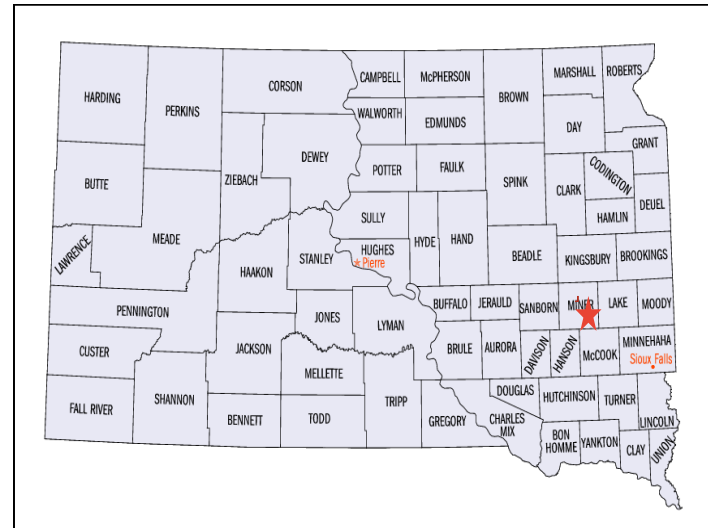


CLEARWATER
TOWNSHIP
SHANNON COLONY
MINER COUNTY, SD

Working towards a cooperative effort
Ron Krempeges - Superintendent



PROBLEM

- Shannon Colony is a growing colony with a large scale grain and corn facility, hog confinement and soon to be adding a large dairy production unit.
- Township roads in the current state cannot handle the increase in heavy truck traffic
- Township cannot afford improvements on their own 1.5 miles
- County would need to improve 2 miles of their system to handle the





ROAD DESIGN OPTIONS

- DEEP BASE GRAVEL WITH FABRIC
- DEEP BASE GRAVEL
- TREATED GRAVEL
- TREATED BASE

IMPORTANT FACTORS

- DAILY USE
- HEAVY TRUCK TRAFFIC
- YEAR ROUND PERFORMANCE
- SHORTEST ROUTE TO MAJOR HIGHWAY - SD 81
- DECREASE PRESSURE ON COUNTY SYSTEM
- DRAINAGE
- DUST CONTROL
- SAFETY

PROPER MATERIAL


- Use of proper materials is a must when designing for heavy truck traffic and higher than normal ADT
- Understanding the differences between state spec materials
- Placing the material properly
- Correct cross section must be established

Base – Surface Gravel

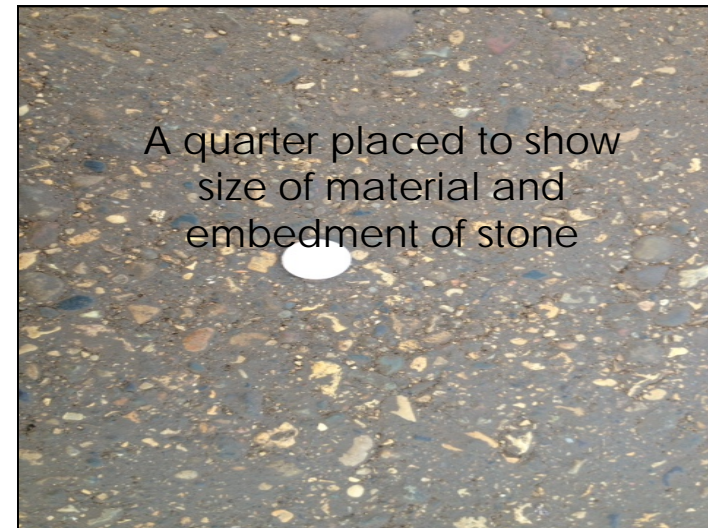
Table 1. Example of Gradation Requirements and Plasticity for Two Types of Materials.

Requirement Sieve	Aggregate Base Course Percent Passing	Gravel Surfacing Percent Passing	
1"	100		
3/4"	80-100	100%	100
1/2"	68-91		
No. 4	46-70	66%	50-78
No. 8	34-54	58%	37-67
No. 40	13-35	24%	13-35
No. 200	3-12	8.9%	4-15
Plasticity Index	0-6	11	4-12

From South Dakota Standard Specifications. (16)

 Miner county Specs

- ### SOLUTION – STABILIZED GRAVEL
- Clearwater township, Shannon Colony and Miner County will work together to provide a safe and dependable route to the state highway.
 - Clearwater township repaired 2 weak areas with fabric and 12" of base and 4" of surface gravel on the west .5 miles.
 - Miner county added 4" of state spec surface gravel to the east township



BENEFITS

- Reduced cost to all 3 parties
- Miner County needed to help improve only part of 1 mile instead of 2 on its own
- Township reduced maintenance costs associated with the road and were able to fix weak areas
- Shannon Colony has a safe and dependable route for future expansion