

APPLICATION FOR PERMIT FOR INSTALLATION OF UTILITIES OR PLACING OBSTRUCTIONS ON THE COUNTY HIGHWAY SYSTEM
ALL APPLICANTS MUST BE REGISTERED PRIOR TO PERMIT APPROVAL

APPLICANT NAME

Terra Tech

CONTACT PERSON

Jeremy Wegleitner

ADDRESS

479 Apollo Dr Suite 50

CITY

Lino Lakes

PHONE NUMBER

6513366557

EMAIL

jwegleitner@terratechllc.net

COMPANY OR INDIVIDUAL PERFORMING WORK

Michels Underground

CONTACT PERSON

Jason Umbreit

EMAIL

jumbreit@michels.us

PHONE NUMBER

651.900.0023

PERMIT WORK TO START

03/24/2025

TERR-1014949

PERMIT WORK TO BE COMPLETED

09/30/2025

DURATION OF JOB

4 days

ARE YOU BEING ASKED TO RELOCATE DUE TO A COUNTY PROJECT?

Yes

ANOKA COUNTY PROJECT NUMBER

SAP 002-716-024/SAP 198-020-040

WORK SITE ADDRESS

3480 Bunker Lake Blvd NW

CITY

Andover

METHOD OF INSTALLATION/CONSTRUCTION

Open trench

NATURE OF WORK

Adjusting duct for a proposed signal pole in two locations

SURFACE TO BE DISTURBED

☒ DITCH/BLVD


☐ GRAVEL

☐ BITUMINOUS

☐ CONCRETE

☐ NONE

SITE PLAN



IF THE ROADWAY IS ENCROACHED, YOU MUST ATTACH A TRAFFIC CONTROL PLAN AND/OR REFERENCE THE MOST CURRENT VERSION OF THE MN TEMPORARY TRAFFIC CONTROL FIELD MANUAL (3+ DAYS REQUIRES PLANS TO BE SIGNED BY A LICENSED PE).

IS SIGNING AND STRIPING REQUIRED?

No

DEPTH FROM SURFACE

48"

(60" minimum under county roads)

SIZE AND KIND OF PIPE/CABLE

1 1/2" duct 240 fiber and 1 1/2" duct 144 fiber

NUMBER OF EXCAVATIONS

2

SIZE OF EXCAVATIONS

approx 40' of excavation

(Length, width, and depth)

LOCATION OF EXCAVATIONS

ALL EXCAVATIONS ARE TO BE PROTECTED AT ALL TIMES AND THEN BACKFILLED WHEN UNATTENDED AND/OR OVERNIGHT

Specific written descriptions of excavations - if shown on attached drawing, drawing shall be specific with depth and distance from centerline, curb, or other distinguishable location. Traffic control plans cannot be approved without specific excavation descriptions.

on plan


Anoka County
MINNESOTA

Respectful. Innovative. Fiscally Responsible

ANOKA COUNTY TRANSPORTATION DIVISION

1440 BUNKER LAKE BLVD NW

ANDOVER, MN 55304

PERMIT PHONE: 763-324-3176

highwaypermits@anokacountymn.gov

GENERAL INFORMATION

One permit must be approved for each county road on which work will be performed prior to any work within the right of way by any utility/contractor. Emergency conditions which threaten the safety of the public and require immediate repair are exceptions to this rule. Under those circumstances, the utility/contractor is permitted to begin and/or complete the necessary repairs. The Anoka County Transportation Division (ACTD) shall be notified of emergency repairs as soon as feasible and a written permit is to be completed within two business days of occurrence.

A license-permit bond is generally required of the contractor as part of the registration process, the amount of which will be determined by the nature of the utility work.

A sketch or drawing shall accompany each permit application which will show the location of the proposed work/utility with reference to the county highway center line and right of way line. A complete set of plans is required for all sewer/water projects.

It shall be the responsibility of the applicant to determine which of the special conditions apply to each permit.

ACTD reserves the right to revoke any utility permit and halt work, if, upon inspection of any job site, the special conditions are not met, and/or a hazard exists for the applicant or public safety is threatened. **The failure to comply with the terms and conditions of any applicable Federal, State, Regional, and local laws, rules and regulations, including any provision of Anoka County's Right-of-Way Ordinance shall be cause for immediate revocation of a permit.**

The applicant shall notify ACTD immediately upon completion of project so that the ACTD can inspect the site to determine if restoration has been satisfactorily completed.

The undersigned hereby accepts the terms and conditions of this permit and the regulations of Anoka County, and agrees to fully comply therewith to the satisfaction of the ACTD. The county of Anoka, its officials, employees, and agents, shall be held harmless, by the applicant/permittee, from any demands, claims, lawsuits, or damages relating to the work described in this permit.

APPLICANT'S SIGNATURE

DocuSigned by:

2194BEA768C64BC...

 DATE **3/21/2025**
AUTHORIZATION OF PERMIT

In consideration of the applicant's agreement to comply in all respects with the regulations of the ACTD covering such operations, permission is hereby granted for the work to be done as described in the above application. Said work to be done in accordance with the general conditions listed above and the special conditions required as hereby stated. It is expressly understood that this permit is conditioned upon replacement or restoration of the county highway and its right of way to their original or to a satisfactory condition. It is further understood that this permit is issued subject to the approval of local city or township authorities having joint supervision over said street or highway.

APPROVED BY:

TITLE: Traffic Technician

DATE

NOT VALID UNLESS SIGNED BY ANOKA COUNTY

THIS PERMIT COVERS THE RIGHT OF WAY IN ANOKA COUNTY ONLY
ACTD reserves the right to make changes to these special conditions.



ANOKA COUNTY TRANSPORTATION DIVISION
1440 BUNKER LAKE BLVD NW
ANDOVER, MN 55304
PERMIT PHONE: 763-324-3176
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SPECIAL CONDITIONS

TRAFFIC CONTROL

- 1) Detours
 - a) Detailed detour layouts shall be submitted to the traffic engineer for approval.
 - b) No detours shall be permitted without prior approval of the Anoka county traffic engineer.
 - c) A ten day notice must be given prior to the installation of any detour.
 - d) It shall be the responsibility of the applicant to notify Anoka county central communications, local government bodies, and any affected bus companies ten days prior to any road closures/detours.
 - e) Immediately upon completion of work and/or detours, all posts, barricades, and signs shall be removed from the right of way.
- 2) Traffic control devices
 - a) All traffic control devices, barricades, flashers, etc., shall be furnished by the applicant and shall be in accordance with the most recent edition of the Minnesota manual on uniform traffic control devices and temporary traffic control zone layouts – field manual of the same manual.

CONSTRUCTION REQUIREMENTS

- 1) Open cutting of bituminous or concrete surfaced roads will be allowed only at the discretion of the county engineer.
- 2) Neither supplies nor excavation materials shall be placed on the bituminous or concrete surface at any time.
- 3) No trenches will be allowed to remain open overnight.
- 4) Materials removed from the trench shall be used as backfill insofar as they are suitable. All backfill material shall conform to MNDOT specifications for compaction. The use of heavy equipment on top of trench, slapping with backhoe bucket and/or back casting to achieve compaction is prohibited. Any additional material required to back fill to the original grade shall be furnished by the applicant at no expense to the ACTD. All the base and surface courses damaged during construction operations shall be restored to a condition equal to or better than before operations began. The applicant shall be responsible for and restore any settlement.
- 5) All culverts, ditches, shoulders, and backslopes shall be restored to their original condition unless otherwise directed by the ACTD. Shoulders which have been previously constructed or reconstructed with special materials shall be replaced in kind. Restoration of signs, guardrails, guard posts, etc., are the sole responsibility of the applicant and shall be restored to their original condition.
- 6) All roadway maintenance required within the limits of the utility project that is related to the applicant's activities shall be the sole responsibility of the applicant for one year after completion of the project. Upon completion of the restoration work, the applicant shall request a final inspection by the ACTD. The ACTD's approved completion date shall be the starting date of the applicant's one-year responsibility.

HORIZONTAL BORING AND JACKING

- 1) All hard surface roadways shall be jacked or bored.
- 2) All crossings of Anoka County maintained roadbeds, shall be made by boring inside a casing or carrier pipe, or by jacking unless otherwise directed by the Anoka County Engineer. The auger shall lead the casing or carrier pipe by at least six inches whenever possible and never lead the carrier pipe by more than one inch.
- 3) The use of pneumatic devices to facilitate the roadbed crossings will be allowed in most cases with prior approval. In the event approval is not granted and applicant uses a pneumatic device to cross a roadbed and encounters an obstruction and/or unstable subbase material which makes forward or reverse motion of pneumatic device impossible, said pneumatic device then becomes part of the roadway subbase and permission to excavate to retrieve device will not be granted.
- 4) If a pneumatic device is used for the work permitted herein, the installation must be kept to a minimum of four feet below the surface of the roadway if the pneumatic device is less than two inches in diameter, and a minimum of five feet below the surface of the roadway if the pneumatic device is two inches in diameter or larger.

BITUMINOUS RESTORATION

- 1) The locations and dimensions of all openings to be made in the bituminous surface shall be approved by the ACTD prior to any cutting or any surface opening operations.
- 2) All openings in bituminous surfaces shall be cut in a straight line with the sides smooth and vertical. No ragged edges will be permitted. Cutting shall be done with a concrete saw.
- 3) All necessary dust control operations shall be carried out by the applicant at no expense to Anoka County.
- 4) The minimum requirement for subgrade replacement shall be the upper twelve inches of material and shall meet MNDOT specifications for class five placed in six inch layers compacted to one hundred percent of optimum density.
- 5) All manhole casings, gate valves, and other utility structures shall be set one quarter inch below the top of the finished surface.
- 6) Bituminous tack coat materials and application thereof shall conform to MNDOT specification 2357.
- 7) All bituminous surfacing shall be replaced as soon as practicable after the base construction. All bituminous surfacing shall be machine laid. Any exceptions must be approved by the ACTD. Bituminous surfacing shall be replaced to original pavement depth or to a minimum of six inches of bituminous mixture (2360), whichever is greater. Bituminous mixtures must be placed in lifts not exceeding three inches in thickness for base and binder courses and not exceeding two inches for the wear course.
- 8) All surface restoration regardless of size shall conform to existing grades.
- 9) Any unnecessary or negligent damage to bituminous surface in conjunction with the installation and/or repair of a utility shall be cut out and replaced in kind as directed by the ACTD.



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ANDOVER, MN 55304
PERMIT PHONE: 763-324-3176
highwaypermits@anokacountymn.gov

<u>CONCRETE RESTORATION</u> 1) Curb and gutter, sidewalks, and driveways shall be restored in accordance with MNDOT specifications 2531 and 2521.
<u>UTILITY LINES</u> 1) There shall be only a single pole line on the county right of way on either side of the center line thereof. 2) Exact locations of longitudinal installations on county highways shall be located as directed by the ACTD.
<u>SECTION CORNER MONUMENTS</u> 1) Utility locations shall not interfere with the location of any section, quarter, witness, or right of way monuments. For assistance in locations, contact the Anoka County Surveyor’s Office. 2) The applicant shall be responsible for replacement of any existing property irons disturbed during construction. 3) The applicant shall notify the Anoka County Surveyor’s Office three working days in advance of any anticipated disturbance of any section, quarter, witness, or right of way monuments. 4) Any monument disturbed during the course of construction, shall be reset by the Anoka County Surveyor’s Office at the expense of the applicant.
<u>ATTACHING TO BRIDGES/STRUCTURES</u> 1) No utility is permitted to be hung from, or otherwise attached to, any bridge or structure without having detailed plans approved by the Anoka County Engineer. These plans are to show approaches to the structure, method of installation, type, and dimension of housing for the utility.
<u>ADDITIONAL PROVISIONS</u> 1) All subcontractors, installers, and crew shall possess a physical or electronic copy of all documents in relation to the approved permit prior to the commencement of work and be kept on site. This includes, but it not limited to the following: a) Approved permit b) Any/all traffic control plans and/or layouts 2) Shall notify Anoka County Permits at 763-324-3176 or highwaypermits@anokacountymn.gov a) At least 36 hours prior to the commencement of work b) With time frame of proposed of work c) Anticipated traffic control d) When work is complete - including restorations - to request a final inspection 3) No work during inclement weather or when plows are out in any capacity 4) All traffic control shall be in accordance with the most current version of the MnDOT Temporary Traffic Control Field Manual 5) For staking of right-of way or proposed infrastructure, contact Chris Osterhus at 763-324-3189 a minimum of 48 hours prior to the commencement of work.

INITIAL

DS

CITY OF ANDOVER, MN - ANOKA COUNTY

SAP 002-716-024 BUNKER LAKE BLVD

LOCATED ON BUNKER LAKE BLVD BETWEEN ROSE ST AND HANSON ST

ZAYO'S WORK PLAN

PROJECT ISO- / TERR-1014949

PLANS PREPARED FOR



ZAYO ENGINEER: STEVE SENGER
EMAIL: STEVEN.SENGER@ZAYO.COM
PHONE: 612.210.8036
ZAYO CONSTRUCTION CONTACT: JASON OVERKAMP
EMAIL: JOVERKAMP@TERRATECHLLC.NET
PHONE: 651.788.5890
WIRECENTER: MN

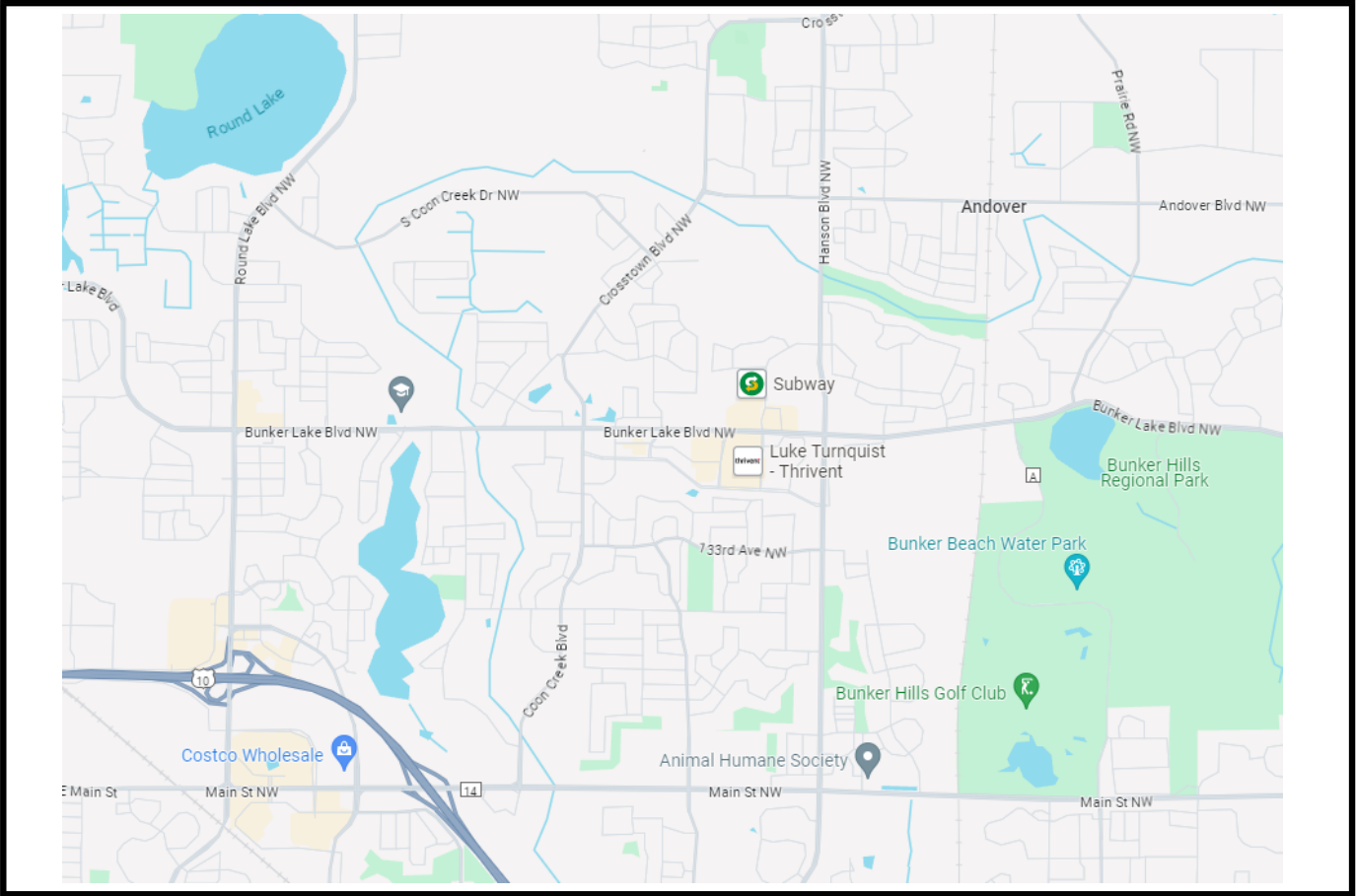
PLANS PREPARED BY



TT ENGINEER: JEREMY WEGLEITNER
PHONE: 651-336-6557
EMAIL: JWEGLEITNER@CONGRUEX.COM

PROJECT CONTACT

OWNER:
PHONE:
EMAIL:
PROJECT ENGINEER: NICK VANGUNST
PHONE: 612.414.7846
EMAIL: NVANGUNST@ALLIANT-INC.COM
SURVEY/STAKING:
PHONE:
EMAIL:
ROAD CONTRACTOR:
PHONE:
EMAIL:



LOCATION MAP
NOT TO SCALE

FOR REFERENCE ONLY

PERMITS REQUIRED: ☒ YES ☐ NO

- ☐ CITY:
☒ COUNTY: ANOKA
☐ STATE:
☐ RAILROAD:
☐ PIPELINE:
☐ DNR:
☐ MISCELLANEOUS:

CUTS REQUIRED: ☐ YES ☐ NO

- ☐ FIBER OPTIC
☐ COPPER

MIGRATIONS REQUIRED: ☐ YES ☐ NO

PRECONSTRUCTION MEETING DATE: TBD
EXPECTED ROADWAY CONSTRUCTION START DATE: SPRING 2025

Legend	EXISTING	REMOVE/ABANDON	PROPOSED
Existing Fiber Cable	— F/O —	— F/O —	- - - - -
Existing Overhead Wire	— OHT —	— OHT —	— OHT —
Existing Handhole	■	■	■
Existing Pole	●	●	●

NOTES:

ALL EXISTING AND PROPOSED CONDITIONS ARE BASED ON INFORMATION PROVIDED BY OTHERS. LUMEN CANNOT BE RESPONSIBLE FOR THE ACCURACY OF INFORMATION AND/OR PLANS PROVIDED BY OUTSIDE PARTIES. FACILITY LOCATIONS, DEPTHS AND ELEVATIONS SHOULD BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

PROPOSED DESIGN MODIFICATIONS ARE RECOMMENDATIONS ONLY AND SHOULD BE VERIFIED PRIOR TO CONSTRUCTION.

REVISION	DATE

RAKE OFF SHEET

QUANTITY

UNITS

FURNISHED BY

PLACED BY

OPEN TRENCH

50

FT

CONTRACTOR

CONTRACTOR

General Notes

- 1.CONSTRUCTION PERMITS OR NOTIFICATIONS HAVE BEEN COMPLETED OR APPLIED FOR BY TERRA TECHNOLOGIES
- 2.ANY ADJACENT AREAS DAMAGED DURING CONSTRUCTION MUST BE RESTORED TO THEIR ORIGINAL CONDITIONS OR BETTER
- 3.THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY IRONS DURING CONSTRUCTION AND RESES BY A LICENSED LAND SURVEYOR IF DISTURBED
- 4. BRUSHING AND TREE REMOVAL IS THE RESPONSIBILTY OF THE CONTRACTOR WITH THE FOLLOWING CONDITIONS:
 - ALL BRUSH AND TREES ARE TO BE REMOVED AND DISPOSED OF BY THE CONTRACTOR
- 5.ALL ROCKS TURNED UP DURING PLACEMENT MUST BE REMOVED BY CONTRACTOR OR PLACED BACK IN TRENCH DURING RESTORATION SO AS NOT TO CAUSE A HAZARD FOR VEHICLE OR FOOT TRAVEL
- 6.ROUTE DEVIATIONS SHALL NOT BE ALLOWED WITHOUT CONCURRENCE OF DESIGNER
- 7. ALL ABRUPT CHANGES IN GRADE SUCH AS BERMS AND DITCHES SHALL BE GRADUALLY SLOPED AND RESTORED TO THEIR NATURAL STATE
- 8. UNLESS OTHERWISE SPECIFIED BY THE DESIGNER THE CABLE PLACING DEPTHS ARE:
 - FIBER OPTIC CABLE:
MINIMUM DEPTH IN SOIL 36”
MINIMUM DEPTH AT ROAD CROSSING 60”
- 9. THE CONTRACTOR IS RESPONSIBLE FOR PLACING ROAD GRAVEL IN ALL HAND HOLES PLACED OR ENTERED
- 10. A MINIMUM OF 8” OF ROAD GRAVEL SHOULD BE PLACED PRIOR TO PLACING HAND HOLES
- 11 ACORN TYPE HEX THREADED GROUND ROD CLAMPS SHOULD BE USED TO FASTEN GROUND WIRE TO GROUND RODS IN HAND HOLES WITHOUT RHINO TEST STATIONS.
- 12 ALL CABLE, DUCT, & TRACER WIRE SHALL BE TAGGED BY CONSTRUCTION CONTRACTOR.
- 13. BORES OVER 500FT MAY BE BROKEN UP INTO SHORTER BORES FOR CONTRACTORS CONVENIENCE, WITH THE EXCEPTION TO PLACING BORE PITS IN WETLANDS, WHICH WILL HAVE TO BE APPROVED BY THE DESIGNER.
- 14. PROPOSED WETLAND BORE PITS SHOULD BE RECEIVING PITS ONLY, PREFERABLY COUPLINGOF DUCT BE COMPLETED BY HAND DIGGING ONLY. DO NOT SET UP BORE RIG IN WETLAND AREAS WITHOUT PRIOR AUTHORIZATION.
- 15. ALL AERIAL CONSTRUCTION TO MEET NESX AND RUS SPECIFICATIONS.
- 16. PROPOSED PLACEMENTOF FACILITIES IS BASED ON DESIGN AND PLANNING LOCATESS OBTAINED THOROUGH GSOC. ACTUAL PLACEMENT IS SUBJECT TO CHANGE BASED ON FIELD LOCATED ENCOUNTERED DURING CONSTRUCTION.
- 17. CONTRACTOR IS RESPONSIBLE FOR CONTACTING GSOC PRIOR TO ANY EXCAVATIONS IN PROJECT.
- 18. THE CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND FOLLOWING ANY STIPULATIONS SET FOR BY PERMIT ENTITIES.
- 19. CONTRACTOR IS REQUIRED TO HAVE A COPY OF THE APPROVED PERMIT ON SITE DURING CONSTRUCTION.

MINNESOTA DEPARTMENT OF TRANSPORTATION
ANOKA COUNTY

CONSTRUCTION PLAN FOR SIGNAL SYSTEM, SIGNAL REVISIONS, RIGHT TURN LANE CONSTRUCTION, ADA IMPROVEMENTS, AND SIDEWALK

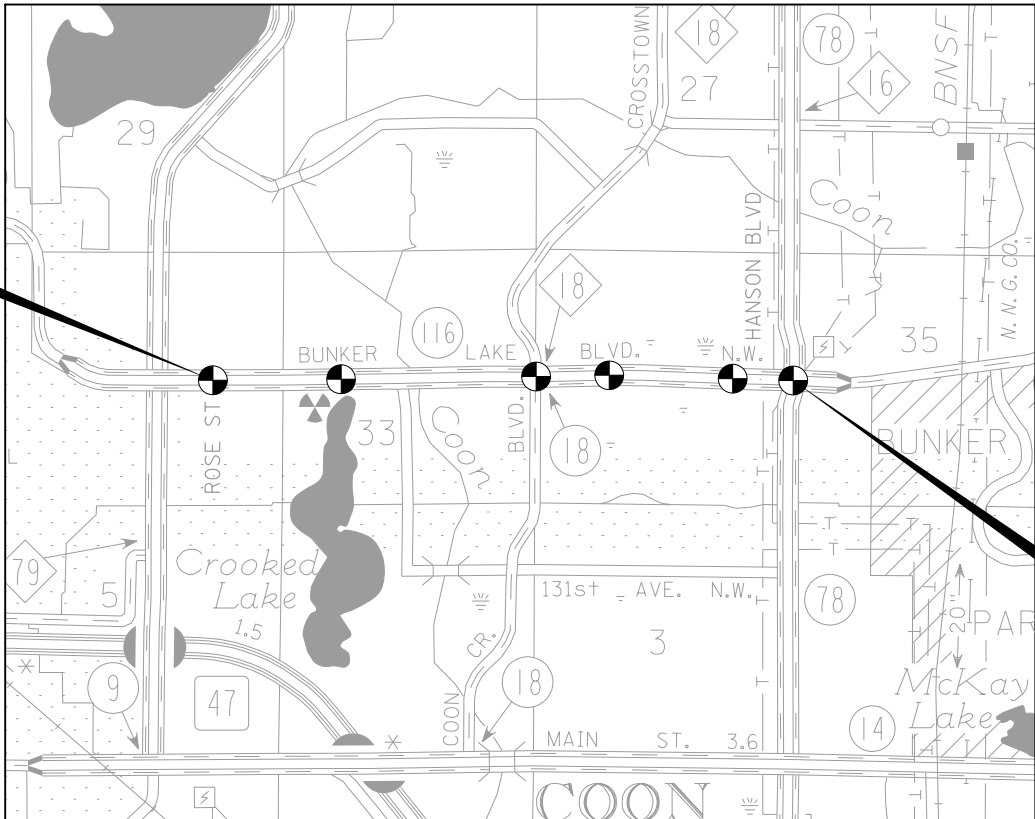
LOCATED ON CSAH 116 (BUNKER LAKE BLVD) FROM ROSE ST TO CSAH 78 (HANSON BLVD)

STATE PROJ. NO. 002-716-024/SAP 198-020-040

GROSS LENGTH 12573.93 FEET 2.38 MILES
BRIDGES-LENGTH FEET MILES
EXCEPTIONS-LENGTH FEET MILES
NET LENGTH 12573.93 FEET 2.38 MILES

NOTE: LENGTH AND DESCRIPTION BASED ON EB ALIGNMENT.

BEGIN SAP 002-716-024/
SAP 198-020-040
CSAH 116 (BUNKER LAKE BLVD EB)
STA 27+89.04



T 32 N
T 31 N

R 24 W

END SAP 002-716-024/
SAP 198-020-040
CSAH 116 (BUNKER LAKE BLVD EB)
STA 153+62.97

DESIGN DESIGNATION: CSAH 116
(BUNKER LAKE BLVD)

R-VALUE	=	N/A
ADT (2024)	=	14,900
ADT (2044)	=	16,500
PAVEMENT DESIGN		N/A
FUNCTION CLASSIFICATION		URBAN MINOR ARTERIAL
NO. OF TRAFFIC LANES		4 (12' WIDE)
NO. OF PARKING LANES		0
SHOULDER WIDTH		8'
ESALS		N/A
DESIGN SPEED		45 MPH/50 MPH
BASED ON SIGHT DISTANCE		STOPPING
HEIGHT OF EYE/ HEIGHT OF OBJECT		3.5/2.0
DESIGN SPEED NOT ACHIEVED AT:		N/A

TRAIL

DESIGN SPEED 20 MPH
BASED ON STOPPING SIGHT DISTANCE
HEIGHT OF EYE 4.5' HEIGHT OF OBJECT 0.0'

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, WERE PREPARED BY ME
OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: _____ LICENSE # _____

DATE: _____ SIGNATURE: _____

PLAN REVISIONS		
DATE	SHEET NO.	APPROVER

PLAN

INDEX MAP

GENERAL LAYOUT

INTERSECTION DETAILS

SCALES

40'

5280'

1000'

30'



PROJECT LOCATION

COUNTY : ANOKA

DISTRICT : METRO

FED. PROJ. NO. _____

GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION
'STANDARD SPECIFICATIONS FOR CONSTRUCTION' SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST MMUTCD,
INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL
ZONE LAYOUTS.

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL LAYOUT
3-4	STATEMENT OF ESTIMATED QUANTITIES
5	STANDARD PLATES & CONSTRUCTION NOTES
6-10	TABULATIONS
11-18	INPLACE TOPO & UTILITY PLANS
19-20	TYPICAL SECTIONS
21-22	MISCELLANEOUS DETAILS
23-47	STANDARD PLANS
48-55	REMOVAL PLANS
56-63	CONSTRUCTION PLANS
64-71	INTERSECTION DETAILS
XX-XX	STORM WATER POLLUTION PREVENTION PLAN
XX-XX	PAVEMENT MARKING & SIGNING PLAN
72-140	TRAFFIC SIGNAL SYSTEM
141-151	TRAFFIC CONTROL PLAN
X1-X8	CROSS SECTIONS

THIS PLAN CONTAINS 159 SHEETS



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT
SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: TANYA H. GYTRI LICENSE # 43919

SIGNATURE: _____

DESIGN SQUAD B. FLUG, E. JULKOWSKI, T. OLSON, N. VANGUNST

APPROVED _____ DATE _____
ANOKA COUNTY ENGINEER

APPROVED _____ DATE _____
CITY OF ANDOVER ENGINEER

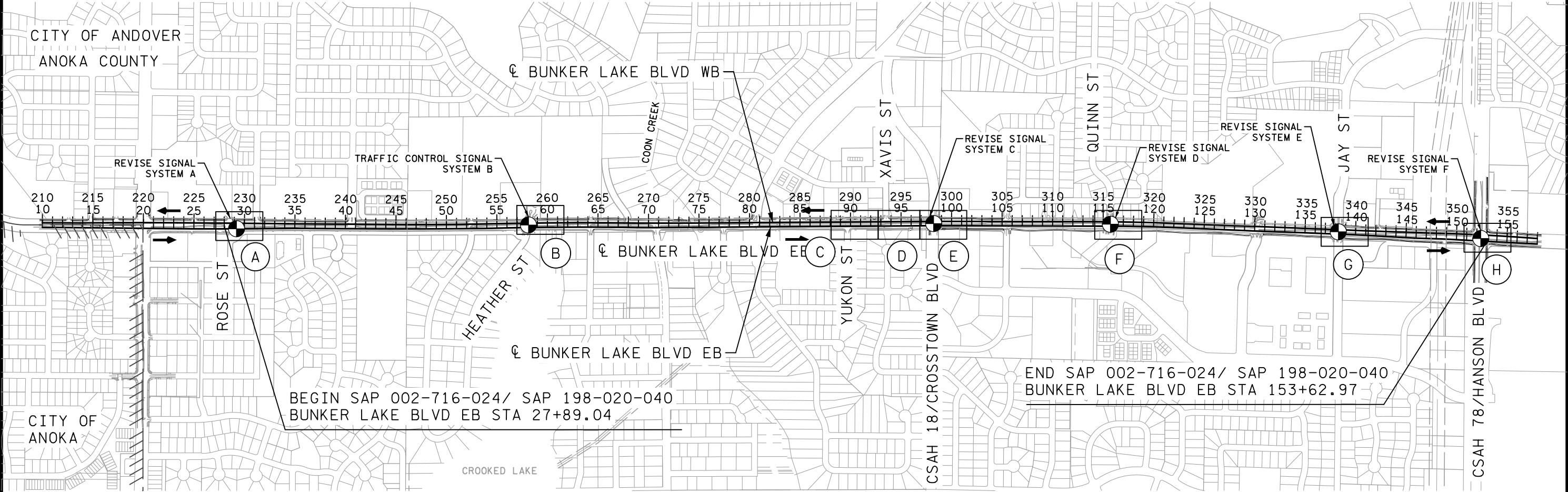
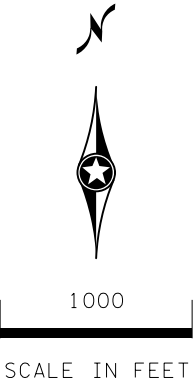
DISTRICT STATE AID ENGINEER; REVIEWED FOR COMPLIANCE WITH
STATE AID RULES/POLICY

STATE AID ENGINEER; APPROVED FOR STATE AID FUNDING

SAP 002-716-024 ANOKA COUNTY
SAP 198-020-040 CITY OF ANDOVER

SHEET NO. 1 OF 151 SHEETS

SHEET TITLE		SHEET VIEW							
		A	B	C	D	E	F	G	H
INPLACE TOPO & UTILITY PLANS	PLAN SHEET NO.	11	12	13	14	15	16	17	18
REMOVAL PLANS	PLAN SHEET NO.	48	49	50	51	52	53	54	55
CONSTRUCTION PLANS	PLAN SHEET NO.	56	57	58	59	60	61	62	63



LEGEND	
	TRAFFIC DIRECTION
	INPLACE SIGNAL SYSTEM
	MUNICIPAL BOUNDARY

NO	DATE	BY	CKD	APPR	REVISION
NAME: ..\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174_g01.dgn 7/19/2024 3:41:03 PM					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: _____

SIGNATURE: _____

DATE: _____ LICENSE NO. _____

DRAWN BY BBF DATE 07/01/24

DESIGN BY EVJ DATE 07/01/24

CHECKED BY THG DATE 07/12/24



ANOKA COUNTY
HIGHWAY DEPT.

GENERAL LAYOUT
COUNTY PROJECT SAP 002-716-024
CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)
SIGNAL MODIFICATION
& ADA IMPROVEMENTS
Sheet 2 of 151 Sheets

GENERAL NOTES:

- A. ALL UTILITY WORK SHOWN ON THESE SHEETS SHALL BE DONE BY OTHERS, UNLESS NOTED OTHERWISE.
- B. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACES UTILITY DATA".
- C. ALL POWERLINES ARE DISTRIBUTION LINES UNLESS NOTED OTHERWISE.
- D. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" REQUIRED BY MINNESOTA STATUTE 216D.
- E. IMPACTED UTILITIES ARE SHOWN IN BOLD.

OWNERSHIP:

ANOKA COUNTY (SIGNALS)
CITY OF ANDOVER (STORM, SANITARY, WATER)
CENTERPOINT ENERGY (GAS)
CENTURYLINK (COMMUNICATIONS)
COMCAST (COMMUNICATIONS)
CONNEXUS ENERGY (ELECTRIC)
LUMEN (COMMUNICATIONS)
VERIZON (COMMUNICATIONS)
ZAYO (COMMUNICATIONS)

EXISTING 24 FIBER
MN-13R: CUST-ENT-N-1

EXISTING HANDHOLE
#ZYO AP 1944

EXISTING 24 FIBER
MN-13R: CUST-ENT-N-1

EXISTING 144 FIBER
BB MPS(Z)-8 (12)

EXISTING HANDHOLE
#ZYO MN-AP-15848

EXISTING 144 FIBER
BB MPS(Z)-8 (12)

LEGEND

- INPLACE R/W
- CONSTRUCTION LIMITS
- EXISTING DRAINAGE & UTILITY EASEMENT
- WATERMAIN
- F/O -BUR FIBER OPTIC BURIED
- T-BUR TELEPHONE CABLE BURIED
- P-BUR ELECTRIC CABLE BURIED
- COMMUNICATION LINE
- STORM SEWER
- SANITARY SEWER
- GAS MAIN
- GV GATE VALVE
- HYDRANT
- CATCH BASIN
- LIGHT POLE

NO	DATE	BY	CKD	APPR	REVISION	7/19/2024	3:43:22 PM
1	7/19/2024	BBF					
NAME: .IProjects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174_u01.dgn							7/19/2024 3:43:22 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: _____

SIGNATURE: _____

DATE: _____ LICENSE NO. _____

DRAWN BY: BBF DATE: 07/01/24

DESIGN BY: EVJ DATE: 07/01/24

CHECKED BY: THG DATE: 07/12/24



ANOKA COUNTY
HIGHWAY DEPT.

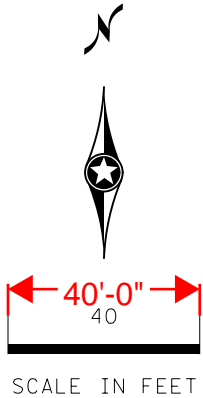
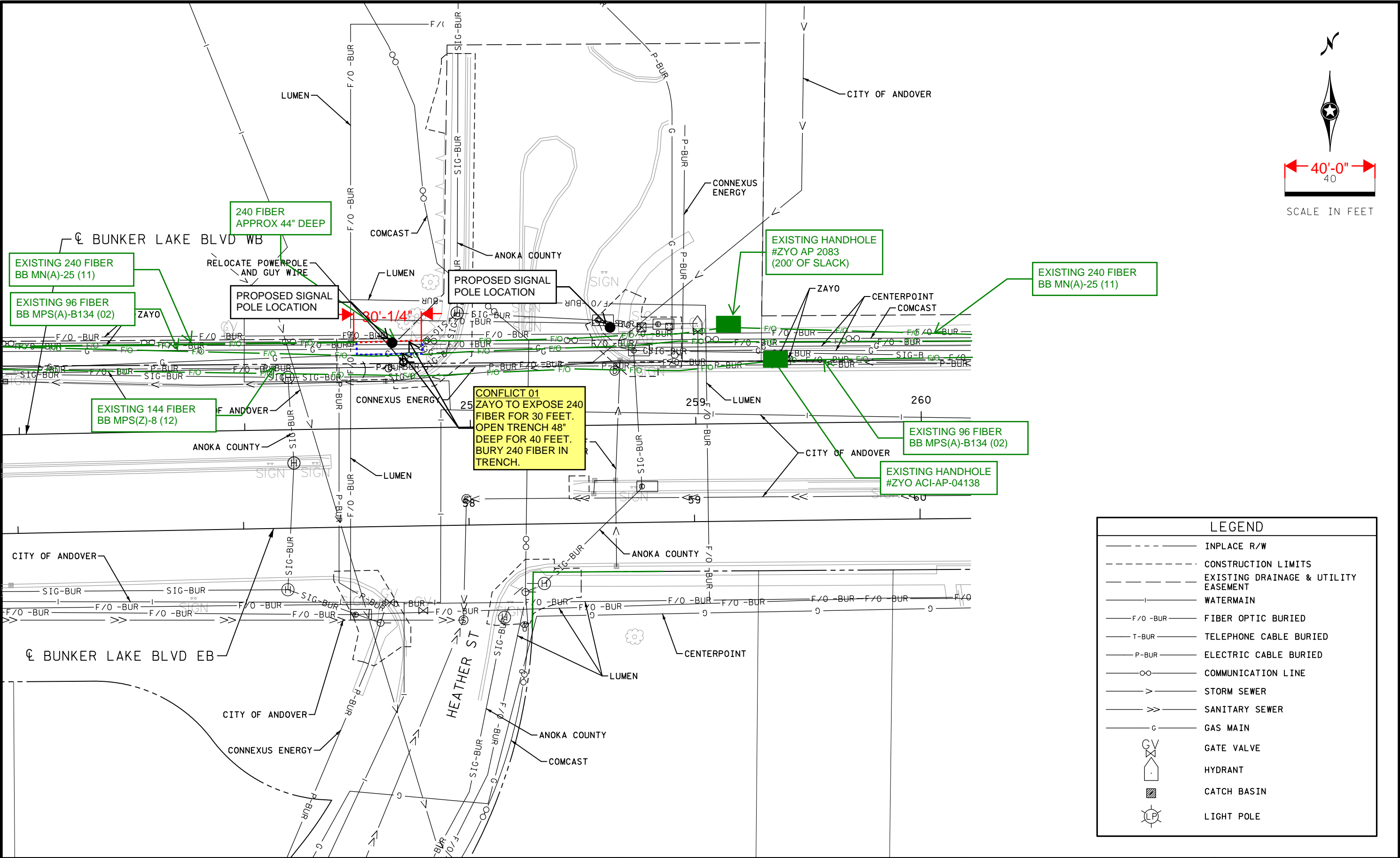
INPLACE TOPO AND UTILITY PLANS

COUNTY PROJECT SAP 002-716-024

CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)
SIGNAL MODIFICATION
& ADA IMPROVEMENTS

Sheet 11 of 151 Sheets



LEGEND	
	INPLACE R/W
	CONSTRUCTION LIMITS
	EXISTING DRAINAGE & UTILITY EASEMENT
	WATERMAIN
	FIBER OPTIC BURIED
	TELEPHONE CABLE BURIED
	ELECTRIC CABLE BURIED
	COMMUNICATION LINE
	STORM SEWER
	SANITARY SEWER
	GAS MAIN
	GATE VALVE
	HYDRANT
	CATCH BASIN
	LIGHT POLE

NO	DATE	BY	CKD	APPR	REVISION	7/19/2024	3:44:09 PM
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: _____

SIGNATURE: _____

DATE: _____ LICENSE NO. _____

DRAWN BY BBF DATE 07/01/24

DESIGN BY EVJ DATE 07/01/24

CHECKED BY THG DATE 07/12/24



ANOKA COUNTY
HIGHWAY DEPT.


INPLACE TOPO AND UTILITY PLANS


COUNTY PROJECT SAP 002-716-024

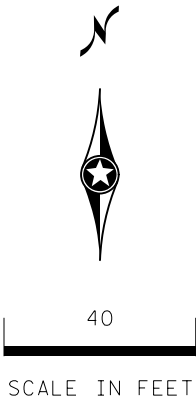
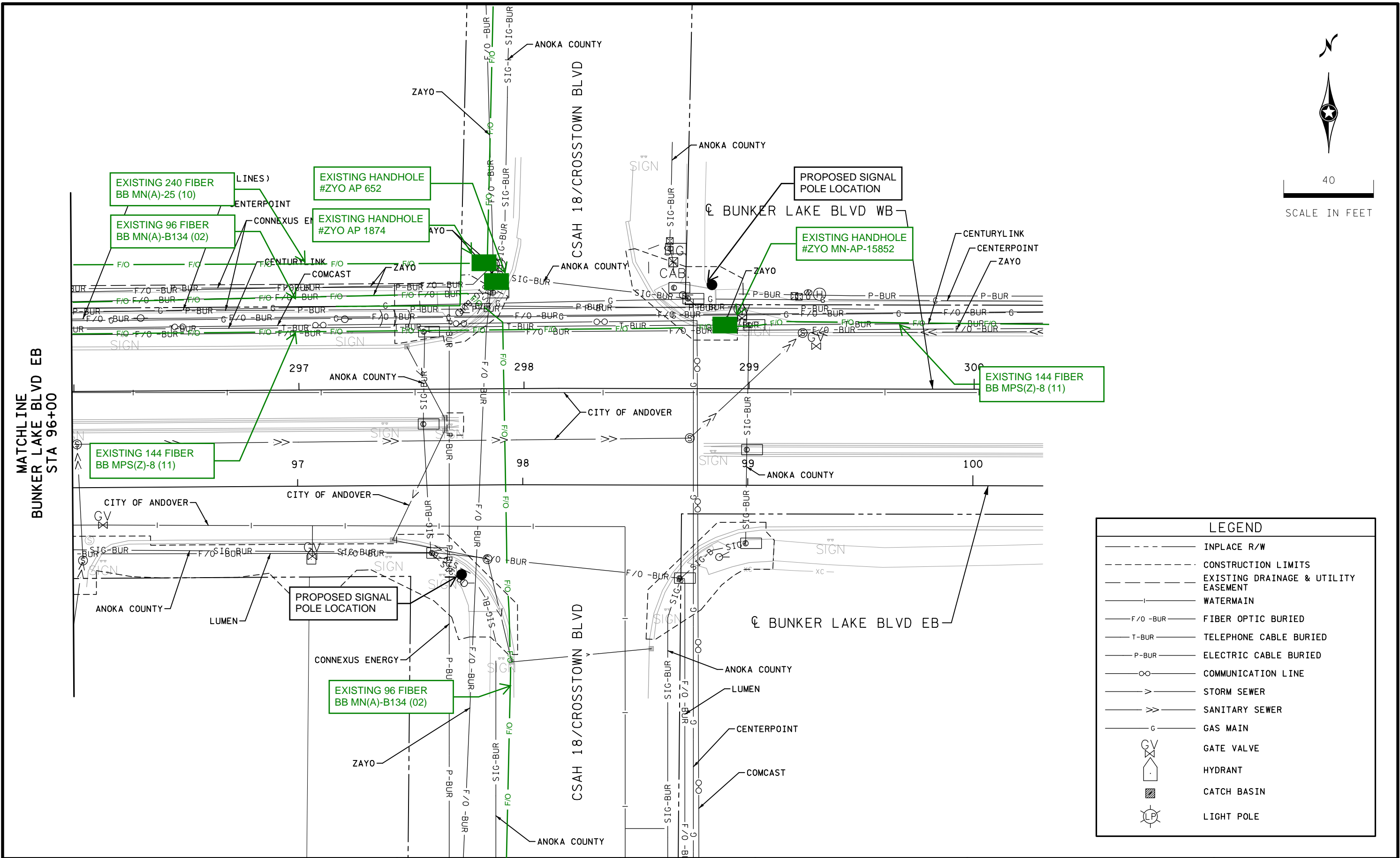
CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)
SIGNAL MODIFICATION
& ADA IMPROVEMENTS

Sheet 12 of 151 Sheets

										I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.										DRAWN BY <u>BBF</u> DATE <u>07/01/24</u>										 <div>ANOKA COUNTY</div>	ANOKA COUNTY										INPLACE TOPO AND UTILITY PLANS										CSAH 116 (BUNKER LAKE BLVD) SIGNAL MODIFICATION & ADA IMPROVEMENTS									
										PRINT NAME: _____										DESIGN BY <u>EVJ</u> DATE <u>07/01/24</u>											HIGHWAY DEPT.										COUNTY PROJECT SAP 002-716-024																			
										SIGNATURE: _____										CHECKED BY <u>THG</u> DATE <u>07/12/24</u>											CITY PROJECT SAP 198-020-040										Sheet <u>13</u> of <u>151</u> Sheets																			
NO _____ DATE _____ BY _____ CKD _____ APPR _____ REVISION _____ 7/19/2024 3:44:58 PM										DATE: _____ LICENSE NO. _____																																																		
NAME: ..\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174_ut03.dgn 7/19/2024 3:44:58 PM																																																												

										I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE NO. _____										DRAWN BY <u>BBF</u> DATE <u>07/01/24</u> DESIGN BY <u>EVJ</u> DATE <u>07/01/24</u> CHECKED BY <u>THG</u> DATE <u>07/12/24</u>										 <div>ANOKA COUNTY HIGHWAY DEPT.</div>										INPLACE TOPO AND UTILITY PLANS COUNTY PROJECT SAP 002-716-024 CITY PROJECT SAP 198-020-040										CSAH 116 (BUNKER LAKE BLVD) SIGNAL MODIFICATION & ADA IMPROVEMENTS																													
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Sheet <u>14</u> of <u>151</u> Sheets																																																																															



LEGEND	
	INPLACE R/W
	CONSTRUCTION LIMITS
	EXISTING DRAINAGE & UTILITY EASEMENT
	WATERMAIN
	FIBER OPTIC BURIED
	TELEPHONE CABLE BURIED
	ELECTRIC CABLE BURIED
	COMMUNICATION LINE
	STORM SEWER
	SANITARY SEWER
	GAS MAIN
	GATE VALVE
	HYDRANT
	CATCH BASIN
	LIGHT POLE

NO	DATE	BY	CKD	APPR	REVISION	7/19/2024	3:47:14 PM
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: _____

SIGNATURE: _____

DATE: _____ LICENSE NO. _____

DRAWN BY BBF DATE 07/01/24

DESIGN BY EVJ DATE 07/01/24

CHECKED BY THG DATE 07/12/24



ANOKA COUNTY
HIGHWAY DEPT.

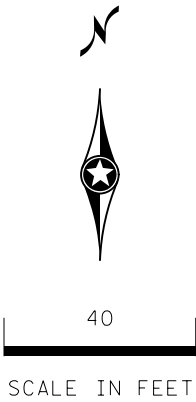
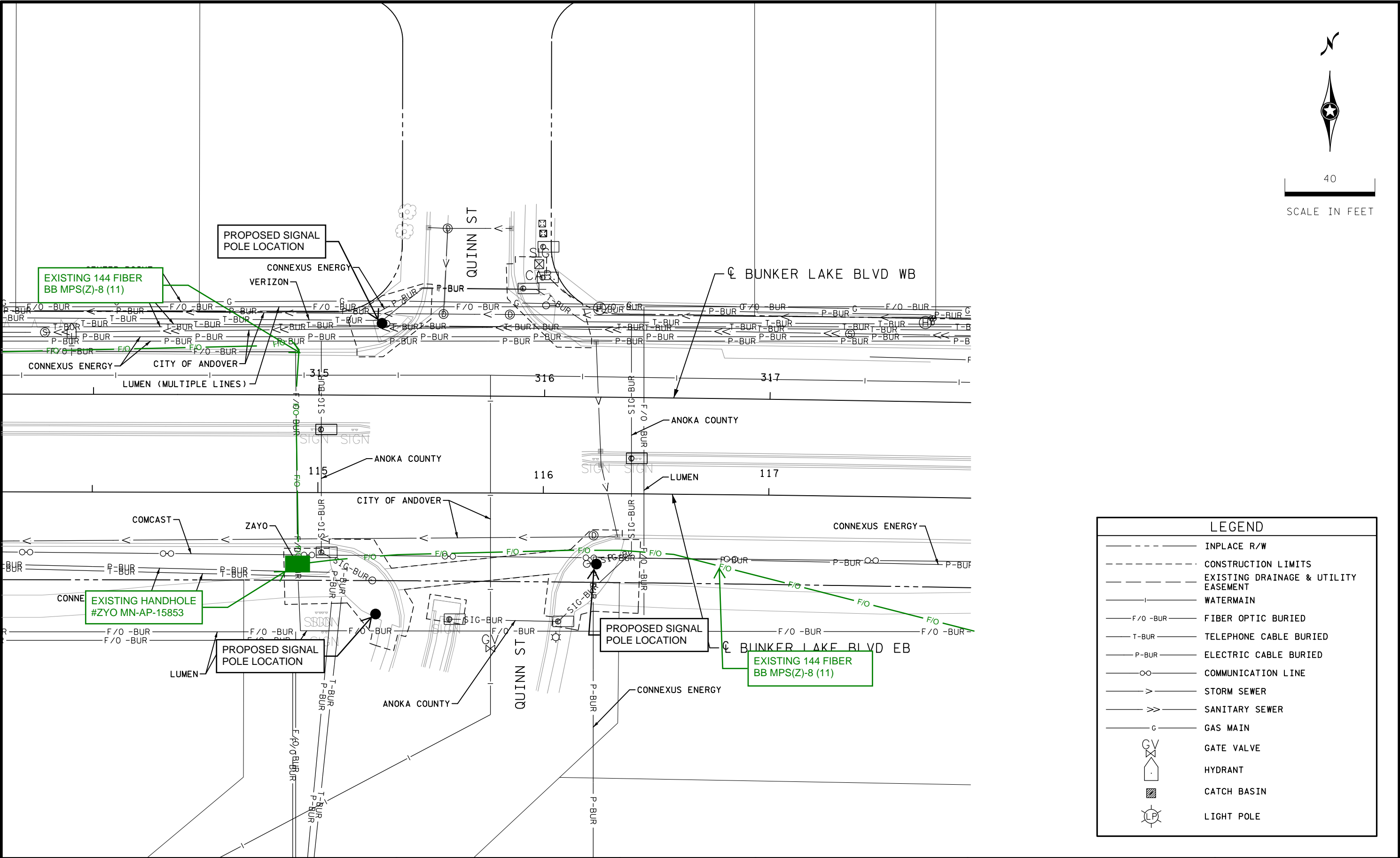
INPLACE TOPO AND UTILITY PLANS

COUNTY PROJECT SAP 002-716-024

CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)
SIGNAL MODIFICATION
& ADA IMPROVEMENTS

Sheet 15 of 151 Sheets



LEGEND	
	INPLACE R/W
	CONSTRUCTION LIMITS
	EXISTING DRAINAGE & UTILITY EASEMENT
	WATERMAIN
	FIBER OPTIC BURIED
	TELEPHONE CABLE BURIED
	ELECTRIC CABLE BURIED
	COMMUNICATION LINE
	STORM SEWER
	SANITARY SEWER
	GAS MAIN
	GATE VALVE
	HYDRANT
	CATCH BASIN
	LIGHT POLE

NO	DATE	BY	CKD	APPR	REVISION	7/19/2024	3:47:23 PM
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NAME: .:\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174_ut06.dgn							7/19/2024 3:47:23 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: _____

SIGNATURE: _____

DATE: _____ LICENSE NO. _____

DRAWN BY BBF DATE 07/01/24

DESIGN BY EVJ DATE 07/01/24

CHECKED BY THG DATE 07/12/24



ANOKA COUNTY
HIGHWAY DEPT.

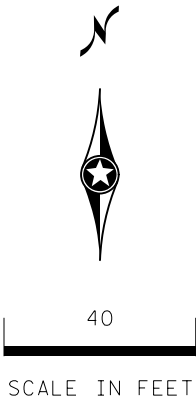
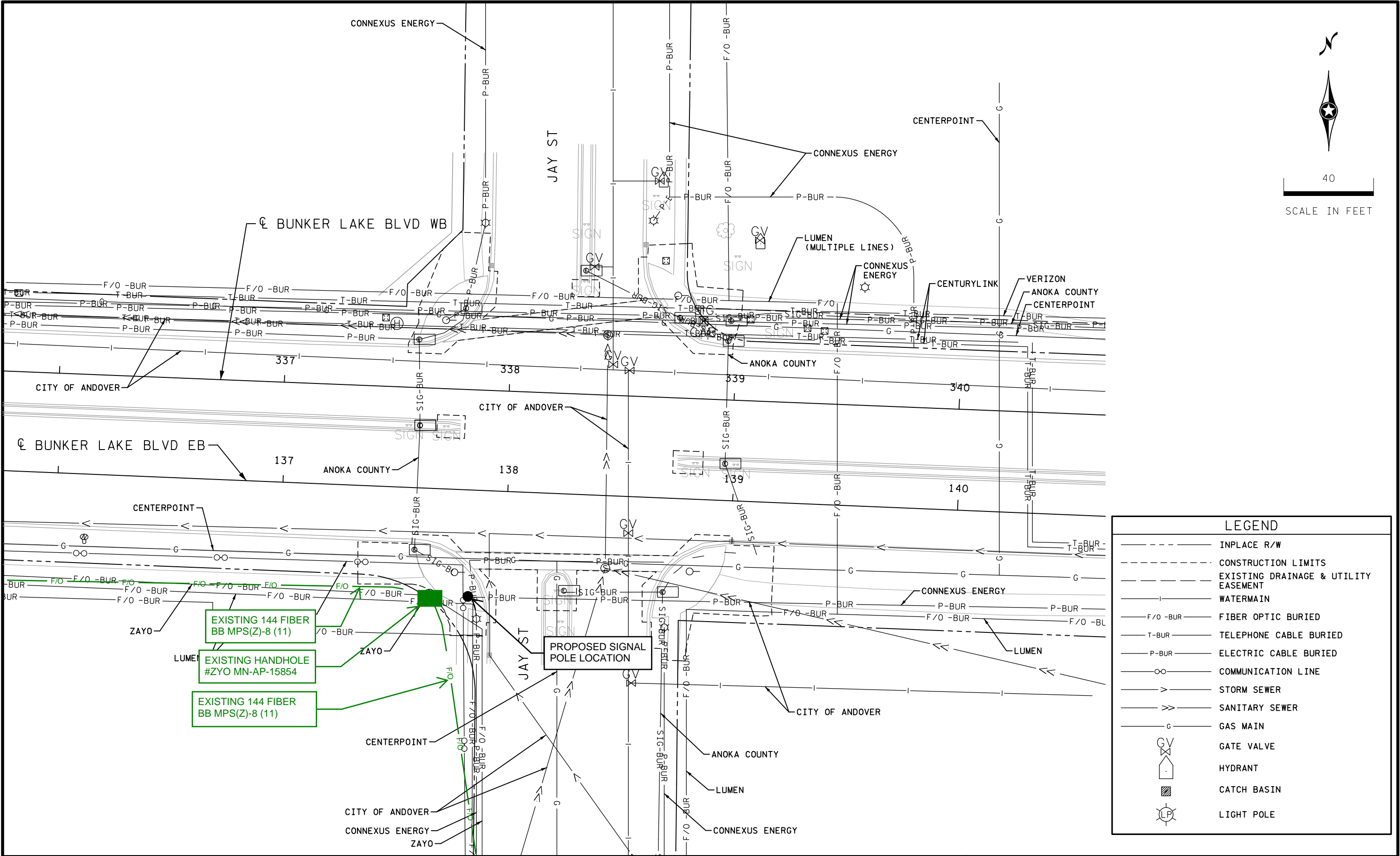
INPLACE TOPO AND UTILITY PLANS

COUNTY PROJECT SAP 002-716-024

CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)
SIGNAL MODIFICATION
& ADA IMPROVEMENTS

Sheet 16 of 151 Sheets



LEGEND	
	INPLACE R/W
	CONSTRUCTION LIMITS
	EXISTING DRAINAGE & UTILITY EASEMENT
	WATERMAIN
	FIBER OPTIC BURIED
	TELEPHONE CABLE BURIED
	ELECTRIC CABLE BURIED
	COMMUNICATION LINE
	STORM SEWER
	SANITARY SEWER
	GAS MAIN
	GATE VALVE
	HYDRANT
	CATCH BASIN
	LIGHT POLE

NO	DATE	BY	CKD	APPR	REVISION	7/19/2024	3:47:33 PM
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PRINT NAME: _____

SIGNATURE: _____

DATE: _____ LICENSE NO. _____

DRAWN BY BBF DATE 07/01/24

DESIGN BY EVJ DATE 07/01/24

CHECKED BY THG DATE 07/12/24



**ANOKA COUNTY
HIGHWAY DEPT.**

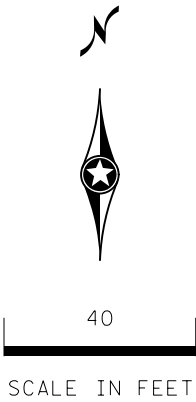
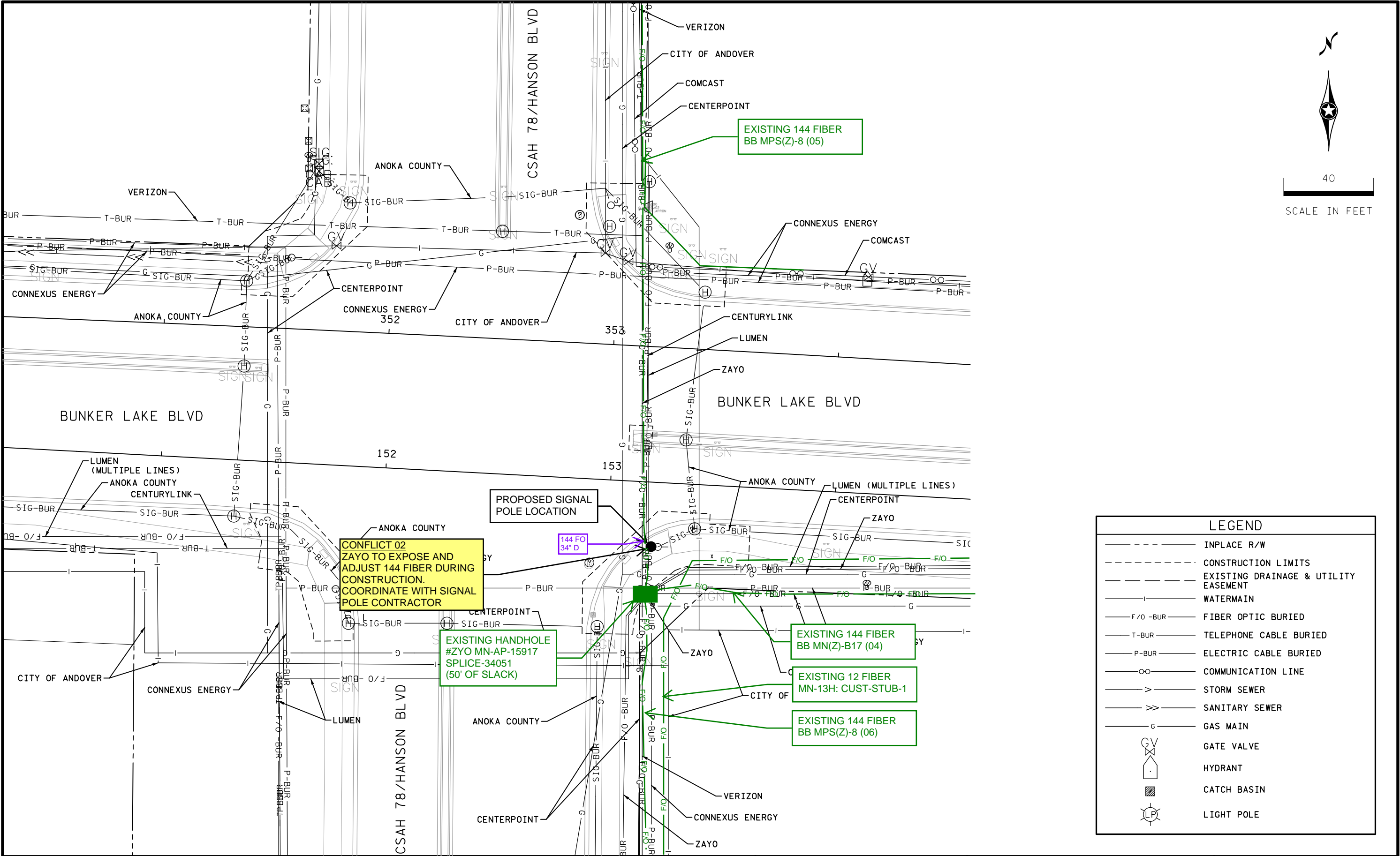
INPLACE TOPO AND UTILITY PLANS

COUNTY PROJECT SAP 002-716-024

CITY PROJECT SAP 198-020-040

**CSAH 116 (BUNKER LAKE BLVD)
SIGNAL MODIFICATION
& ADA IMPROVEMENTS**

Sheet 17 of 151 Sheets



LEGEND	
	INPLACE R/W
	CONSTRUCTION LIMITS
	EXISTING DRAINAGE & UTILITY EASEMENT
	WATERMAIN
	FIBER OPTIC BURIED
	TELEPHONE CABLE BURIED
	ELECTRIC CABLE BURIED
	COMMUNICATION LINE
	STORM SEWER
	SANITARY SEWER
	GAS MAIN
	GATE VALVE
	HYDRANT
	CATCH BASIN
	LIGHT POLE

NO	DATE	BY	CKD	APPR	REVISION		
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PRINT NAME: _____

SIGNATURE: _____

DATE: _____ LICENSE NO. _____

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DESIGN BY EVJ DATE 07/01/24

CHECKED BY THG DATE 07/12/24



ANOKA COUNTY
HIGHWAY DEPT.

INPLACE TOPO AND UTILITY PLANS

COUNTY PROJECT SAP 002-716-024

CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)
SIGNAL MODIFICATION
& ADA IMPROVEMENTS

Sheet 18 of 151 Sheets

SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2, 2-3	●	●	●	●
3-1, 3-2	←	←	←	←
4-1, 4-2	●	●	●	●
5-1, 5-2	←	←	←	←
6-1, 6-2	●	●	●	●
7-1, 7-2	←	←	←	←
8-1, 8-2	●	●	●	●
-ALL SIGNAL INDICATIONS SHALL BE 12" LED				
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS				
-FYA DENOTES FLASHING YELLOW ARROW				

F&I: PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB4-1)
EXTEND INTO INP HH 16:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

INPLACE: 4" RSC
5-12/C 12
4-3/C 12
2-3/C 20
8-2/C 14
1-3/C 12 (LUM)
1-FO CABLE (12SM)
F&I: 1-6/C 16
1-3/C 12 (LUM)
2-2/C 14
1-1/C 6 INS. GR.

F&I: PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB6-1)
EXTEND INTO INP HH 3:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

F&I: PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB8-2)
EXTEND INTO INP HH 3:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

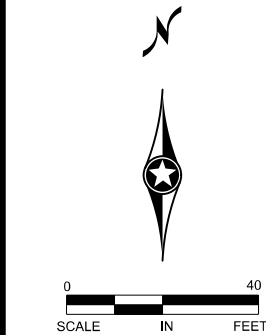
LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1, D1-2	2-6x6	EXISTING
D2-1, D2-2	6x6	EXISTING
D4-1, D4-2	2-6x6	EXISTING
D5-1, D5-2	2-6x6	EXISTING
D6-1, D6-2	6x6	EXISTING
D8-1, D8-2	2-6x6	EXISTING
DC-1, DC-2, DC-3, DC-4	6x6	EXISTING

INPLACE: 4" RSC
3-12/C 12
2-3/C 12
1-3/C 20
1-3/C 12 (LUM)
6-2/C 14
F&I: 1-6/C 16
1-2/C 14
1-1/C 6 INS. GR.
1-3/C 12 (LUM)

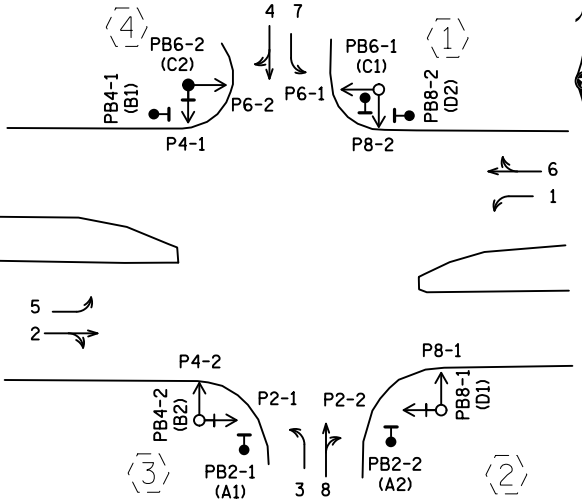
INPLACE: 4" RSC
3-12/C 12
2-3/C 12
1-3/C 20
6-2/C 14
1-3/C 12 (LUM)
1-FO CABLE (12SM)
F&I: 1-6/C 16
1-3/C 12 (LUM)
2-2/C 14
1-1/C 6 INS. GR.

INPLACE: 2" RSC
2-2/C 14
**REMOVE: 1-FO CABLE (12SM)

INPLACE: 2" RSC
2-2/C 14
**REMOVE: 1-FO CABLE (12SM)



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5 AND 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: NICK VANGUNST
SIGNATURE: _____
DATE: 07/19/24 LICENSE NO. 44683

DRAWN BY: KAS DATE 07/01/24
DESIGN BY: KAS DATE 07/01/24
CHECKED BY: NHV DATE 07/19/24



ANOKA COUNTY
HIGHWAY DEPT.

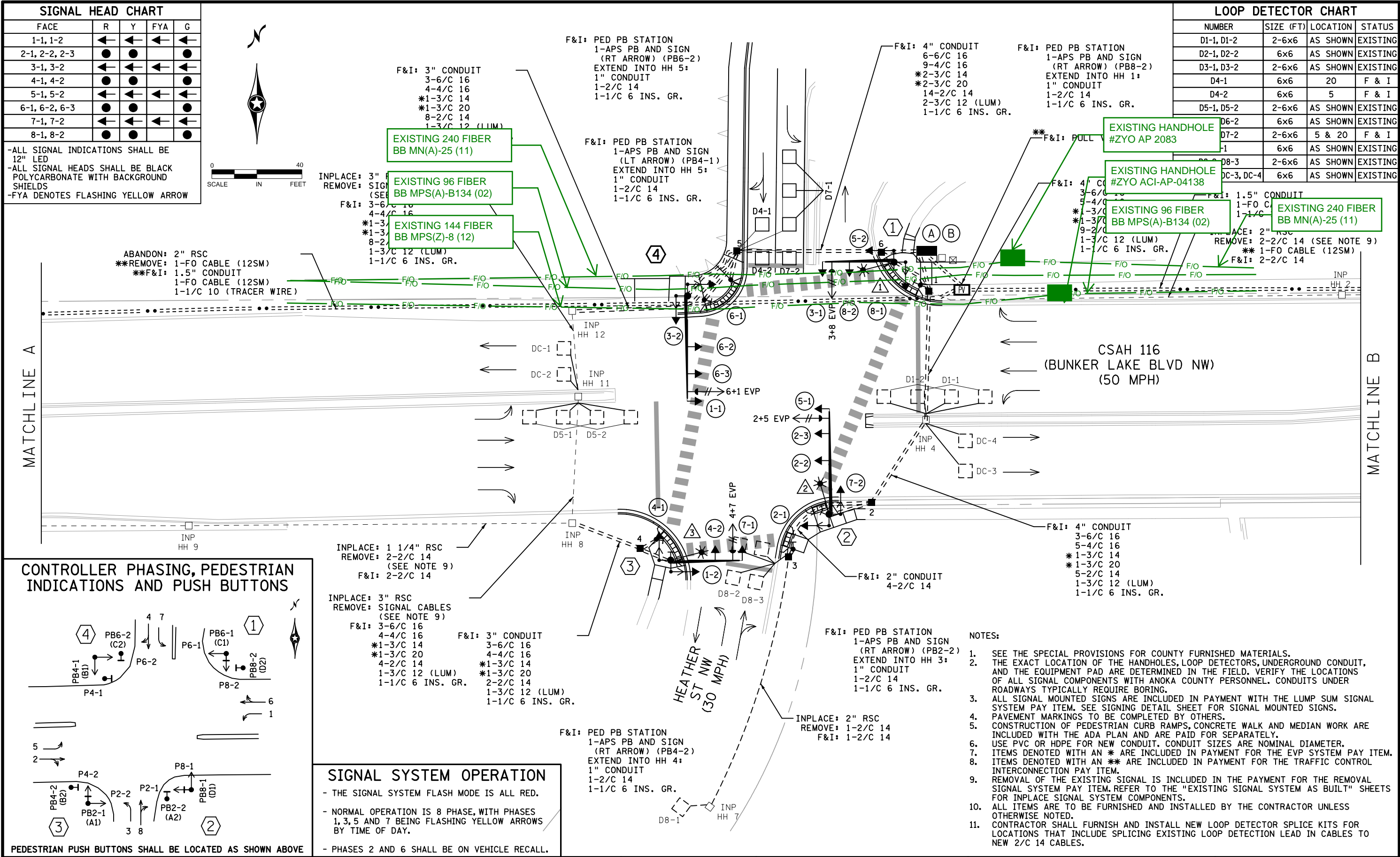
REVISE SIGNAL SYSTEM A LAYOUT
BUNKER LAKE BLVD & ROSE ST
COUNTY PROJECT SAP 002-716-024
CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)
SIGNAL MODIFICATION
& ADA IMPROVEMENTS
Sheet 81 of 151 Sheets

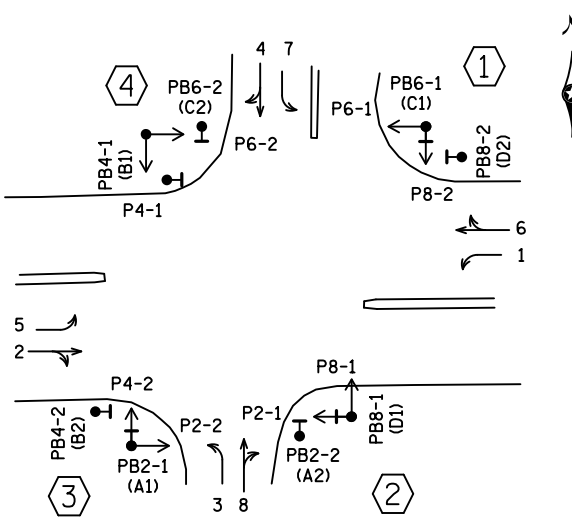
SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2, 2-3	●	●	●	●
3-1, 3-2	←	←	←	←
4-1, 4-2	●	●	●	●
5-1, 5-2	←	←	←	←
6-1, 6-2, 6-3	●	●	●	●
7-1, 7-2	←	←	←	←
8-1, 8-2	●	●	●	●
-ALL SIGNAL INDICATIONS SHALL BE 12" LED				
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS				
-FYA DENOTES FLASHING YELLOW ARROW				



LOOP DETECTOR CHART			
NUMBER	SIZE (FT)	LOCATION	STATUS
D1-1, D1-2	2-6x6	AS SHOWN	EXISTING
D2-1, D2-2	6x6	AS SHOWN	EXISTING
D3-1, D3-2	2-6x6	AS SHOWN	EXISTING
D4-1	6x6	20	F & I
D4-2	6x6	5	F & I
D5-1, D5-2	2-6x6	AS SHOWN	EXISTING
D6-2	6x6	AS SHOWN	EXISTING
D7-2	2-6x6	5 & 20	F & I
D8-1	6x6	AS SHOWN	EXISTING
D8-3	2-6x6	AS SHOWN	EXISTING
DC-3, DC-4	6x6	AS SHOWN	EXISTING



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5 AND 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

- NOTES:
- SEE THE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 - THE EXACT LOCATION OF THE HANDHOLES, LOOP DETECTORS, UNDERGROUND CONDUIT, AND THE EQUIPMENT PAD ARE DETERMINED IN THE FIELD. VERIFY THE LOCATIONS OF ALL SIGNAL COMPONENTS WITH ANOKA COUNTY PERSONNEL. CONDUITS UNDER ROADWAYS TYPICALLY REQUIRE BORING.
 - ALL SIGNAL MOUNTED SIGNS ARE INCLUDED IN PAYMENT WITH THE LUMP SUM SIGNAL SYSTEM PAY ITEM. SEE SIGNING DETAIL SHEET FOR SIGNAL MOUNTED SIGNS.
 - PAVEMENT MARKINGS TO BE COMPLETED BY OTHERS.
 - CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK ARE INCLUDED WITH THE ADA PLAN AND ARE PAID FOR SEPARATELY.
 - USE PVC OR HDPE FOR NEW CONDUIT. CONDUIT SIZES ARE NOMINAL DIAMETER.
 - ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 - ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.
 - REMOVAL OF THE EXISTING SIGNAL IS INCLUDED IN THE PAYMENT FOR THE REMOVAL SIGNAL SYSTEM PAY ITEM. REFER TO THE "EXISTING SIGNAL SYSTEM AS BUILT" SHEETS FOR INPLACE SIGNAL SYSTEM COMPONENTS.
 - ALL ITEMS ARE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
 - CONTRACTOR SHALL FURNISH AND INSTALL NEW LOOP DETECTOR SPLICE KITS FOR LOCATIONS THAT INCLUDE SPLICING EXISTING LOOP DETECTION LEAD IN CABLES TO NEW 2/C 14 CABLES.

SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2, 2-3	●	●	●	●
3-1, 3-2	←	←	←	←
4-1, 4-2	●	●	●	●
5-1, 5-2	←	←	←	←
6-1, 6-2, 6-3	●	●	●	●
7-1, 7-2	←	←	←	←
8-1, 8-2	●	●	●	●
-ALL SIGNAL INDICATIONS SHALL BE 12" LED				
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS				
-FYA DENOTES FLASHING YELLOW ARROW				

F&I: PED PB STATION
1-APS PB AND SIGN
(RT ARROW)
EXTEND INTO INP HH 20:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

EXISTING 240 FIBER
BB MN(A)-25 (10)

EXISTING 96 FIBER
BB MN(A)-B134 (02)

EXISTING HANDHOLE
#ZYO AP 1874

EXISTING HANDHOLE
#ZYO AP 652

INPLACE: 3" RSC
5-12/C 12
5-3/C 12
2-3/C 20
11-2/C 14
2-3/C 12 (LUM)
1-CAT 5E (CCTV)
1-FO CABLE (12SM)
S. GR. (12SM)
F&I: PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB6-1)
EXTEND INTO INP HH 20:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

LOOP DETECTOR CHART			
NUMBER	SIZE (FT)	LOCATION	STATUS
D1-1, D1-2	2-6x6	AS SHOWN	EXISTING
D2-1, D2-2	6x6	AS SHOWN	EXISTING
D3-1	3-6x6	20, 35, 50	F & I
D3-2	6x6	5	F & I
D4-1	6x6	20	EXISTING
D4-2	6x6	5	EXISTING
D5-1, D5-2	2-6x6	AS SHOWN	EXISTING
D6-1, D6-2	6x6	AS SHOWN	EXISTING
D7-1, D7-2	2-6x6	AS SHOWN	EXISTING
D8-1	6x6	EXISTING	EXISTING
D8-2	6x6	20	F & I
D8-3, D8-4	6x6	5	F & I
DC-1, DC-2, DC-3, DC-4	6x6	EXISTING	EXISTING

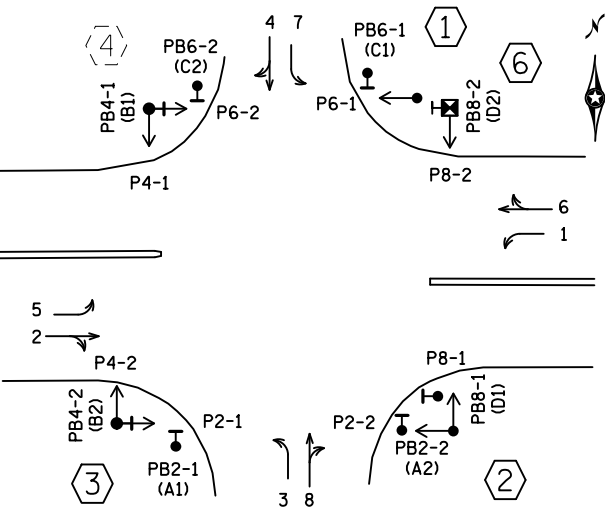
F&I: 1.5" CONDUIT
1-FO CABLE (12SM)
1-1/C 10 (TRACER WIRE)
INPLACE: 2" RSC
2-2/C 14
8-2/C 14
**REMOVE: 1-FO CABLE (12SM)

EXISTING 144 FIBER
BB MPS(Z)-8 (11)

MATCHLINE A

MATCHLINE C

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5 AND 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
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PRINT NAME: NICK VANGUNST
SIGNATURE: _____
DATE: 07/19/24 LICENSE NO. 44683

DRAWN BY: KAS DATE 07/01/24
DESIGN BY: KAS DATE 07/08/24
CHECKED BY: NHV DATE 07/19/24



ANOKA COUNTY
HIGHWAY DEPT.

REVISE SIGNAL SYSTEM C LAYOUT
BUNKER LAKE BLVD & CROSSTOWN BLVD
COUNTY PROJECT SAP 002-716-024
CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)
SIGNAL MODIFICATION
& ADA IMPROVEMENTS
Sheet 98 of 151 Sheets

F&I: PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB6-2)
EXTEND INTO INP HH 71:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

F&I: PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB4-1)
EXTEND INTO INP HH 71:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

```

LACE: 4" RSC
      6-2/C 14
MOVE: 3-12/C 12
      2-3/C 12
      1-3/C 20
      1-3/C 12 (LUM)
      1-FO CABLE (12SM)
F&I: 3-6/C 16
      4-4/C 16
      1-3/C 14
      1-3/C 20
      2-2/C 14
      1-3/C 12 (LUM)
      1-1/C 6 INS. GR.
      **1-FO CABLE (12SM)
      **1-1/C 10 (TRACER WIRE)

INPLACE: 4" RSC
          6-2/C 14
REMOVE: 3-12/C 12

```

```

INPLACE: 4" RSC
          10-2/C 14
REMOVE:  6-12/C 12
          4-3/C 12
          2-3/C 20
          2-3/C 12 (LUM)
          1-F0 CABLE (12SM)
F&I:     6-6/C 16
          9-2/C 16
          2-3/C 14
          2-3/C 20
          4-2/C 14
          2-3/C 12 (LUM)
          1-1/C 6 INS. GR.
          **1-F0 CABLE (12SM)
          **1-1/C 10
          (TRACER WIRE)

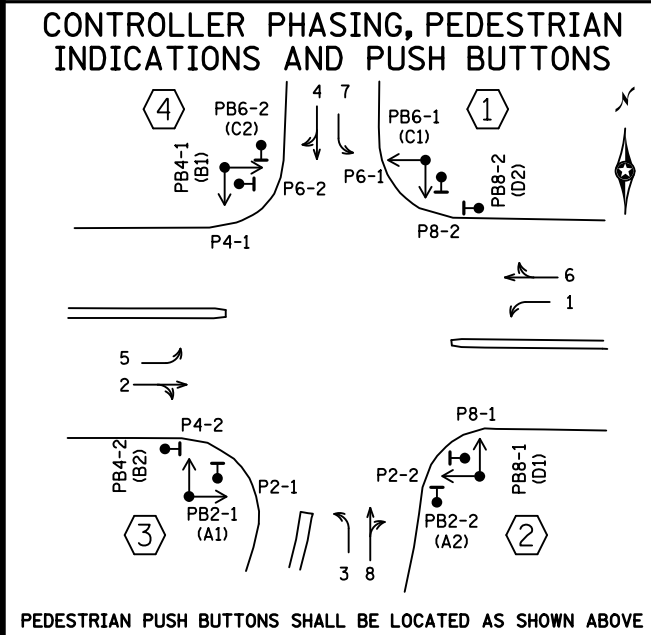
```

F&I: PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB6-1)
EXTEND INTO INP HH 7:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

F&I: PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB8-2)
EXTEND INTO INP HH 7:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

-INPLACE: 4" RSC
3-12/C 12
2-3/C 12
1-3/C 20
11-2/C 14
1-3/C 12 (LUM)
**REMOVE: 1-FO CABLE (12SM)
F&I: 2-2/C 14
1-1/C 6 INS. GR.
**1-FO CABLE (12SM)
**1-1/C 10 (TRACER WIRE)

NUMBER	SIZE (FT)	LOCATION
D1-1, D1-2	2-6x6	EXISTING
D2-1, D2-2	6x6	EXISTING
D3-1, D3-2	2-6x6	EXISTING
D4-1	6x6	EXISTING
D4-2	2-6x6	EXISTING
D5-1, D5-2	2-6x6	EXISTING
D6-1, D6-2	6x6	EXISTING
D7-1, D7-2	2-6x6	EXISTING
D8-1	6x6	EXISTING
D8-2, D8-3	2-6x6	EXISTING
DC-1, DC-2, DC-3, DC-4	6x6	EXISTING



EXISTING HANDHOLE
#ZY0 MN-AP-15853

INPLACE:

INPLACE: 4" RSC
2-2/C 14
REMOVE: 3-12/C 12
2-3/C 12
1-3/C 20
1-3/C 12 (LUM)
F&I: 3-6/C 16
4-4/C 16
1-3/C 14
1-3/C 20
2-2/C 14
1-3/C 12 (LUM)
1-1/C 6 INS. GR.

F&I: PED
1-AP
(RT
EXT
1" C
1-2/
1-1/
F

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5 AND 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

PB STATION
 S PB AND SIGN
 (LT ARROW) (PB4-2)
 ND INTO INP HH 78:
 ONDUIT
 C 14
 C 6 INS. GR.

&I: PED PB STATION
 1-APS PB AND SIGN
 (LT ARROW) (PB2-1)
 EXTEND INTO INP HH 78:
 1" CONDUIT
 1-2/C 14
 1-1/C 6 INS. GR.

D8-1

[illegible]

RSC
/C 14
/C 14
/C 6 INS.

INPLACE: 4" RSC
3-12/C 12
2-3/C 12
1-3/C 20
5-2/C 14
1-3/C 12 (LUM)
2-2/C 14
1-1/C 6 INS. GR.

EXISTING 144 FIBER
BB MPS(Z)-8 (11)

F&I:

NOTES:

1. SEE THE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
2. THE EXACT LOCATION OF THE HANDHOLES, LOOP DETECTORS, UNDERGROUND CONDUIT, AND THE EQUIPMENT PAD ARE DETERMINED IN THE FIELD. VERIFY THE LOCATIONS OF ALL SIGNAL COMPONENTS WITH ANOKA COUNTY PERSONNEL. CONDUITS UNDER ROADWAYS TYPICALLY REQUIRE BORING.
3. ALL SIGNAL MOUNTED SIGNS ARE INCLUDED IN PAYMENT WITH THE LUMP SUM SIGNAL SYSTEM PAY ITEM. SEE SIGNING DETAIL SHEET FOR SIGNAL MOUNTED SIGNS.
4. PAVEMENT MARKINGS TO BE COMPLETED BY OTHERS.
5. CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK ARE INCLUDED WITH THE ADA PLAN AND ARE PAID FOR SEPARATELY.
6. USE PVC OR HDPE FOR NEW CONDUIT. CONDUIT SIZES ARE NOMINAL DIAMETER.
7. ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

[illegible]

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME
OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY
LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF
THE STATE OF MINNESOTA.

PRINT NAME: NICK VANGUNST

SIGNATURE: _____

DATE: 07/19/24 LICENSE NO. 44683

DRAWN BY KAS DATE 07/01/24
DESIGN BY KAS DATE 07/08/24
CHECKED BY NHV DATE 07/19/24



ANOKA COUNTY
HIGHWAY DEPT.

REVISE SIGNAL SYSTEM D LAYOUT
BUNKER LAKE BLVD & QUINN ST
COUNTY PROJECT SAP 002-716-024
CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)
SIGNAL MODIFICATION
& ADA IMPROVEMENTS

Sheet 107 of 151 Sheets

SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2, 2-3	●	●	●	●
3-1, 3-2	←	←	←	←
4-1, 4-2	●	●	●	●
5-1, 5-2	←	←	←	←
6-1, 6-2, 6-3	●	●	●	●
7-1, 7-2	←	←	←	←
8-1, 8-2, 8-3	●	●	●	●
-ALL SIGNAL INDICATIONS SHALL BE 12" LED				
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS				
-FYA DENOTES FLASHING YELLOW ARROW				

F&I: PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB6-2)
EXTEND INTO HH 15:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

INPLACE: 4" RSC
REMOVE: 2-12/C 12
2-3/C 12
1-3/C 20
6-2/C 14
1-3/C 12 (LUM)

F&I: 3-6/C 16
4-4/C 16
1-3/C 14
1-3/C 20
8-2/C 14
1-3/C 12 (LUM)
1-1/C 6 INS. GR.

ABANDON: 2" RSC
**REMOVE: 1-FO CABLE (12SM)
F&I: 1.5" CONDUIT
**1-FO CABLE (12SM)
**1-1/C 10 (TRACER WIRE)

EXTEND: 1 1/4" RSC TO HH 14
REMOVE: 1-2/C 14
F&I: 1-2/C 14

F&I: 4" CONDUIT
6-6/C 16
9-4/C 16
2-3/C 14
2-3/C 20
13-2/C 14
2-3/C 12 (LUM)
1-1/C 6 INS. GR.

F&I: 3" CONDUIT
3-6/C 16
4-4/C 16
1-3/C 14
1-3/C 20
8-2/C 14
1-3/C 12 (LUM)
1-1/C 6 INS. GR.

F&I: PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB8-2)
EXTEND INTO INP HH 1:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

EXTEND: 2" RSC TO HH 15
REMOVE: 2-2/C 14
F&I: 2-2/C 14

INPLACE: 3" RSC
REMOVE: 3-12/C 12
3-3/C 12
1-3/C 20
10-2/C 14
1-3/C 12 (LUM)
F&I: 3-6/C 16
5-3/C 16
1-3/C 14
1-3/C 20
12-2/C 14
1-3/C 12 (LUM)
1-1/C 6 INS. GR.

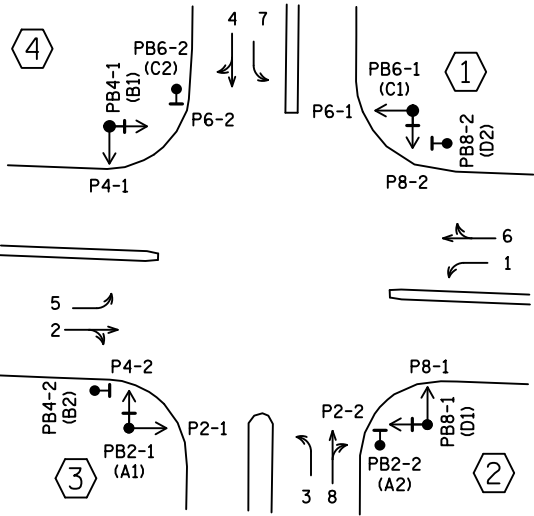
**F&I: PULL VAULT
**F&I: 1.5" CONDUIT
1-FO CABLE (12SM)
1-1/C 10 (TRACER WIRE)

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1, D1-2	2-6x6	EXISTING
D2-1, D2-2	6x6	EXISTING
D3-1, D3-2	2-6x6	EXISTING
D4-1	6x6	EXISTING
D4-2, D4-3	2-6x6	EXISTING
D5-1, D5-2	2-6x6	EXISTING
D6-1, D6-2	6x6	EXISTING
D7-1, D7-2	2-6x6	EXISTING
D8-1, D8-2	6x6	EXISTING
D8-3, D8-4	2-6x6	EXISTING
DC-1, DC-2, DC-3, DC-4	6x6	EXISTING

MATCHLINE A

MATCHLINE B

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

INPLACE: 4" RSC
REMOVE: 2-12/C 12
2-3/C 12

EXISTING 144 FIBER
BB MPS(Z)-8 (11)

EXISTING HANDHOLE
#ZYO MN-AP-15854

EXISTING 144 FIBER
BB MPS(Z)-8 (11)

F&I: PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB4-2)
EXTEND INTO INP HH 9:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5 AND 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: NICK VANGUNST

SIGNATURE: _____

DATE: 07/19/24 LICENSE NO. 44683

DRAWN BY: KAS DATE 07/01/24

DESIGN BY: KAS DATE 07/18/24

CHECKED BY: NHV DATE 07/19/24



ANOKA COUNTY
HIGHWAY DEPT.

REVISE SIGNAL SYSTEM E LAYOUT
BUNKER LAKE RD & JAY ST
COUNTY PROJECT SAP 002-716-024
CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)
SIGNAL MODIFICATION
& ADA IMPROVEMENTS

Sheet 115 of 151 Sheets

Certificate Of Completion

Envelope Id: 3801FF58-7F1B-49CC-A84E-E89BE45D8AC5

Status: Sent

Subject: Jeremy Wegleitner - ROW Permit Application

Source Envelope:

Document Pages: 23

Signatures: 1

Envelope Originator:

Certificate Pages: 4

Initials: 1

Highway Permits

AutoNav: Enabled

Anoka County Government Center

Envelopeld Stamping: Enabled

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Time Zone: (UTC-06:00) Central Time (US & Canada)

Anoka, MN 55303

highwaypermits@anokacountymn.gov

IP Address: 163.116.249.80

Record Tracking

Status: Original

Holder: Highway Permits

Location: DocuSign

3/21/2025 12:20:19 PM

highwaypermits@anokacountymn.gov

Security Appliance Status: Connected

Pool: StateLocal

Storage Appliance Status: Connected

Pool: Anoka County

Location: Docusign

Signer Events

Jeremy Wegleitner

jwegleitner@terratechllc.net

Security Level:

DocuSign.email

ID: 1

3/21/2025 12:20:21 PM

Signature

DocuSigned by:

2194BEA788C64BC...

Signature Adoption: Pre-selected Style

Using IP Address: 163.116.249.80

Timestamp

Sent: 3/21/2025 12:20:20 PM

Viewed: 3/21/2025 12:20:32 PM

Signed: 3/21/2025 12:35:09 PM

Electronic Record and Signature Disclosure:

Accepted: 7/2/2024 2:42:10 PM

ID: fa8f315a-2d58-435b-88e7-0bfb7562c416

Susan Burgmeier

Susan.Burgmeier@anokacountymn.gov

Associate Traffic Technician

Anoka County

Signing Group: Highway Permits

Security Level: Email, Account Authentication
(Optional)

Sent: 3/21/2025 12:35:13 PM

Viewed: 3/21/2025 1:08:01 PM

Electronic Record and Signature Disclosure:

Accepted: 3/20/2025 8:29:37 AM

ID: 7c568cc1-8f2e-4e38-88e1-9453a605ee90

In Person Signer Events

Signature

Timestamp

Editor Delivery Events

Status

Timestamp

Agent Delivery Events

Status

Timestamp

Intermediary Delivery Events

Status

Timestamp

Certified Delivery Events

Status

Timestamp

Carbon Copy Events

Status

Timestamp

Jeremy Wegleitner

jwegleitner@terratechllc.net

Security Level: Email, Account Authentication
(Optional)

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Carbon Copy Events	Status	Timestamp
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Not Offered via DocuSign

Witness Events	Signature	Timestamp
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Notary Events	Signature	Timestamp
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Envelope Summary Events	Status	Timestamps
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Envelope Sent	Hashed/Encrypted	3/21/2025 12:20:20 PM
Envelope Updated	Security Checked	3/21/2025 12:35:09 PM
Certified Delivered	Security Checked	3/21/2025 1:08:01 PM

Payment Events	Status	Timestamps
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Electronic Record and Signature Disclosure		
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Email: helpdesk@co.anoka.mn.us

Phone: (763)-324-4110

Address: Anoka County Government Center
Attn: Information Technology, #300
2100 3rd Avenue
Anoka, MN 55303

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