

FEASIBILITY REPORT
FOR
PROPOSED ROAD IMPROVEMENT PROJECT
OF
VALLEY OAKS 1ST ADDITION
CREDIT RIVER TOWNSHIP, MINNESOTA
OCTOBER 2014

Prepared by:



3601 THURSTON AVENUE
ANOKA, MINNESOTA 55303
TELEPHONE: (763) 427- 5860

I hereby certify that this Plan, Specification, or Report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under State of Minnesota Statutes 326.02 to 326.16.

A handwritten signature in blue ink, appearing to read 'Shane Nelson', is written over a horizontal line.

Shane Nelson, PE

43381
License No.

October 3, 2014
Date

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EXHIBITS

- EXHIBIT A. Valley Oaks 1st Addition - Benefiting Properties
- EXHIBIT B. Local Residential Rural Street Section
- EXHIBIT C. Valley Oaks 1st Addition Reconstruction Project - Preliminary Cost Estimate

I. INTRODUCTION

The purpose of this feasibility report is to present the Township of Credit River with a preliminary examination of road improvements for Valley Oaks 1st Addition. The report discusses the scope of reconstructing the roads within the Valley Oaks 1st Addition which include Deer Run Court, Lone Oak Court, Pheasant Ridge Road, Valley Ridge Court and Verna Lane. The report was initiated by the Credit River Town Board after a board meeting, and has been prepared in compliance with Minnesota State Statutes 429 for projects resulting in special assessments.

II. PROJECT LOCATION

Valley Oaks 1st Addition is located in Section 16, Township 114 North, Range 21 West, Credit River Township, Scott County, Minnesota. There are currently 37 existing properties that receive their direct access from the project. The residential properties are rural type lots with lot sizes ranging from 0.8 acres to 3.5 acres. The project area and roadway locations are depicted on the Benefiting Properties Exhibit (Exhibit A) included in the Appendix of this report.

III. ROADWAY IMPROVEMENT PROJECT

A. Existing Conditions

Valley Oaks 1st Addition was originally constructed in 1975. The roads have not been reconstructed since they were originally built approximately 39 years ago. There are many indications that the road is failing and is near or at the end of its design life.

Maintenance has been performed on an as needed basis. The road has required patching in recent years to repair failed areas on the pavement. Severe transverse and alligator cracking were observed. Some causes of road cracking may be repetitive loads, excessive loads, failure of subgrade material, poorly drained subgrades, and weathering.

Pheasant Ridge Road is approximately 1,050 feet in length and predominately utilizes a rural section with ditches and driveway culverts. The width of the existing road is approximately 22 to 23 feet with little to no shoulders. The existing cul-de-sac bulb on the south end of Pheasant Ridge Road is approximately 90 feet in diameter, which does not meet Township standards, but may be sufficient for the anticipated traffic.

Verna Lane is approximately 760 feet in length and predominately utilizes a rural section with ditches and driveway culverts. The existing road is approximately 24 feet wide with little to no shoulders. The existing cul-de-sac bulb on the south

end of Verna Lane is approximately 90 feet in diameter, which does not meet Township standards but may be sufficient for the anticipated traffic.

Deer Run Court is approximately 1060 feet in length and predominately utilizes a rural section with ditches and driveway culverts. The first approximately 300 feet of Deer Run Court was reconstructed by Scott County when they reconstructed County Road 21 and will not be reconstructed with this project. The existing rural section is approximately 23 feet wide with little to no shoulders. The existing cul-de-sac bulb on the north end of the road is approximately 90 feet in diameter, which does not meet Township standards but may be sufficient for the anticipated traffic.

Valley Ridge Court is approximately 650 feet in length and predominately utilizes an urban section with surmountable curb and gutter. However, the urban section, which is approximately 350 feet in length, was reconstructed recently by Scott County when they reconstructed County Road 21 and will not be reconstructed with this project. The portion of the road that was not reconstructed by the County, which is approximately 300 feet in length and includes a cul-de-sac, utilizes a rural section approximately 22 feet wide with little to no shoulders. The rural section includes ditches and driveway culverts. The existing cul-de-sac bulb on the north end of the road is approximately 90 feet in diameter, which does not meet Township standards but may be sufficient for the anticipated traffic.

Lone Oak Court is approximately 870 feet in length and predominately utilizes an urban section with surmountable curb and gutter. The urban section was recently reconstructed by Scott County when the County reconstructed County Road 21 and will not be reconstructed with this project. The portion of the road that was not reconstructed by the County, consists of a rural section with ditch sections and driveway culverts. The rural portion which will be reconstructed with this project is approximately 230 feet in length and approximately 22 feet wide with little to no shoulders. The existing cul-de-sac bulb on the north end of the road is approximately 90 feet in diameter, which does not meet Township standards but may be sufficient for the anticipated traffic.

A geotechnical investigation has not been performed at the time of this report. For this report, the subgrade was assumed to be in need of reconstruction. However, a geotechnical report shall be obtained prior to final design to determine the additional required work to the subgrade and for the pavement design. Geotechnical investigations are also necessary to adequately determine the existing bituminous and Class 5 thicknesses.

The total length of the project is approximately 0.59 miles (3,100 feet).

B. Proposed Improvements

The project consists of reconstructing Pheasant Ridge Lane and Verna Lane in their entirety while only reconstructing portions of Deer Run Court, Valley Ridge Court and Lone Oak Court. The current roads do not meet current Township standards for width. Improving the road to the Township standard width of 26 feet is beyond the scope of this report. This project proposes to confine the roadway surface to the existing width, approximately 22 to 24 feet, with a new gravel shoulder. The assumed section for this report was 3 1/2" of bituminous with 12" of Class 5 aggregate base. Easements or right of way were not considered for purposes of this report. Further evaluation of existing easements/right of way will be necessary during final design.

The project involves reclaiming the existing bituminous surface and aggregate base. The subgrade will then be excavated to the elevations as required and any soft and unsuitable material will be subcut from the roadbed and replaced with suitable material. After the subgrade has been compacted and proof rolled, the Class 5 aggregate base will be placed to the required thickness. Finally, the bituminous surface will be placed. Excavation for proper ditching will be completed and new driveway culverts will be installed. Shouldering material will be placed on each side of the road to establish the shoulder level with the new bituminous surface.

C. Estimated Costs

The 2015 construction costs have been estimated for the proposed Valley Oaks 1st Addition improvement project. This project is large enough to attract competitive bids as a stand-alone project. The estimated costs are estimates only and are not guaranteed prices. The costs shown are estimates based on actual bid prices from projects of similar scope and adjusted for inflation.

Before bidding, the construction estimate should be updated to reflect changes in construction costs and the final design. Final contracts will be awarded on a unit price basis and the contractor will only be paid for work completed. No costs are included for easements. The total estimated project cost is \$601,250. An estimate of the cost of the improvements is shown in Exhibit C.

D. Financing and Assessments

The Township costs of the improvements for the reconstruction of Valley Oaks 1st Addition are proposed to be partially assessed to the benefiting properties. For this project, the recommended assessment method is to assess the benefiting properties on a per unit basis.

The Township may pass a general obligation/revenue bond that will be backed by assessment of the costs to the benefiting properties. The assessments may be paid in full up front or amortized over a period of time, typically 10 years, with an interest rate as determined by the Town Board. Generally, interest rates on assessments are on the order of 6 percent.

The Township policy is to pay forty percent of the project costs and assess the remaining sixty percent to the benefitting properties. Therefore, the proposed cost to be assessed to the benefitting properties with this project is estimated at \$360,750. The remaining amount, estimated at \$240,500, will be paid from Township funds.

For this project, sixty percent assessment to the benefiting properties would yield an assessment of approximately \$9,750 per unit.

IV. PROJECT SCHEDULE

The schedule of the project will be determined by the Town Board with consideration of resident input. A tentative schedule is as follows:

October 6, 2014	Town Board Approval of Feasibility Report and Calls for a Public Improvement Hearing. Mail Notice of Public Improvement Hearing.
November 3, 2014	Town Board conducts Public Improvement Hearing Town Board Orders Plans and Specifications
February 2, 2015	Town Board Approves Plans and Specifications and Authorizes Advertisement for Bids
March 2015	Bid Opening Town Board Conducts Assessment Hearing
April/May 2015	Town Board Approves Bids and Awards Contract
June 2015	Construction Starts
September 2015	Substantial Completion

V. CONCLUSIONS AND RECOMMENDATIONS

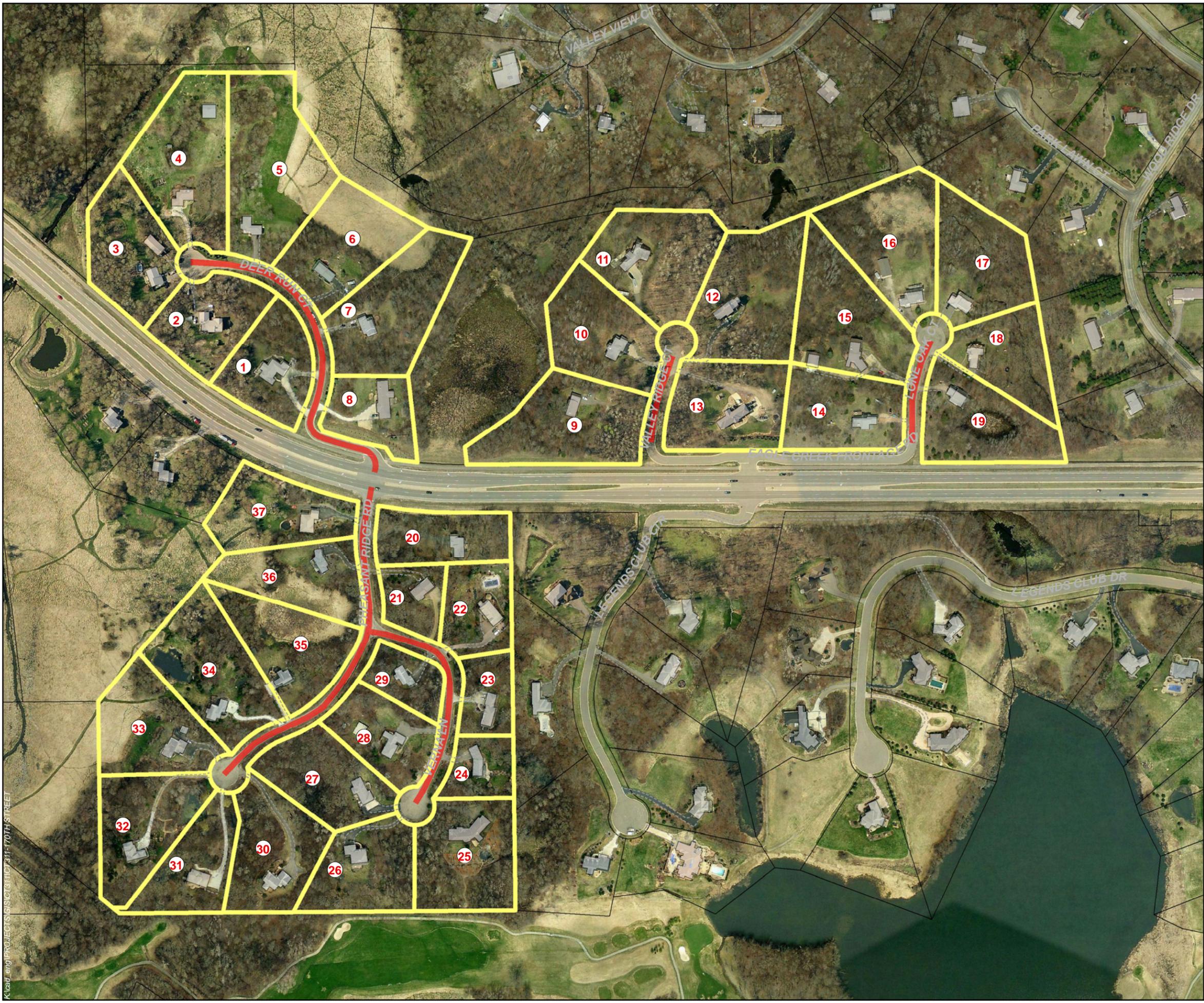
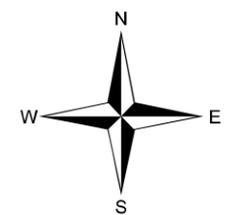
We find that this project is necessary, cost effective and feasible from a technical and engineering standpoint, and benefits the properties proposed to be assessed. We would recommend that the Town Board accept this report.

CREDIT RIVER TOWNSHIP

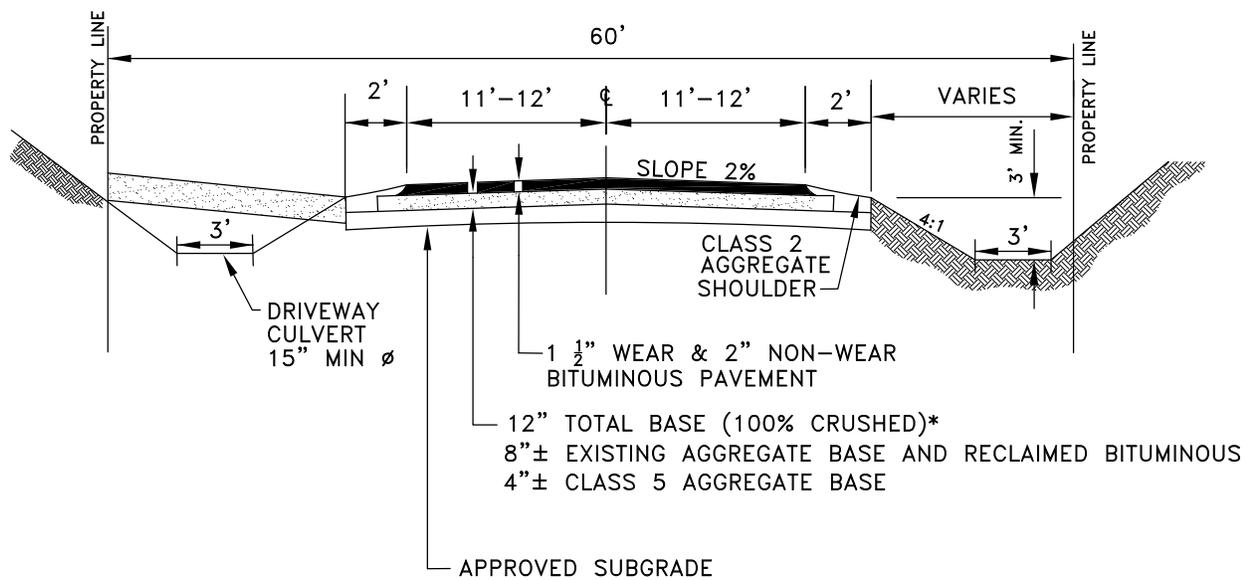
Legend

-  Benefiting Parcel
-  Direct Access - 37 Total
-  Project Location

VALLEY OAKS 1ST ADDITION RECONSTRUCTION PROJECT BENEFITING PROPERTIES EXHIBIT A



K:\card_eng\PROJECTS\GIS\CR1\ACT 371-170TH STREET



* SUBJECT TO REVIEW BY QUALIFIED SOILS ENGINEER

CREDIT RIVER TOWNSHIP
 VALLEY OAKS 1ST ADDITION
 LOCAL RESIDENTIAL RURAL STREET SECTION



Hakanson Anderson
 Civil Engineers and Land Surveyors
 3601 Thurston Ave., Anoka, Minnesota 55303
 763-427-5860 FAX 763-427-0520
 www.hakanson-anderson.com

EXHIBIT C
VALLEY OAKS 1ST ADDITION
RECONSTRUCTION PROJECT
PRELIMINARY COST ESTIMATE
CREDIT RIVER TOWNSHIP

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY		UNIT PRICE	EXTENSION
1	MOBILIZATION	1	L.S.	\$10,000.00	\$10,000.00
2	CLEARING AND GRUBBING	1	L.S.	\$20,000.00	\$20,000.00
3	REMOVE CONCRETE PAVEMENT (DRIVEWAYS)	180	S.Y.	\$8.00	\$1,440.00
4	REMOVE BITUMINOUS PAVEMENT (DRIVEWAYS)	360	S.Y.	\$5.00	\$1,800.00
5	REMOVE SIGN	3	EACH	\$30.00	\$90.00
6	SAWING CONCRETE PAVEMENT	162	L.F.	\$6.00	\$972.00
7	SAWING BITUMINOUS PAVEMENT	416	L.F.	\$3.50	\$1,456.00
8	SALVAGE AND REINSTALL E911 SIGNS	37	EACH	\$40.00	\$1,480.00
9	SALVAGE AND REINSTALL MAILBOXES	37	EACH	\$100.00	\$3,700.00
10	COMMON BORROW	1000	C.Y.	\$10.00	\$10,000.00
11	COMMON EXCAVATION (CV)	1200	C.Y.	\$7.00	\$8,400.00
12	SUBGRADE EXCAVATION (CV)	1800	C.Y.	\$8.00	\$14,400.00
13	SUBGRADE PREPARATION	31	RDSTA	\$250.00	\$7,750.00
14	3" MINUS STABILIZING AGGREGATE	2200	TON	\$18.00	\$39,600.00
15	AGGREGATE BASE CLASS 5	2798	TON	\$14.50	\$40,571.00
16	AGGREGATE SHOULDERING	425	TON	\$20.00	\$8,500.00
17	BITUMINOUS PAVEMENT RECLAMATION (P)	11457	S.Y.	\$1.50	\$17,185.50
18	HAUL BITUMINOUS PAVEMENT RECLAMATION IN STOCKPILE (SV)	2800	C.Y.	\$4.00	\$11,200.00
19	HAUL BITUMINOUS PAVEMENT RECLAMATION FROM STOCKPILE (SV)	2800	C.Y.	\$4.00	\$11,200.00
20	TYPE SP 9.5 WEARING COURSE MIXTURE (2,B)	1040	TON	\$65.00	\$67,600.00
21	TYPE SP 12.5 NON WEARING COURSE MIXTURE (2,B)	1386	TON	\$60.00	\$83,160.00
22	BITUMINOUS DRIVEWAY PAVEMENT 2.5" THICK	360	S.Y.	\$13.00	\$4,680.00
23	BITUMINOUS MATERIAL FOR TACK COAT (0.05 gal/SY)	573	GAL	\$3.00	\$1,719.00
24	15" CS PIPE CULVERT	380	LF	\$28.00	\$10,640.00
25	18" RC PIPE CULVERT	200	LF	\$36.00	\$7,200.00
26	15" CS PIPE APRON	30	EACH	\$150.00	\$4,500.00
27	18" RC PIPE APRON	4	EACH	\$500.00	\$2,000.00
28	WEEP DRAINS	18	EACH	\$200.00	\$3,600.00
29	6" CONCRETE DRIVEWAY PAVEMENT	180	S.Y.	\$35.00	\$6,300.00
30	SIGN PANELS TYPE C	21	S.F.	\$75.00	\$1,575.00
31	TRAFFIC CONTROL	1	L.S.	\$1,500.00	\$1,500.00
32	SILT FENCE	2500	LF	\$2.50	\$6,250.00
33	SELECT TOPSOIL BORROW	910	C.Y.	\$25.00	\$22,750.00
34	SEEDING	3.60	ACRE	\$3,000.00	\$10,800.00
35	EROSION CONTROL BLANKET CATEGORY 3	550	S.Y.	\$2.50	\$1,375.00

ESTIMATED CONSTRUCTION COST	\$445,394
CONSTRUCTION CONTINGENCY (10%)	\$44,508
ENGINEERING, LEGAL AND FINANCING (25%)	\$111,348
ESTIMATED PROJECT COST	<u>\$601,250</u>