

MINNESOTA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN FOR ELECTRIC LIGHTING SYSTEM

SYSTEM A LOCATED ON T. H. 94 AT ELM CREEK REST AREA
 SYSTEM B LOCATED ON T. H. 35 AT FOREST LAKE REST AREA

STATE FUNDS

GOVERNING SPECIFICATIONS

THE 2014 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION
 'STANDARD SPECIFICATIONS FOR CONSTRUCTION' AND THE 2014 EDITION OF THE
 'MATERIALS LAB SUPPLEMENTAL SPECIFICATIONS FOR CONSTRUCTION' SHALL GOVERN.

INDEX

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1	TITLE SHEET
2	LIGHTING QUANTITIES
3-6	DETAIL SHEETS
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10-12	LIGHTING PLAN SHEETS (SYS. A)
13	LIGHTING PLAN DETAILS (SYS. A)
14	UTILITIES INFORMATION
15-17	UTILITIES PLAN SHEETS (SYS. A)
18-20	REMOVAL SHEETS (SYS. B)
21-23	LIGHTING PLAN SHEETS (SYS. B)
24	LIGHTING PLAN DETAILS (SYS. B)
25-27	UTILITIES PLAN SHEETS (SYS. B)

THIS PLAN CONTAINS 27 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: SUSAN ZARLING LICENSE # 24682

DATE: 3/20/2014 SIGNATURE: _____

DESIGN SQUAD _____

RECOMMENDED FOR APPROVAL _____ 20
 DISTRICT TRANSPORTATION ENGINEER

RECOMMENDED FOR APPROVAL _____ 20
 DISTRICT TRAFFIC ENGINEER

RECOMMENDED FOR APPROVAL _____ 20
 STATE PRE-LETTING ENGINEER

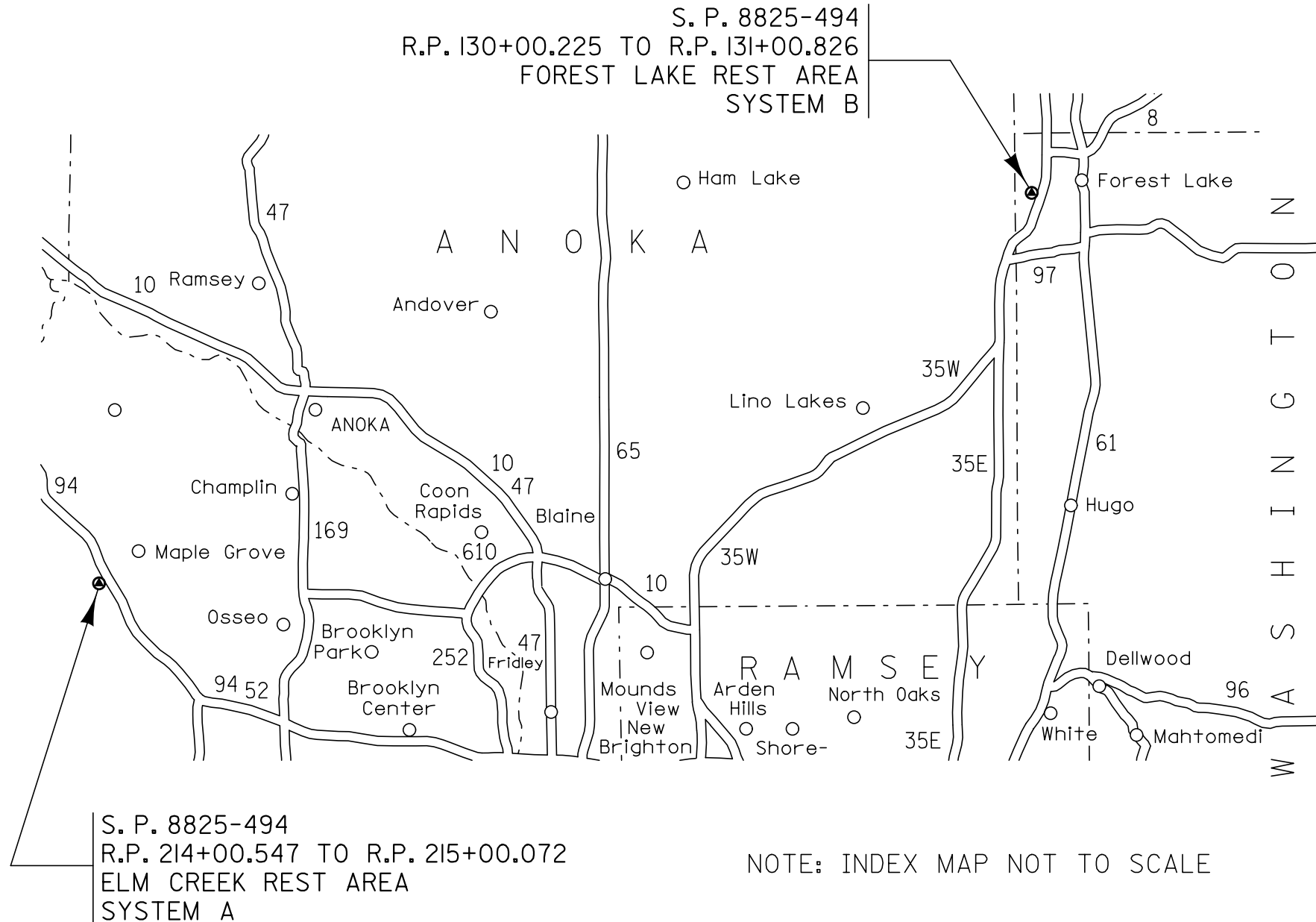
OFFICE OF LAND MANAGEMENT APPROVAL _____ 20
 DIRECTOR, LAND MANAGEMENT

APPROVED _____ 20
 STATE DESIGN ENGINEER

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: _____



NOTE: INDEX MAP NOT TO SCALE

FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

STATE PROJ. NO. 8825-494 CHARGE IDENTIFIER _____

PROJECT LOCATION
 COUNTY : HENNEPIN & WASHINGTON
 DISTRICT : METRO

STATE PROJ. NO. 8825-494

SHEET NO. 1 OF 27 SHEETS

PLOTTED/REVISED: 22-APR-2015

DISTRICT *: DISTRICT *
 IPLOT NAME: RiceLakerest3
 PATH & FILENAME: Documents/Projects/DM_ROS/999/8825/494/Traffic/Lighting/OT/ST/ElmCreekrest.dgn

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

PLOTTED/REVISED: 22-APR-2015

DISTRICT: DISTRICT 4
 IPLOT NAME: RiceLakeRest4
 PATH & FILENAME: Documents/Projects/DM罗斯/999/8825/494/Traffic/Lighting0TST/ElmCreekRest.dgn

THE FOLLOWING STANDARD PLATES APPROVED BY THE MINNESOTA DEPT. OF TRANSPORTATION AND THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

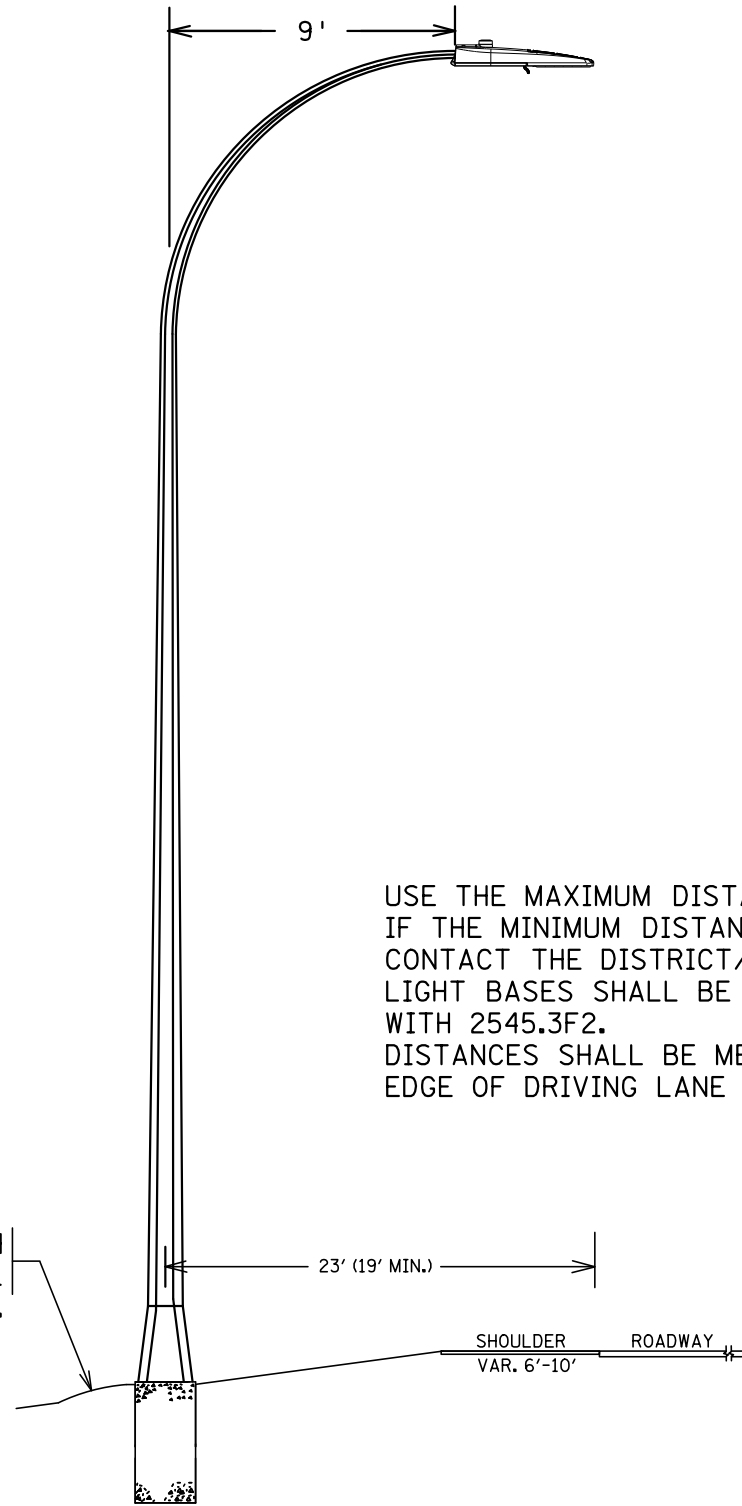
STANDARD PLATES	
PLATE NO.	DESCRIPTION
8106B	EQUIPMENT PAD B
8127C	LIGHT FOUNDATION DESIGN E
8129A	SHIM AND WASHER

STATEMENT OF ESTIMATED QUANTITIES			
ITEM NO.		UNIT	S.P. 8825-494
			ESTIMATED QUANTITIES
2545.501	ELECTRIC LIGHT SYSTEM "A"	LUMP SUM	1
2545.501	ELECTRIC LIGHT SYSTEM "B"	LUMP SUM	1

ELECTRIC LIGHT SYSTEM A = ELM CREEK REST AREA
 ELECTRIC LIGHT SYSTEM B = FOREST LAKE REST AREA

BY	DATE	REVISIONS	FEEDPOINT: A14X, B34H	LOCATION: T.H. 94, T.H. 35	LIGHTING QUANTITIES
			METER ADDRESS:		
DRAWN BY: CKD BY: DATE:			CERTIFIED BY _____	LIC. NO. <u>24682</u> DATE: <u>22-APR-2015</u>	STATE PROJ. NO. 8825-494 SHEET NO. 2 OF 27 SHEETS

LICENSED PROFESSIONAL ENGINEER

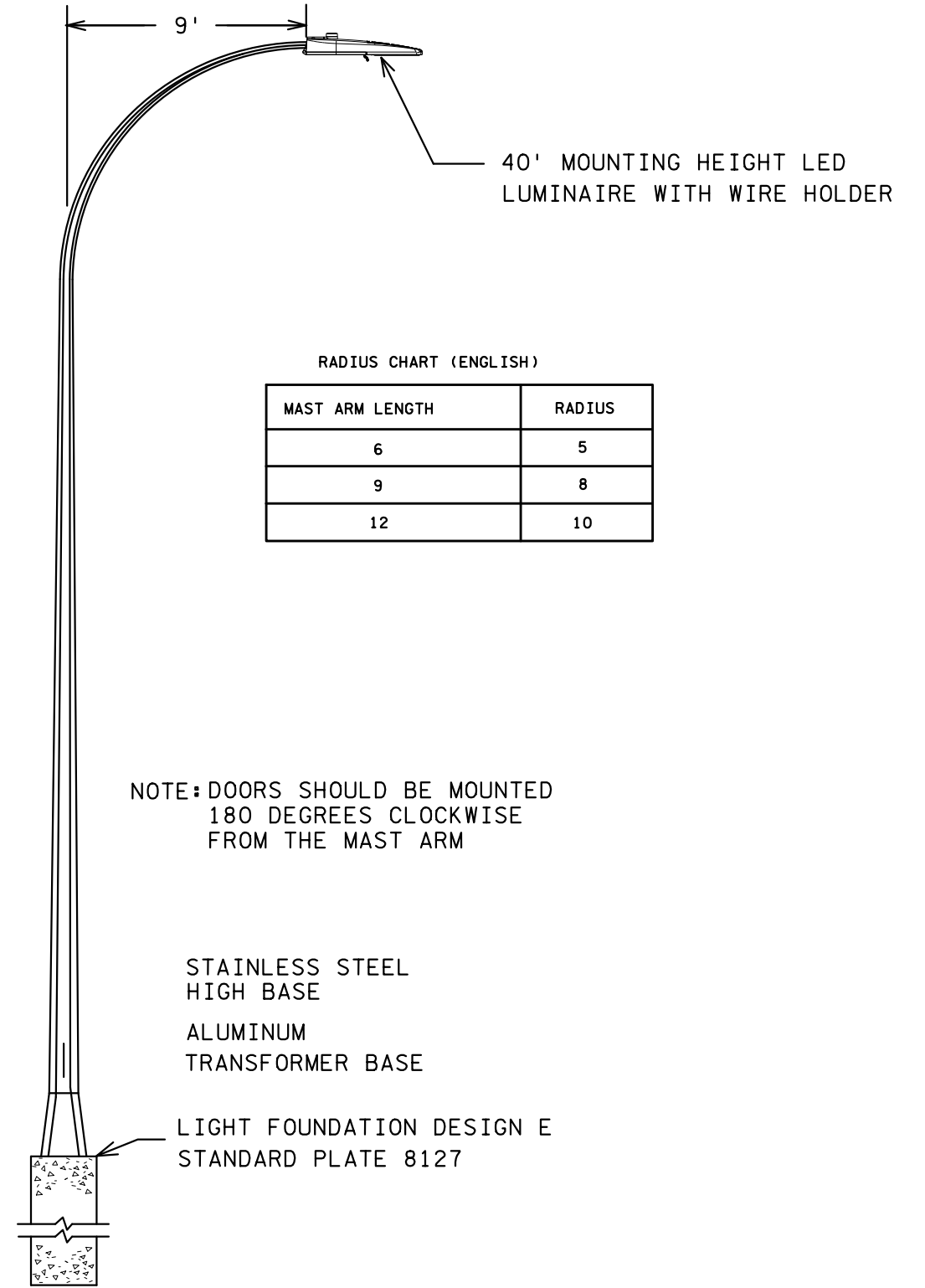


FILL AROUND FOUNDATION TOP WITH EXCAVATED DIRT. GRADE DIRT LEVEL WITH BOTTOM OF CONCRETE CHAMFER.

USE THE MAXIMUM DISTANCE WHENEVER POSSIBLE, IF THE MINIMUM DISTANCE CANNOT BE OBTAINED CONTACT THE DISTRICT/DIVISION TRAFFIC ENGINEER LIGHT BASES SHALL BE PLACED IN ACCORDANCE WITH 2545.3F2. DISTANCES SHALL BE MEASURED FROM THE EDGE OF DRIVING LANE OR TURN LANE.

LIGHTING PLACEMENT DETAIL

APPLIES TO LIGHTS X1, X2, X3, X6, X7, X8, X17, X18, X19, X20, X21, X22, H1, H2, H3, H4, H5, H6, H18, H19, H20, H21, H22, H23 & H24.



40' MOUNTING HEIGHT LED LUMINAIRE WITH WIRE HOLDER

RADIUS CHART (ENGLISH)

MAST ARM LENGTH	RADIUS
6	5
9	8
12	10

NOTE: DOORS SHOULD BE MOUNTED 180 DEGREES CLOCKWISE FROM THE MAST ARM

STAINLESS STEEL HIGH BASE

ALUMINUM TRANSFORMER BASE

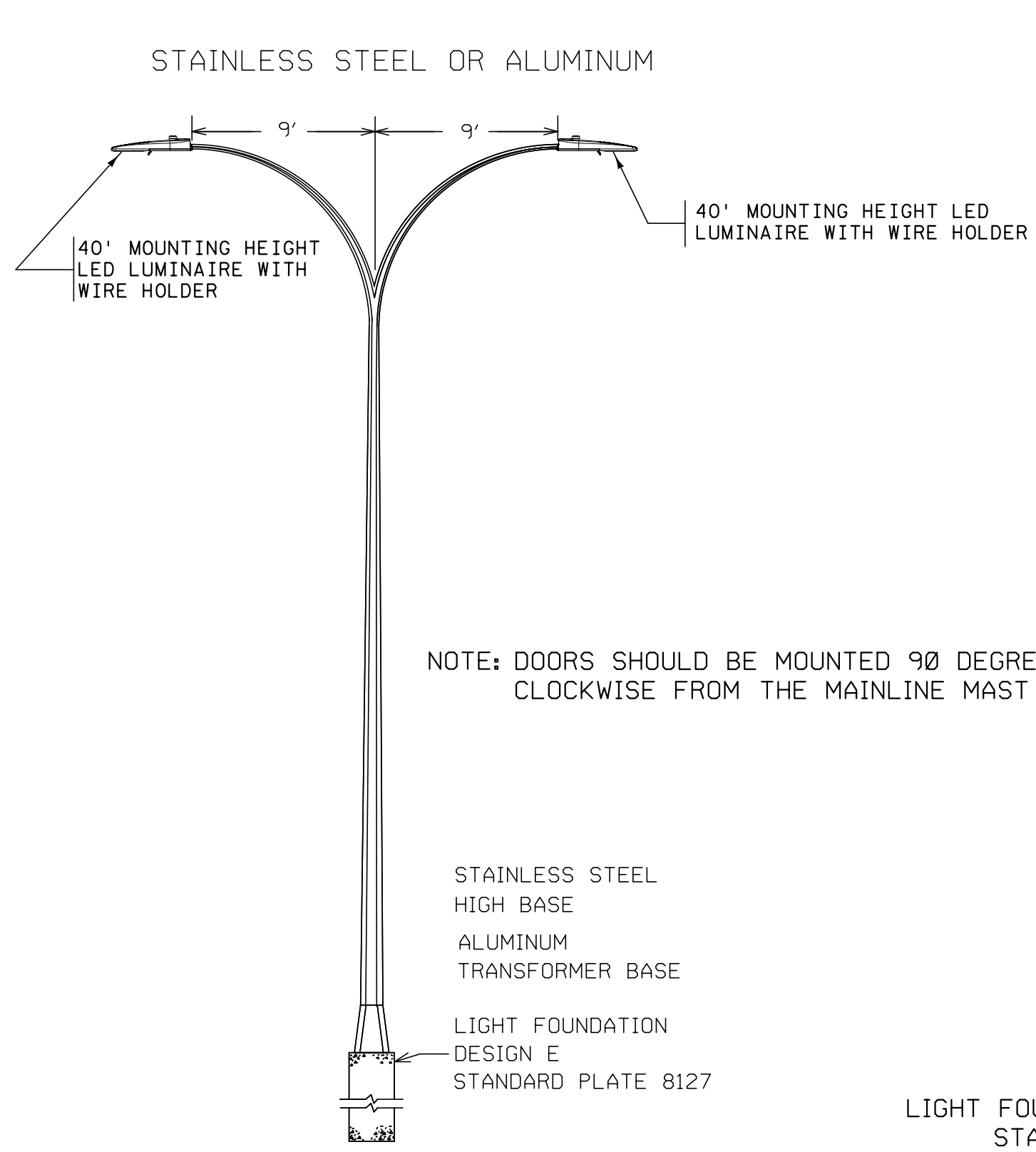
LIGHT FOUNDATION DESIGN E STANDARD PLATE 8127

LIGHTING UNIT TYPE 9-40 (BREAKAWAY)

LIGHTS X1, X2, X3, X6, X7, X8, X17, X18, X19, X20, X21, X22, H1, H2, H3, H4, H5, H6, H18, H19, H20, H21, H22, H23 & H24.

BY	DATE	REVISIONS	FEEDPOINT: A14X, B34H METER ADDRESS:	LOCATION: T.H. 94, T.H. 35	LIGHTING DETAILS	
DRAWN BY:	CKD BY:	DATE:	CERTIFIED BY _____ <small>LICENSED PROFESSIONAL ENGINEER</small>	LIC. NO. 24682 DATE: 22-APR-2015	STATE PROJ. NO. 8825-494	SHEET NO. 3 OF 27 SHEETS

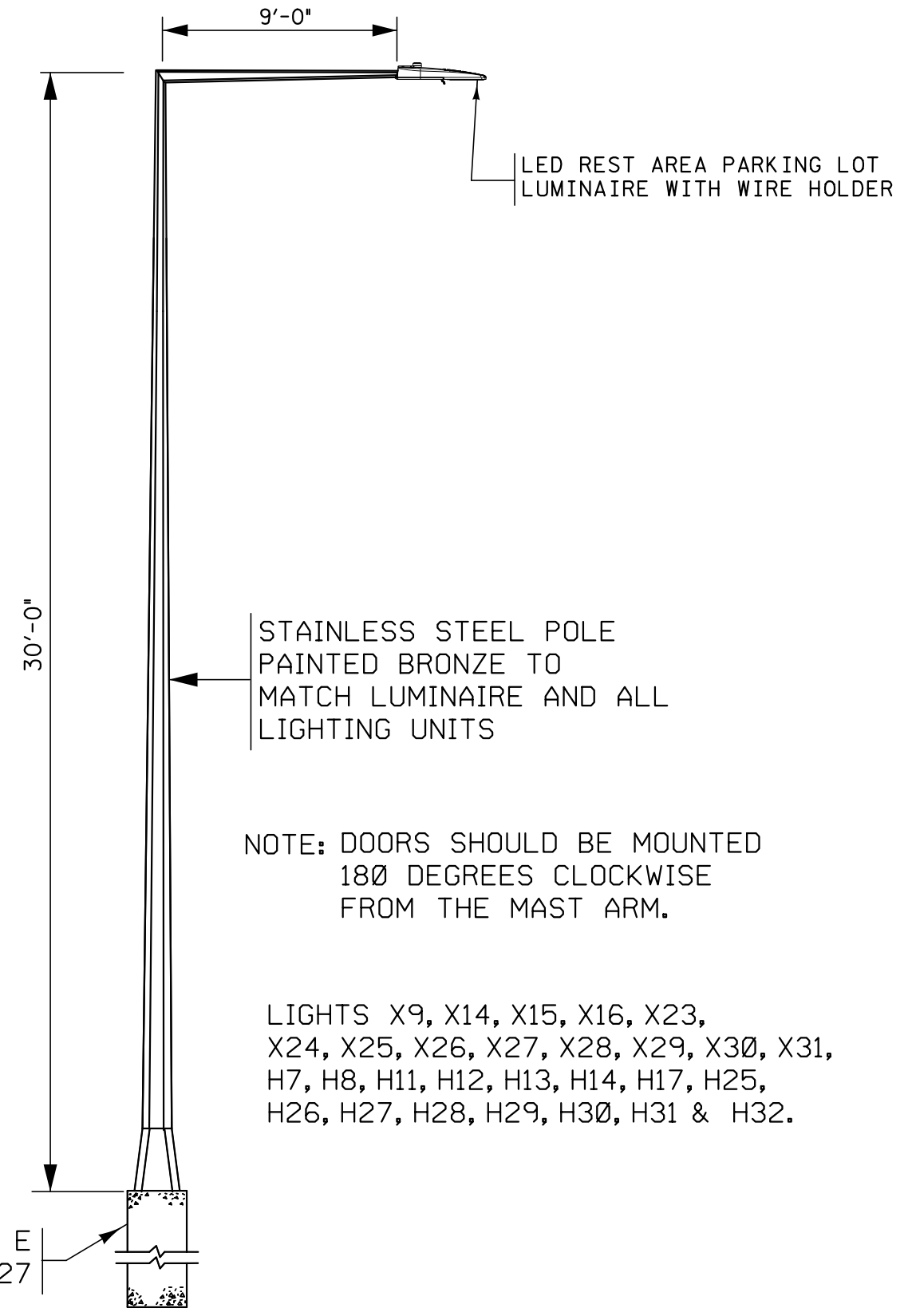
DISTRICT #: DISTRICT •
 I/PLOT NAME: Ricekateresi
 PATH & FILENAME: Documents/Projects/DM_FOS/999/8825/494/Traffic/Lighting0TST/Elmcreekrest.dgn
 PLOTTED/REVISED: 22-APR-2015



LIGHTING UNIT TYPE 9D-40
(LIGHTS X4 & X5)

NOTE: DOORS SHOULD BE MOUNTED 90 DEGREES
CLOCKWISE FROM THE MAINLINE MAST ARM.

STAINLESS STEEL
HIGH BASE
ALUMINUM
TRANSFORMER BASE
LIGHT FOUNDATION
DESIGN E
STANDARD PLATE 8127



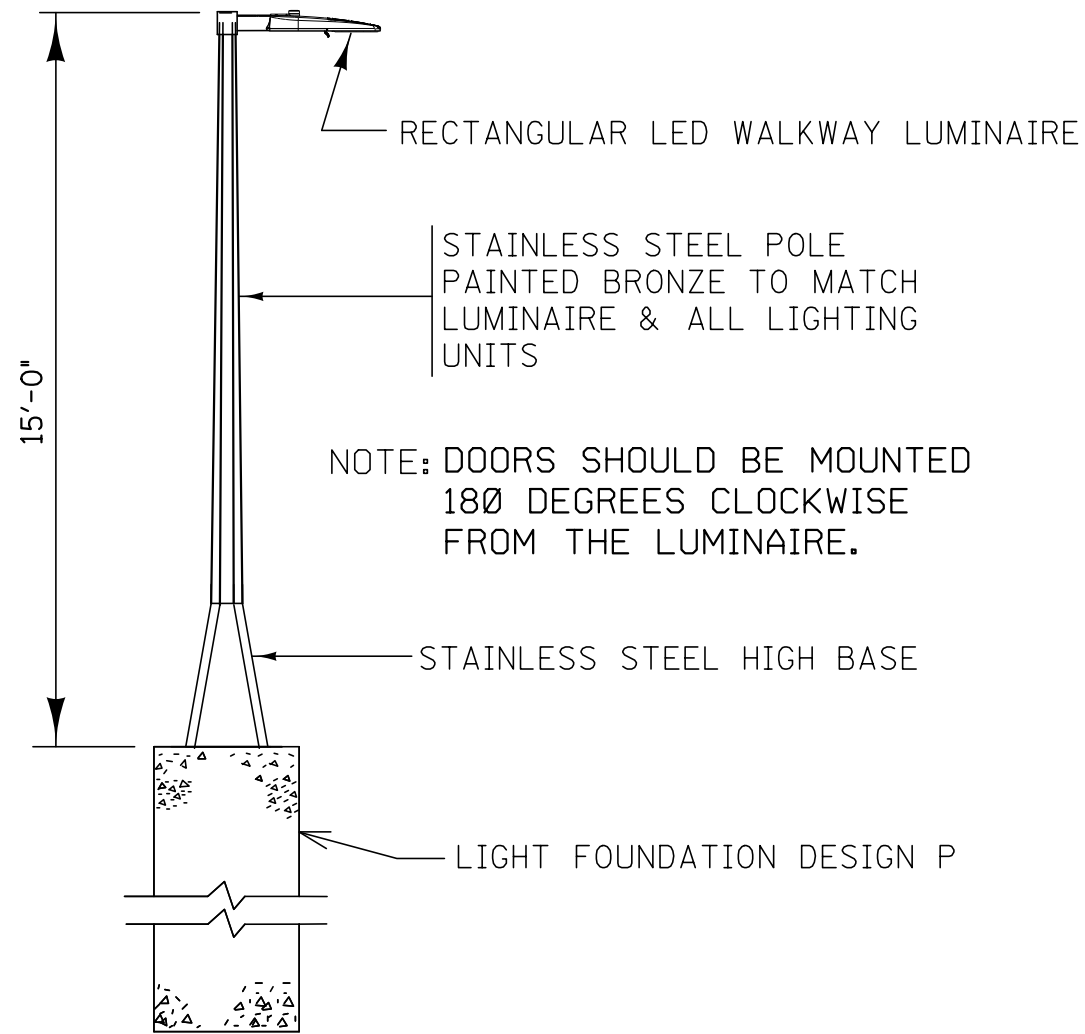
LIGHTING UNIT TYPE 9X-30

STAINLESS STEEL POLE
PAINTED BRONZE TO
MATCH LUMINAIRE AND ALL
LIGHTING UNITS

NOTE: DOORS SHOULD BE MOUNTED
180 DEGREES CLOCKWISE
FROM THE MAST ARM.

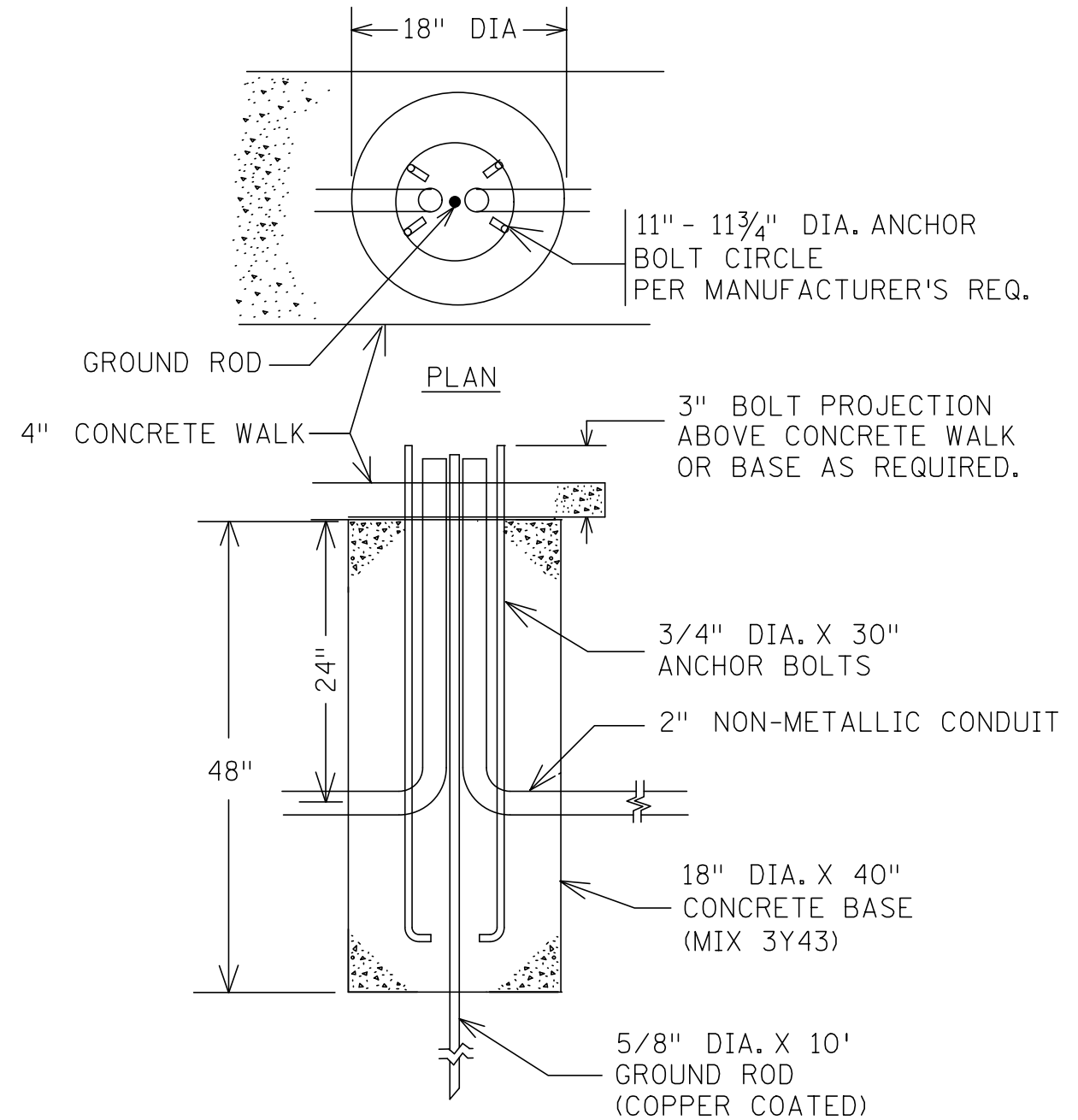
LIGHTS X9, X14, X15, X16, X23,
X24, X25, X26, X27, X28, X29, X30, X31,
H7, H8, H11, H12, H13, H14, H17, H25,
H26, H27, H28, H29, H30, H31 & H32.

BY	DATE	REVISIONS	FEEDPOINT: A14X, B34H	LOCATION: T.H. 94, T.H. 35	LIGHTING DETAILS
			METER ADDRESS:		
DRAWN BY: CKD BY: DATE:			CERTIFIED BY: _____	LIC. NO. 24682	DATE: 22-APR-2015
			LICENSED PROFESSIONAL ENGINEER		STATE PROJ. NO. 8825-494
					SHEET NO. 5 OF 27 SHEETS



LIGHTING UNIT TYPE 1X-15

LIGHTS X10, X11, X12, X13, X32, X33, X34, X35,
 X36, X37, X38, X39, X40, X41, X42, X43, X44, X45,
 X46, X47, X48, X49, X50, H33, H34, H35, H36, H37,
 H38, H39, H40, H41, H42, H43 & H44.



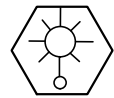
LIGHT FOUNDATION DESIGN P

(TO BE USED WITH LIGHTING UNIT TYPE 1X-15)

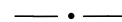
BY	DATE	REVISIONS	FEEDPOINT: A14X, B34H	LOCATION: T.H. 94, T.H. 35	LIGHTING DETAILS	
			METER ADDRESS:			
DRAWN BY:			CERTIFIED BY:	LIC. NO. 24682	DATE: 22-APR-2015	STATE PROJ. NO. 8825-494
CKD BY:			LICENSED PROFESSIONAL ENGINEER			SHEET NO. 6 OF 27 SHEETS

PLOTTED/REVISED: 22-APR-2015

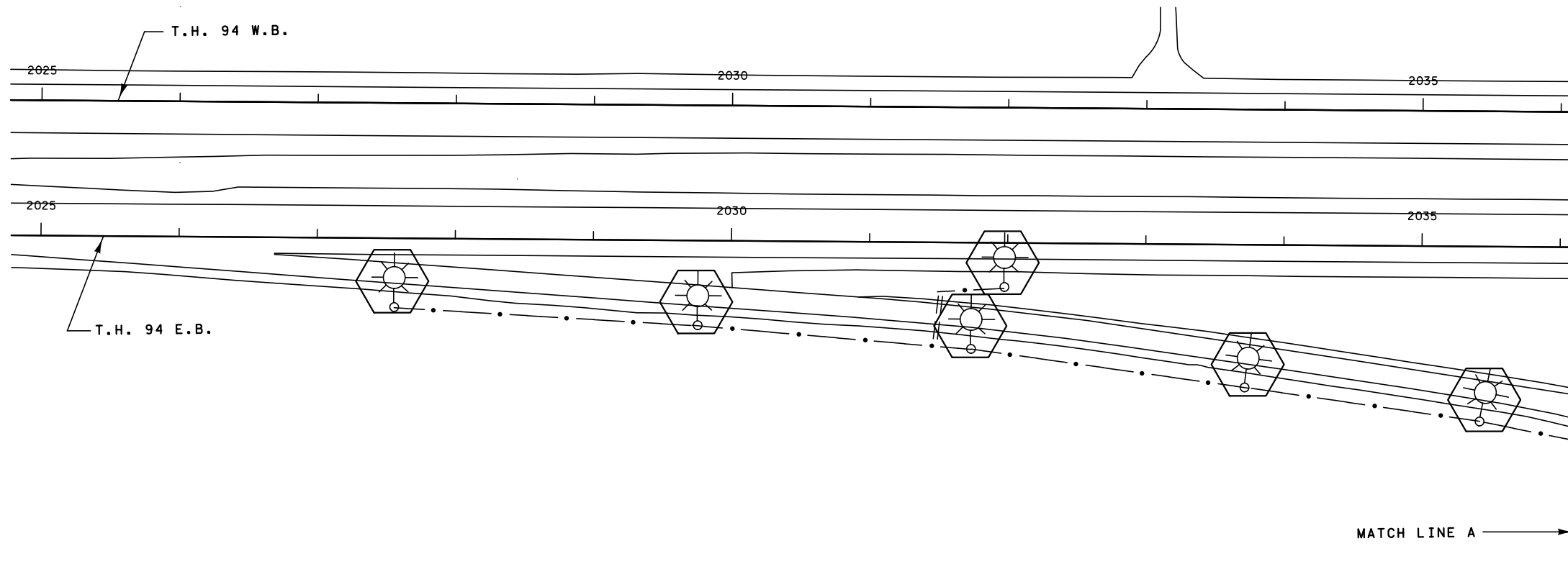
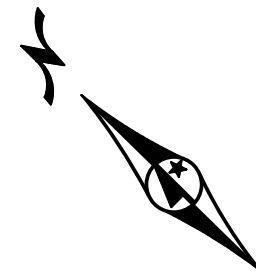
DISTRICT: DISTRICT •
PLOT NAME: Riceakerest5
PATH & FILENAME: Documents/Projects/DM_FOS/999/8825/494/Traffic/Lighting0TST/ElmCreekrest.dgn



REMOVE LIGHTING UNIT
REMOVE LIGHT FOUNDATION



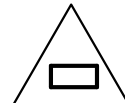
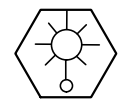
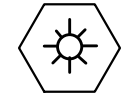

INPLACE DIRECT BURIED
CABLE (TO BE REMOVED)

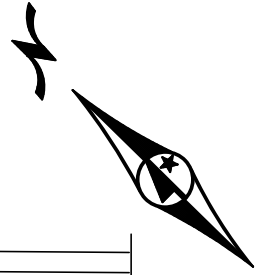


BY	DATE	REVISIONS	FEEDPOINT: A14X	LOCATION: T.H. 94	REMOVAL (ELM CREEK - SYSTEM A)
			METER ADDRESS:		
DRAWN BY:			CERTIFIED BY	LIC. NO. 24682	DATE: 22-APR-2015
CKD BY:			LICENSED PROFESSIONAL ENGINEER		STATE PROJ. NO. 8825-494
DATE:					SHEET NO. 7 OF 27 SHEETS

PLOTTED/REVISED: 22-APR-2015

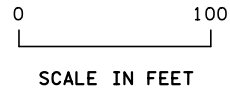
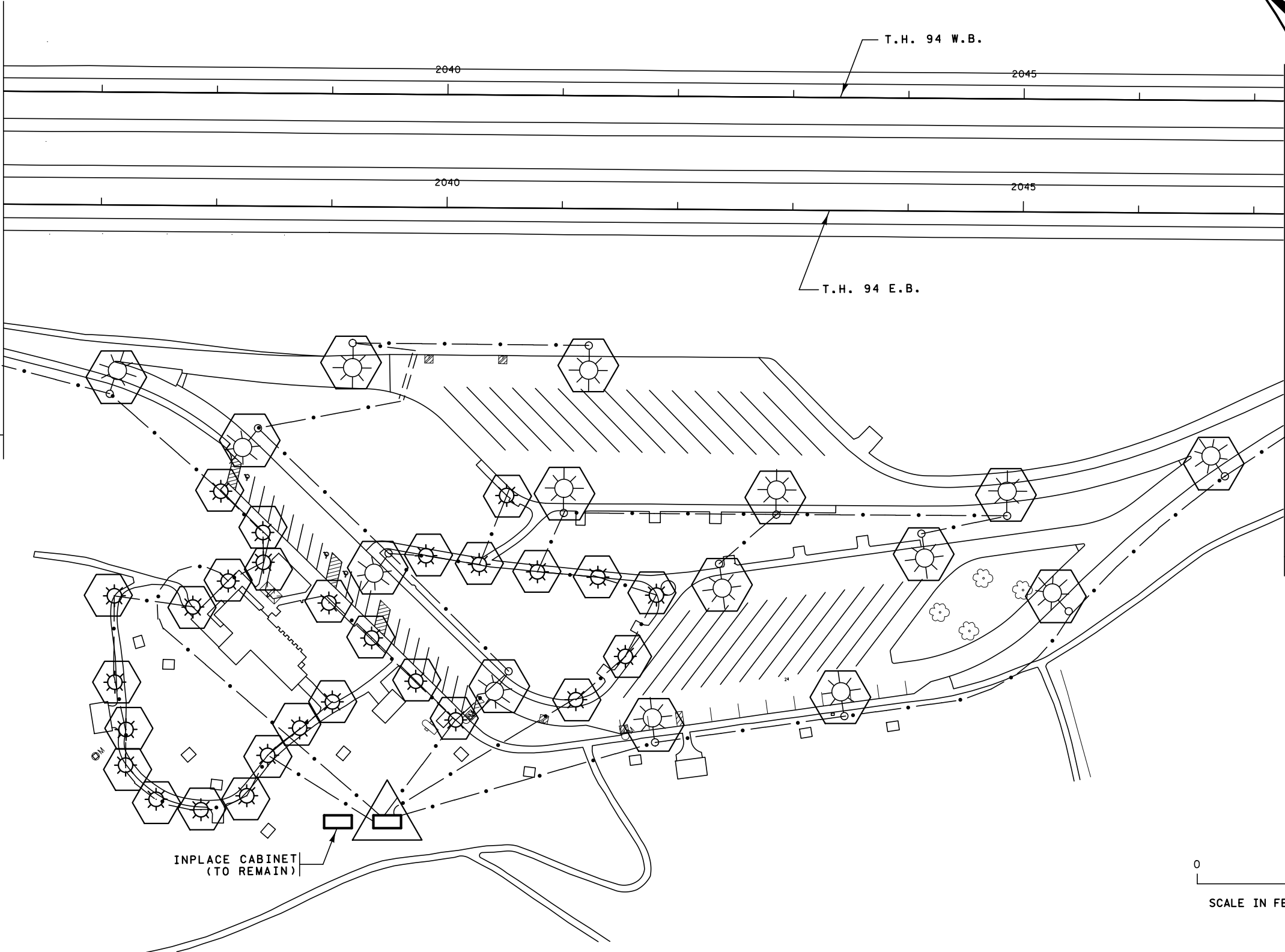
DISTRICT #: DISTRICT •
PLOT NAME: Ricekrest6
PATH & FILENAME: Documents/Projects/DM罗斯/999/8825/494/Traffic/Lighting/OTST/Elmcreekrest.dgn

-  REMOVE CABINET
REMOVE EQUIPMENT PAD
-  REMOVE LIGHTING UNIT
REMOVE LIGHT FOUNDATION
-  REMOVE LIGHTING UNIT
REMOVE LIGHT FOUNDATION
-  INPLACE DIRECT BURIED
CABLE (TO BE REMOVED)



MATCH LINE A

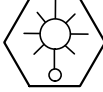
MATCH LINE B

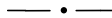


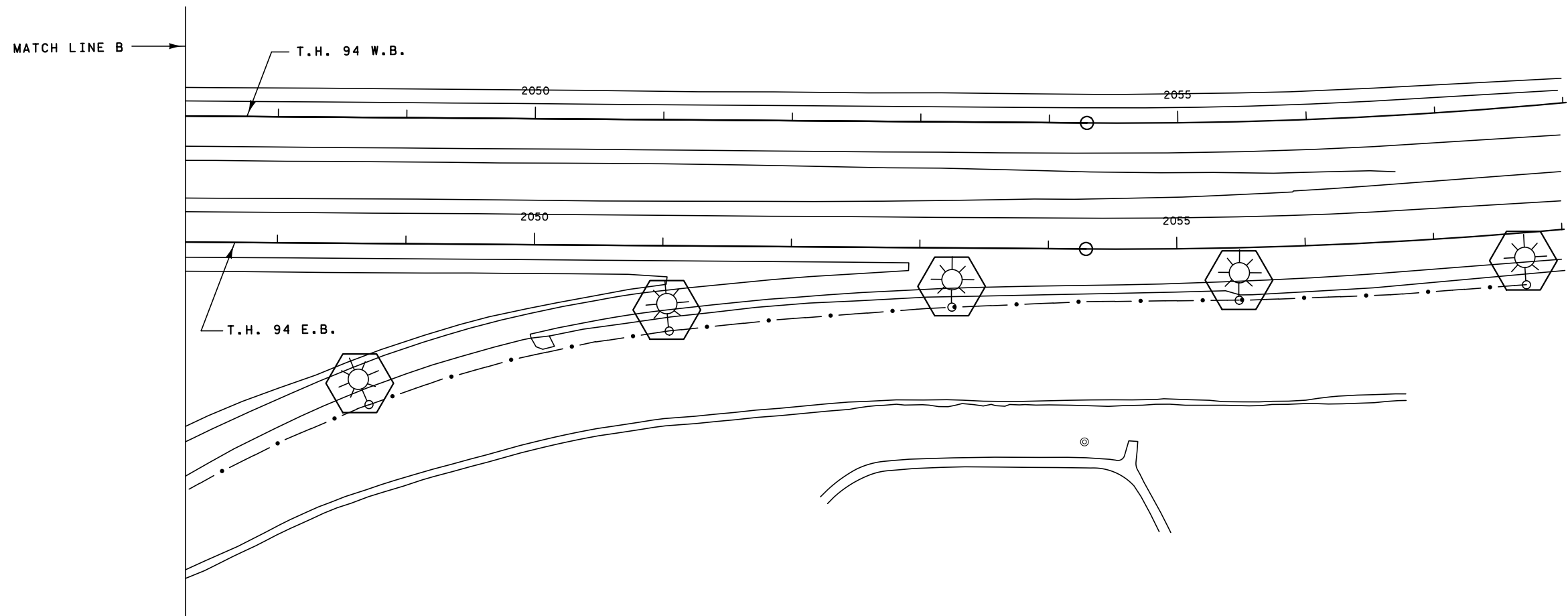
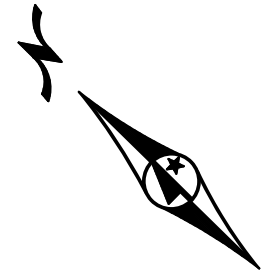
BY	DATE	REVISIONS	FEEDPOINT: A14X	LOCATION: T.H. 94	REMOVAL (ELM CREEK - SYSTEM A)
			METER ADDRESS:		
DRAWN BY:	CKD BY:	DATE:	CERTIFIED BY _____	LIC. NO. _____	STATE PROJ. NO. 8825-494
			LICENSED PROFESSIONAL ENGINEER	DATE: 22-APR-2015	SHEET NO. 8 OF 27 SHEETS

PLOTTED/REVISED: 22-APR-2015

DISTRICT: DISTRICT
 IPLOT NAME: Ricalkeres7
 PATH & FILENAME: Documents/Projects/DM_FOS/999/8825/494/Traffic/Lighting0TST/ElmCreekrest.dgn

 REMOVE LIGHTING UNIT
 REMOVE LIGHT FOUNDATION

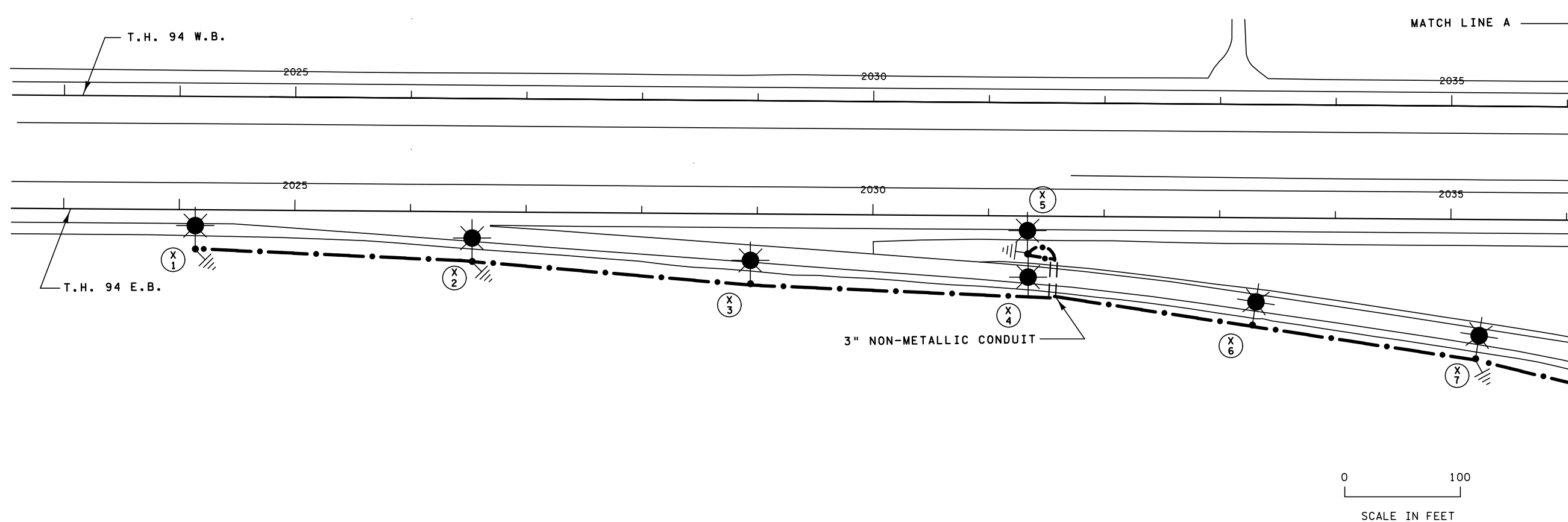
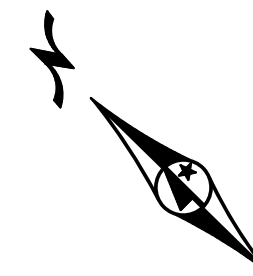
 INPLACE DIRECT BURIED
 CABLE (TO BE REMOVED)



BY	DATE	REVISIONS	FEEDPOINT: A14X	LOCATION: T.H. 94	REMOVAL (ELM CREEK - SYSTEM A)
			METER ADDRESS:		
DRAWN BY:			CERTIFIED BY	LIC. NO.	STATE PROJ. NO. 8825-494
CKD BY:			LICENSED PROFESSIONAL ENGINEER	DATE: 22-APR-2015	SHEET NO. 9 OF 27 SHEETS
DATE:					

LEGEND

- PAD MOUNTED CABINET
- ☀ LIGHTING UNIT TYPE 9-40
- ☀ LIGHTING UNIT TYPE 1X-15
- ☀ LIGHTING UNIT 9D-40
- ☀ LIGHTING UNIT TYPE 9X-30
- 2" NON-METALLIC CONDUIT (UNLESS OTHERWISE NOTED)
- 4/C #4 DIRECT BURIED LIGHTING CABLE
- PULLING VAULT
- ⊠ UTILITY TRANSFORMER (BY OTHERS)
- ||| PERMANENT GROUND ROD (25 OHMS OR LESS)
- U OF M POLE (INPLACE)

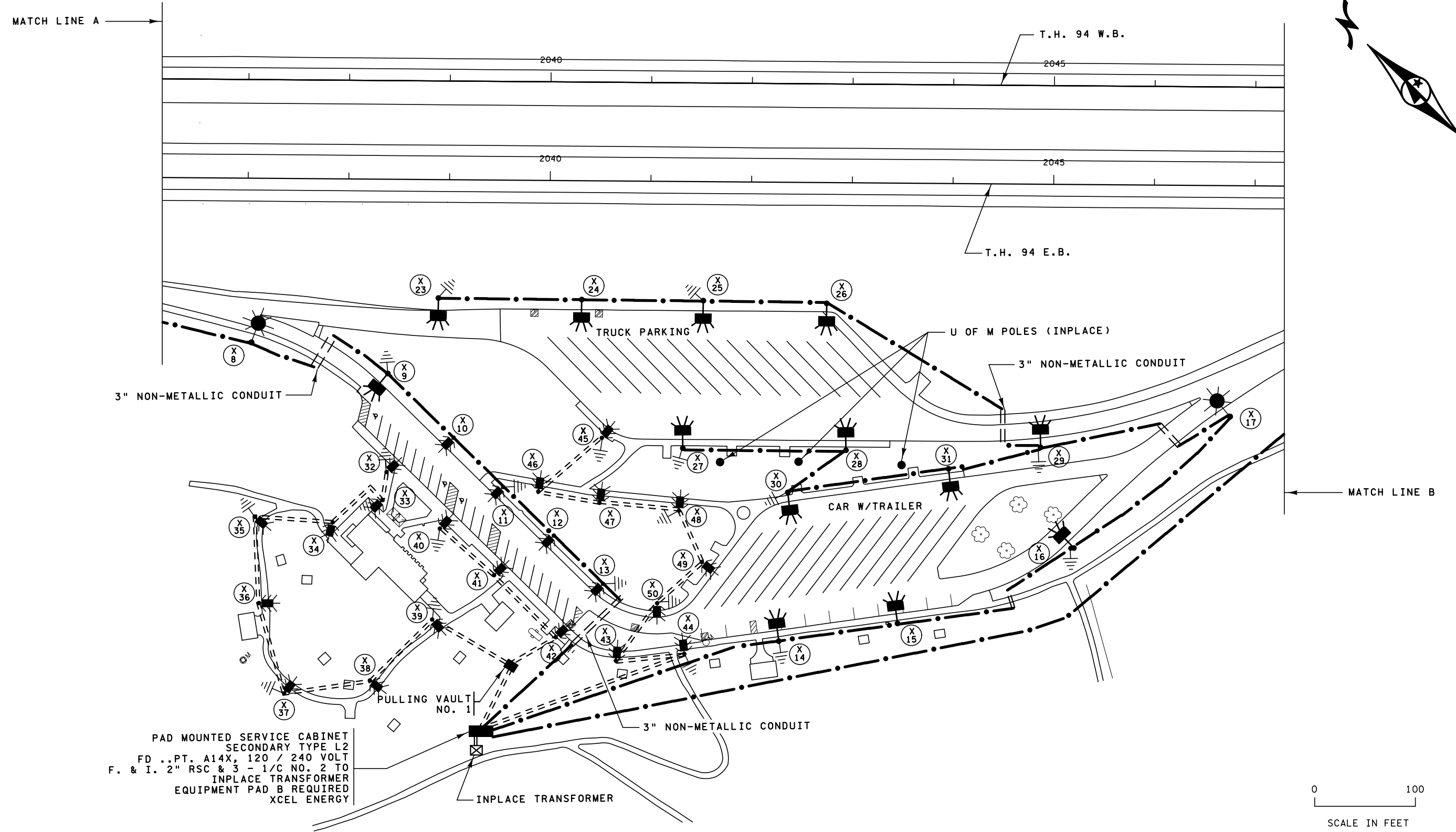


0 100
SCALE IN FEET

DISTRICT #: DISTRICT •
 PLOT NAME: RiceLakeResB
 PATH & FILENAME: Documents/Projects/DM罗斯/999/8825/494/Traffic/Lighting/ST/ElmCreekResB.dgn

BY	DATE	REVISIONS	FEEDPOINT: A14X LOCATION: T.H. 94	LIGHTING PLAN (ELM CREEK - SYSTEM A)	
			METER ADDRESS: 8600 HIGHWAY 94 MAPLE LAKE, 55331		
			CERTIFIED BY _____	LIC. NO. 24682 DATE: 22-APR-2015	STATE PROJ. NO. 8825-494
DRAWN BY: _____ CKD BY: _____ DATE: _____			LICENSED PROFESSIONAL ENGINEER	SHEET NO. 10 OF 27 SHEETS	

DISTRICT #: DISTRICT •
 IPLOT NAME: Ricekrest9
 PATH & FILENAME: Documents/Projects/DM_FOS/999/8825/494/Traffic/Lighting/ST/ElmCreekrest.dgn
 PLOTTED/REVISED: 22-APR-2015

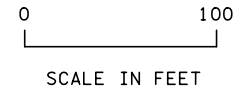
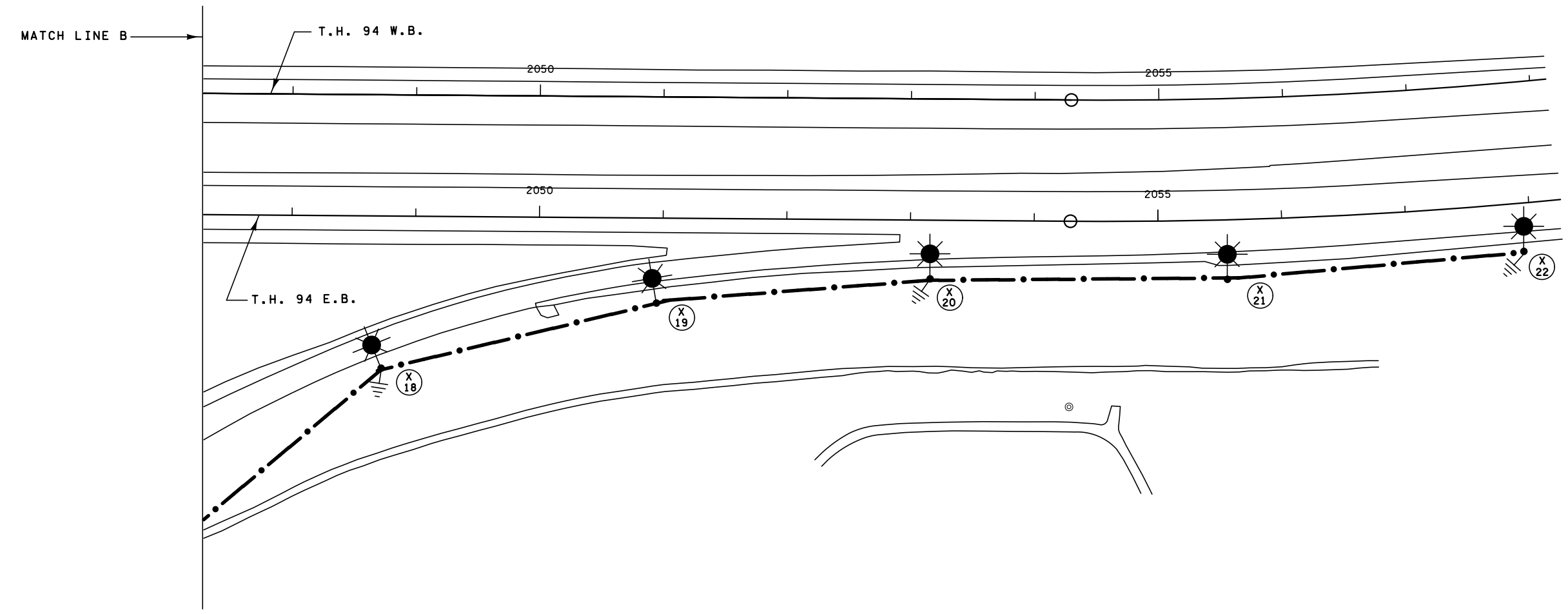
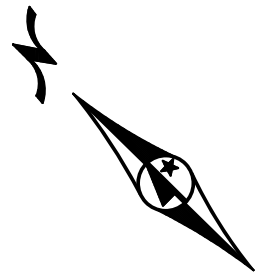


PAD MOUNTED SERVICE CABINET
 SECONDARY TYPE L2
 FD .PT. A14X, 120 / 240 VOLT
 F. & I. 2" RSC & 3 - 1/C NO. 2 TO
 INPLACE TRANSFORMER
 EQUIPMENT PAD B REQUIRED
 XCEL ENERGY

NOTE: SEE SHEET 10 FOR LEGEND

BY	DATE	REVISIONS	FEEDPOINT: A14X	LOCATION: T.H. 94	LIGHTING PLAN (ELM CREEK - SYSTEM A)
			METER ADDRESS: 8600 HIGHWAY 94 MAPLE GROVE, 55331		
DRAWN BY: _____ CKD BY: _____ DATE: _____			CERTIFIED BY: _____ LIC. NO. _____ DATE: 22-APR-2015		STATE PROJ. NO. 8825-494
			LICENSED PROFESSIONAL ENGINEER		SHEET NO. 11 OF 27 SHEETS

DISTRICT #: DISTRICT •
 IPLOT NAME: Riceakeresf0
 PATH & FILENAME: Documents/Projects/DM_FOS/999/8825/494/Traffic/Lighting0TST/ElmCreekrest.dgn
 PLOTTED/REVISED: 22-APR-2015



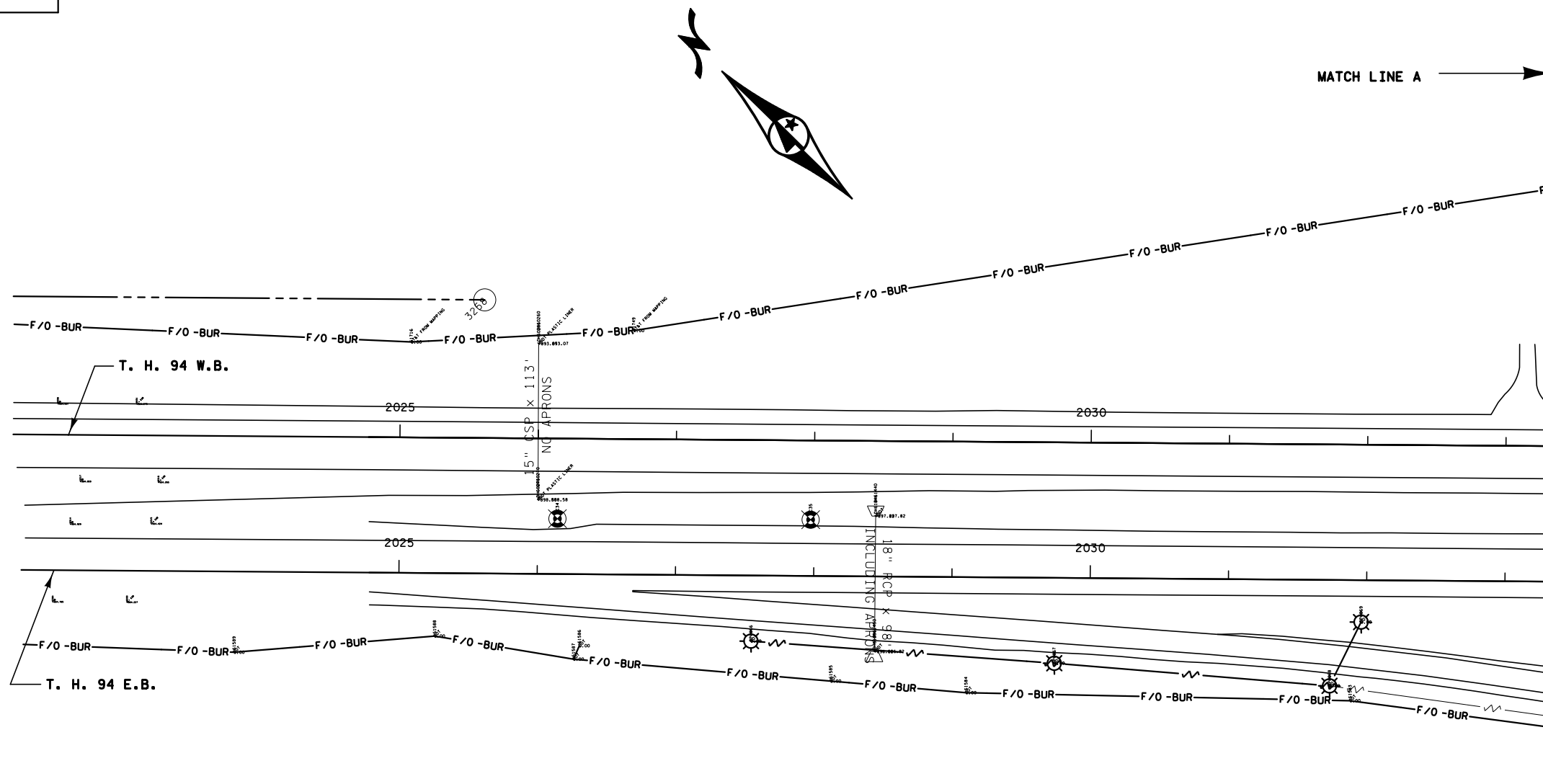
NOTE: SEE SHEET 10 FOR LEGEND

BY	DATE	REVISIONS	FEEDPOINT: A14X	LOCATION: T.H. 94	LIGHTING PLAN (ELM CREEK - SYSTEM A)
			METER ADDRESS: 8600 HIGHWAY 94 MAPLE GROVE, 55331		
DRAWN BY:			CERTIFIED BY _____	LIC. NO. _____	STATE PROJ.NO. 8825-494
CKD BY:			DATE: 22-APR-2015		SHEET NO. 12 OF 27 SHEETS
DATE:			LICENSED PROFESSIONAL ENGINEER		

PLOTTED/REVISED: 22-APR-2015

PATH & FILENAME: Documents/Projects/DM罗斯/999/8825/494/Traffic/Lighting07ST/E/mcreekrest.dgn

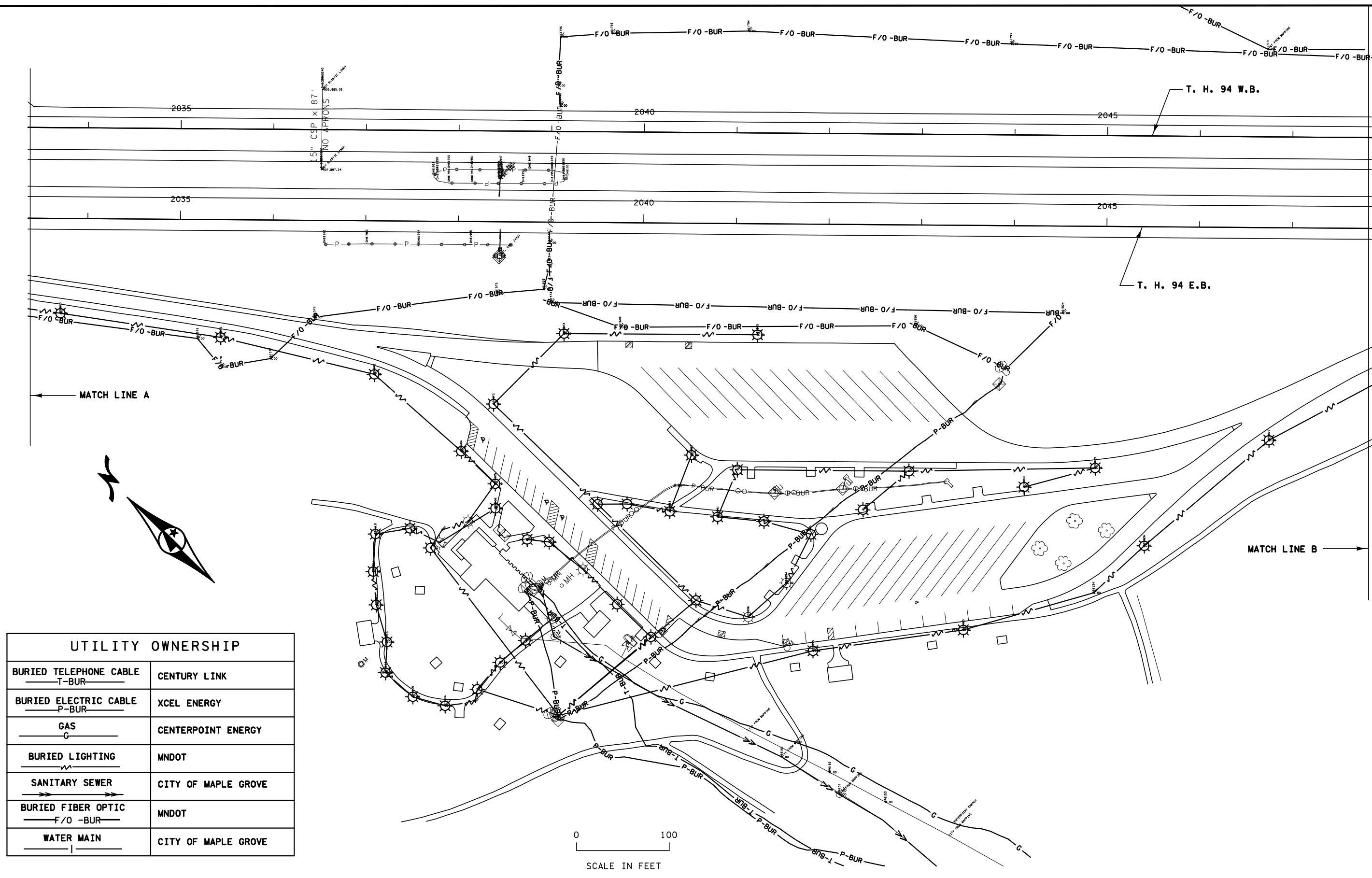
UTILITY OWNERSHIP	
BURIED FIBER OPTIC — F/O -BUR —	MNDOT
BURIED LIGHTING — W —	MNDOT



BY	DATE	REVISIONS	FEEDPOINT: A14X	LOCATION: T.H. 94	UTILITIES (ELM CREEK - SYSTEM A)	
			METER ADDRESS:			
DRAWN BY: CKD BY: DATE:			CERTIFIED BY: _____ LIC. NO. 24682 DATE: 22-APR-2015		STATE PROJ. NO. 8825-494	SHEET NO. 15 OF 27 SHEETS
			LICENSED PROFESSIONAL ENGINEER			

PLOTTED/REVISED: 22-APR-2015

DISTRICT #: DISTRICT •
 IPLOT NAME: Ricekateresi3
 PATH & FILENAME: Documents/Projects/DM_FOS/999/8825/494/Traffic/Lighting/ST/ElmCreekrest.dgn



UTILITY OWNERSHIP	
BURIED TELEPHONE CABLE T-BUR	CENTURY LINK
BURIED ELECTRIC CABLE P-BUR	XCEL ENERGY
GAS G	CENTERPOINT ENERGY
BURIED LIGHTING	MNDOT
SANITARY SEWER	CITY OF MAPLE GROVE
BURIED FIBER OPTIC F/O -BUR	MNDOT
WATER MAIN	CITY OF MAPLE GROVE

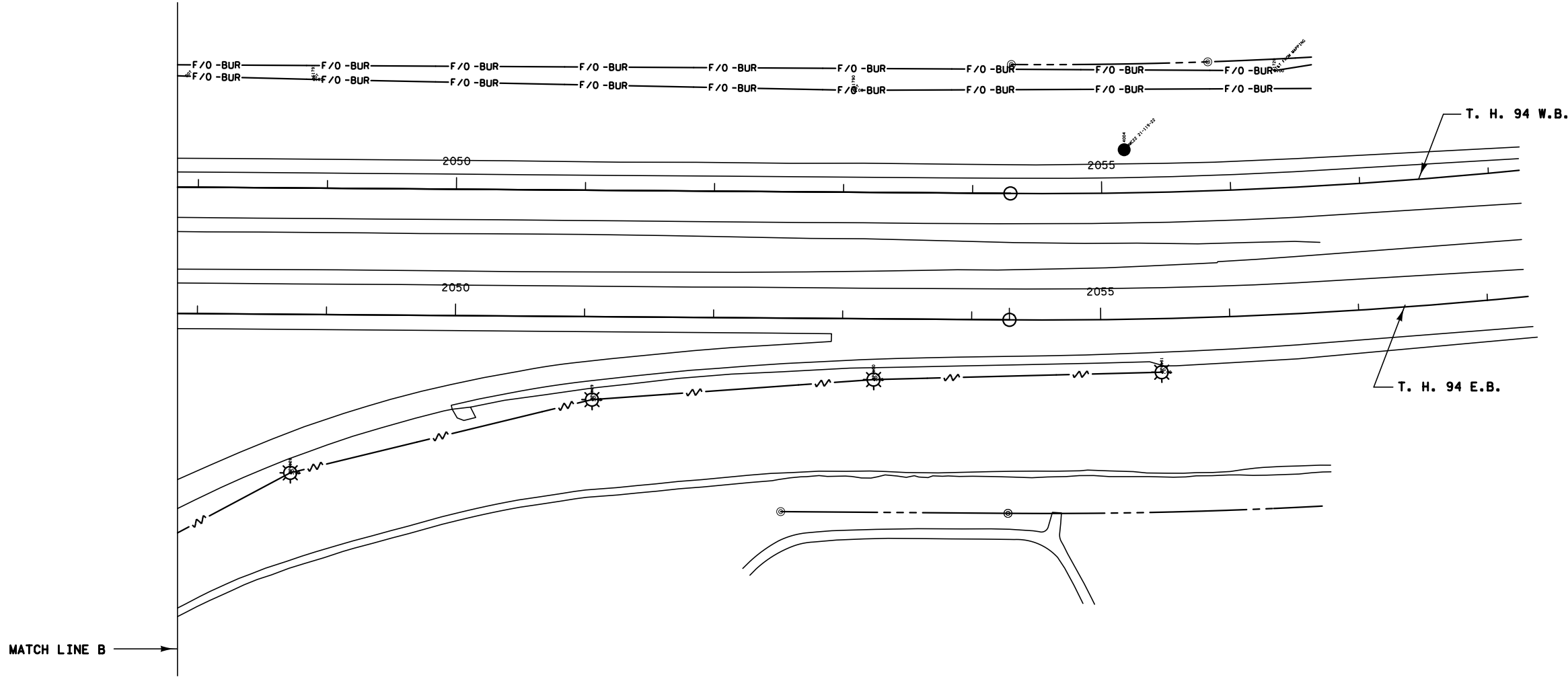
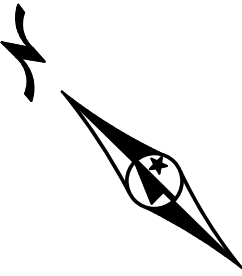
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SCALE IN FEET

BY	DATE	REVISIONS	FEEDPOINT: A14X	LOCATION: T.H. 94	UTILITIES (ELM CREEK - SYSTEM A)	
			METER ADDRESS:			
DRAWN BY:	CKD BY:	DATE:	CERTIFIED BY	LIC. NO. 24682	DATE: 22-APR-2015	STATE PROJ.NO. 8825-494
			LICENSED PROFESSIONAL ENGINEER		SHEET NO. 16 OF 27 SHEETS	

PLOTTED/REVISED: 22-APR-2015

DISTRICT #: DISTRICT •
 IPLOT NAME: Ricekateresi4
 PATH & FILENAME: Documents/Projects/DM罗斯/999/8825/494/Traffic/Lighting0TST/ElmCreekrest.dgn

UTILITY OWNERSHIP	
BURIED FIBER OPTIC — F/O -BUR —	MNDOT
BURIED LIGHTING — W —	MNDOT



BY	DATE	REVISIONS	FEEDPOINT: A14X	LOCATION: T.H. 94	UTILITIES (ELM CREEK - SYSTEM A)	
			METER ADDRESS:			
DRAWN BY: CKD BY: DATE:			CERTIFIED BY _____	LIC. NO. 24682	DATE: 22-APR-2015	STATE PROJ.NO. 8825-494
			LICENSED PROFESSIONAL ENGINEER		SHEET NO. 17 OF 27 SHEETS	