

# MINNESOTA DEPARTMENT OF TRANSPORTATION

## LYON COUNTY

CONSTRUCTION PLAN FOR: FULL DEPTH BITUMINOUS RECLAMATION, MILL BITUMINOUS SURFACE, PEDESTRIAN CURB RAMPS, AGGREGATE SHOULDERING AND BITUMINOUS SURFACING

COUNTY STATE AID HIGHWAY NO. 9

STATE AID PROJECT NO. 42-609-33

BETWEEN: T.H. 23 AND C.S.A.H. 32

GROSS LENGTH 4588.00 FEET 0.869 MILES

FROM: A PT. AT THE INTERSECTION OF T.H. 23 AND CSAH 9 SEC. 16 T113N-R40W

BRIDGE LENGTH 0.00 FEET 0.00 MILES

TO: A PT. 4638.0' NORTH TO THE INTERSECTION OF T.H. 23 AND CSAH 9 SEC. 9 T113-R40W (IN THE CITY OF COTTONWOOD)

EXCEPTIONS LENGTH 0.00 FEET 0.00 MILES

NET LENGTH 4588.00 FEET 0.869 MILES

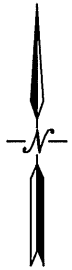
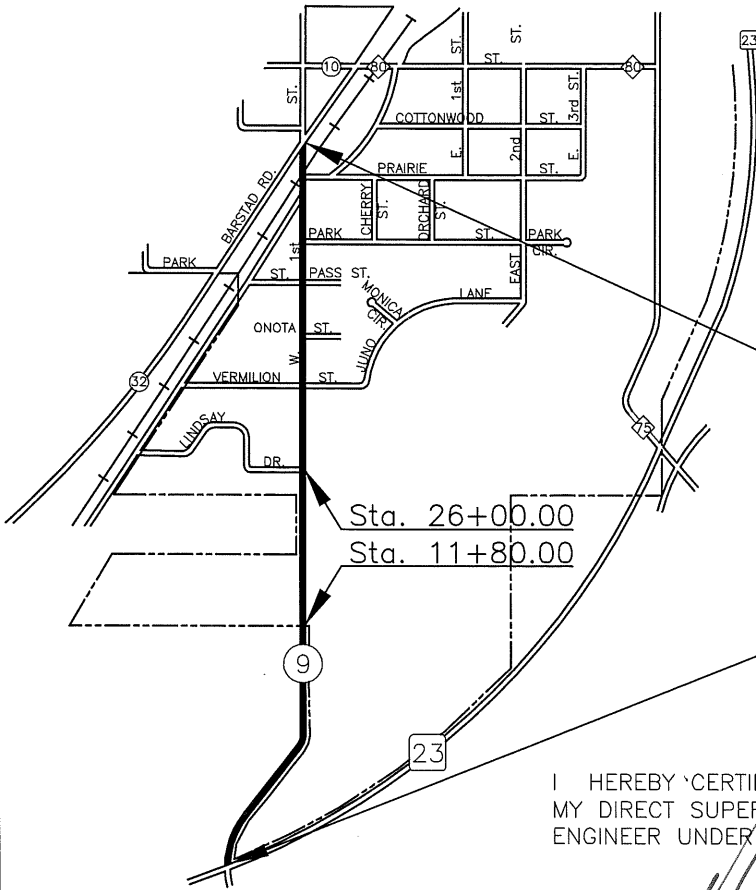
SHEET NO. 1	TITLE SHEET
SHEET NO. 2	ESTIMATED QUANTITY SHEET
SHEET NO. 3	DETAILS SHEET
SHEET NO. 4	TYPICAL SECTIONS SHEET
SHEET NO. 5	TRAFFIC CONTROL PLAN SHEET

THIS PLAN CONTAINS 5 SHEETS

STOPPING SITE DISTANCE BASED ON:  
3.5' HEIGHT OF EYE  
2.0' HEIGHT OF OBJECT

END S.A.P. 42-609-33  
STA. 46+38.00

BEG. S.A.P. 42-609-33  
STA. 0+50.00



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: 6/12/13 License No.: 50428

*Aaron VanMoer* Date: 6/12/13  
Approved County Engineer

*Edward E. Gerry* Date: 6/7/13  
Mayor: City of Cottonwood

*Aaron VanMoer* Date: 6-19-13  
District State Aid Engineer:  
Reviewed for Compliance with State Aid Rules/Policy

*Aaron VanMoer* Date: 6-14-13  
Approved for State Aid Funding - for State Aid Engineer

FUNCTIONAL CLASSIFICATION:  
MAJOR COLLECTOR

DESIGN SPEED 30 MPH

ADT 1400 (2013)

PROJ ADT 2,420 (2033)

NO. OF TRAFFIC LANES: 2

NO. OF PARKING LANES: 2

S.F. 130 %

R VALUE = 10

TON DESIGN 10

ESALS (20 YR) = 233,000

SHOULDER WIDTH 4.0'

GRADED S.A.P. 42-609-11

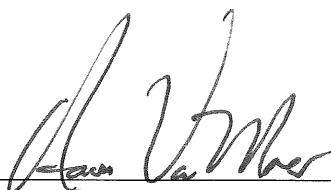
SURFACED 42-609-11 (1982)

GOVERNING SPECIFICATIONS  
THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION".

ITEM NO.	ITEM	UNIT	CSAH	MUN.	MUN. NON-PART	TOTAL ESTIMATED QUANTITY
2021.501	MOBILIZATION	L.S.	.25	.75		1
2051.501	MAINT. & REST. OF HAUL ROADS	L.S.	.25	.75		1
1 2104.503	REMOVE BITUMINOUS PAVEMENT	S.F.		400		400
2 2112.501	SUBGRADE PREPARATION	RD ST	14.2	11.3		25.5
2221.501	AGGREGATE SHOULDERING CL. 5M	TON	275	350		625
3 2232.501	MILL BITUMINOUS SURFACE	S.Y.		8382	2038	10420
4 2331.601	FULL DEPTH BITUMINOUS RECLAMATION (P)	S.Y.	3020	3790		6810
5 2360.501	TYPE SP12.5 WEAR COURSE MIXTURE 3C	TON	700	3812	673	5185
2504.602	ADJUST GATE VALVE	EACH		4		4
2506.522	ADJUST FRAME AND RING CASTING	EACH		6		6
6 2531.602	PEDESTRIAN CURB RAMP	EACH		11		11
7 2531.618	TRUNCATED DOMES	S.F.		88		88
8 2563.601	TRAFFIC CONTROL	L.S.	.25	.75		1
9 2573.530	STORM DRAIN INLET PROTECTION	EACH		6		6
2582.501	PAVEMENT MESSAGE (RR CROSSING)-EPOXY	EACH		1		1
2582.502	24" STOP LINE WHITE-EPOXY	L.F.	12	12		24
2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY	L.F.	1130	3458		4588
2582.502	6" SOLID WHITE-EPOXY	L.F.	2260	6916		9176

### CONSTRUCTION NOTES

1. REMOVE ADDITIONAL MATERIAL AFTER MILLING OPERATIONS AS DIRECTED BY THE ENGINEER (THICKENED AREAS). ALL REMOVAL MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR.
2. UPON COMPLETION OF MILLING AND/OR BITUMINOUS PAVEMENT RECLAMATION THE CONTRACTOR IS REQUIRED TO SHAPE THE AGGREGATE SURFACE TO THE PROPER GRADE AND CROSS SLOPE. THE AGGREGATE SURFACE MUST BE SHAPED, WATERED, AND ROLLED TO MEET QUALITY COMPACTION METHODS. SEE PROPOSAL FOR DETAILS.
3. ALL MILLING MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR.  
DEPTH OF EXISTING BITUMINOUS MAY VARY. THE CONTRACTOR IS RESPONSIBLE TO MAKE MINOR ADJUSTMENTS TO THE MILLING DEPTH IN ORDER TO REMOVE THE ENTIRE BITUMINOUS SURFACE. NO DIRECT COMPENSATION SHALL BE MADE FOR ADJUSTMENTS.  
MILLING SHALL BE COMPLETED NO LONGER THAN 24 HOURS PRIOR TO PLACEMENT OF BITUMINOUS SURFACE.
4. PULVERIZE TO A MINIMUM DEPTH OF 10 INCHES. SEE PROPOSAL FOR DETAILS.
5. A TACK COAT SHALL BE PLACED BETWEEN EACH LIFT. TACK COAT SHALL BE INCLUDED IN THE TOTAL TOTAL BID PRICE FOR TYPE SP12.5 WEAR COURSE MIXTURE.
6. SEE SHEET 4 FOR LOCATION AND DETAILS. THE CONTRACTOR IS REQUIRED TO CONSTRUCT EACH RAMP TO MEET CURRENT ADA STANDARDS.
7. TRUNCATED DOMES MUST BE FROM A MNDOT APPROVED MANUFACTURER.
8. ALL CONSTRUCTION SHALL BE COMPLETED WHILE OPEN TO LOCAL TRAFFIC. SEE SHEET 5 FOR DETAILS.
9. PLACE AND MAINTAIN INLET PROTECTION DEVICES AS DIRECTED BY THE ENGINEER.

CERTIFIED BY:   
 LICENSED PROFESSIONAL ENGINEER

LIC. NO. 50428

STATE AID PROJECT NO. 42-609-33

SHEET 2 OF 5 SHEETS

# PEDESTRIAN RAMP DETAILS

PEDESTRIAN RAMP LOCATIONS		
LOCATION	LEFT	RIGHT
East Prairie		1
Park St.		1
Park St.		1
Pass St.		1
Pass St.	2	1
Vermillion St.	2	
Vermillion St.	1	
Juno St.		1

## 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.

### FULL DEPTH BITUMINOUS RECLAMATION

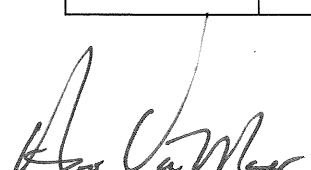
BASED ON 24.0' PAVED SURFACE

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

### STANDARD PLATES

PLATE NO.	DESCRIPTION
7035 L	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
7100 H	CONCRETE CURB AND GUTTER DESIGN (B & V)
8000 I	STANDARD BARRICADES
9000 E	APPROACHES AND ENTRANCES

CERTIFIED BY: \_\_\_\_\_

  
LICENSED PROFESSIONAL ENGINEER

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STATE AID PROJECT NO. 42-609-33

SHEET 3 OF 5 SHEETS

# TYPICAL SECTIONS

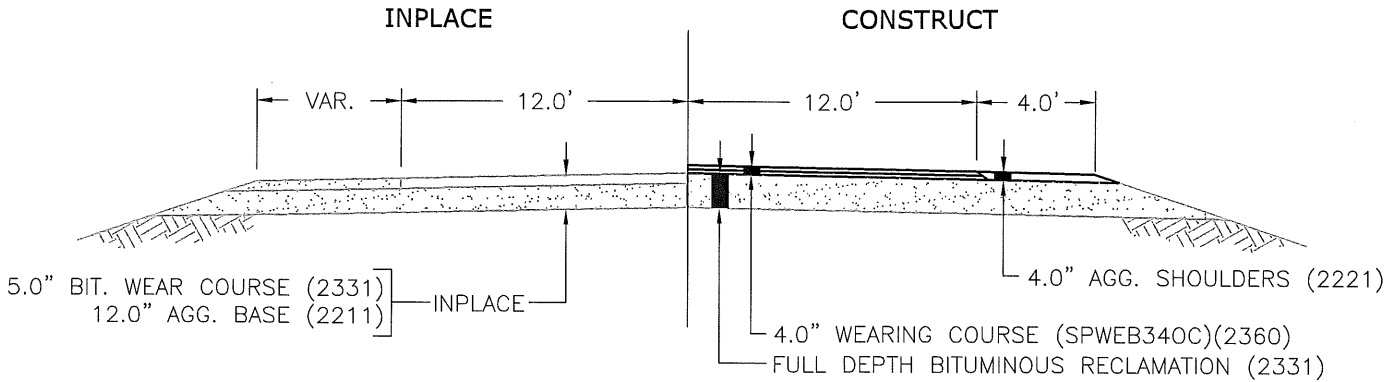
## SEGMENT 1

STA. 0+50.00 TO STA. 11+80.00 (Rural)

STA. 11+80.00 TO STA. 26+00.00 (Municipal)

RECLAIM AND OVERLAY RURAL SECTION

NOT TO SCALE



ESALS (20 YR) = 233,000  
 GRANULAR EQUIVALENT  
 10 TON  
 REQUIRED 24.13  
 ON PLANS 26.0

SECTION NOTES:

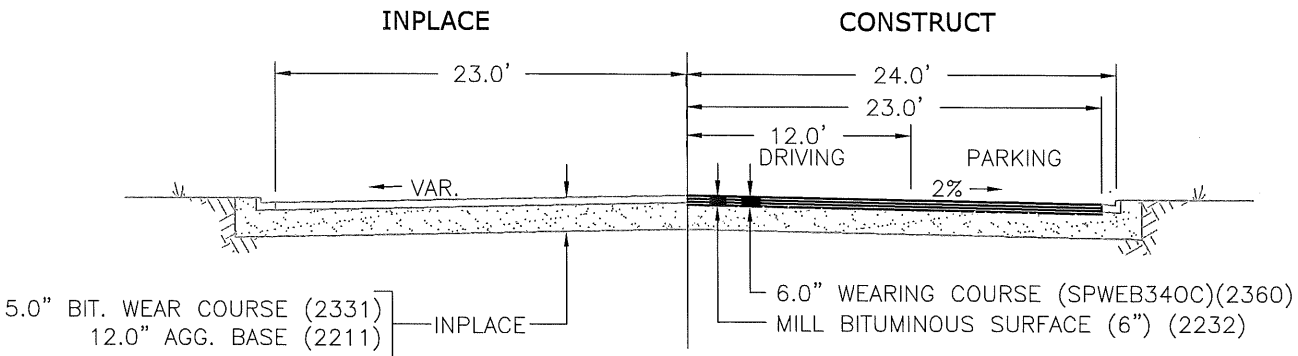
1. RECLAIM AND SHAPE THE EXISTING BITUMINOUS AND AGGREGATE SURFACE TO A MINIMUM DEPTH OF 10 INCHES. SEE PROPOSAL FOR DETAILS.
2. BITUMINOUS SHALL BE PLACED IN A MINIMUM OF 2 LIFTS.

## SEGMENT 2

STA. 26+00.00 TO STA. 46+38.00 (Municipal)

MILL AND OVERLAY URBAN SECTION

NOT TO SCALE



ESALS (20 YR) = 233,000  
 GRANULAR EQUIVALENT  
 10 TON  
 REQUIRED 24.13  
 ON PLANS 24.50

SECTION NOTES:

1. MILL 5" BITUMINOUS SURFACE AND 1" OF AGGREGATE SURFACE AS DIRECTED BY THE ENGINEER. ALL MATERIAL AS A RESULT OF MILLING OPERATIONS SHALL BECOME PROPERTY OF THE CONTRACTOR.
2. REMOVE ANY BITUMINOUS MATERIAL THAT MAY REMAIN AFTER MILLING OPERATIONS AS DIRECTED BY THE ENGINEER.
2. BITUMINOUS SHALL BE PLACED IN A MINIMUM OF 3 LIFTS.

CERTIFIED BY:

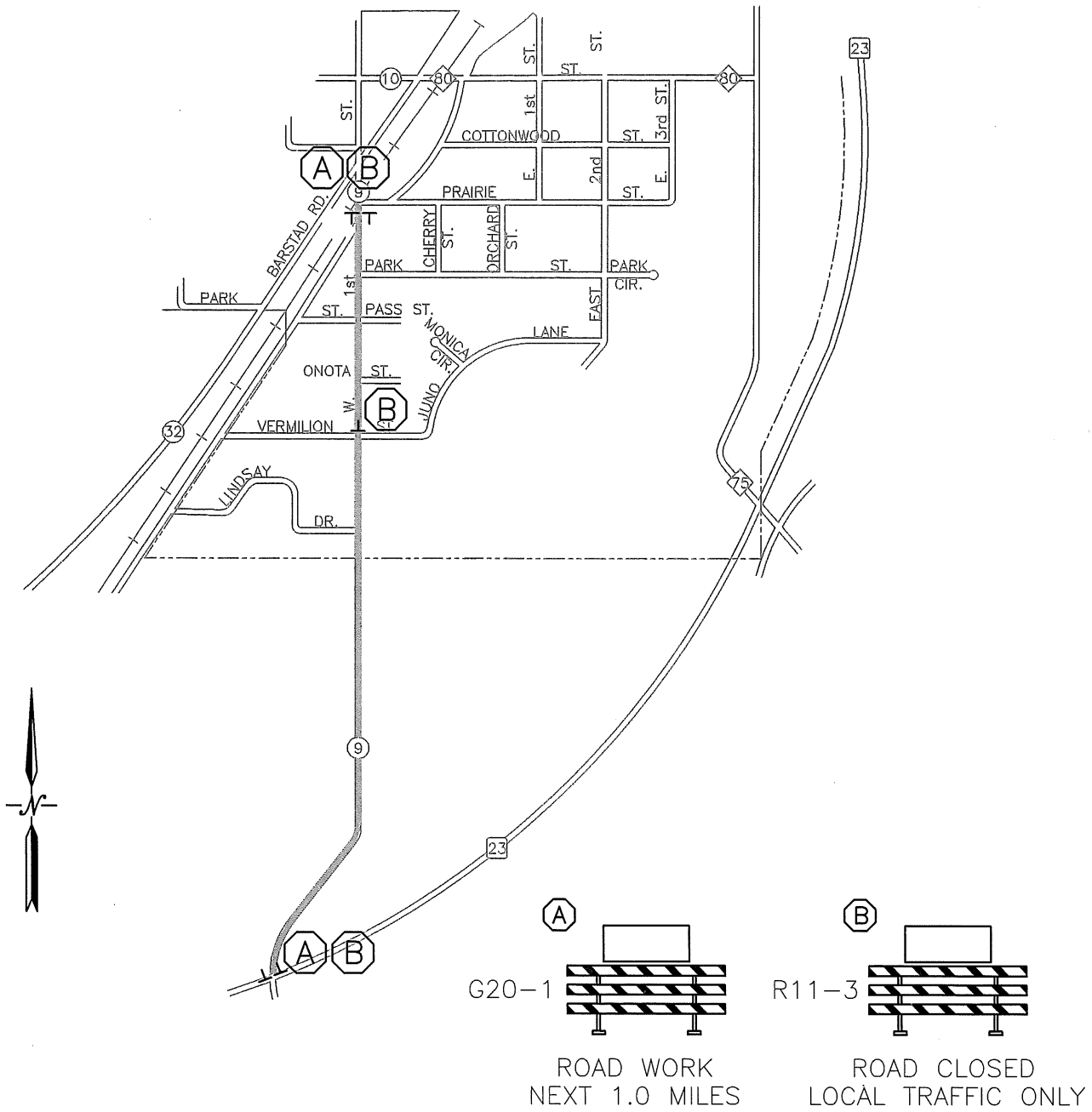
LIC. NO. 50428

LICENSED PROFESSIONAL ENGINEER

STATE AID PROJECT NO. 42-609-33

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  
 LICENSED PROFESSIONAL ENGINEER