



Anoka County
MINNESOTA

Respectful, Innovative, Fiscally Responsible

ANOKA COUNTY TRANSPORTATION DIVISION

1440 BUNKER LAKE BLVD NW

ANDOVER, MN 55304

763-324-3176

highwaypermits@anokacountymn.gov

RIGHT OF WAY

COMMERCIAL ACCESS

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

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).

DITCH/BLVD



GRAVEL

BITUMINOUS

CONCRETE

NONE

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

THIS PERMIT COVERS THE RIGHT OF WAY IN ANOKA COUNTY ONLY

ACTD reserves the right to make changes to these special conditions.



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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: <i>Jeremy Wegleiter</i> 	DATE 3/21/2025
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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
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NOT VALID UNLESS SIGNED BY ANOKA COUNTY

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ANDOVER, MN 55304

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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 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

CONCRETE RESTORATION

- 1) Curb and gutter, sidewalks, and driveways shall be restored in accordance with MNDOT specifications 2531 and 2521.

UTILITY LINES

- 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.

SECTION CORNER MONUMENTS

- 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.

ATTACHING TO BRIDGES/STRUCTURES

- 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.

ADDITIONAL PROVISIONS

- 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

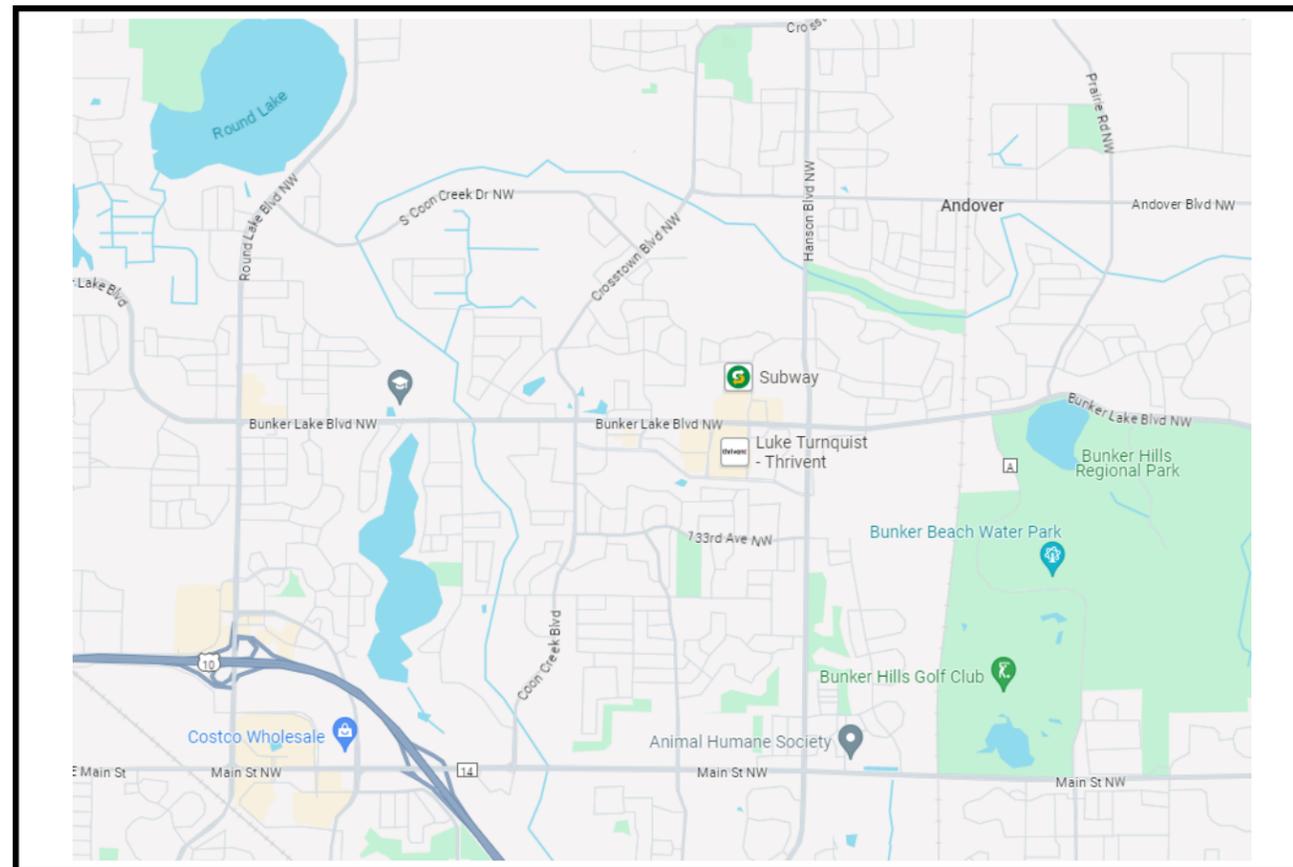
PLANS PREPARED BY



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 —	- - - - - 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 RESPONSIBILITY 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 COUPLING OF 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 PLACEMENT OF FACILITIES IS BASED ON DESIGN AND PLANNING LOCATIONS OBTAINED THROUGH 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

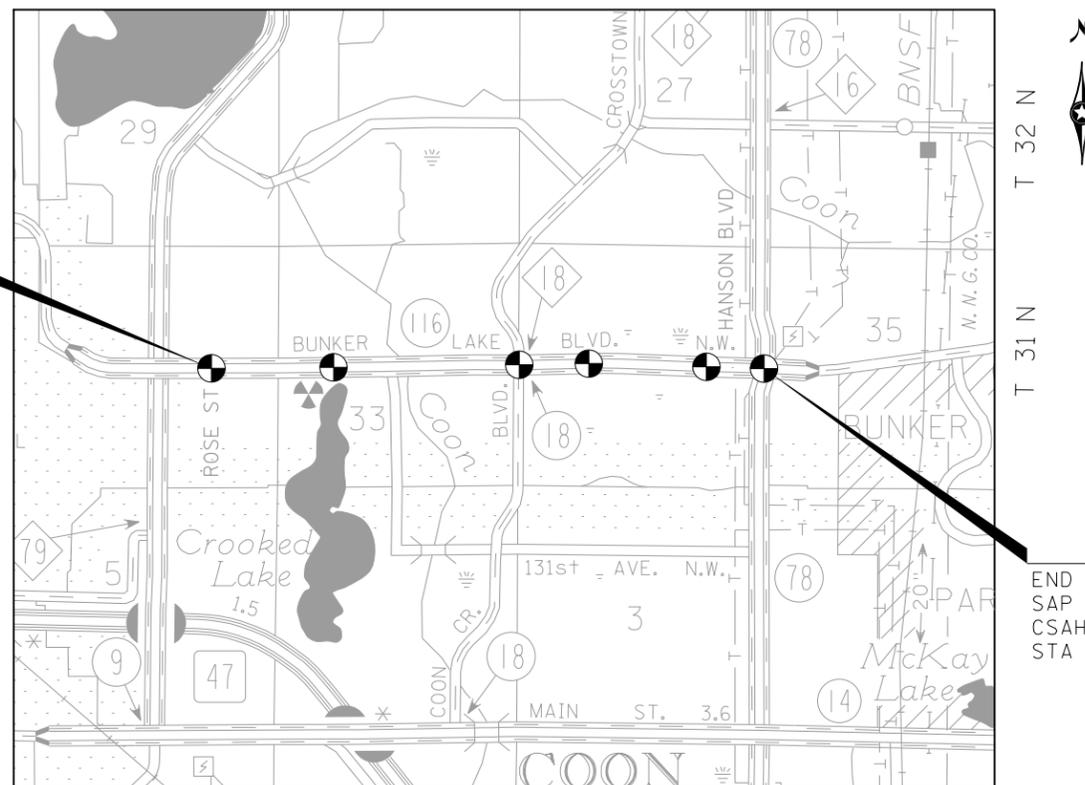
CONSTRUCTION PLAN FOR SIGNAL SYSTEM, SIGNAL REVISIONS, RIGHT TURN LANE CONSTRUCTION, ADA IMPROVEMENTS, AND SIDEWALK

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



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'

SCALES

PLAN	_____	40'
INDEX MAP	_____	5280'
GENERAL LAYOUT	_____	1000'
INTERSECTION DETAILS	_____	30'



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 _____ ANOKA COUNTY ENGINEER _____ DATE _____

APPROVED _____ CITY OF ANDOVER ENGINEER _____ DATE _____

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

 STATE AID ENGINEER; APPROVED FOR STATE AID FUNDING _____ DATE _____

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.

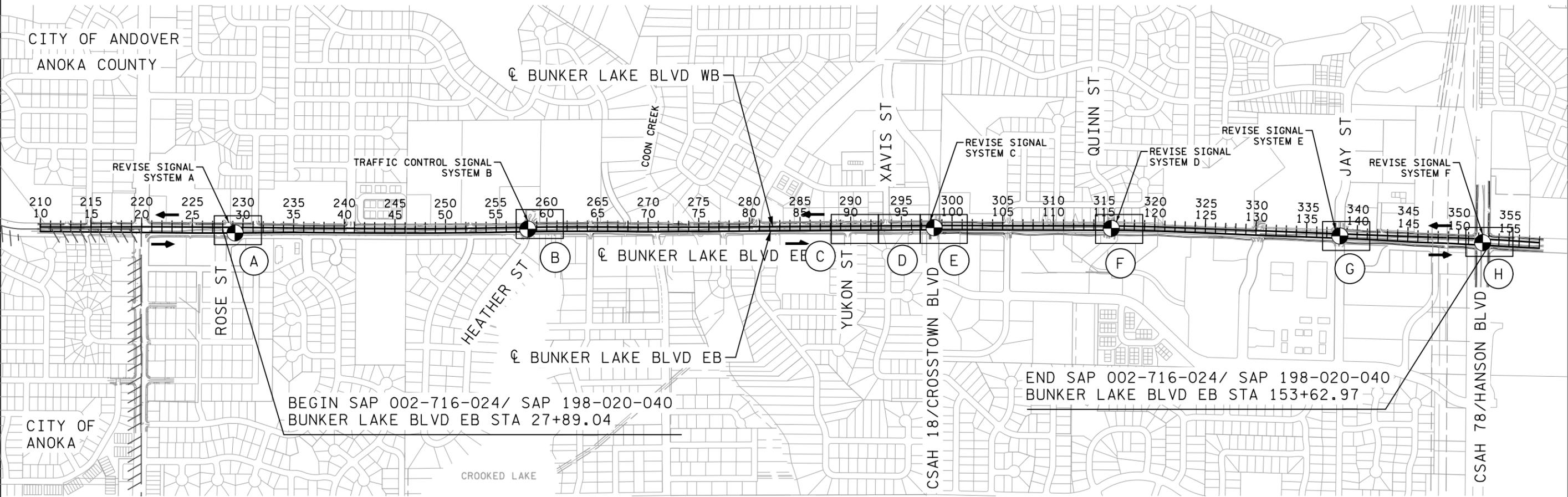
PRINT NAME: _____ LICENSE # _____

DATE: _____ SIGNATURE: _____

PLAN REVISIONS		
DATE	SHEET NO.	APPROVER

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

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

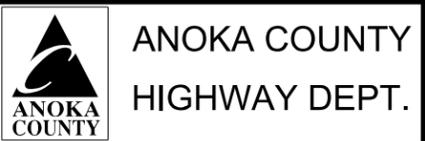
NO	DATE	BY	CKD	APPR	REVISION

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



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

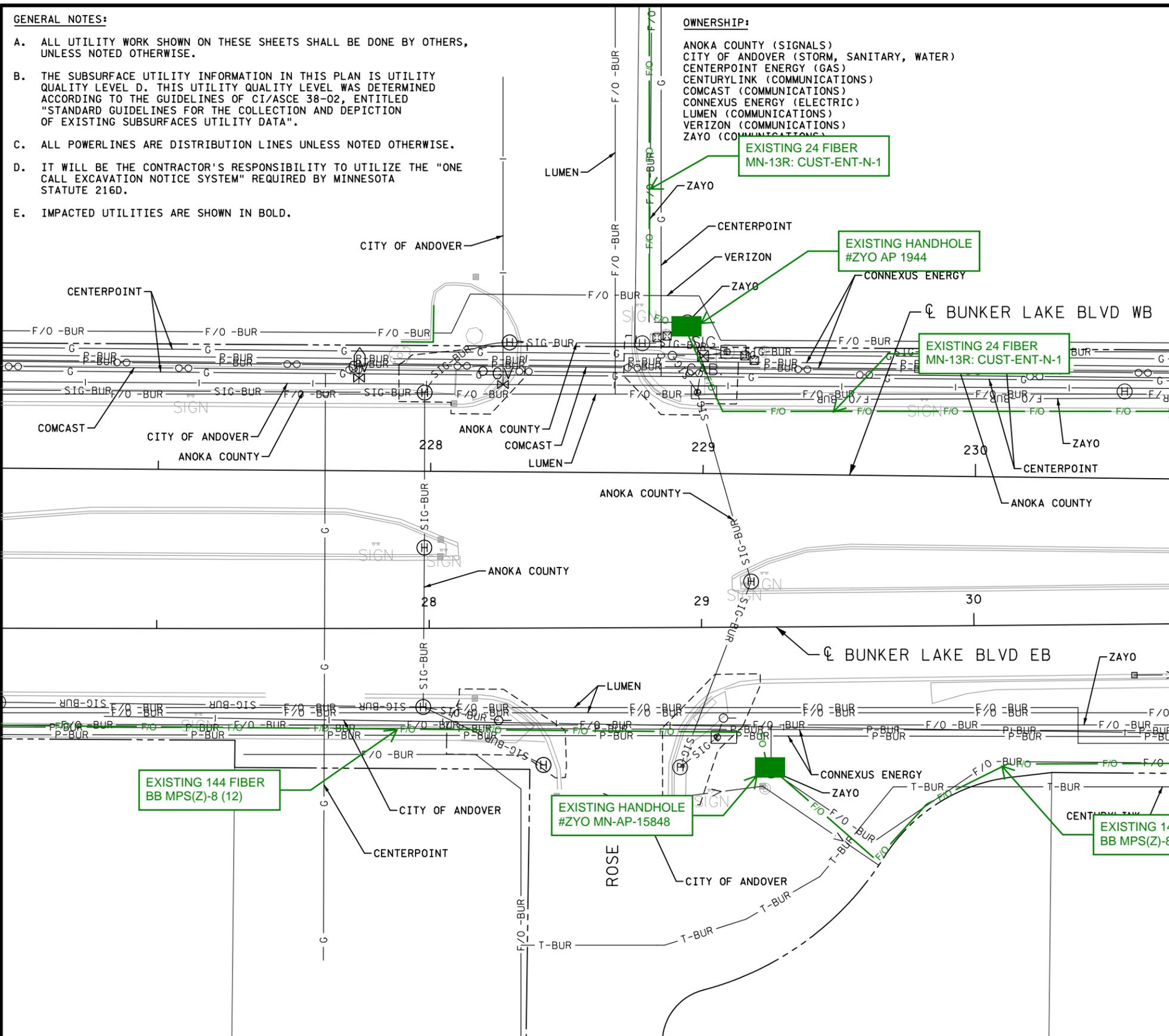
CSAH 116 (BUNKER LAKE BLVD)
SIGNAL MODIFICATION
& ADA IMPROVEMENTS
 Sheet 2 of 151 Sheets

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 SUBSURFACE 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)



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	3:43:22 PM
NAME: .\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174_ut01.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

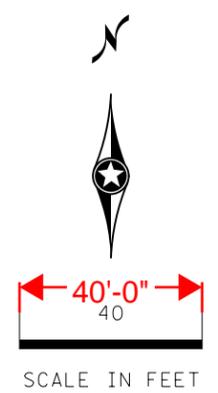
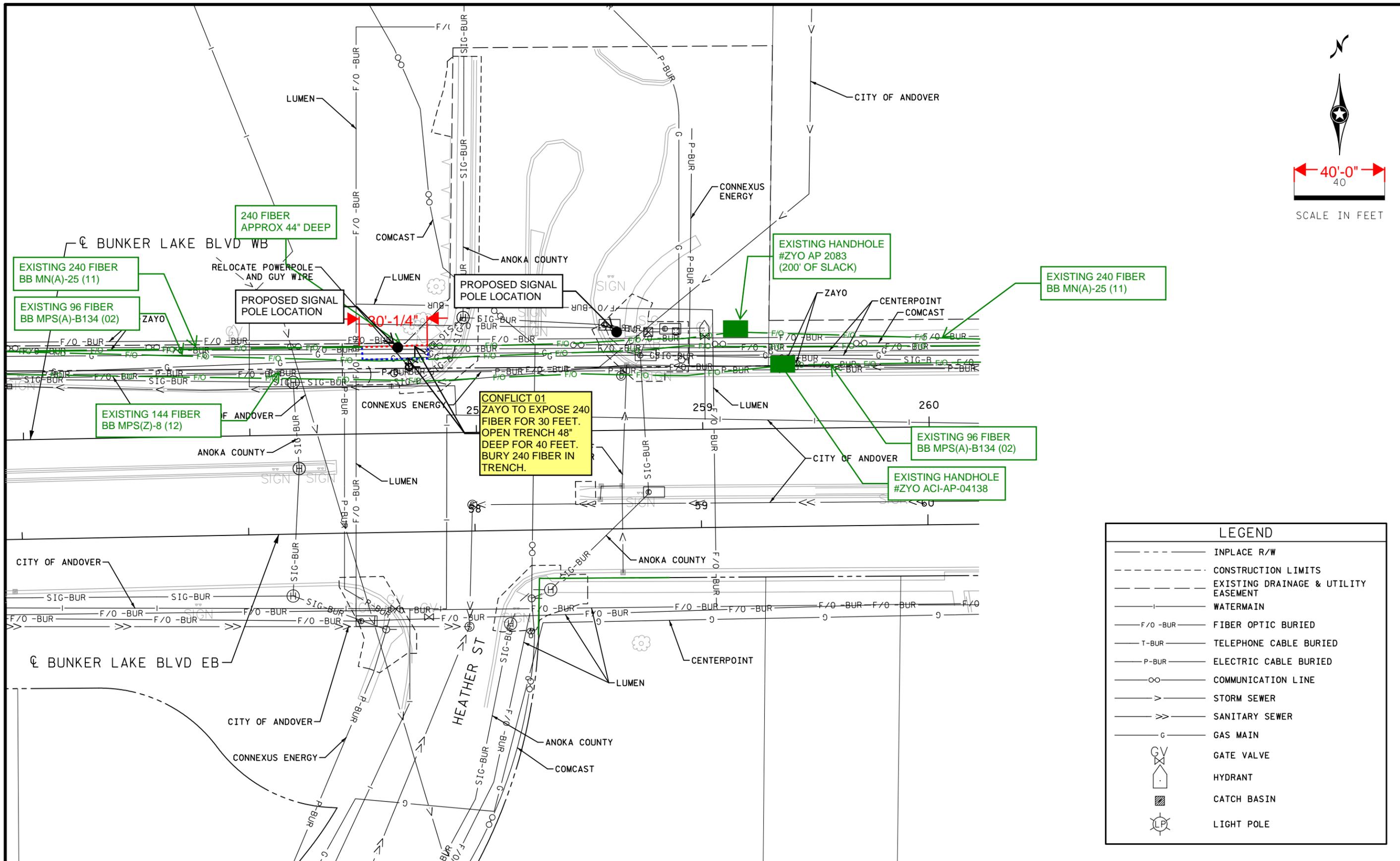
ANOKA COUNTY
HIGHWAY DEPT.

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



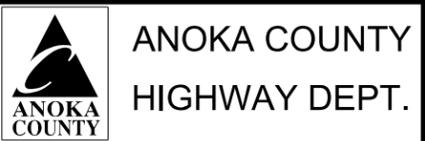
CONFLICT 01
ZAYO TO EXPOSE 240 FIBER FOR 30 FEET. OPEN TRENCH 48" DEEP FOR 40 FEET. BURY 240 FIBER IN TRENCH.

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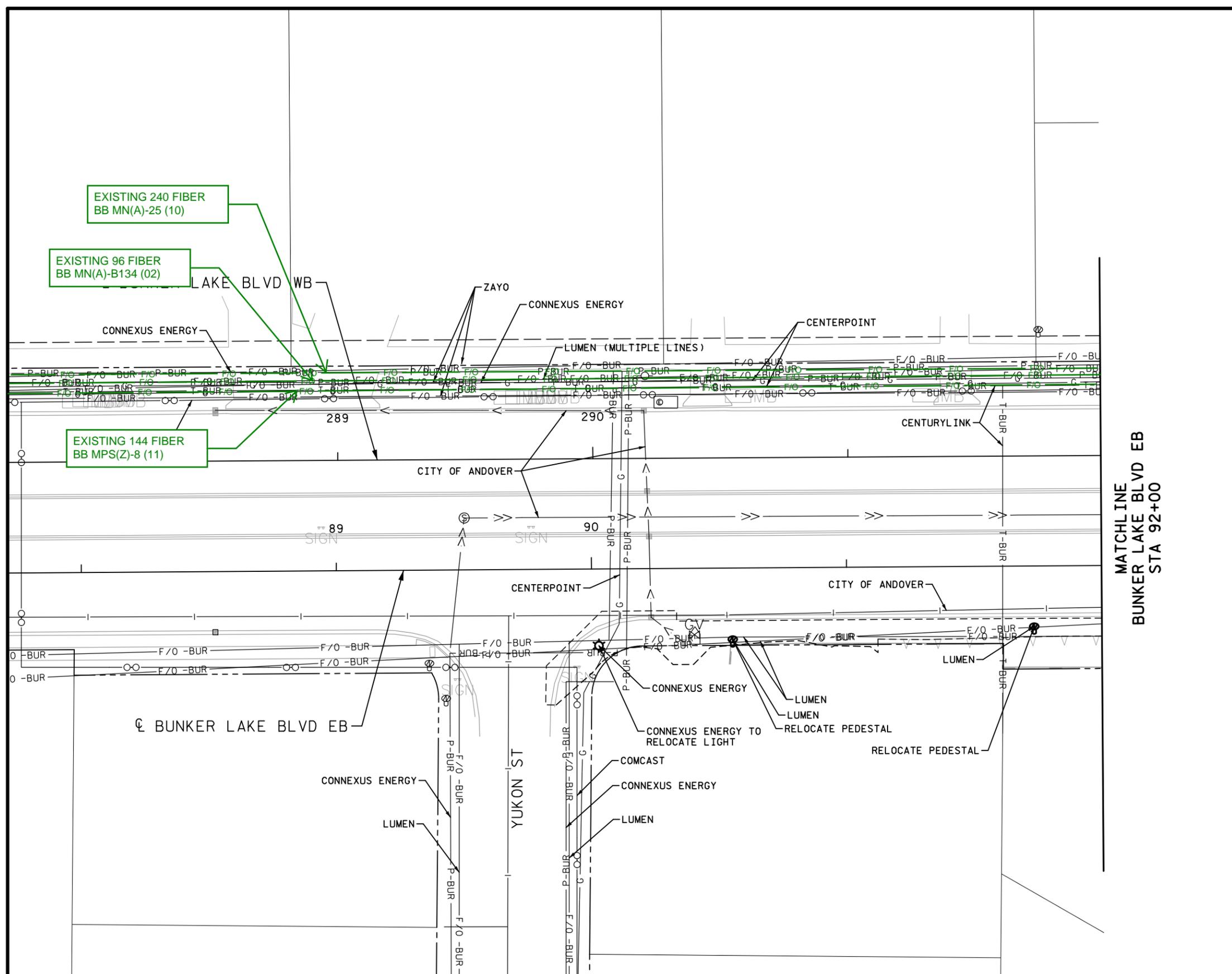
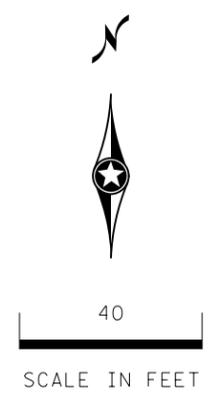
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: _____
 SIGNATURE: _____
 DATE: _____ LICENSE NO. _____

DRAWN BY BBF DATE 07/01/24
 DESIGN BY EVJ DATE 07/01/24
 CHECKED BY THG DATE 07/12/24



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



MATCHLINE
BUNKER LAKE BLVD EB
STA 92+00

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: _____

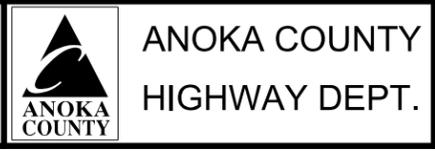
SIGNATURE: _____

DATE: _____ LICENSE NO. _____

DRAWN BY BBF DATE 07/01/24

DESIGN BY EVJ DATE 07/01/24

CHECKED BY THG DATE 07/12/24



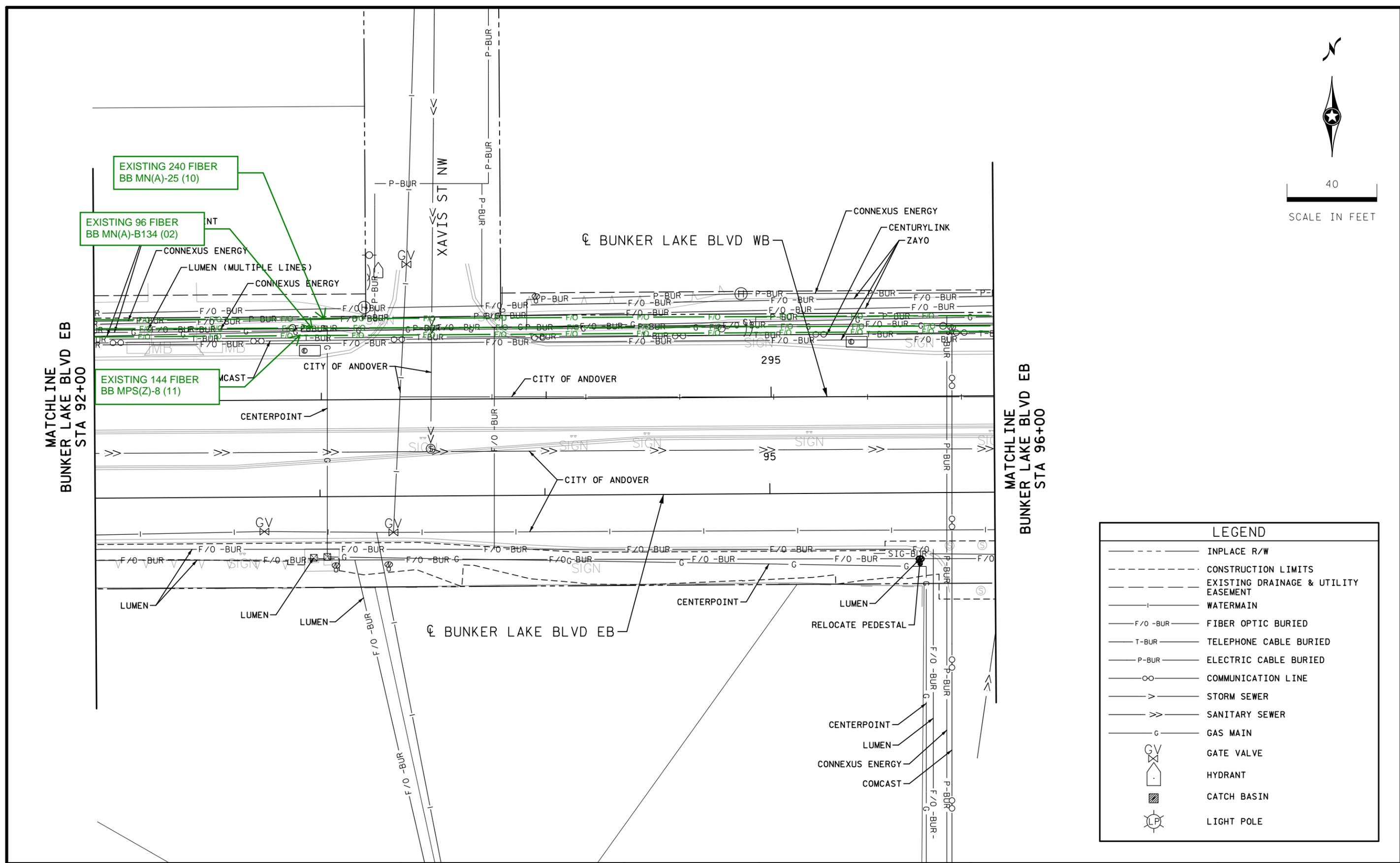
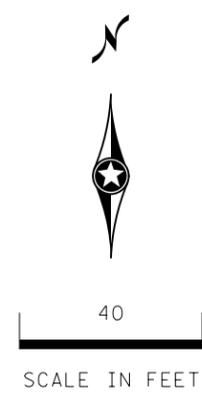
INPLACE TOPO AND UTILITY PLANS

COUNTY PROJECT SAP 002-716-024

CITY PROJECT SAP 198-020-040

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

Sheet 13 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	3:46:10 PM
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PRINT NAME: _____

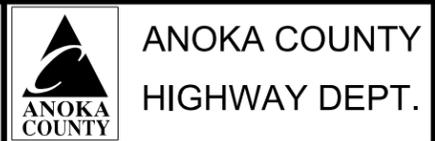
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DATE: _____ LICENSE NO. _____

DRAWN BY BBF DATE 07/01/24

DESIGN BY EVJ DATE 07/01/24

CHECKED BY THG DATE 07/12/24



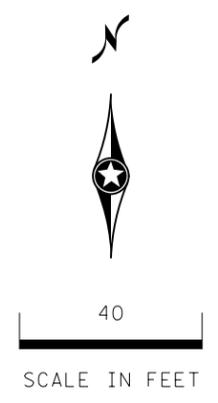
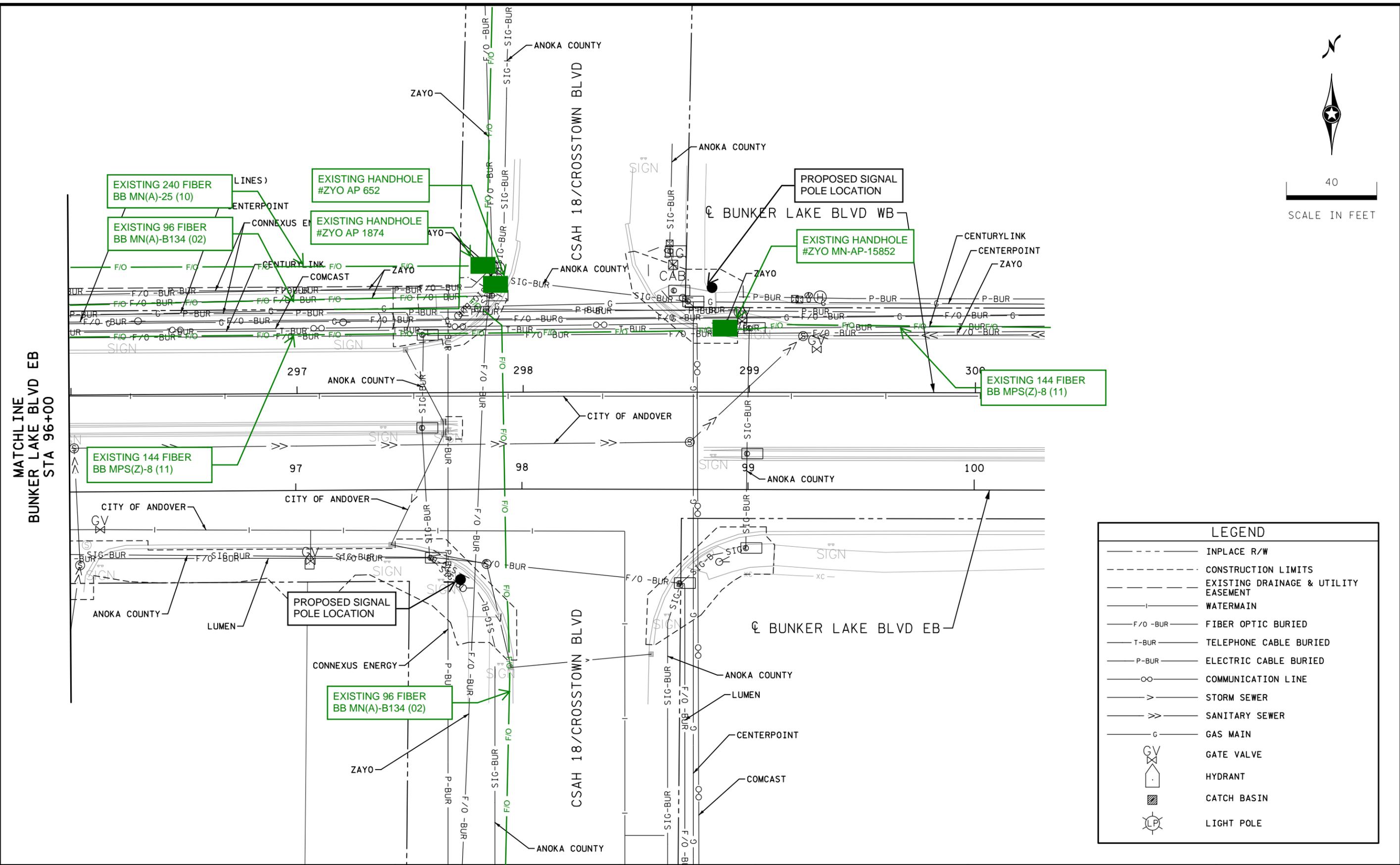
ANOKA COUNTY
HIGHWAY DEPT.

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 14 of 151 Sheets



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
	GATE VALVE
	HYDRANT
	CATCH BASIN
	LIGHT POLE

NO	DATE	BY	CKD	APPR	REVISION		
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PRINT NAME: _____

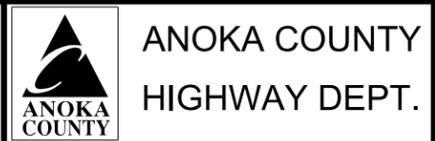
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DATE: _____ LICENSE NO. _____

DRAWN BY: BBF DATE: 07/01/24

DESIGN BY: EVJ DATE: 07/01/24

CHECKED BY: THG DATE: 07/12/24

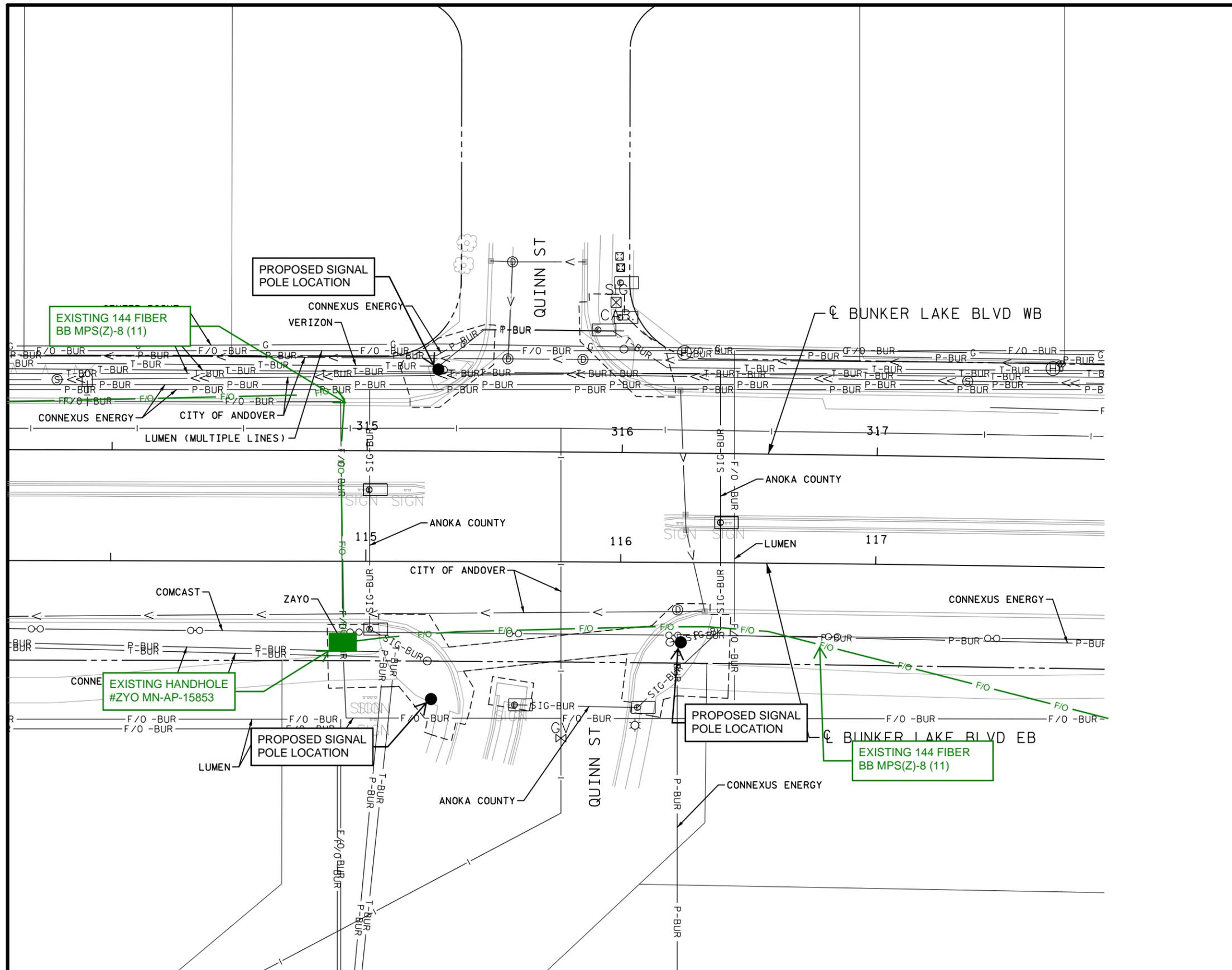


INPLACE TOPO AND UTILITY PLANS

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		
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NAME: ..\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd\1230174_ut06.dgn

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PRINT NAME: _____

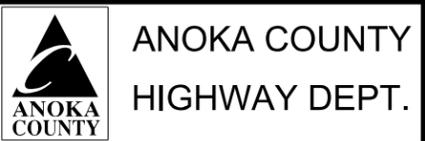
SIGNATURE: _____

DATE: _____ LICENSE NO. _____

DRAWN BY BBF DATE 07/01/24

DESIGN BY EVJ DATE 07/01/24

CHECKED BY THG DATE 07/12/24

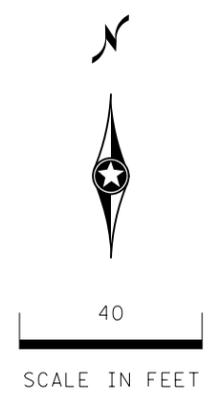
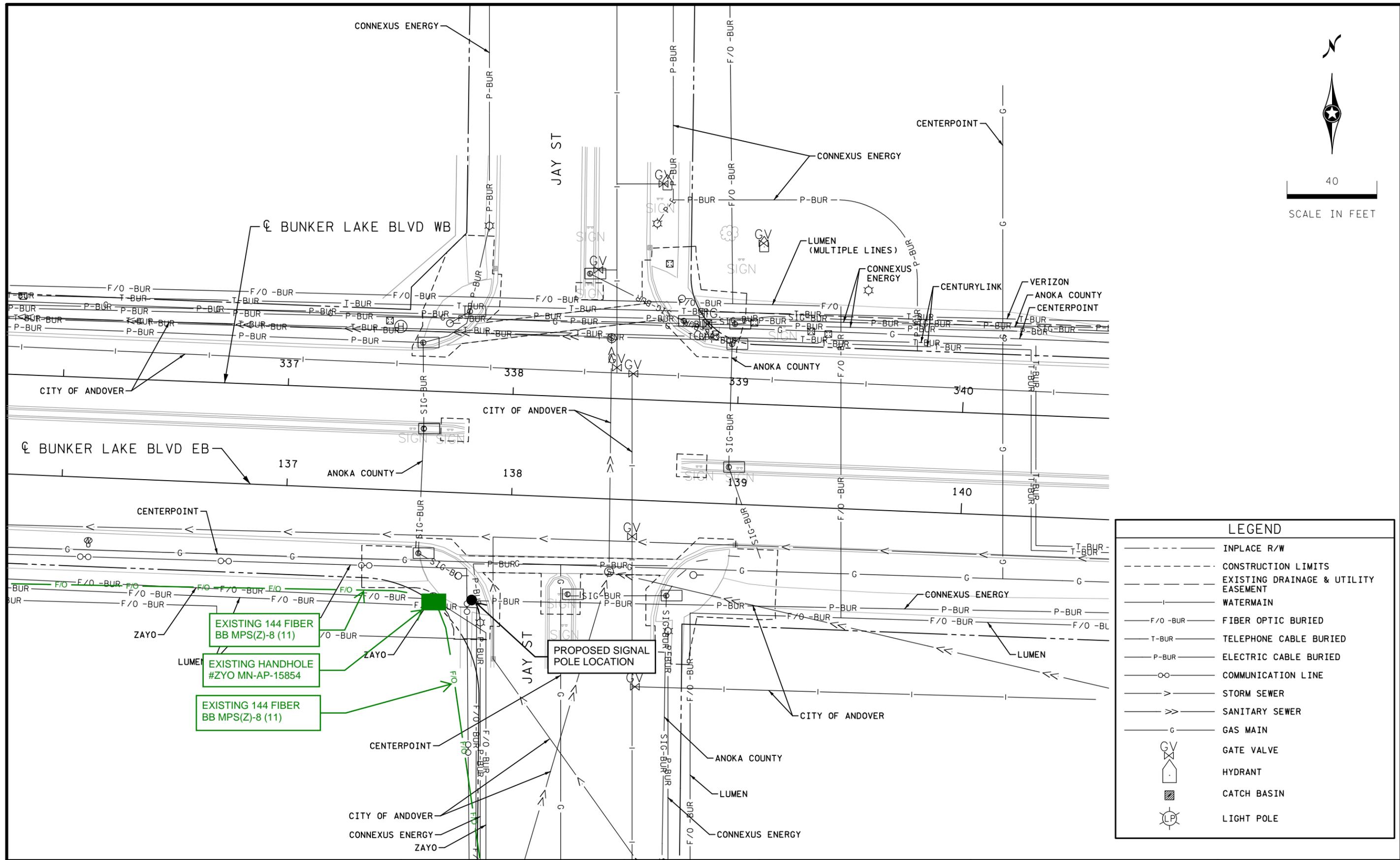


INPLACE TOPO AND UTILITY PLANS

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		
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	7/19/2024					3:47:33 PM	

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PRINT NAME: _____

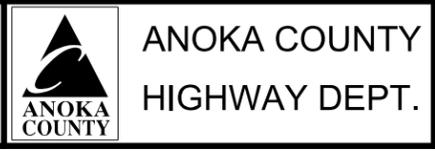
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DATE: _____ LICENSE NO. _____

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DESIGN BY EVJ DATE 07/01/24

CHECKED BY THG DATE 07/12/24



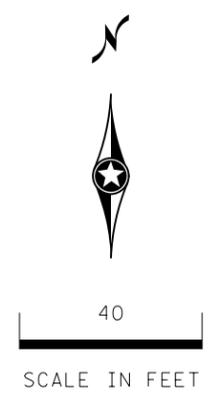
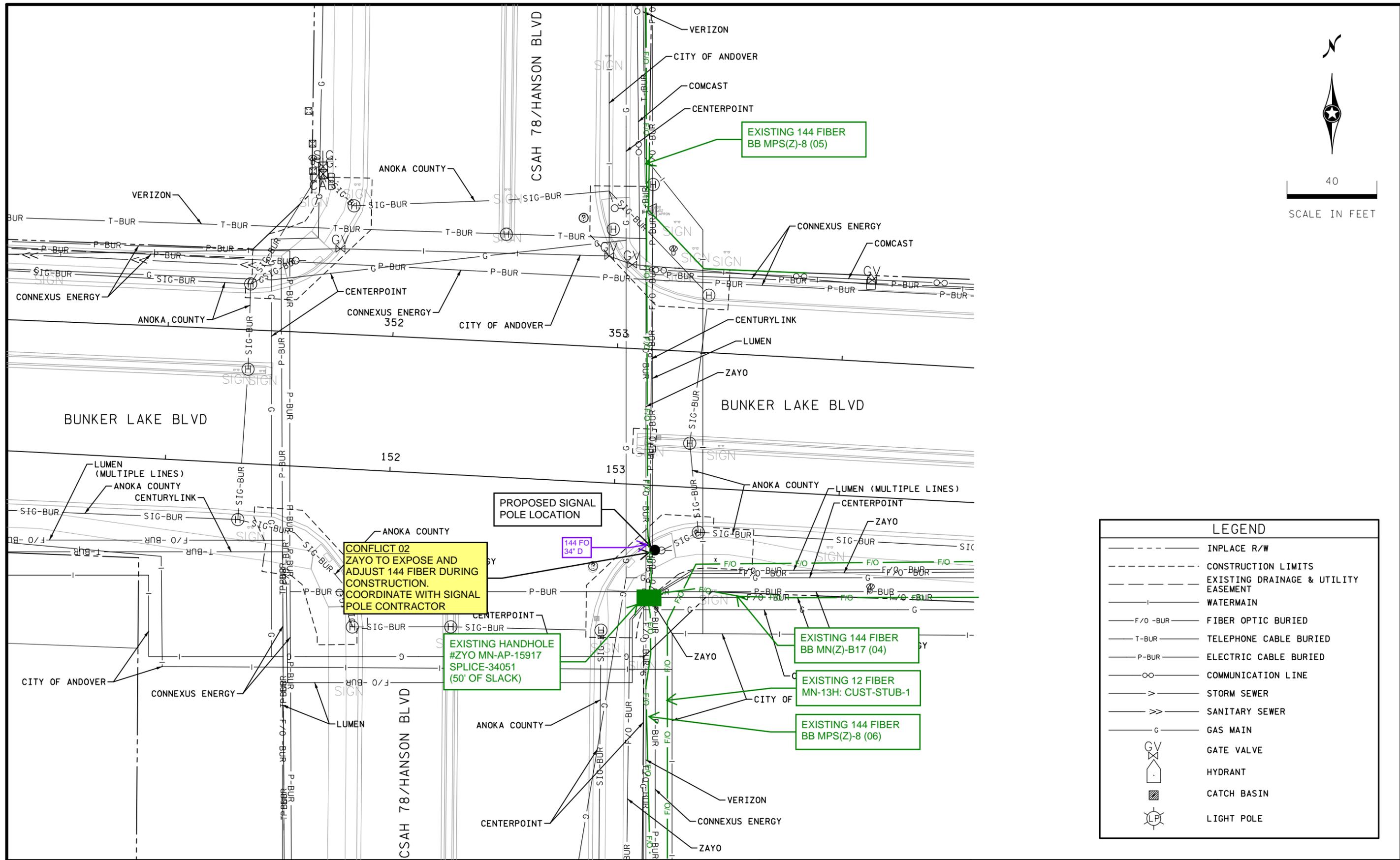
INPLACE TOPO AND UTILITY PLANS

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

CONFLICT 02
 ZAYO TO EXPOSE AND ADJUST 144 FIBER DURING CONSTRUCTION. COORDINATE WITH SIGNAL POLE CONTRACTOR

EXISTING HANDHOLE #ZYO MN-AP-15917 SPLICE-34051 (50' OF SLACK)

EXISTING 144 FIBER BB MPS(Z)-8 (05)

EXISTING 144 FIBER BB MN(Z)-B17 (04)

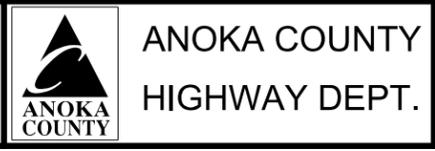
EXISTING 12 FIBER MN-13H: CUST-STUB-1

EXISTING 144 FIBER BB MPS(Z)-8 (06)

NO	DATE	BY	CKD	APPR	REVISION	7/19/2024	3:47:43 PM
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7/19/2024	3:47:43 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 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

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

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.

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

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)

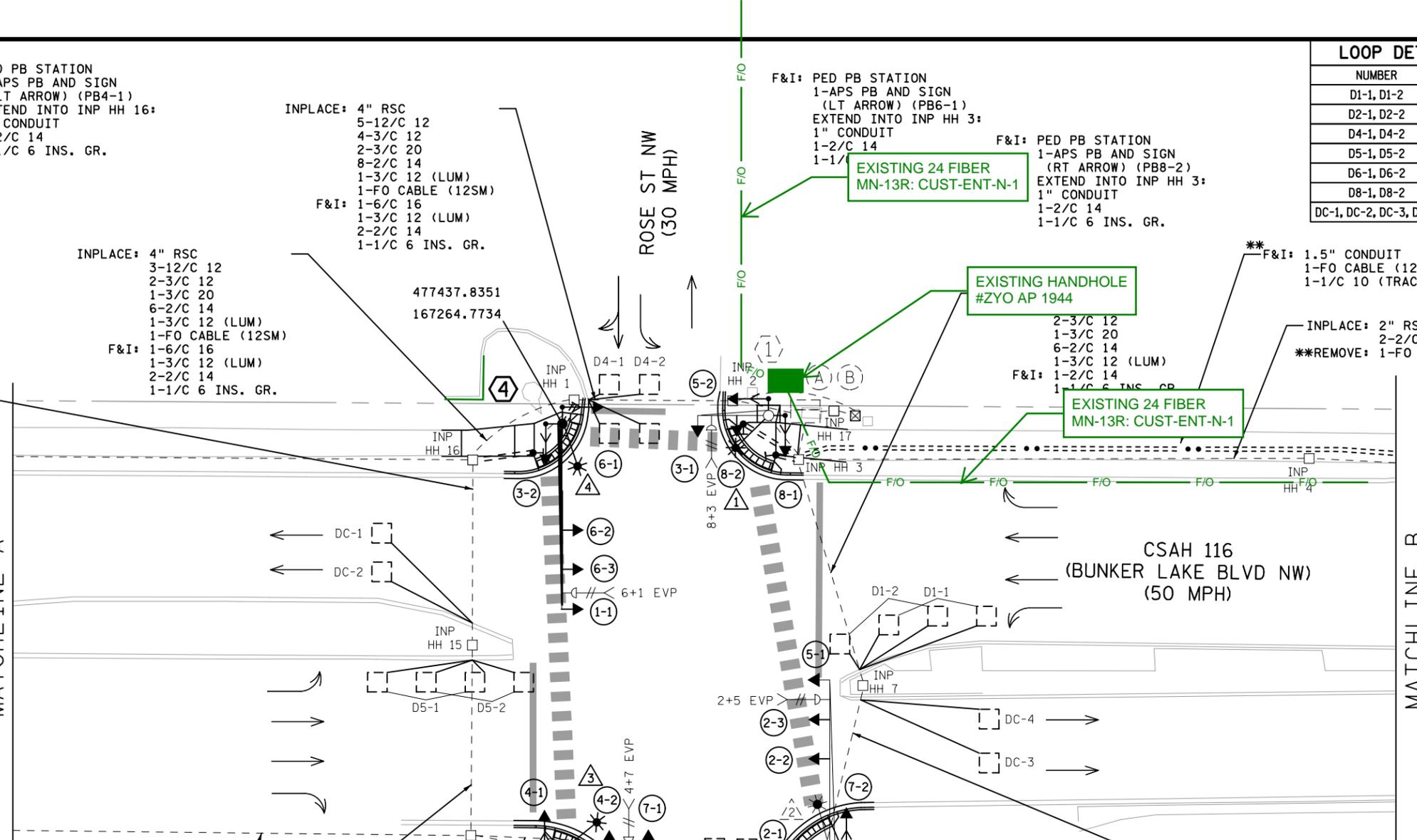
INPLACE: 4" RSC
 3-12/C 12
 2-3/C 12
 1-3/C 20
 6-2/C 14
 1-3/C 12 (LUM)
 1-FO CABLE (12SM)
 F&I: 1-6/C 16
 1-3/C 12 (LUM)
 2-2/C 14
 1-1/C 6 INS. GR.

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

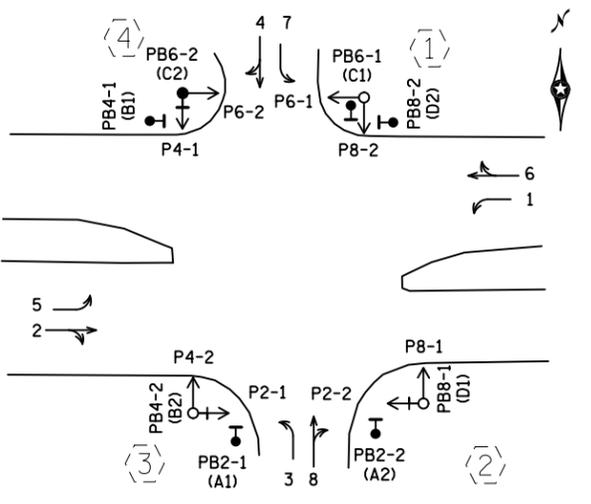
INPLACE: 2" RSC
 2-2/C 14
 **REMOVE: 1-FO CABLE (12SM)

MATCHLINE A

MATCHLINE B



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.

F&I: PED PB STATION
 1-APS PB AND SIGN (LT ARROW) (PB2-1)
 EXTEND INTO INP HH 10:
 1" CONDUIT
 1-2/C 14
 1-1/C 6 INS. GR.

F&I: PED PB STATION
 1-APS PB AND SIGN (RT ARROW) (PB2-2)
 EXTEND INTO INP HH 8:
 1" CONDUIT
 1-2/C 14
 1-1/C 6 INS. GR.

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

NOTES:

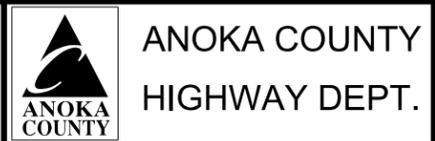
- SEE THE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- THE EXACT LOCATION OF THE HANDHOLES, LOOP DETECTORS, UNDERGROUND CONDUIT, AND THE EQUIPMENT PAD ARE DETERMINED IN THE FIELD. VERIFY THE LOCATIONS OF ALL SIGNAL COMPONENTS WITH ANOKA COUNTY PERSONNEL. CONDUITS UNDER ROADWAYS TYPICALLY REQUIRE 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 TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

NO	DATE	BY	CKD	APPR	REVISION

NAME: J:\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174_sgl10.dgn 7/22/2024 2:43:03 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: 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



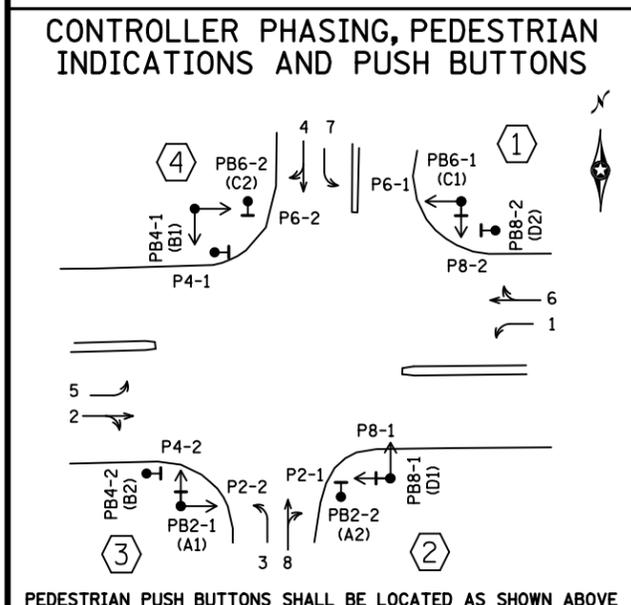
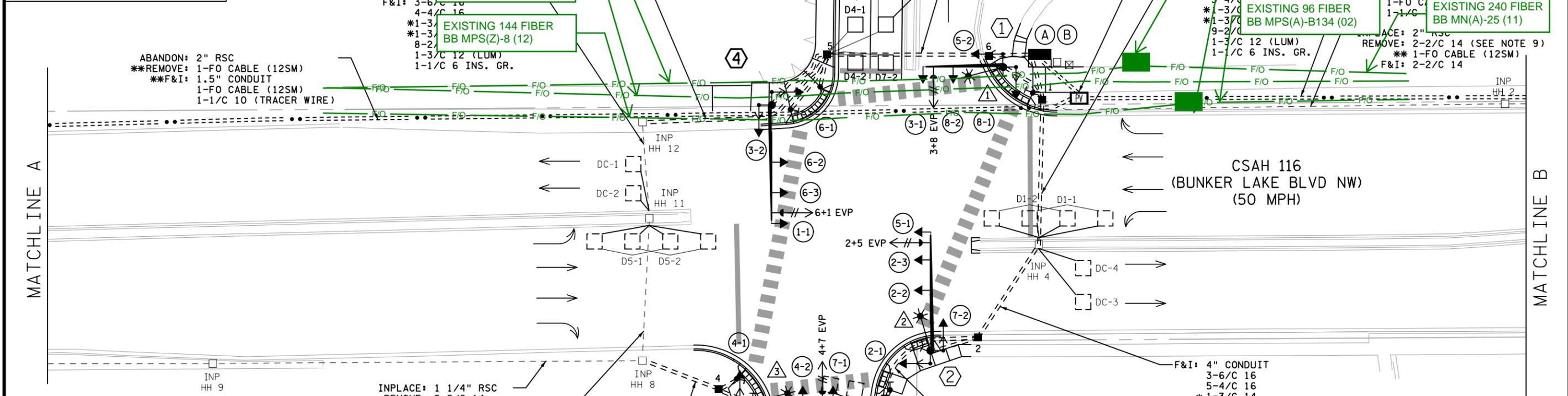
REVISE SIGNAL SYSTEM A LAYOUT
 BUNKER LAKE BLVD & ROSE ST
 COUNTY PROJECT SAP 002-716-024
 CITY PROJECT SAP 198-020-040

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	



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.

INPLACE: 1 1/4" RSC
REMOVE: 2-2/C 14 (SEE NOTE 9)
F&I: 2-2/C 14

INPLACE: 3" RSC
REMOVE: SIGNAL CABLES (SEE NOTE 9)
F&I: 3-6/C 16, 4-4/C 16, *1-3/C 14, *1-3/C 20, 4-2/C 14, 1-3/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, 2-2/C 14, 1-3/C 12 (LUM), 1-1/C 6 INS. GR.

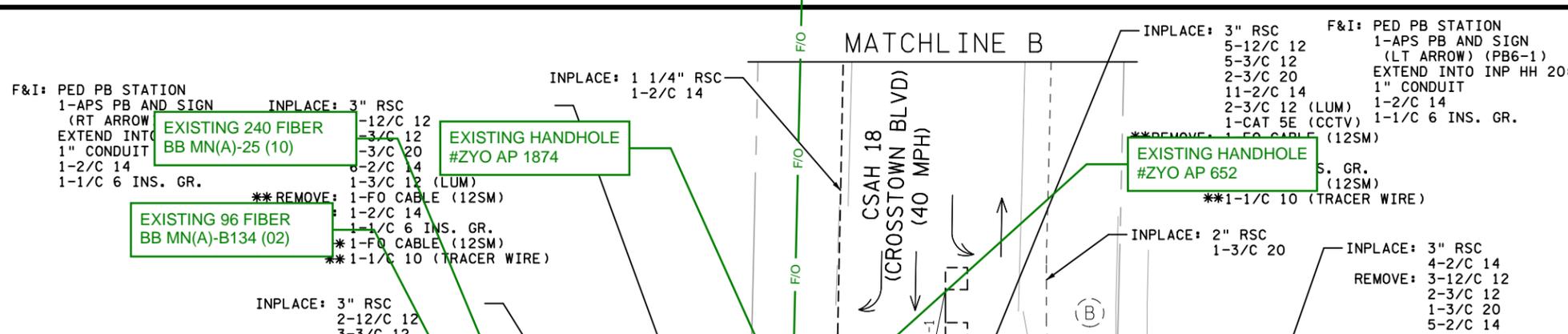
F&I: PED PB STATION
 1-APS PB AND SIGN (RT ARROW) (PB4-2)
 EXTEND INTO HH 4:
 1" CONDUIT 1-2/C 14, 1-1/C 6 INS. GR.

INPLACE: 2" RSC
REMOVE: 1-2/C 14
F&I: 1-2/C 14

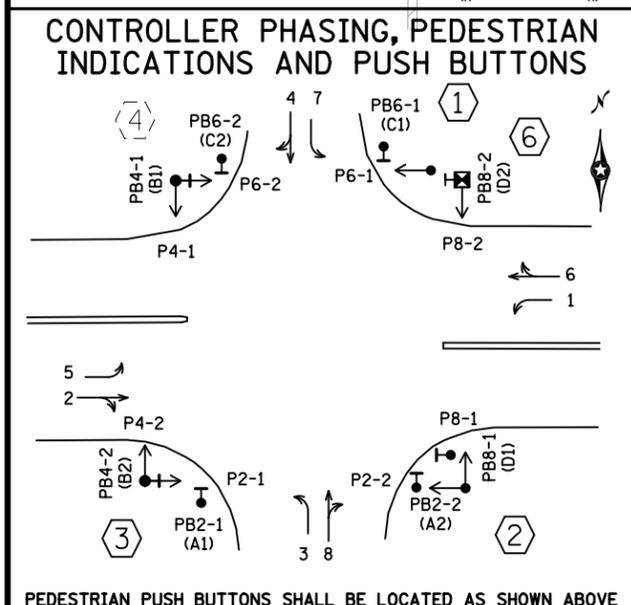
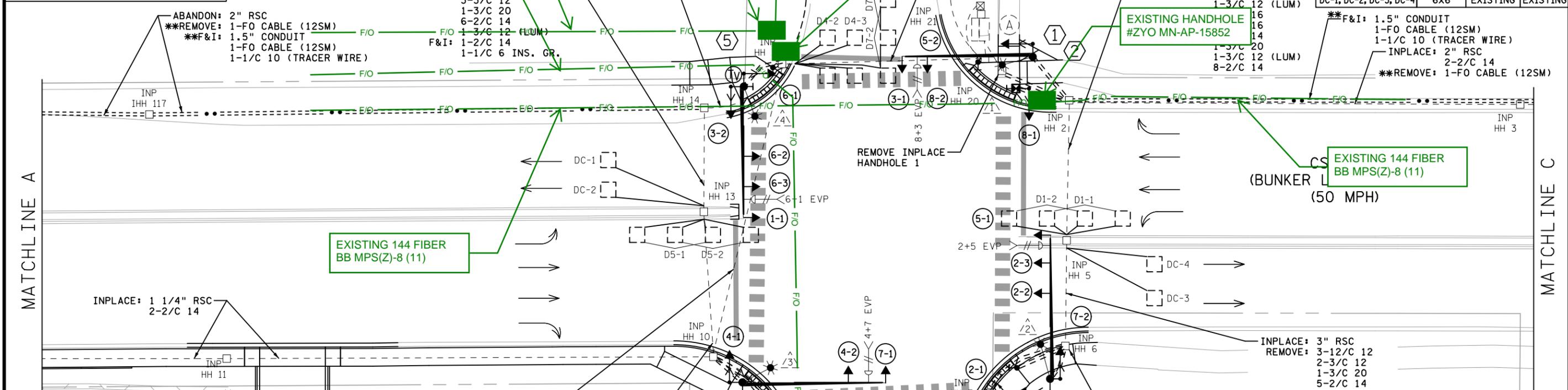
- NOTES:**
- SEE THE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 - THE EXACT LOCATION OF THE HANDHOLES, LOOP DETECTORS, UNDERGROUND CONDUIT, AND THE EQUIPMENT PAD ARE DETERMINED IN THE FIELD. VERIFY THE LOCATIONS OF ALL SIGNAL COMPONENTS WITH ANOKA COUNTY PERSONNEL. CONDUITS UNDER ROADWAYS TYPICALLY 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

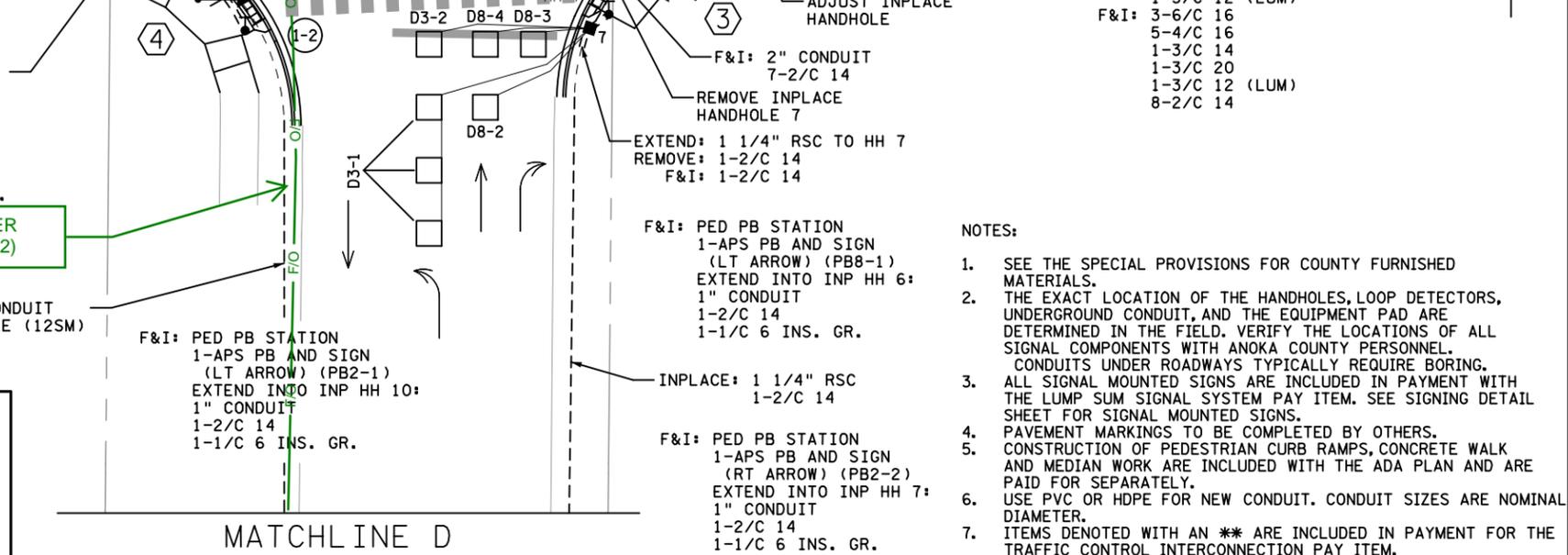


LOOP DETECTOR CHART				
NUMBER	SIZE (FT)	LOCATION	STATUS	
D1-1, D1-2	2-6x6	AS SHOWN	EXISTING	
D2-1, D2-2	6x6	AS SHOWN	EXISTING	
D3-1	3-6x6	20, 35, 50	F & I	
D3-2	6x6	5	F & I	
D4-1	6x6	20	EXISTING	
D4-2	6x6	5	EXISTING	
D5-1, D5-2	2-6x6	AS SHOWN	EXISTING	
D6-1, D6-2	6x6	AS SHOWN	EXISTING	
D7-1, D7-2	2-6x6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

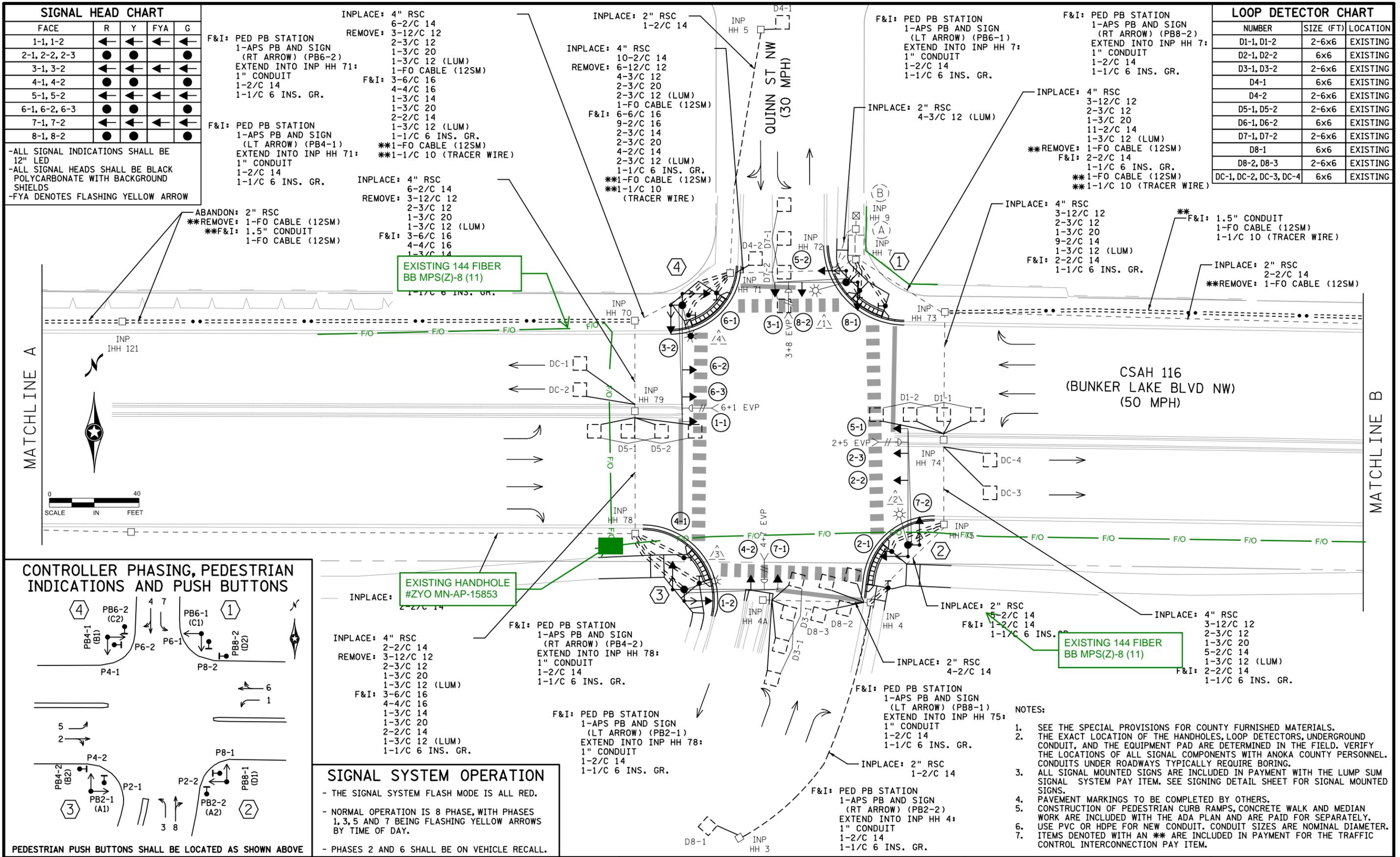


SIGNAL SYSTEM OPERATION

- 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 TRAFFIC CONTROL INTERCONNECTION PAY ITEM.



NO	DATE	BY	CKD	APPR	REVISION
NAME: ..\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174_sg40.dgn					
8/5/2024					
7:18:02 AM					

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

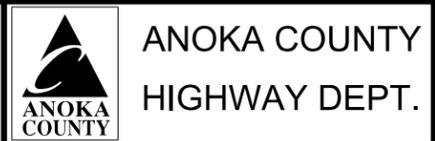
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DATE: 07/19/24 LICENSE NO. 44683

DRAWN BY: KAS DATE: 07/01/24

DESIGN BY: KAS DATE: 07/08/24

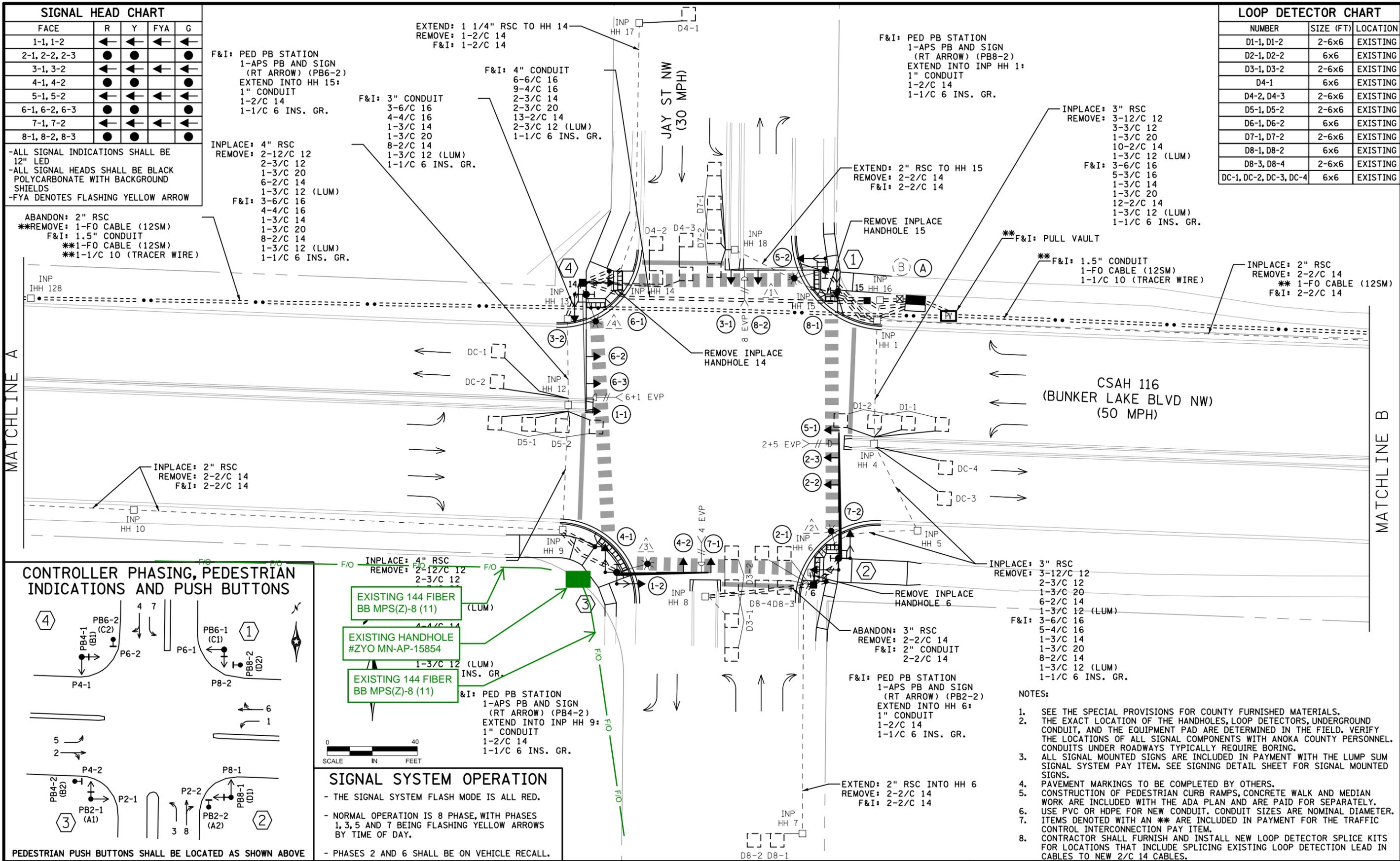
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REVISE SIGNAL SYSTEM D LAYOUT
 BUNKER LAKE BLVD & QUINN ST
 COUNTY PROJECT SAP 002-716-024
 CITY PROJECT SAP 198-020-040

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	●	●	●	●

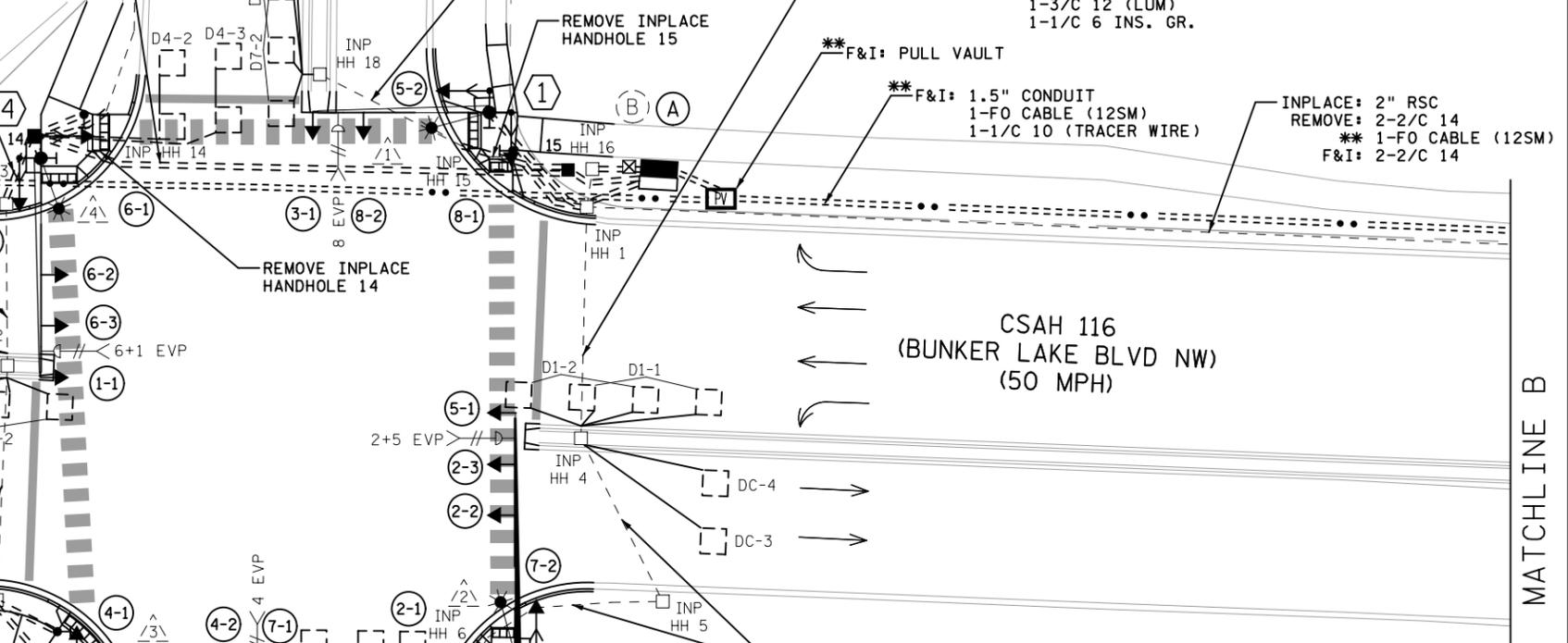
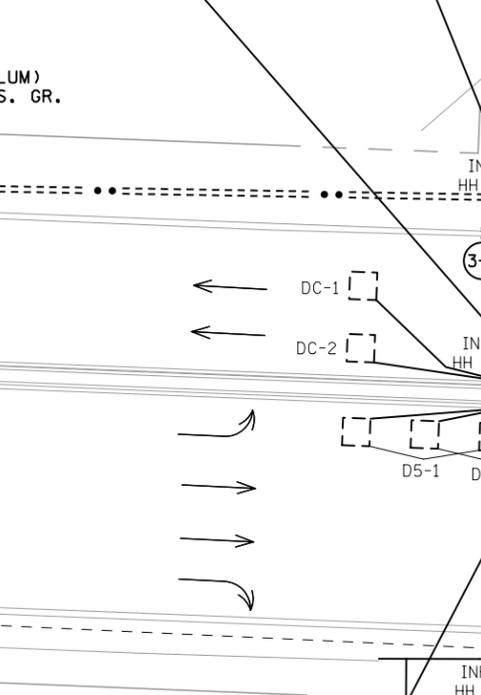
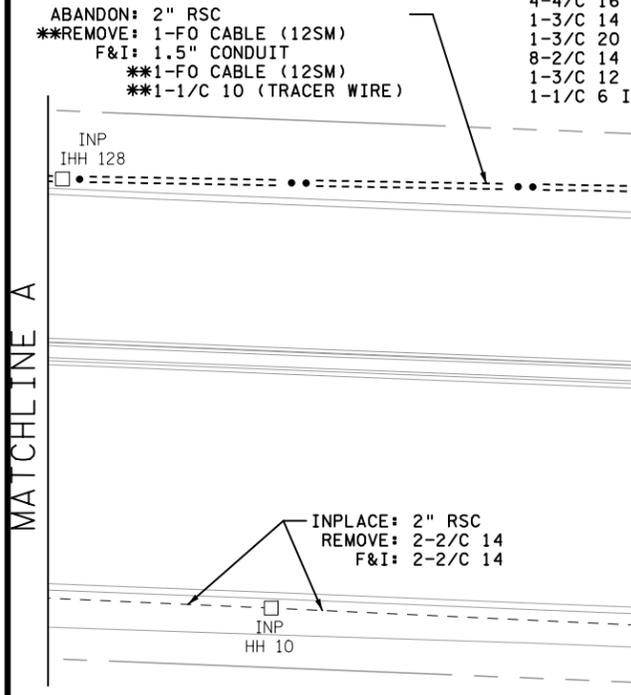
F&I: PED PB STATION
 1-APS PB AND SIGN (RT ARROW) (PB6-2)
 EXTEND INTO HH 15:
 1" CONDUIT
 1-2/C 14
 1-1/C 6 INS. GR.

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

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



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

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

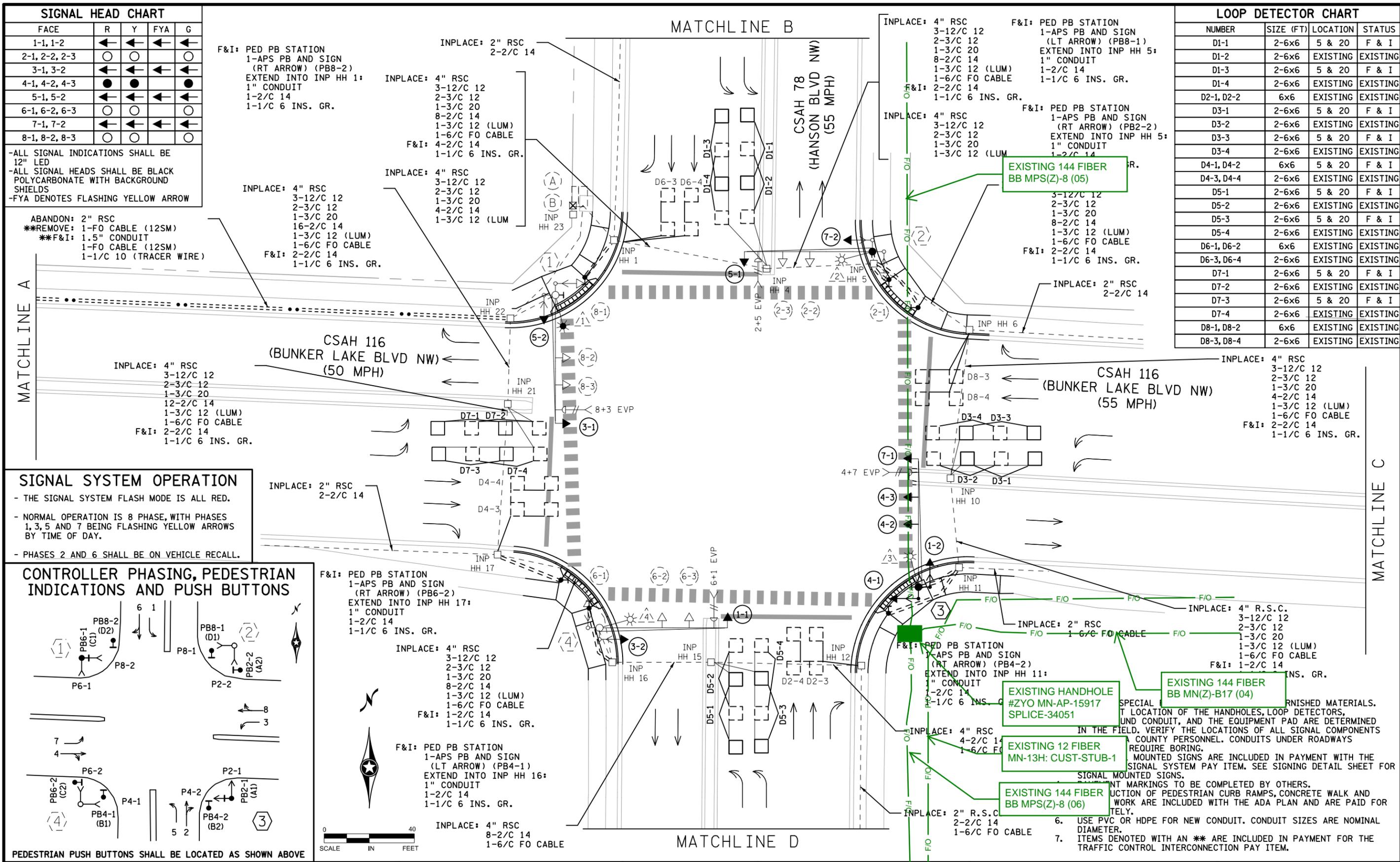
ANOKA COUNTY HIGHWAY DEPT.

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

NO	DATE	BY	CKD	APPR	REVISION

NAME: ..\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174_sgl50.dgn
 7/22/2024 2:51:33 PM



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, 4-3	●	●	●	●
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

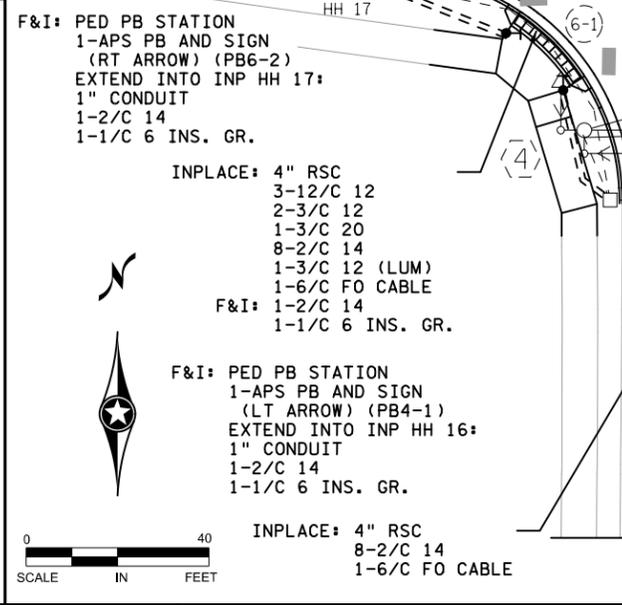
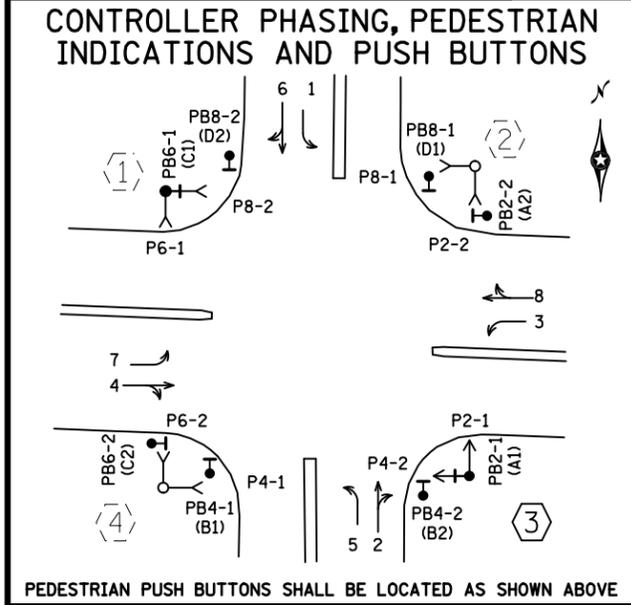
ABANDON: 2" RSC
 **REMOVE: 1-FO CABLE (12SM)
 **F&I: 1.5" CONDUIT
 1-FO CABLE (12SM)
 1-FO CABLE (12SM)
 1-1/2" 10 (TRACER WIRE)

LOOP DETECTOR CHART

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

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.



Certificate Of Completion

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

Status: Sent

Subject: Jeremy Wegleitner - ROW Permit Application

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Envelope Originator:

Certificate Pages: 4

Initials: 1

Highway Permits

AutoNav: Enabled

Anoka County Government Center

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highwaypermits@anokacountymn.gov

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Pool: Anoka County

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Jeremy Wegleitner

jwegleitner@terratechllc.net

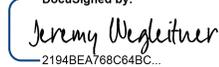
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Susan Burgmeier

Susan.Burgmeier@anokacountymn.gov

Associate Traffic Technician

Anoka County

Signing Group: Highway Permits

Security Level: Email, Account Authentication
(Optional)

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Jeremy Wegleitner

jwegleitner@terratechllc.net

Security Level: Email, Account Authentication
(Optional)

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Notary Events	Signature	Timestamp
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Envelope Summary Events	Status	Timestamps
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Payment Events	Status	Timestamps
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changing an email address, please include your prior email address as well as your new address. If you no longer wish to receive future documents in electronic format, please include that request in the body of your email.

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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