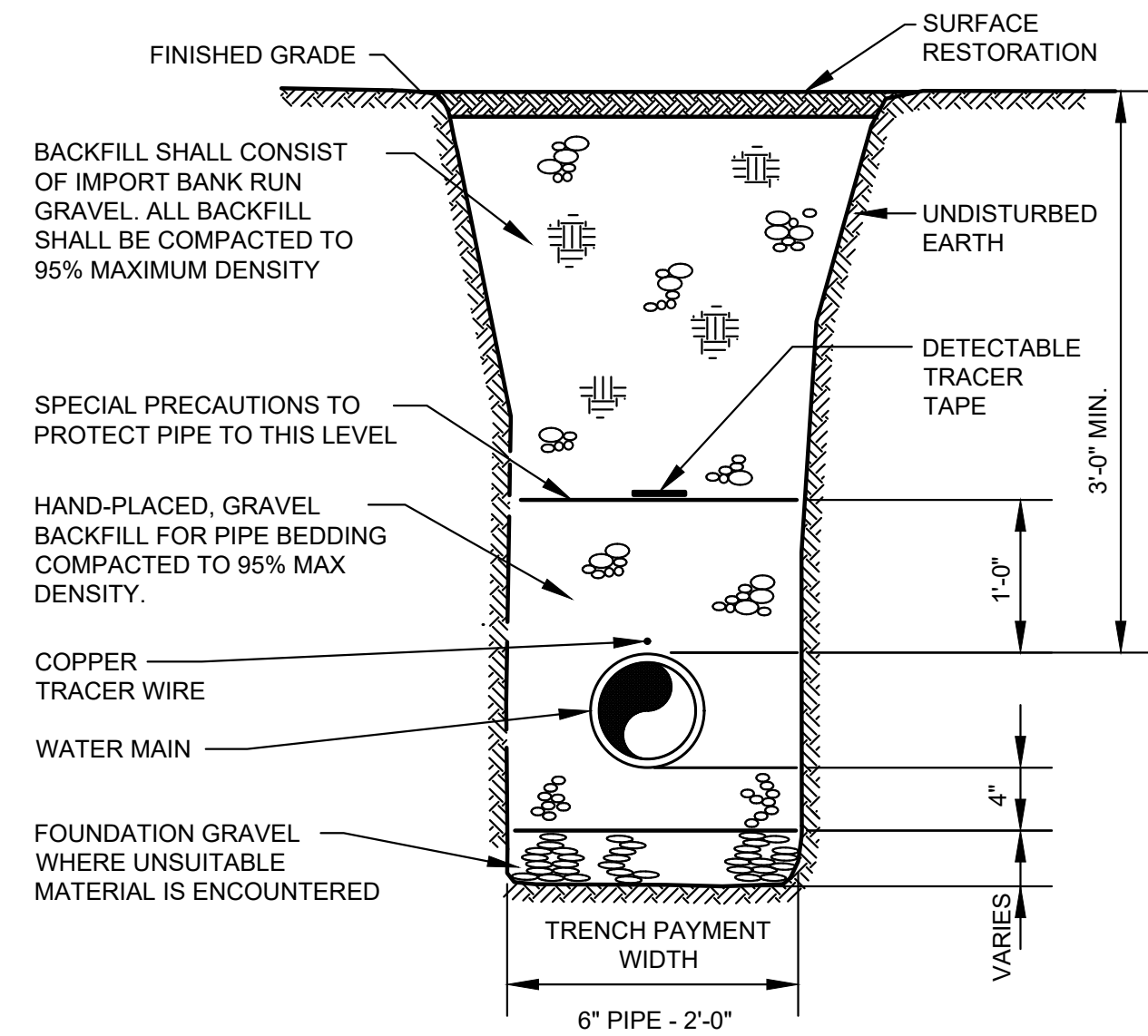
FILE: DETAILS.DWG



DETAILS

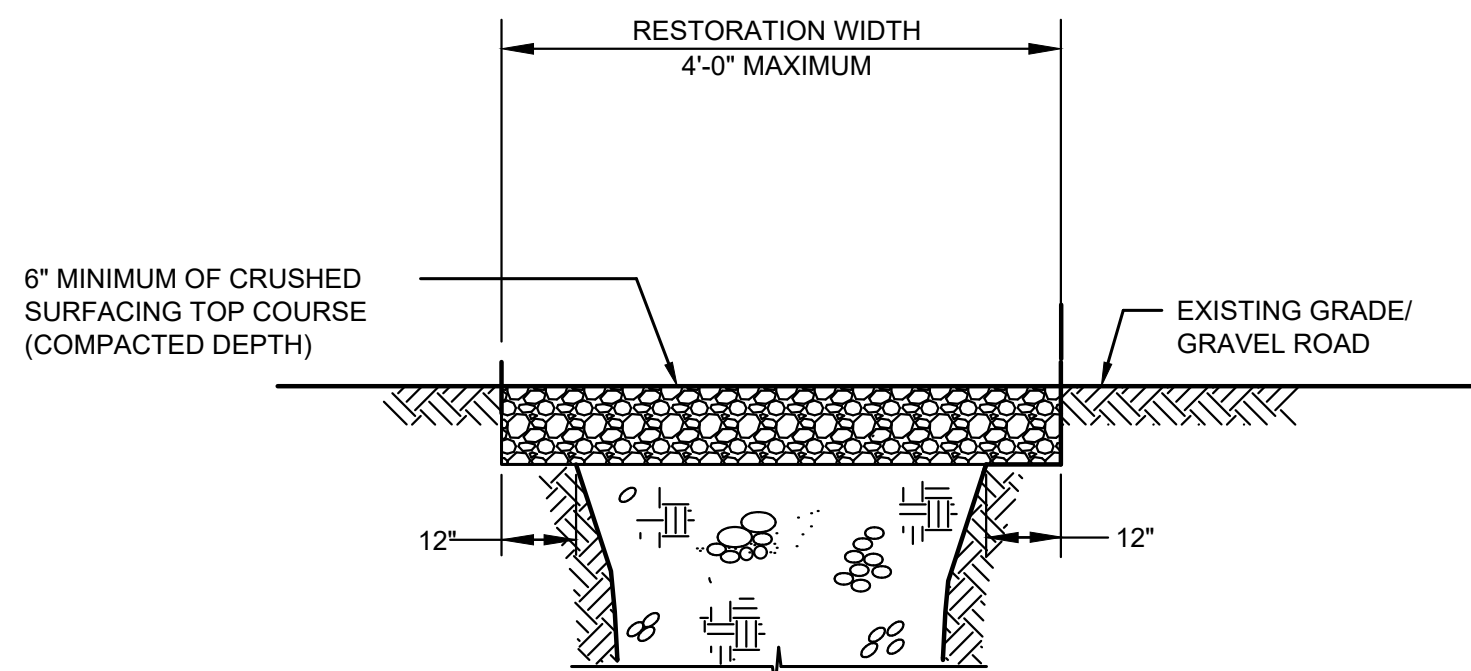
TESC NOTES & DETAILS

DRAWING: **D-1** OF: **3**

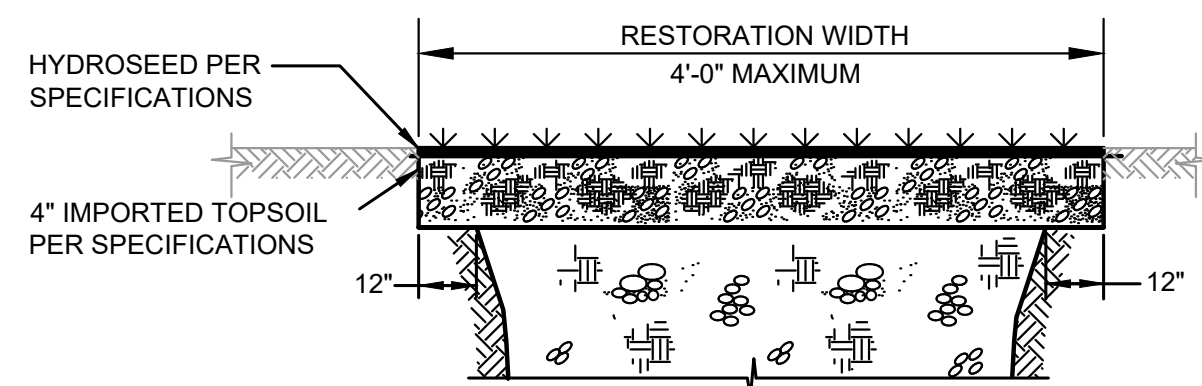


NOTE:
1. MINIMUM COLD BEND RADIUS FOR 6" HDPE SDR 11 = **12.5'** (25 x PIPE OD).

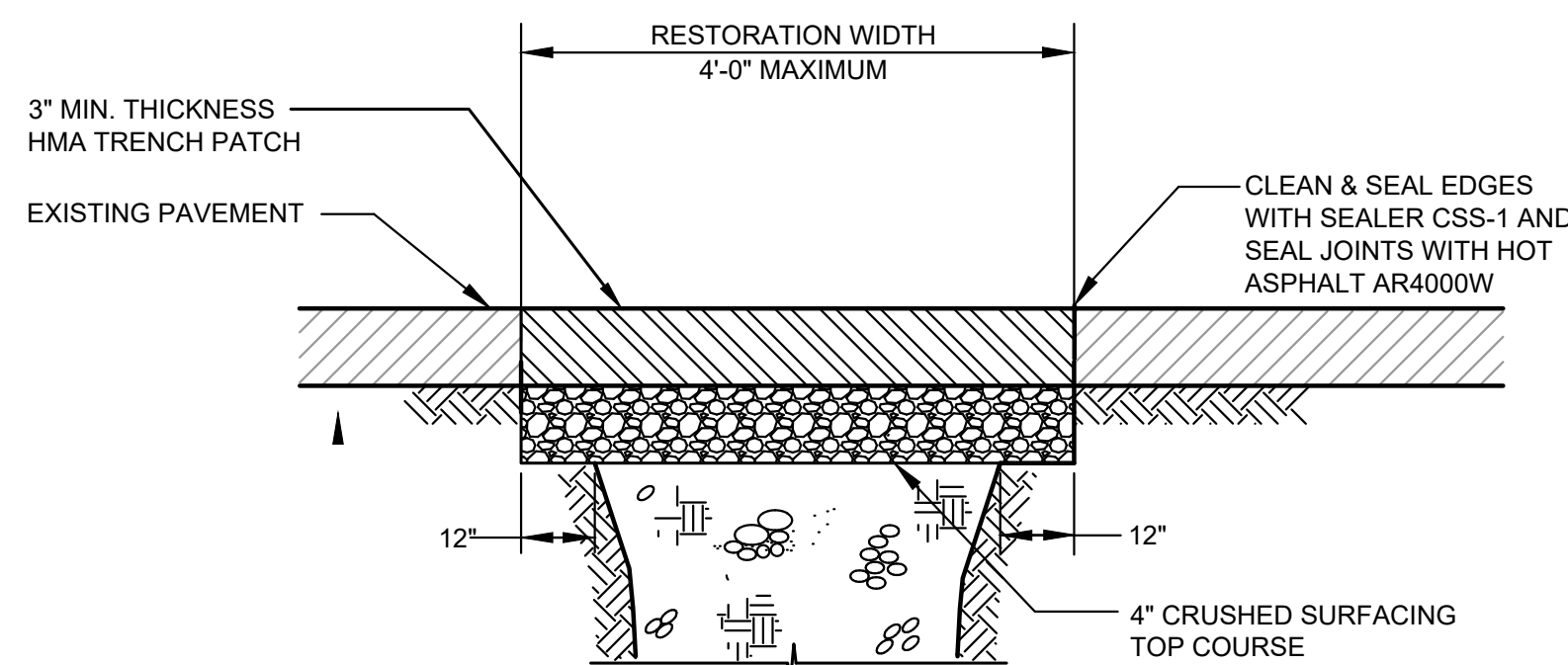
1 TYPICAL PIPE TRENCH SECTION
TYP NOT TO SCALE



3 CRUSHED SURFACING TRENCH REPAIR
TYP NTS

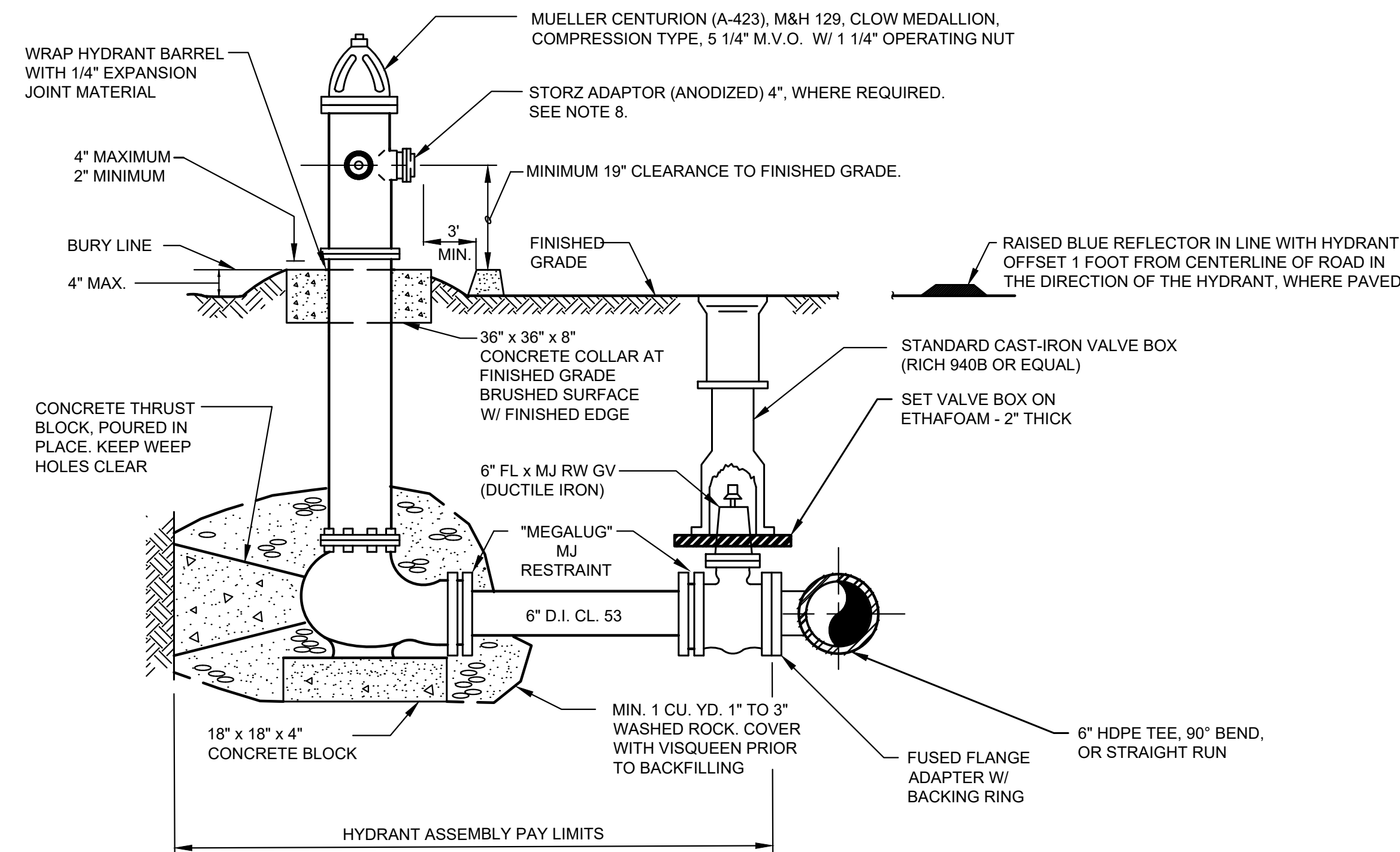


4 HYDROSEED RESTORATION
TYP NTS



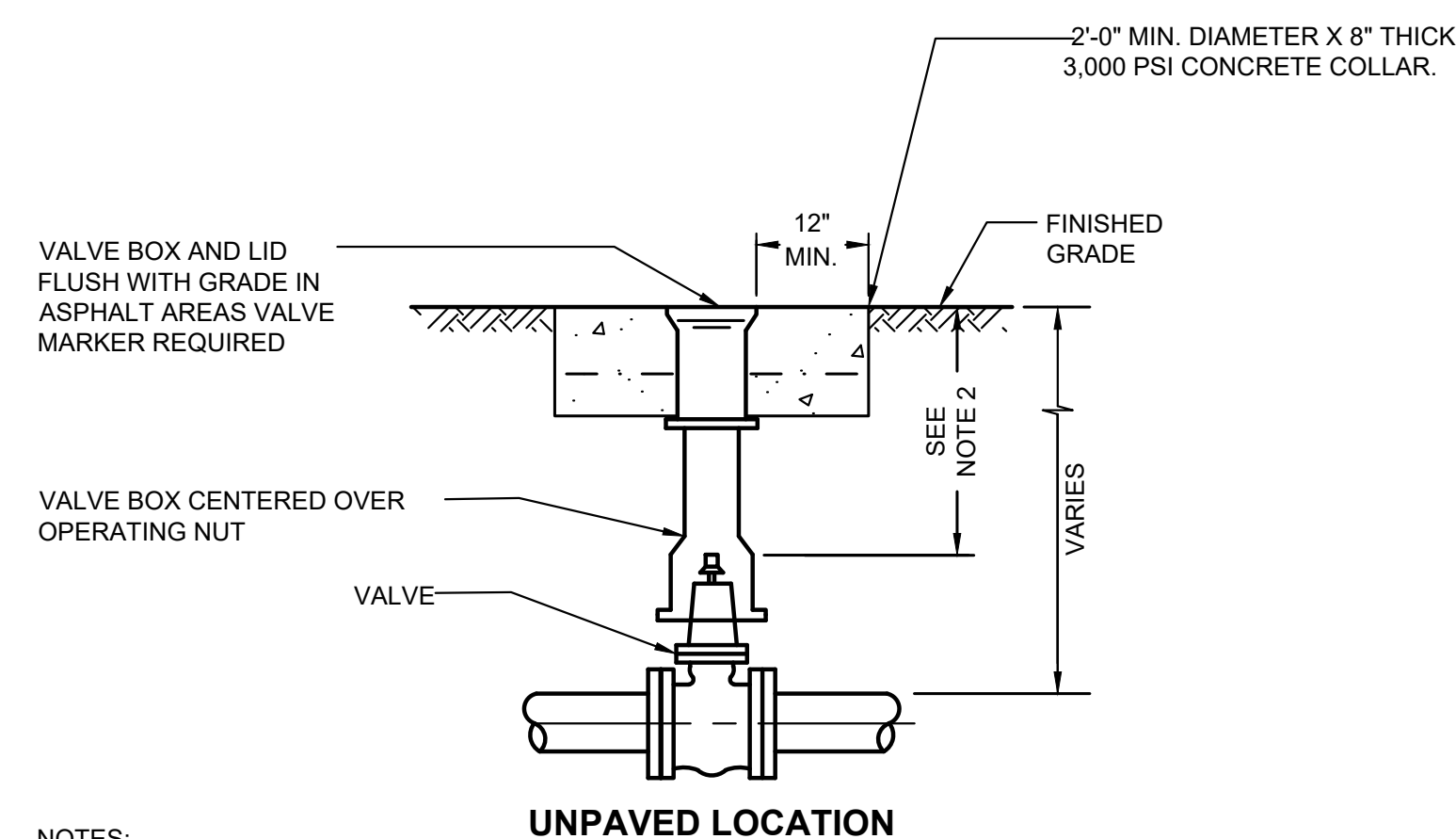
NOTES:
1. ALL TRENCHES THROUGH ASPHALT PAVEMENT IN STREETS AND DRIVEWAYS THAT WILL RECEIVE TRAFFIC OR BE LEFT OVERNIGHT BEFORE FINAL RESTORATION SHALL BE TEMPORARILY REPAIRED WITH HOT MIX ASPHALT OR COLD MIX.
2. ASPHALT PAVEMENT REMOVAL MAY BE BY FULL DEPTH SAWCUT OR SHALL BE MADE BY EQUIPMENT THAT PRODUCES A STRAIGHT LINE.
3. PATCH SHALL BE MACHINE ROLLED AND FLUSH WITH EXISTING PAVEMENT. TRENCH PATCH TO BE PLACED PER SECTION 02740 OF THE SPECIFICATIONS.
4. CLEAN, TACK, AND SEAL ALL EDGES AND JOINTS PER MASON COUNTY STANDARDS.
5. TEMPORARY HMA TRENCH PATCHES OF 3" MINIMUM THICKNESS THAT MEET THE REQUIREMENTS OF THE SPECIFICATIONS FOR HMA TRENCH PATCH MAY SERVE AS THE PERMANENT TRENCH PATCH AS DETERMINED/APPROVED BY THE ENGINEER. TEMPORARY TRENCH PATCHES THAT DO NOT MEET THE REQUIREMENTS OF THE SPECIFICATIONS FOR HMA TRENCH PATCH SHALL BE REMOVED AND REPLACED W/ 3" MINIMUM OF HOT MIX ASPHALT.

2 HMA TRENCH REPAIR
TYP NOT TO SCALE



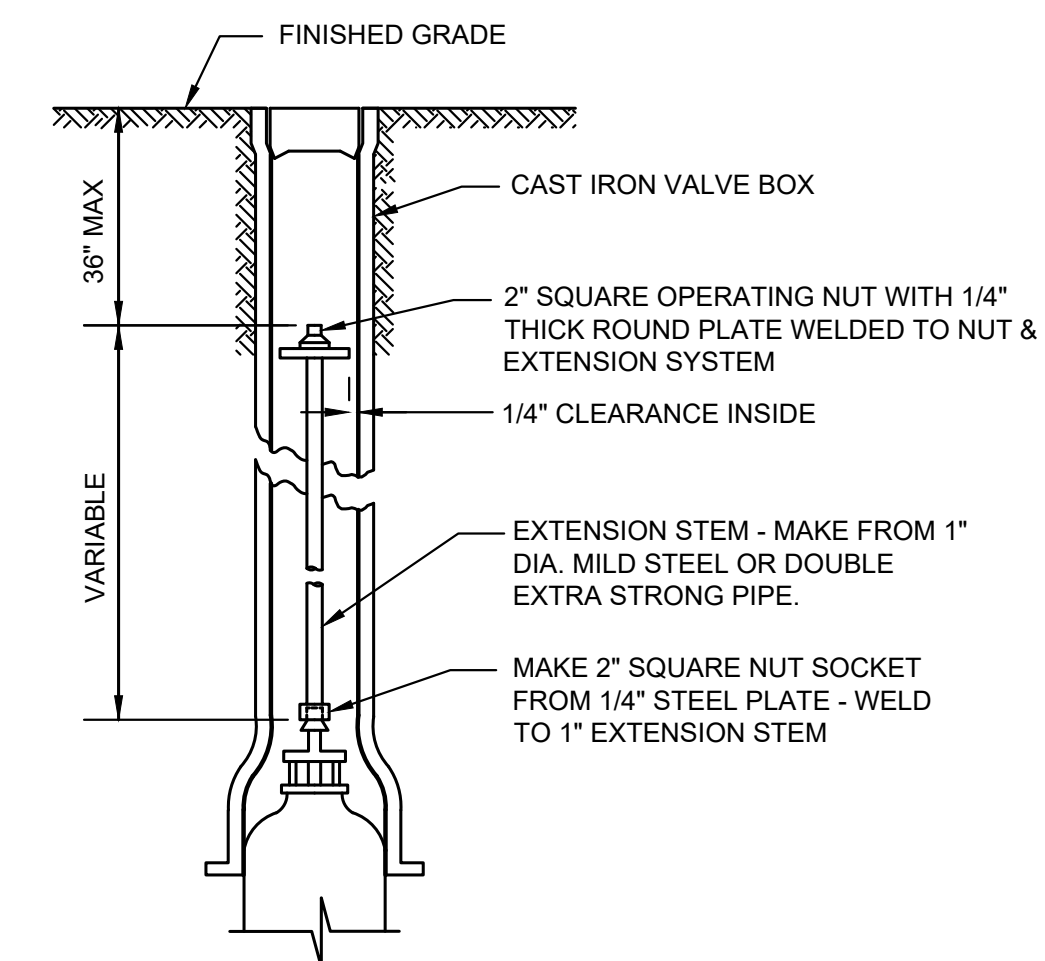
NOTES:
1. AFTER INSTALLATION, HYDRANT SHALL BE WIRE BRUSHED, PRIMED WITH RUST-OLEUM HIGH PERFORMANCE METAL PRIMER & FIELD PAINTED WITH TWO COATS OF RUST-OLEUM PROFESSIONAL OIL-BASED SAFETY YELLOW.
2. WHEN HYDRANT SPOOL EXCEEDS 18', USE FULL CIRCLE MJ REPAIR SLEEVE WITH MEGALUGS OR FIELD LOK GASKETS. MAXIMUM LENGTH IS 50'.
3. HYDRANTS SHALL BE BREAK-AWAY TYPE IN WHICH VALVE WILL REMAIN CLOSED IF BARREL IS BROKEN.
4. PROVIDE MINIMUM 3'-0" CLEARANCE AND LEVEL AREA AROUND HYDRANT.
5. GUARD POSTS MAY BE REQUIRED AS SHOWN ON THE PLANS AND/OR DIRECTED BY THE ENGINEER.
6. DISTANCE IN FEET TO THE VALVE BOX SHALL BE PLACED AT THE BARREL, BELOW THE PUMPER PORT, WITH 2" HIGH DECALS DESIGNED FOR USE ON FIBERGLASS BOATS.
7. RAISED BLUE REFLECTOR IN ACCORDANCE WITH FIRE DISTRICT REQUIREMENTS.
8. FIRE HYDRANT SHALL HAVE A STANDARD 3 1/2" NST PUMPER PORT AND TWO 2 1/2" NST SIDE PORTS. ALL OPENING BY TURNING COUNTER CLOCKWISE WITH 1 1/2" OPERATING NUT. 4" STORZ ADAPTER AS REQUIRE BY THE LOCAL FIRE PROTECTION AUTHORITY.

5 FIRE HYDRANT ASSEMBLY
TYP NOT TO SCALE

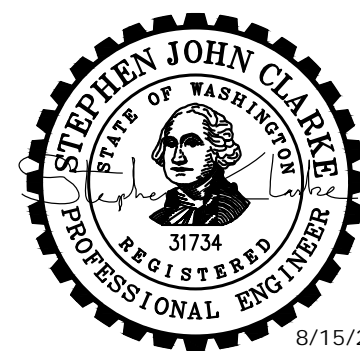


NOTES:
1. EACH VALVE SHALL BE PROVIDED WITH AND ADJUSTABLE CAST IRON VALVE BOX OF 5 INCHES (5") INSIDE DIAMETER. VALVE BOXES SHALL HAVE A TOP SECTION WITH AN EIGHTEEN INCH (18") MIN. LENGTH. THE VALVE BOX SHALL BE RICH NO. 940 OR APPROVED EQUAL. VALVE BOX EARS SHALL BE PLACED IN LINE WITH PIPE IT SERVES.
2. 15" MINIMUM, 36" MAXIMUM FOR OPERATOR NUT. EXTENSION MAY BE REQUIRED.

6 VALVE BOX
TYP NOT TO SCALE

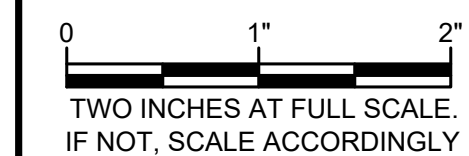


7 WATER VALVE STEM EXTENSION
TYP NOT TO SCALE

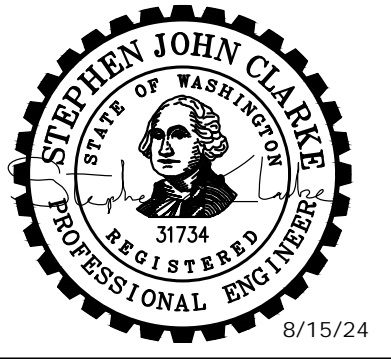


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FILE: DETAILS.DWG

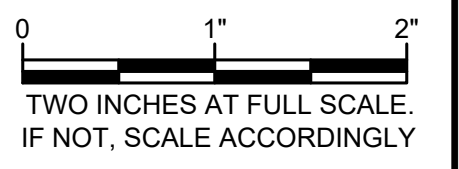


DETAILS



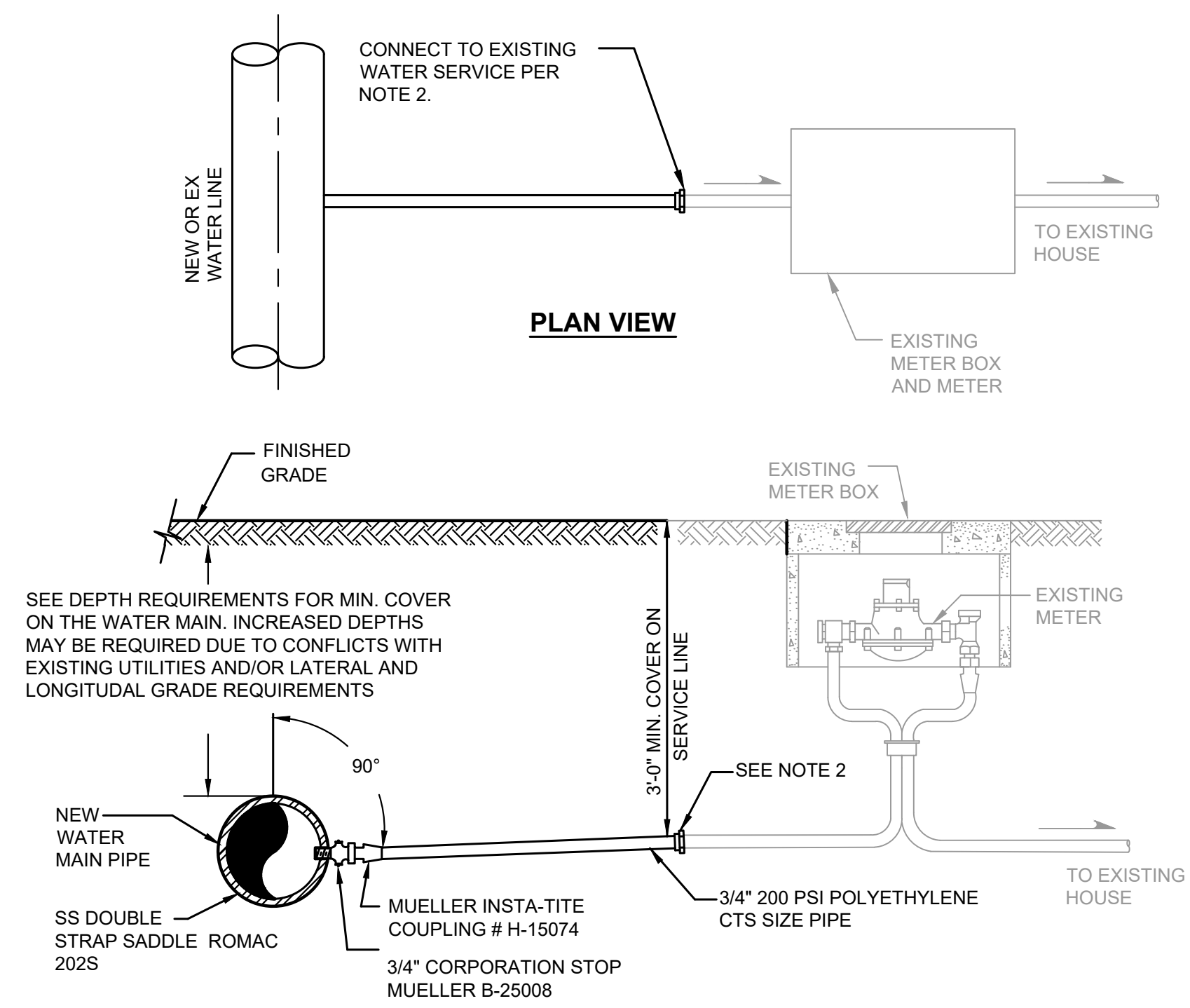
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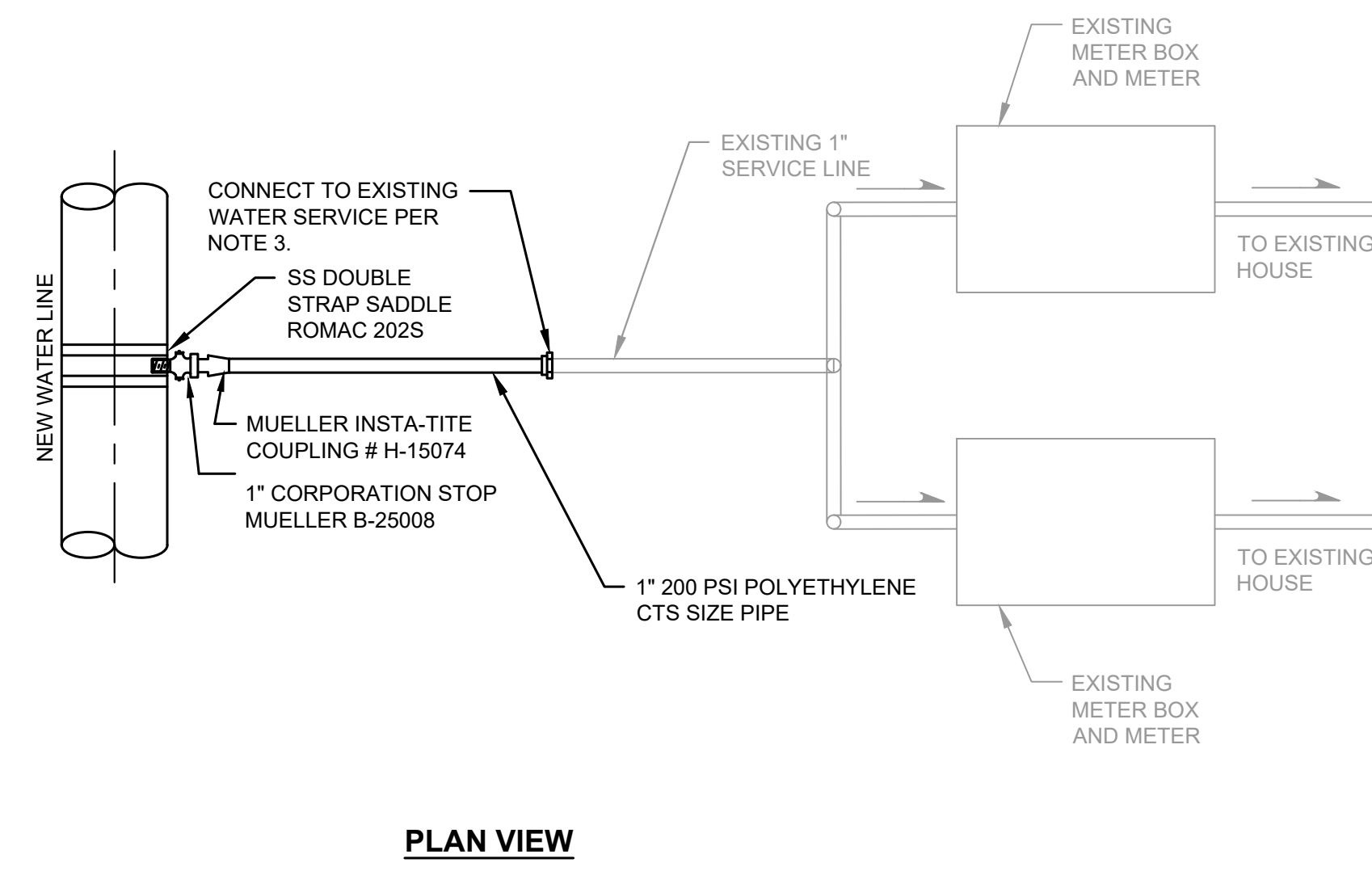
DETAILS

WATER MAIN DETAILS



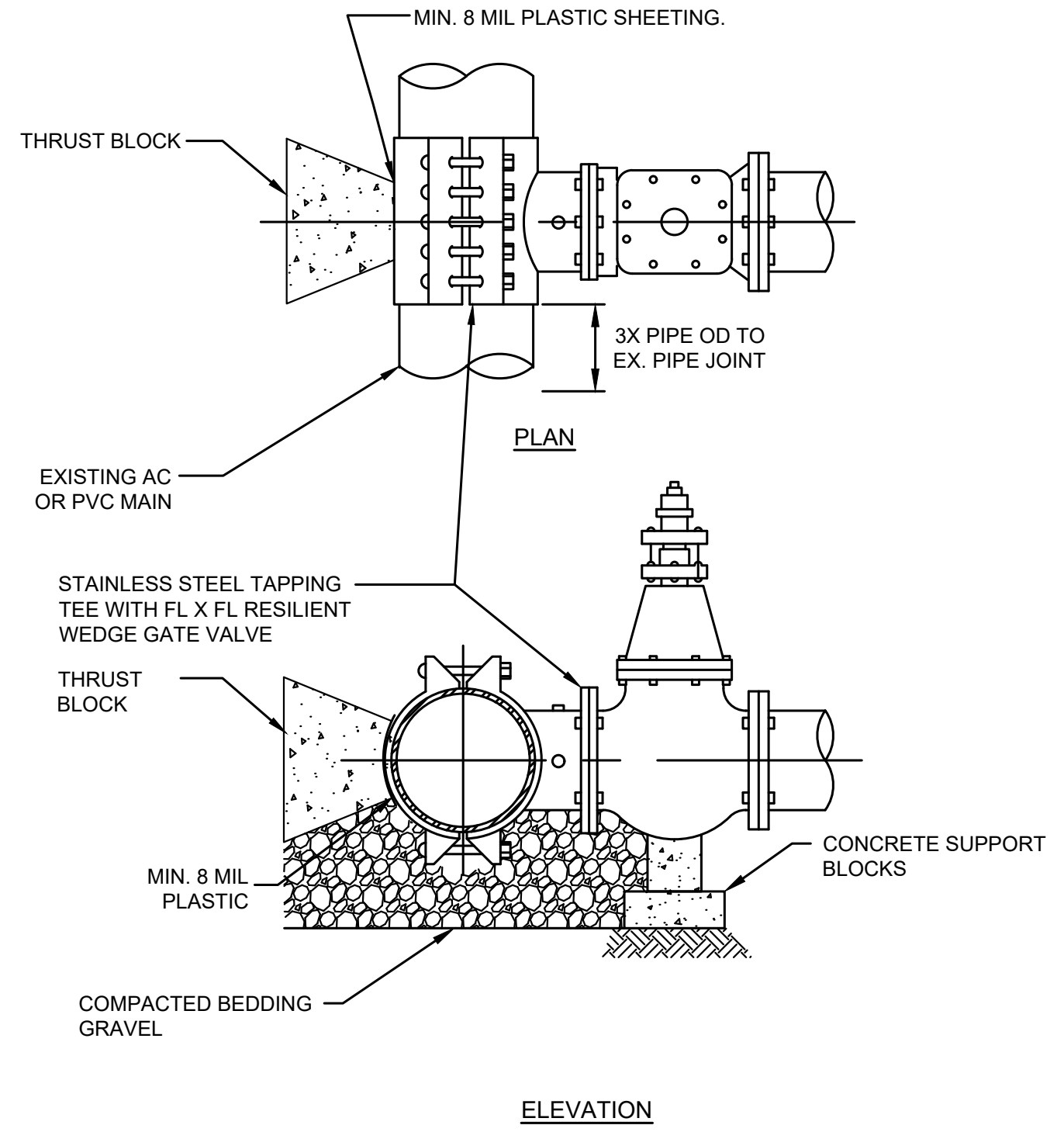
- NOTE:**
- CONTRACTOR SHALL FIELD VERIFY EXISTING WATER SERVICE PIPE LOCATION, SIZE AND TYPE PRIOR TO CONSTRUCTION.
 - CONTRACTOR TO CONNECT TO EXISTING METER SETTER, ANGLE STOP OR AT EDGE OF PAVEMENT AS SHOWN ON PLANS WITH TRANSITION COUPLING COMPATIBLE WITH EXISTING PIPE MATERIALS.
 - CONNECT ALL EXISTING SERVICES IN PROJECT AREA TO NEW WATER MAIN, AS SHOWN ON PLANS AND/OR AS DIRECTED IN THE FIELD.

4
TYP NOT TO SCALE
EXISTING WATER SERVICE CONNECTION



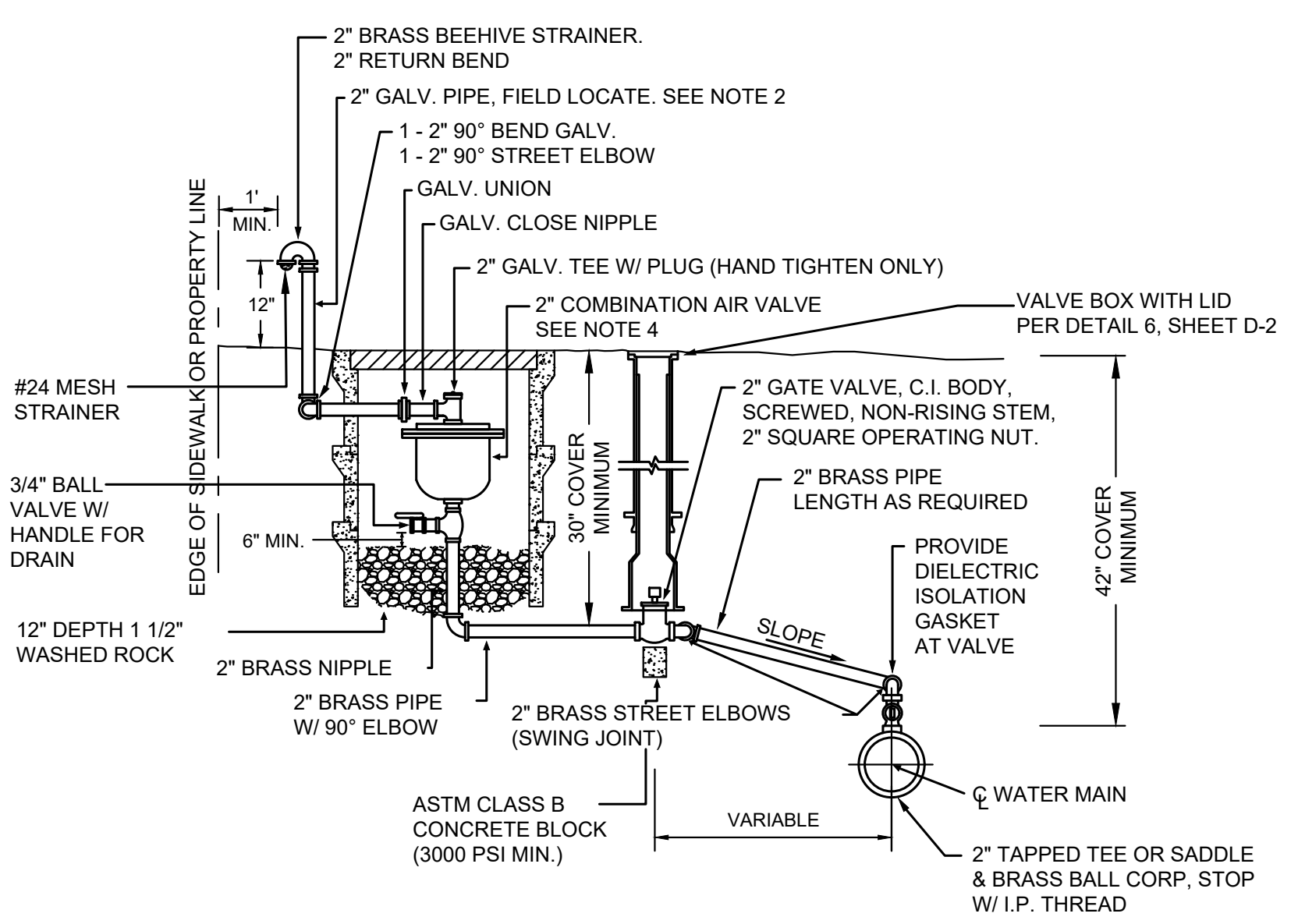
- NOTE:**
- FOR DUAL METER SERVICE LINE CONNECTIONS, THE DISTRICT WILL PROVIDE CONTRACTOR WITH 1" SERVICE SADDLE, 1" CORPORATION STOP AND FITTINGS, AND 1" POLYETHYLENE SERVICE LINE.
 - CONTRACTOR SHALL FIELD VERIFY EXISTING WATER SERVICE PIPE LOCATION, SIZE AND TYPE PRIOR TO CONSTRUCTION.
 - CONTRACTOR TO CONNECT TO EXISTING METER SETTER, ANGLE STOP OR AT EDGE OF PAVEMENT AS SHOWN ON PLANS WITH TRANSITION COUPLING COMPATIBLE WITH EXISTING PIPE MATERIALS.
 - CONNECT ALL EXISTING SERVICES IN PROJECT AREA TO NEW WATER MAIN, AS SHOWN ON PLANS AND/OR AS DIRECTED IN THE FIELD.

4
TYP NOT TO SCALE
EXISTING DUAL METER WATER SERVICE CONNECTION



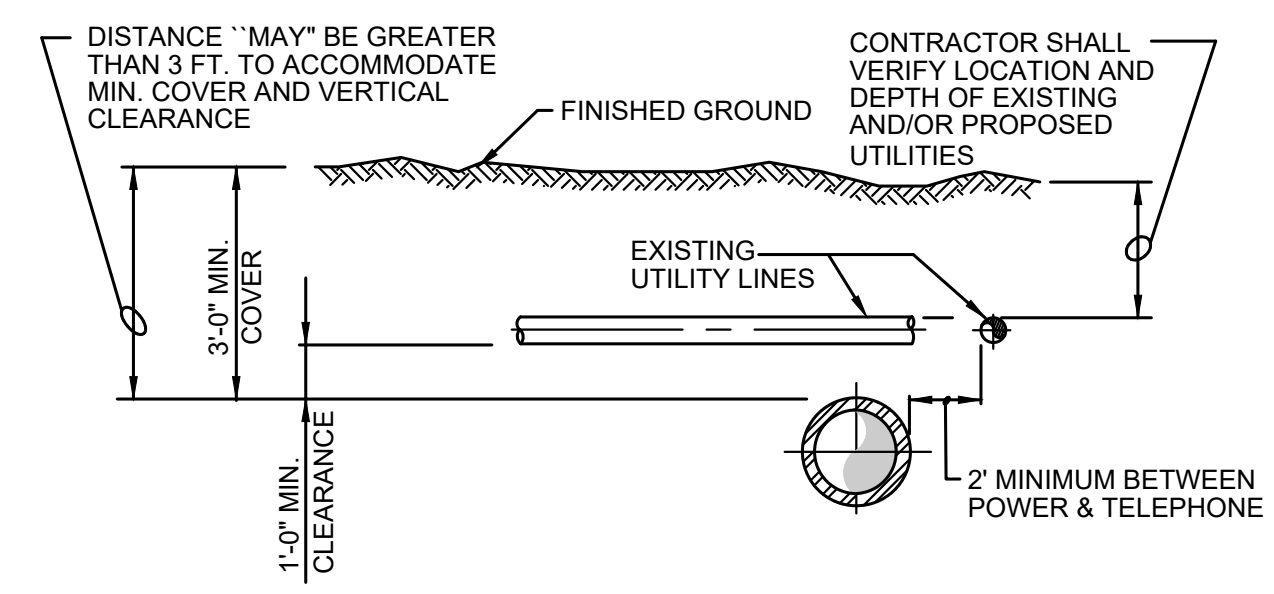
- NOTES:**
- ALL CONNECTIONS TO EXISTING MAIN SHALL BE MADE WITH IN PRESENCE OF AN AUTHORIZED DISTRICT REPRESENTATIVE AFTER REQUIRED TESTING.
 - STAINLESS STEEL TAPPING TEE SHALL BE ROMAC, SMITH BLAIR, OR JCM INDUSTRIES MODEL NO. 432 OR 462.
 - TAPPING TEES SHALL BE AIR PRESSURE TESTED TO 100 PSI PRIOR TO TAPPING MAIN.
 - VALVE MARKER SHALL BE INSTALLED PER DETAIL 2, THIS SHEET.
 - A 3'X3'X4" ASPHALT SURFACE COLLAR IS REQUIRED IF VALVE BOX IS SET IN GRAVEL OR UNPAVED SURFACE.
 - FOR SIZE ON SIZE, TAP HOLE WILL BE 1/2" MIN. LESS THAN NOMINAL PIPE OD.

3
TYP NOT TO SCALE
WET TAP CONNECTION

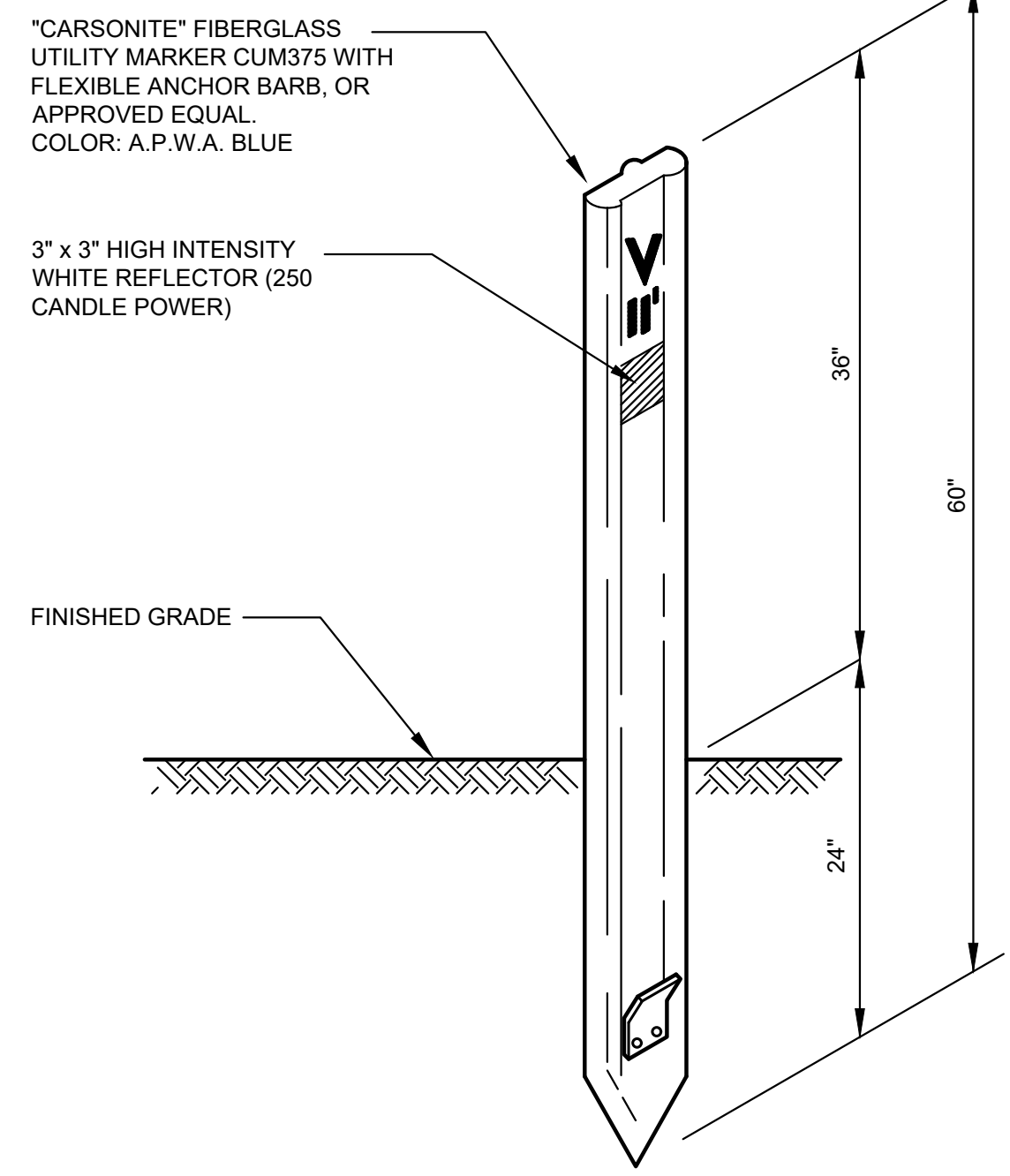


- NOTES:**
- ALL PIPE AND FITTINGS FROM THE MAIN TO THE COMBINATION AIR VALVE SHALL BE BRASS WITH I.P. THREADS.
 - PAINT RISER WITH 2 COATS OF BLUE.
 - COMBINATION AIR VALVE ASSEMBLY MUST BE INSTALLED AT HIGHEST POINT IN LINE. IF HIGH POINT FALLS IN LOCATION WHERE ASSEMBLY CANNOT BE INSTALLED, PROVIDE ADDITIONAL DEPTH OF PIPE LINE TO CREATE HIGH POINT AT A LOCATION WHERE ASSEMBLY CAN BE INSTALLED.
 - COMBINATION AIR VALVE ASSEMBLY SHALL BE APCO MODEL 143C OR EQUAL.
 - BOX SHALL BE FOGTITE #1 D OR APPROVED EQUAL WITH TRAFFIC LID.
 - INSTALL BOX PERPENDICULAR TO CURB OR EDGE OF PAVEMENT.

5
TYP NOT TO SCALE
2\"/>



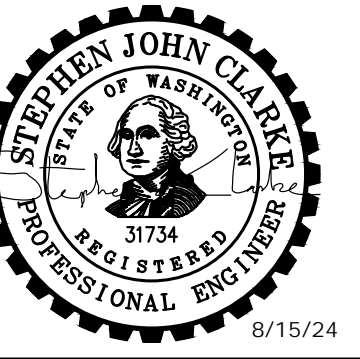
1
TYP NOT TO SCALE
TYPICAL UTILITY CROSSING



- NOTES:**
- THE LETTER "V" AND THE DISTANCE IN FEET TO THE VALVE SHALL BE ON THE POST WITH 2" HIGH DECALS DESIGNED FOR USE ON FIBERGLASS BOATS.
 - EACH POST SHALL INCLUDE THE FOLLOWING DECAL: "CAUTION WATER VALVE, BEFORE DIGGING, CALL 1-800-424-5555, UTILITY UNDERGROUND LOCATION CENTER."

2
TYP NOT TO SCALE
VALVE MARKER

M:\Mason County PUD 1\22249.00 Lake Arrowhead Water Main Replacement\01 Design\PlanSet\General\DETAILS.dwg, 8/15/2024 11:55 AM, PATRICK SMILEY



**MASON COUNTY
 PUD 1
 LAKE ARROWHEAD
 WATER MAIN
 REPLACEMENT**
 160 W SATSOP CLOQUALLUM
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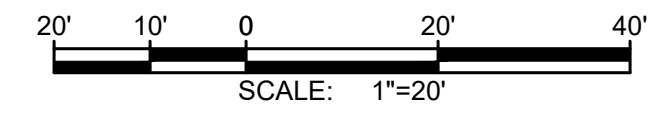
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CHECKED BY: M. JOHNSON		
DRAWN BY: B. HAYDEN		
DESIGNER: P. SMILEY		
G & O JOB NO.: 22249		
FILE: C-PLAN.DWG		

0 1" 2"
 TWO INCHES AT FULL SCALE.
 IF NOT, SCALE ACCORDINGLY

CIVIL

WOWA CT

DRAWING: **C-1** OF: **37**



NOTES:

- SEE EROSION CONTROL NOTES, SHEET D-1. EROSION CONTROL SHOWN FOR CLARITY ONLY, CONTRACTOR SHALL MEET ALL REGULATORY REQUIREMENTS.
- BURIED UTILITIES (WHERE KNOWN) ARE SHOWN IN THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL HAVE UTILITIES VERIFIED ON THE GROUND PRIOR TO CONSTRUCTION. NOTIFY THE UNDERGROUND UTILITIES LOCATE CENTER: CALL 811.
- TREES TO REMAIN UNLESS NECESSARY FOR CONSTRUCTION.
- WATER MAIN TRENCH PER DETAIL 1, SHEET D-2.
- ABANDON EXISTING WATER MAIN IN PLACE AFTER NEW HDPE WATER MAIN CONNECTIONS HAVE BEEN CONSTRUCTED.
- NOTIFY DISTRICT 72 HOURS IN ADVANCE OF ALL WATER SHUT DOWNS. SHUT DOWNS WILL NOT BE ALLOWED FRIDAY THROUGH MONDAY, OR ON HOLIDAYS.
- TRENCH REPAIR SHALL BE TO MATCH EXISTING SURFACE (ASPHALT, GRAVEL, HYDROSEEDING), PER DETAILS 2, 3, 4, SHEET D-2. MAXIMUM 4' RESTORATION WIDTH.
- DO NOT MAKE CONNECTIONS UNTIL A SUCCESSFUL PURITY AND PRESSURE TEST OF THE NEW WATER SYSTEM HAS BEEN WITNESSED AND APPROVED BY OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF CHLORINATED WATER IN A METHOD THAT COMPLIES WITH ALL STATE AND FEDERAL REGULATIONS. CONTRACTOR SHALL SUBMIT A DISPOSAL PLAN TO THE DISTRICT PRIOR TO FILLING OF WATER MAINS. CONTRACTOR TO VERIFY CONNECTION REQUIREMENTS.

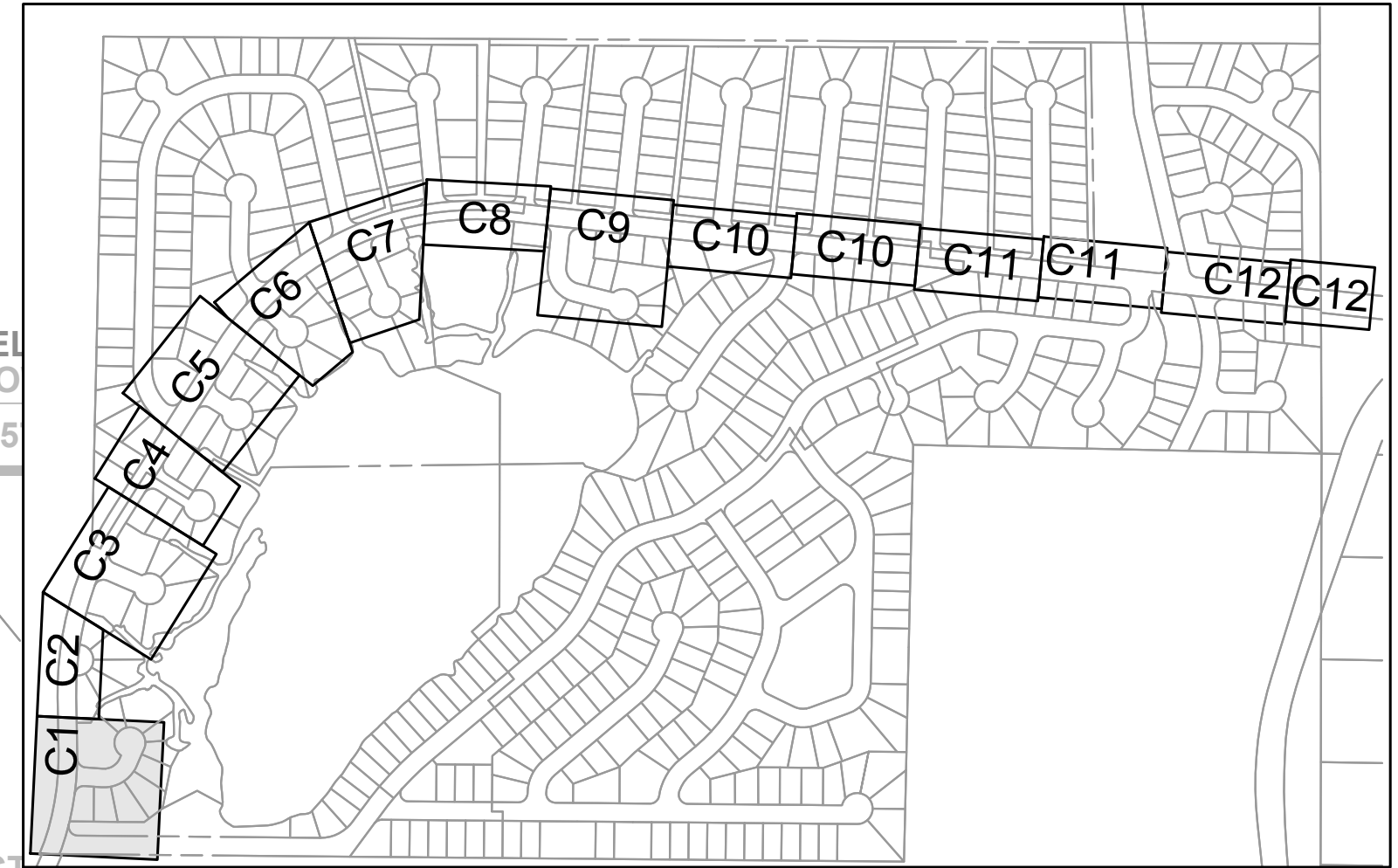
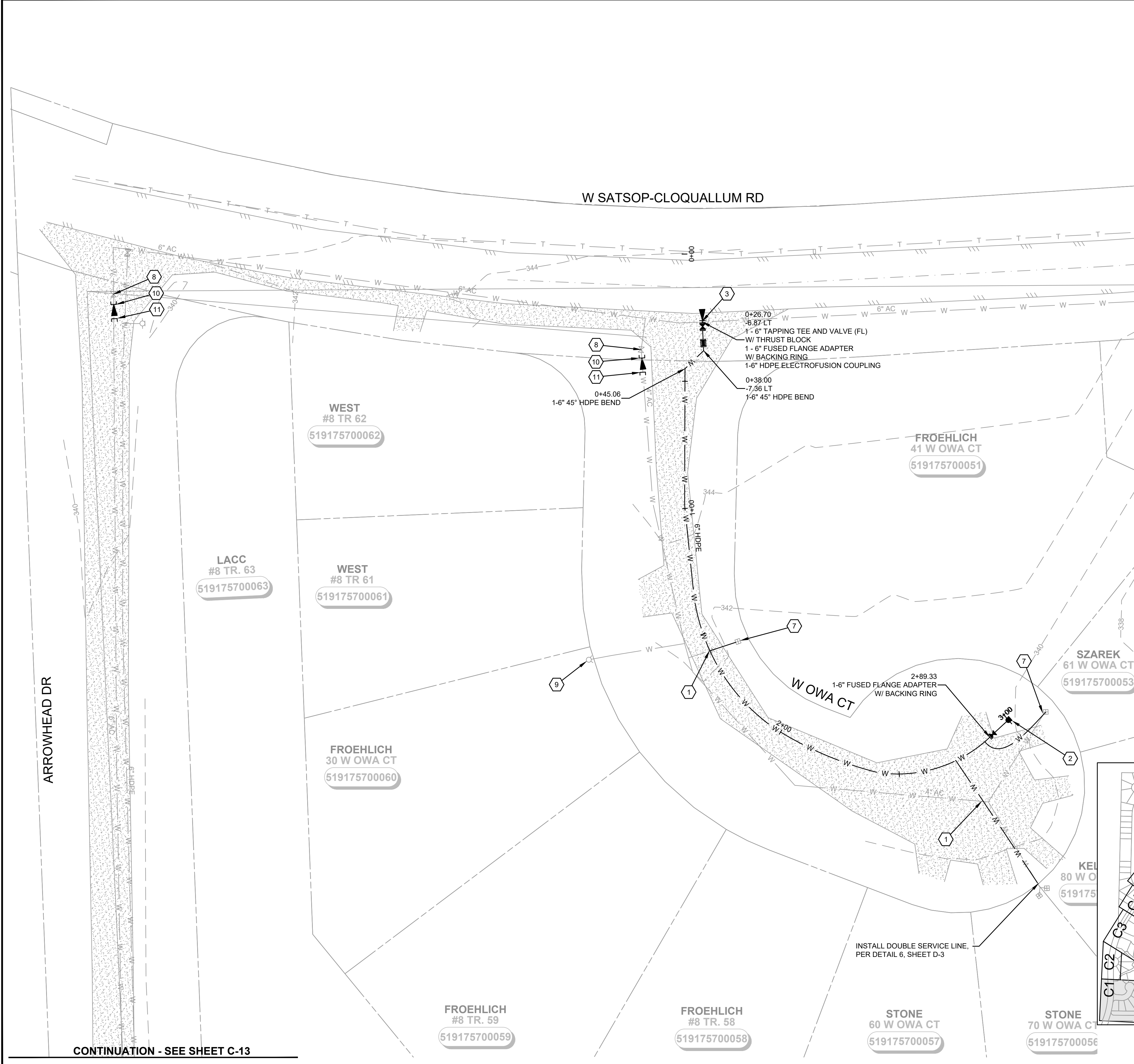
CONSTRUCTION NOTES:

- CAUTION: POTENTIAL UTILITY CONFLICT. POT HOLE TO DETERMINE EXACT LOCATION AND DEPTH OF THE EXISTING UTILITIES PRIOR TO CONSTRUCTION. ANY DISCREPANCIES FOUND IN THE FIELD FROM THOSE SHOWN HEREIN SHALL BE REPORTED TO THE OWNER PRIOR TO COMMENCING THE WORK. PROTECT EXISTING UTILITY DURING INSTALLATION OF NEW WATER MAIN.
- INSTALL FIRE HYDRANT ASSEMBLY PER DETAIL 5, SHEET D-2, FINAL LOCATION TO BE APPROVED BY DISTRICT.
- CONNECT TO EXISTING MAIN WITH WET TAP AND TAPPING GATE VALVE AS PER DETAIL 3, SHEET D-3. CONTRACTOR TO VERIFY SIZE AND DEPTH OF EXISTING MAIN BEFORE MAKING CONNECTION.
- INSTALL NEW WATER MAIN UNDER EXISTING UTILITY, EXTRA DEPTH MAY BE REQUIRED. CONTRACTOR TO VERIFY.
- INSTALL SILT FENCE PER DETAIL 1, SHEET D-1.
- INSTALL STRAW WATTLE DAM PER DETAIL 2, SHEET D-1.
- INSTALL WATER SERVICE CONNECTION PER DETAIL 4, SHEET D-3.

DISTRICT TO PERFORM THE FOLLOWING:

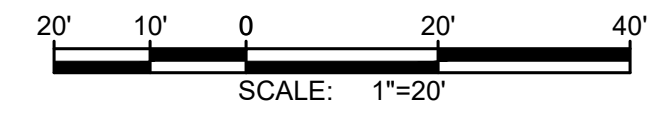
- CLOSE VALVE, REMOVE VALVE BOX AND FILL WITH LEAN CONCRETE.
- REMOVE AND WASTEHAUL FIRE HYDRANT.
- INSTALL CAP WITH THRUST BLOCK.
- PLUG EXISTING MAIN WITH LEAN CONCRETE TO A MIN. OF 2 DIAMETERS.

MATCHLINE - SEE SHEET C-2



SHEET KEY MAP
 NTS

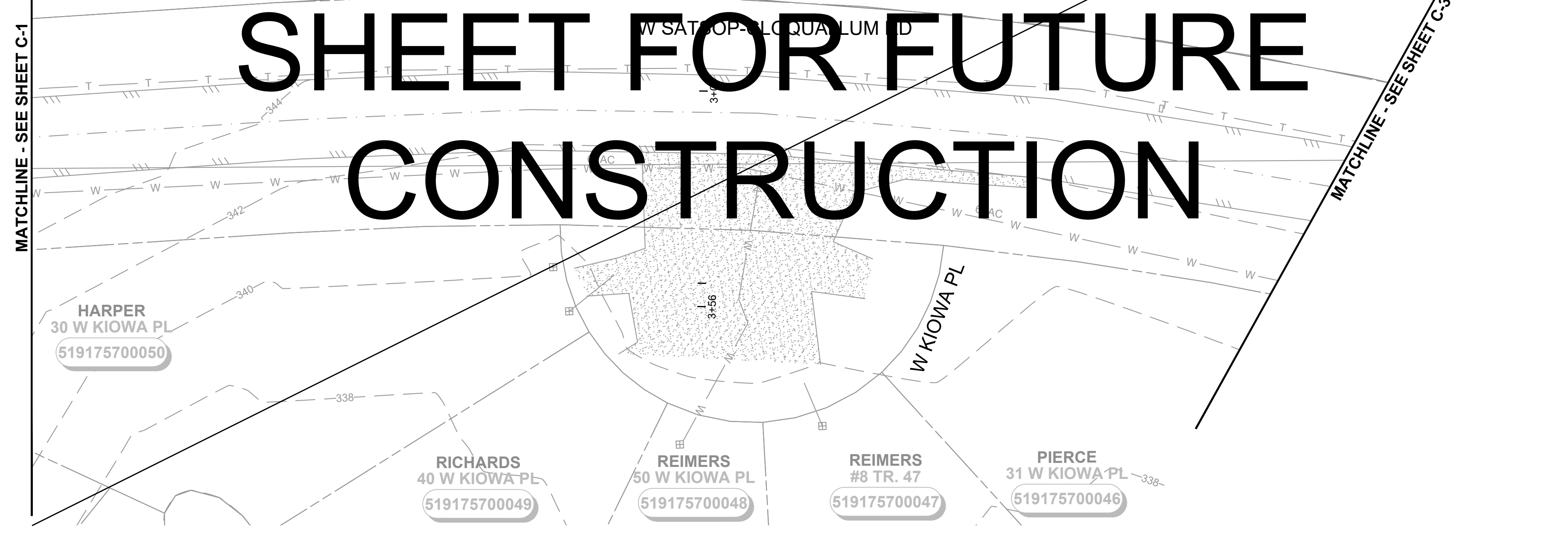
CONTINUATION - SEE SHEET C-13



SHEET FOR FUTURE CONSTRUCTION

MATCHLINE - SEE SHEET C-1

MATCHLINE - SEE SHEET C-3



NOTES:

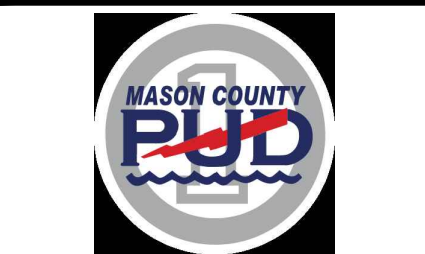
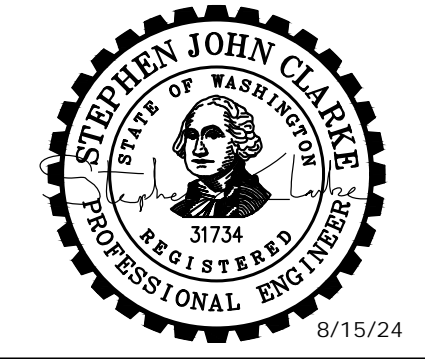
1. SEE EROSION CONTROL NOTES, SHEET D-1. EROSION CONTROL SHOWN FOR CLARITY ONLY, CONTRACTOR SHALL MEET ALL REGULATORY REQUIREMENTS.
2. BURIED UTILITIES (WHERE KNOWN) ARE SHOWN IN THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL HAVE UTILITIES VERIFIED ON THE GROUND PRIOR TO CONSTRUCTION. NOTIFY THE UNDERGROUND UTILITIES LOCATE CENTER: CALL 811.
3. TREES TO REMAIN UNLESS NECESSARY FOR CONSTRUCTION.
4. WATER MAIN TRENCH PER DETAIL 1, SHEET D-2.
5. ABANDON EXISTING WATER MAIN IN PLACE AFTER NEW HDPE WATER MAIN CONNECTIONS HAVE BEEN CONSTRUCTED.
6. NOTIFY DISTRICT 72 HOURS IN ADVANCE OF ALL WATER SHUT DOWNS. SHUT DOWNS WILL NOT BE ALLOWED FRIDAY THROUGH MONDAY, OR ON HOLIDAYS.
7. TRENCH REPAIR SHALL BE TO MATCH EXISTING SURFACE (ASPHALT, GRAVEL, HYDROSEEDING), PER DETAILS 2, 3, 4, SHEET D-2. MAXIMUM 4' RESTORATION WIDTH.
8. DO NOT MAKE CONNECTIONS UNTIL A SUCCESSFUL PURITY AND PRESSURE TEST OF THE NEW WATER SYSTEM HAS BEEN WITNESSED AND APPROVED BY OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF CHLORINATED WATER IN A METHOD THAT COMPLIES WITH ALL STATE AND FEDERAL REGULATIONS. CONTRACTOR SHALL SUBMIT A DISPOSAL PLAN TO THE DISTRICT PRIOR TO FILLING OF WATER MAINS. CONTRACTOR TO VERIFY CONNECTION REQUIREMENTS.

CONSTRUCTION NOTES:

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- 2 INSTALL FIRE HYDRANT ASSEMBLY PER DETAIL 5, SHEET D-2, FINAL LOCATION TO BE APPROVED BY DISTRICT.
- 3 CONNECT TO EXISTING MAIN WITH WET TAP AND TAPPING GATE VALVE AS PER DETAIL 3, SHEET D-3. CONTRACTOR TO VERIFY SIZE AND DEPTH OF EXISTING MAIN BEFORE MAKING CONNECTION.
- 4 INSTALL NEW WATER MAIN UNDER EXISTING UTILITY, EXTRA DEPTH MAY BE REQUIRED. CONTRACTOR TO VERIFY.
- 5 INSTALL SILT FENCE PER DETAIL 1, SHEET D-1.
- 6 INSTALL STRAW WATTLE DAM PER DETAIL 2, SHEET D-1.
- 7 INSTALL WATER SERVICE CONNECTION PER DETAIL 4, SHEET D-3.

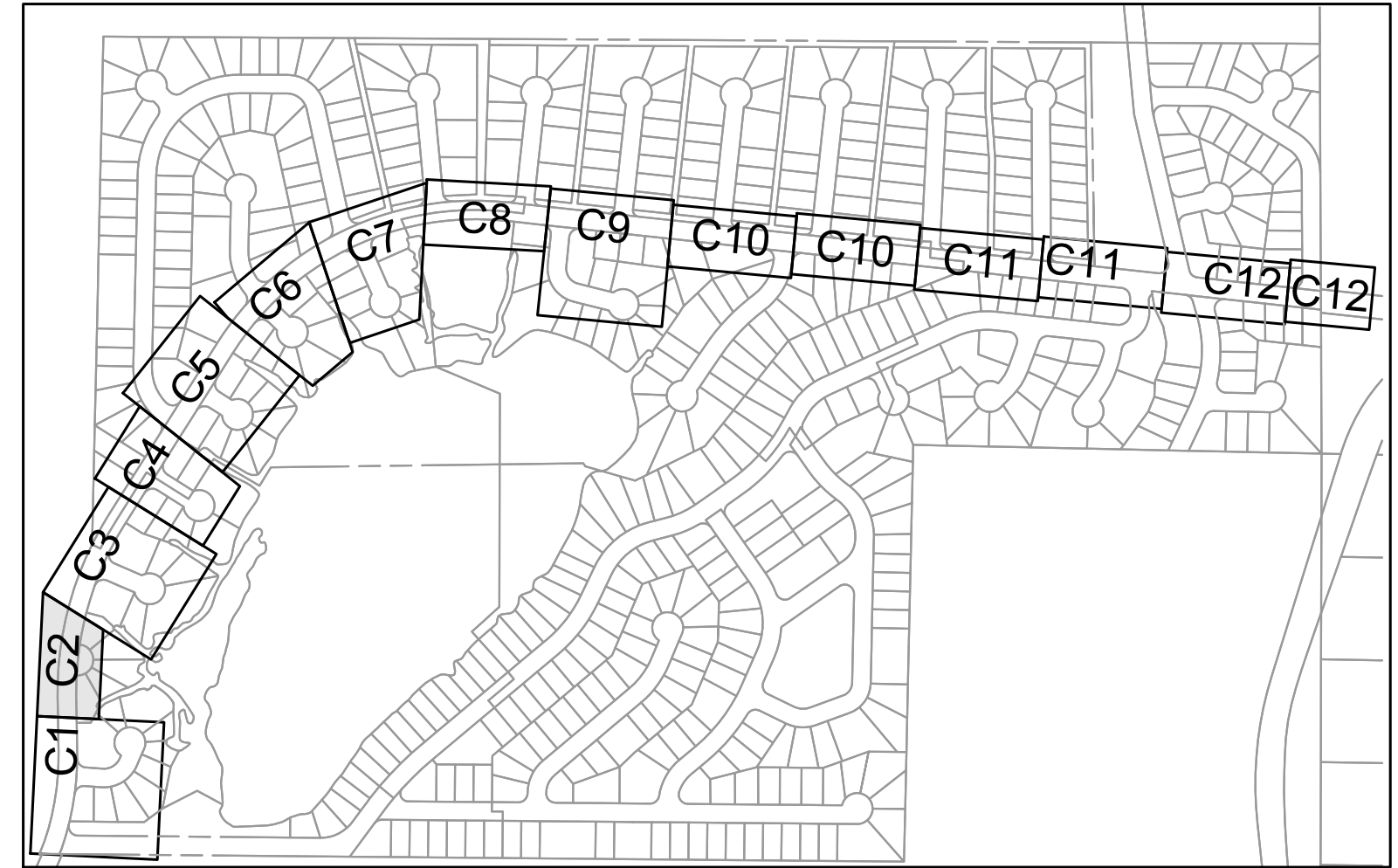
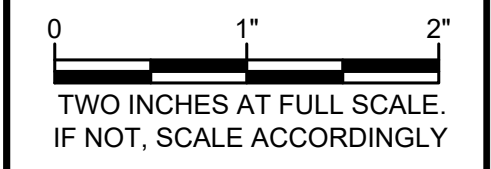
DISTRICT TO PERFORM THE FOLLOWING:

- 8 CLOSE VALVE, REMOVE VALVE BOX AND FILL WITH LEAN CONCRETE.
- 9 REMOVE AND WASTEHAUL FIRE HYDRANT.
- 10 INSTALL CAP WITH THRUST BLOCK.
- 11 PLUG EXISTING MAIN WITH LEAN CONCRETE TO A MIN. OF 2 DIAMETERS.



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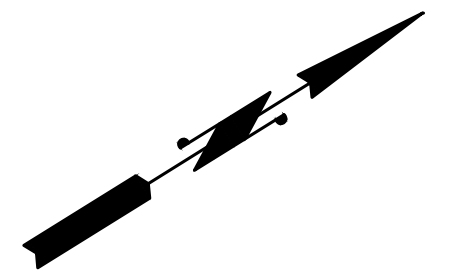
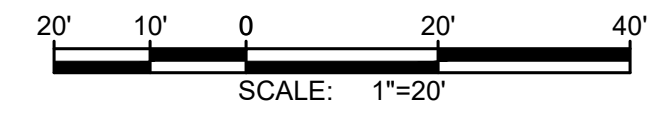
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SHEET KEY MAP
 NTS

CIVIL

W KIOWA PL



NOTES:

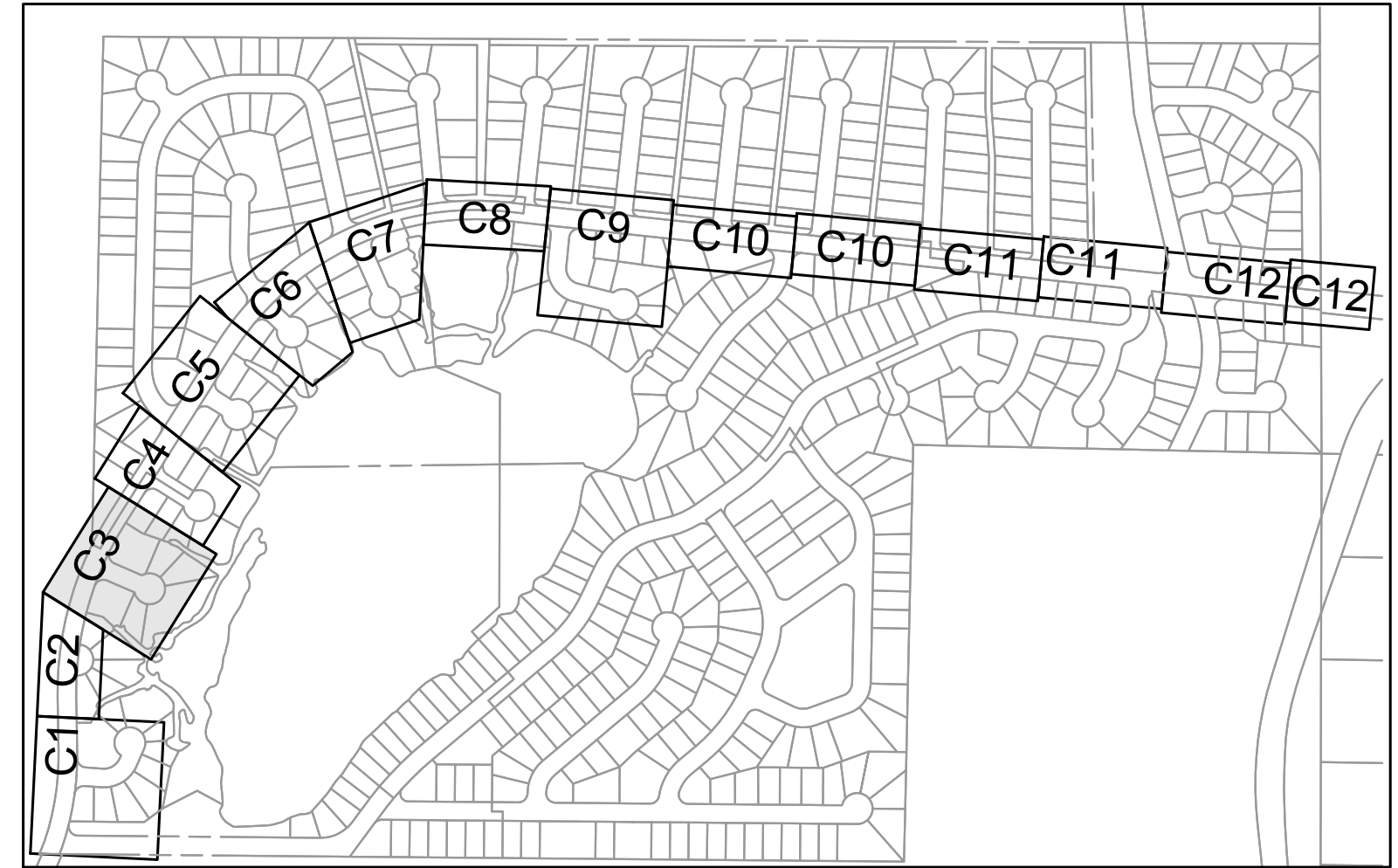
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3. TREES TO REMAIN UNLESS NECESSARY FOR CONSTRUCTION.
4. WATER MAIN TRENCH PER DETAIL 1, SHEET D-2.
5. ABANDON EXISTING WATER MAIN IN PLACE AFTER NEW HDPE WATER MAIN CONNECTIONS HAVE BEEN CONSTRUCTED.
6. NOTIFY DISTRICT 72 HOURS IN ADVANCE OF ALL WATER SHUT DOWNS. SHUT DOWNS WILL NOT BE ALLOWED FRIDAY THROUGH MONDAY, OR ON HOLIDAYS.
7. TRENCH REPAIR SHALL BE TO MATCH EXISTING SURFACE (ASPHALT, GRAVEL, HYDROSEEDING), PER DETAILS 2, 3, 4, SHEET D-2. MAXIMUM 4' RESTORATION WIDTH.
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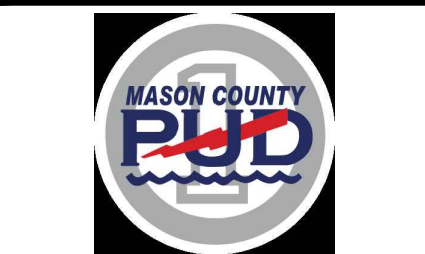
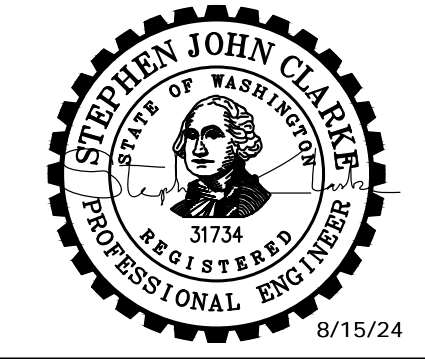
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DISTRICT TO PERFORM THE FOLLOWING:

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- ⑩ INSTALL CAP WITH THRUST BLOCK.
- ⑪ PLUG EXISTING MAIN WITH LEAN CONCRETE TO A MIN. OF 2 DIAMETERS.



SHEET KEY MAP
NTS



**MASON COUNTY
 PUD 1
 LAKE ARROWHEAD
 WATER MAIN
 REPLACEMENT**
 160 W SATSOP CLOQUALLUM
 RD., ELMA, WA 98541

No.	DATE	REVISION

ISSUED FOR: _____

ISSUE DATE: AUG 2024

APPROVED BY: S. CLARKE

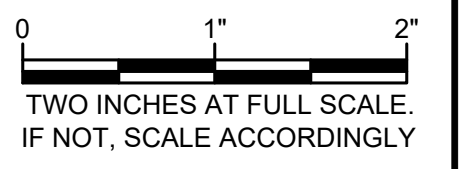
CHECKED BY: M. JOHNSON

DRAWN BY: B. HAYDEN

DESIGNER: P. SMILEY

G & O JOB NO.: 22249

FILE: C-PLAN.DWG



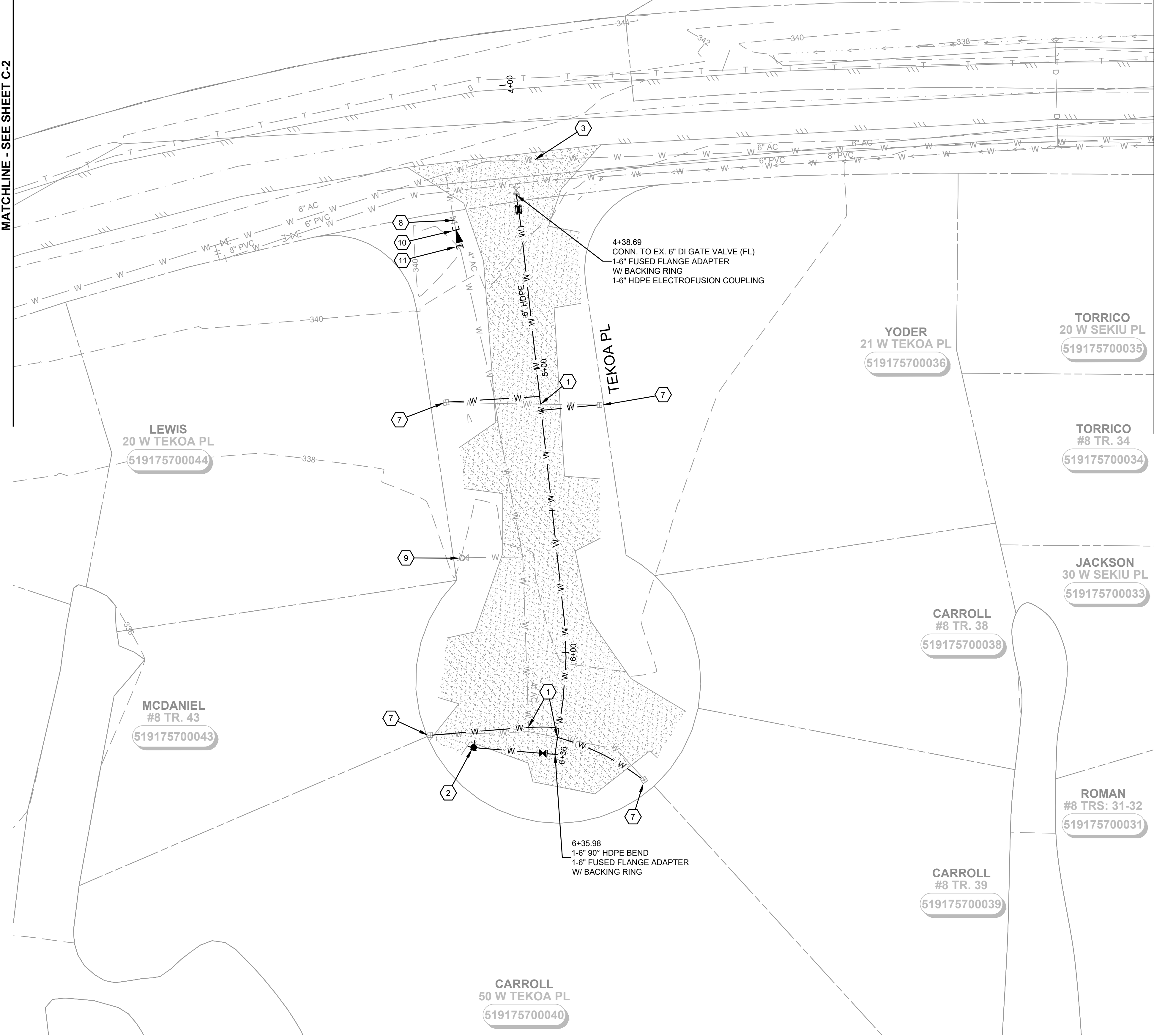
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MATCHLINE - SEE SHEET C-2

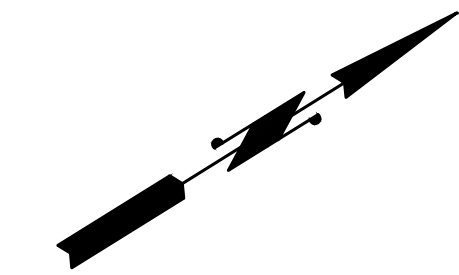
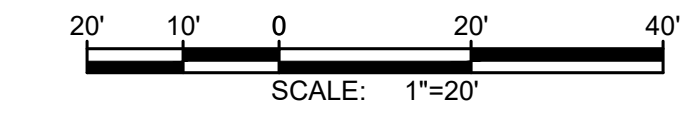
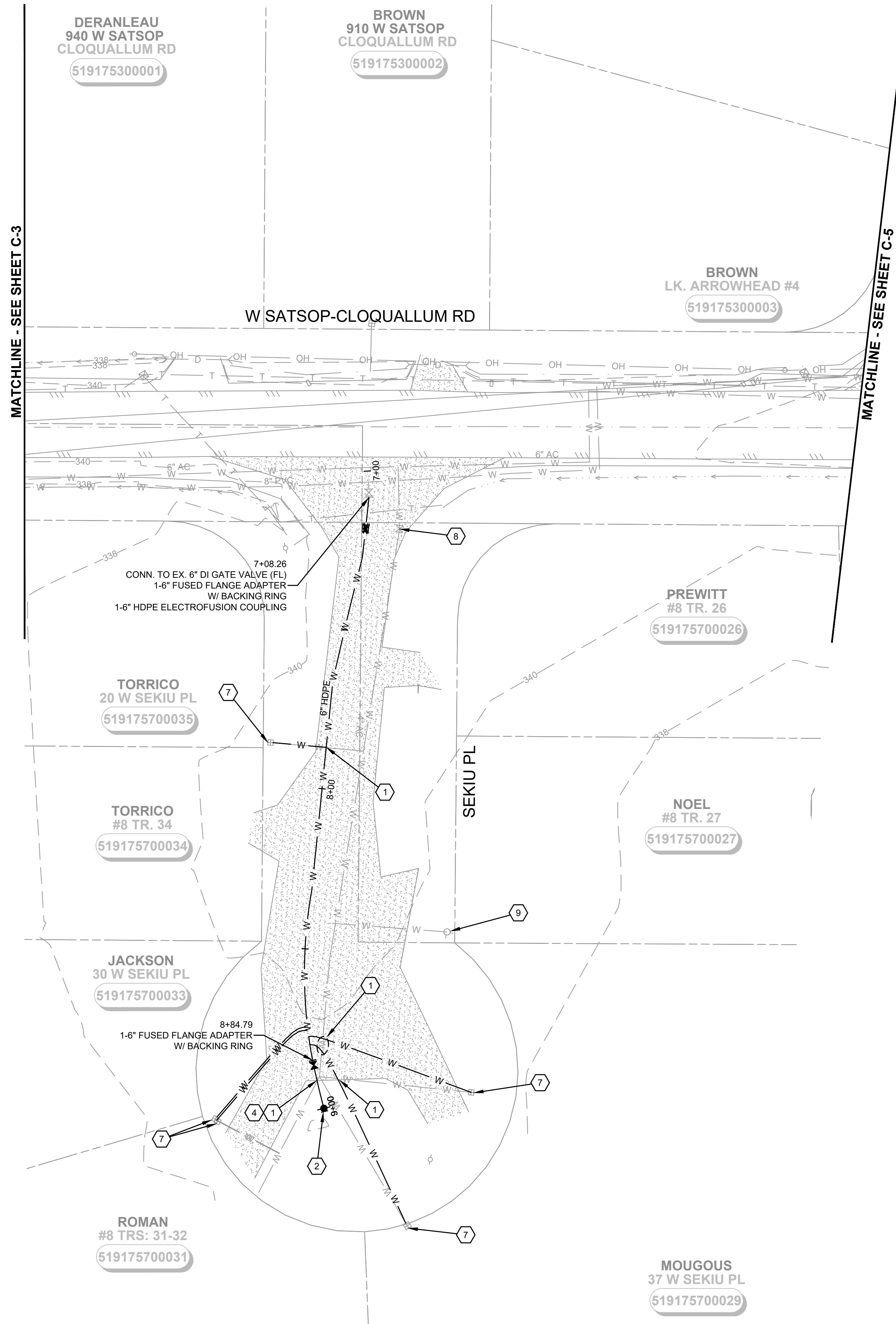
MATCHLINE - SEE SHEET C-4

W SATSOP-CLOQUALLUM RD



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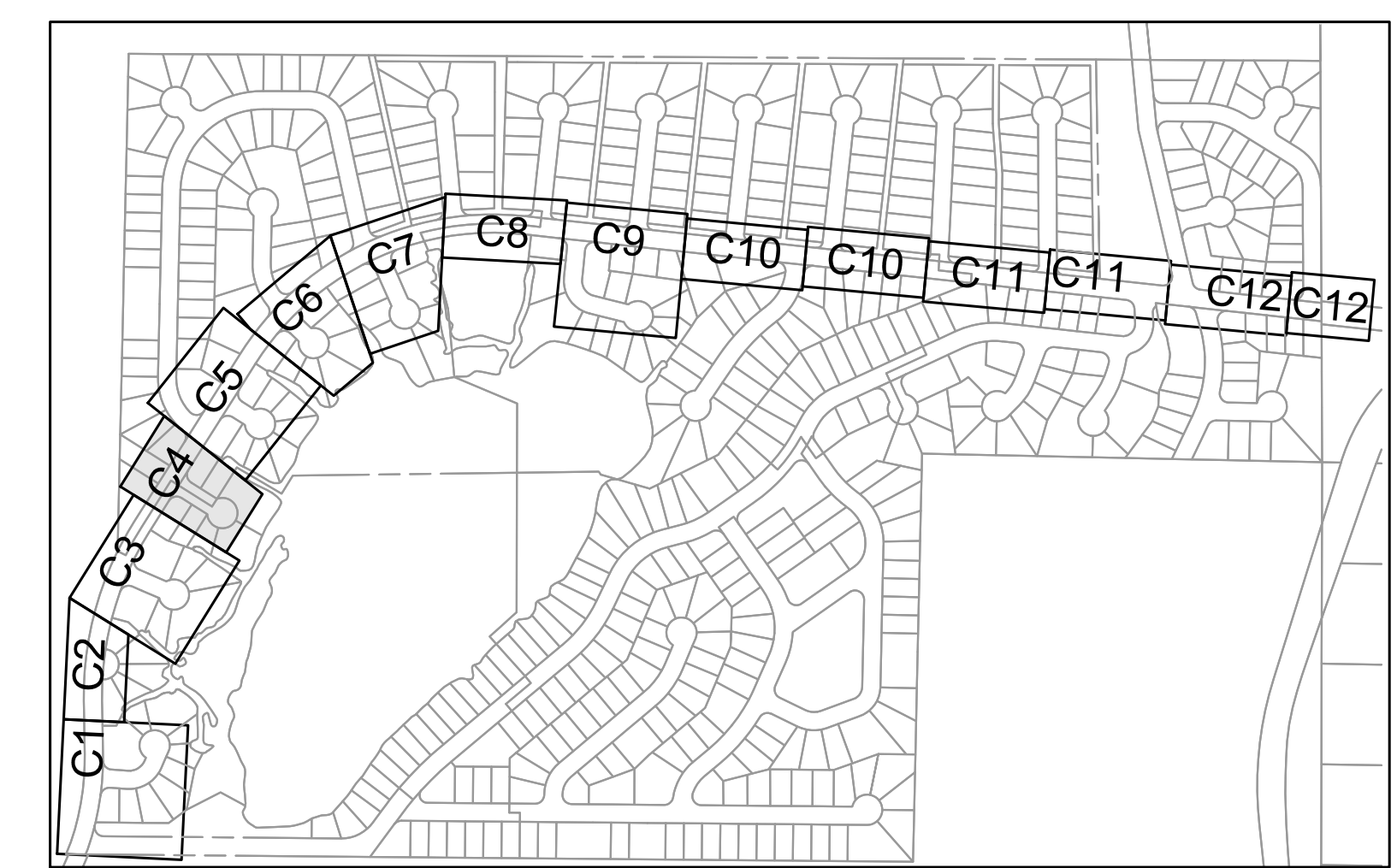
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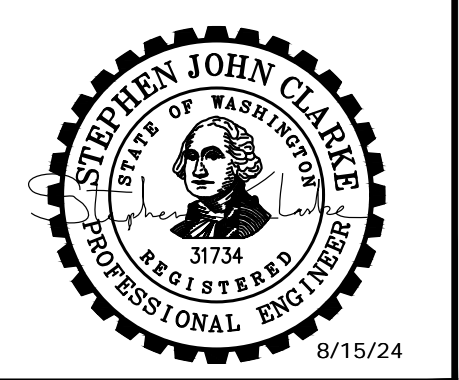
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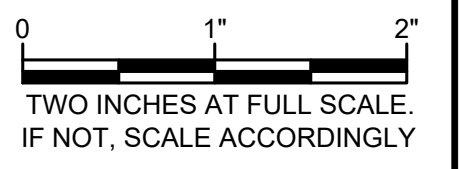
SHEET KEY MAP
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Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860



MASON COUNTY
PUD 1
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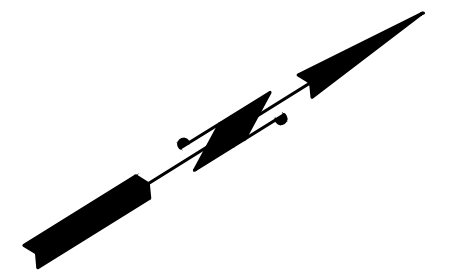
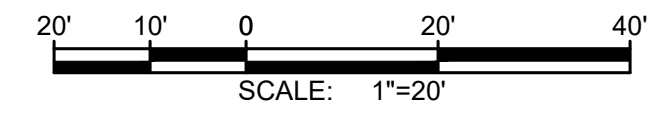
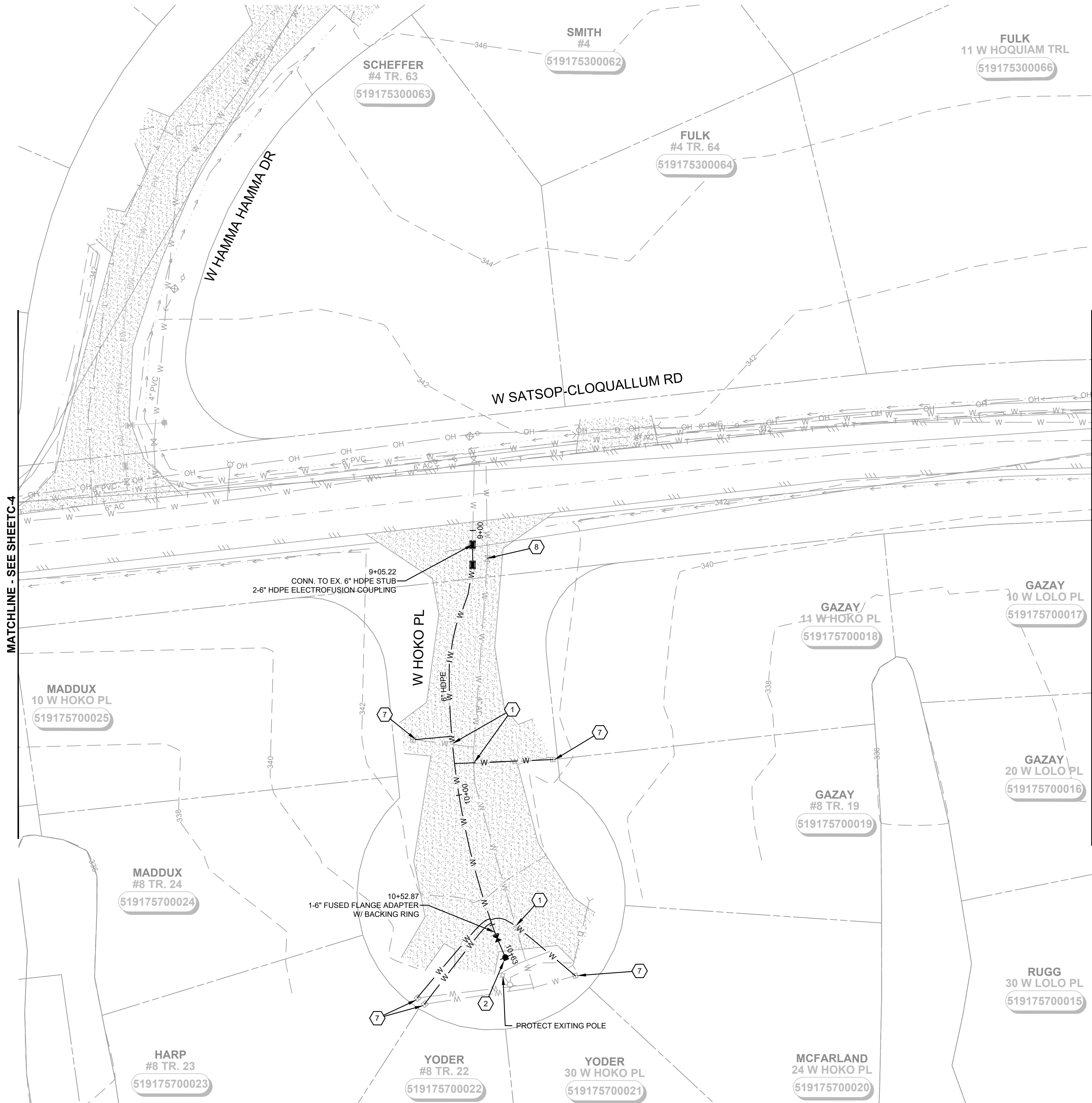
No.	DATE	REVISION
ISSUED FOR: _____		
		BID
ISSUE DATE:		AUG 2024
APPROVED BY:		S. CLARKE
CHECKED BY:		M. JOHNSON
DRAWN BY:		B. HAYDEN
DESIGNER:		P. SMILEY
G & O JOB NO.:		22249
FILE:		C-PLAN.DWG



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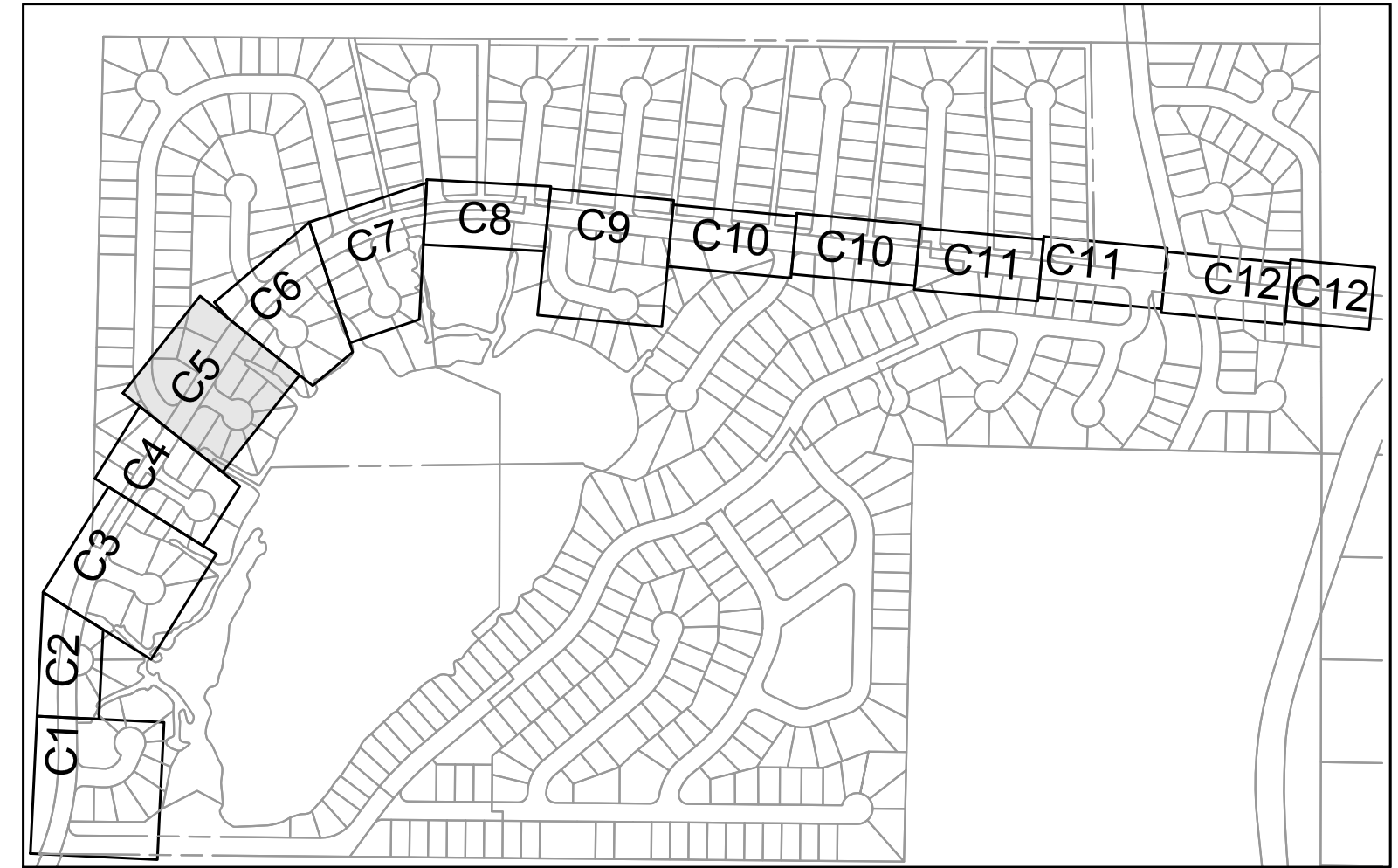
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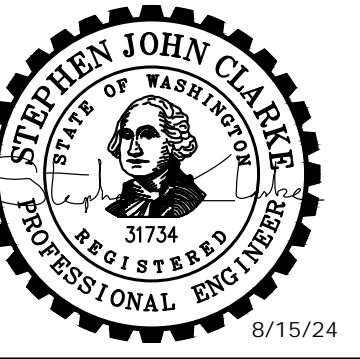
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SHEET KEY MAP
NTS



No.	DATE	REVISION

ISSUED FOR: _____ BID

ISSUE DATE: _____ AUG 2024

APPROVED BY: _____ S. CLARKE

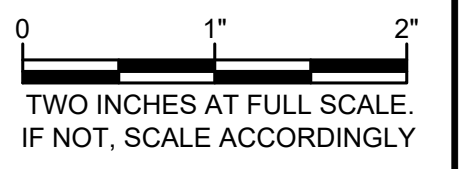
CHECKED BY: _____ M. JOHNSON

DRAWN BY: _____ B. HAYDEN

DESIGNER: _____ P. SMILEY

G & O JOB NO.: _____ 22249

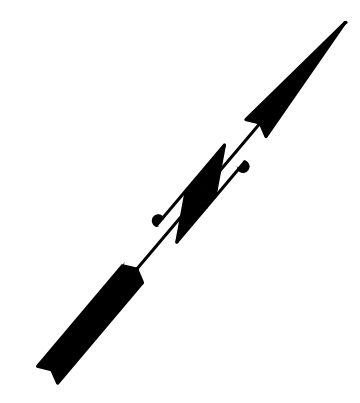
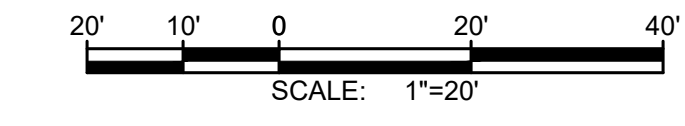
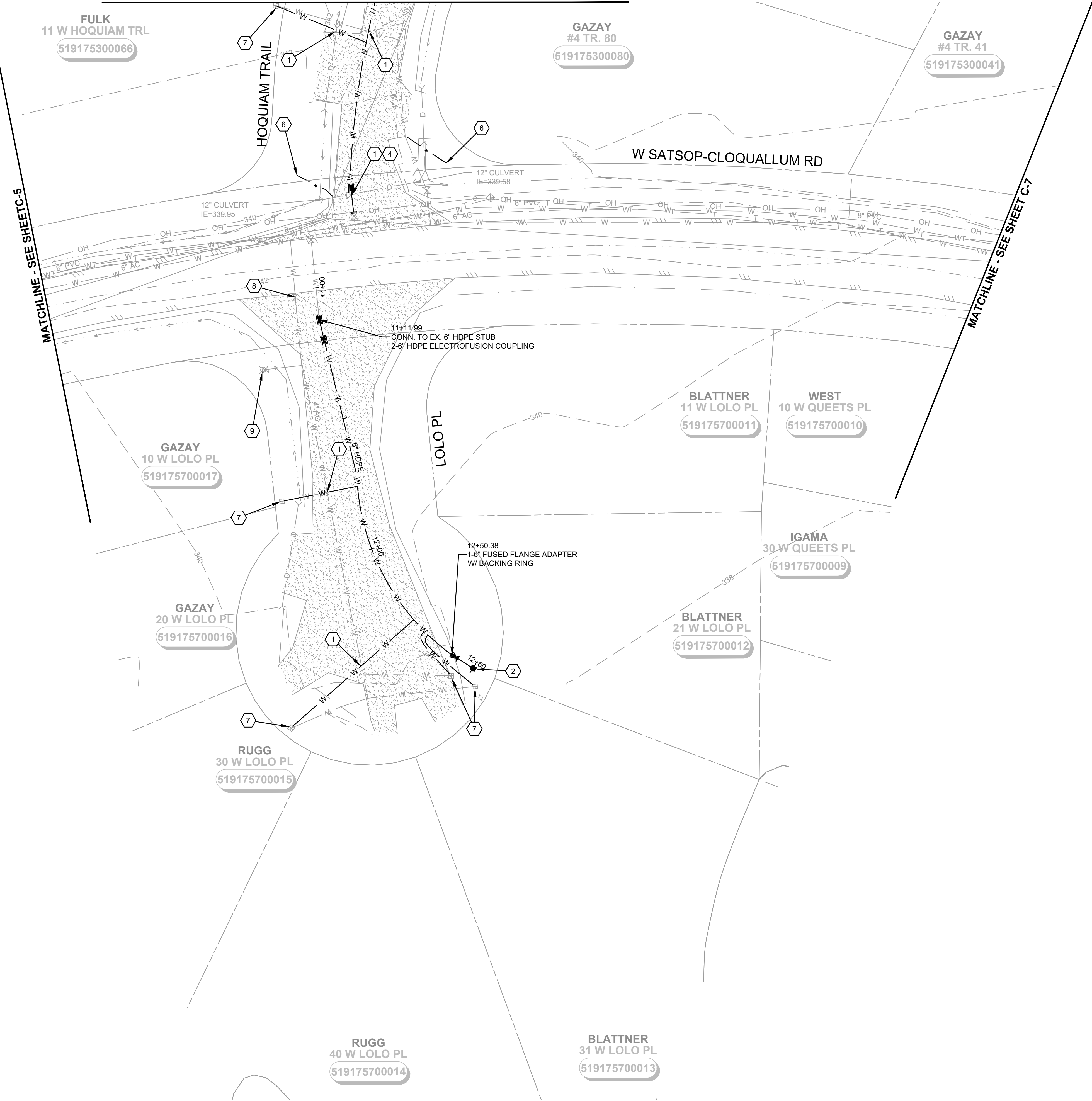
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CONTINUATION - SEE SHEET C-25



NOTES:

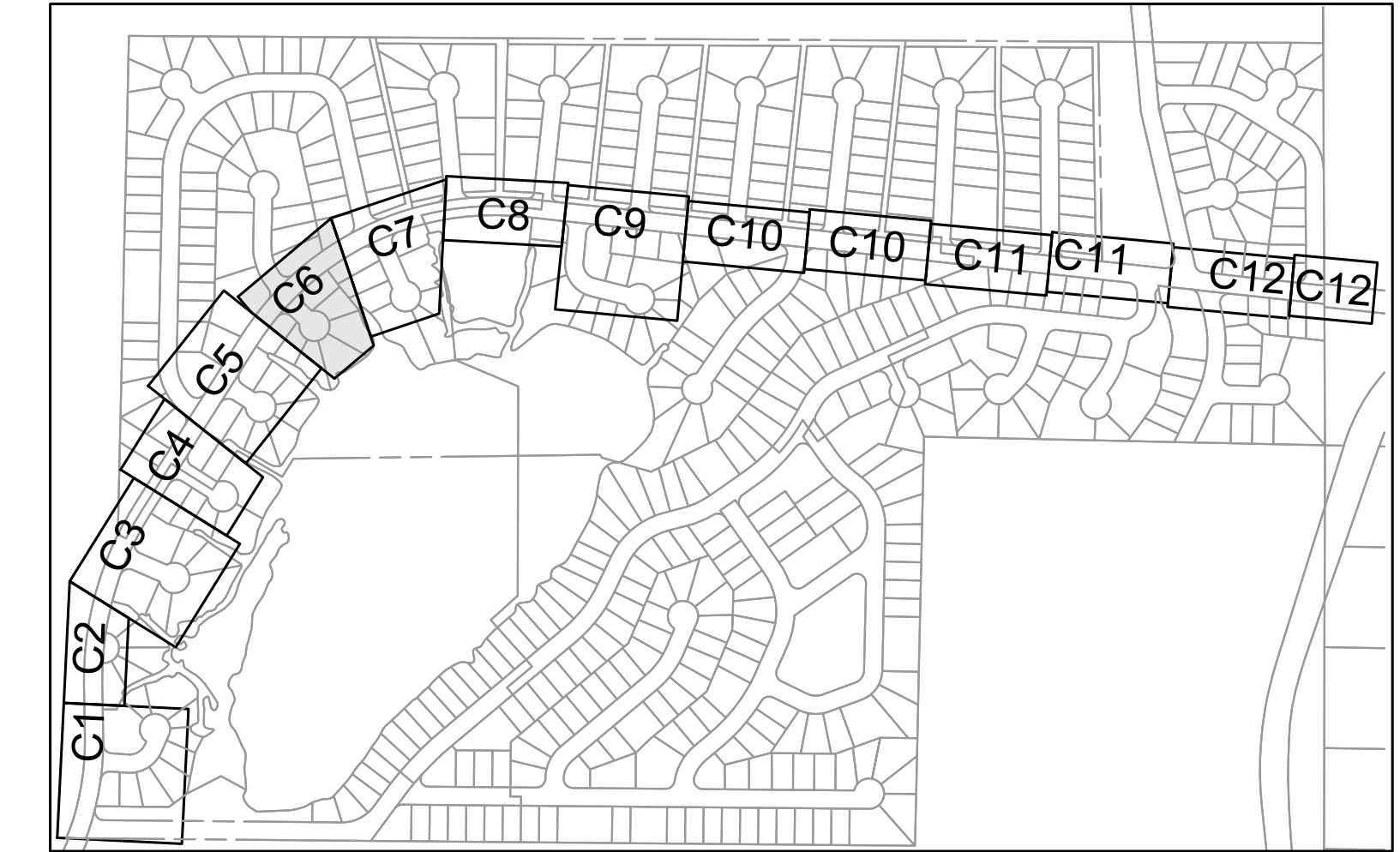
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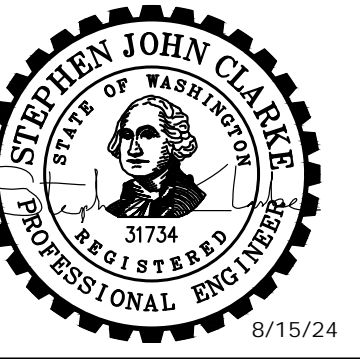
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SHEET KEY MAP
NTS

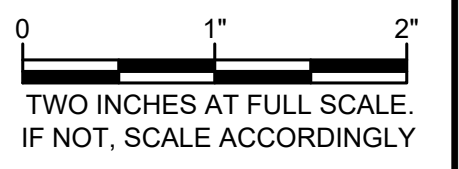
Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860



**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOQUALLUM
RD., ELMA, WA 98541

No.	DATE	REVISION

ISSUED FOR: _____ BID
 ISSUE DATE: AUG 2024
 APPROVED BY: S. CLARKE
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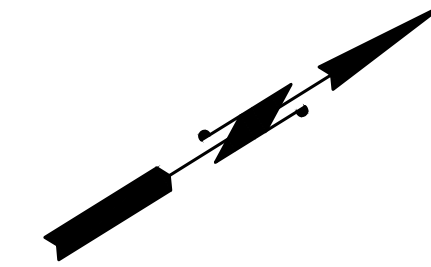
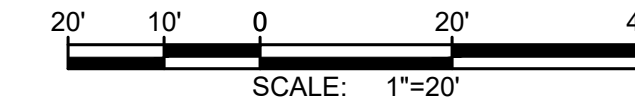
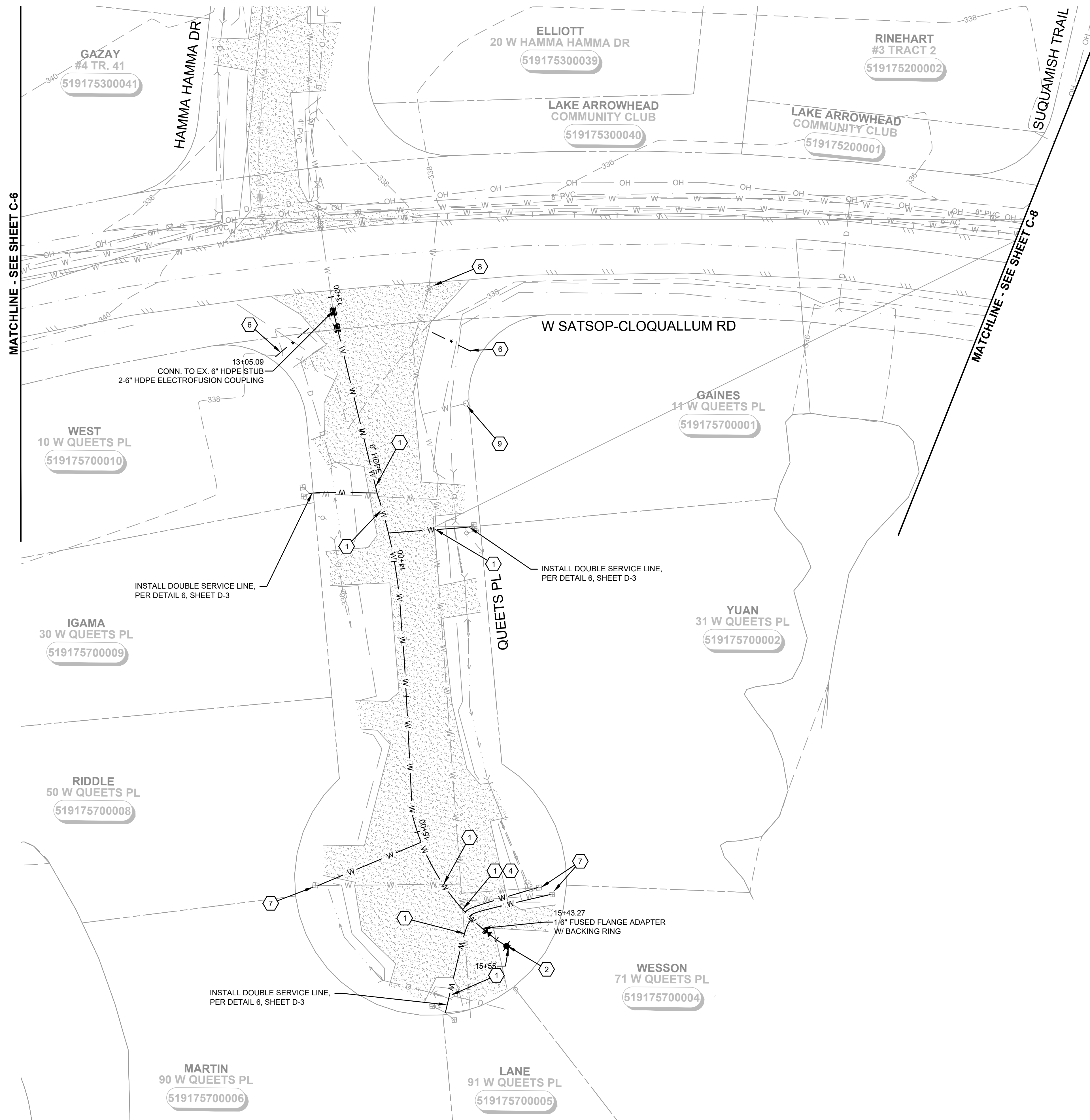
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DRAWING: **C-6** OF: **37**

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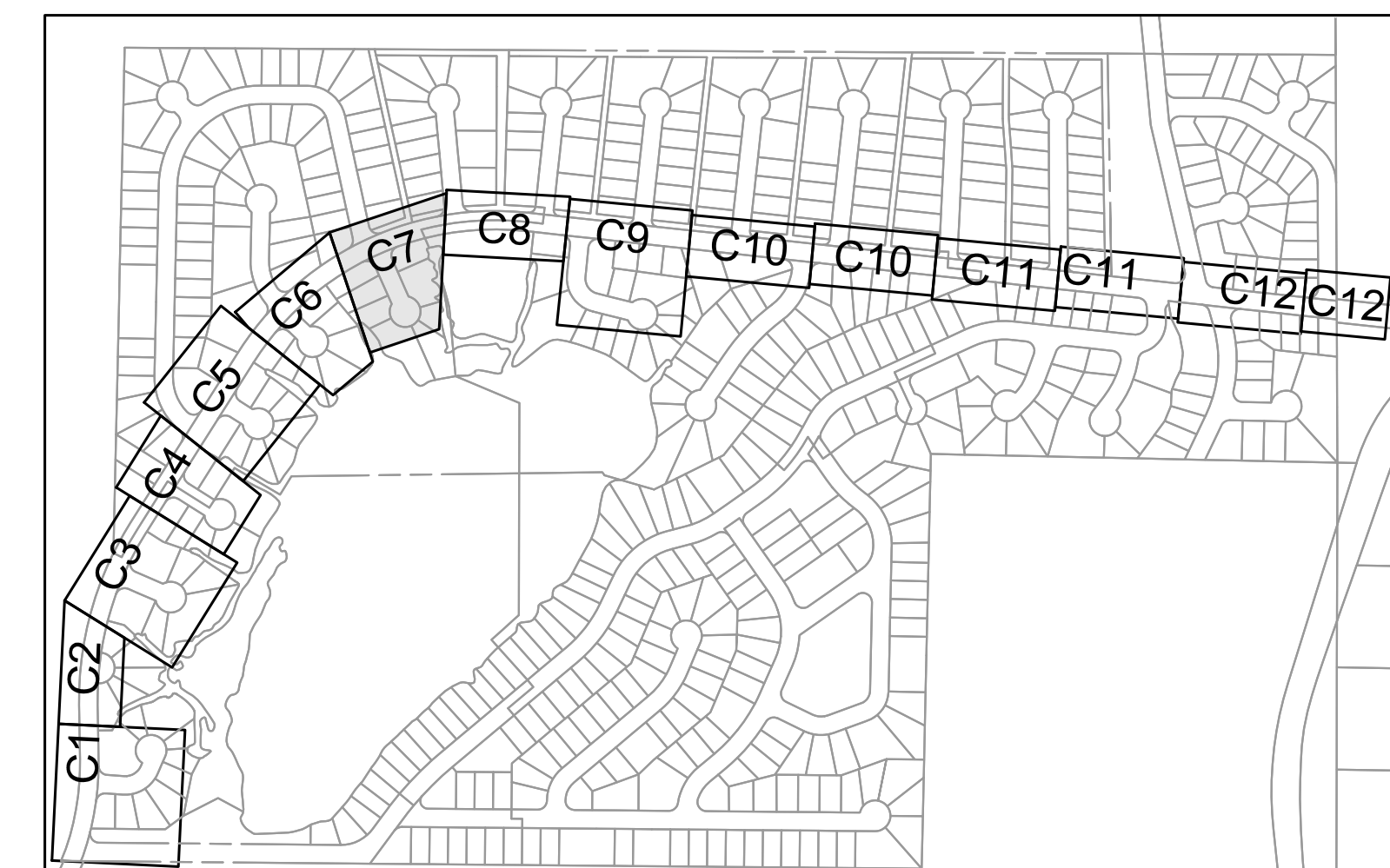
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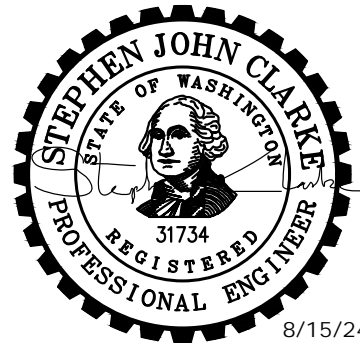
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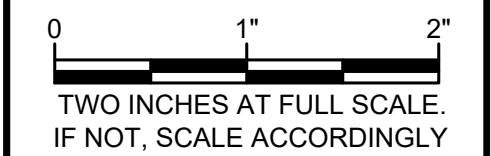
CHECKED BY: M. JOHNSON

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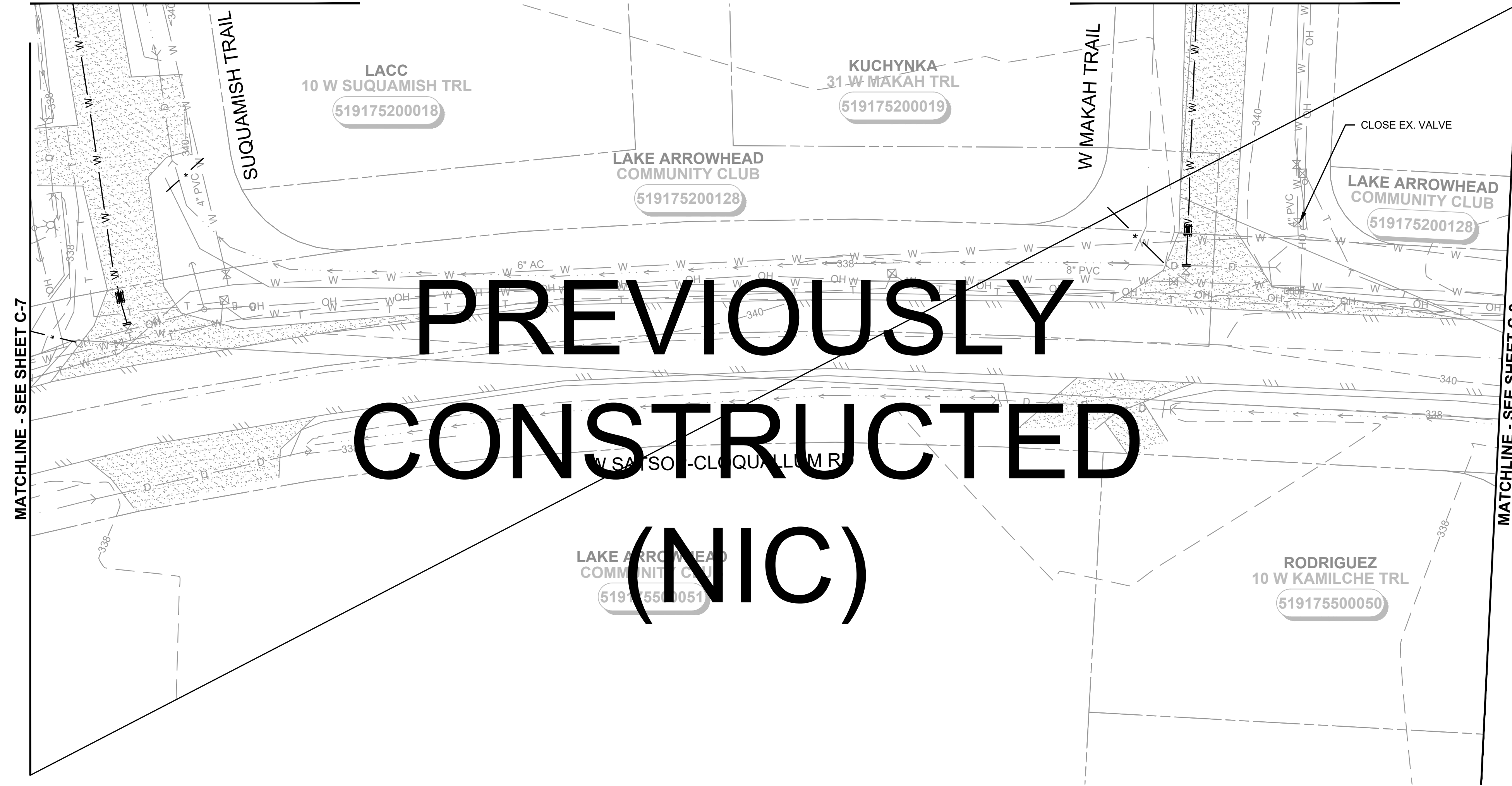
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QUEETS PL

DRAWING: **C-7** OF: **37**

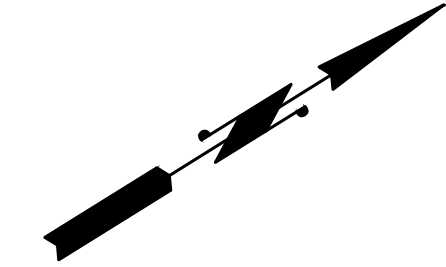
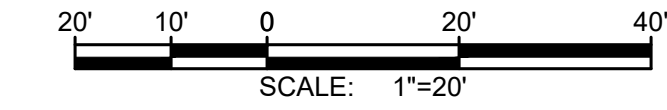
CONTINUATION - SEE SHEET C-25

CONTINUATION - SEE SHEET C-26



MATCHLINE - SEE SHEET C-7

MATCHLINE - SEE SHEET C-9



NOTES:

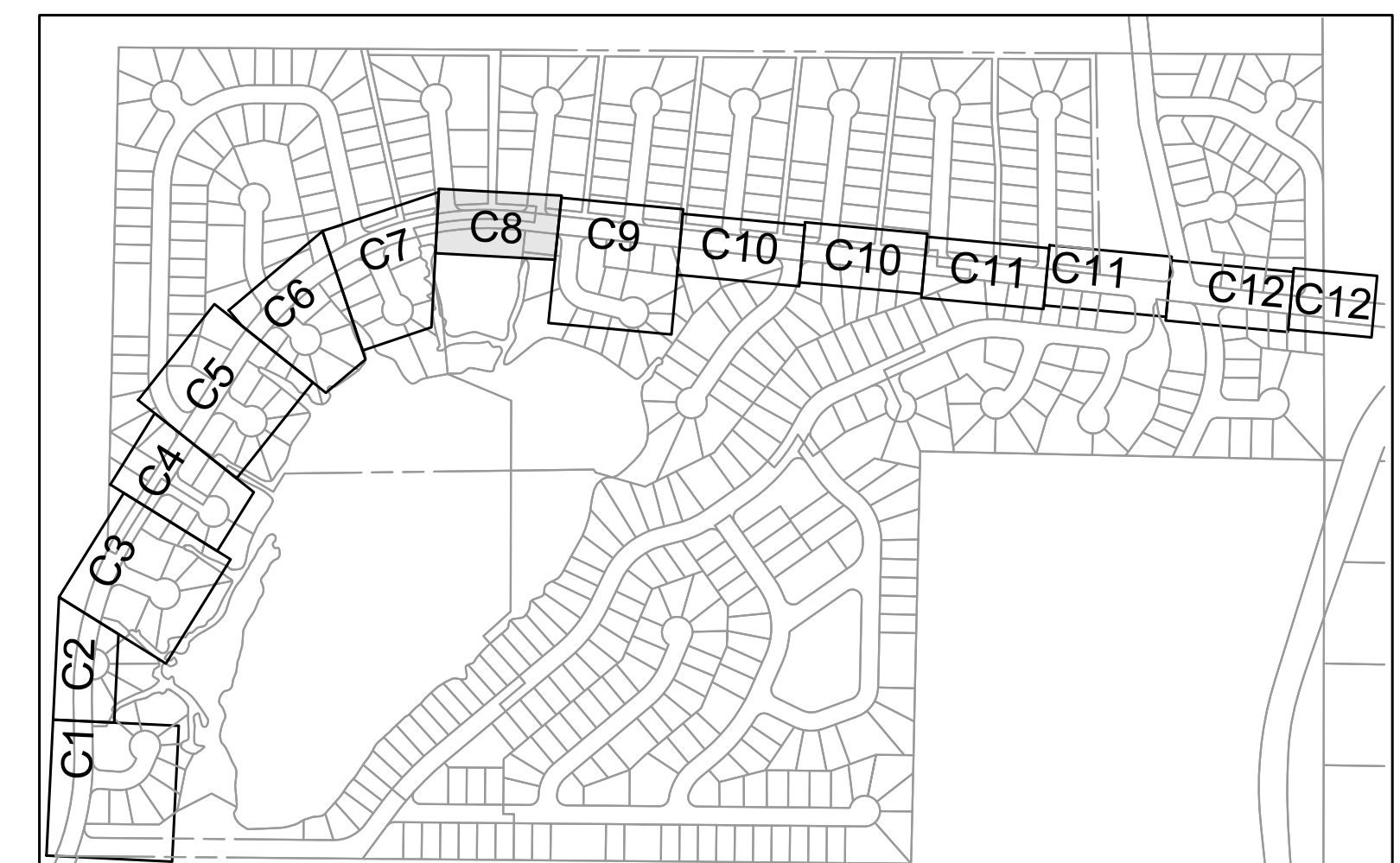
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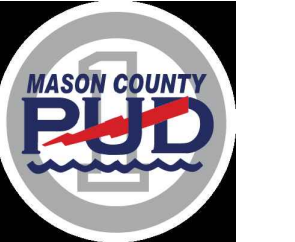
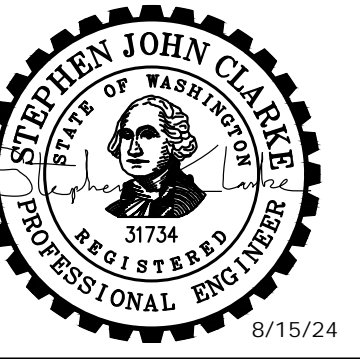
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- ⑪ PLUG EXISTING MAIN WITH LEAN CONCRETE TO A MIN. OF 2 DIAMETERS.



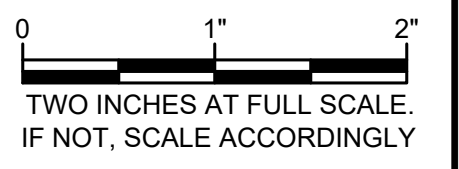
SHEET KEY MAP
NTS

Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860



**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOQUALLUM
RD., ELMA, WA 98541

No.	DATE	REVISION
ISSUED FOR: _____		
		BID
ISSUE DATE:		AUG 2024
APPROVED BY:		S. CLARKE
CHECKED BY:		M. JOHNSON
DRAWN BY:		B. HAYDEN
DESIGNER:		P. SMILEY
G & O JOB NO.:		22249
FILE:		C-PLAN.DWG

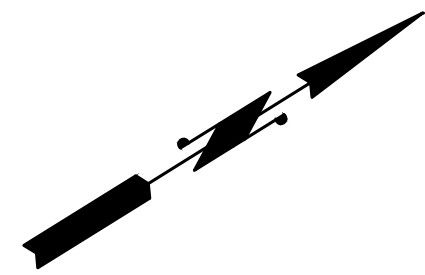
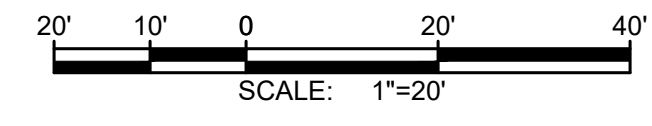


CIVIL

**SHEET FOR FUTURE
CONSTRUCTION**

DRAWING: **C-8** OF: **37**

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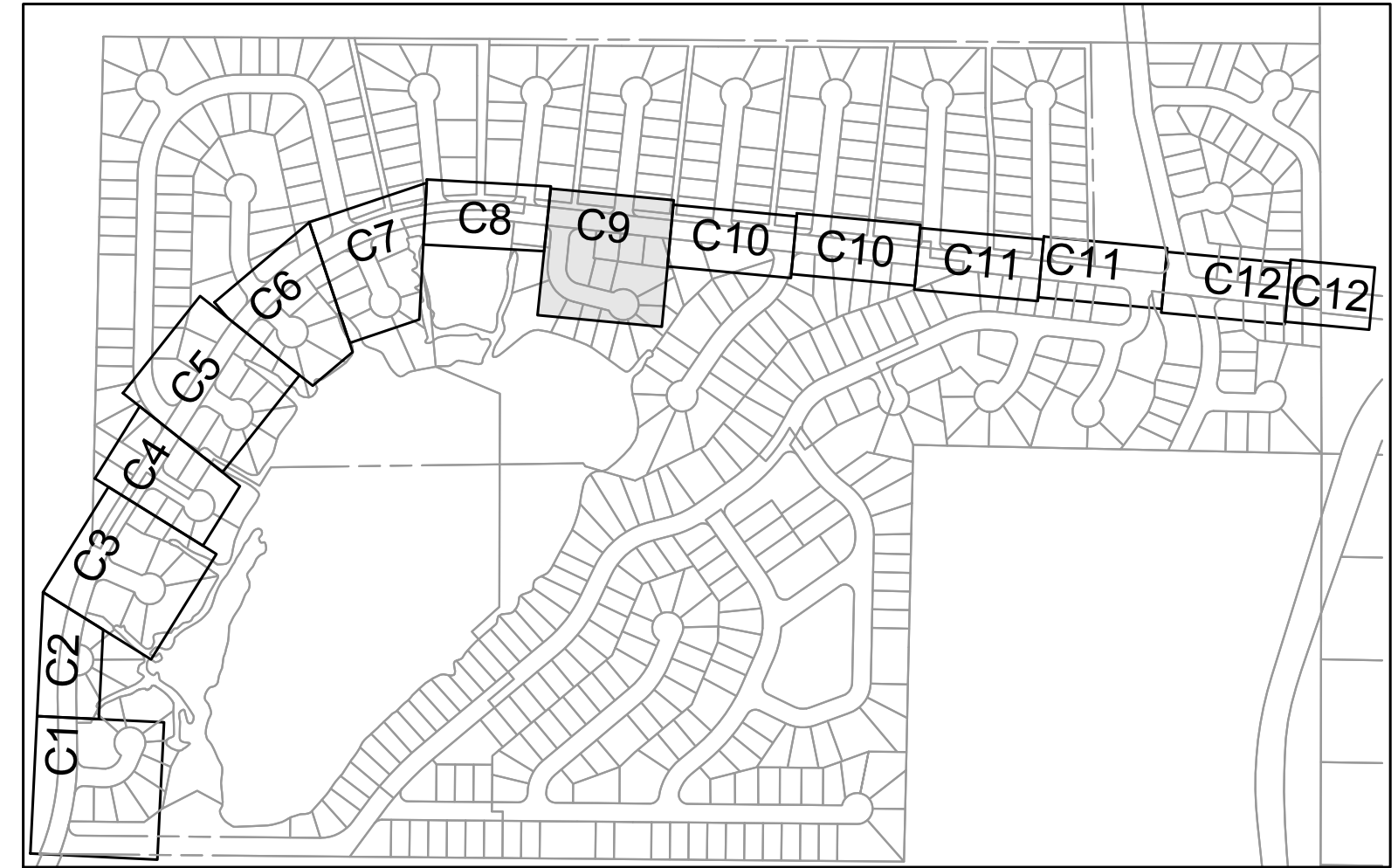
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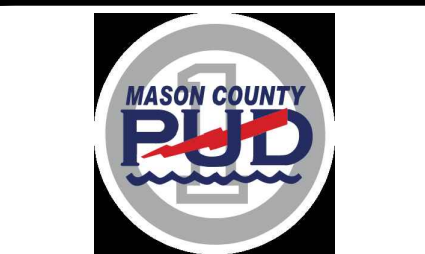
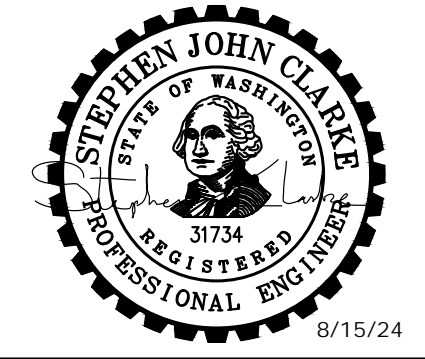
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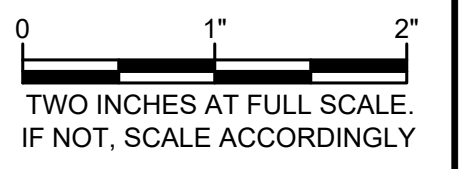


SHEET KEY MAP
NTS



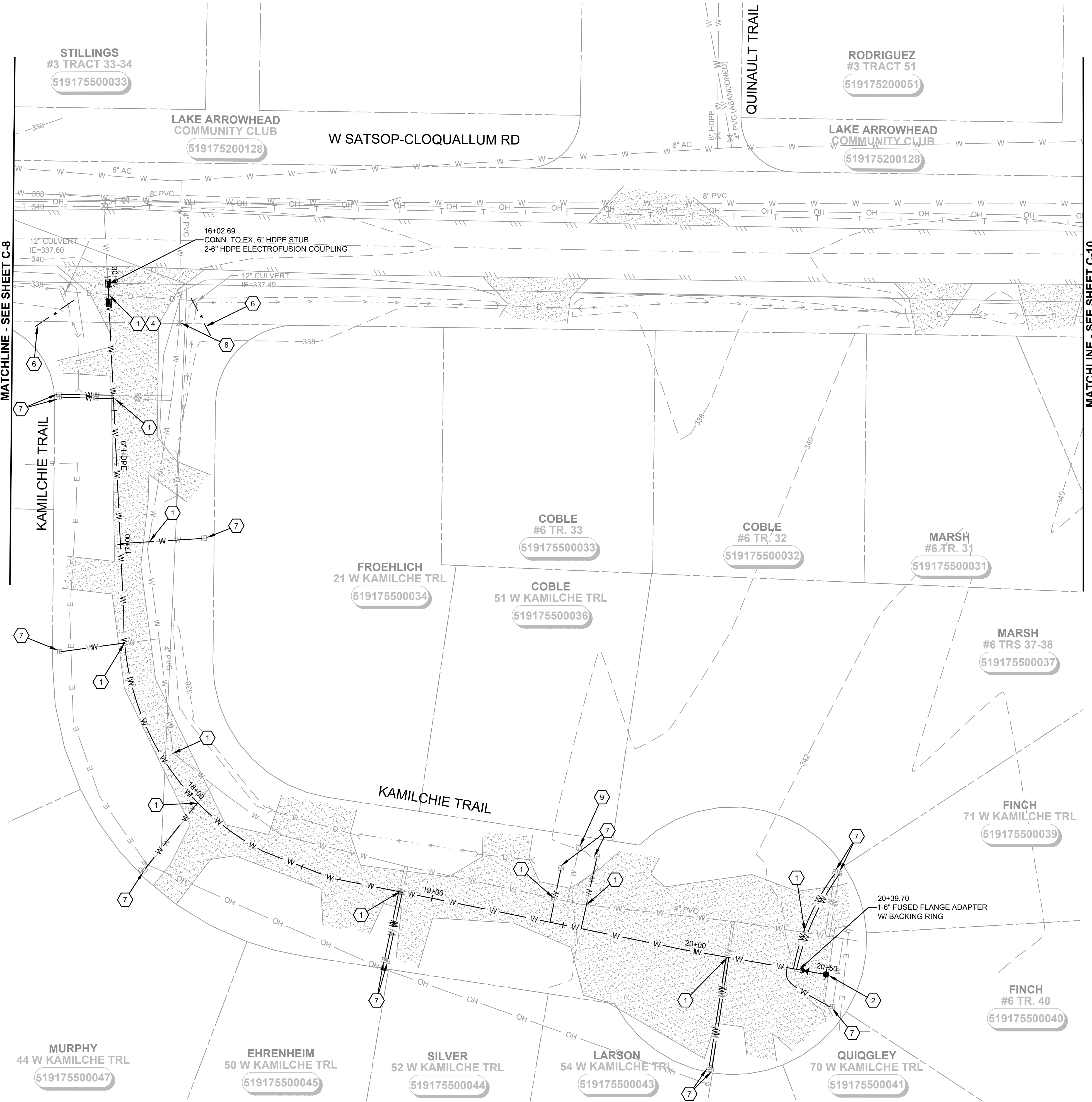
**MASON COUNTY
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No.	DATE	REVISION
ISSUED FOR: BID		
ISSUE DATE: AUG 2024		
APPROVED BY: S. CLARKE		
CHECKED BY: M. JOHNSON		
DRAWN BY: B. HAYDEN		
DESIGNER: P. SMILEY		
G & O JOB NO.: 22249		
FILE: C-PLAN.DWG		



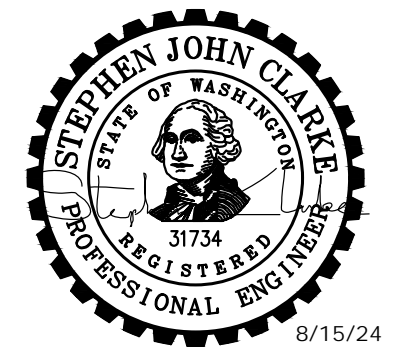
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**MASON COUNTY
PUD 1
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WATER MAIN
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160 W SATSOP CLOQUALLUM
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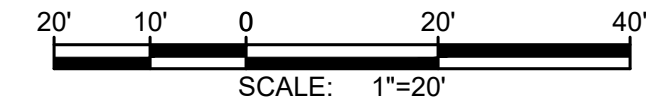
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G & O JOB NO.: 22249		
FILE: C-PLAN.DWG		

0 1" 2"
TWO INCHES AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

CIVIL

**SHEET FOR FUTURE
CONSTRUCTION**

DRAWING: **C-10** OF: **37**



NOTES:

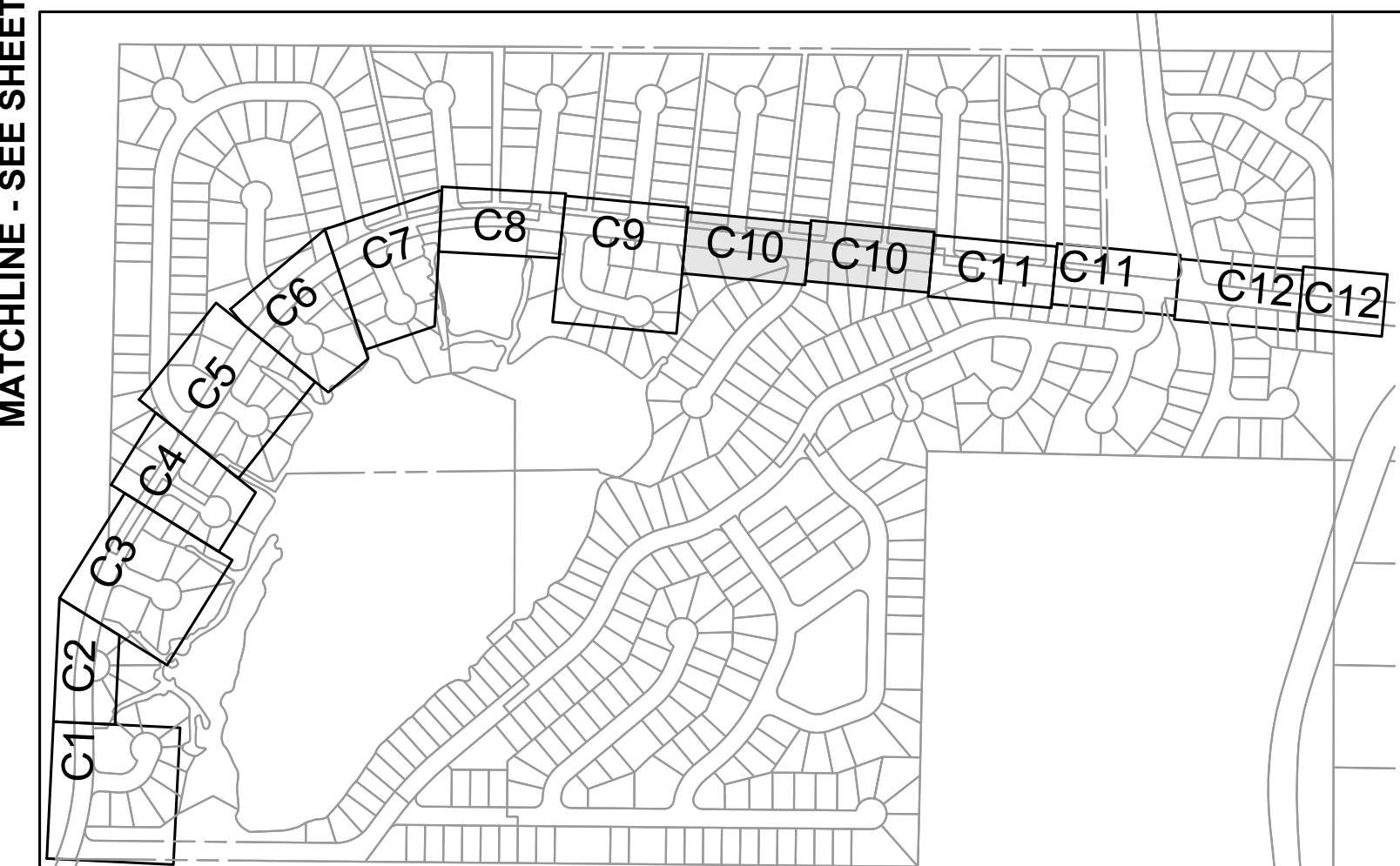
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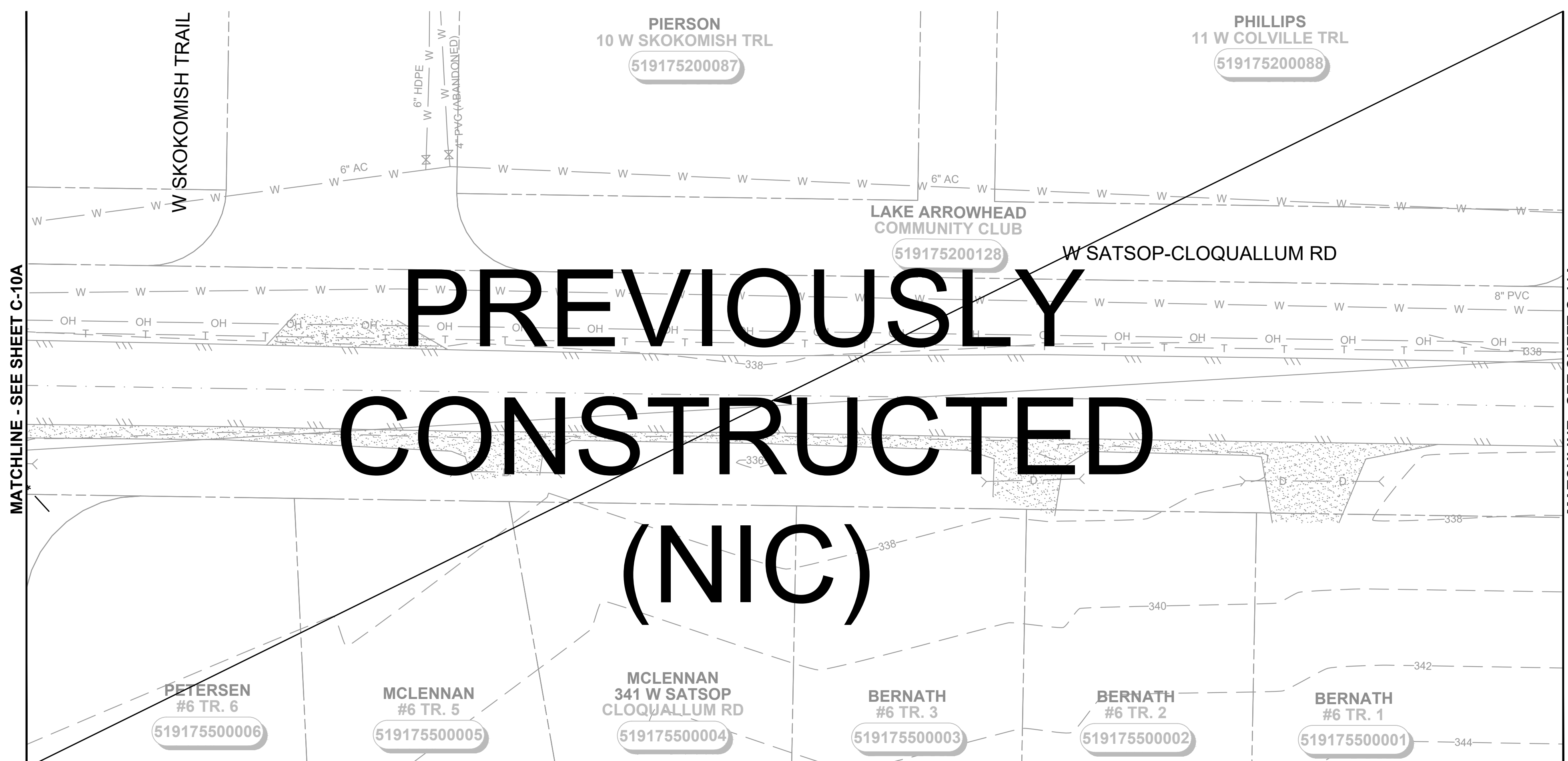
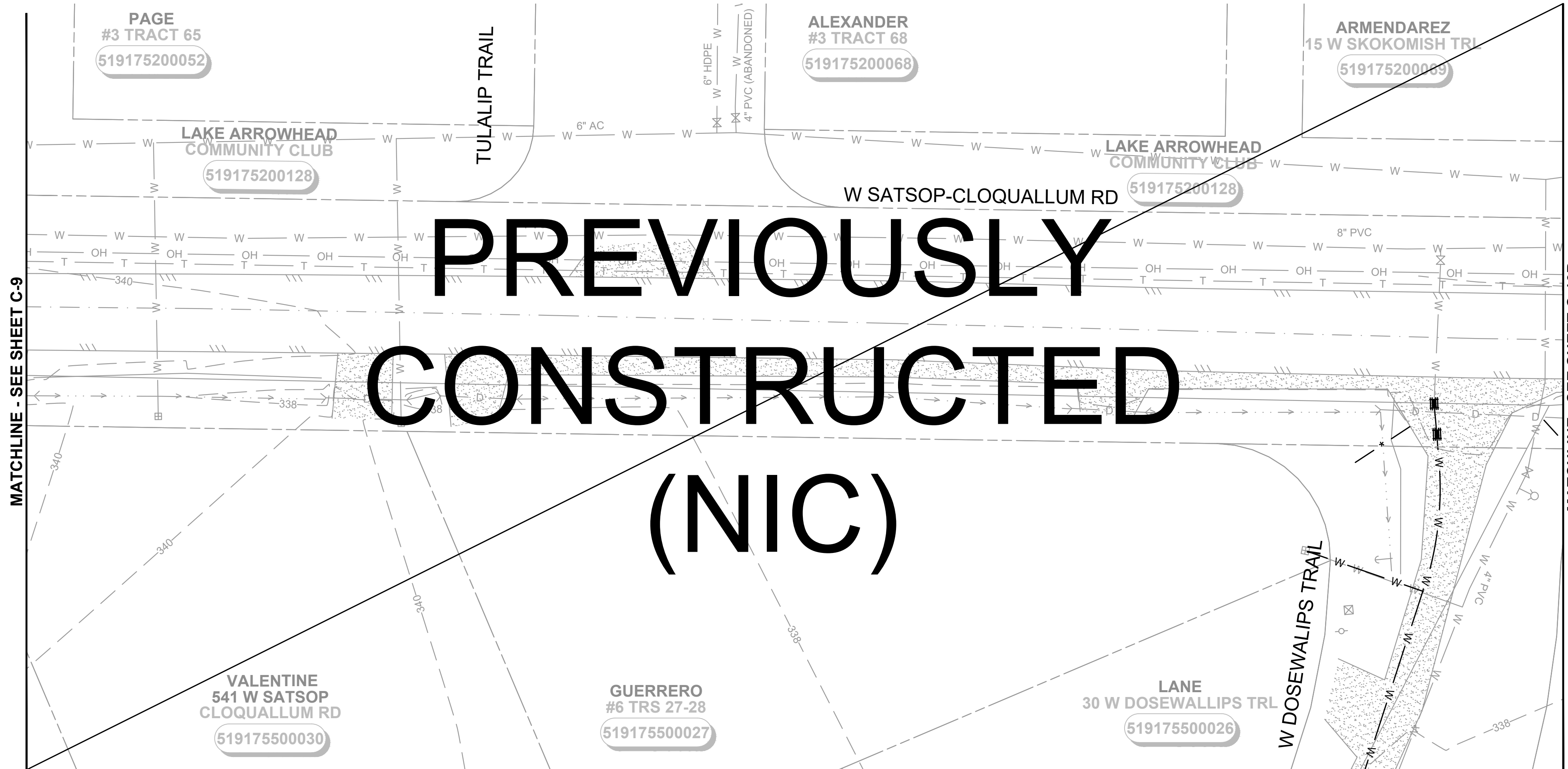
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SHEET KEY MAP
NTS



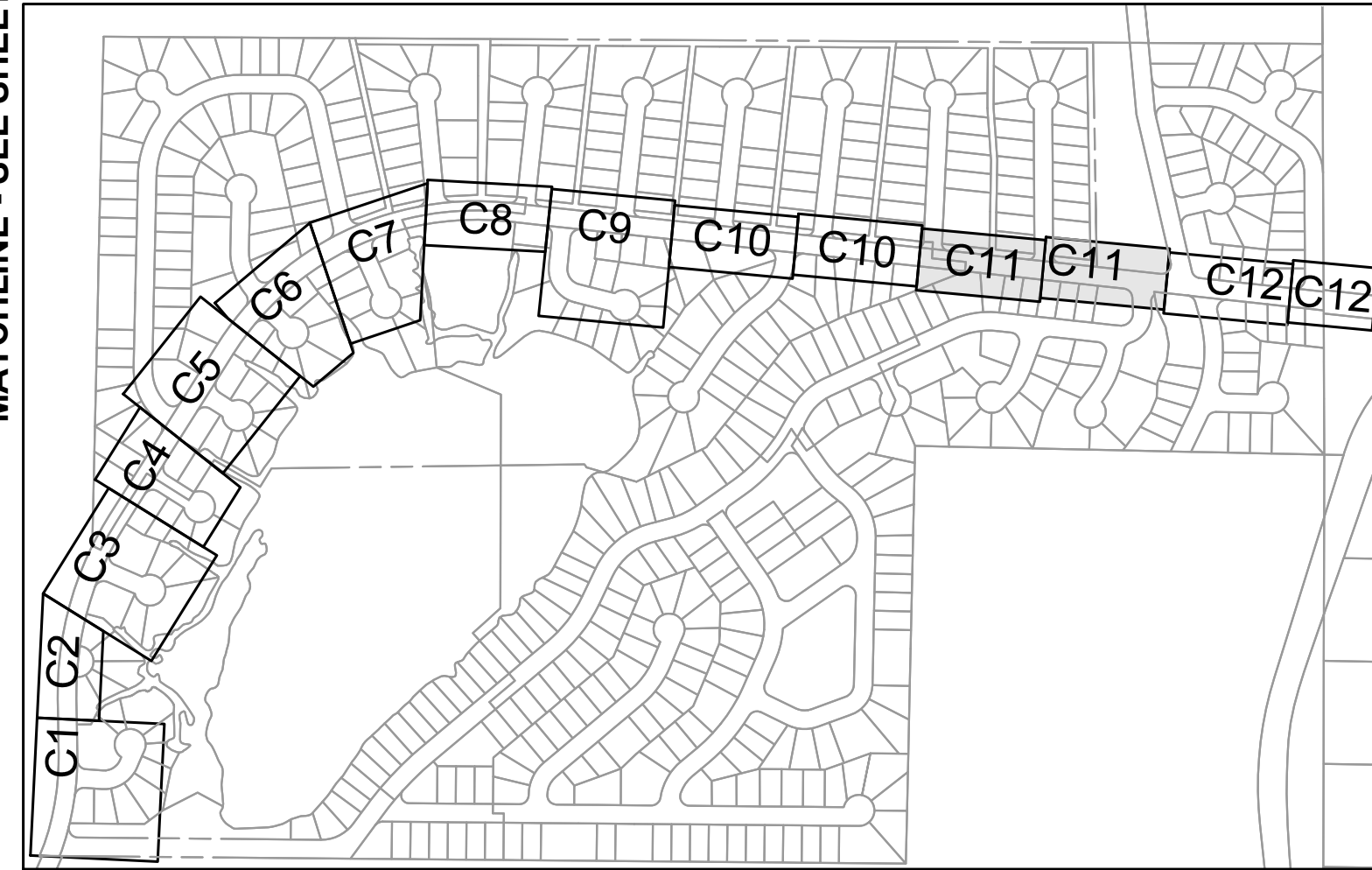
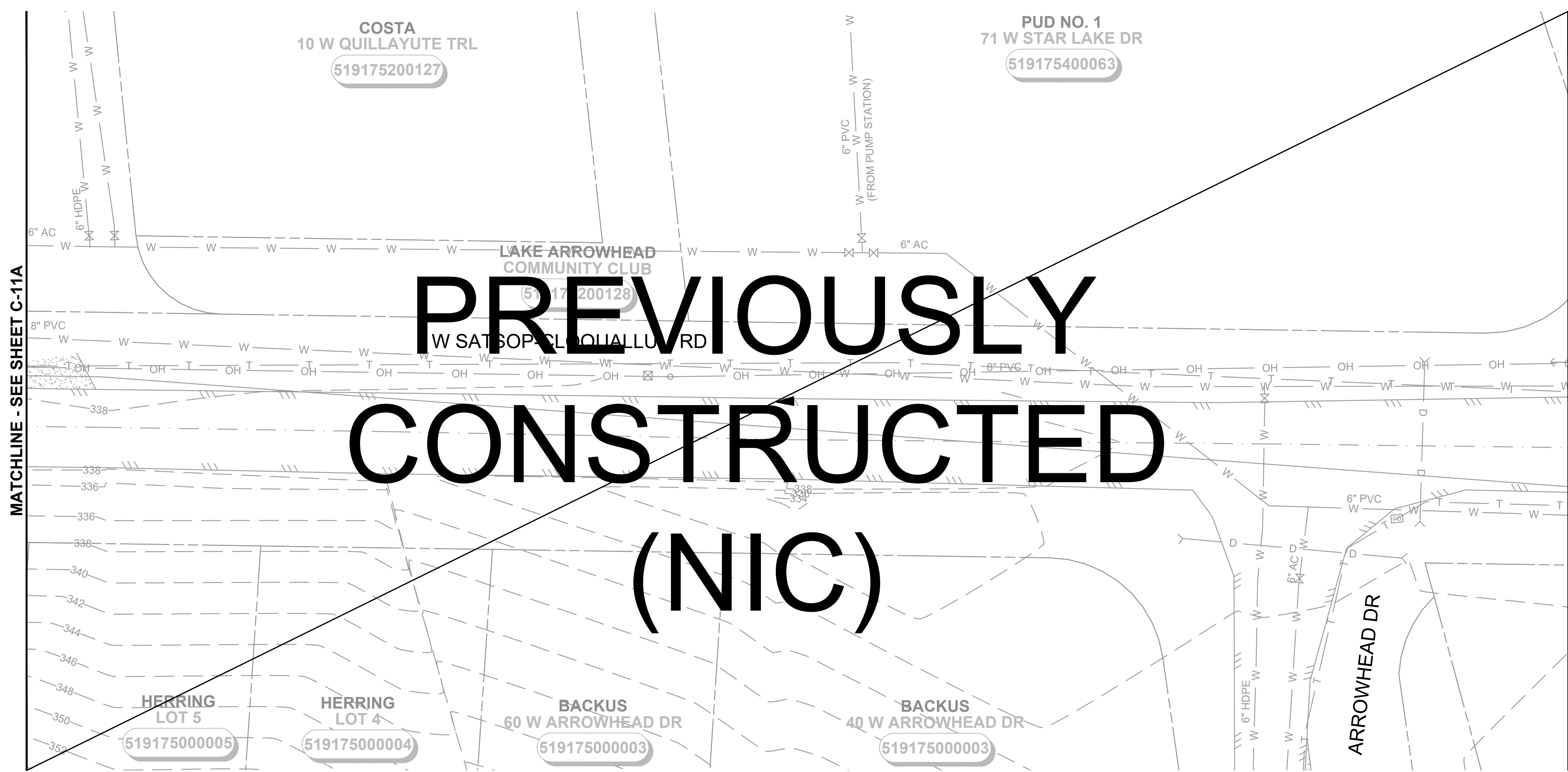
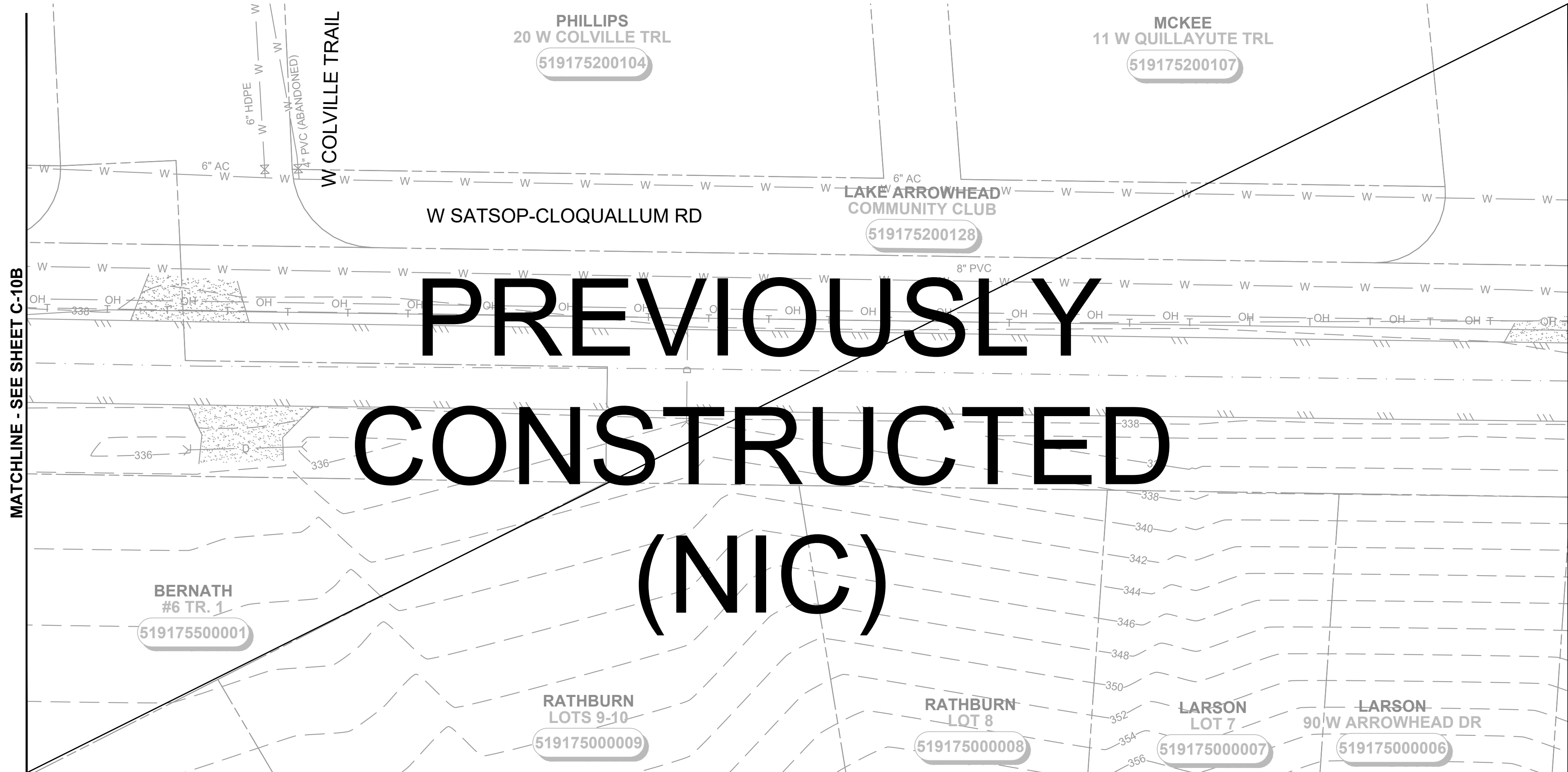
MATCHLINE - SEE SHEET C-9

MATCHLINE - SEE SHEET C-10B

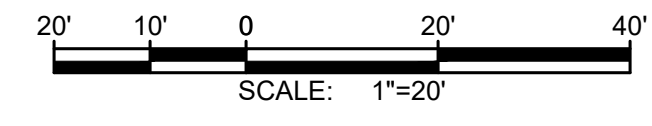
MATCHLINE - SEE SHEET C-10A

MATCHLINE - SEE SHEET C-11A

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SHEET KEY MAP
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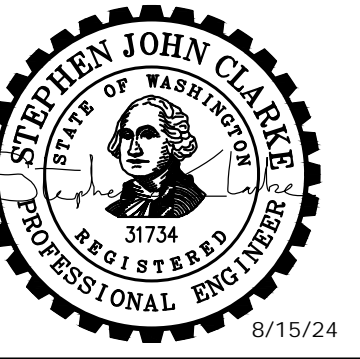
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No.	DATE	REVISION

ISSUED FOR: BID

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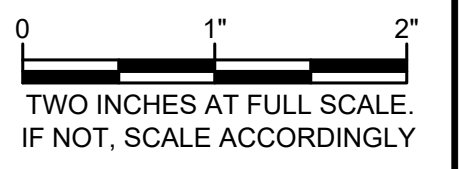
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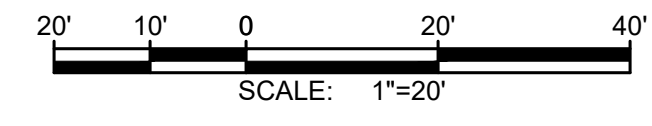
FILE: C-PLAN.DWG



CIVIL

SHEET FOR FUTURE CONSTRUCTION

DRAWING: **C-11** OF: **37**



NOTES:

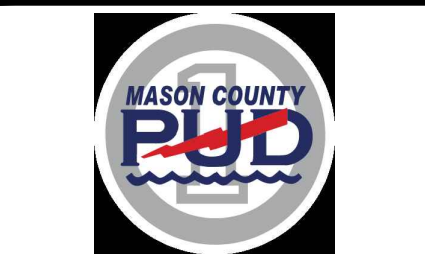
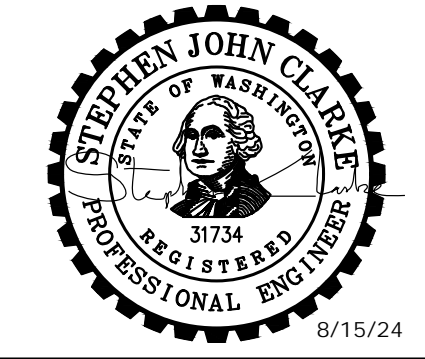
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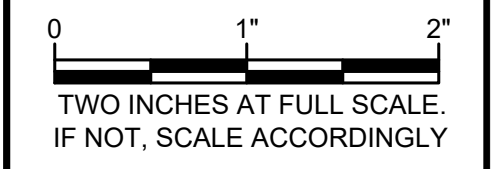
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No.	DATE	REVISION

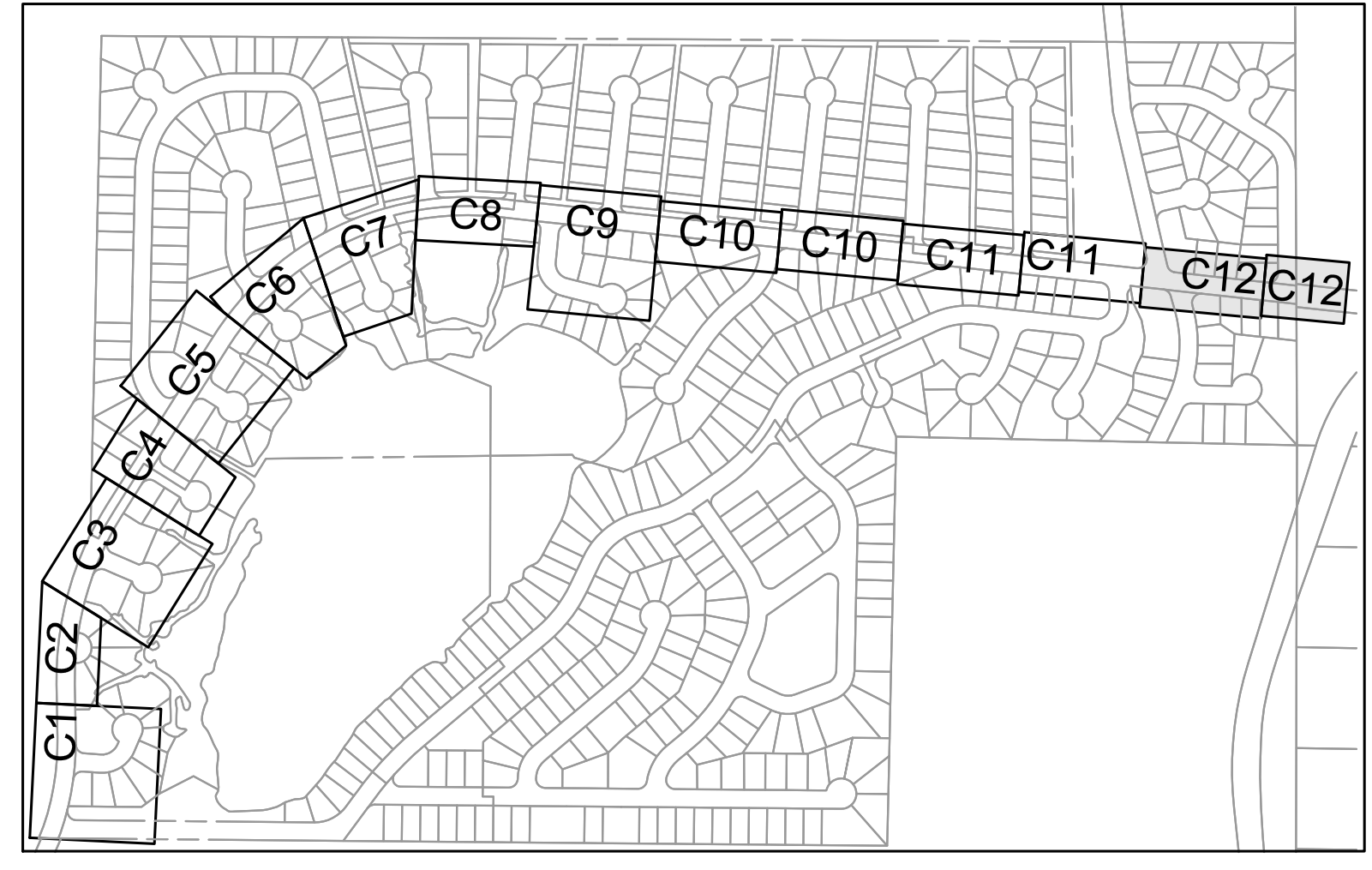
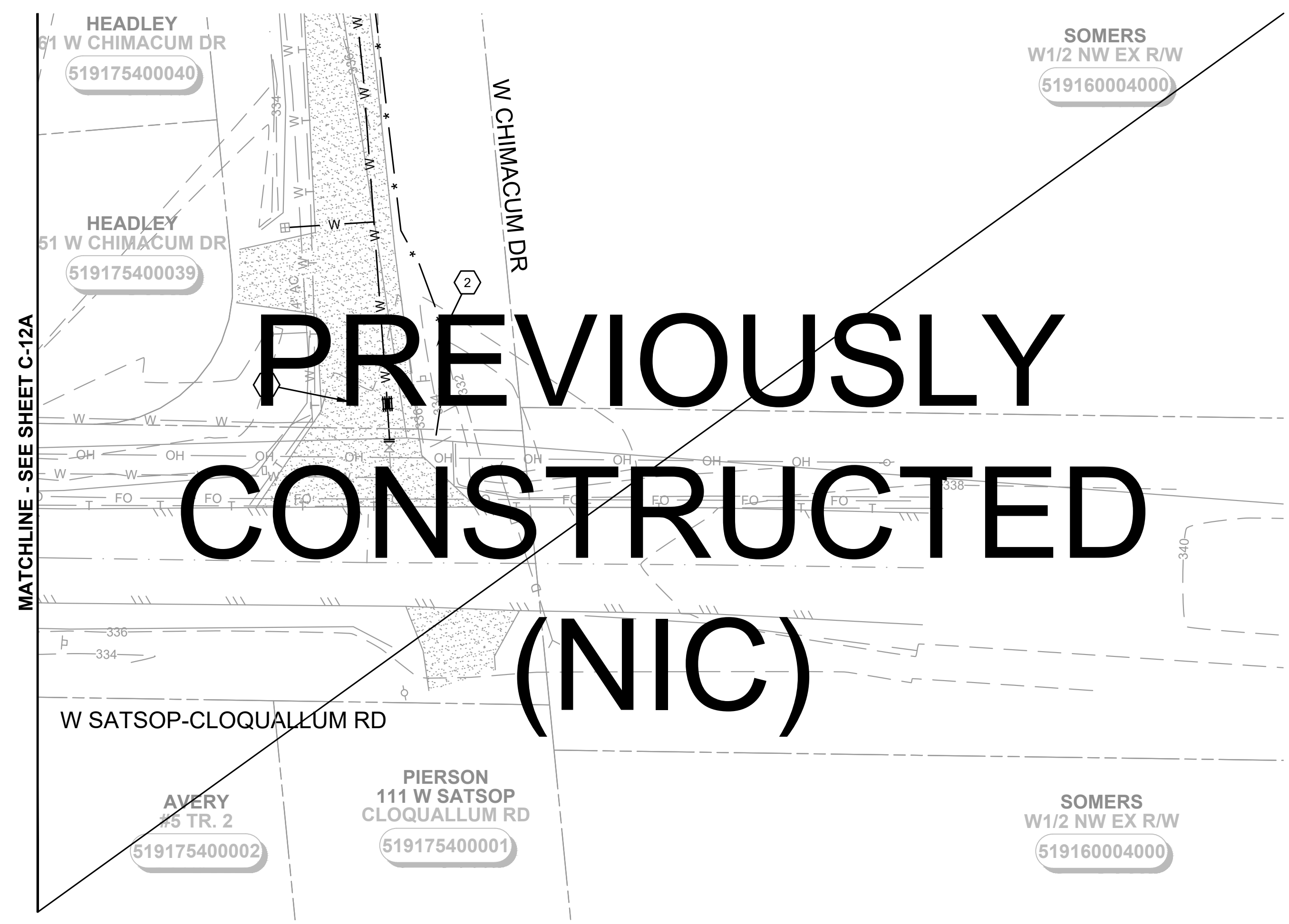
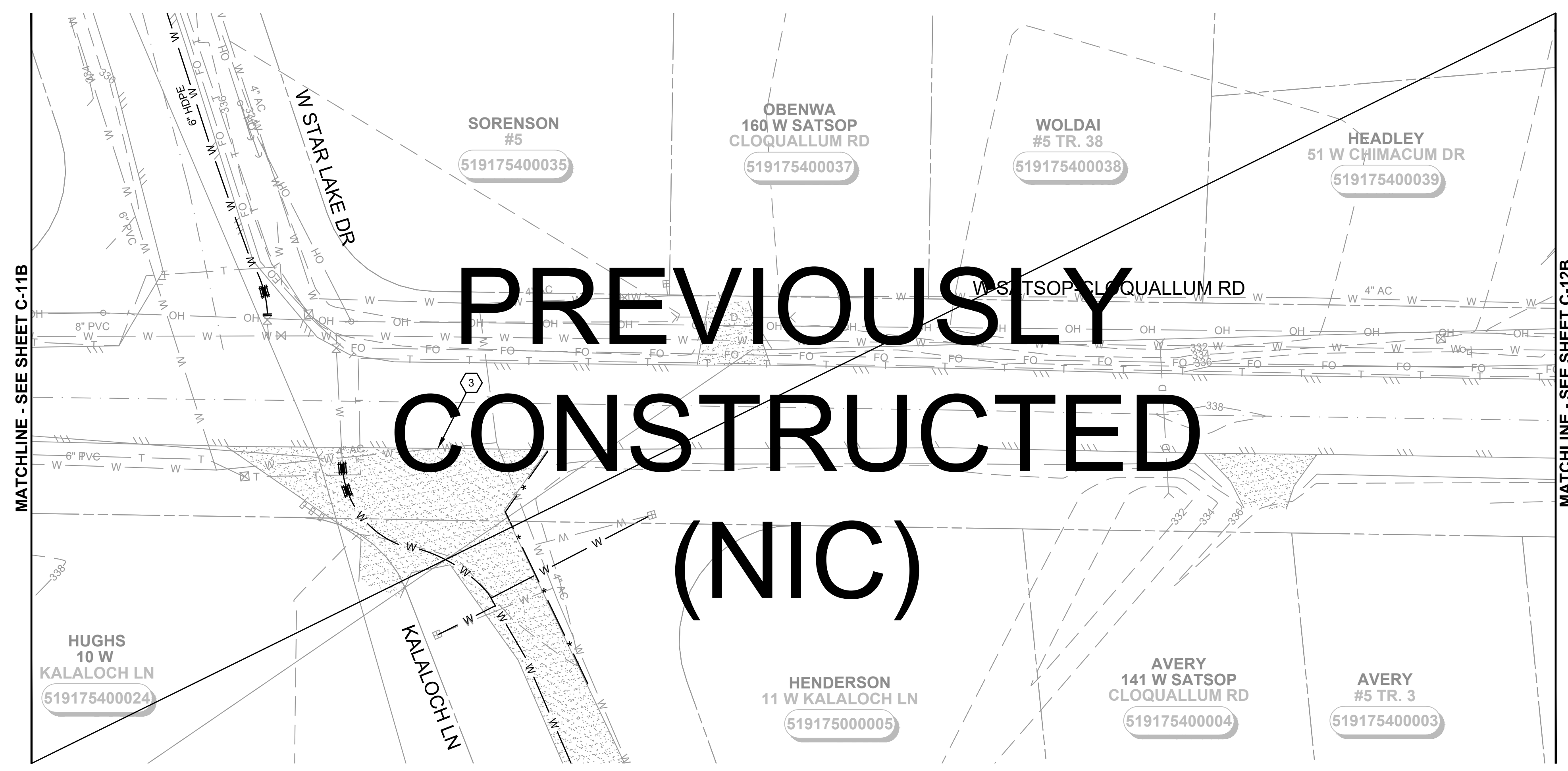
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 ISSUE DATE: _____ AUG 2024
 APPROVED BY: _____ S. CLARKE
 CHECKED BY: _____ M. JOHNSON
 DRAWN BY: _____ B. HAYDEN
 DESIGNER: _____ P. SMILEY
 G & O JOB NO.: _____ 22249
 FILE: _____ C-PLAN.DWG



CIVIL

**SHEET FOR FUTURE
 CONSTRUCTION**

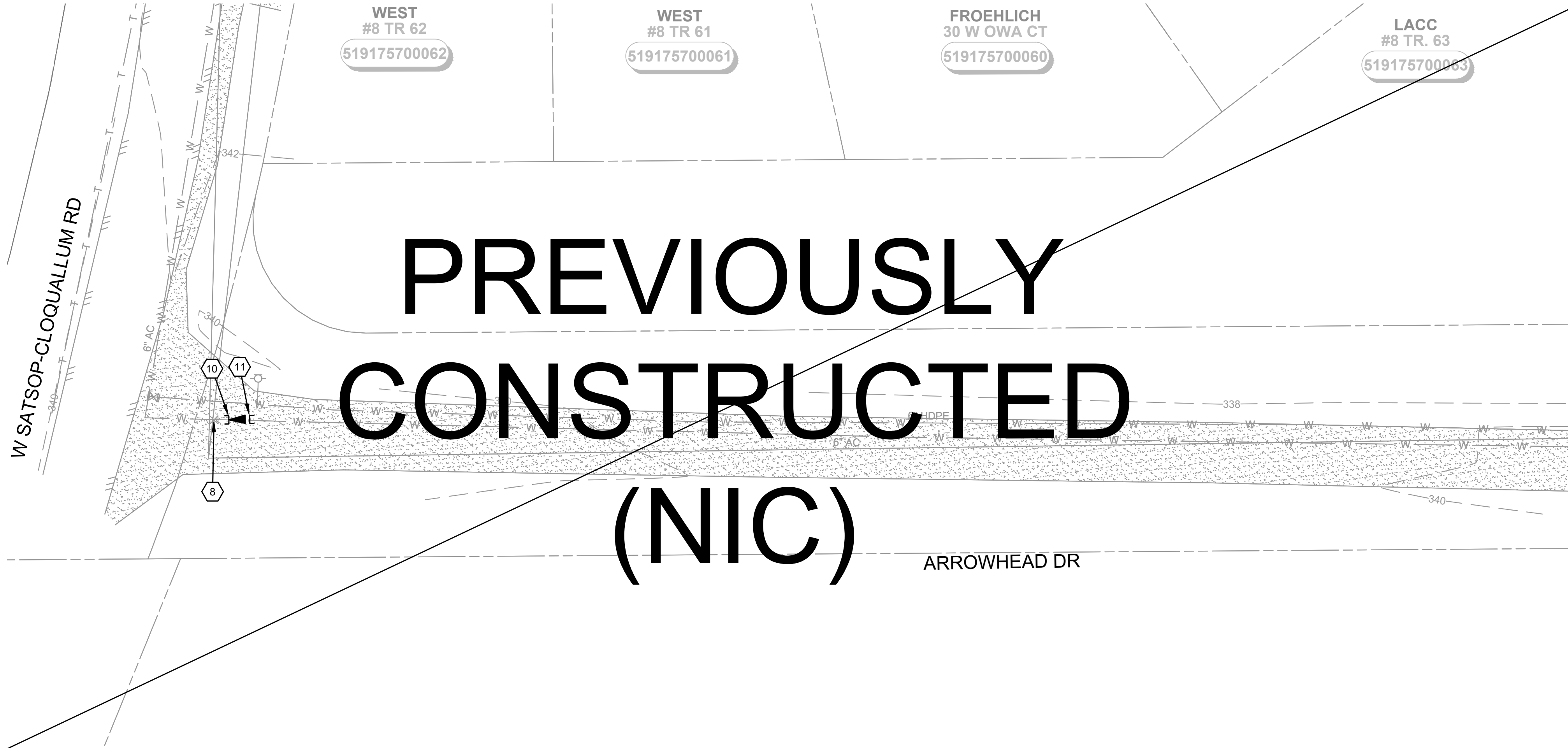
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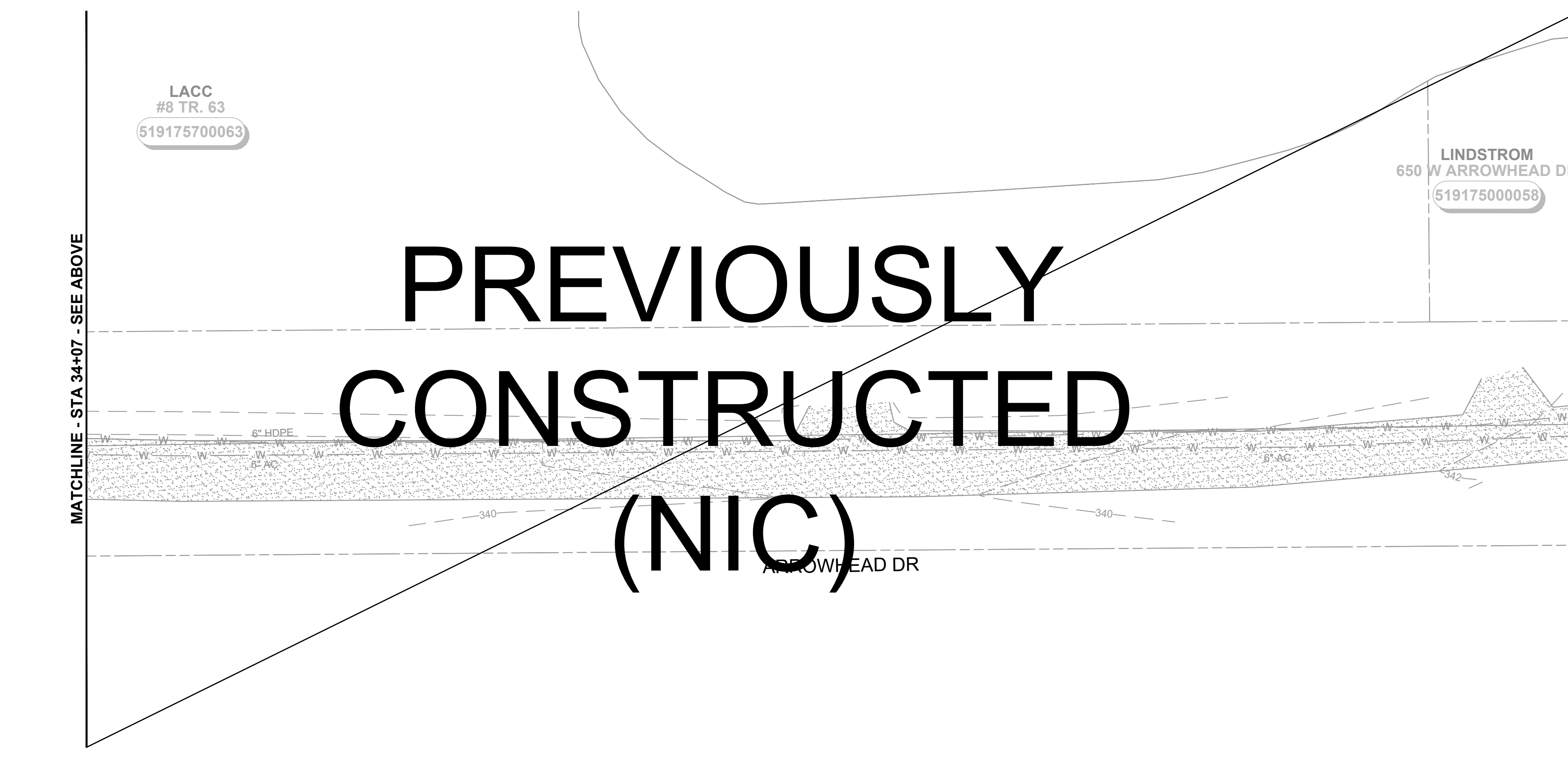
SHEET KEY MAP
 NTS

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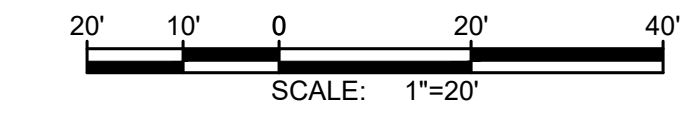
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MATCHLINE - STA 34+07 - SEE BELOW



CONTINUATION - STA 38+08 - SEE SHEET C-14



NOTES:

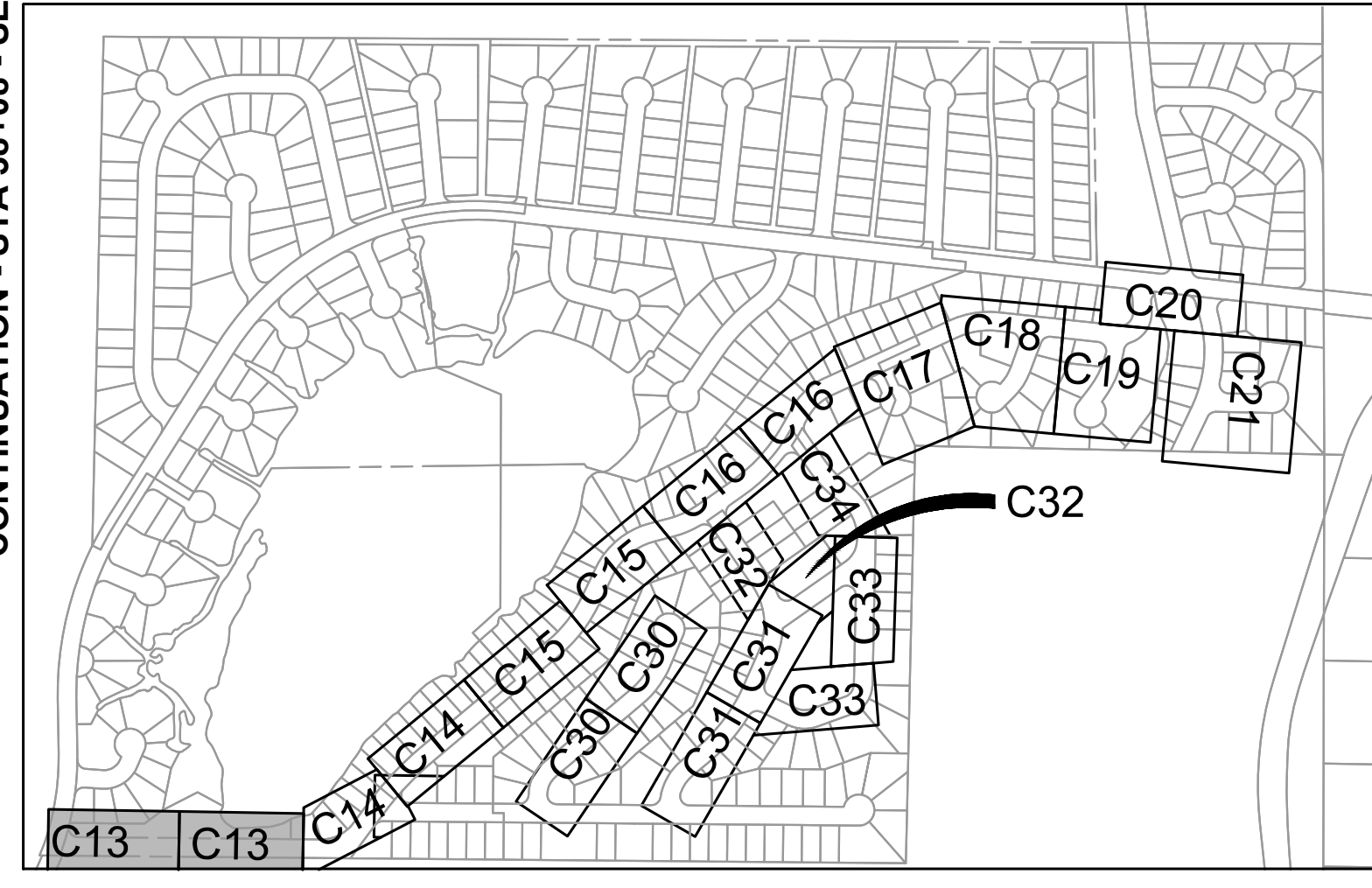
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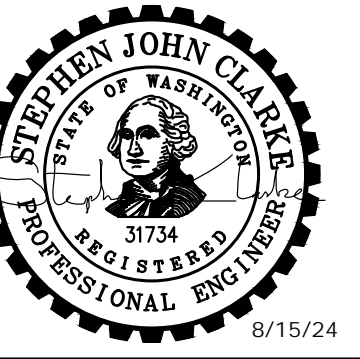
DISTRICT TO PERFORM THE FOLLOWING:

- ⑧ CLOSE VALVE, REMOVE VALVE BOX AND FILL WITH LEAN CONCRETE.
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SHEET KEY MAP
NTS

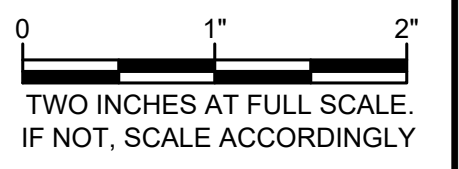
Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860



**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOQUALLUM
RD., ELMA, WA 98541

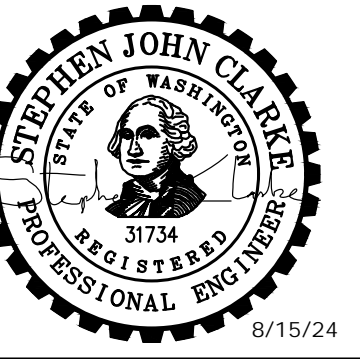
No.	DATE	REVISION

ISSUED FOR: _____ BID
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 DRAWN BY: _____ B. HAYDEN
 DESIGNER: _____ P. SMILEY
 G & O JOB NO.: _____ 22249
 FILE: _____ C-PLAN_2.DWG



CIVIL

STA 30+00 TO 38+08



**MASON COUNTY
 PUD 1
 LAKE ARROWHEAD
 WATER MAIN
 REPLACEMENT**
 160 W SATSOP CLOUALLUM
 RD., ELMA, WA 98541

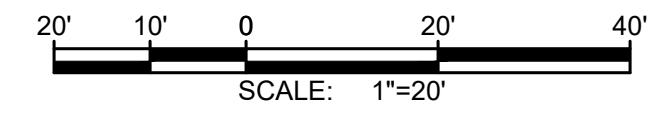
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FILE: C-PLAN_2.DWG		

0 1" 2"
 TWO INCHES AT FULL SCALE.
 IF NOT, SCALE ACCORDINGLY

CIVIL

STA 38+08 TO 45+75

DRAWING: **C-14** OF: **37**



NOTES:

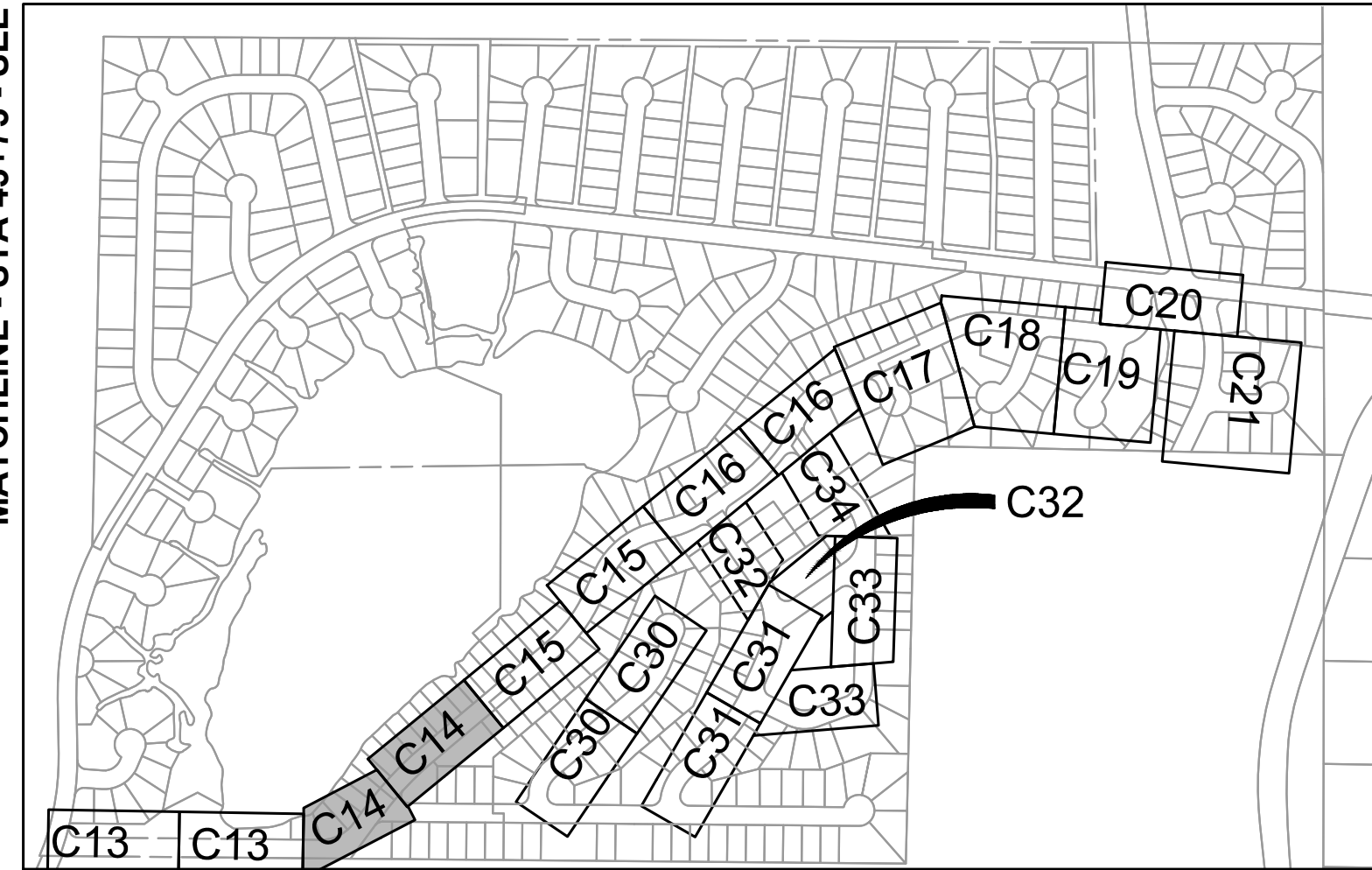
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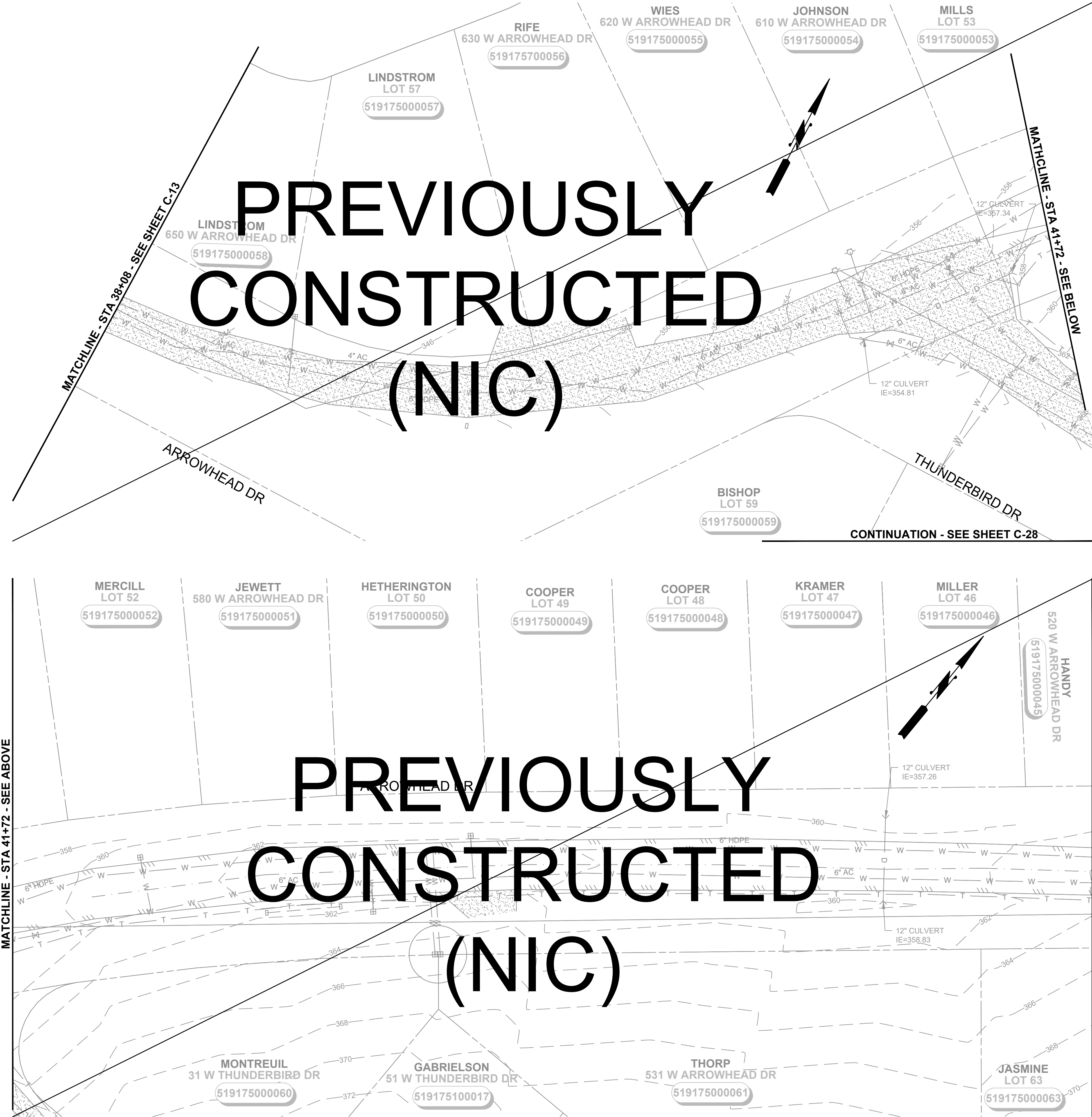
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SHEET KEY MAP
 NTS

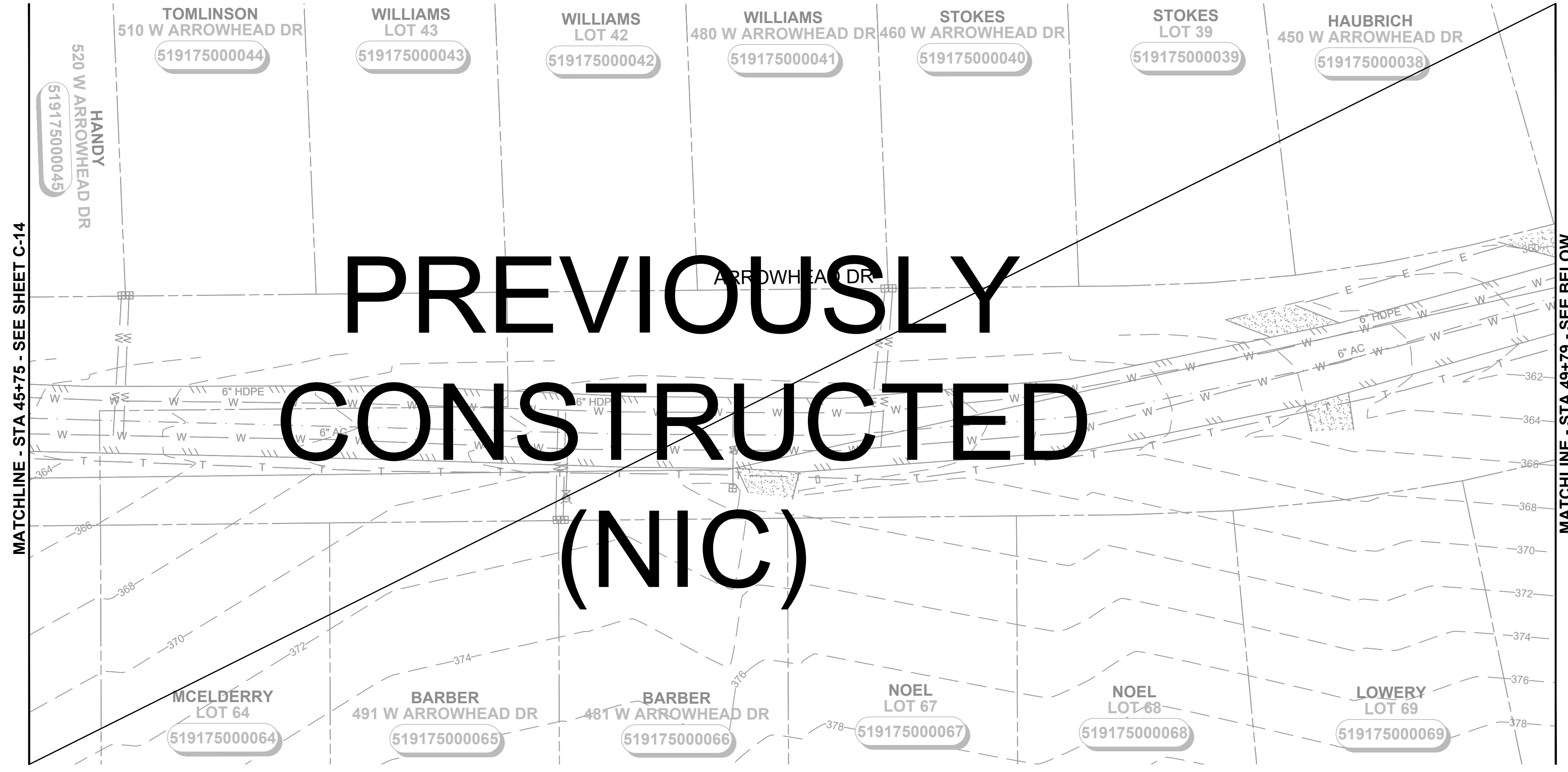
**PREVIOUSLY
 CONSTRUCTED
 (NIC)**

**PREVIOUSLY
 CONSTRUCTED
 (NIC)**

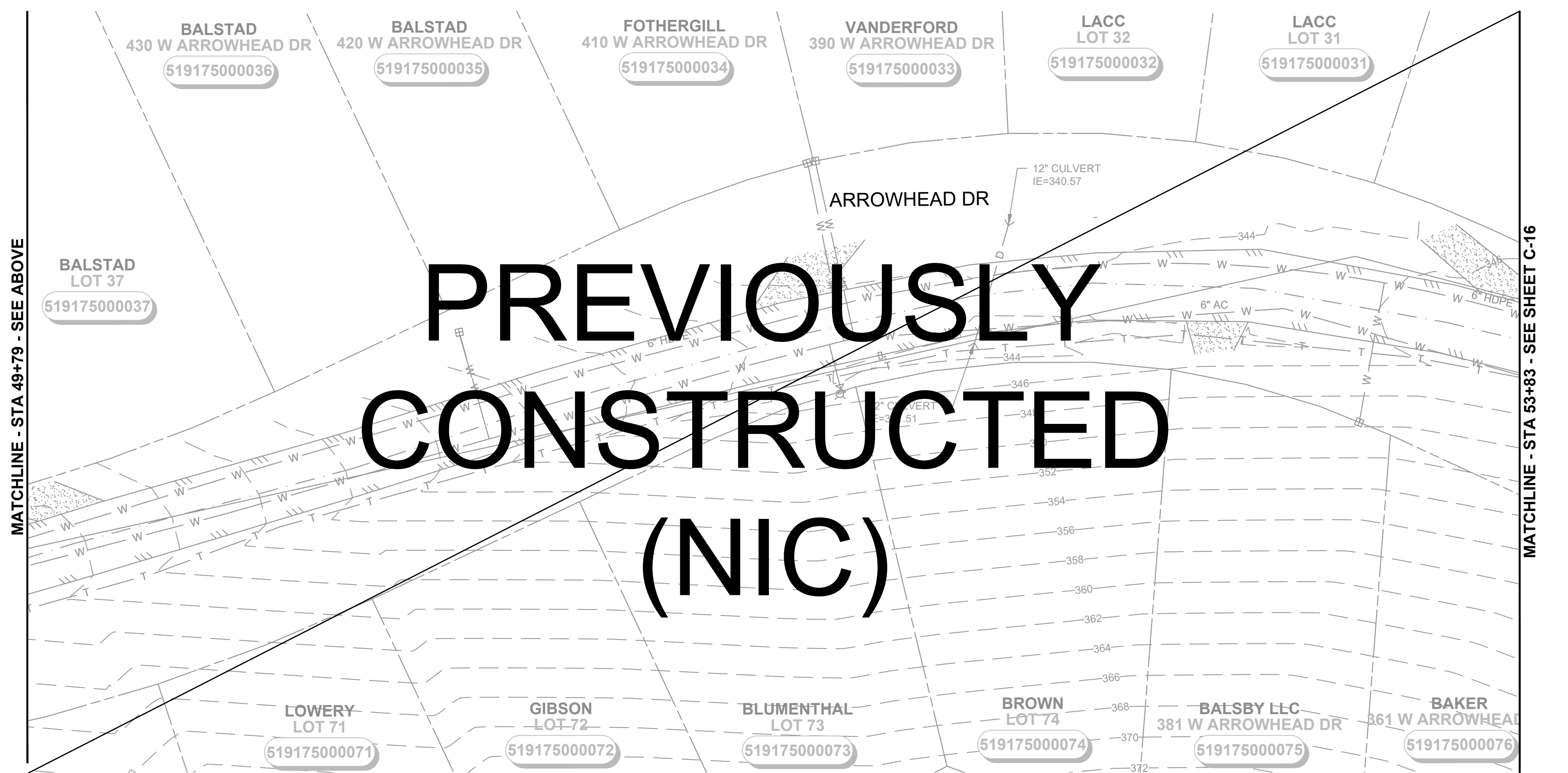


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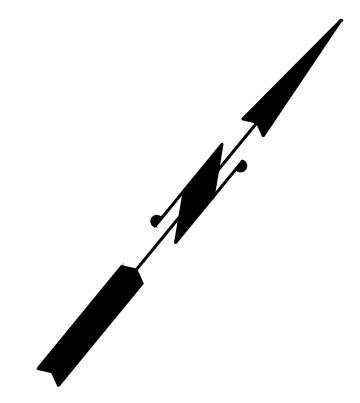
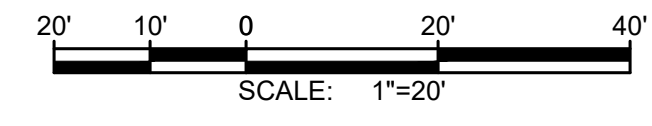
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PREVIOUSLY CONSTRUCTED (NIC)



PREVIOUSLY CONSTRUCTED (NIC)



NOTES:

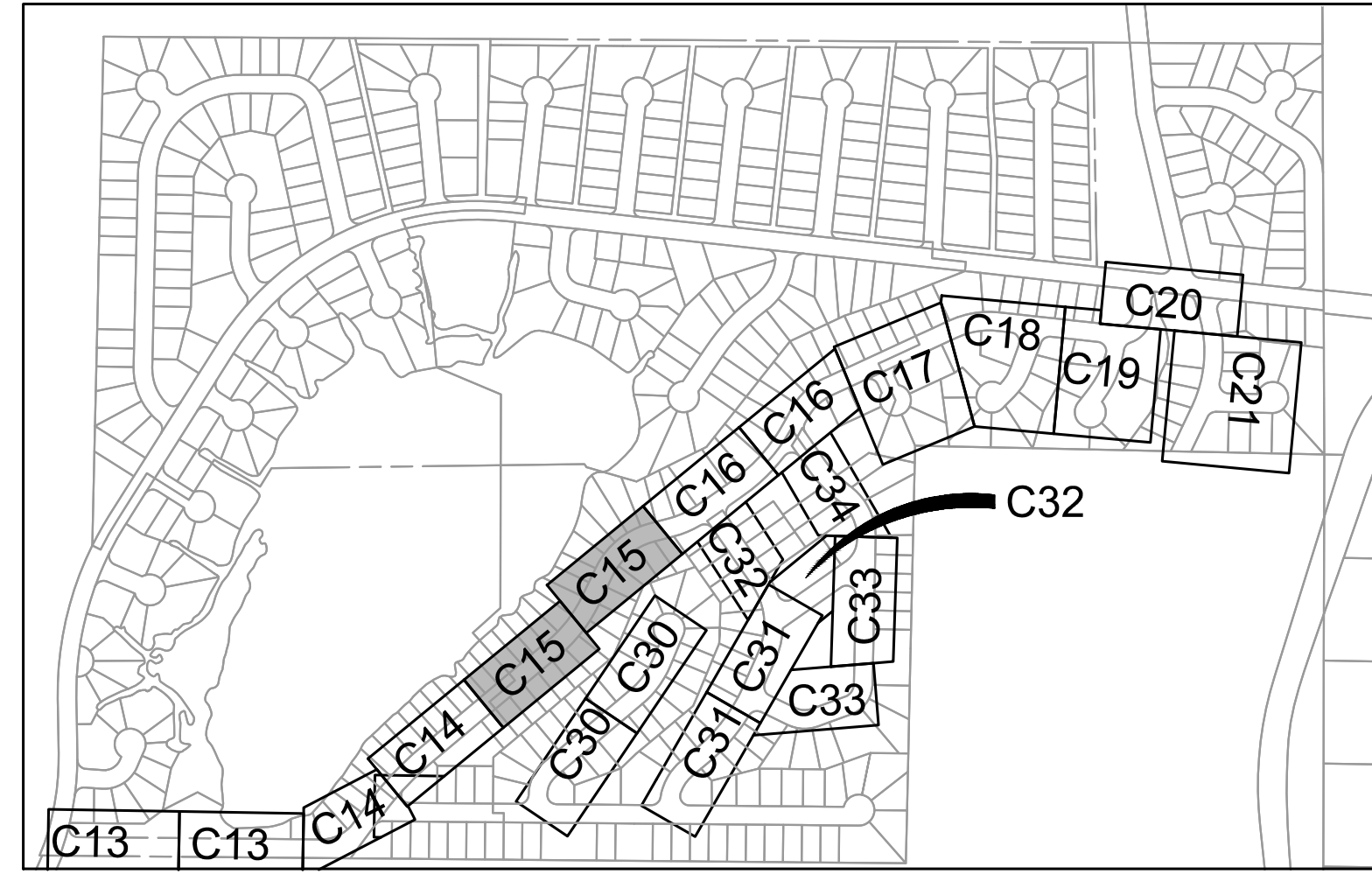
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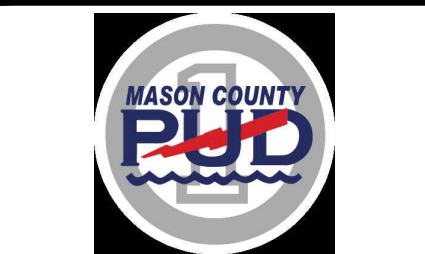
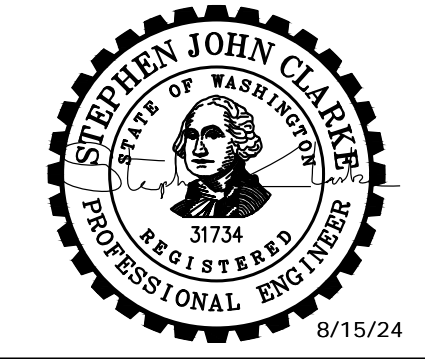
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SHEET KEY MAP
NTS

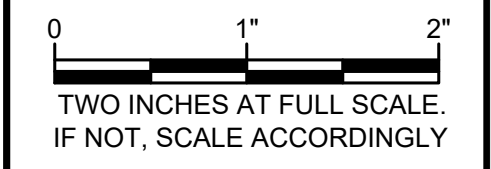
Gray & Osborne, Inc.
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**MASON COUNTY
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WATER MAIN
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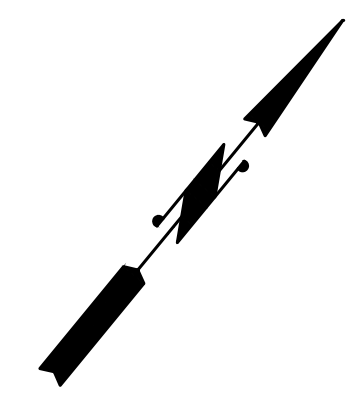
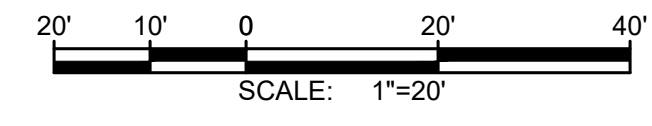
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 FILE: C-PLAN_2.DWG



CIVIL

STA 45+75 TO 53+90



NOTES:

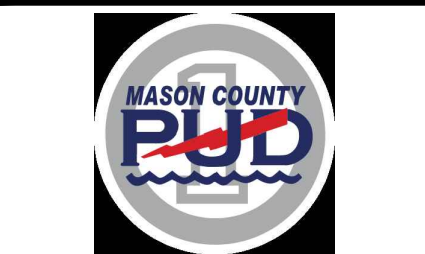
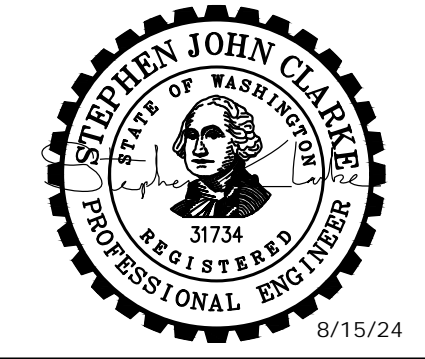
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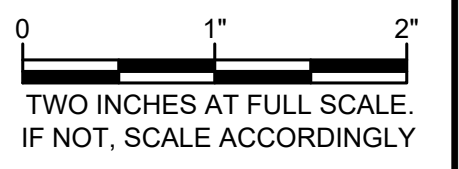
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**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOUALLUM
RD., ELMA, WA 98541

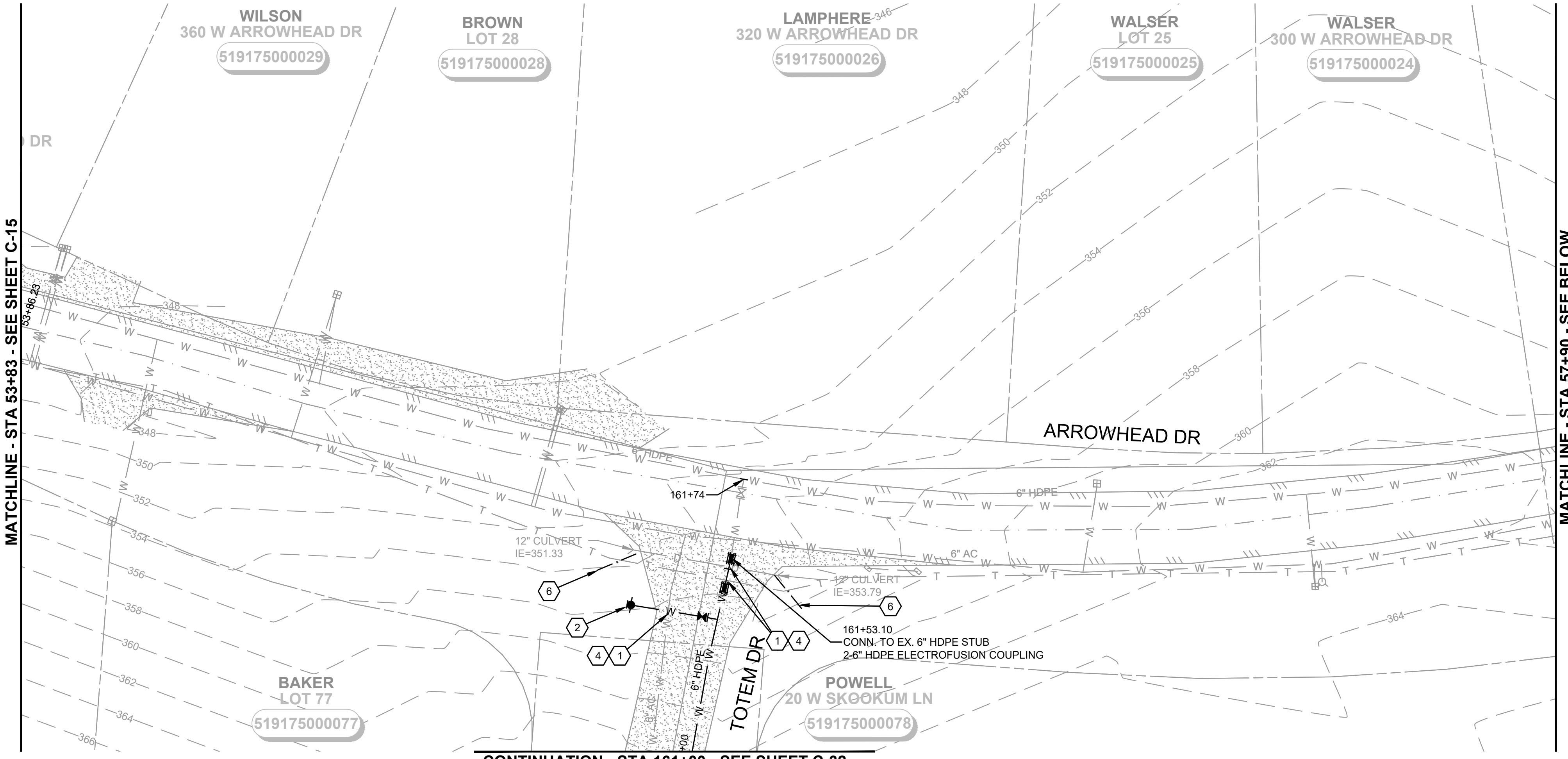
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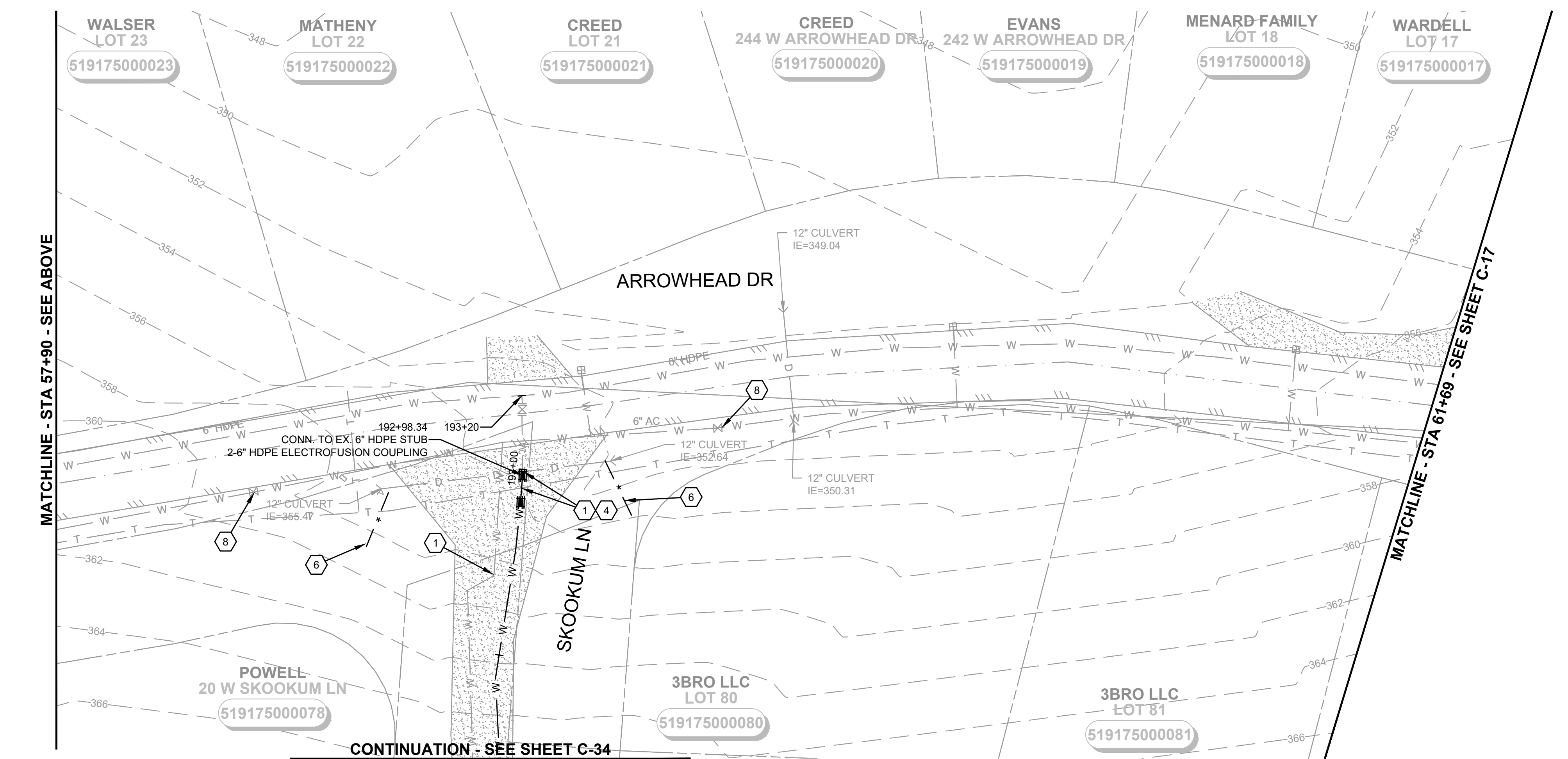
CIVIL

STA 53+90 TO 61+99

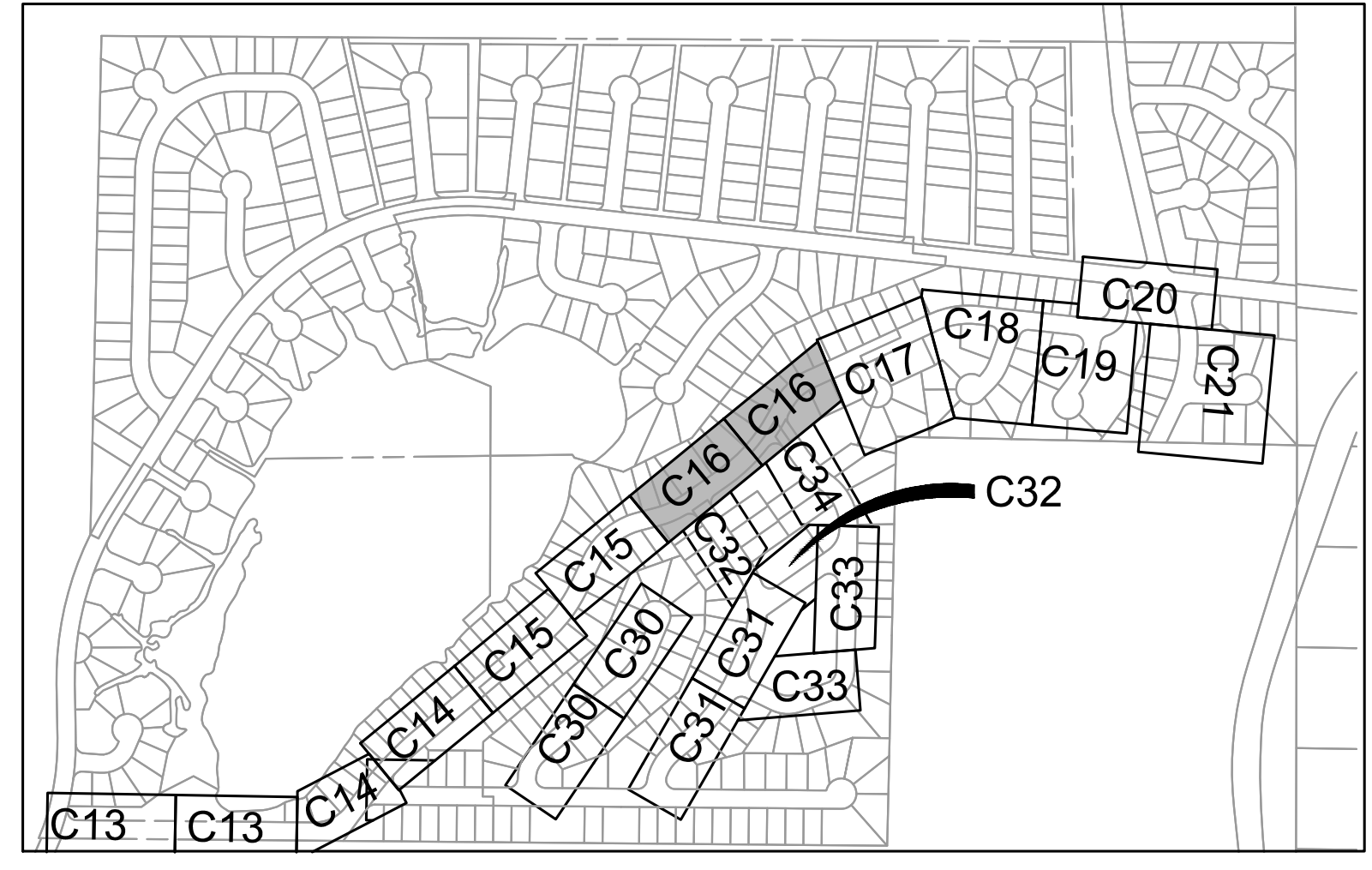
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CONTINUATION - STA 161+00 - SEE SHEET C-32



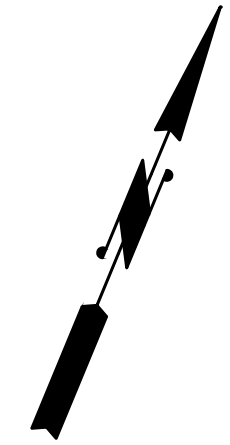
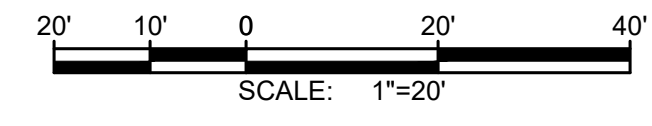
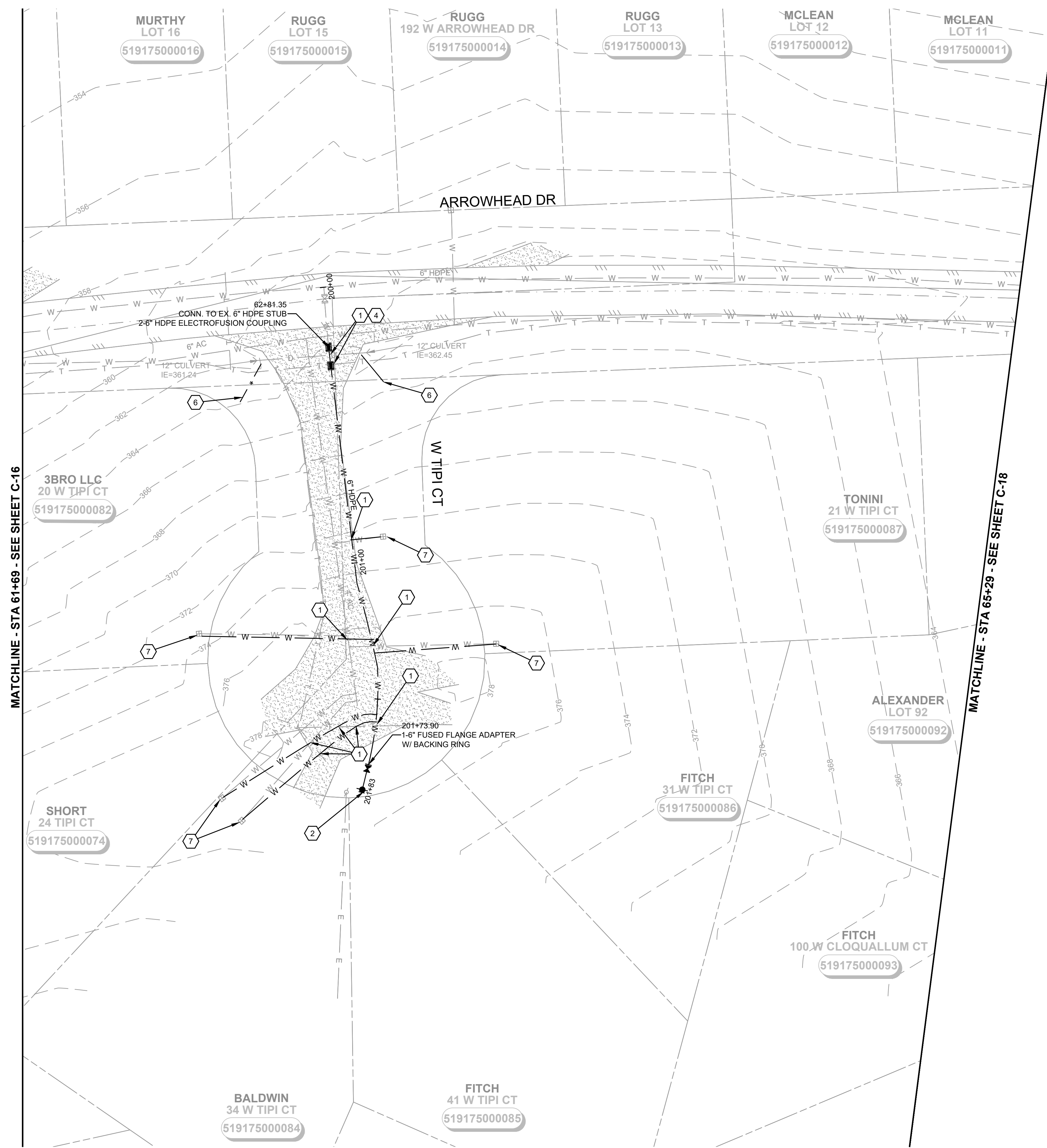
CONTINUATION - SEE SHEET C-34



SHEET KEY MAP
NTS

M:\Mason County PUD 1\22249.00 Lake Arrowhead Water Main Replacement\01 Design\PlanSet\Civil\C-Plan_2.dwg, 8/15/2024, 12:02 PM, PATRICK SMILEY

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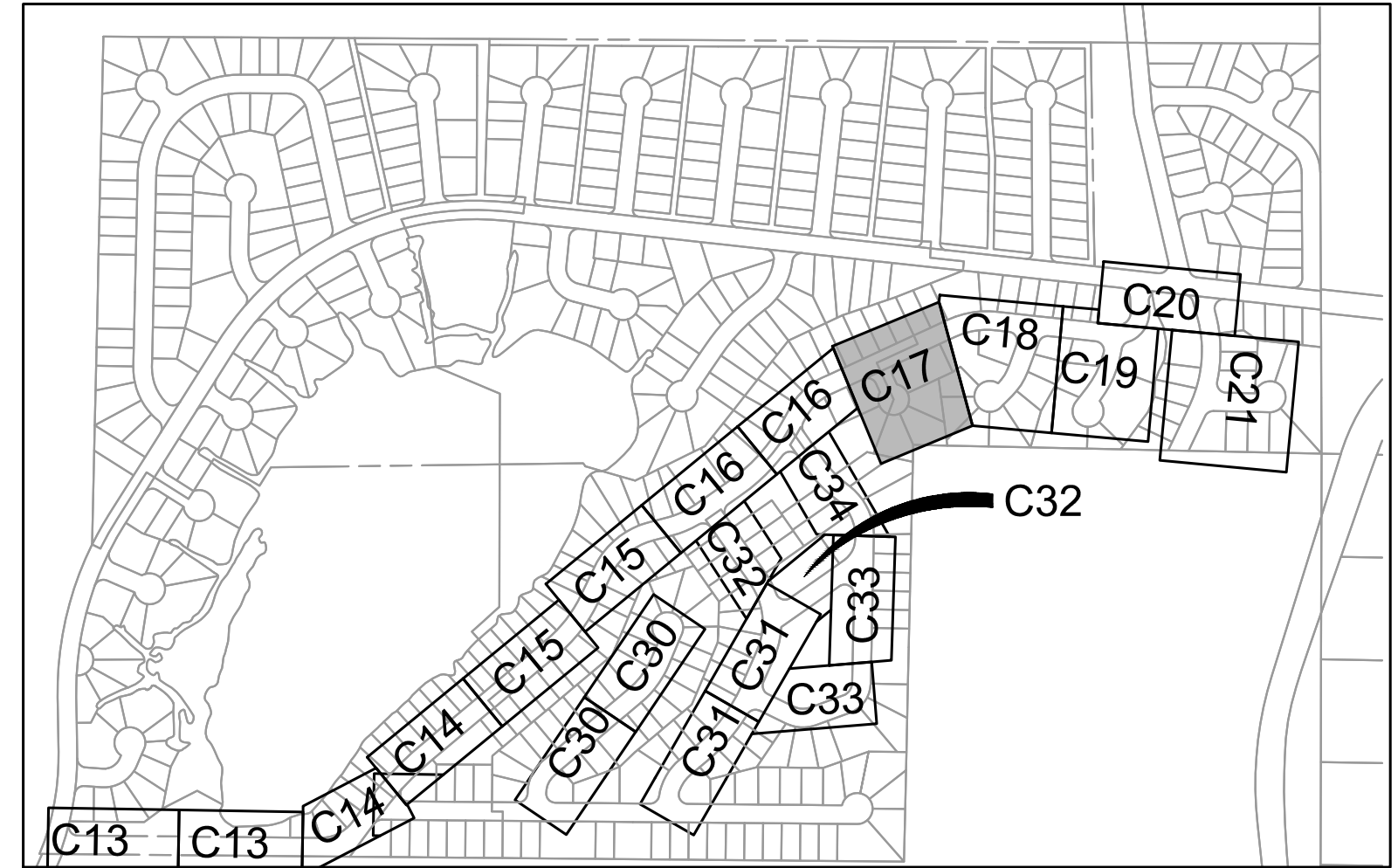
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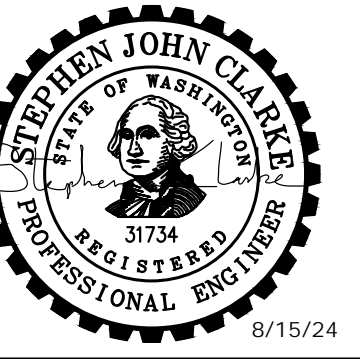
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SHEET KEY MAP
NTS

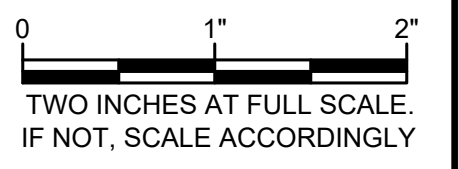
Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860



**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOQUALLUM
RD., ELMA, WA 98541

No.	DATE	REVISION

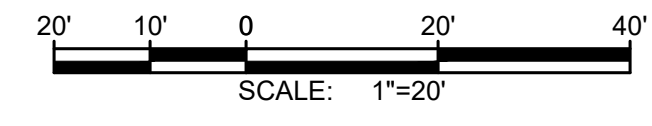
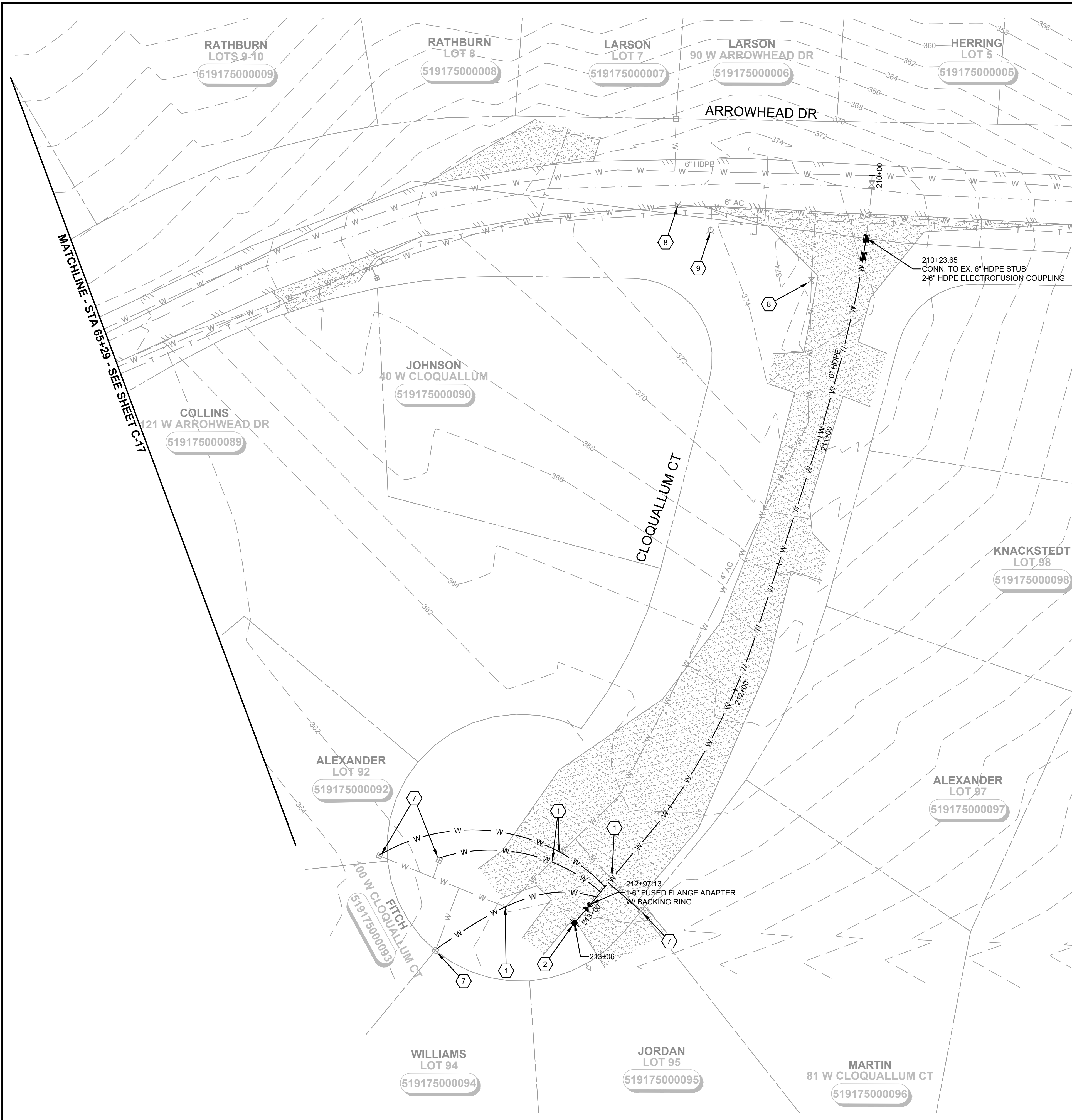
ISSUED FOR: _____ BID
 ISSUE DATE: _____ AUG 2024
 APPROVED BY: _____ S. CLARKE
 CHECKED BY: _____ M. JOHNSON
 DRAWN BY: _____ B. HAYDEN
 DESIGNER: _____ P. SMILEY
 G & O JOB NO.: _____ 22249
 FILE: _____ C-PLAN_2.DWG



CIVIL

**STA 61+69 TO 65+29
AND W TIPI CT**

M:\Mason County PUD 1\22249.00 Lake Arrowhead Water Main Replacement\01 Design\PlanSet\Civil\C-Plan_2.dwg, 8/15/2024, 12:03 PM, PATRICK SMILEY



NOTES:

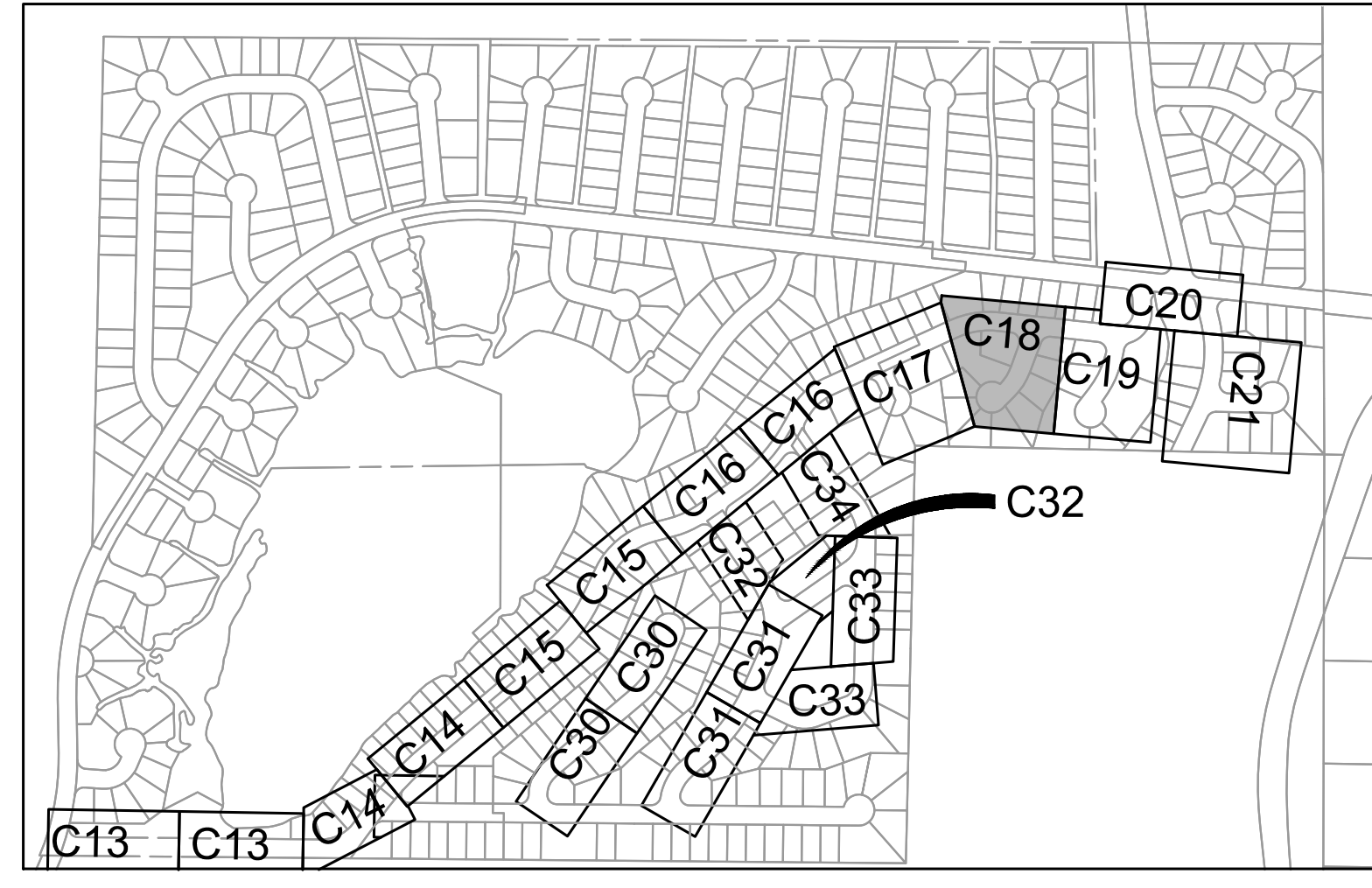
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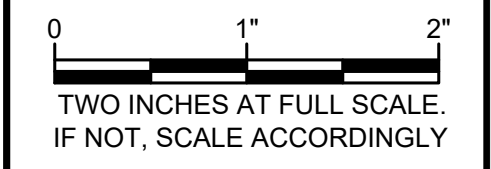
SHEET KEY MAP
NTS

Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860

STEPHEN JOHN CLARKE
STATE OF WASHINGTON
31734
REGISTERED
PROFESSIONAL ENGINEER
8/15/24

MASON COUNTY PUD 1
LAKE ARROWHEAD WATER MAIN REPLACEMENT
160 W SATSOP CLOQUALLUM RD., ELMA, WA 98541

No.	DATE	REVISION
ISSUED FOR:		BID
ISSUE DATE:		AUG 2024
APPROVED BY:		S. CLARKE
CHECKED BY:		M. JOHNSON
DRAWN BY:		B. HAYDEN
DESIGNER:		P. SMILEY
G & O JOB NO.:		22249
FILE:		C-PLAN_2.DWG



CIVIL

STA 65+29 TO 69+05 AND W CLOQUALLUM CT



NOTES:

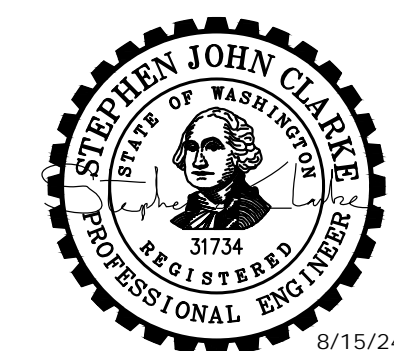
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**MASON COUNTY
 PUD 1
 LAKE ARROWHEAD
 WATER MAIN
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 160 W SATSOP CLOQUALLUM
 RD., ELMA, WA 98541

No.	DATE	REVISION

ISSUED FOR: _____

BID _____

ISSUE DATE: AUG 2024

APPROVED BY: S. CLARKE

CHECKED BY: M. JOHNSON

DRAWN BY: B. HAYDEN

DESIGNER: P. SMILEY

G & O JOB NO.: 22249

FILE: C-PLAN_2.DWG

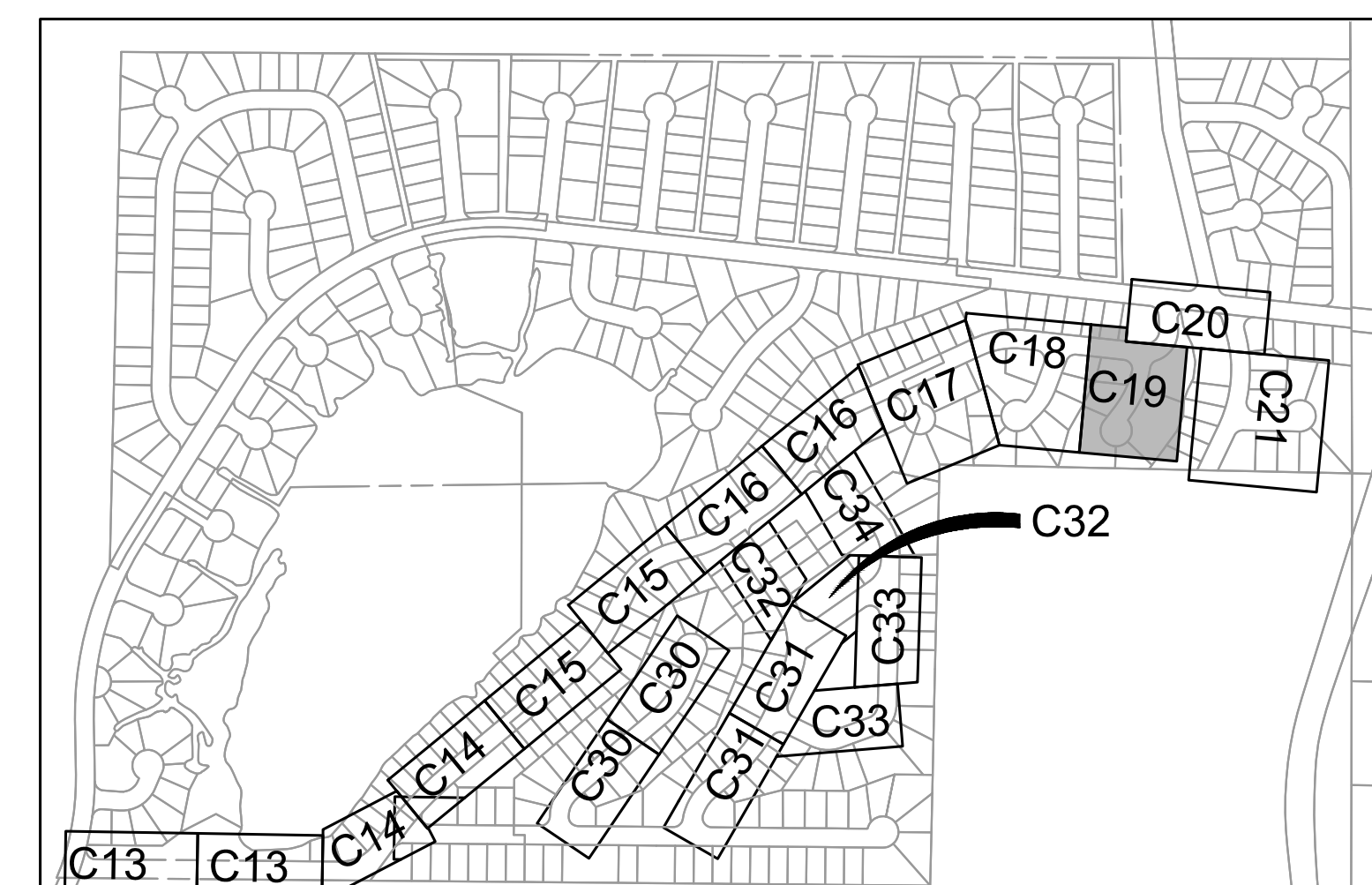
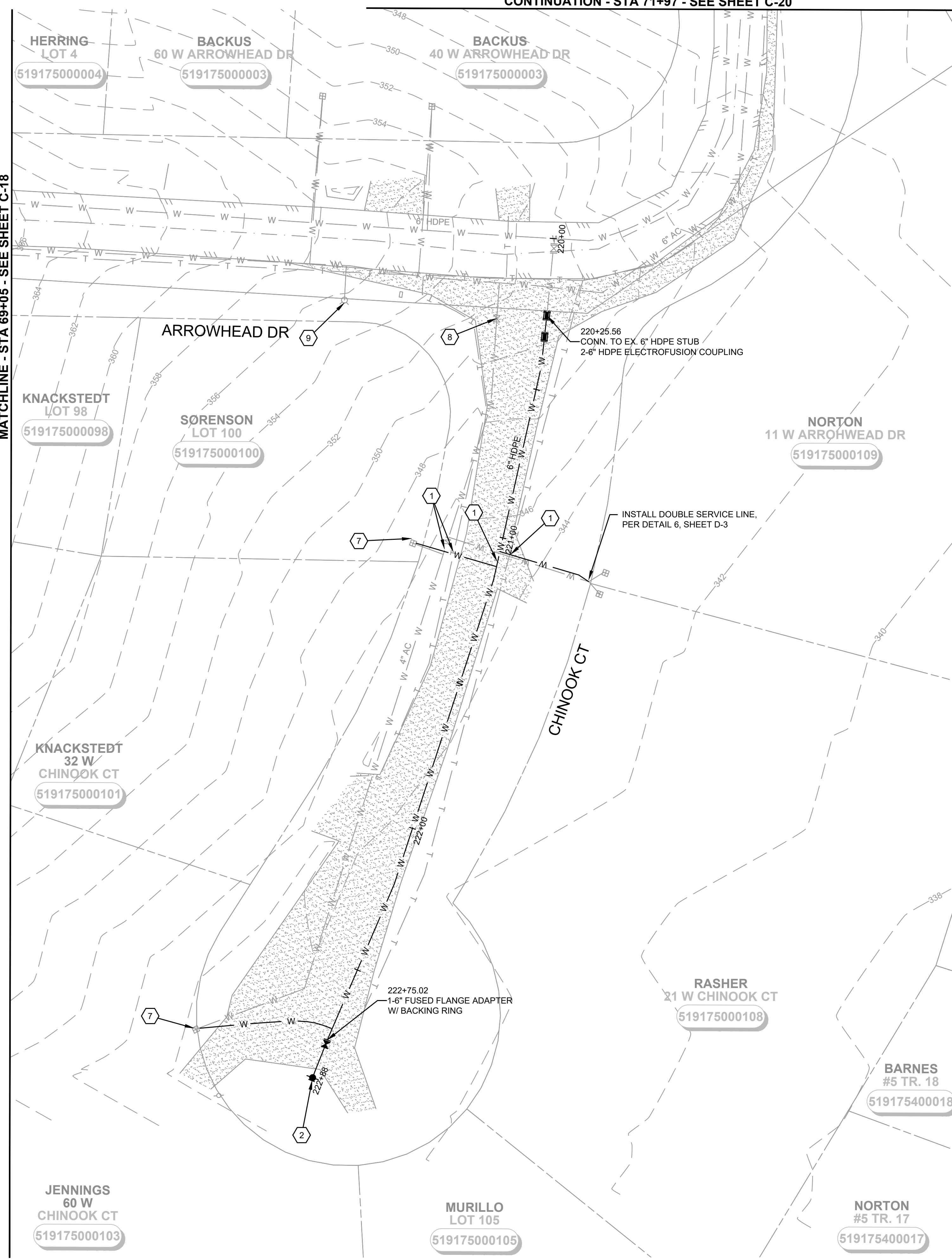


CIVIL

**STA 69+05 TO 71+50
 AND CHINOOK CT**

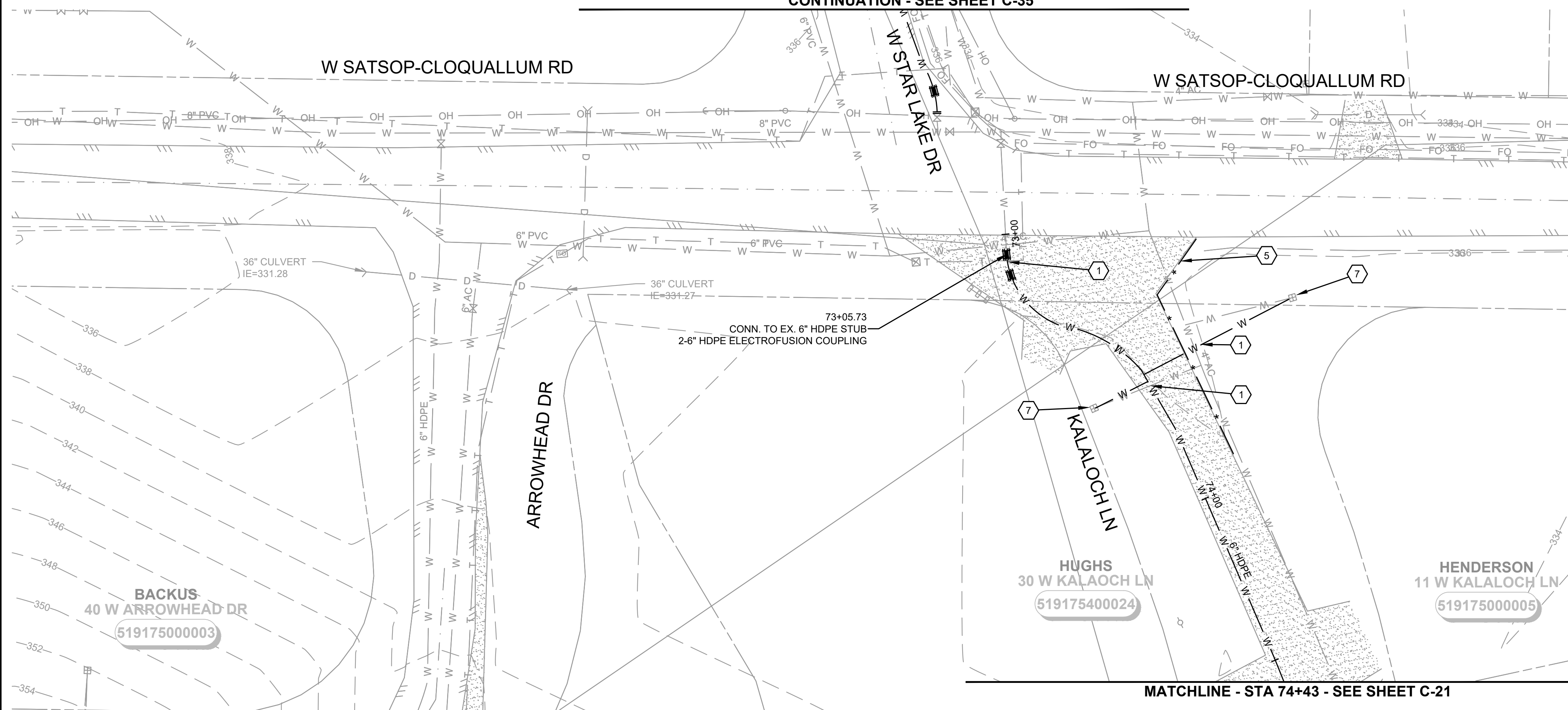
DRAWING: **C-19** OF: **37**

MATCHLINE - STA 69+05 - SEE SHEET C-18



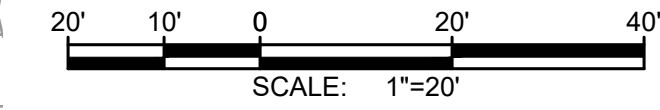
SHEET KEY MAP
 NTS

CONTINUATION - SEE SHEET C-35



CONTINUATION - STA 71+50 - SEE SHEET C-19

MATCHLINE - STA 74+43 - SEE SHEET C-21



NOTES:

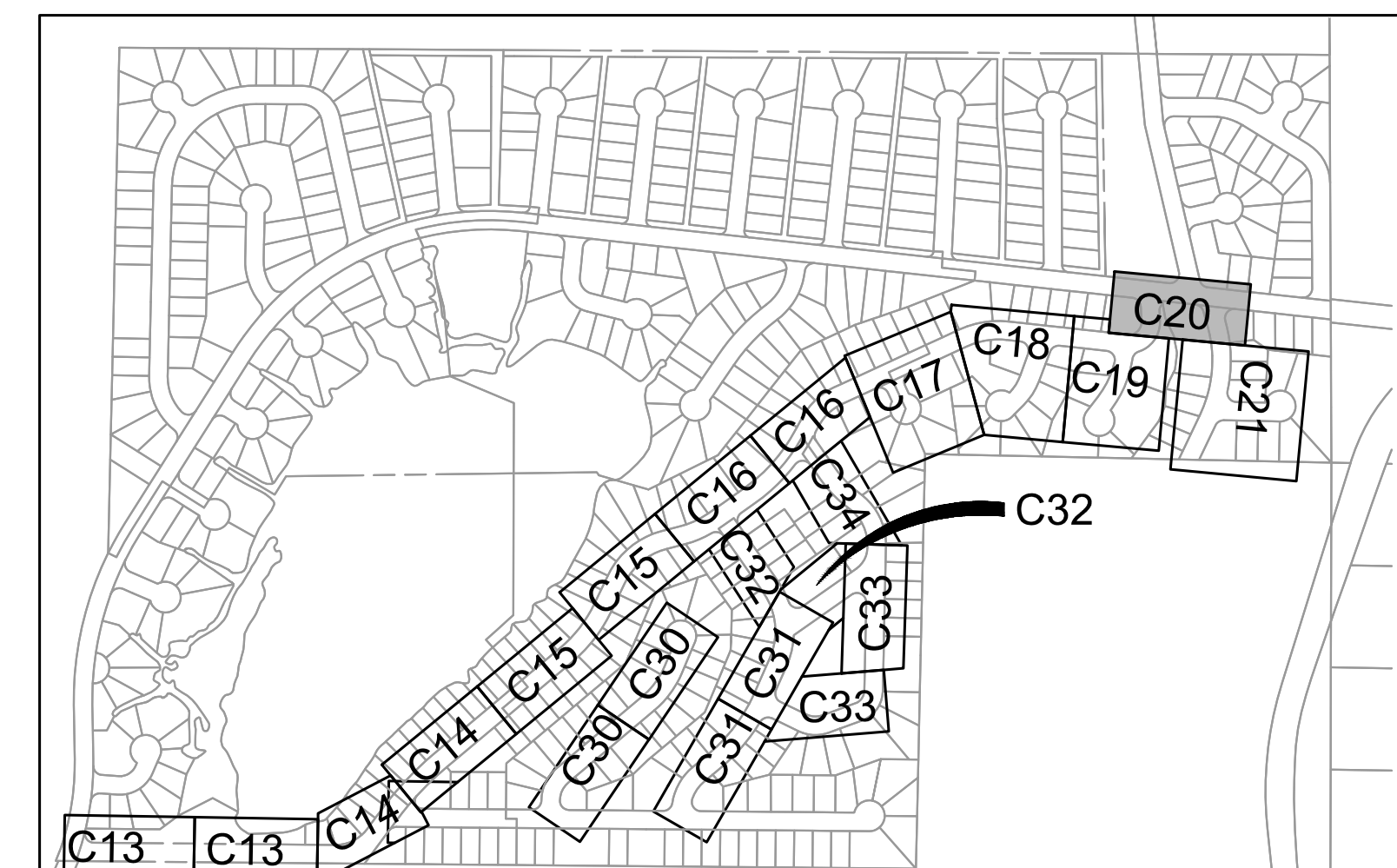
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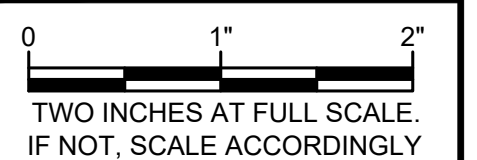
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CONSULTING ENGINEERS
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**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOQUALLUM
RD., ELMA, WA 98541

No.	DATE	REVISION
ISSUED FOR: BID		
ISSUE DATE: AUG 2024		
APPROVED BY: S. CLARKE		
CHECKED BY: M. JOHNSON		
DRAWN BY: B. HAYDEN		
DESIGNER: P. SMILEY		
G & O JOB NO.: 22249		
FILE: C-PLAN_2.DWG		

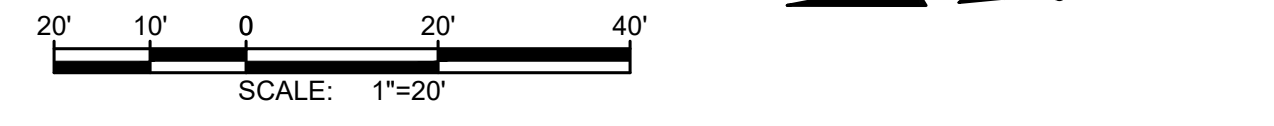


CIVIL

**STA 71+50 TO 72+90
AND KALOCH LN**

DRAWING: **C-20** OF: **37**

M:\Mason County PUD 1\22249.00 Lake Arrowhead Water Main Replacement\01 Design\PlanSet\Civil\C-Plan_2.dwg, 8/15/2024, 12:04 PM, PATRICK SMILEY



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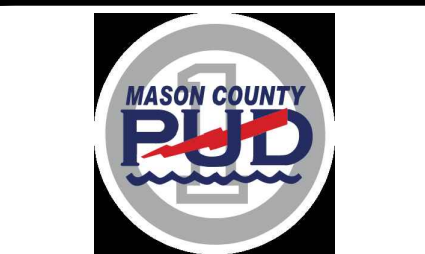
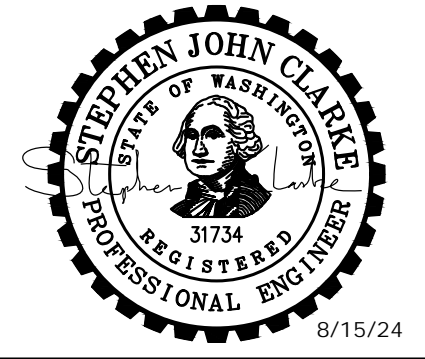
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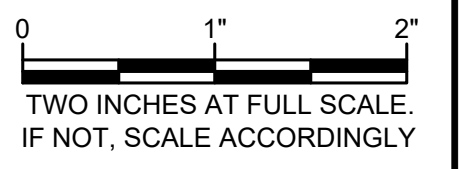
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**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOQUALLUM
RD., ELMA, WA 98541

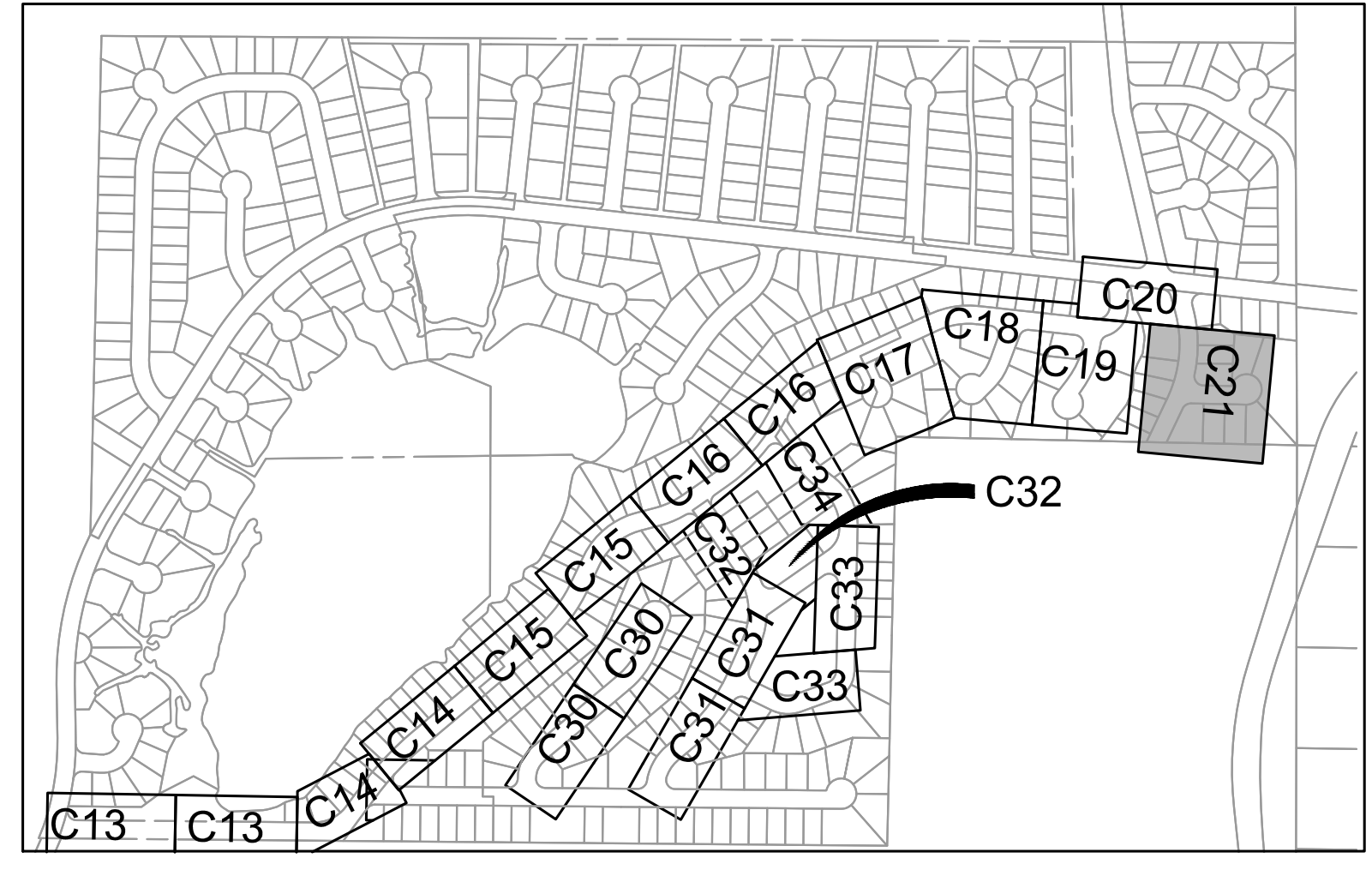
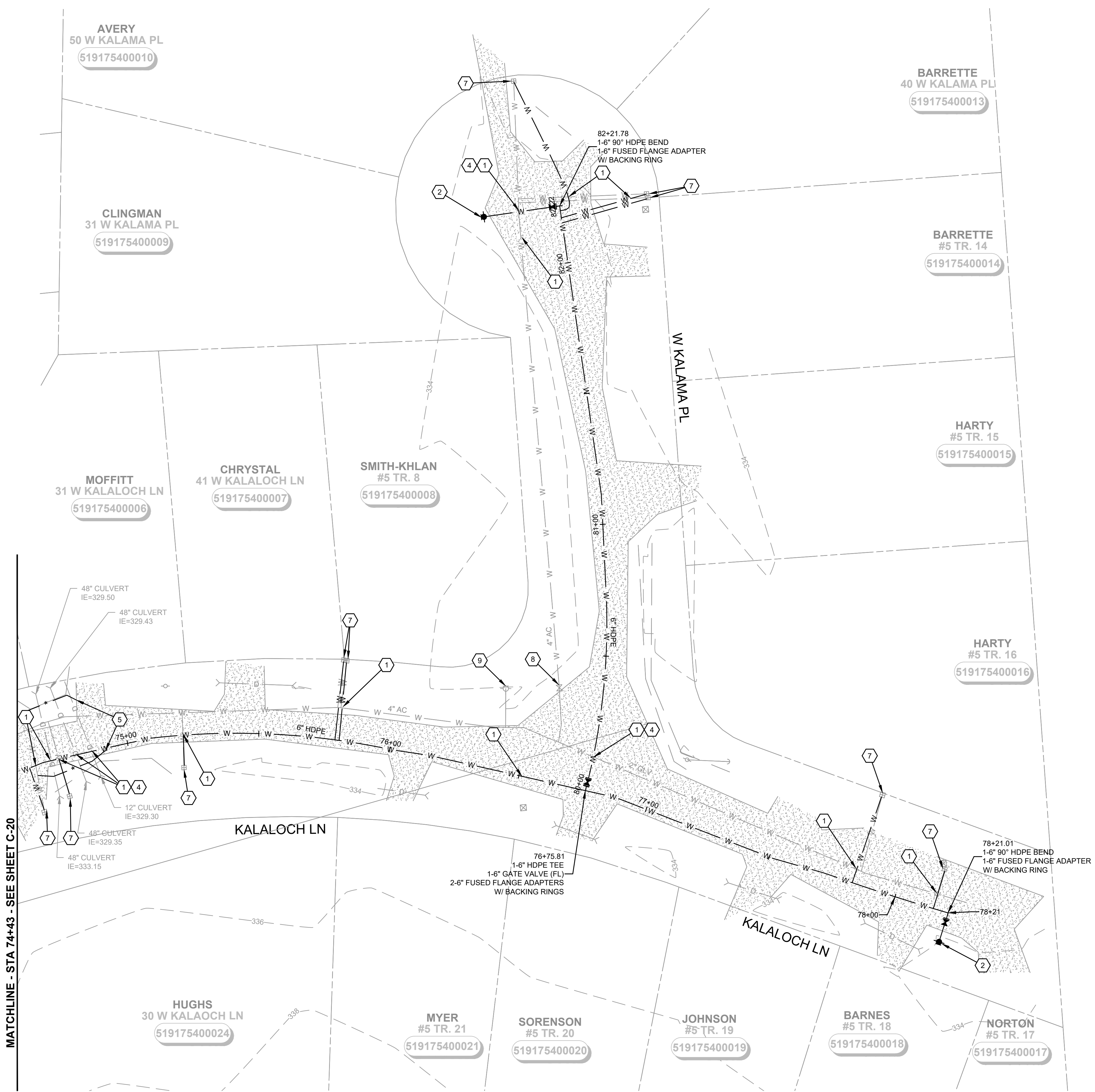
No.	DATE	REVISION
ISSUED FOR: BID		
ISSUE DATE: AUG 2024		
APPROVED BY: S. CLARKE		
CHECKED BY: M. JOHNSON		
DRAWN BY: B. HAYDEN		
DESIGNER: P. SMILEY		
G & O JOB NO.: 22249		
FILE: C-PLAN_2.DWG		



CIVIL

**KALALOCH LN AND W
KALAMA PL**

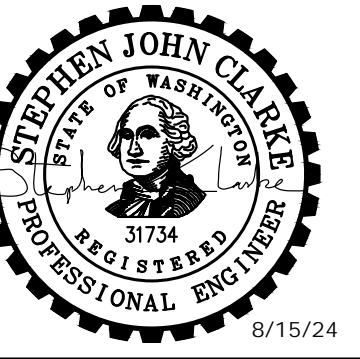
DRAWING: **C-21** OF: **37**



SHEET KEY MAP
NTS

MATCHLINE - STA. 74+43 - SEE SHEET C-20

M:\Mason County PUD 1\22249.00 Lake Arrowhead Water Main Replacement\01 Design\PlanSet\Civil\C-Plan_3.dwg, 8/15/2024, 12:05 PM, PATRICK SMILEY



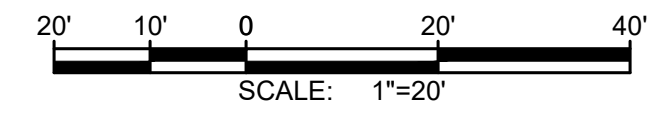
No.	DATE	REVISION
ISSUED FOR: BID		
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APPROVED BY: S. CLARKE		
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DRAWN BY: B. HAYDEN		
DESIGNER: P. SMILEY		
G & O JOB NO.: 22249		
FILE: C-PLAN_3.DWG		

0 1" 2"
TWO INCHES AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

CIVIL

**SHEET FOR FUTURE
CONSTRUCTION**

DRAWING: **C-22** OF: **37**



NOTES:

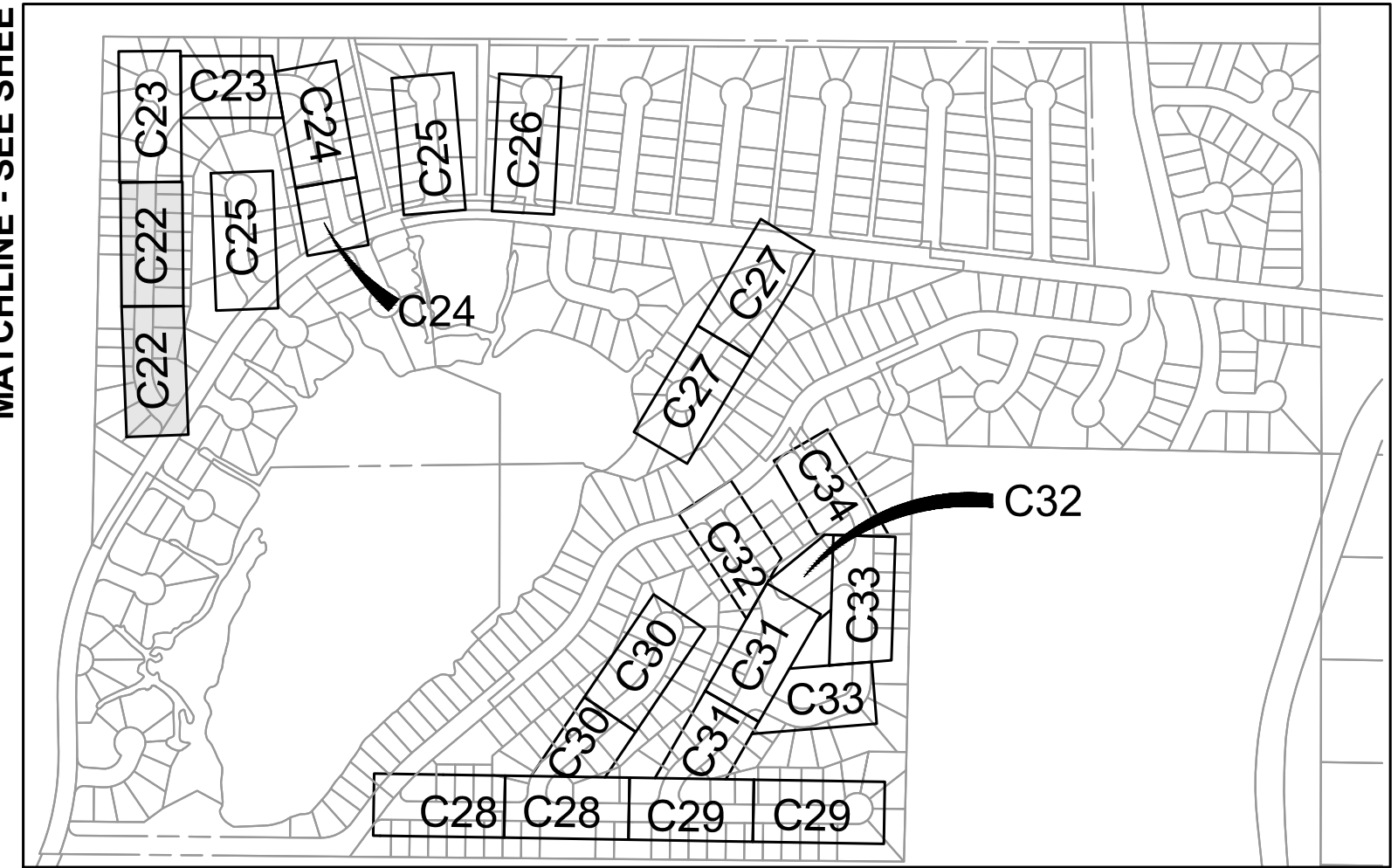
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- DO NOT MAKE CONNECTIONS UNTIL A SUCCESSFUL PURITY AND PRESSURE TEST OF THE NEW WATER SYSTEM HAS BEEN WITNESSED AND APPROVED BY OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF CHLORINATED WATER IN A METHOD THAT COMPLIES WITH ALL STATE AND FEDERAL REGULATIONS. CONTRACTOR SHALL SUBMIT A DISPOSAL PLAN TO THE DISTRICT PRIOR TO FILLING OF WATER MAINS. CONTRACTOR TO VERIFY CONNECTION REQUIREMENTS.

CONSTRUCTION NOTES:

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- INSTALL SILT FENCE PER DETAIL 1, SHEET D-1.
- INSTALL STRAW WATTLE DAM PER DETAIL 2, SHEET D-1.
- INSTALL WATER SERVICE CONNECTION PER DETAIL 4, SHEET D-3.

DISTRICT TO PERFORM THE FOLLOWING:

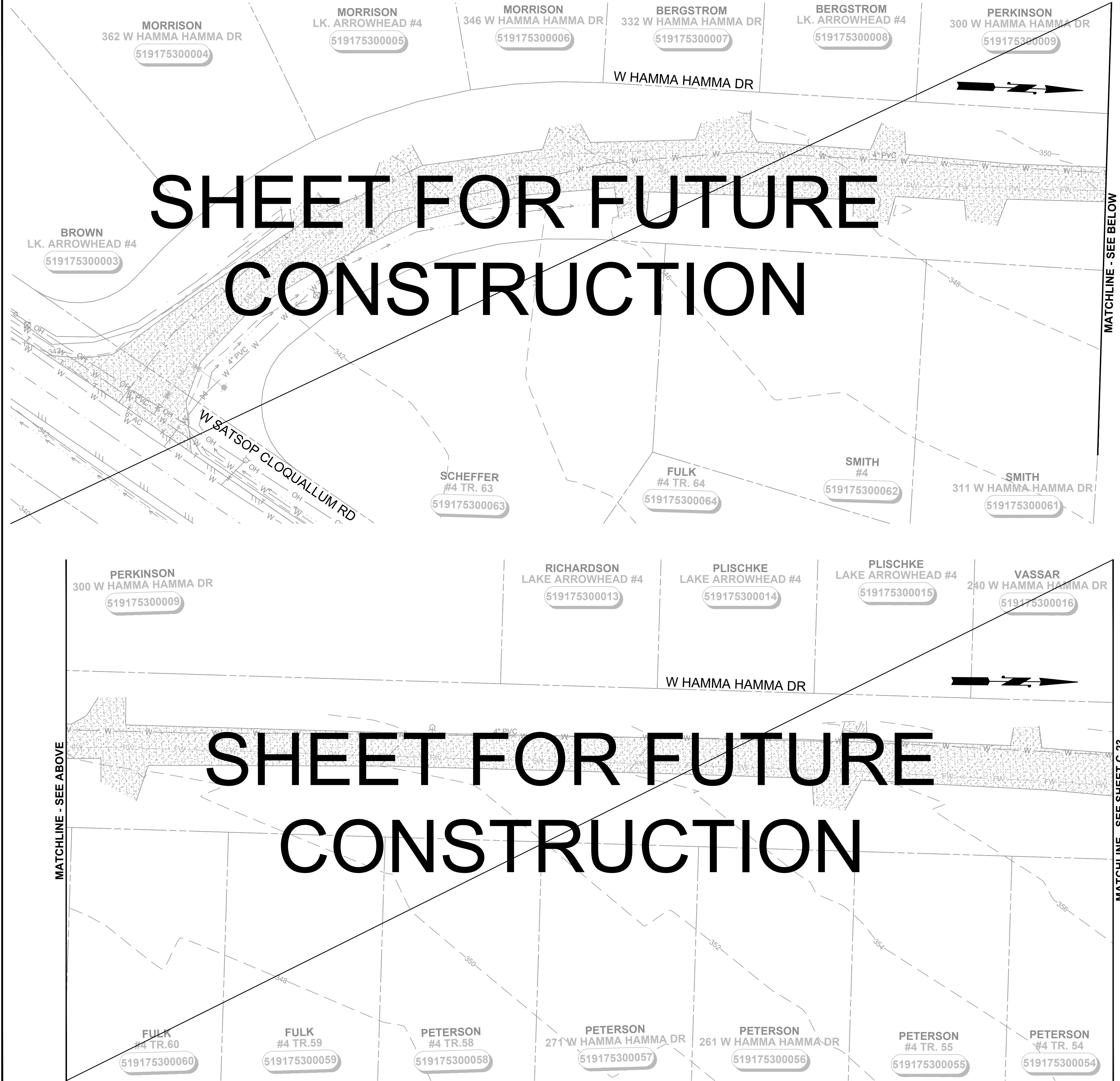
- CLOSE VALVE, REMOVE VALVE BOX AND FILL WITH LEAN CONCRETE.
- REMOVE AND WASTEHAUL FIRE HYDRANT.
- INSTALL CAP WITH THRUST BLOCK.
- PLUG EXISTING MAIN WITH LEAN CONCRETE TO A MIN. OF 2 DIAMETERS.



SHEET KEY MAP
NTS

SHEET FOR FUTURE CONSTRUCTION

SHEET FOR FUTURE CONSTRUCTION

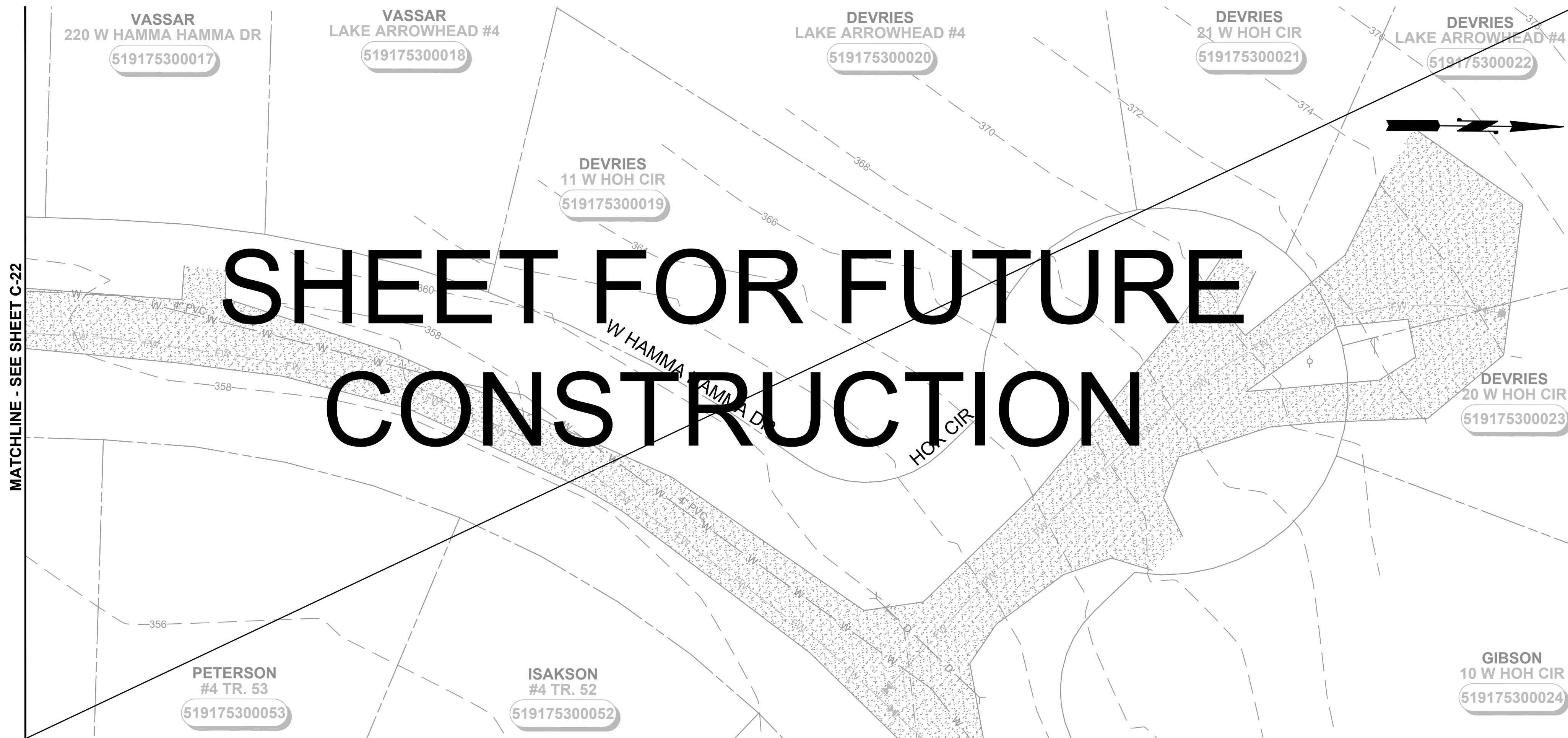


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MATCHLINE - SEE SHEET C-23

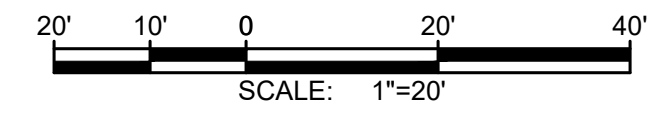
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MATCHLINE - SEE SHEET C-22

MATCHLINE - SEE BELOW



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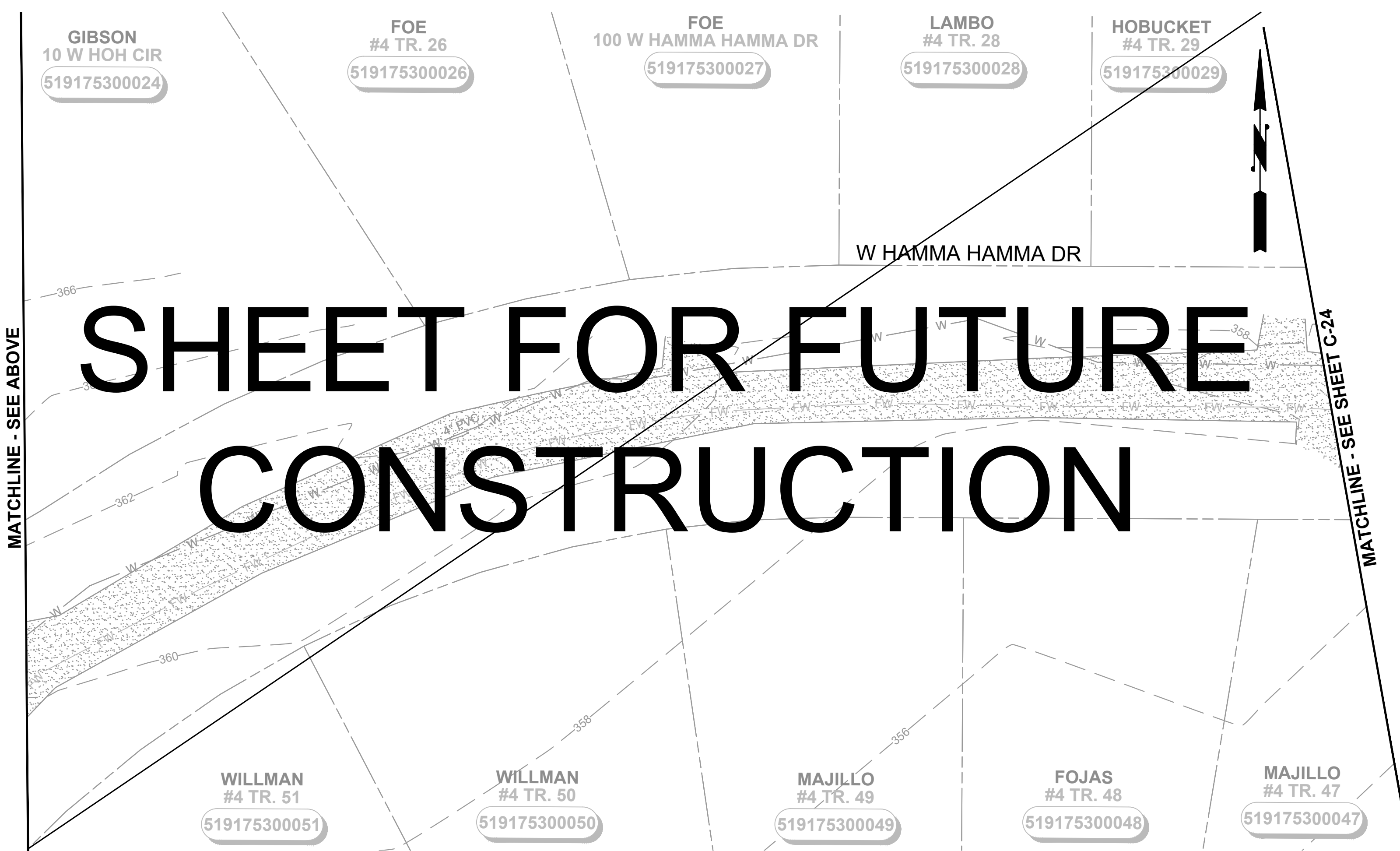
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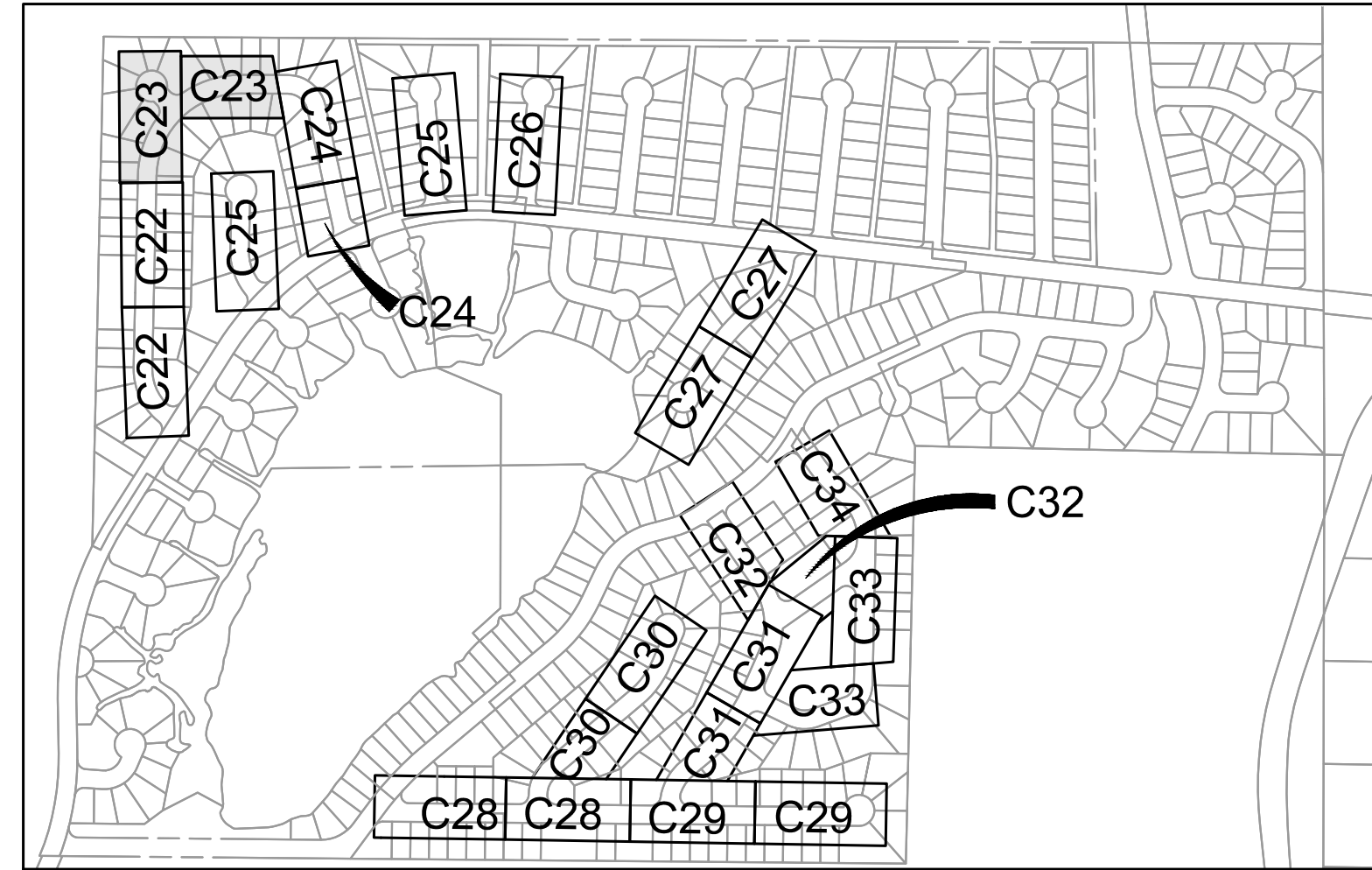
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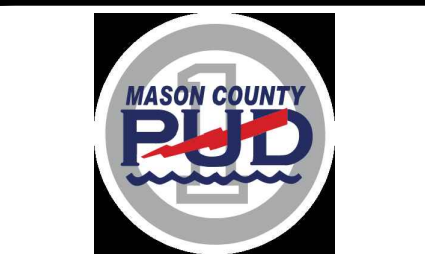
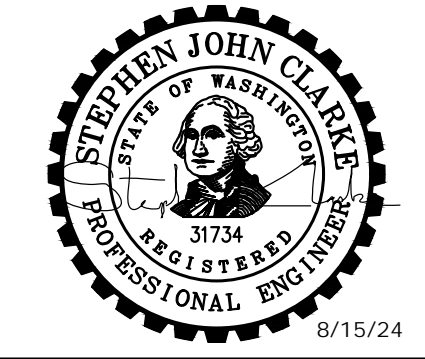
MATCHLINE - SEE ABOVE

MATCHLINE - SEE SHEET C-24



SHEET KEY MAP
NTS

Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860



**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOQUALLUM
RD., ELMA, WA 98541

No.	DATE	REVISION

ISSUED FOR: _____

ISSUE DATE: AUG 2024

APPROVED BY: S. CLARKE

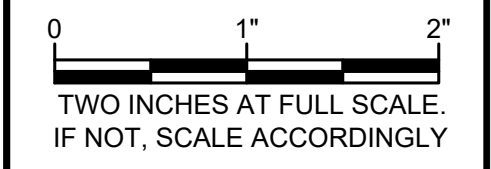
CHECKED BY: M. JOHNSON

DRAWN BY: B. HAYDEN

DESIGNER: P. SMILEY

G & O JOB NO.: 22249

FILE: C-PLAN_3.DWG

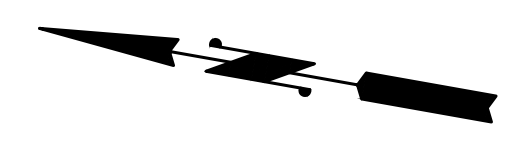
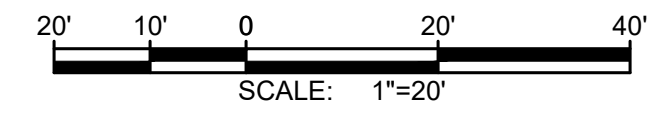
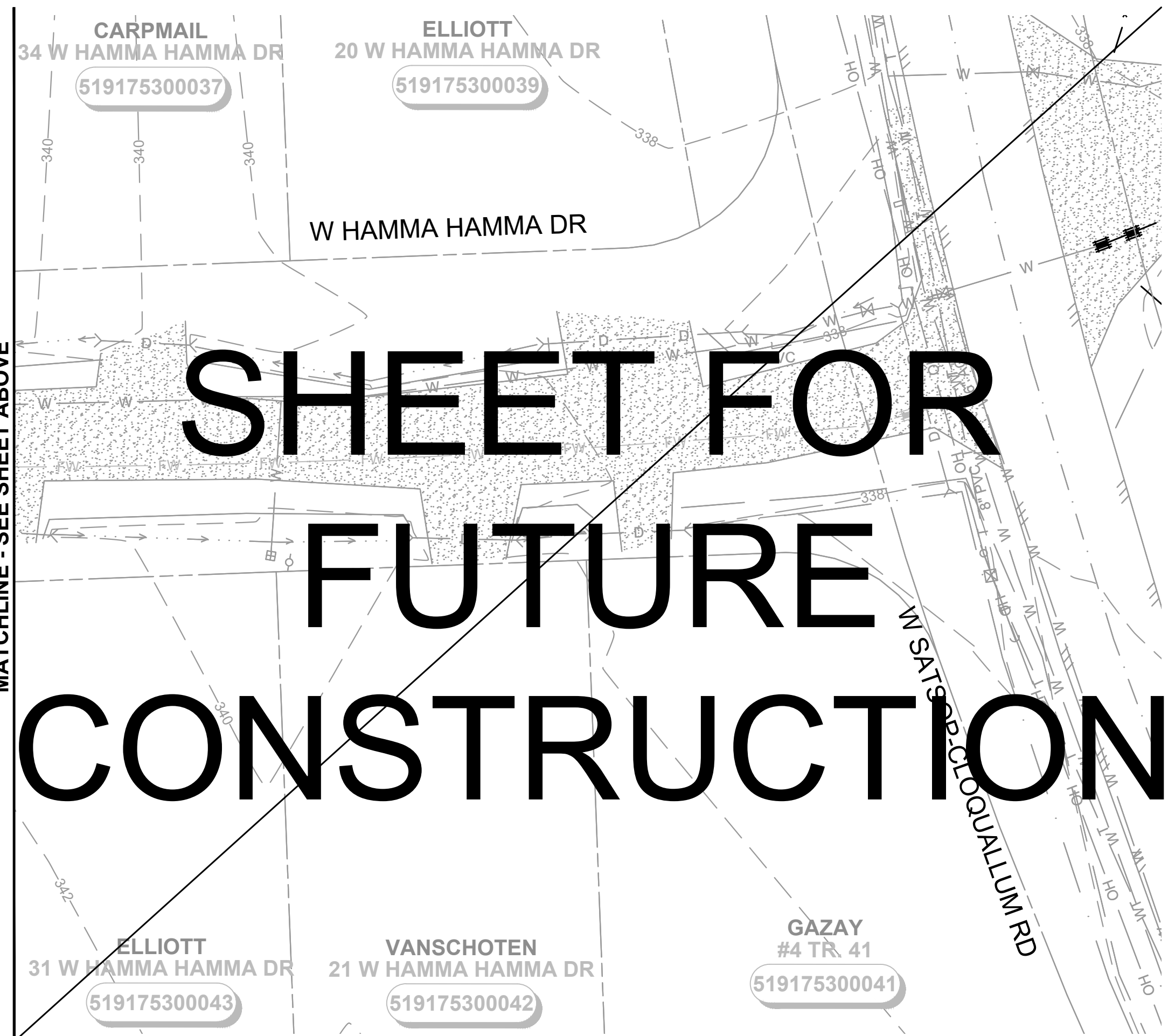
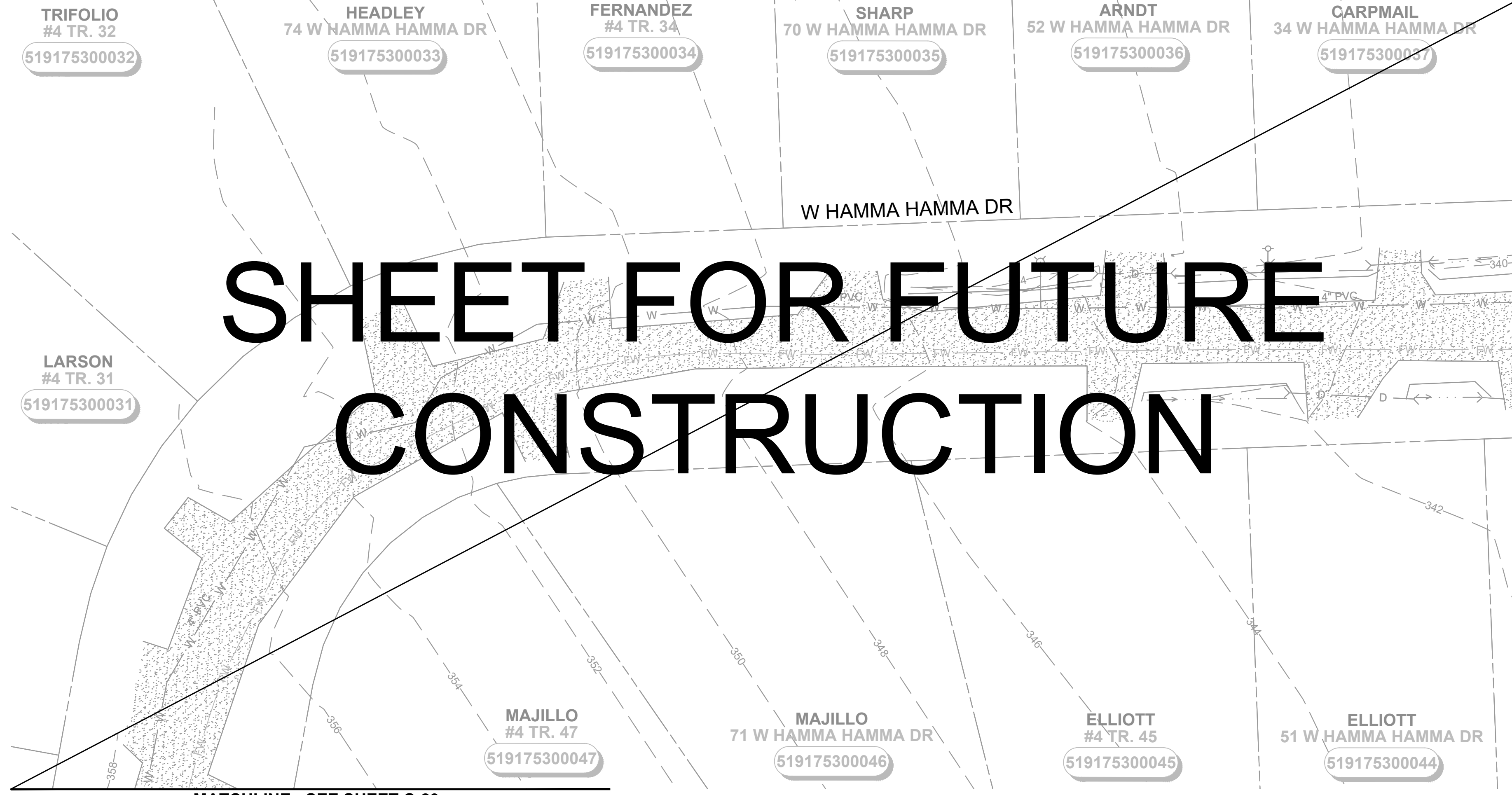


CIVIL

**SHEET FOR FUTURE
CONSTRUCTION**

DRAWING: **C-23** OF: **37**

M:\Mason County PUD 1\22249.00 Lake Arrowhead Water Main Replacement\01 Design\PlanSet\Civil\C-Plan_3.dwg, 8/15/2024, 12:06 PM, PATRICK SMILEY



NOTES:

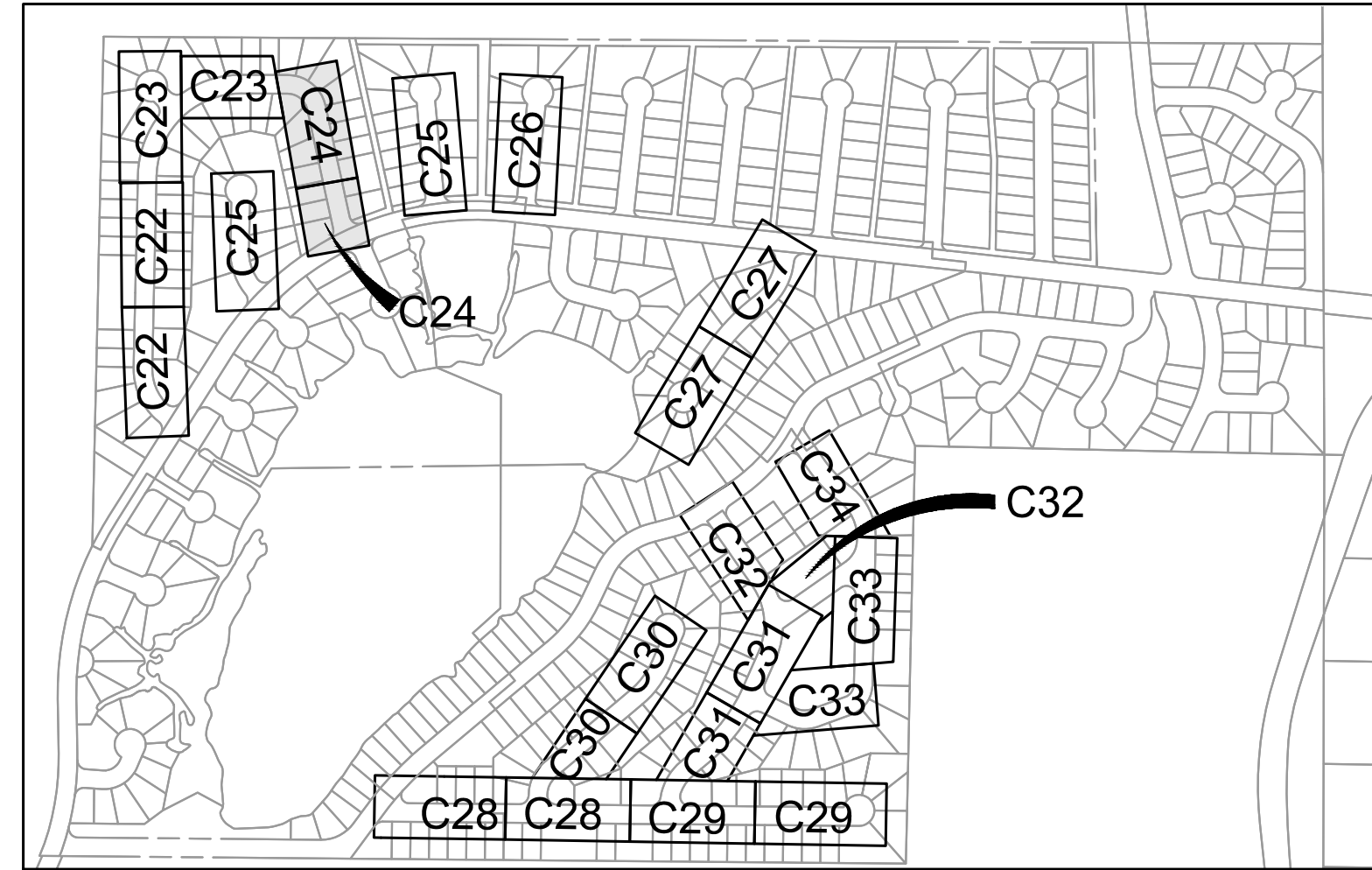
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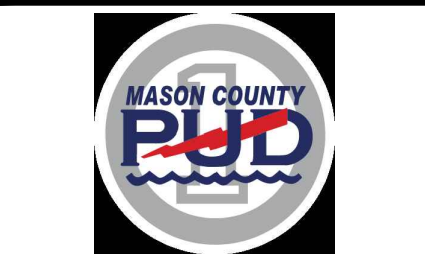
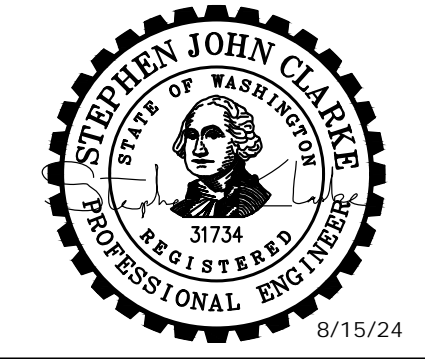
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SHEET KEY MAP
NTS

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**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOUALLUM
RD., ELMA, WA 98541

No.	DATE	REVISION

ISSUED FOR: _____

ISSUE DATE: AUG 2024

APPROVED BY: S. CLARKE

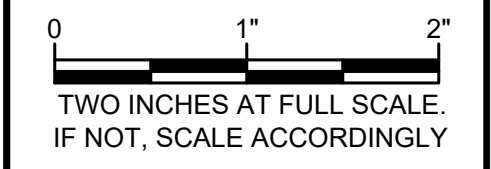
CHECKED BY: M. JOHNSON

DRAWN BY: B. HAYDEN

DESIGNER: P. SMILEY

G & O JOB NO.: 22249

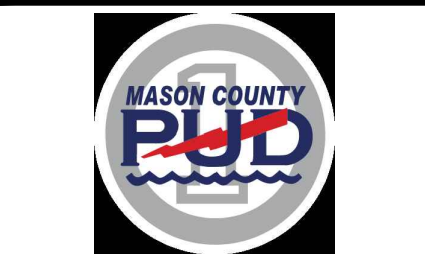
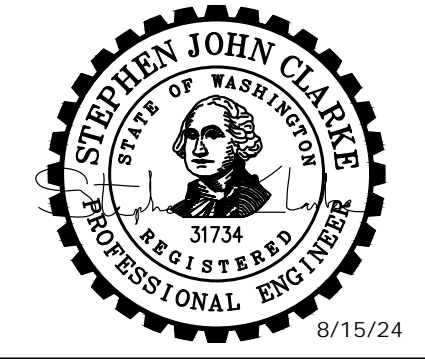
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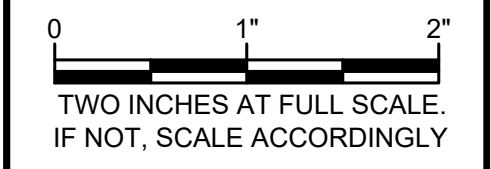
**SHEET FOR FUTURE
CONSTRUCTION**

DRAWING: **C-24** OF: **37**



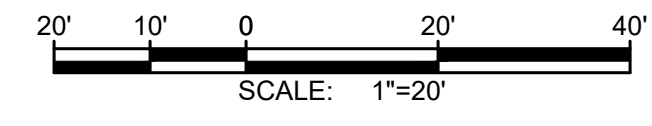
**MASON COUNTY
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No.	DATE	REVISION
ISSUED FOR: BID		
ISSUE DATE: AUG 2024		
APPROVED BY: S. CLARKE		
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DRAWN BY: B. HAYDEN		
DESIGNER: P. SMILEY		
G & O JOB NO.: 22249		
FILE: C-PLAN_3.DWG		



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**HOQUIAM &
 SUQUAMISH TRAIL**



NOTES:

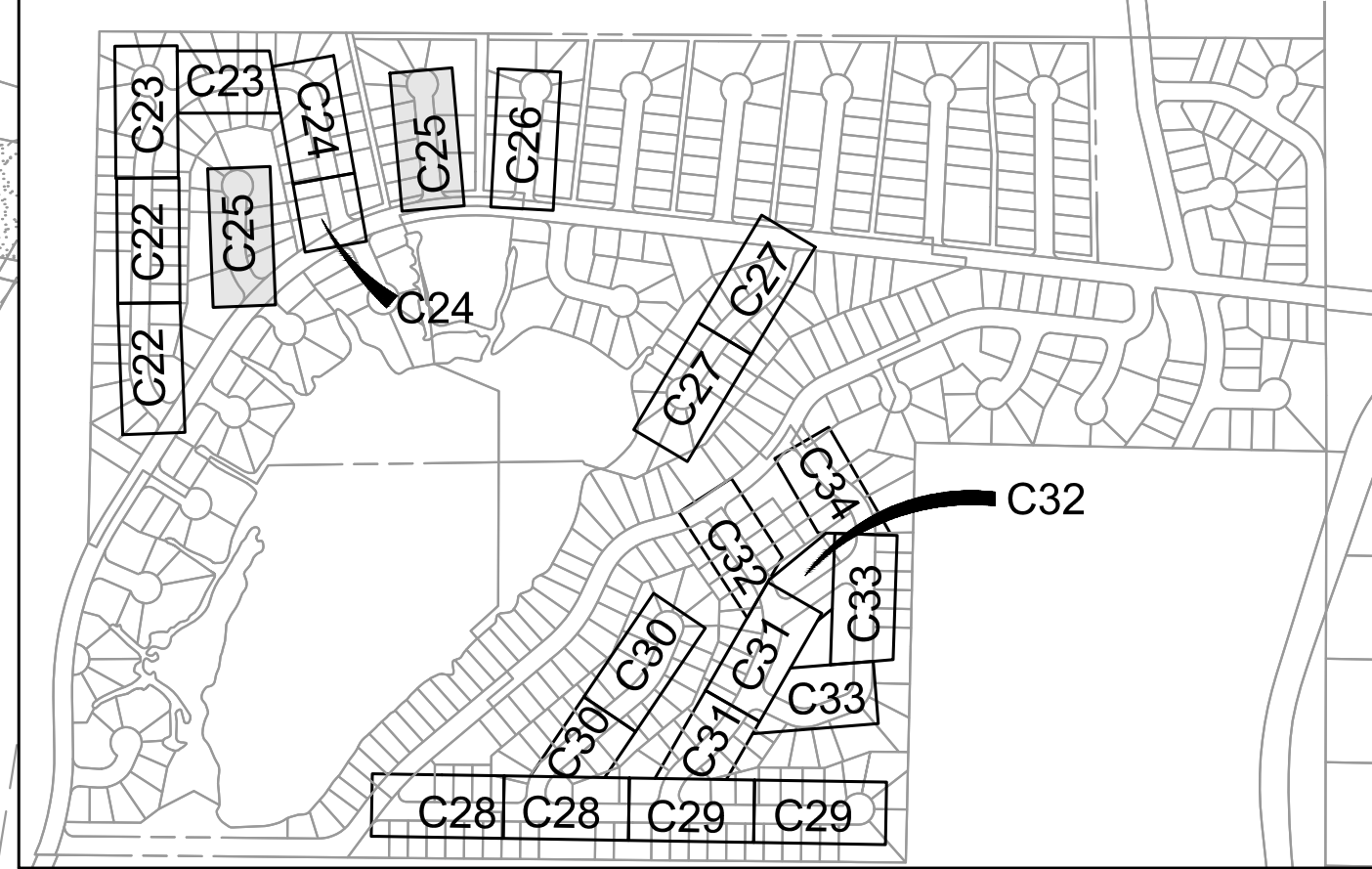
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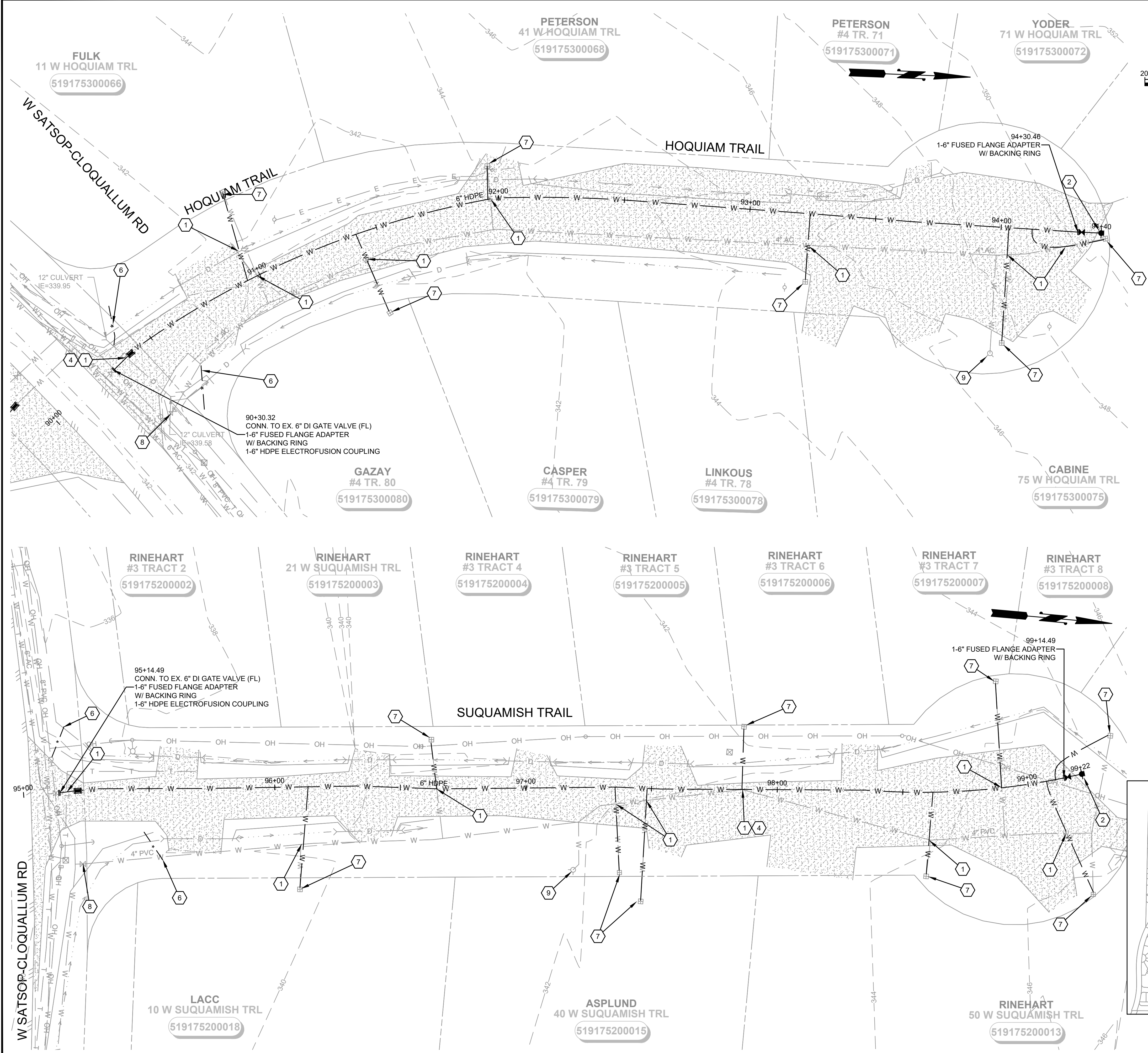
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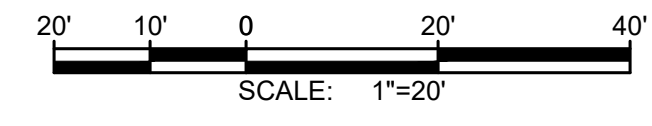
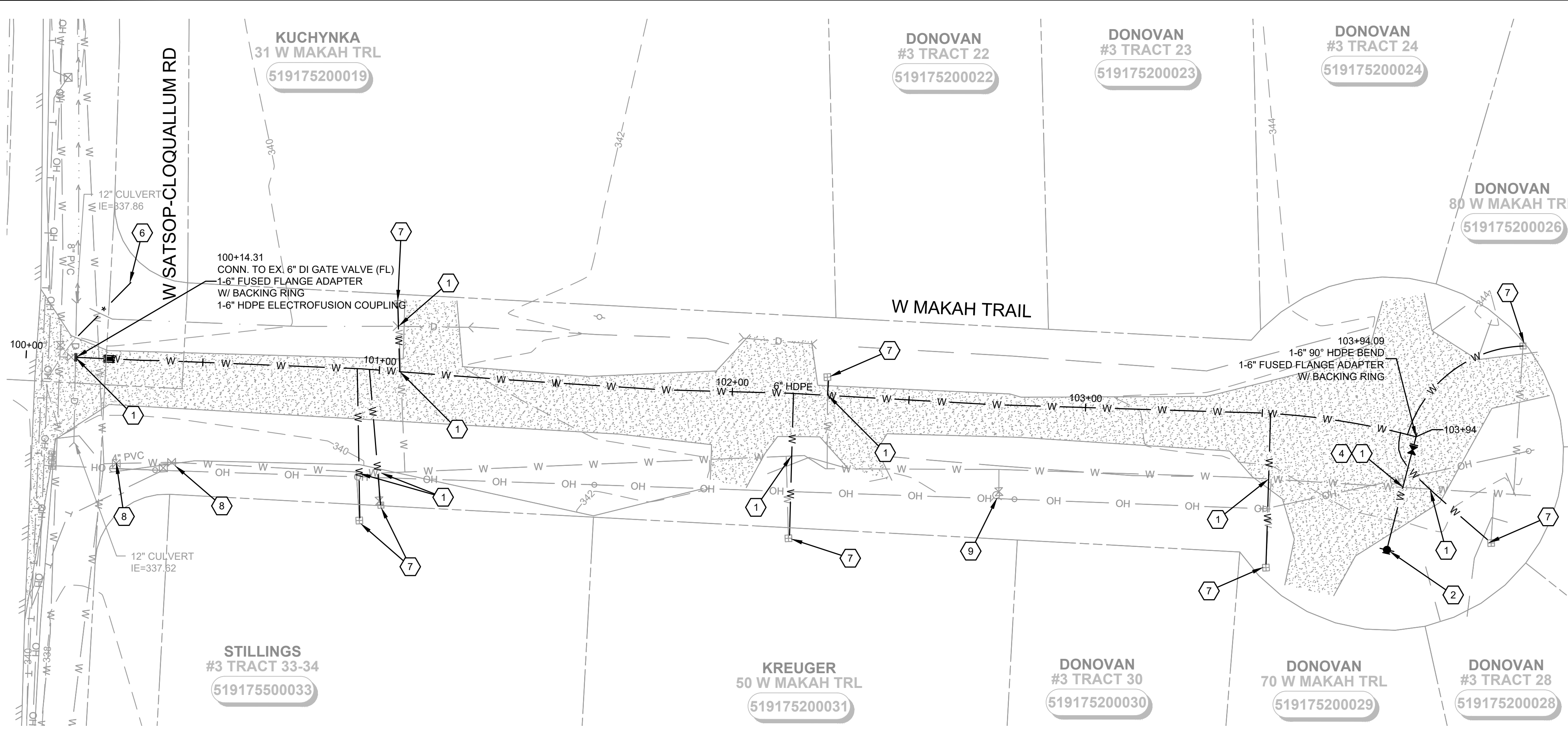


SHEET KEY MAP
 NTS



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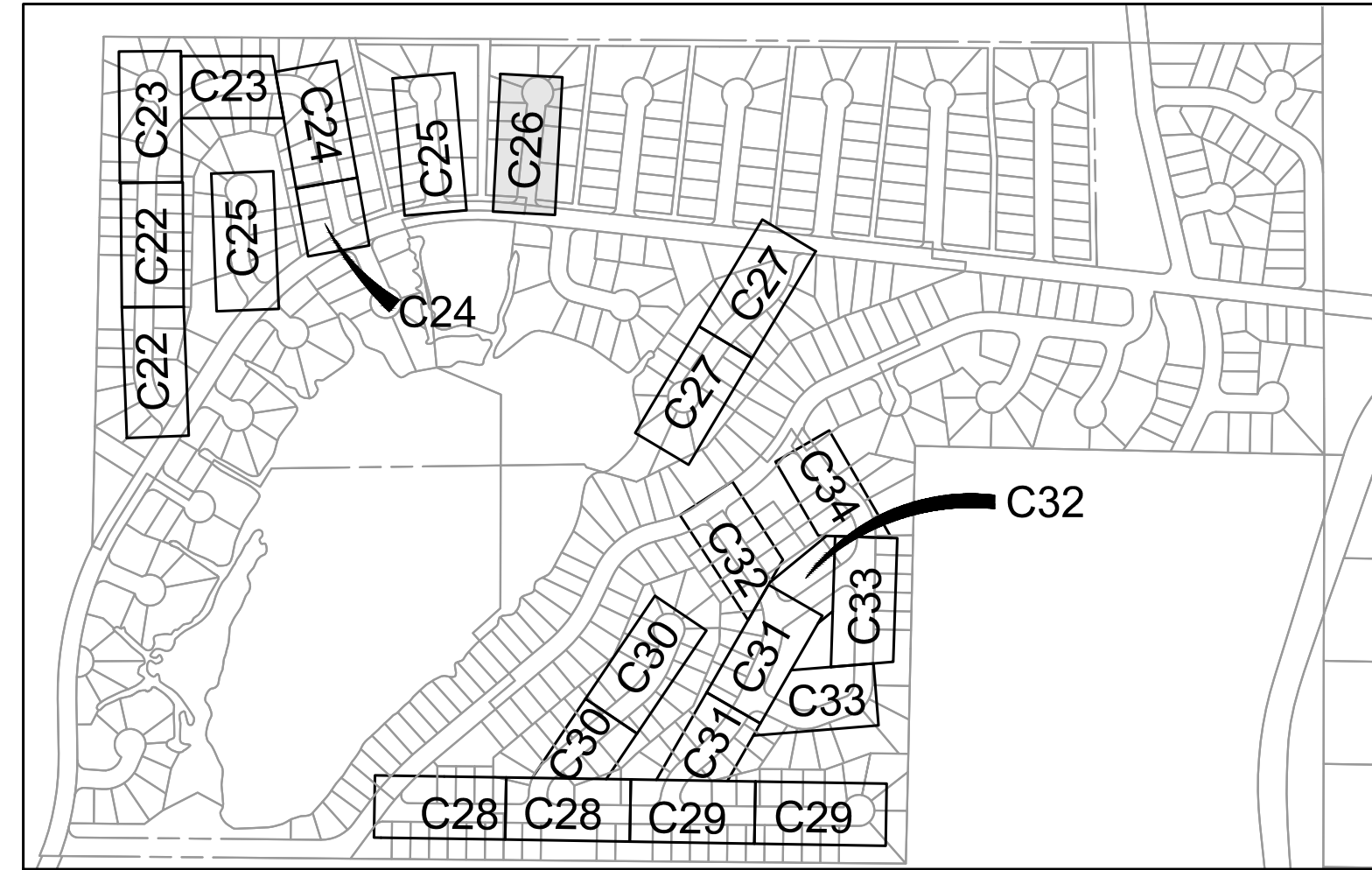
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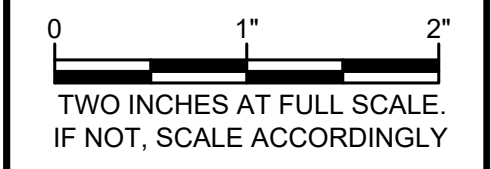
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MASON COUNTY PUD 1
LAKE ARROWHEAD WATER MAIN REPLACEMENT
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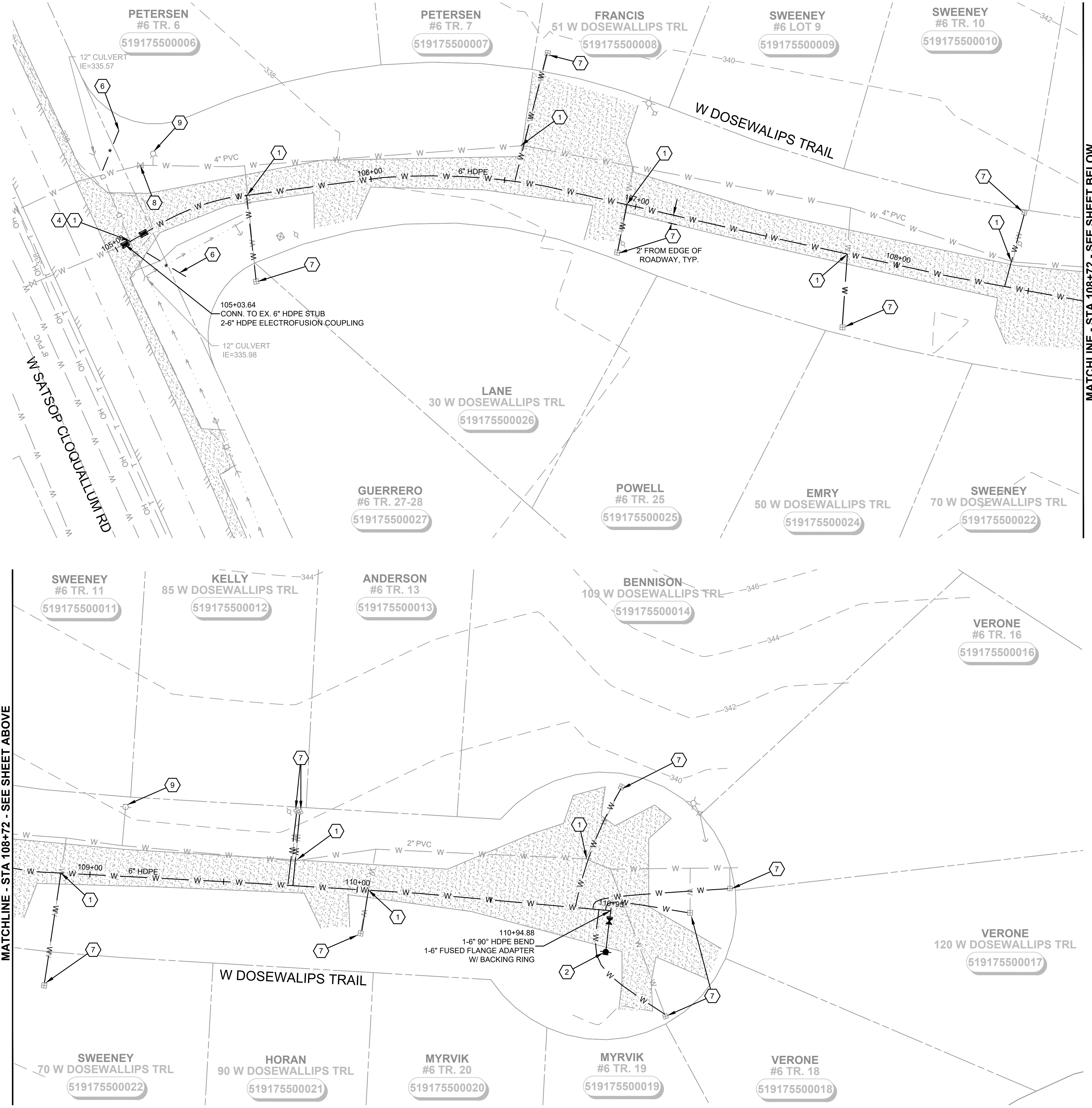
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CIVIL

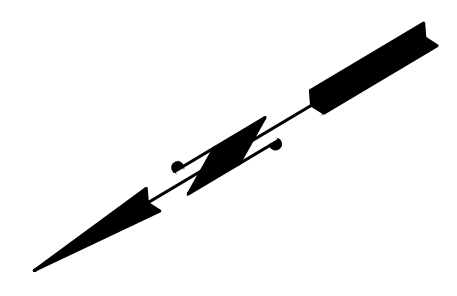
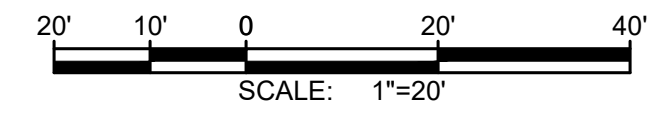
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M:\Mason County PUD 1\22249.00 Lake Arrowhead Water Main Replacement\01 Design\PlanSet\Civil\C-Plan_3.dwg, 8/15/2024, 12:07 PM, PATRICK SMILEY



MATCHLINE - STA 108+72 - SEE SHEET ABOVE

MATCHLINE - STA 108+72 - SEE SHEET BELOW



NOTES:

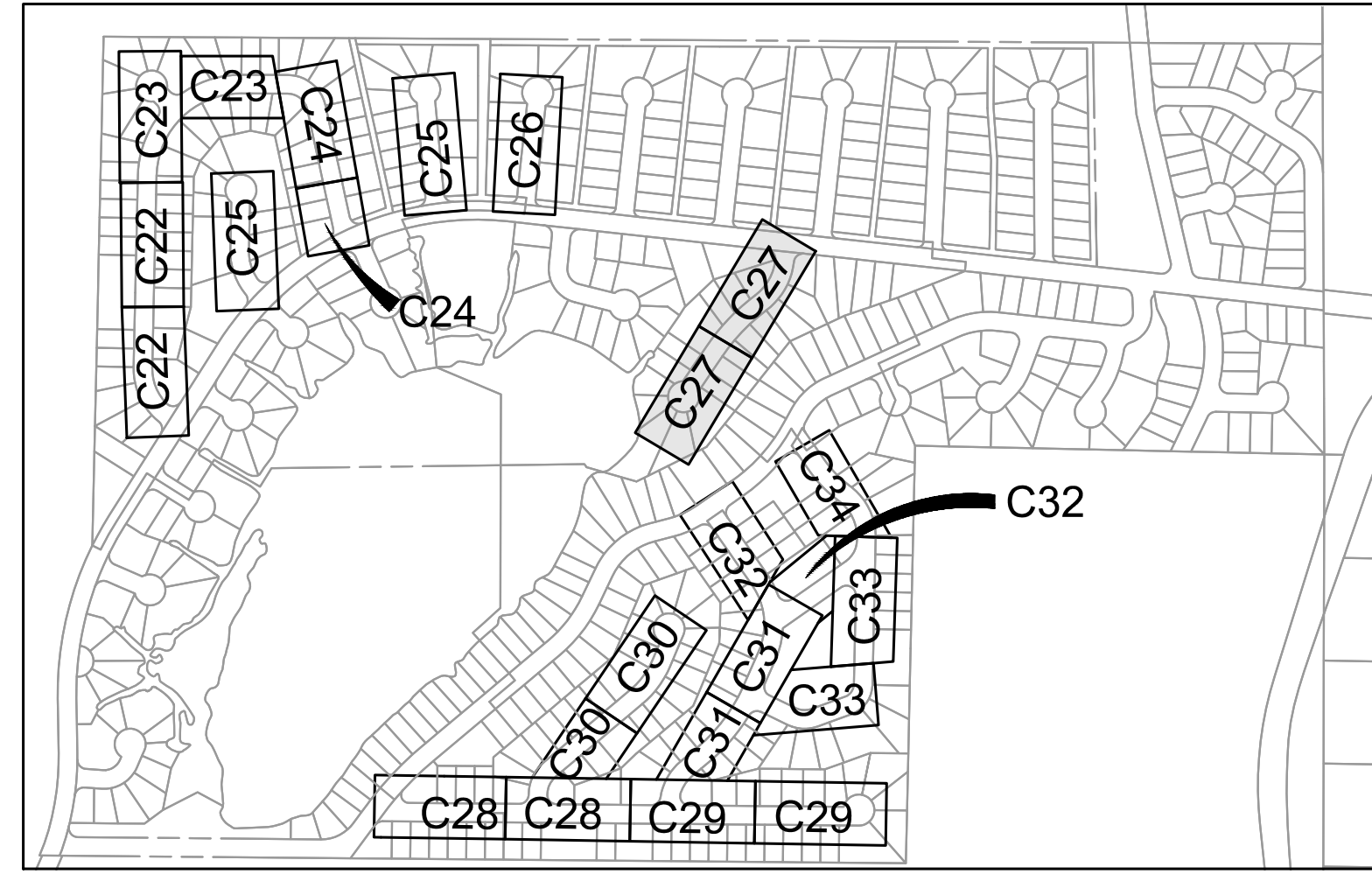
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4. WATER MAIN TRENCH PER DETAIL 1, SHEET D-2.
5. ABANDON EXISTING WATER MAIN IN PLACE AFTER NEW HDPE WATER MAIN CONNECTIONS HAVE BEEN CONSTRUCTED.
6. NOTIFY DISTRICT 72 HOURS IN ADVANCE OF ALL WATER SHUT DOWNS. SHUT DOWNS WILL NOT BE ALLOWED FRIDAY THROUGH MONDAY, OR ON HOLIDAYS.
7. TRENCH REPAIR SHALL BE TO MATCH EXISTING SURFACE (ASPHALT, GRAVEL, HYDROSEEDING), PER DETAILS 2, 3, 4, SHEET D-2. MAXIMUM 4' RESTORATION WIDTH.
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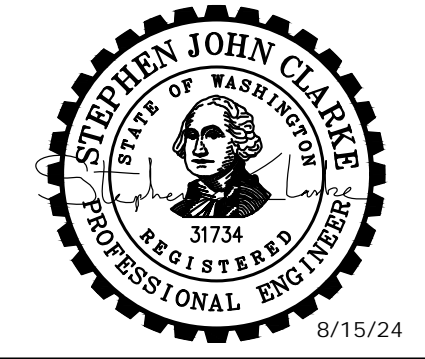
DISTRICT TO PERFORM THE FOLLOWING:

- ⑧ CLOSE VALVE, REMOVE VALVE BOX AND FILL WITH LEAN CONCRETE.
- ⑨ REMOVE AND WASTEHAUL FIRE HYDRANT.
- ⑩ INSTALL CAP WITH THRUST BLOCK.
- ⑪ PLUG EXISTING MAIN WITH LEAN CONCRETE TO A MIN. OF 2 DIAMETERS.



SHEET KEY MAP
NTS

Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860



MASON COUNTY PUD 1
LAKE ARROWHEAD WATER MAIN REPLACEMENT
160 W SATSOP CLOUQUALLUM RD., ELMA, WA 98541

No.	DATE	REVISION

ISSUED FOR: _____ BID

ISSUE DATE: _____ AUG 2024

APPROVED BY: _____ S. CLARKE

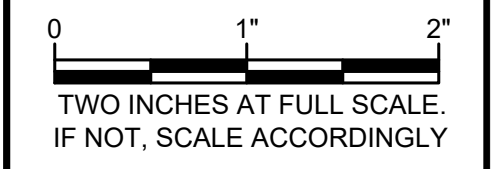
CHECKED BY: _____ M. JOHNSON

DRAWN BY: _____ B. HAYDEN

DESIGNER: _____ P. SMILEY

G & O JOB NO.: _____ 22249

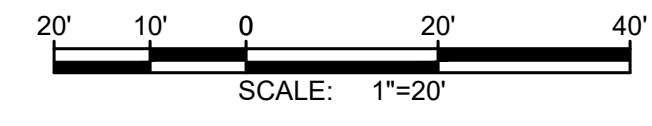
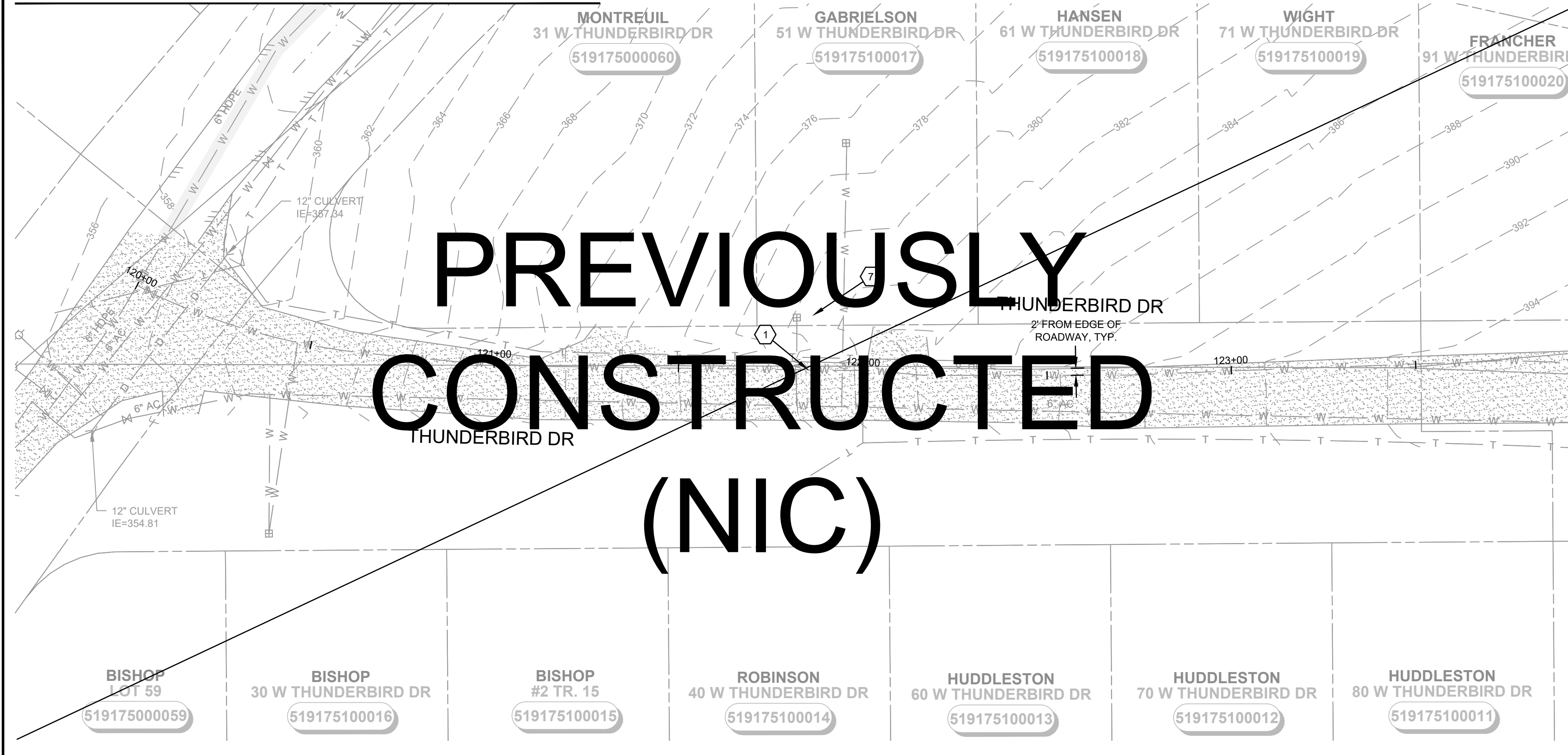
FILE: _____ C-PLAN_3.DWG



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CONTINUATION - SEE SHEET C-14



NOTES:

1. SEE EROSION CONTROL NOTES, SHEET D-1. EROSION CONTROL SHOWN FOR CLARITY ONLY, CONTRACTOR SHALL MEET ALL REGULATORY REQUIREMENTS.
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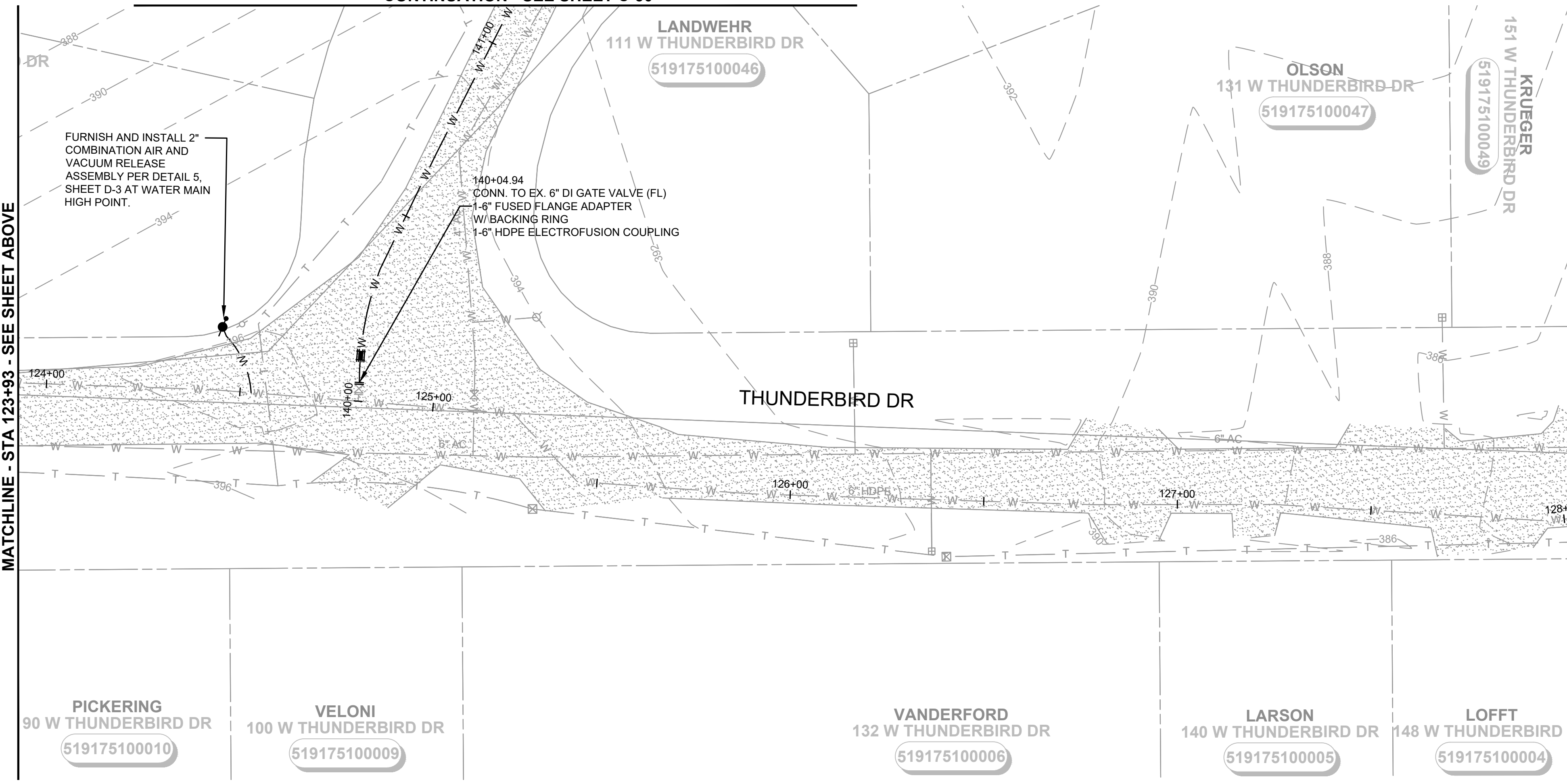
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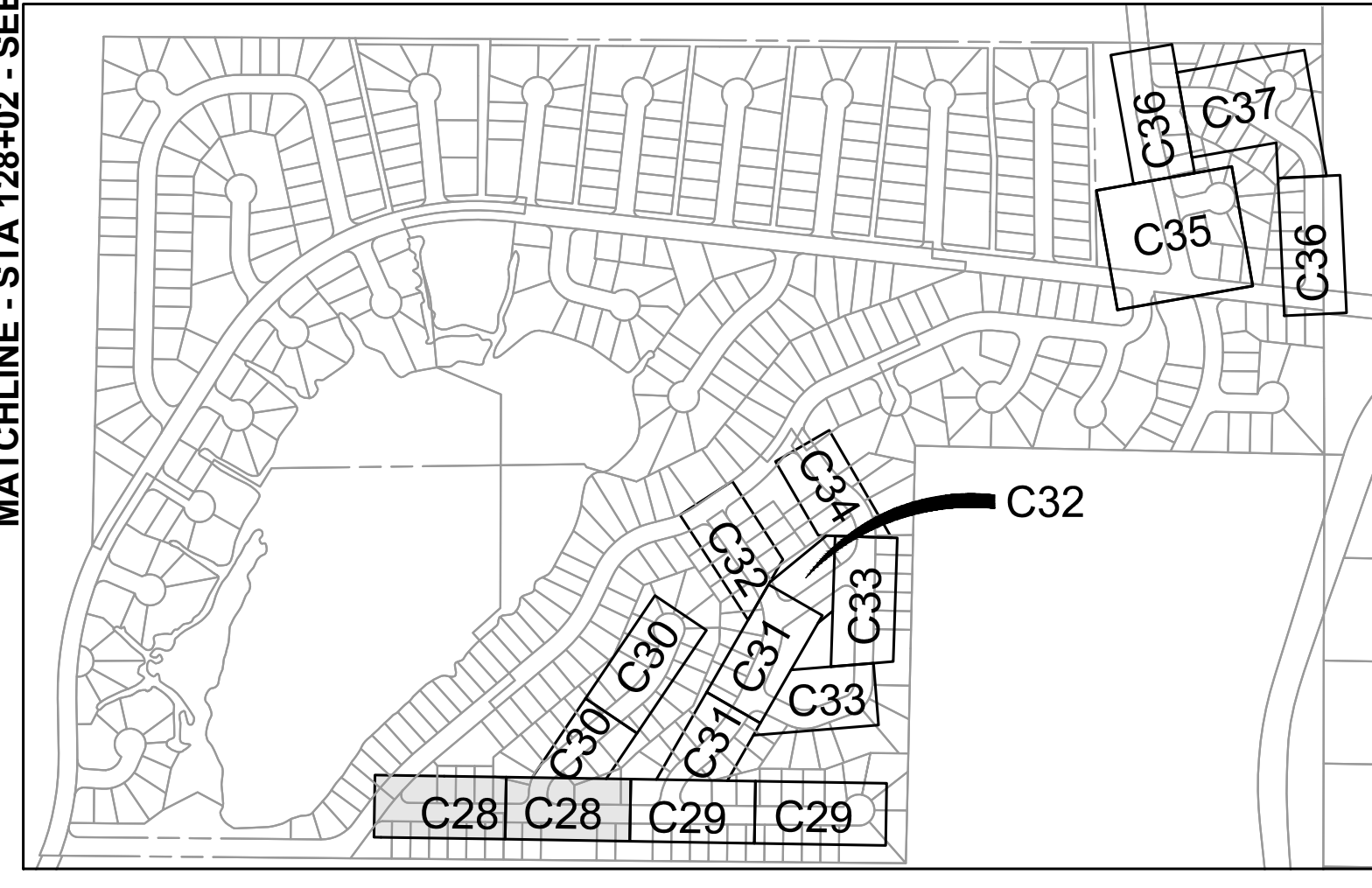
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CONTINUATION - SEE SHEET C-30



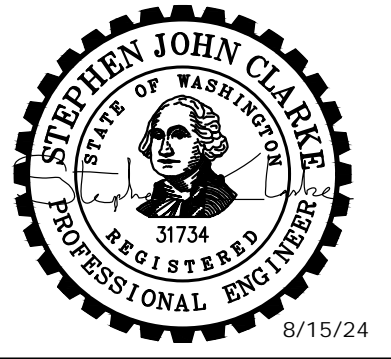
MATCHLINE - STA 123+93 - SEE SHEET ABOVE

MATCHLINE - STA 128+02 - SEE SHEET C-29



SHEET KEY MAP
NTS

Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860



**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOUALLUM
RD., ELMA, WA 98541

No.	DATE	REVISION

ISSUED FOR: BID

ISSUE DATE: AUG 2024

APPROVED BY: S. CLARKE

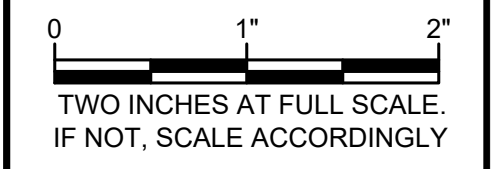
CHECKED BY: M. JOHNSON

DRAWN BY: B. HAYDEN

DESIGNER: P. SMILEY

G & O JOB NO.: 22249

FILE: C-PLAN_4.DWG

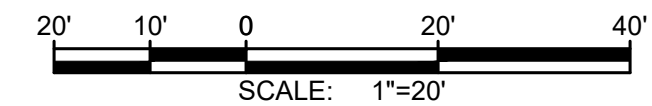


CIVIL

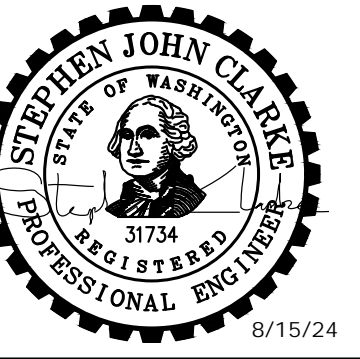
THUNDERBIRD DR (1)

DRAWING: **C-28** OF: **37**

M:\Mason County PUD 1\22249.00 Lake Arrowhead Water Main Replacement\01 Design\PlanSet\Civil\C-Plan_4.dwg, 8/15/2024, 12:08 PM, PATRICK SMILEY



Gray & Osborne, Inc.
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**MASON COUNTY
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160 W SATSOP CLOUALLUM
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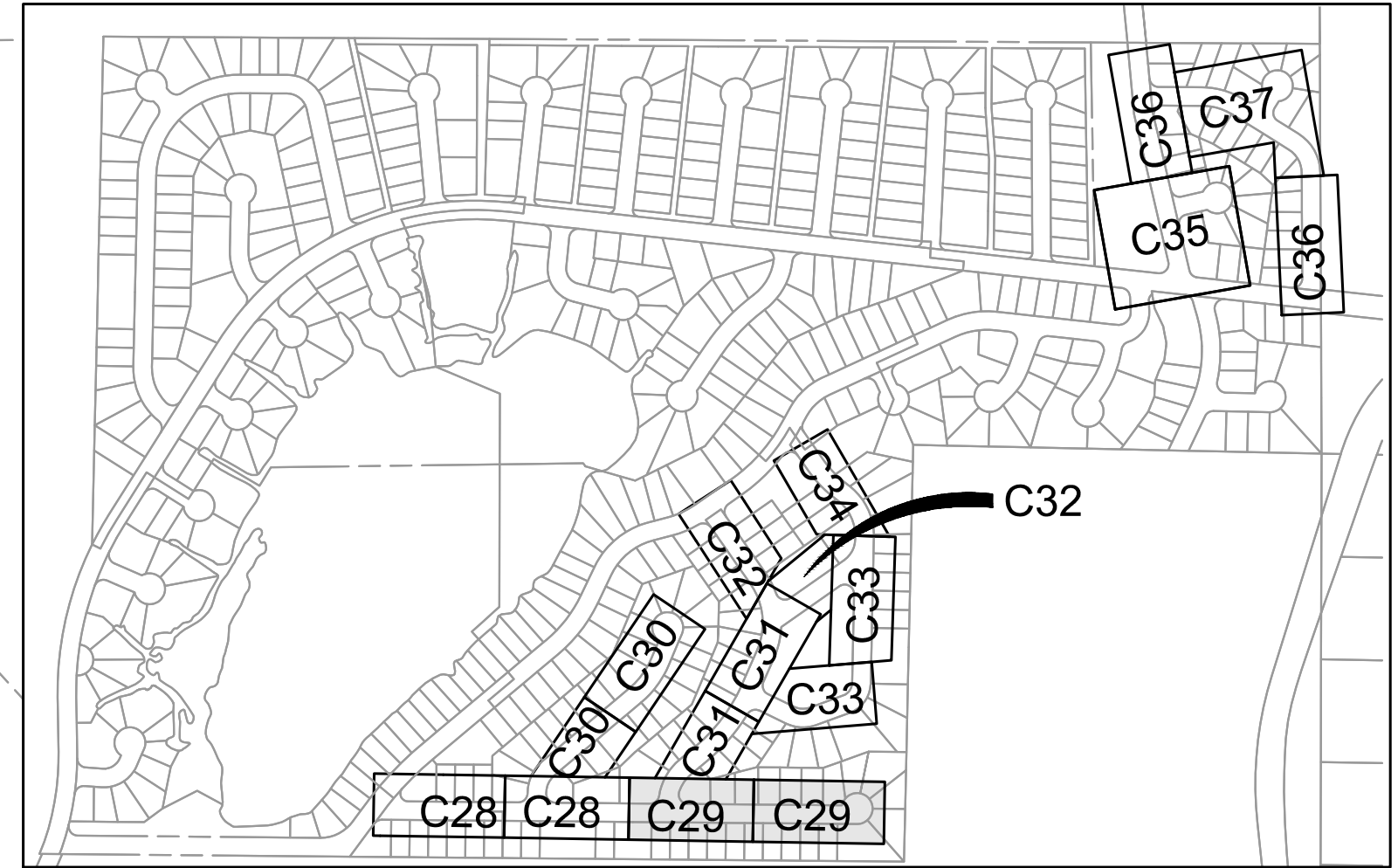
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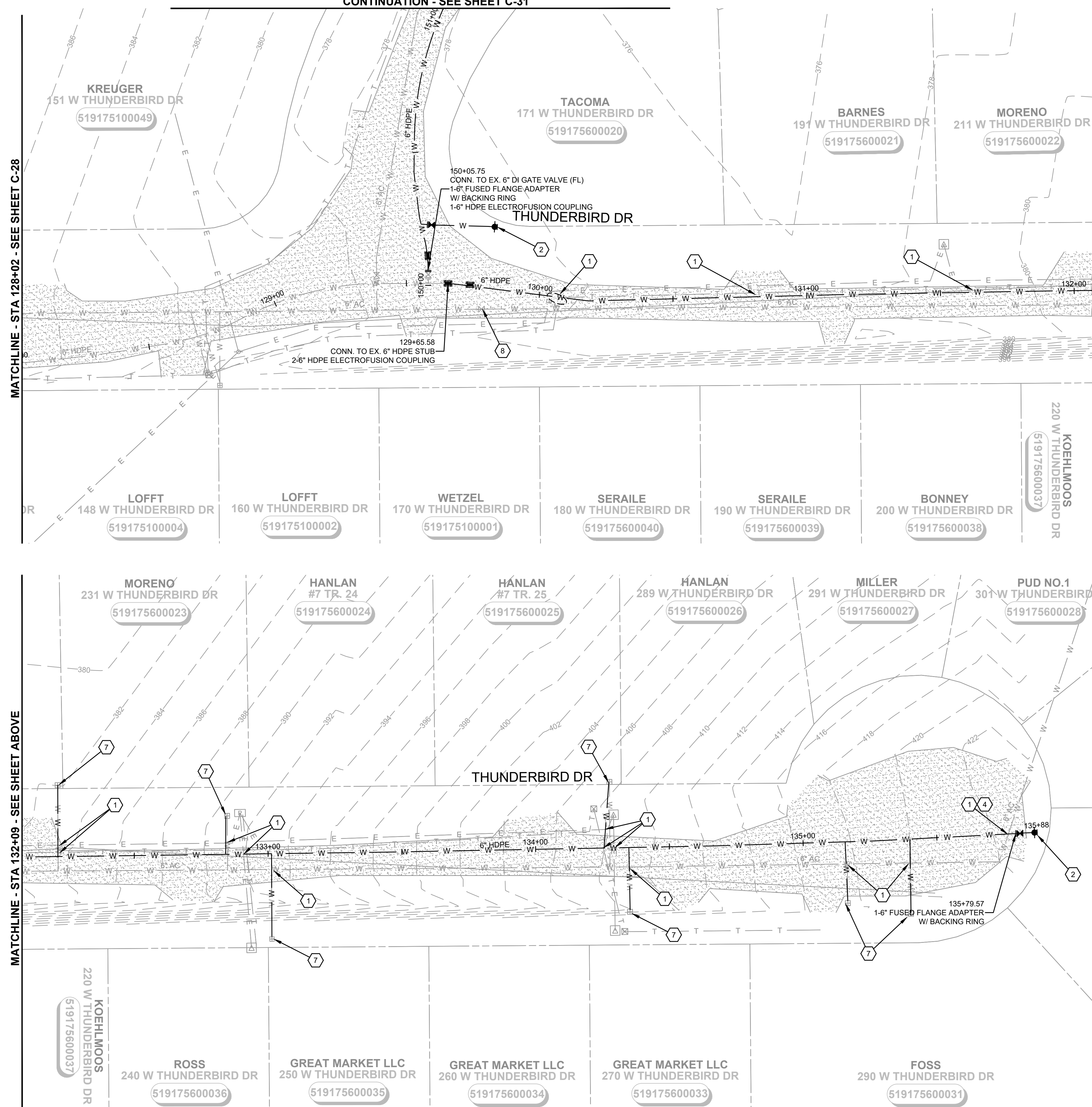


SHEET KEY MAP
NTS

MATCHLINE - STA 128+02 - SEE SHEET C-28

MATCHLINE - STA 132+09 - SEE SHEET ABOVE

MATCHLINE - STA 132+09 - SEE SHEET BELOW



No.	DATE	REVISION

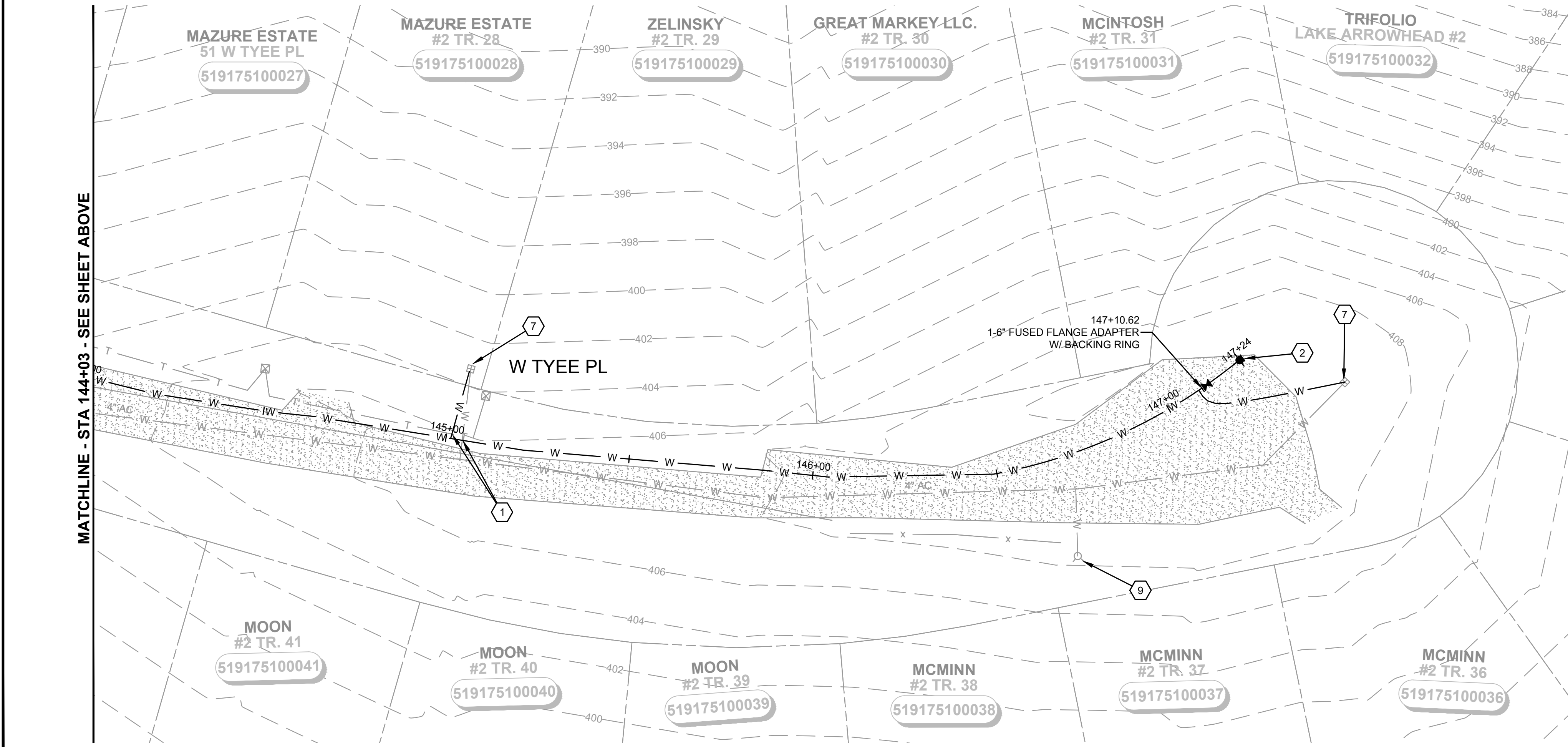
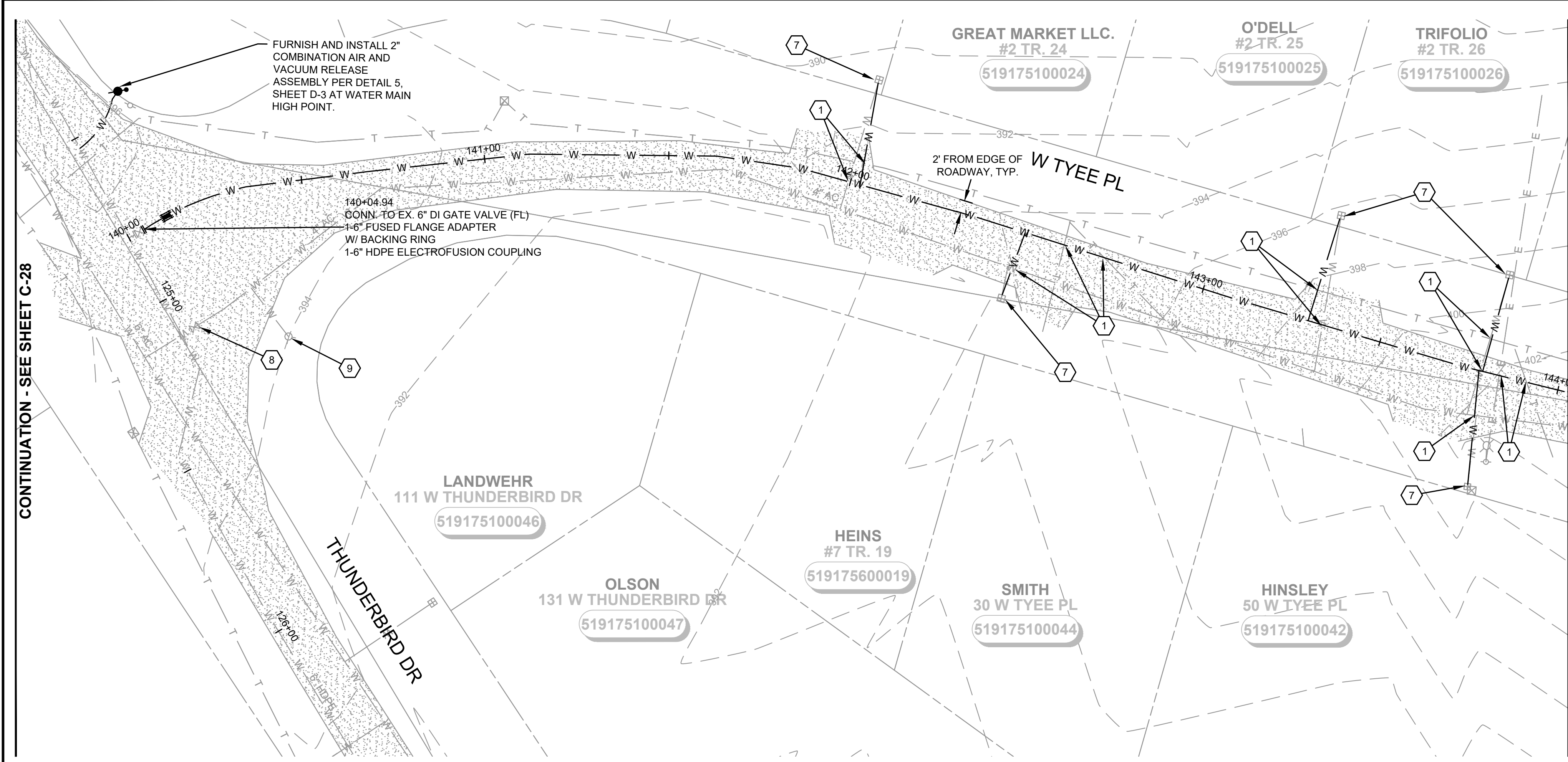
ISSUED FOR: BID
 ISSUE DATE: AUG 2024
 APPROVED BY: S. CLARKE
 CHECKED BY: M. JOHNSON
 DRAWN BY: B. HAYDEN
 DESIGNER: P. SMILEY
 G & O JOB NO.: 22249
 FILE: C-PLAN_4.DWG

CIVIL

THUNDERBIRD DR (2)

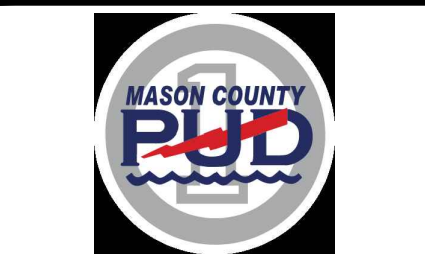
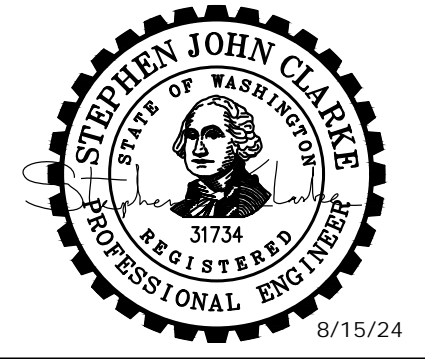
DRAWING: **C-29** OF: **37**

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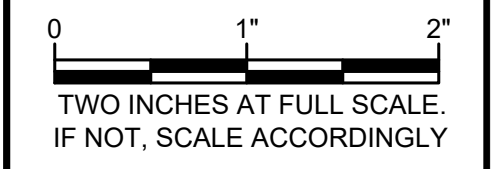
MATCHLINE - STA 144+03 - SEE SHEET BELOW

MATCHLINE - STA 144+03 - SEE SHEET ABOVE



**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOUALLUM
RD., ELMA, WA 98541

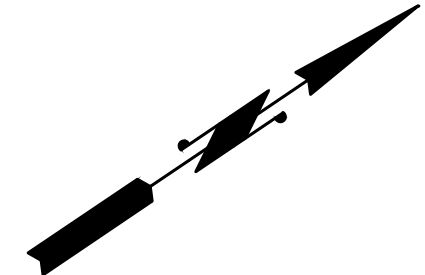
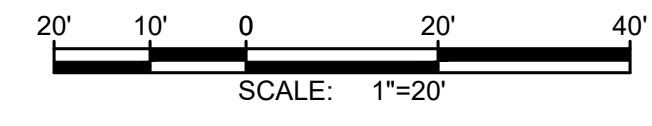
No.	DATE	REVISION
ISSUED FOR: BID		
ISSUE DATE: AUG 2024		
APPROVED BY: S. CLARKE		
CHECKED BY: M. JOHNSON		
DRAWN BY: B. HAYDEN		
DESIGNER: P. SMILEY		
G & O JOB NO.: 22249		
FILE: C-PLAN_4.DWG		



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DRAWING: **C-30** OF: **37**



NOTES:

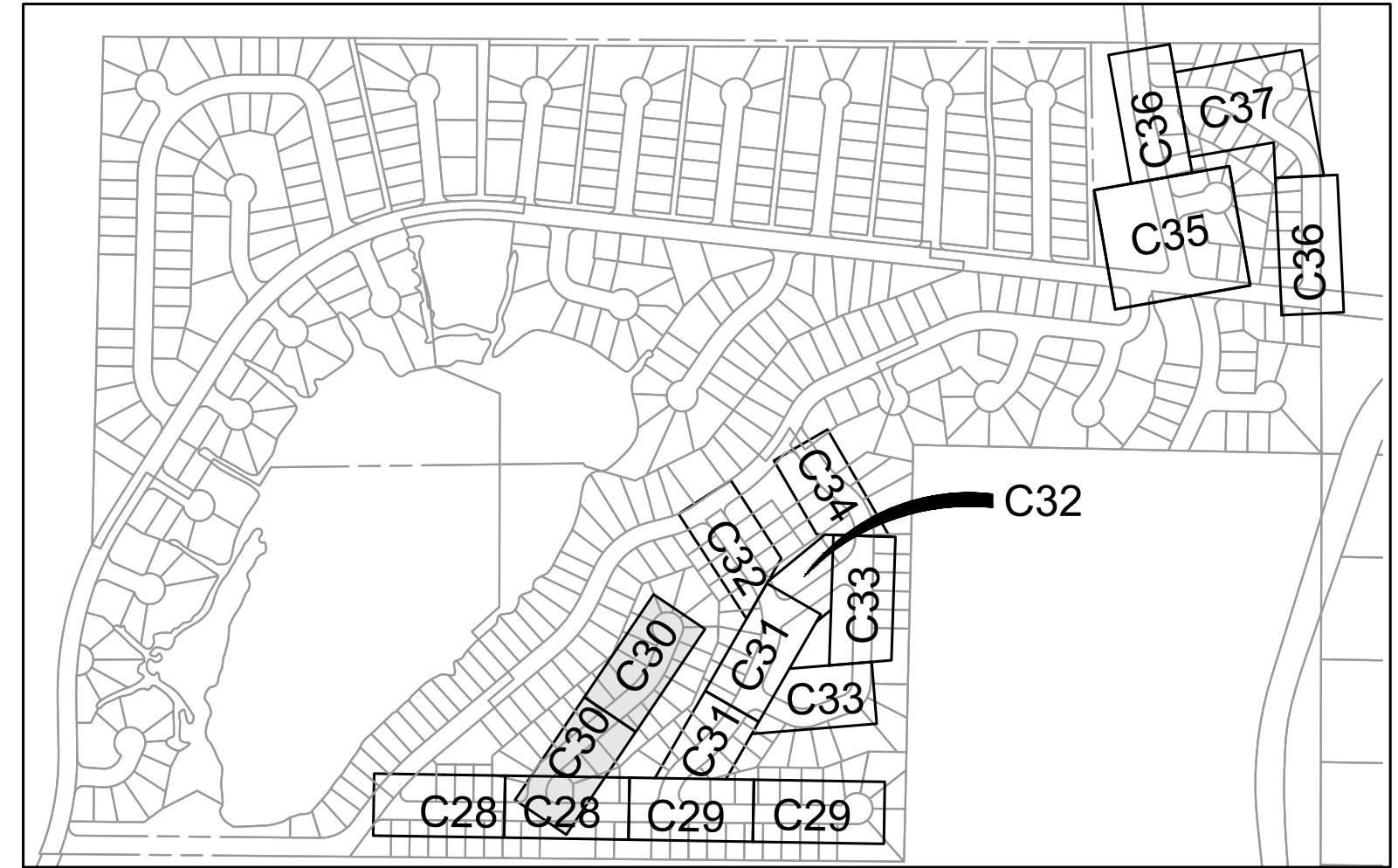
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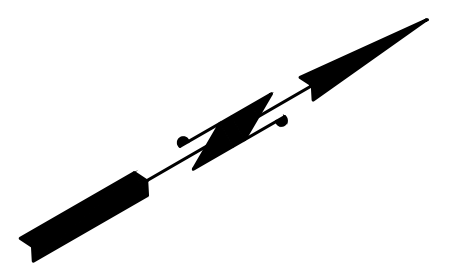
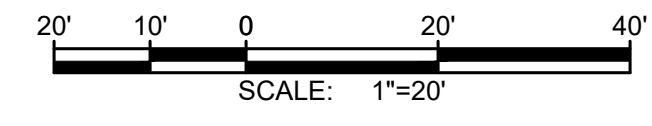
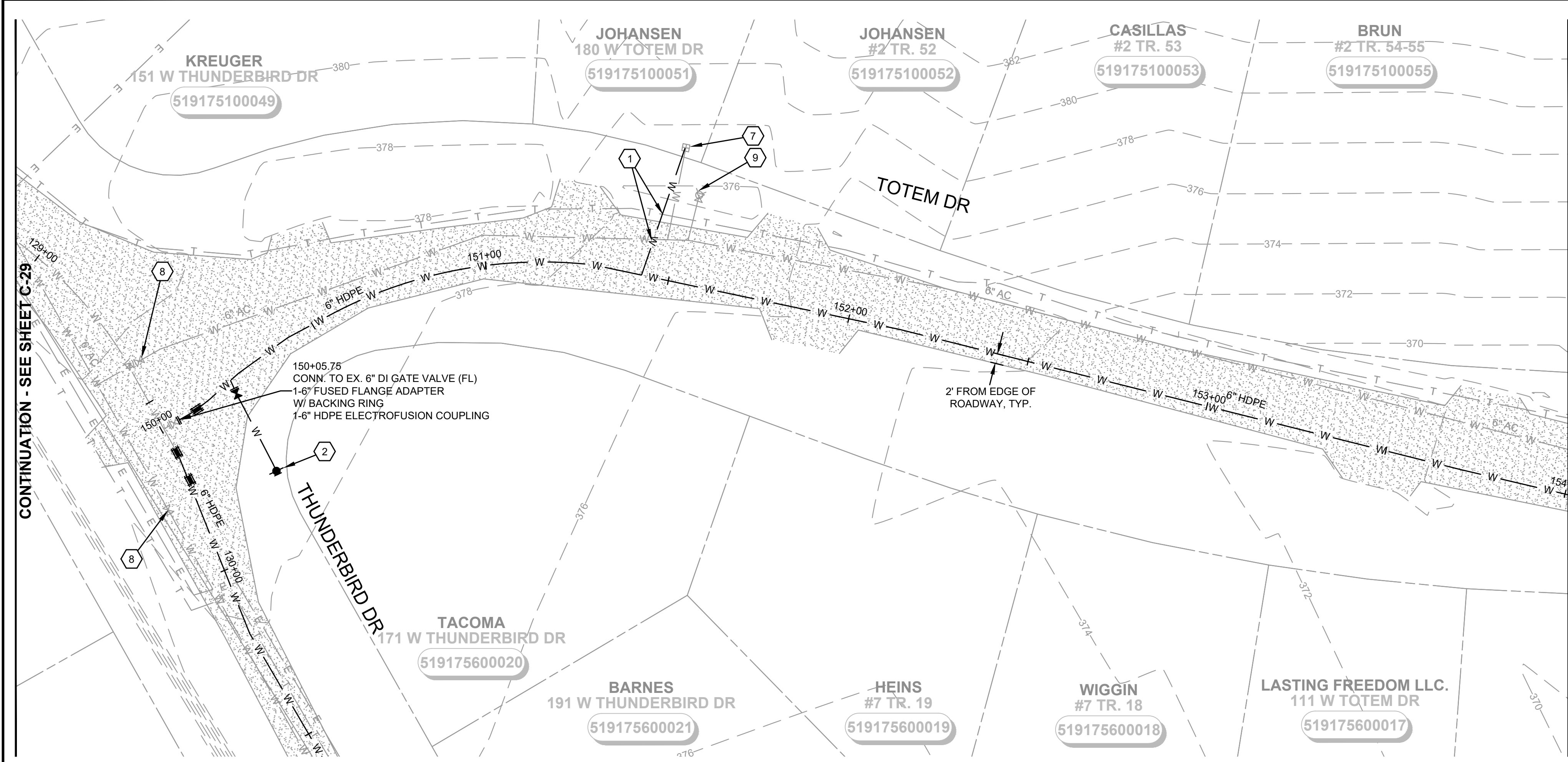
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SHEET KEY MAP
NTS

M:\Mason County PUD 1\22249.00 Lake Arrowhead Water Main Replacement\01 Design\PlanSet\Civil\C-Plan_4.dwg, 8/15/2024, 12:10 PM, PATRICK SMILEY



NOTES:

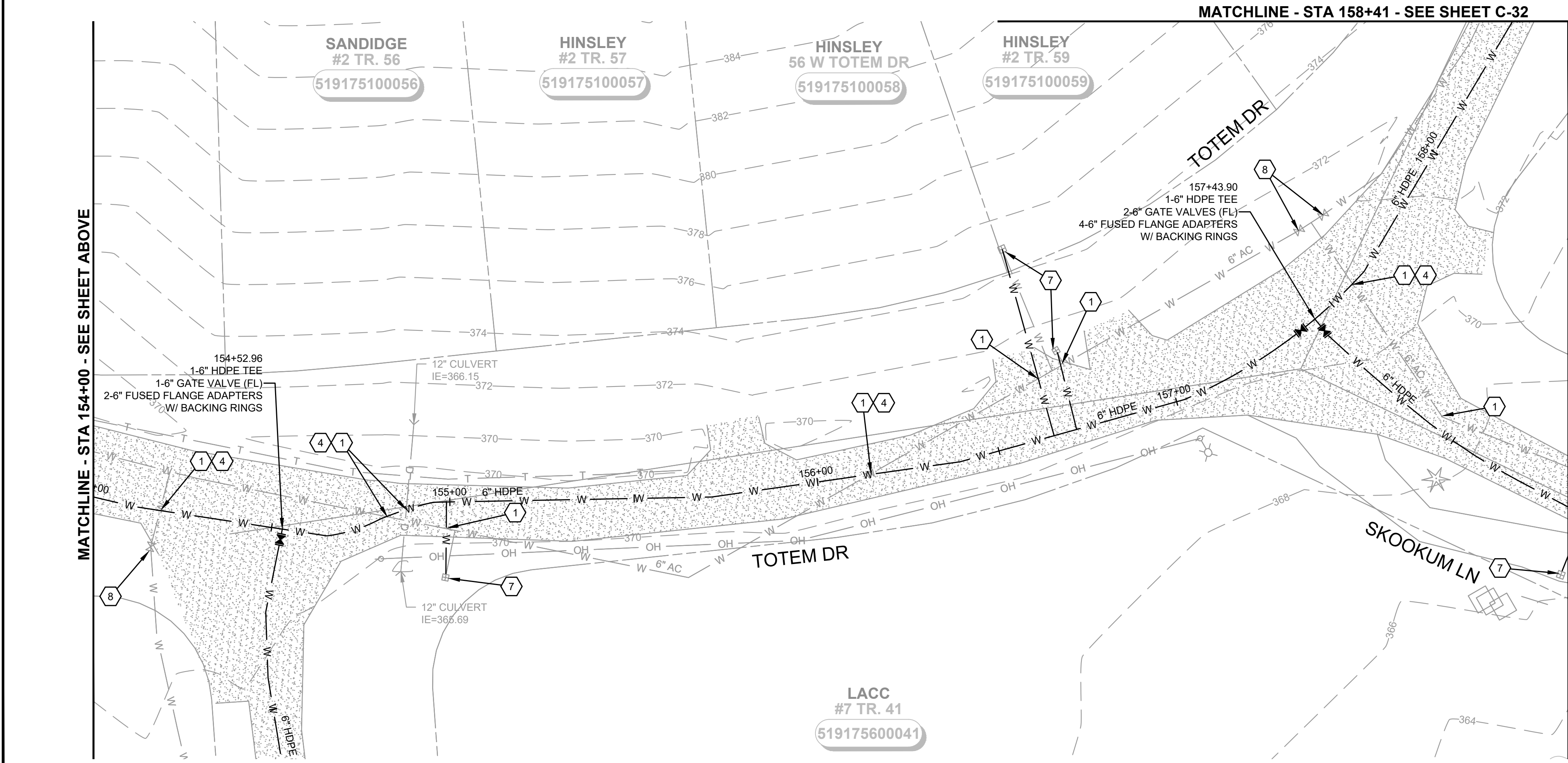
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DISTRICT TO PERFORM THE FOLLOWING:

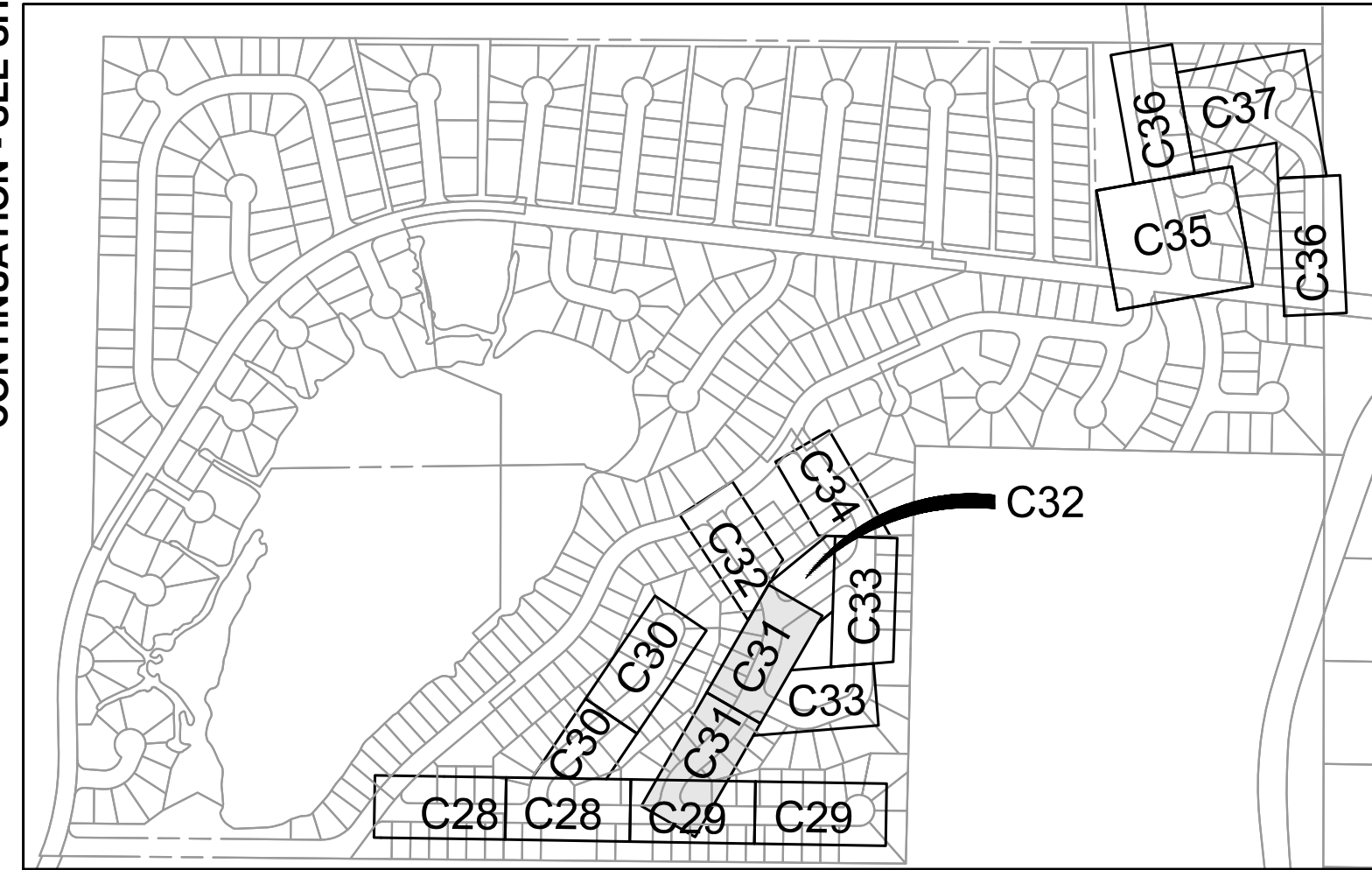
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MATCHLINE - STA 154+00 - SEE SHEET BELOW

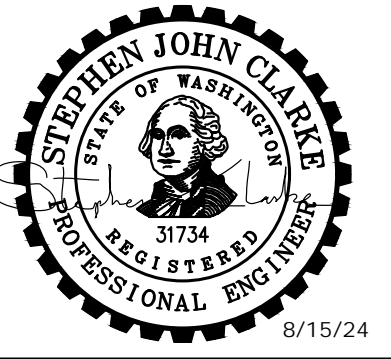
MATCHLINE - STA 158+41 - SEE SHEET C-32

CONTINUATION - SEE SHEET C-32



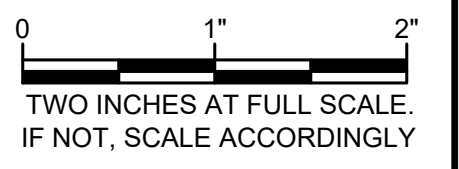
SHEET KEY MAP
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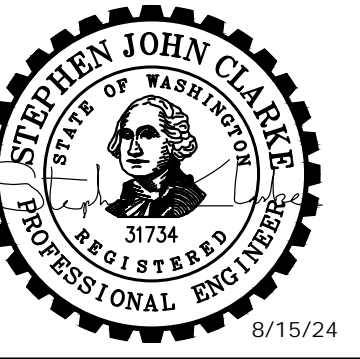
**MASON COUNTY
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ISSUED FOR: BID		
ISSUE DATE: AUG 2024		
APPROVED BY: S. CLARKE		
CHECKED BY: M. JOHNSON		
DRAWN BY: B. HAYDEN		
DESIGNER: P. SMILEY		
G & O JOB NO.: 22249		
FILE: C-PLAN_4.DWG		



CIVIL

TOTEM DR



**MASON COUNTY
 PUD 1
 LAKE ARROWHEAD
 WATER MAIN
 REPLACEMENT**
 160 W SATSOP CLOUALLUM
 RD., ELMA, WA 98541

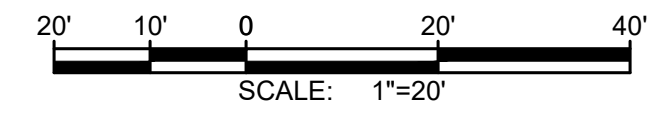
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G & O JOB NO.: 22249		
FILE: C-PLAN_4.DWG		

0 1" 2"
 TWO INCHES AT FULL SCALE.
 IF NOT, SCALE ACCORDINGLY

CIVIL

**TOTEM DR AND
 SKOOKUM LN**

DRAWING: **C-32** OF: **37**



NOTES:

- SEE EROSION CONTROL NOTES, SHEET D-1. EROSION CONTROL SHOWN FOR CLARITY ONLY, CONTRACTOR SHALL MEET ALL REGULATORY REQUIREMENTS.
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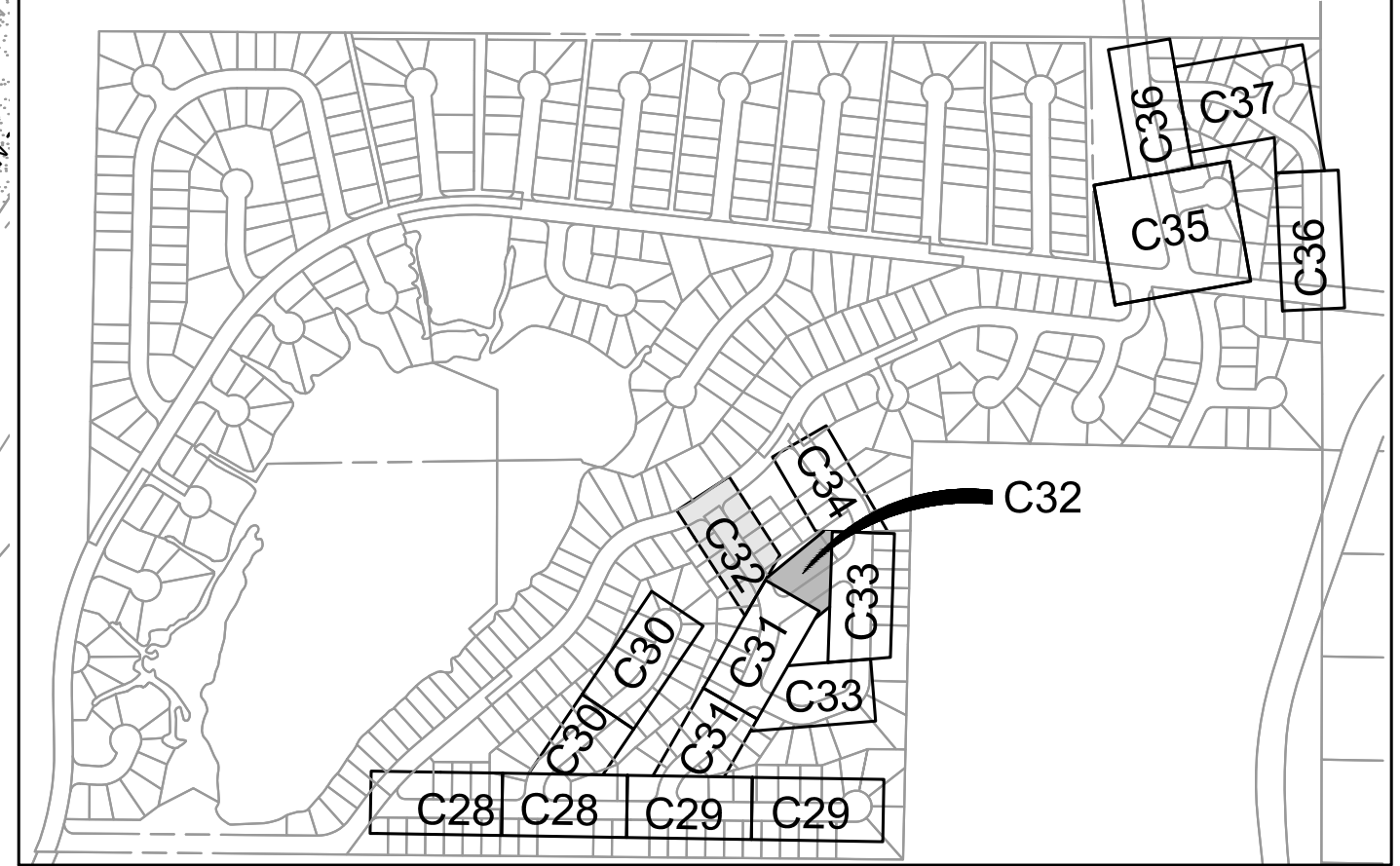
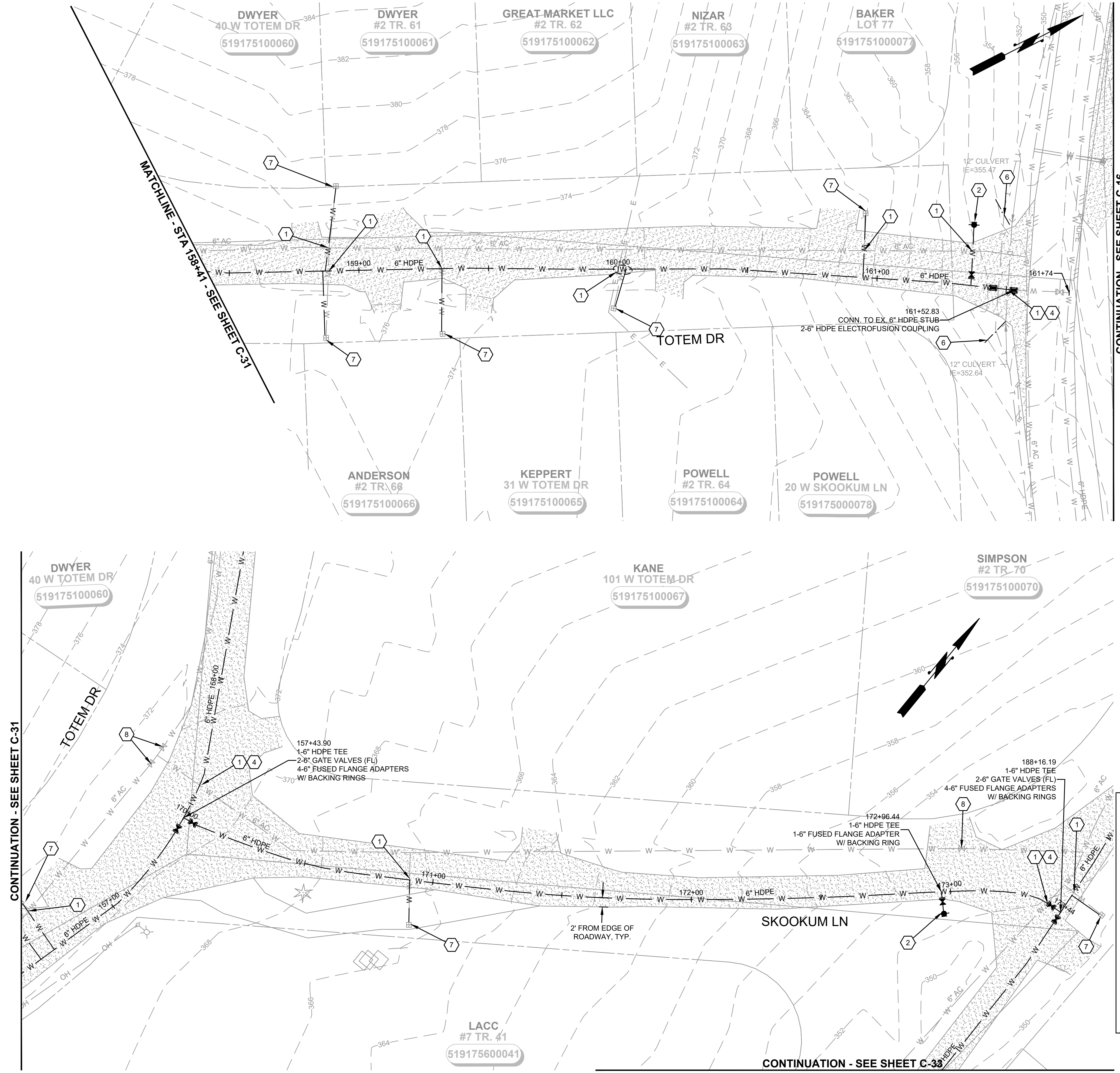
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- INSTALL CAP WITH THRUST BLOCK.
- PLUG EXISTING MAIN WITH LEAN CONCRETE TO A MIN. OF 2 DIAMETERS.

CONTINUATION - SEE SHEET C-16

CONTINUATION - SEE SHEET C-31

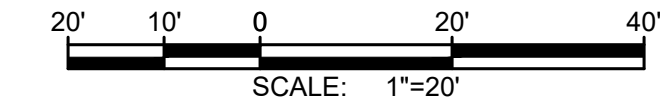


SHEET KEY MAP
 NTS

CONTINUATION - SEE SHEET C-31

MATCHLINE - STA 184+71 - SEE SHEET BELOW

LACC #7 TR. 41
519175600041



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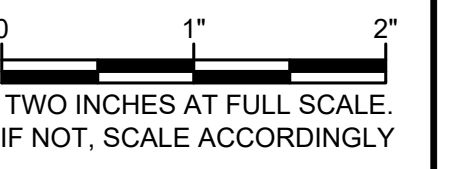
Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860



**MASON COUNTY
PUD 1
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RD., ELMA, WA 98541

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 FILE: C-PLAN_4.DWG



CIVIL

PUYALLUP DR (1)

DRAWING: C-33 OF 37

M:\Mason County PUD 1\22249.00 Lake Arrowhead Water Main Replacement\01 Design\PlanSet\Civil\C-Plan_4.dwg, 8/15/2024, 12:11 PM, PATRICK SMILEY

CONTINUATION - SEE SHEET C-32

LACC #7 TR. 41
519175600041

SIMPSON #2 TR. 70
519175100070

MATCHLINE - STA 188+81 - SEE SHEET C-34

MATCHLINE - STA 184+71 - SEE SHEET ABOVE

KROHN-
10 W PUYALLUP
519175600016

MORTON #7 TR. 13
519175600013

GREAT MARKET LLC
60 W PUYALLUP DR
519175600011

LACC #7 TR. 41
519175600041

CHRYSTAL
110 W PUYALLUP DR
519175600008

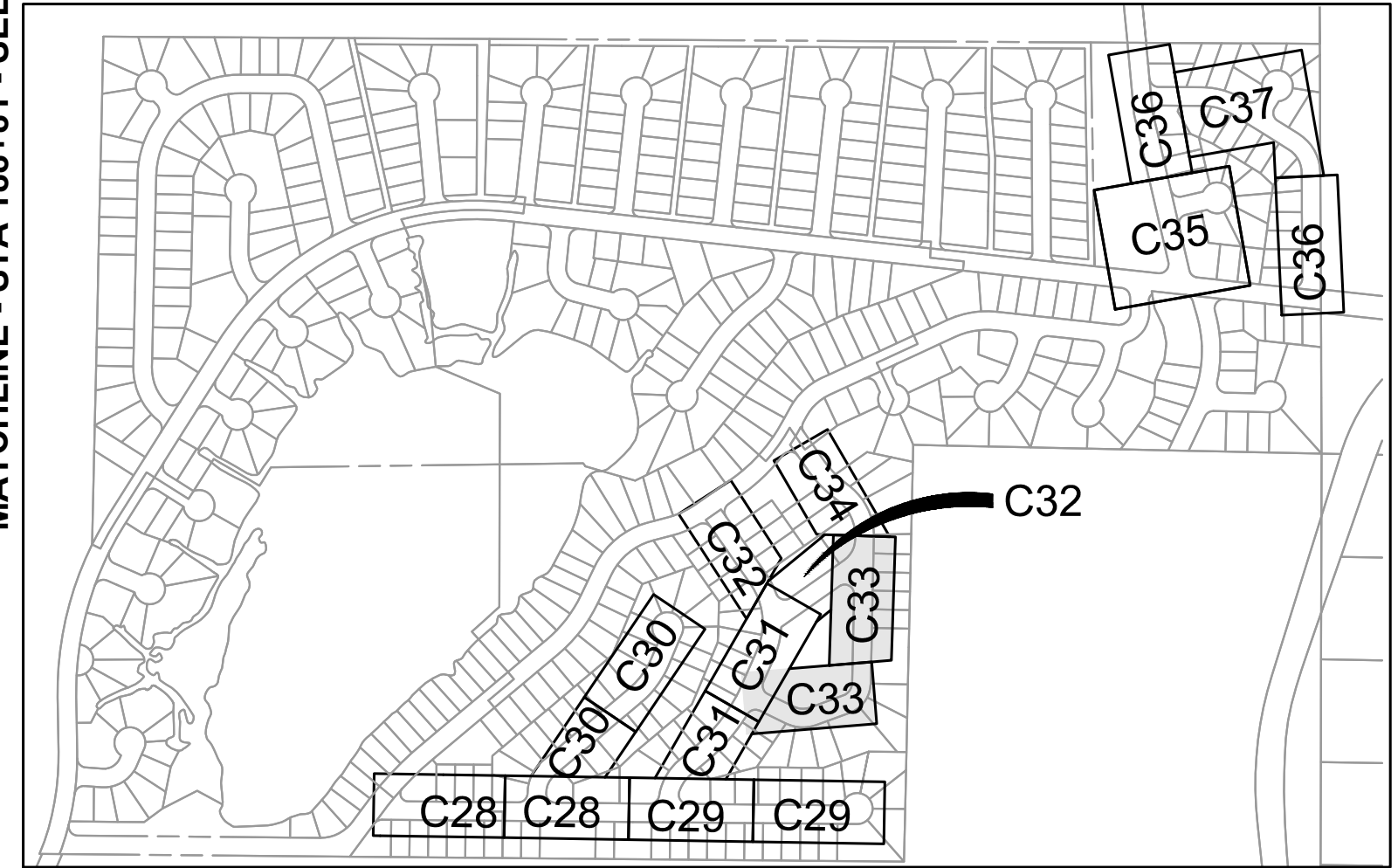
GREAT MARKET LLC.
#7 TR. 5
519175600005

IKERD
#7 TR. 4
519175600004

TUCKER
#7 TR. 3
519175600003

CHAMBERLIN
20 W PUYALLUP DR
519175600002

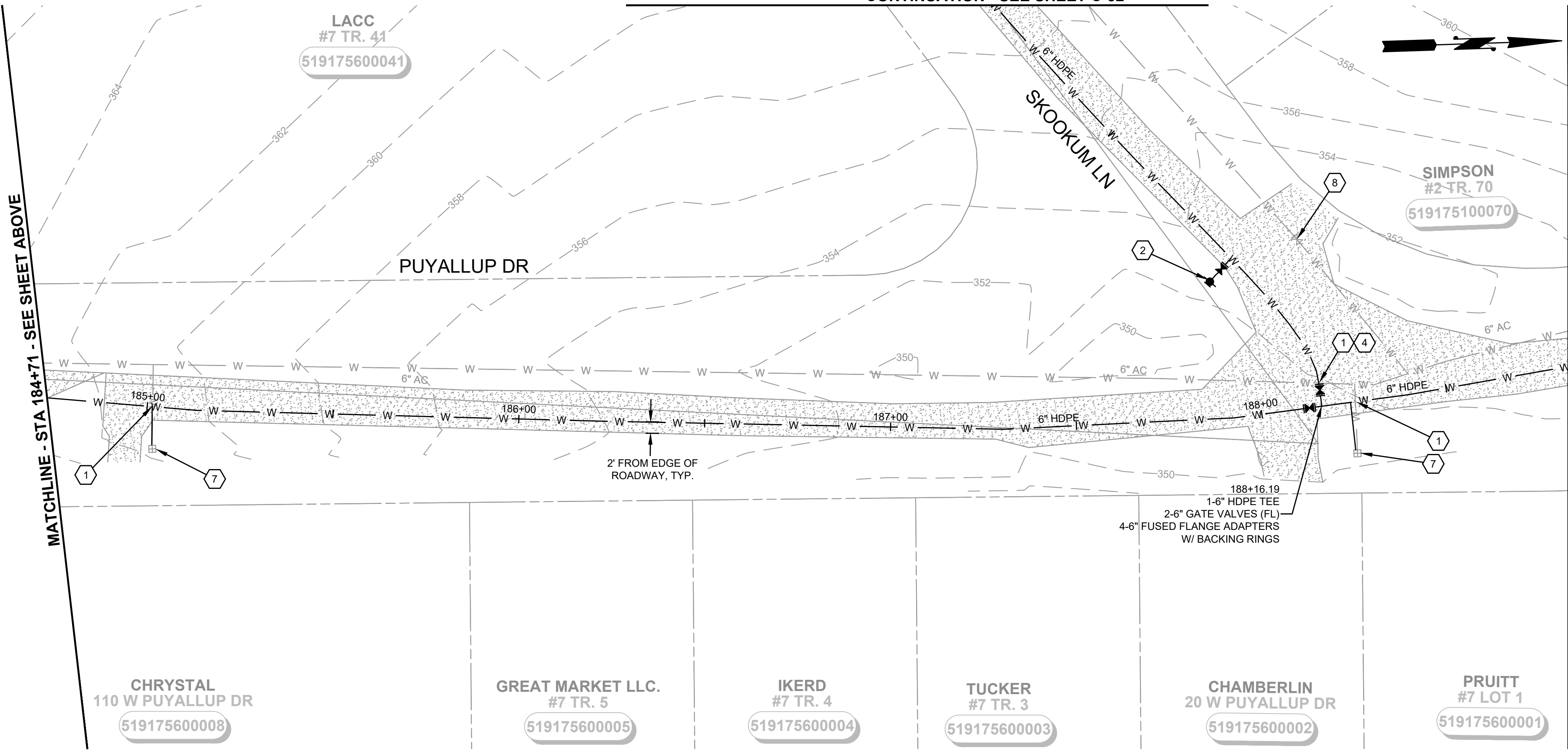
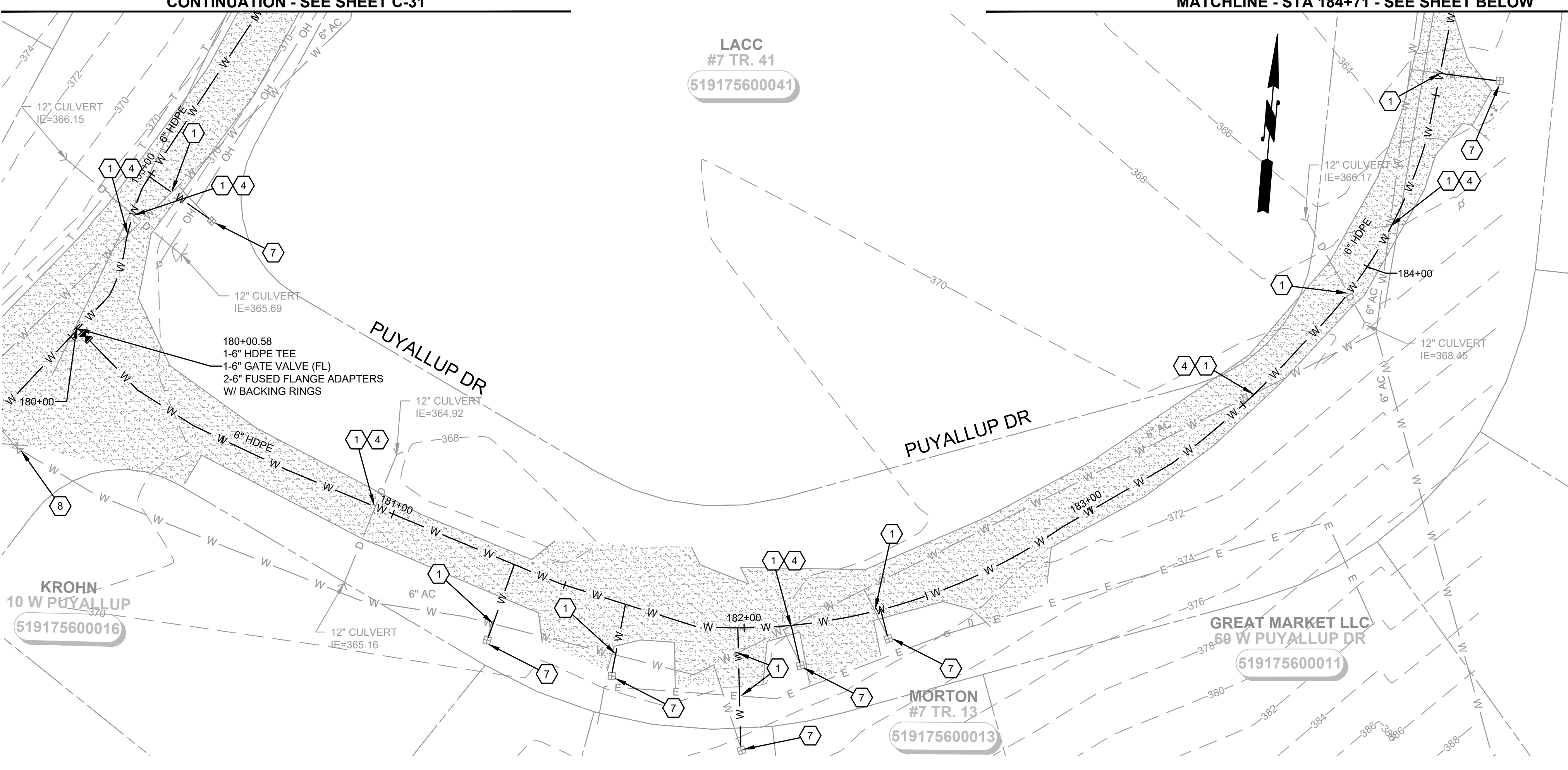
PRUITT
#7 LOT 1
519175600001



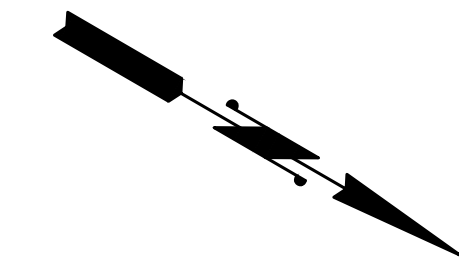
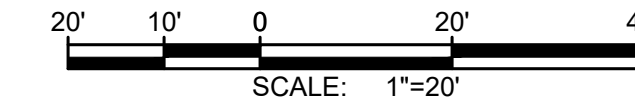
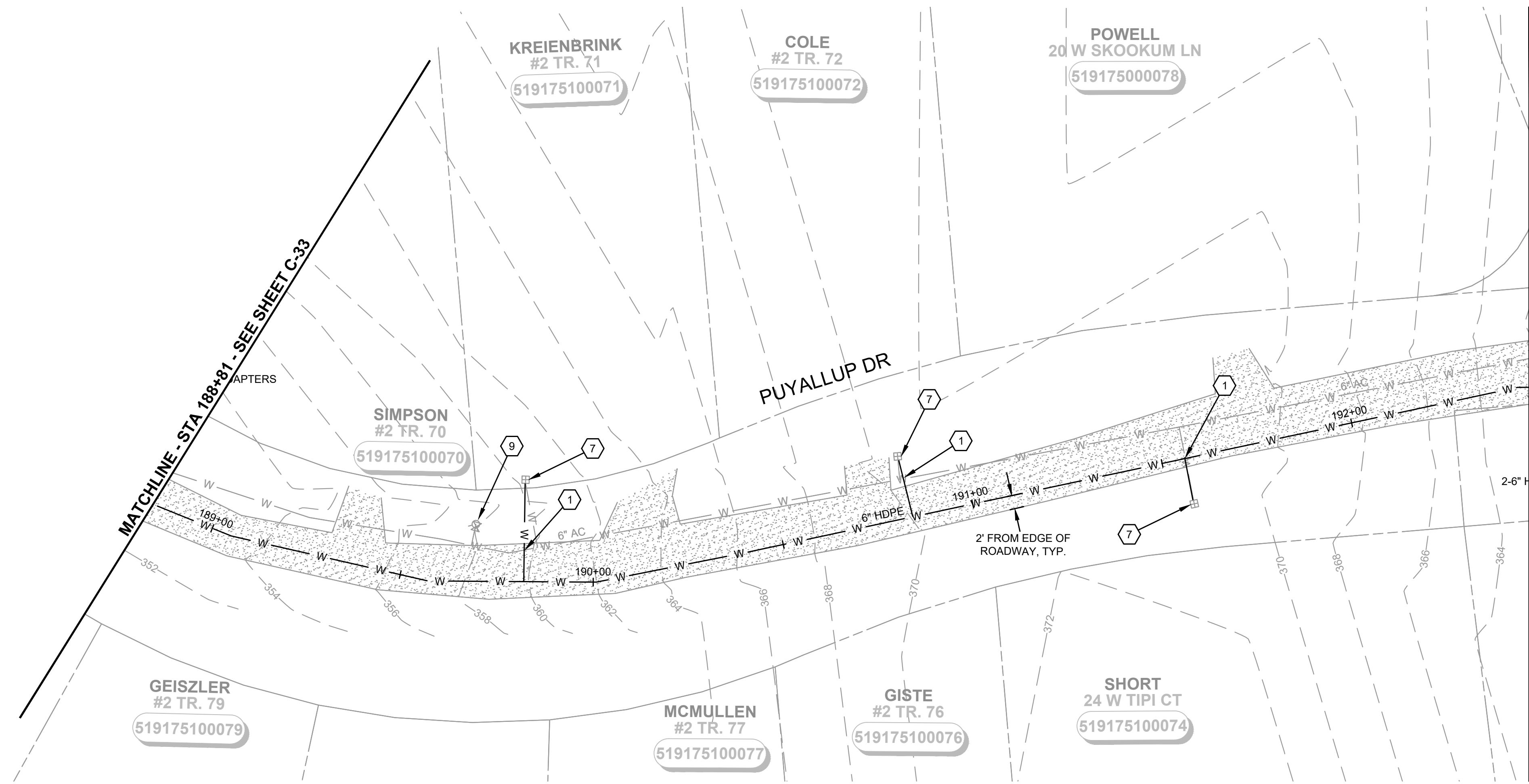
SHEET KEY MAP
NTS

188+16.19
1-6" HDPE TEE
2-6" GATE VALVES (FL)
4-6" FUSED FLANGE ADAPTERS
W/ BACKING RINGS

2' FROM EDGE OF
ROADWAY, TYP.



M:\Mason County PUD 1\22249.00 Lake Arrowhead Water Main Replacement\01 Design\PlanSet\Civil\C-Plan_4.dwg, 8/15/2024, 12:11 PM, PATRICK SMILEY



NOTES:

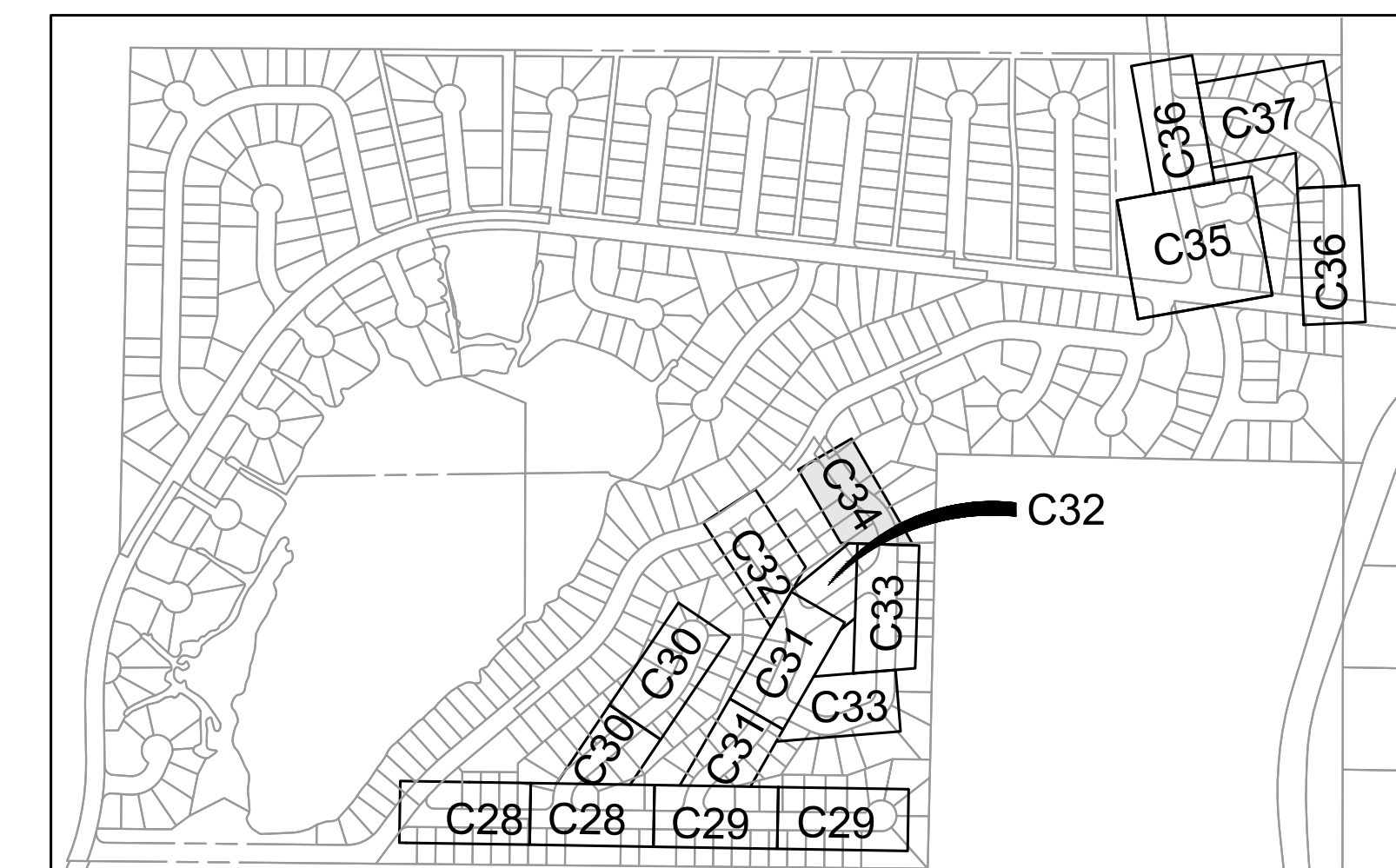
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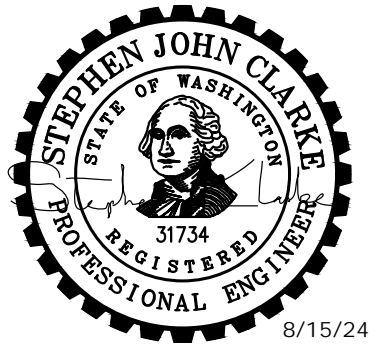
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SHEET KEY MAP

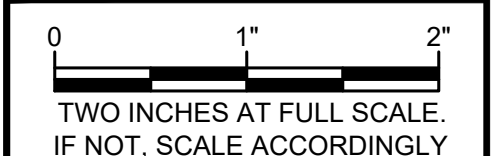
NTS



**MASON COUNTY
PUD 1
LAKE ARROWHEAD
WATER MAIN
REPLACEMENT**
160 W SATSOP CLOUALLUM
RD., ELMA, WA 98541

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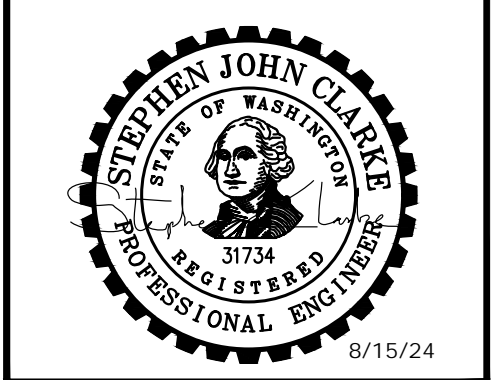
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CIVIL

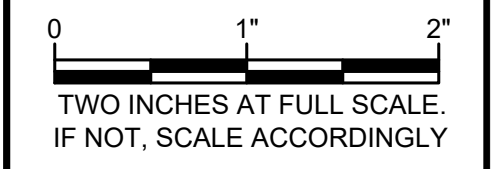
PUYALLUP DR (2)

DRAWING: **C-34** OF: **37**



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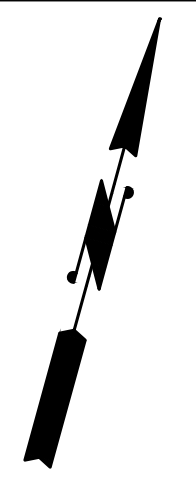
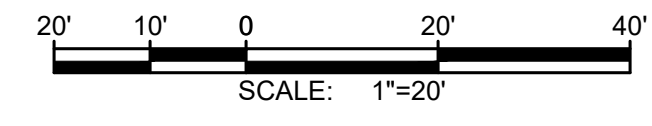


CIVIL

W STAR LAKE DR AND MOWITCH CIRCLE

DRAWING: **C-35** OF: **37**

MATCHLINE - STA 303+13 - SEE SHEET C-36



NOTES:

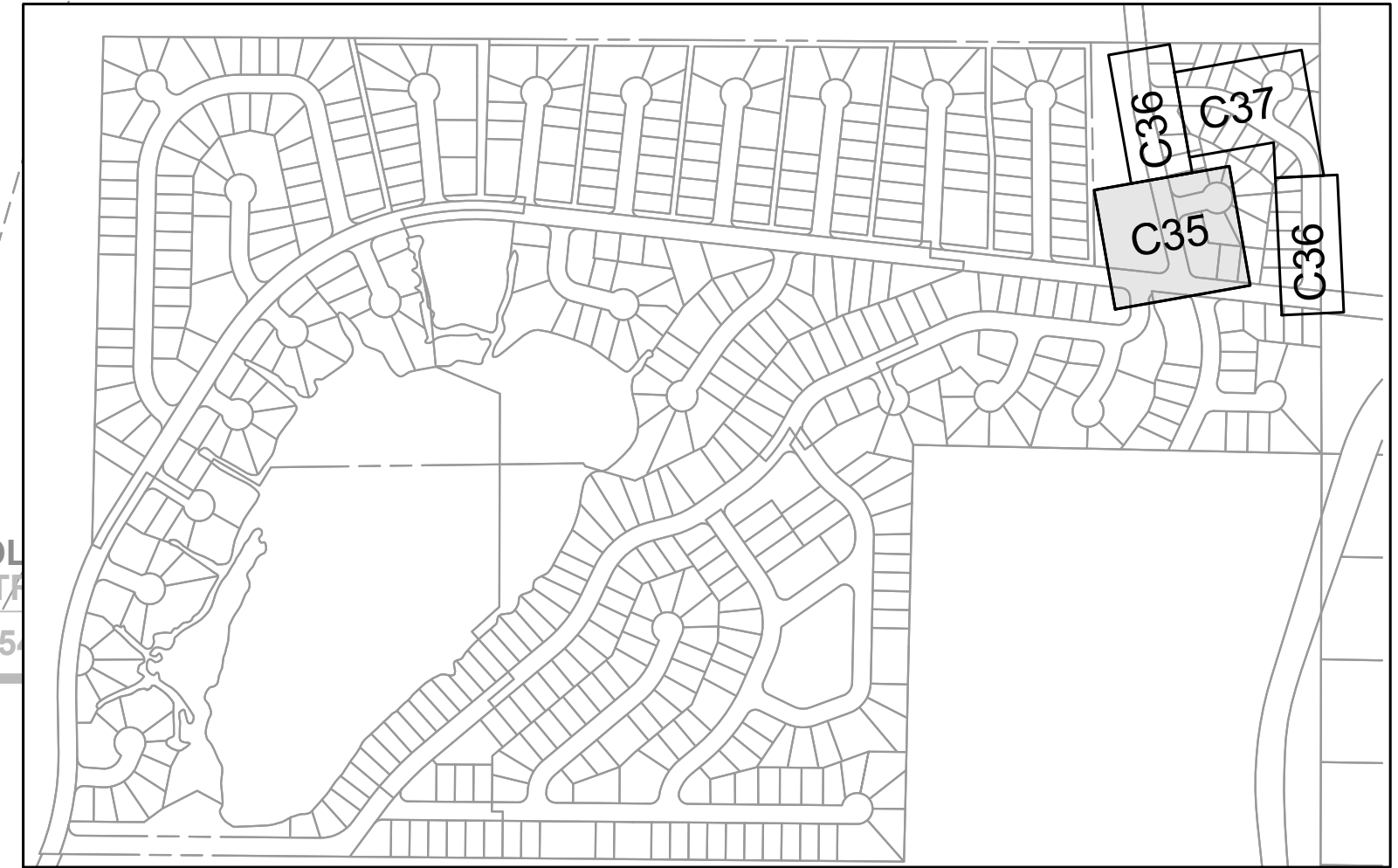
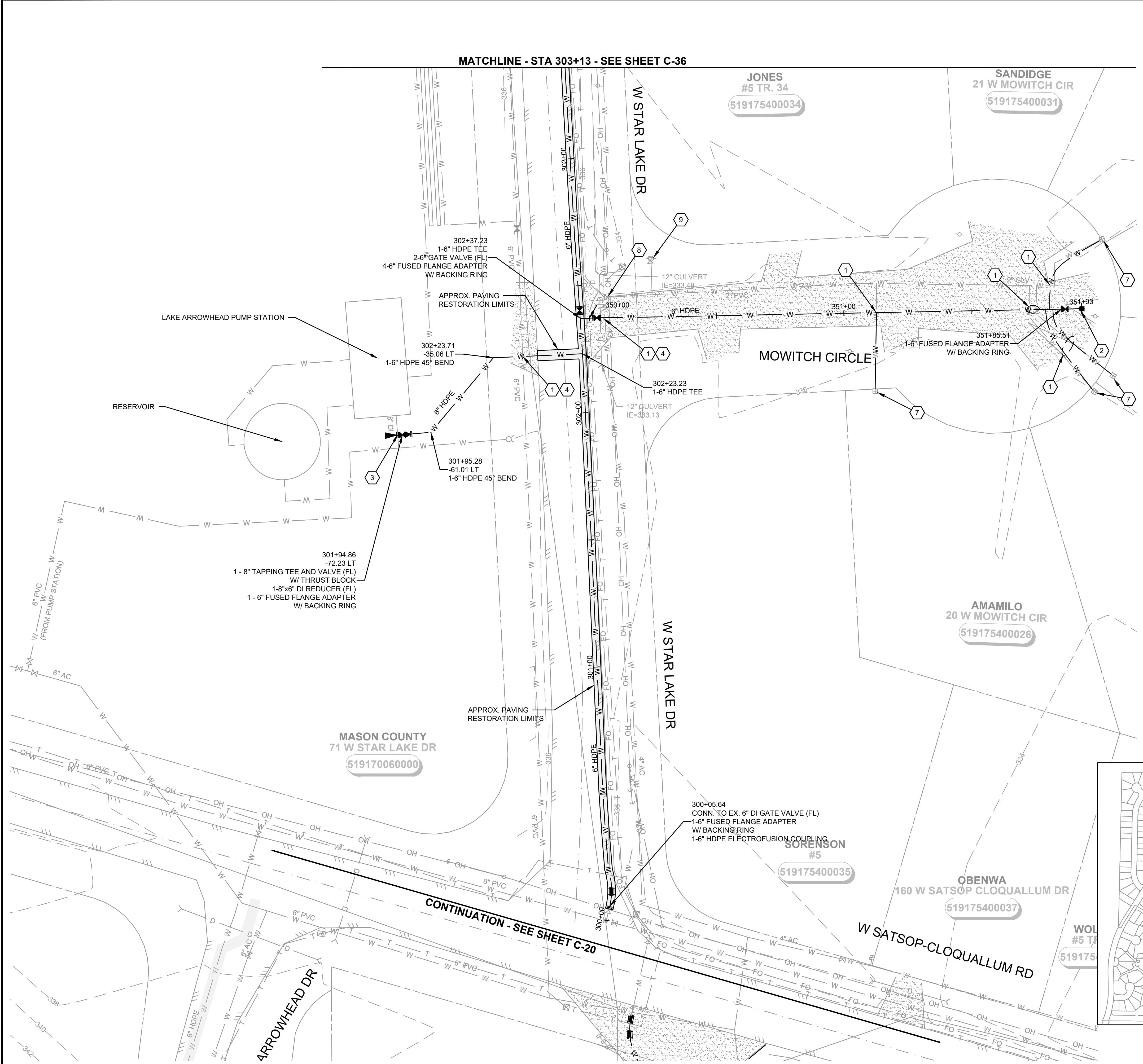
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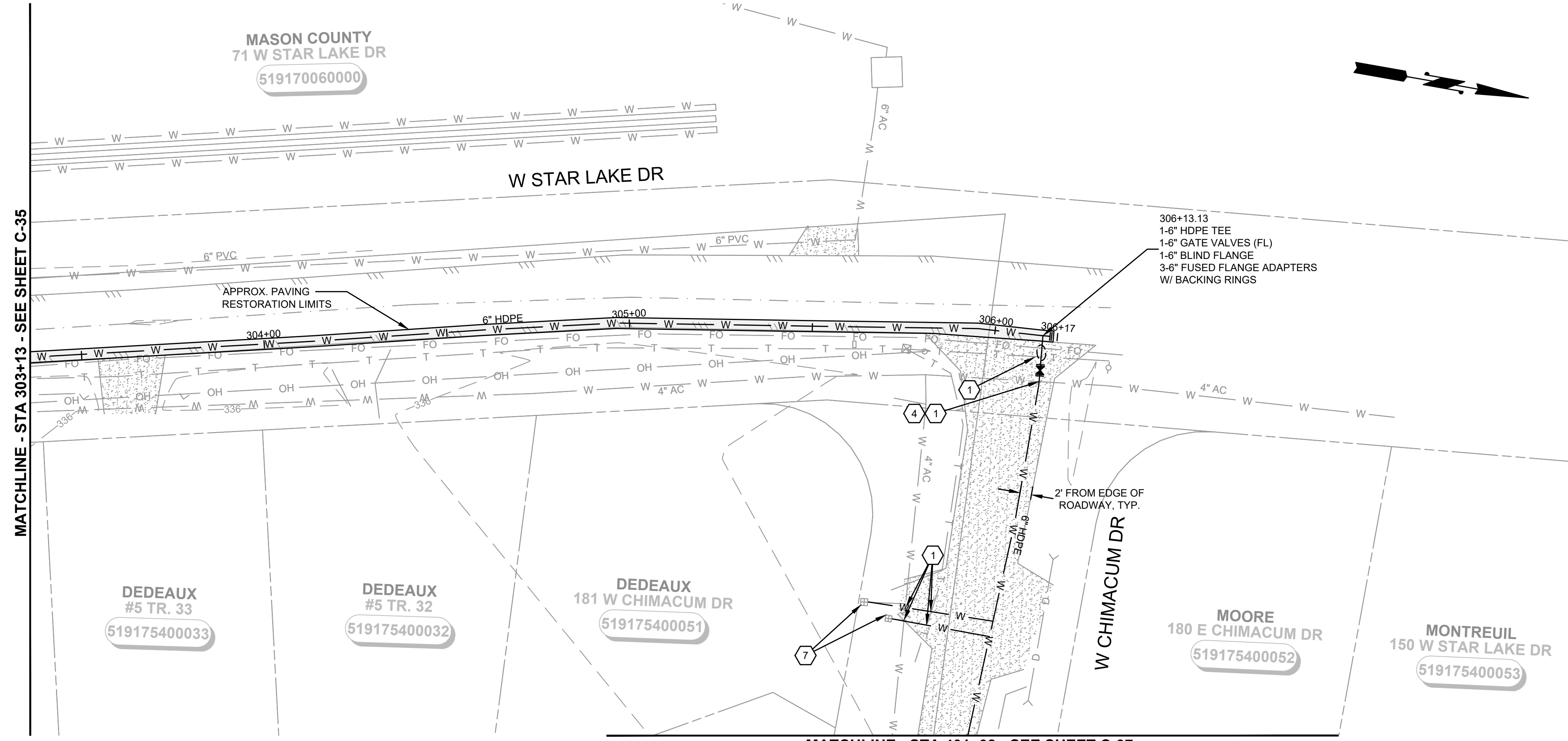


SHEET KEY MAP
NTS

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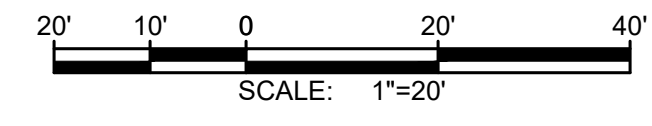
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MASON COUNTY
71 W STAR LAKE DR
519170060000



MATCHLINE - STA 303+13 - SEE SHEET C-35

MATCHLINE - STA 401+08 - SEE SHEET C-37



NOTES:

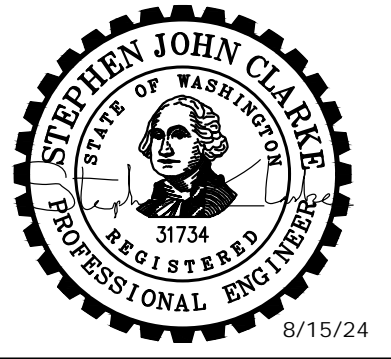
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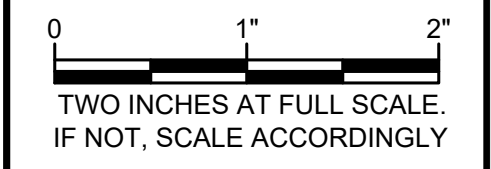
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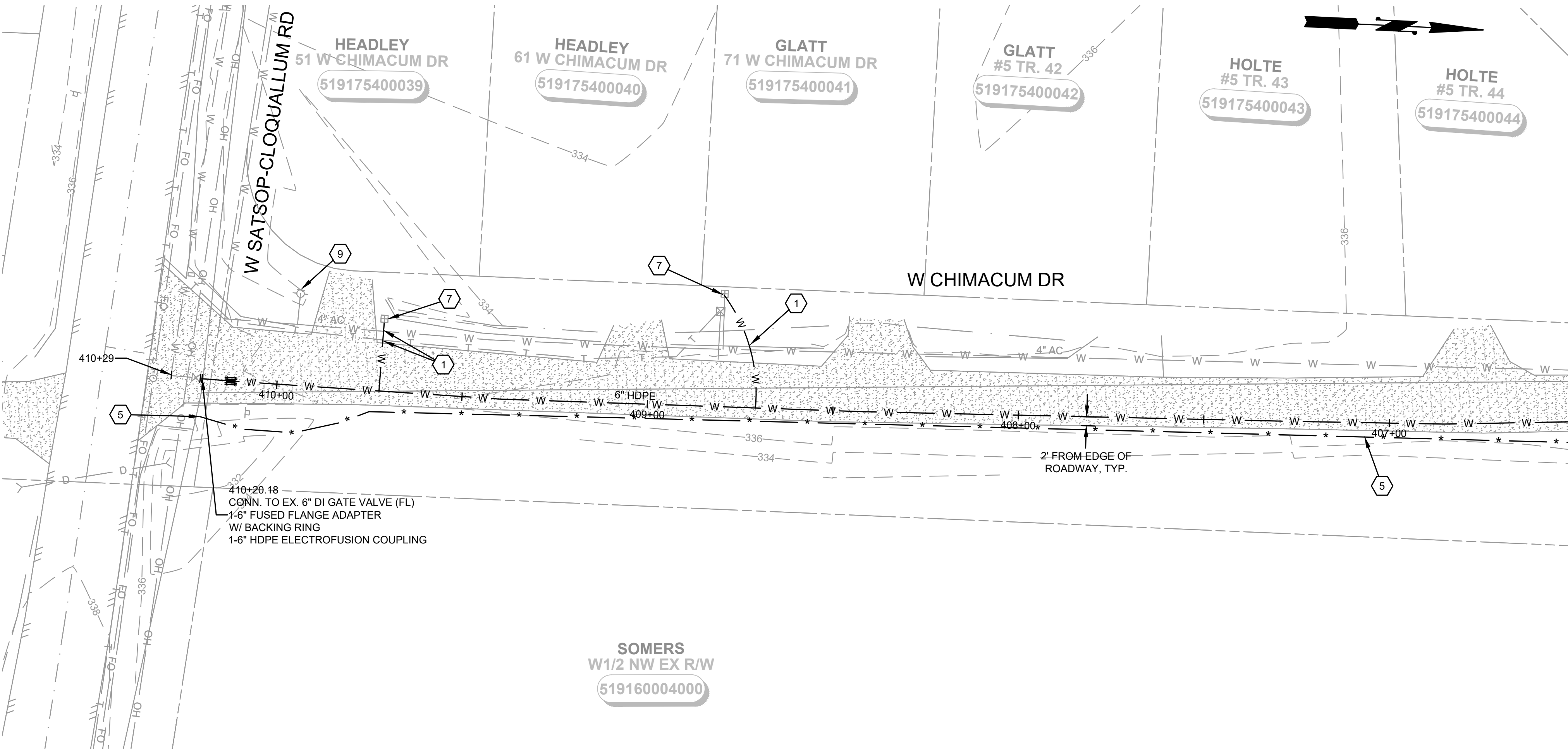
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DRAWN BY: B. HAYDEN		
DESIGNER: P. SMILEY		
G & O JOB NO.: 22249		
FILE: C-PLAN_4.DWG		



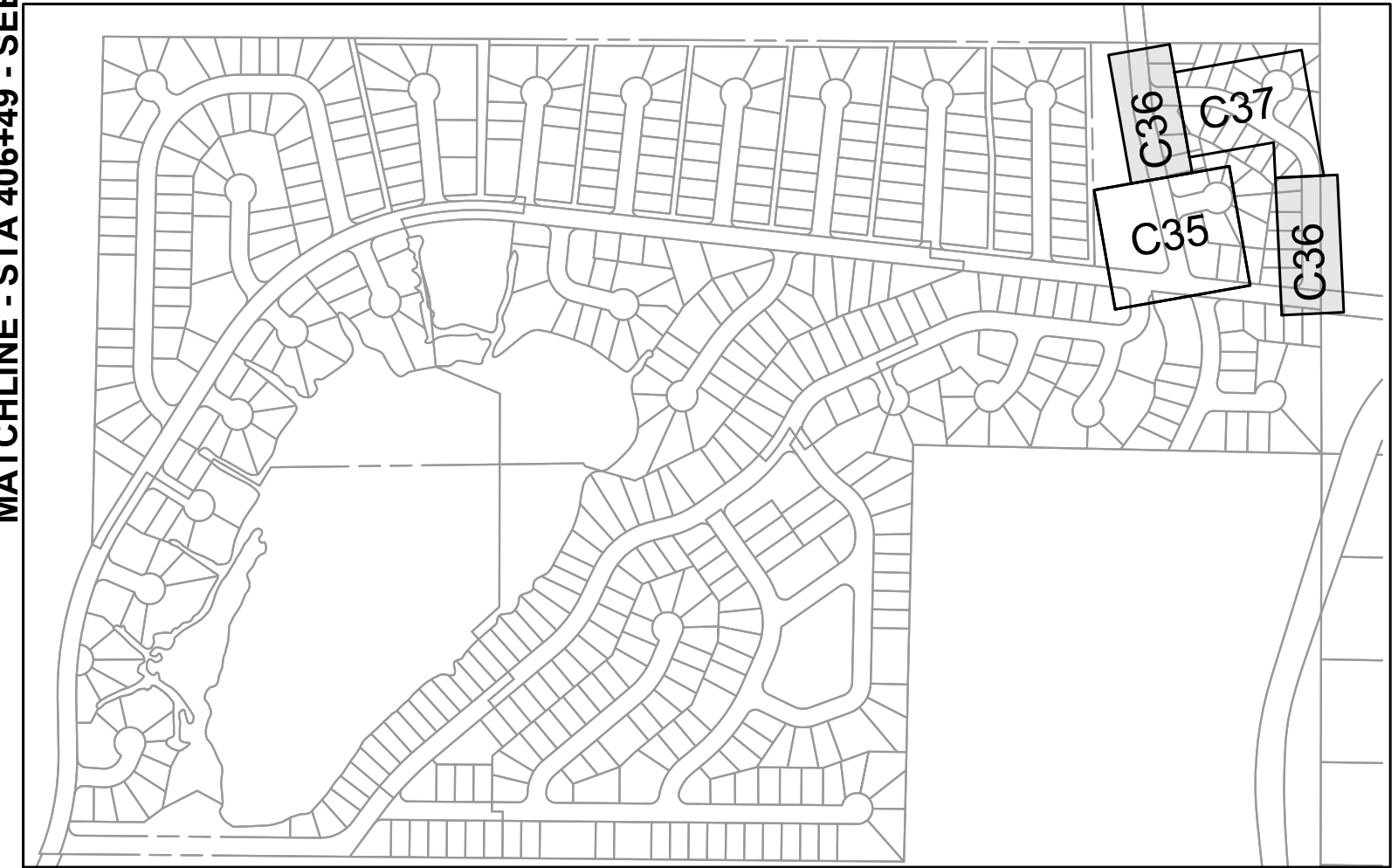
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DRAWING: **C-36** OF: **37**

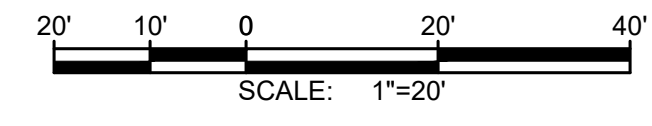
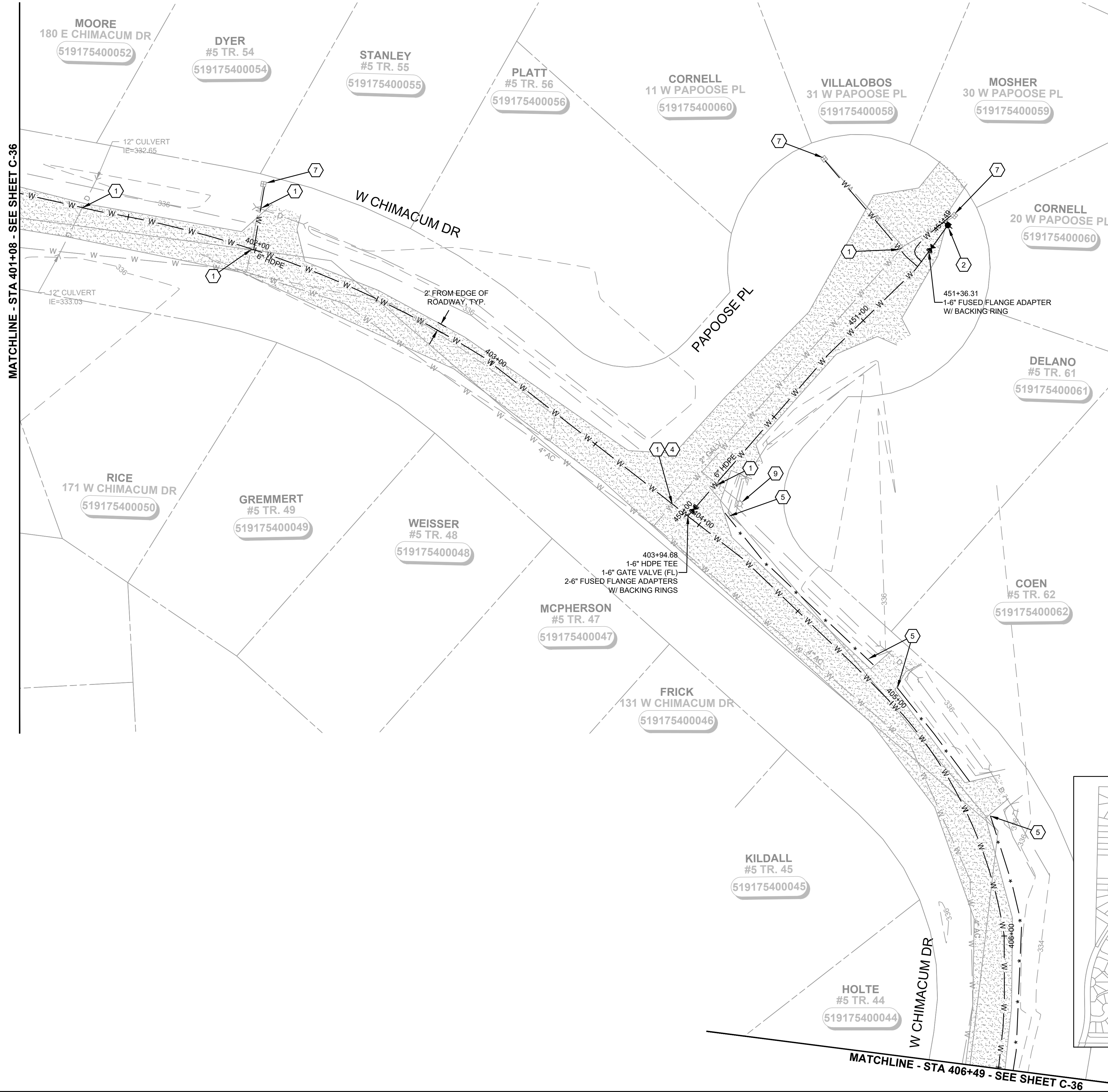


MATCHLINE - STA 406+49 - SEE SHEET C-37



SHEET KEY MAP
NTS

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NOTES:

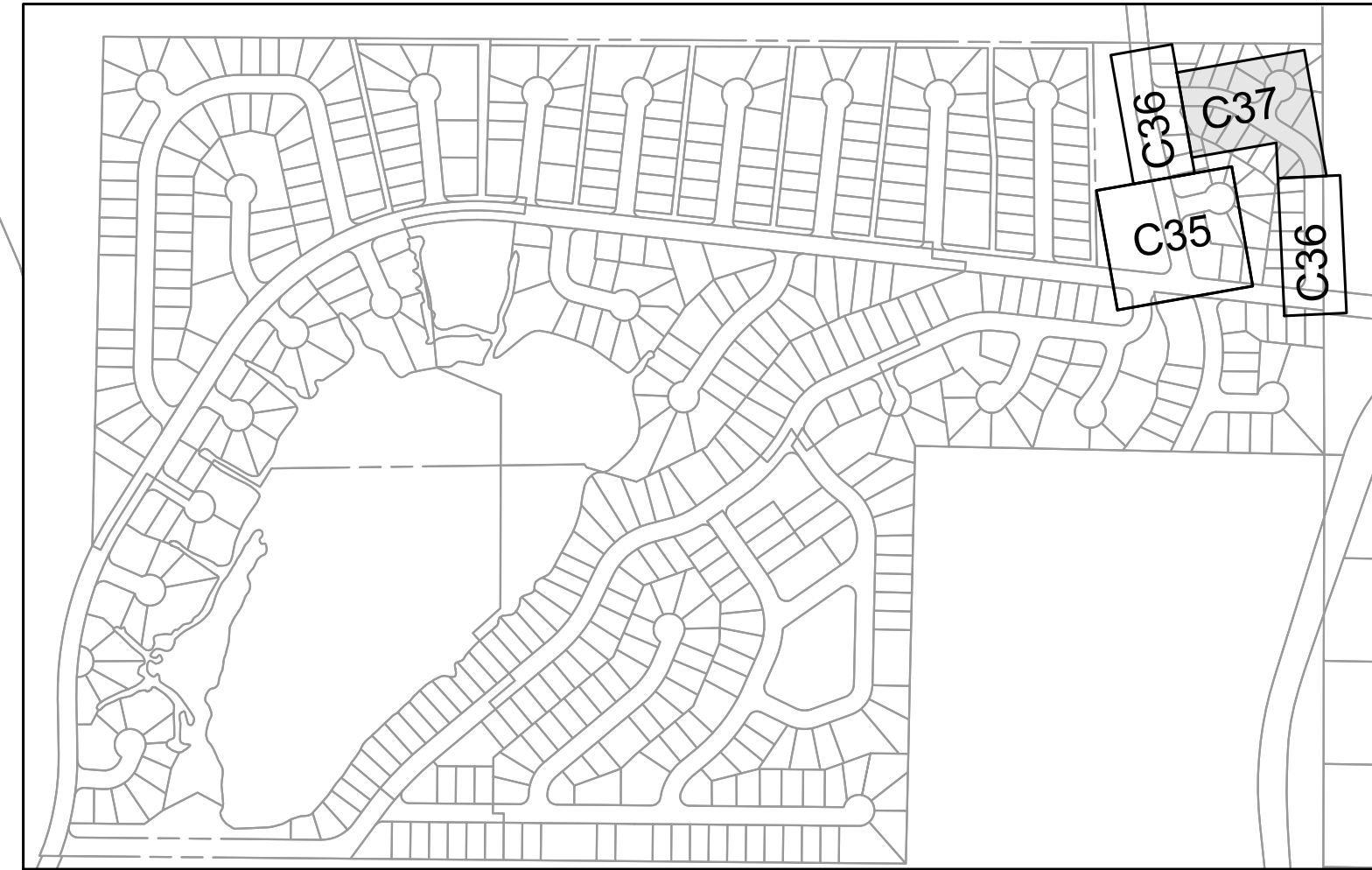
1. SEE EROSION CONTROL NOTES, SHEET D-1. EROSION CONTROL SHOWN FOR CLARITY ONLY, CONTRACTOR SHALL MEET ALL REGULATORY REQUIREMENTS.
2. BURIED UTILITIES (WHERE KNOWN) ARE SHOWN IN THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL HAVE UTILITIES VERIFIED ON THE GROUND PRIOR TO CONSTRUCTION. NOTIFY THE UNDERGROUND UTILITIES LOCATE CENTER: CALL 811.
3. TREES TO REMAIN UNLESS NECESSARY FOR CONSTRUCTION.
4. WATER MAIN TRENCH PER DETAIL 1, SHEET D-2.
5. ABANDON EXISTING WATER MAIN IN PLACE AFTER NEW HDPE WATER MAIN CONNECTIONS HAVE BEEN CONSTRUCTED.
6. NOTIFY DISTRICT 72 HOURS IN ADVANCE OF ALL WATER SHUT DOWNS. SHUT DOWNS WILL NOT BE ALLOWED FRIDAY THROUGH MONDAY, OR ON HOLIDAYS.
7. TRENCH REPAIR SHALL BE TO MATCH EXISTING SURFACE (ASPHALT, GRAVEL, HYDROSEEDING), PER DETAILS 2, 3, 4, SHEET D-2. MAXIMUM 4' RESTORATION WIDTH.
8. DO NOT MAKE CONNECTIONS UNTIL A SUCCESSFUL PURITY AND PRESSURE TEST OF THE NEW WATER SYSTEM HAS BEEN WITNESSED AND APPROVED BY OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF CHLORINATED WATER IN A METHOD THAT COMPLIES WITH ALL STATE AND FEDERAL REGULATIONS. CONTRACTOR SHALL SUBMIT A DISPOSAL PLAN TO THE DISTRICT PRIOR TO FILLING OF WATER MAINS. CONTRACTOR TO VERIFY CONNECTION REQUIREMENTS.

CONSTRUCTION NOTES:

- ① CAUTION: POTENTIAL UTILITY CONFLICT. POT HOLE TO DETERMINE EXACT LOCATION AND DEPTH OF THE EXISTING UTILITIES PRIOR TO CONSTRUCTION. ANY DISCREPANCIES FOUND IN THE FIELD FROM THOSE SHOWN HEREIN SHALL BE REPORTED TO THE OWNER PRIOR TO COMMENCING THE WORK. PROTECT EXISTING UTILITY DURING INSTALLATION OF NEW WATER MAIN.
- ② INSTALL FIRE HYDRANT ASSEMBLY PER DETAIL 5, SHEET D-2, FINAL LOCATION TO BE APPROVED BY DISTRICT.
- ③ CONNECT TO EXISTING MAIN WITH WET TAP AND TAPPING GATE VALVE AS PER DETAIL 3, SHEET D-3. CONTRACTOR TO VERIFY SIZE AND DEPTH OF EXISTING MAIN BEFORE MAKING CONNECTION.
- ④ INSTALL NEW WATER MAIN UNDER EXISTING UTILITY, EXTRA DEPTH MAY BE REQUIRED. CONTRACTOR TO VERIFY.
- ⑤ INSTALL SILT FENCE PER DETAIL 1, SHEET D-1.
- ⑥ INSTALL STRAW WATTLE DAM PER DETAIL 2, SHEET D-1.
- ⑦ INSTALL WATER SERVICE CONNECTION PER DETAIL 4, SHEET D-3.

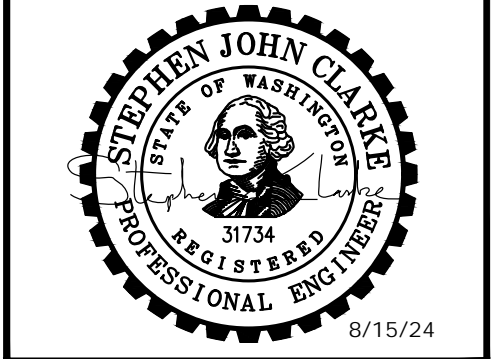
DISTRICT TO PERFORM THE FOLLOWING:

- ⑧ CLOSE VALVE, REMOVE VALVE BOX AND FILL WITH LEAN CONCRETE.
- ⑨ REMOVE AND WASTEHAUL FIRE HYDRANT.
- ⑩ INSTALL CAP WITH THRUST BLOCK.
- ⑪ PLUG EXISTING MAIN WITH LEAN CONCRETE TO A MIN. OF 2 DIAMETERS.



SHEET KEY MAP
NTS

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1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860



MASON COUNTY PUD 1
LAKE ARROWHEAD WATER MAIN REPLACEMENT
160 W SATSOP CLOUALLUM RD., ELMA, WA 98541

No.	DATE	REVISION

ISSUED FOR: _____

ISSUE DATE: AUG 2024

APPROVED BY: S. CLARKE

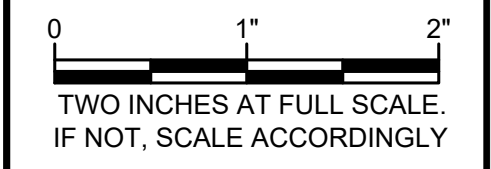
CHECKED BY: M. JOHNSON

DRAWN BY: B. HAYDEN

DESIGNER: P. SMILEY

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