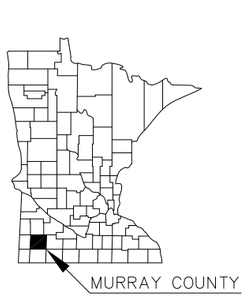
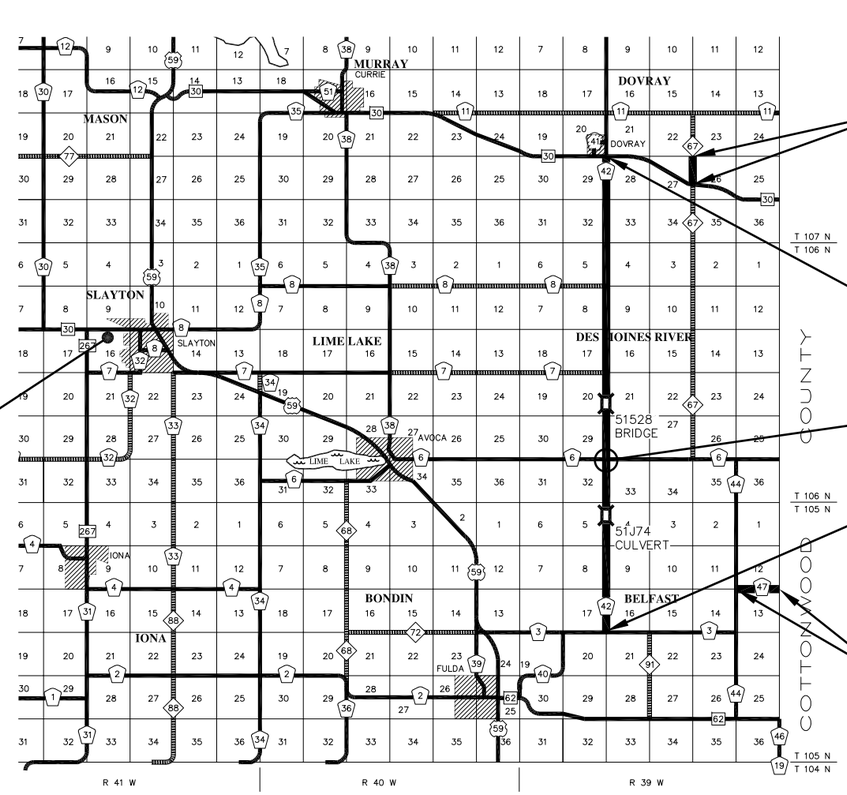
MINNESOTA DEPARTMENT OF TRANSPORTATION
MURRAY COUNTY
CONSTRUCTION PLAN FOR BITUMINOUS OVERLAY AND BIT./AGG. SHOULDERING PARKING LOT SURFACING

PROJECT INFORMATION

PROJECT NO.	GROSS LENGTH	BRIDGE LENGTH	EXCEPTION LENGTH	NET LENGTH	GEOGRAPHICAL DESCRIPTION
SAP 051-040-001	N/A	0	0	N/A	LOCATED AT MURRAY COUNTY HWY DEPT 1449 STATE HWY 30 SLAYTON, MN
SAP 051-642-021	57,954 FT 10.976 MI	133	103	57,718 FT 10.931 MI	LOCATED ON: CSAH 42 BETWEEN: CSAH 3 AND: T.H. 30 FROM: APPROX. 57' N. OF SW. COR. SEC. 16-T105N-R39W TO: APPROX. 66' S. OF NW. COR. SEC. 28-T107N-R39W
SAP 051-647-006	5,327 FT 1.009 MI	0	0	5,327 FT 1.009 MI	LOCATED ON: CSAH 47 BETWEEN: CSAH 44 AND: EAST COUNTY LINE FROM: APPROX. 15' E. OF SW. COR. SEC. 12-T105N-R39W TO: APPROX. 35' W. OF SE. COR. SEC. 12-T105N-R39W
CP 67-25	2,430 FT 0.460 MI	0	0	2,430 FT 0.460 MI	LOCATED ON: CR 67 BETWEEN: T.H. 30 AND: 1/2 MILE NORTH FROM: APPROX. 191.67' N. OF W. 1/4 COR. SEC. 26-T107N-R39W TO: APPROX. 15' S. OF NW. COR. SEC. 26-T107N-R39W





BEG. PROJ. C.P 67-25
STA. 0+00.00
END PROJ. C.P 67-25
STA. 24+30.00

END PROJ. S.A.P. 051-642-021
STA. 580+11.00

PROJ. S.A.P. 051-040-001
1449 STATE HWY 30 SLAYTON, MN

STATION EXCEPTION FROM
STA. 210+30 TO STA. 211+33

BEG. PROJ. S.A.P. 051-642-021
STA. 0+57.00

BEG. PROJ. S.A.P. 051-647-006
STA. 0+15.00
END PROJ. S.A.P. 051-647-006
STA. 53+42.00

PARTIAL MAP OF MURRAY COUNTY

NO SCALE

MINN. PROJ. NO. ----------

GOVERNING SPECIFICATIONS

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

INDEX

THIS PLAN CONTAINS 6 SHEETS

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR INVESTIGATING AND DOCUMENTING EXISTING UTILITIES".

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

DESIGN DESIGNATION

	1449 STATE HWY 30	CSAH 42	CSAH 47	CO RD 67
ADT (2025)	NA	325	40	50
PROJ. ADT (2045)	NA	325	40	50
PROJ. HCADT (20)	NA	N/A	N/A	N/A
SOIL FACTOR	NA	100%	100%	100%
TON DESIGN	NA	9	9	7
SHOULDER WIDTH	NA	5'	4'	5'
FUNCTIONAL CLASS	NA	MAJOR	MINOR	LOCAL
NO. OF TRAFFIC LANES	NA	2	2	2
NO. OF PARKING LANES	NA	0	0	0
DESIGN SPEED	NA	50 M.P.H.	50 M.P.H.	45 M.P.H.
STOPPING SIGHT DISTANCE	NA	200'	200'	200'
HEIGHT OF EYE	NA	3.5'	3.5'	3.5'
HEIGHT OF OBJECT	NA	2.0'	2.0'	2.0'

Design Engineer: 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.

Randy Groves
Digitally signed by Randy Groves
Date: 2025.01.29 15:37:31 -06'00'

Randy Groves License number: 26426

Randy Groves
Digitally signed by Randy Groves
Date: 2025.01.29 15:38:16 -06'00'

Approved: Murray County Engineer

Todd Broadwell
Digitally signed by Todd Broadwell
Date: 2025.02.04 08:26:26 -06'00'

District State Aid Engineer: Reviewed for Compliance with State Aid Rules/Policy

Todd Broadwell
Digitally signed by Todd Broadwell
Date: 2025.02.04 08:28:00 -06'00'

Approved for State Aid Funding: State Aid Engineer

ESTIMATED QUANTITIES

NOTES	ITEM NO.	ITEM	UNIT	SAP 051-040-001 HWY DEPT LOT	SAP 051-642-021 CSAH 42	SAP 051-647-006 CSAH 47	CP 67-25 CR 67 (County Funds)	TOTAL ESTIMATED QUANTITIES
1.	2104.607	REMOVE AGGREGATE (EV)	CU YD	1020				1020
2., 3.	2106.603	SHOULDER EXCAVATION	LIN FT		110366	10294		120660
	2118.509	AGGREGATE SURFACING CLASS 1	TON		7400	520	685	8605
4.	2232.504	MILL BITUMINOUS SURFACE (2")	SQ YD		1233	823	15	2071
5.	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (2,B)	TON	2050	20750	1920	520	25240
2., 3.	2360.509	TYPE SP 12.5 BIT. MIXTURE FOR PATCHING (2,B)	TON		4100	400	50	4550
6.	2582.503	4" SOLID LINE PAINT	LIN FT		158818	11039	7661	177518
7.	2582.503	24" SOLID LINE PAINT	LIN FT		48	12	12	72
8.	2582.503	4" BROKEN LINE PAINT	LIN FT		9970	1050	280	11300
9.	2582.518	PAVEMENT MESSAGE PAINT	SQ FT		196	49	49	294

MILLING LOCATIONS

ROAD	LOCATION	QUANTITY
CSAH 42	B.O.P.	133 SQ YD
CSAH 42	CSAH 6 NORTH &SOUTH	266 SQ YD
CSAH 42	BRIDGE 51528	701 SQ YD
CSAH 42	E.O.P.	133 SQ YD
	CSAH 42 TOTALS	1233
CSAH 47	B.O.P.	556 SQ YD
CSAH 47	E.O.P.	267 SQ YD
	CSAH 47 TOTALS	823
CR 67	B.O.P.	15 SQ YD
	CR 67 TOTALS	15 SQ YD
	GRAND TOTAL	2071 SQ YDS

BASIS FOR ESTIMATED QUANTITIES

Aggregate shouldering compacted density (Dry Weight) 145 Lbs. per Cu. Ft.
Aggregate shouldering 20 Tons per entrance & approach was used.
Bituminous material for tack coat 0.05 Gal. per Sq. Yd. shall be included in bid item 2360
Bituminous wearing course mixture – 110 Lbs. per. Sq. Yd. per In. of depth.
Striping 4" line – 320 Ft. per Gal. at 4 mil. thickness.

BASIS FOR ESTIMATED QUANTITIES TABLE

	UNIT	CSAH 42	CSAH 47	CR 67
AGG. SHLD	TONS PER STA.	SEE NOTE BELOW	3.63	11.04
AGG. FOR APPR. & ENT.	TONS	1940	120	140
BIT. FOR APPR., ENT., MAILBOXES, CURVES	TONS	470	20	20
ENT.	EACH	80	6	6
APPROACHES	EACH	17		1
MAILBOXES	EACH	2		
4" SOLID LINE PAINT WHITE	LIN FT	114443	10526	4836
4" SOLID LINE PAINT YELLOW	LIN FT	44375	513	2825

CSAH 42

FROM STA. 0+57 TO 317+07 AGG. SHLD. IS 3.63 TONS PER STATION
FROM STA. 317+07 TO 580+11 AGG. SHLD. IS 5.89 TONS PER STATION

THE FOLLOWING STANDARD PLATES APPROVED BY THE F.H.W.A. SHALL APPLY ON THIS PROJECT.

STANDARD PLATES	
PLATE NO.	DESCRIPTION
8000 K	TEMPORARY CHANNELIZERS

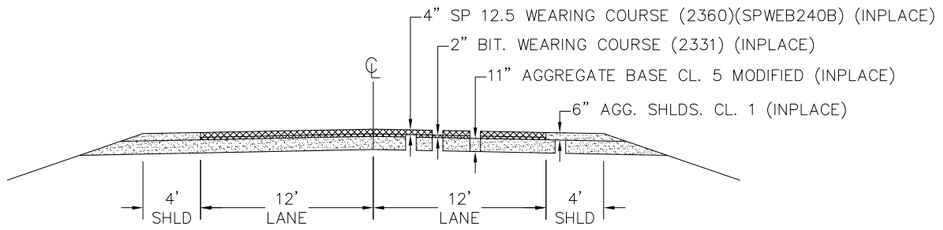
CONSTRUCTION NOTES

1. This item is paid as an inplace quantity (EV), based off of the surface area and 4" depth. After the removal of the 4" of aggregate material, the surface of remaining aggregate material shall be fine graded and compacted with a roller and water truck. The fine grading of the aggregate material shall be done with a motor grader equipped with electronic machine control. Murray County will provide a point file, and any other information needed to be converted into a surface model by the contractor. Removed aggregate material shall remain onsite at a location determined by the Engineer.
2. The Contractor shall use method "A" as described in special provisions 2106 Shoulder Excavation, unless directed by the Engineer on all projects except on SAP 051-642-021 STA. 0+57 to STA. 317+07 the Contractor shall use method "B" as described in special provisions 2106 Shoulder Excavation due to the narrow shoulders. This quantity excludes all entrance, approach bump outs and any existing paved shoulders.
3. SHOULDER EXCAVATION AND BITUMINOUS PATCHING.
   - 3.1. This applies to all typical sections for these projects.
   - 3.2. Contractor shall notch and prepare area for patching. Paid for by 2106 Shoulder Excavation.
   - 3.3. Contractor shall place 1st lift of shoulder paving level with existing pavement. This material is paid for by item 2360.509 Type SP 12.5 Bit. Mixture for Patching.
   - 3.4. Contractor shall overlay the driving lane & paved shoulder in one final operation.
4. The Contractor shall provide a skid loader type mounted mill or larger capable of milling to a 2" depth, to match the existing road surface at the beginning, end and at various locations on the project according to the Milling Locations table on this page. The milled material may be spread on the shoulders of the projects. The Engineer shall mark the limits of all the milling locations.
5. The Paver shall be equipped with an approved safety edge product and used on all lifts. The finished lane width is shown on the typical sections. The Engineer shall monitor the wearing course thickness with yield checks. If the Contractor is out of tolerance, the Contractor is required to make adjustments to bring the thickness back into tolerance as directed by the Engineer.
6. See the Basis For Estimated Quantities Table on this page for the individual lengths of each paint color. This Item is for the White Edgeline & Yellow No Passing Zones.
7. This item is for the "STOP LINE", white paint.
8. This item is for the centerline skip, length does not include gaps, yellow paint.
9. This item is for placing "STOP AHEAD" message on the pavement, white paint.
10. TRAFFIC CONTROL. All projects shall be constructed under traffic and the Contractor is responsible for all signs, barricades, pilot cars, etc. required for traffic control. The Contractor shall conform to the most recent edition of the Minnesota Manual on Uniform Traffic Control Devices, including the Minnesota Temporary Traffic Control Field Manual. Traffic Control is to be considered incidental and no direct compensation will be more therefor.

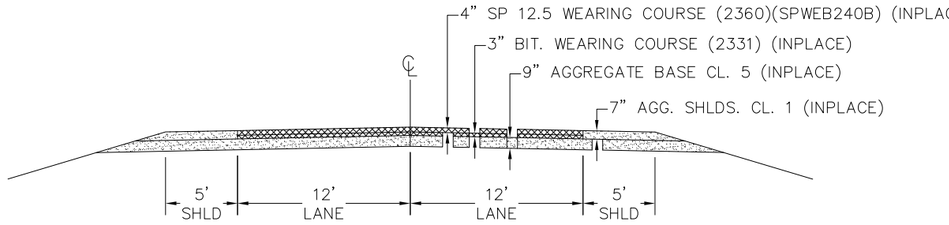
CERTIFIED BY: Randy Groves — Digitally signed by Randy Groves, Date: 2025.01.29 15:38:53 -06'00' — LICENSED PROFESSIONAL ENGINEER — LIC. NO. 26426

PROJECT SAP 051-642-021
CSAH 42

EXISTING TYPICAL SECTION
STA. 0+57 TO 210+30
STA. 211+33 TO 317+07



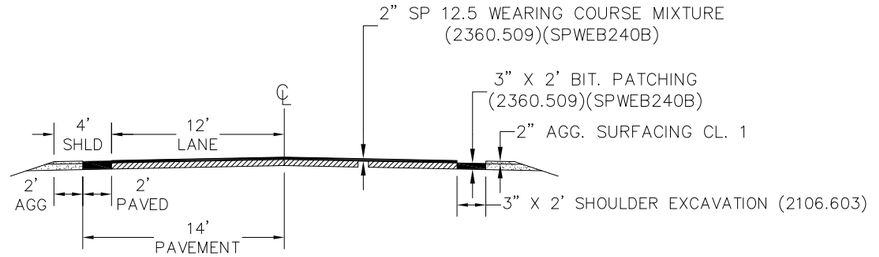
EXISTING TYPICAL SECTION
STA. 317+07 TO 580+11



NOTE: DIMENSIONS AND SLOPES SHOWN ON THE TYPICAL SECTION ARE APPROXIMATE.
BASE & BITUMINOUS SURFACE PLACED UNDER S.A.P. 51-642-09 (1987).
EXISTING BITUMINOUS SURFACE PLACED UNDER S.A.P. 51-642-14 (2006).

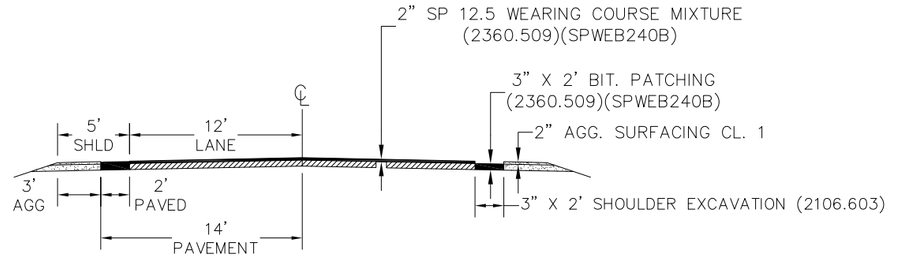
BITUMINOUS CROSS SLOPE = 2%
AGGREGATE SHOULDERS CROSS SLOPE = 4%

PROPOSED TYPICAL SECTION
STA. 0+57 TO 210+30
STA. 211+33 TO 317+07



GE = 28.5
NO SCALE

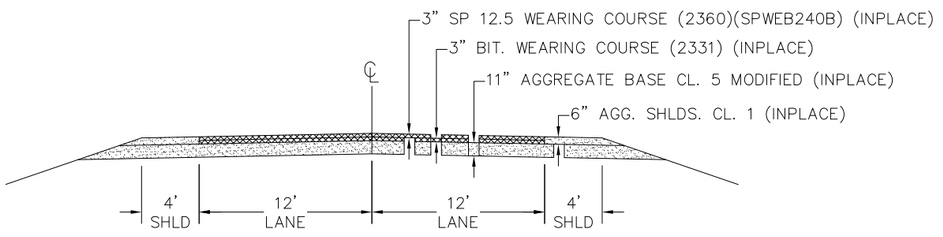
PROPOSED TYPICAL SECTION
STA. 317+07 TO 580+11



NOTE:
BRIDGE 51528
STATION 289+81 TO 290+39 & 291+71 TO 292+39 LT & RT. EXISTING 5' PAVED SHOULDER.
NO SHOULDER EXCAVATION & BITUMINOUS PATCHING IN THIS AREA.
MILL PAVED SHLDS WITH THE TAPERS FOR THE BRIDGE ENDS.

PROJECT SAP 051-647-006
CSAH 47

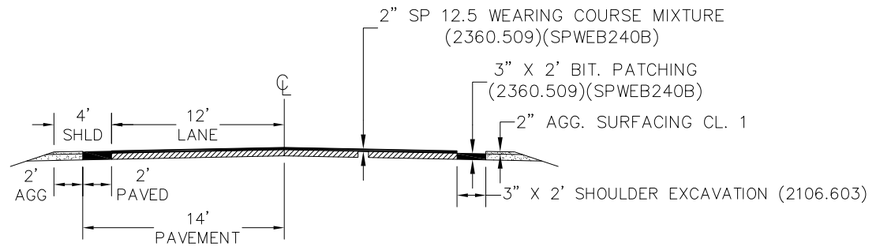
EXISTING TYPICAL SECTION
STA. 0+15 TO 53+42



NOTE: DIMENSIONS AND SLOPES SHOWN ON THE TYPICAL SECTION ARE APPROXIMATE.
AGGREGATE BASE & BITUMINOUS SURFACE PLACED UNDER S.A.P. 051-647-03 (1988).
EXISTING BITUMINOUS SURFACE S.A.P. 51-647-05 (2006).

BITUMINOUS CROSS SLOPE = 2%
AGGREGATE SHOULDERS CROSS SLOPE = 4%

PROPOSED TYPICAL SECTION
STA. 0+15 TO 53+42



GE = 28.25
NO SCALE

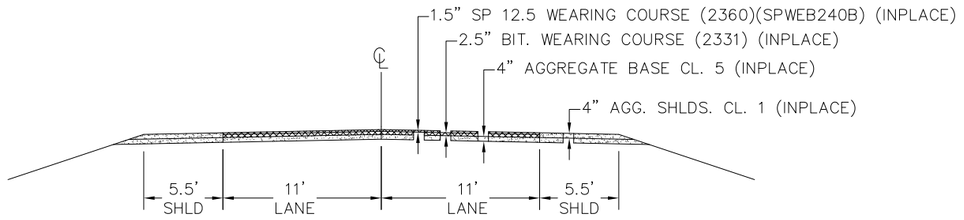
Randy Groves Digitally signed by Randy Groves Date: 2025.01.29 15:39:09 -06'00'
CERTIFIED BY: _____ LIC. NO. 26426
LICENSED PROFESSIONAL ENGINEER

PROJECT NO.'s S.A.P. 051-040-001, 051-642-021, 051-647-006, C.P. 67-25

TYPICAL SECTIONS

PROJECT CP 67-25
CP 67

EXISTING TYPICAL SECTION
STA. 0+00 TO 24+30



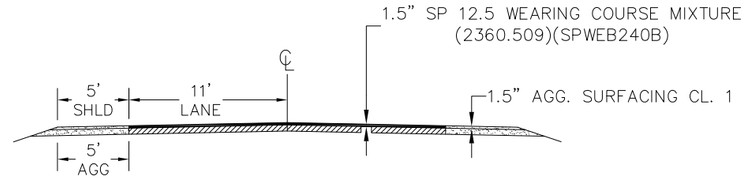
NOTE: DIMENSIONS AND SLOPES SHOWN ON THE TYPICAL SECTION ARE APPROXIMATE.
GRADED, AGGREGATE BASE & BITUMINOUS SURFACE UNDER S.A.P. 51-643-03 (1974).
EXISTING BITUMINOUS SURFACE PLACED UNDER C.P. 67-06 (2006).

BITUMINOUS CROSS SLOPE = 2%
AGGREGATE SHOULDERS CROSS SLOPE = 4%

PROPOSED TYPICAL SECTION
STA. 0+00 TO 24+30

GE = 15.75

NO SCALE



Randy Groves
Digitally signed by Randy Groves
Date: 2025.01.29 15:39:24 -06'00'

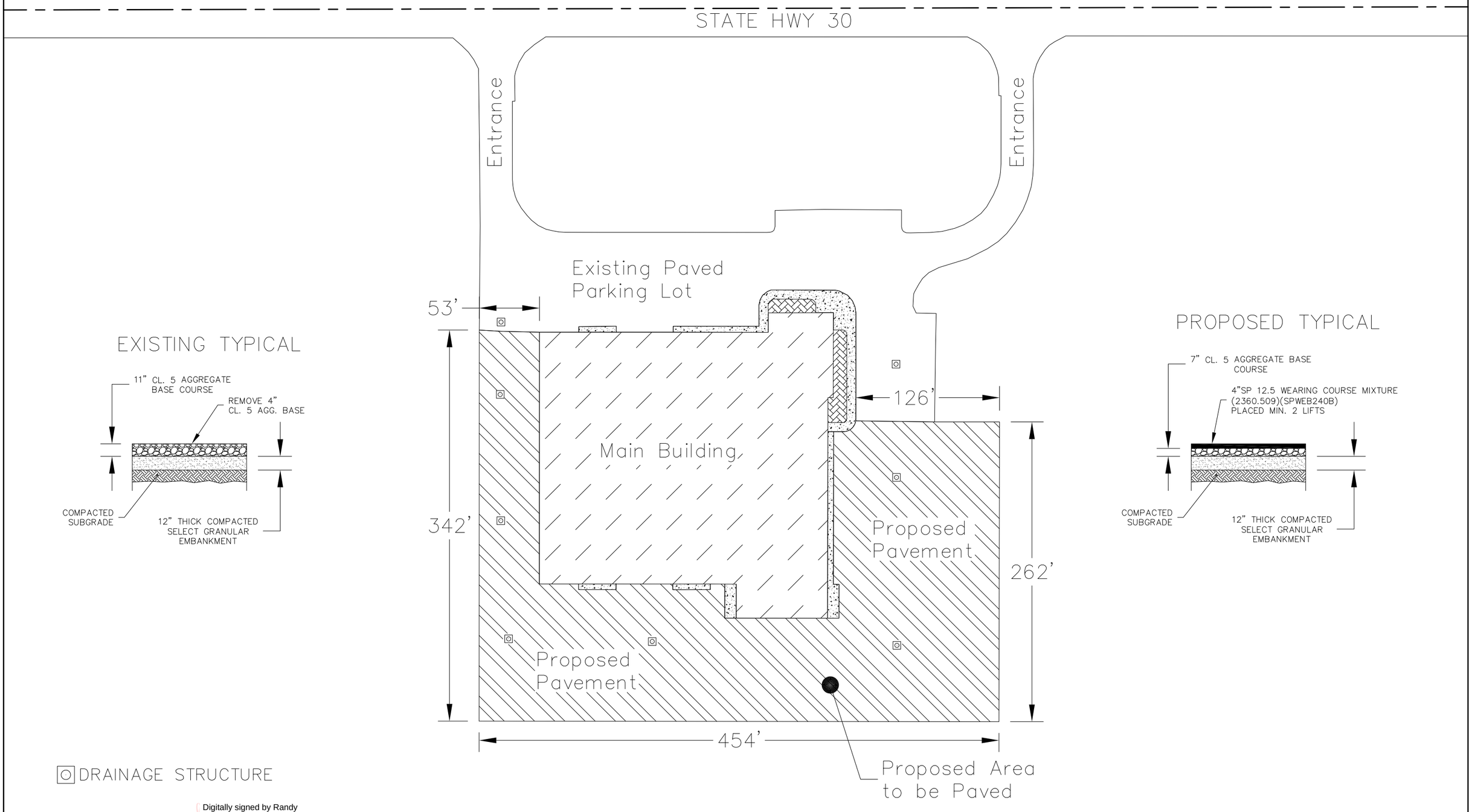
CERTIFIED BY:_____ LIC. NO. 26426
LICENSED PROFESSIONAL ENGINEER

PROJECT NO.'s S.A.P. 051-040-001, 051-642-021, 051-647-006, C.P. 67-25

TYPICAL SECTIONS

SHEET 4 OF 6 SHEETS

PROJECT SAP 051-040-001
1449 STATE HWY 30



EXISTING TYPICAL

PROPOSED TYPICAL

⊙ DRAINAGE STRUCTURE

Randy Groves
Digitally signed by Randy Groves
Date: 2025.01.29 15:39:41 -06'00'

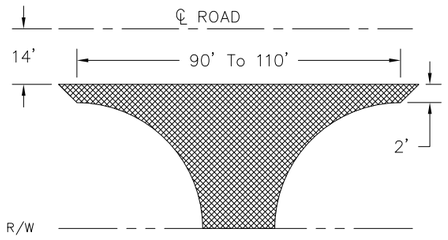
CERTIFIED BY: _____ LIC. NO. 26426
LICENSED PROFESSIONAL ENGINEER

PROJECT NO.'s S.A.P. 051-040-001, 051-642-021, 051-647-006, C.P. 67-25

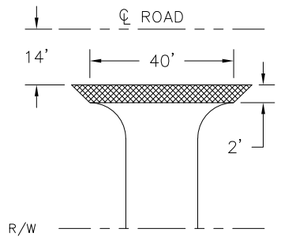
PARKING LOT DETAILS

SHEET 5 OF 6 SHEETS

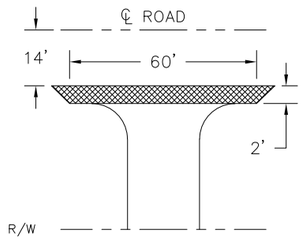
ROAD APPROACH



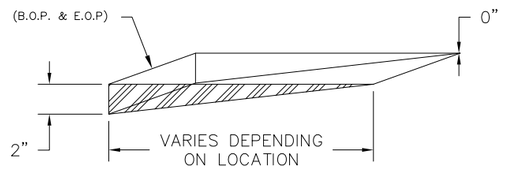
FIELD ENTS.



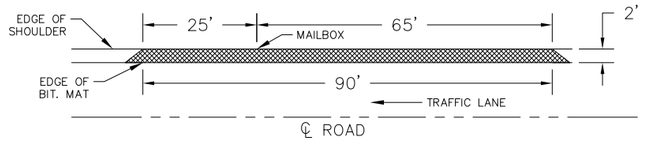
FARM OR DBL. ENTS.



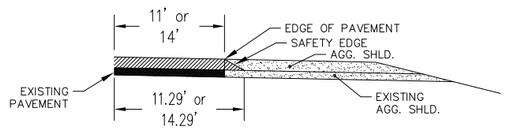
DETAIL FOR MILLING AT B.O.P. & E.O.P. OF PROJECTS



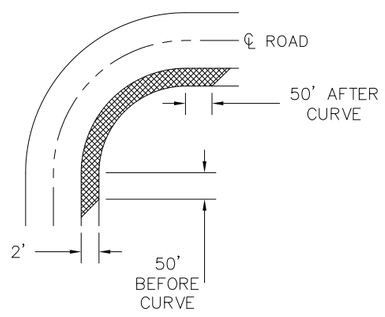
DETAIL OF BIT. APPROACH AT MAILBOXES



SAFETY EDGE DETAIL

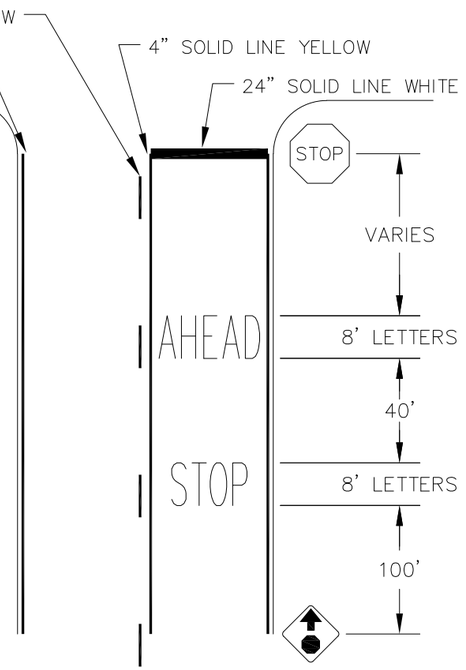


INSIDE OF CURVES



NO SCALE

PLACEMENT FOR "STOP AHEAD" MARKINGS AND "STOP LINES"



ROAD	LOCATION	24" SOLID LINE	PAVE MESS.
CSAH 42	B.O.P.	12'	49 SQ FT
CSAH 42	CSAH 6	24'	98 SQ FT
CSAH 42	E.O.P.	12'	49 SQ FT
CSAH 42 TOTALS		48'	196 SQ FT
CSAH 47	CSAH 44	12'	49 SQ FT
CSAH 47 TOTALS		12'	49 SQ FT
CR 67	T.H. 30	12'	49 SQ FT
CR 67 TOTALS		12'	49 SQ FT
GRAND TOTALS		72'	294 SQ FT

NOTES:

1. PAVEMENT MESSAGE SHOULD BE INSTALLED AT THE DISTANCE FROM THE STOP AHEAD SIGN AS SHOWN ABOVE. PAVEMENT MESSAGE INCLUDES BOTH WORDS, "STOP AHEAD" WHITE PAINT.
2. THE "STOP LINE" SHOULD ORDINARILY BE PLACED IN LINE WITH THE STOP SIGN. HOWEVER IF THE SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO STOP, THE STOP LINE SHOULD BE PLACED AT THE STOPPING POINT.
3. THE ENGINEER WILL MARK THE 100' DISTANCE FROM THE STOP AHEAD SIGN AND THE CONTRACTOR WILL MEASURE THE 40' BETWEEN WORDS.
4. CONTRACTOR MUST SUPPLY THE TEMPLATE FOR THE "STOP AHEAD" MESSAGE. THE ENGINEER WILL APPROVE THE TEMPLATE PRIOR TO PAINTING.

Randy Groves

Digitally signed by Randy Groves
Date: 2025.01.29 15:39:58 -06'00'

CERTIFIED BY: _____ LIC. NO. 26426
LICENSED PROFESSIONAL ENGINEER

PROJECT NO.'s S.A.P. 051-040-001, 051-642-021, 051-647-006, C.P. 67-25

PAVING DETAILS

SHEET 6 OF 6 SHEETS