

K:\Projects\1 - 40 CSAH\CSAH 37\CP 0037-509059\400 Design\410 Drawings\520 Sheets\1\_CP-0037-509059\TITLE SHEET(new).dwg, 11/20/2019 7:36:26 AM

PLAN SYMBOLS

|                                        |  |
|----------------------------------------|--|
| SECTION SUBDIVISION LINE               |  |
| EXISTING R/W                           |  |
| NEW R/W                                |  |
| TEMP EASE                              |  |
| RAILROAD R/W                           |  |
| ROAD SHOULDER                          |  |
| EDGE OF LAKE                           |  |
| SWAMP BOUNDARY                         |  |
| MISCELLANEOUS BOUNDARY                 |  |
| CORPORATE OR CITY LIMITS               |  |
| PROPERTY LINE                          |  |
| RECREATIONAL TRAIL                     |  |
| ROAD ALIGNMENT                         |  |
| ALIGNMENT POINTS                       |  |
| RIVER OR CREEK                         |  |
| DRAINAGE DITCH                         |  |
| BRIDGE                                 |  |
| RAILROAD (SINGLE TRACK)                |  |
| RR CROSSING PAVEMENT MARKING           |  |
| RR CROSSING GATE                       |  |
| RR CROSSBUCK SIGN                      |  |
| RR CROSSBUCK SIGN W/LIGHTS             |  |
| BARBED WIRE FENCE                      |  |
| CHAIN LINK FENCE                       |  |
| WOVEN WIRE, COMBINATION WOVEN AND BARB |  |
| WOOD FENCE                             |  |
| BILLBOARD                              |  |
| RETAINING WALL                         |  |
| GUARDRAIL (CABLE)                      |  |
| GUARDRAIL (PLATE BEAM)                 |  |
| DRAIN TILE                             |  |
| CULVERT                                |  |
| CULVERT WITH APRONS                    |  |
| TREELINE OR BRUSHLINE                  |  |
| DECIDUOUS TREES                        |  |
| CONIFER (EVERGREEN) TREES              |  |
| HEDGE                                  |  |
| BUSH OR SHRUB                          |  |
| SWAMP OR MARSH                         |  |
| MONUMENT (CLACT,ACP,BCP,...)           |  |
| CONCRETE OR STONE MONUMENT             |  |
| IRON PIPE, PIN OR REBAR                |  |
| IRON PIN WITH BRASS DISK               |  |
| NAIL, PK NAIL, SPIKE, SFP, T-BAR, ...  |  |
| VERTICAL CONTROL                       |  |
| HORIZONTAL CONTROL                     |  |
| POWER POLE                             |  |
| LIGHT POLE                             |  |
| LIGHT AND TELEPHONE POLE               |  |
| LIGHT, TELEPHONE AND POWER POLE        |  |
| GUY POLE                               |  |
| POLE ANCHOR                            |  |
| TELEPHONE POLE                         |  |
| TELEPHONE AND POWER POLE               |  |
| UNDERGROUND UTILITY PEDESTAL           |  |
| TELEPHONE MANHOLE (VAULT)              |  |
| ELECTRIC CABLE IN CONDUIT              |  |
| TELEPHONE CABLE IN CONDUIT             |  |
| BURIED ELECTRIC CABLE                  |  |
| BURIED TELEPHONE CABLE                 |  |
| GAS LINE                               |  |
| WATER LINE                             |  |
| VALVE                                  |  |
| FIRE HYDRANT                           |  |
| WATER MANHOLE                          |  |
| WELL                                   |  |
| LAWN SPRINKLER HEAD                    |  |
| MANHOLE                                |  |
| CATCH BASIN                            |  |
| SEPTIC TANK                            |  |
| FORCE MAIN LIFT STA.                   |  |
| SEWER LINE                             |  |
| PERMANENT BARRICADE                    |  |
| TRAFFIC SIGNAL LIGHT                   |  |
| HAND HOLE                              |  |
| ENTRANCE                               |  |
| BUILDING                               |  |
| SATELLITE DISH                         |  |
| STEEL TOWER                            |  |
| FLAG POLE                              |  |
| SIGN                                   |  |
| TYPE III BARRICADE                     |  |
| CHANNELIZING DEVICE                    |  |
| TYPE A WARNING LIGHT                   |  |

MINNESOTA DEPARTMENT OF TRANSPORTATION  
SAINT LOUIS COUNTY  
CONSTRUCTION PLAN FOR: 6'x4' PRECAST CONCRETE BOX CULVERT REPLACEMENT

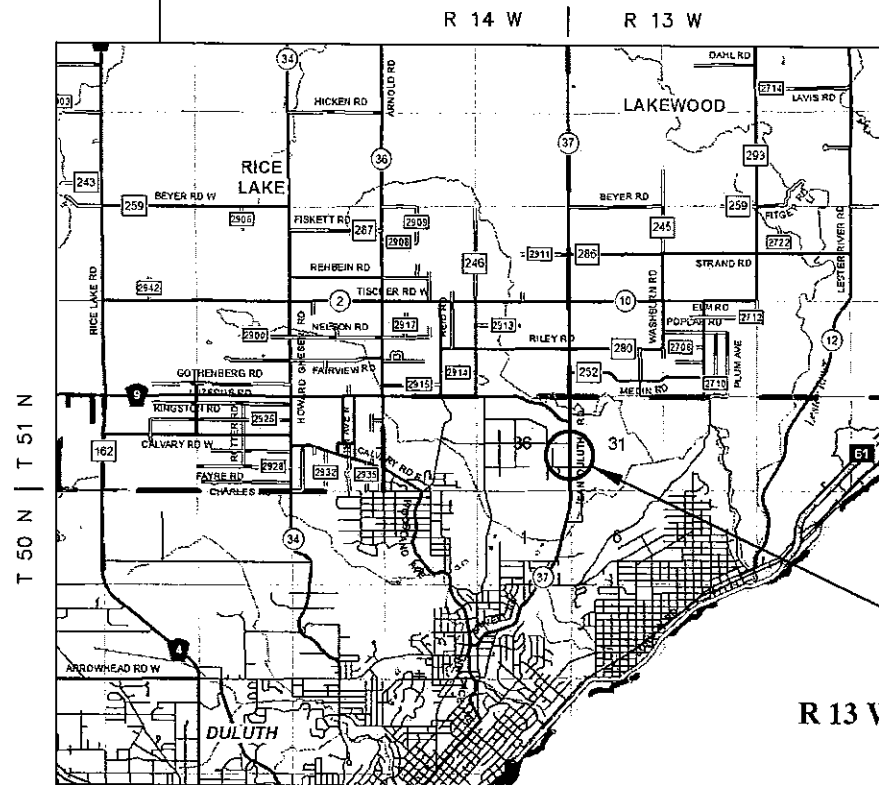
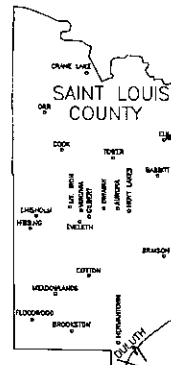
LOCATED ON

C.S.A.H 37 (JEAN DULUTH RD)

0.35 MILES SOUTH OF C.S.A.H. 10 (MARTIN RD)

A POINT 621' SOUTH OF THE WEST QUARTER CORNER OF SEC. 31, T51N, R13W

COUNTY PROJECT NO. 0037-509059



INDEX MAP

INDEX MAP  
SCALE  
0 1 MILE

| PLAN REVISIONS |           |             |
|----------------|-----------|-------------|
| DATE           | SHEET NO. | APPROVED BY |
|                |           |             |
|                |           |             |
|                |           |             |
|                |           |             |

CP 0037-509059

MINN. PROJ. NO.

SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION  
"STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX OF SHEETS

| SHEET NO. | DESCRIPTION                |
|-----------|----------------------------|
| 1         | TITLE SHEET AND INDEX MAP  |
| 2         | ESTIMATED QUANTITIES       |
| 3         | STREAM PROFILE             |
| 4-5       | RC BOX CULVERT STD. PLAN   |
| 6         | PLAN VIEW                  |
| 7-9       | CULVERT TREATMENTS         |
| 10-13     | TEMPORARY STREAM DIVERSION |
| 14-15     | TRAFFIC DETAILS            |
| 16        | PAVEMENT MARKINGS          |

THIS PLAN CONTAINS 16 SHEETS

HYDRAULIC ENGINEER'S RECOMMENDATION  
DATE: NOVEMBER 12, 2018

STREAM OR DITCH DESIGNATION UNNAMED TRIBUTARY TO AMITY CREEK  
DRAINAGE AREA 0.127 SQ. MI.  
MAX. FLOOD ON RECORD N/A DES. FLOOD(2 YR)  
TOTAL STAGE INCREASE: NATURAL COND.0.86' EXISTING COND.-0.78'  
HEADWATER ELEVATION 1147.16'  
MINIMUM WATERWAY OPENING BELOW: 1147.16' 11.49 S.F.  
DESIGN MEAN VELOCITY THROUGH STRUCTURE 5.8 F.P.S.  
IN THE INTEREST OF FLOOD PLAN ZONING THE REGIONAL FLOOD  
(100 YR. FREQ.) IS 92 C.F.S. AT STAGE 1149.39' AND MEAN  
VELOCITY OF 7.5 F.P.S.  
THE ABOVE RECOMMENDATION WILL PROVIDE A STRUCTURE OF  
ADEQUATE WATERWAY TO PASS THE REGIONAL FLOOD CRITERIA  
ESTABLISHED BY THE DEPT. OF NATURAL RESOURCES.

DESIGNERS DESIGN SOUTH

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: STEPHEN E. KRASAWAY

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_ LIC. NO. 45397

APPROVED \_\_\_\_\_ ST. LOUIS CO. HWY. ENGINEER DATE \_\_\_\_\_

SHEET NO. 1 OF 16 SHEETS