

MINNESOTA DEPARTMENT OF TRANSPORTATION LYON COUNTY

CONSTRUCTION PLAN FOR: BITUMINOUS OVERLAY AND AGGREGATE SHOULDERS.

COUNTY STATE AID HIGHWAY NO. 5

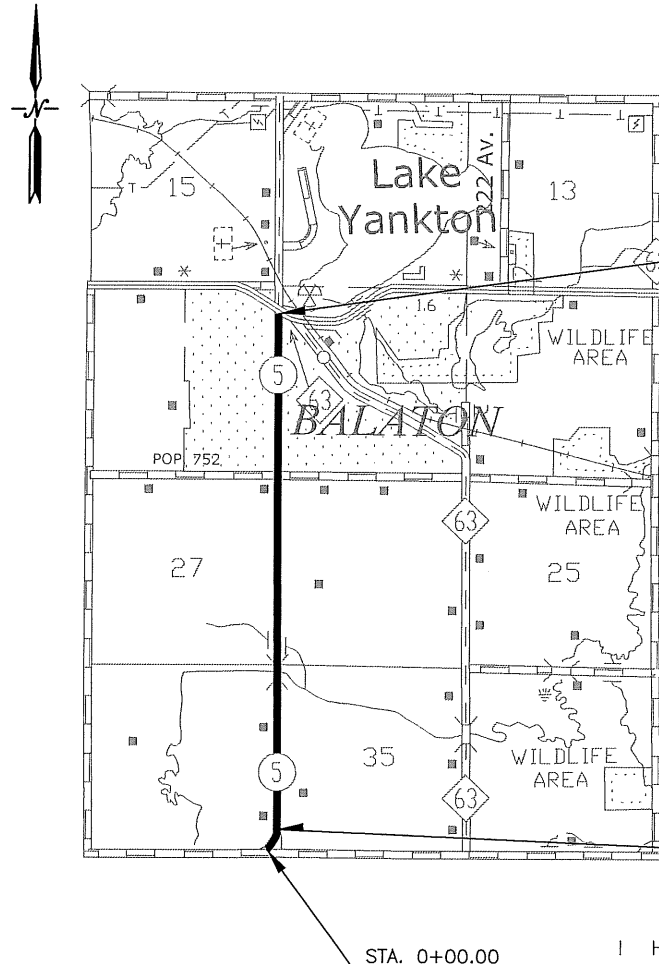
BETWEEN: MURRAY CO. LINE AND T.H. 14
FROM: 1000 FT. NORTH OF THE SW COR. SEC 35-T109N-R42W
TO: 700 FT. SOUTH NW COR. SEC 23-T109N-R42W

STATE AID PROJECT NO. 042-605-034

| | | |
|-------------------|---------------|-------------|
| GROSS LENGTH | 14082.82 FEET | 2.667 MILES |
| BRIDGE LENGTH | 0.00 FEET | 0.000 MILES |
| EXCEPTIONS LENGTH | 0.00 FEET | 0.000 MILES |
| NET LENGTH | 14082.82 FEET | 2.667 MILES |

| | |
|-------------|----------------------------|
| SHEET NO. 1 | TITLE SHEET |
| SHEET NO. 2 | ESTIMATED QUANTITY SHEET |
| SHEET NO. 3 | TYPICAL SECTIONS SHEET |
| SHEET NO. 4 | TRAFFIC CONTROL PLAN SHEET |

THIS PLAN CONTAINS 4 SHEETS



END S.A.P. 042-605-034
STA. 104+46.12

| MUNICIPAL SECTION | RURAL SECTION |
|--|--|
| STA. 109+37.12 TO STA. 140+82.82 | STA. 10+00.00 TO STA. 109+37.12 |
| FUNCTIONAL CLASSIFICATION: RURAL MAJOR AND URBAN COLLECTOR | FUNCTIONAL CLASSIFICATION: RURAL MAJOR COLLECTOR |
| DESIGN SPEED 30 MPH | DESIGN SPEED 50 MPH |
| ADT 240 (2014) PROJ ADT 50 (2034) | ADT 240 (2014) PROJ ADT 50 (2034) |
| NO. OF TRAFFIC LANES: 2 NO. OF PARKING LANES: 2 100 % | NO. OF TRAFFIC LANES: 2 NO. OF PARKING LANES: 0 S.F. 100 % |
| R VALUE = 10 TON DESIGN 10 ESALS (20 YR) = 160,000 SHOULDER WIDTH 7.00' | R VALUE = 10 TON DESIGN 10 ESALS (20 YR) = 118,000 SHOULDER WIDTH 6.00' |
| STOPPING SITE DISTANCE BASED ON: 3.5' HEIGHT OF EYE 2.0' HEIGHT OF OBJECT | STOPPING SITE DISTANCE BASED ON: 3.5' HEIGHT OF EYE 2.0' HEIGHT OF OBJECT |
| GRADED SAP 042-605-09 (1991) SURFACED SAP 042-605-09 (1991) | GRADED SAP 042-605-07 (1973) SURFACED SAP 042-605-07 (1974) |

BEG S.A.P. 042-605-034
STA. 10+00.00

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

Signature: *Aaron VanMoer* Typed Name: Aaron VanMoer
Design Engineer

Date: 3/18/15 License No.: 50428

Aaron VanMoer Date: 3/18/15
Approved County Engineer

Tom J. Brunwald Date: 3/19/15
District State Aid Engineer:
Reviewed for Compliance with State Aid Rules/Policy

Tom J. Brunwald Date: 3/19/15
Approved for State Aid Funding - for State Aid Engineer

GOVERNING SPECIFICATIONS
THE 2014 EDITION OF THE MINNESOTA DEPARTMENT
OF TRANSPORTATION "STANDARD SPECIFICATIONS
FOR CONSTRUCTION".

| NOTE | ITEM NO. | ITEM | UNIT | MUN. | RURAL | TOTAL ESTIMATED QUANTITY |
|------|----------|---------------------------------------|------|---------|----------|--------------------------|
| | 2021.501 | MOBILIZATION | L.S. | 0.58 | 0.42 | 1.00 |
| | 2051.501 | MAINT. & RESTORATION OF HAUL ROADS | L.S. | 0.58 | 0.42 | 1.00 |
| | 2221.501 | SHOULDER BASE AGGREGATE 5 MOD. | TON | 275.00 | 1860.00 | 2135.00 |
| 3 | 2232.501 | MILL BITUMINOUS SURFACE (1.5") | S.Y. | 6000.00 | 0.00 | 6000.00 |
| 1,2 | 2360.501 | TYPE SP 12.5 WEARING COURSE MIX (3,B) | TON | 1900.00 | 2320.00 | 4220.00 |
| | 2504.602 | ADJUST GATE VALVE | EACH | 2.00 | 0.00 | 2.00 |
| | 2506.522 | ADJUST FRAME AND RING CASTING | EACH | 11.00 | 0.00 | 11.00 |
| 4 | 2531.602 | PEDESTRIAN CURB RAMP | EACH | 4.00 | 0.00 | 4.00 |
| 5 | 2531.618 | TRUNCATED DOMES | S.F. | 40.00 | 0.00 | 40.00 |
| | 2563.601 | TRAFFIC CONTROL | L.S. | 0.58 | 0.42 | 1.00 |
| | 2582.502 | 6" SOLID LINE WHITE-PAINT | L.F. | 3000.00 | 17895.00 | 20895.00 |
| | 2582.502 | 4" SOLID LINE YELLOW-PAINT | L.F. | 7000.00 | 11530.00 | 18530.00 |
| | | | | | | |
| | | | | | | |

CONSTRUCTION NOTES

1. 30 DEGREE SAFETY EDGE SHALL BE INCLUDED WITH THE TOTAL BID PRICE FOR BITUMINOUS WEARING COURSE (2360). BITUMINOUS SAFETY EDGE SHALL EXTEND AT A 30 DEGREE ANGLE FROM THE TOP OF EACH COURSE.
2. TACK OIL @ .05 GAL/SQ. YD. SHALL BE INCLUDED WITH THE TOTAL BID PRICE FOR BITUMINOUS WEARING COURSE (2360).
3. ALL MILLING MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR. MILLING SHALL BE COMPLETED NO LONGER THAN 24 HOURS PRIOR TO PLACEMENT OF BITUMINOUS SURFACE.
4. SEE SHEET 4 FOR LOCATION AND DETAILS. THE CONTRACTOR IS REQUIRED TO CONSTRUCT EACH RAMP TO MEET CURRENT ADA STANDARDS.
5. TRUNCATED DOMES MUST BE FROM A MNDOT APPROVED MANUFACTURER.

CERTIFIED BY:



LIC. NO. 50428

LICENSED PROFESSIONAL ENGINEER

STATE AID PROJECT NO. 042-605-034

SHEET 2 OF 5 SHEETS

PEDESTRIAN CURB RAMP DETAILS

| PEDESTRIAN CURB RAMP LOCATIONS | | |
|--------------------------------|------|-------|
| LOCATION | LEFT | RIGHT |
| 1st. NE. | | 1 |
| 2nd. St. NE. | | 1 |
| Washington. | 2 | |
| | | |

PEDESTRIAN RAMP DETAILS:

1. PLACING, SHAPING AND SEEDING TOPSOIL WITH SEED MIXTURE 270 SHALL BE INCLUDED WITH THE TOTAL BID PRICE FOR PEDESTRIAN CURB RAMP. MINOR GRADING AND SELECT TOPSOIL BORROW REQUIRED TO PROPERLY SLOPE AND MATCH EXISTING CONDITIONS SHALL BE INCLUDED IN THE TOTAL BID PRICE OF PEDESTRIAN CURB RAMP (2531.602).
2. ANY AND ALL REMOVAL ITEMS OBTAINED BY THE CONTRACTOR AS A RESULT OF EXCAVATING THE PEDESTRIAN CURB RAMP SHALL BECOME PROPERTY OF THE CONTRACTOR.
3. THE PEDESTRIAN CURB RAMPS ARE REQUIRED TO MEET CURRENT ADA STANDARDS AND GUIDELINES. ALL PEDESTRIAN CURB RAMPS THAT DO NOT MEET CURRENT STANDARDS AND GUIDELINES WILL BE REQUIRED TO BE REMOVED AND RECONSTRUCTED AT THE CONTRACTORS EXPENSE.
4. STANDARD PLAN SHEETS 5-297.250 TITLED "PEDESTRIAN CURB RAMP DETAILS" SHALL BE USED TO AID IN CONSTRUCTION OF EACH CURB RAMP.

BASIS FOR ESTIMATED QUANTITIES

WEARING COURSE MIXTURE

BITUMINOUS MATERIAL FOR MIXTURE (MAXIMUM DENSITY)
110LBS./SQ.YD./INCH OF DEPTH

TACK COAT

BITUMINOUS MATERIAL FOR TACK COAT .05 GALS. PER SQ.YD.

SHOULDER BASE AGGREGATE

140 LBS/CU. FT.

STANDARD PLATES AS APPROVED BY THE FEDERAL HIGHWAY
ADMINISTRATION SHALL APPLY ON THIS PROJECT.

STANDARD PLATES

| PLATE NO. | DESCRIPTION |
|-----------|---|
| 8000 I | STANDARD BARRICADES |
| 9000 E | APPROACHES AND ENTRANCES |
| 7035 L | CONCRETE WALK AND CURB RETURNS AT ENTRANCES |
| 7100 H | CONCRETE CURB AND GUTTER DESIGN (B & V) |
| 7038 A | DETECTABLE WARNING SURFACE TRUNCATED DOMES |

CERTIFIED BY: 

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STATE AID PROJECT NO. 42-605-34

SHEET 3 OF 5 SHEETS

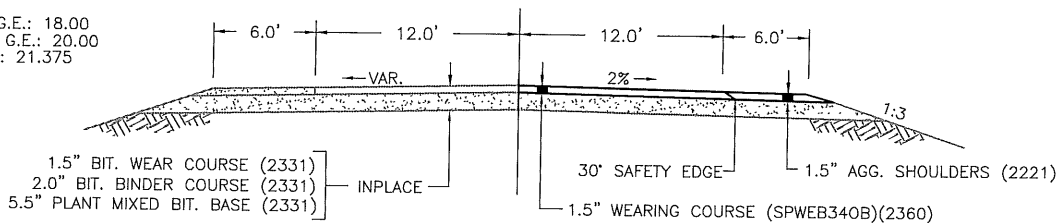
TYPICAL SECTION

STA. 10+00.00 TO STA. 105+92.12
1000 FT NORTH OF THE MURRAY CO. LINE TO THE CITY LIMITS OF BALATON

GRANULAR EQUIVALENT
10 TON
R VALUE: 10
ESAL'S: 118,000

EXISTING G.E.: 18.00
REQUIRED G.E.: 20.00
ON PLANS: 21.375

INPLACE NOT TO SCALE CONSTRUCT

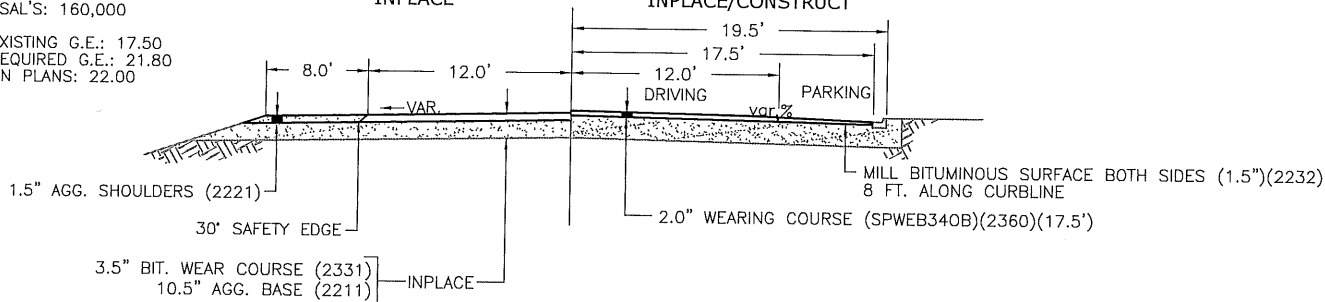


STA. 105+92.12 to STA. 109+37.12 (C.S.A.H. 5)

GRANULAR EQUIVALENT
10 TON
R VALUE: 10
ESAL'S: 160,000

EXISTING G.E.: 17.50
REQUIRED G.E.: 21.80
ON PLANS: 22.00

INPLACE NOT TO SCALE INPLACE/CONSTRUCT

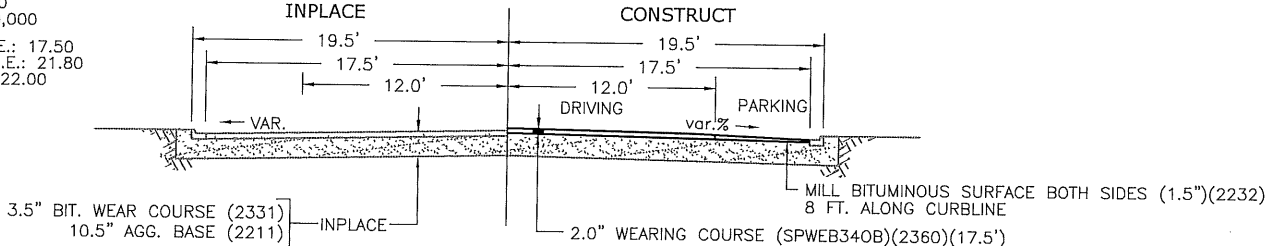


STA. 109+37.12 to STA. 140+82.82 (C.S.A.H. 5)

GRANULAR EQUIVALENT
10 TON
R VALUE: 10
ESAL'S: 160,000

EXISTING G.E.: 17.50
REQUIRED G.E.: 21.80
ON PLANS: 22.00

INPLACE NOT TO SCALE CONSTRUCT



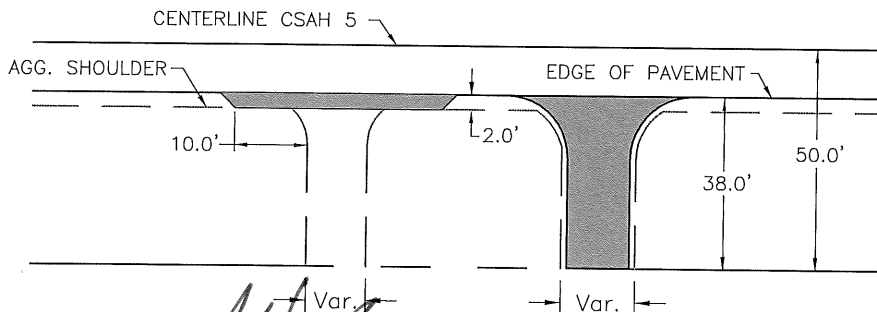
NOTE: THE OUTER 8.0' (IN PARKING AREA) WILL BE PAVED IN ONE LIFT WITH THE INNER EDGE OF PAVEMENT 2.0" IN DEPTH AND THE OUTER EDGE AT THE CURB AND GUTTER 1.5" IN DEPTH.

SECTION NOTES:

- 30" BITUMINOUS SAFETY EDGE SHALL BE INCLUDED WITH THE TOTAL BID PRICE FOR BITUMINOUS WEARING COURSE (2360).
- TACK OIL @ .05 GAL/SQ.YD. SHALL BE INCLUDED IN THE TOTAL BID PRICE.

TYPICAL AUXILIARY APPROACH PAVING

STANDARD PLATE 9000E SHALL APPLY. FIELD ADJUST AS DIRECTED BY THE ENGINEER.



FRM/FLD ENTRANCE

CROSS ROADS

| ENTRANCE TYPE | # | EST. TONS |
|-------------------|----|-----------|
| FIELD ENTRANCE | 14 | 70 |
| RESIDENT ENTRANCE | 7 | 35 |
| INTERSECTIONS | 10 | 400 |
| CROSS ROADS | 2 | 80 |
| | | 585 |

CERTIFIED BY:

A. J. Mear

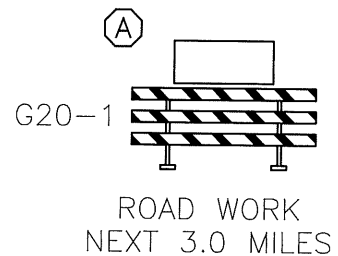
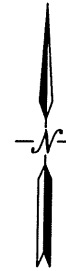
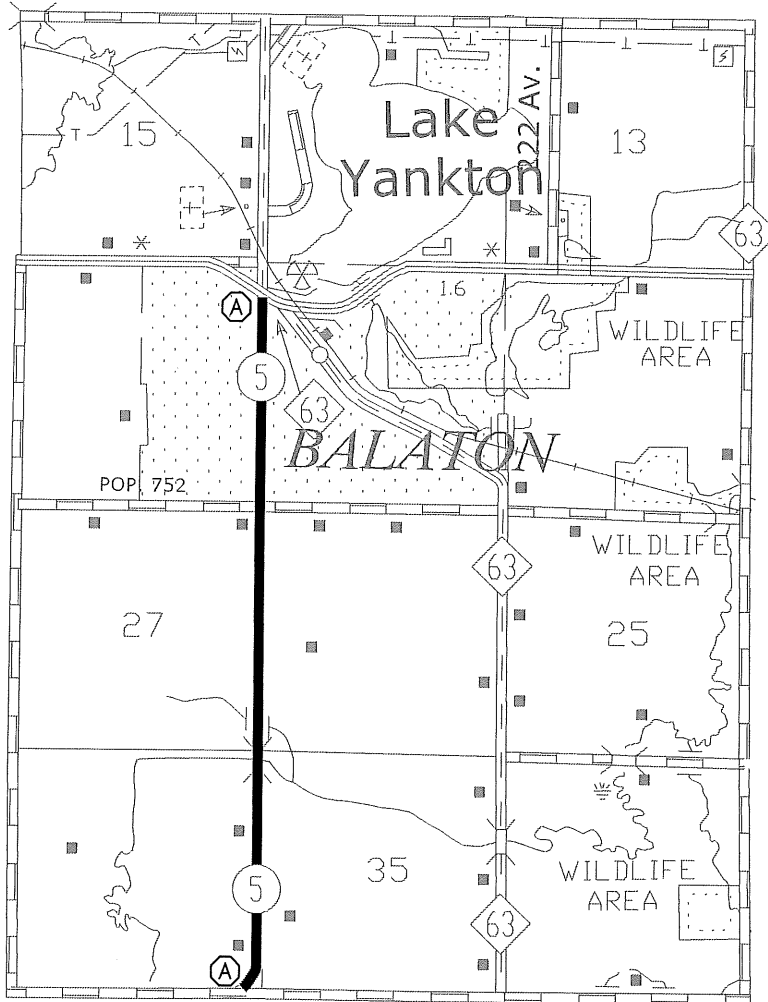
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SHEET 4 OF 5 SHEETS

TRAFFIC CONTROL PLAN



NOTES:

1. TRAFFIC CONTROL SHALL MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE MnMUTCD, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
2. ALL NECESSARY TRAFFIC CONTROL DEVICES ON THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR THE IMMEDIATE REPAIR OR REPLACEMENT OF ALL TRAFFIC CONTROL DEVICES THAT BECOME DAMAGED, MOVED, OR DESTROYED.
3. ALL INPLACE REGULATORY AND WARNING SIGNS TO REMAIN INPLACE THROUGHOUT CONSTRUCTION.
4. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE ALL TRAFFIC CONTROL DEVICES REQUIRED TO PROVIDE SAFE MOVEMENT OF LOCAL VEHICULAR TRAFFIC THROUGHOUT THE PROJECT. THE ENGINEER WILL HAVE THE RIGHT TO MODIFY THE REQUIREMENTS OF TRAFFIC CONTROL AS DEEMED NECESSARY DUE TO FIELD CONDITIONS. THE STREET SHALL REMAIN OPEN TO LOCAL TRAFFIC AT ALL TIMES.

CERTIFIED BY:  LIC. NO. 50428
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