

SPECIFICATIONS FOR THE IMPROVING & RE-SECTIONING  
OF  
ANOKA COUNTY DITCH NO. 27

GENERAL CHARACTER OF WORK TO BE DONE: The work consists of (1) earth excavation for the construction of an open ditch main and 5 laterals; (2) the furnishing and placing of four highway culverts, and (3) remove 6 private crossings and replace 3 culverts.

DESCRIPTION: This drainage system is located in Ramsey & Burns townships in Anoka County, Minnesota. The route of direction is given on the plan-profile and area map in the attached set of plans. The total length of open ditch is 6.54 miles.

YARDAGE: The yardage of earth to be excavated and spoiled is shown on the plans and in the tabulated statement contained herein. Excavation figures are subject to correction and will be re-calculated where the engineer deems it necessary due to change of line or side slope. Payment will be made on this amount. The Contractor should view the proposed work to his own satisfaction. Spoil bank leveling yardage shall be calculated as two-thirds ( $2/3$ ) of the excavated yardage.

RIGHT-OF-WAY: The Contractor is granted a right-of-way 100 feet in width, if needed, and the right of ingress and egress from public roads.

LINES OF CONSTRUCTION: The ditch shall be constructed upon the lines shown on the map and plans to stakes which will be set by the Engineer; (1) marking the center line and; (2) slope stakes giving distance and cut at top of slope for each station and as many intermediate points as necessary.

OPEN DITCH BOTTOM WIDTH AND SLOPE OF BANKS: The bottom of the ditch is to be constructed to the width specified on the profile-plan and in the tabulated statement therein. The banks are to be constructed with a minimum slope of two (2) feet horizontally to one (1) vertically, except as noted on plan.

BERM WIDTH AND DISPOSAL OF EXCAVATED MATERIAL: The excavated material shall be placed in the old channel where straightening of present channel is done and if the old channel is within 100 feet of the new channel. The old channel is to be over filled 20 percent, when the dirt is available, to allow for settling. In filling the old channel care shall be taken to prevent excessive amounts of the excavated dirt from washing down stream, by provision of a relief channel as necessary and as directed by the engineer.

A berm width of eight (8) feet shall be left on each side of the ditch on which no spoils are to be deposited. All spoils shall be leveled and smoothed to permit movements of all common farm machinery over them when they become settled and firm. They shall

be leveled so that the depth of spoils shall not exceed three (3) feet, sloping at least four (4) feet horizontally to one (1) foot vertically towards the berm and six (6) feet horizontally to one (1) foot vertically towards the land side.

SIDE SURFACE INLETS: Openings through the spoil banks shall be left free of spoil for surface water flow and to prevent ponding outside the spoil bank at locations as directed by the Engineer. These openings shall have a minimum width of eight (8) feet with side slopes of four (4) feet horizontally to one (1) foot vertically. In low flat areas these need be every 300 feet.

No spoil shall be placed or left in the highway ditches to prevent the free flow of highway drainage.

GRADE: The grade of the bottom of the ditch when completed, shall conform to the grade elevations as shown on the profile-plan, and shall be a straight grade from station to station. It shall be blended into the bottom of the ditches where excavation stops and into undredged laterals encountered along the line of construction.

EXCESS EXCAVATION: Excavation below the established grade line and beyond the slope stake limits shall not be counted a fault of construction, if reasonably made, and the Contractor shall not be liable for damage by reason of such excess excavation, unless orders were given the Contractor to limit certain sections to specified dimensions. The contractor shall not receive pay for such excess excavation.

MACHINERY: The Contractor shall furnish and use machinery properly equipped to work of this character as herein set out and to accomplish the progress specified.

WORKMANSHIP: Workmanship shall be first class in every particular. The Contractor is required to use care that the open ditch may have a uniform and true bottom grade and side slopes, as specified. Where the present ditch banks are already too wide, the contractor shall blend the new cut and slope to the already existing slope.

FENCES: The Contractor shall remove all the fences from the right-of-way which will interfere with or retard the work of construction as shown in tabulated list. The Contractor shall roll the wire in convenient rolls, shall take care not to damage or roughly handle these materials and the remaining fence and remove them far enough from the work so as to not damage or destroy them, piling them neatly and orderly. The land owners will replace all necessary fences.

CLEARING AND GRUBBING: All trees and brush shall be cleared and grubbed from the perimeter of the ditch so as to not interfere with the construction of the ditch and disposition of the spoils. The woody sections, logs and limbs, shall be neatly piled

off the right-of-way. Brush and stumps are to be piled and burned under the direction of the Engineer as to time and place. The farmers will dispose of the wood.

SEEDING: An area including the ditch banks and spread spoils shall be seeded to a mixture of grasses and legumes consisting of six (6) pounds of brome grass, two (2) pounds of alsike clover, four (4) pounds of alfalfa, three (3) pounds of timothy, and one (1) pound of red top per acre. The seed bed shall be properly and suitably prepared by discing, harrowing, or otherwise working the area until a mellow, firm weed free seed bed is secured. The grass seed shall then be evenly seeded over the area and the seed covered by harrowing. The farmer shall furnish all seed and do the necessary work of preparing the seed bed and working in of the seed.

ROAD CROSSINGS: The contractor shall provide proper warning signals to the public when a public road crossing is made and maintain proper safeguards according to law.

HIGHWAY AND ROAD CULVERTS: Kind and grade of culverts. The kind of culverts used shall be as designated on the plans and of sizes and specifications as listed below and shall meet the standard specifications of the American Society for Testing Materials. The Contractor will furnish all the necessary culverts for highway crossings and lay same. He shall also remove culverts now in place.

PRIVATE AND HIGHWAY CULVERT DATA

Line	Sta	Type	Length	Kind	Description
Main	102-51	Farm	18'	RCP	18'36" material in place
	177-47	County Hwy.	68'	CMP	48", #12 gage, 70#/ft.
	271-47 or				
	275-02	Pvt. Rd.	40'	RCP	48" Bell type, 8' lengths
	327-43	County Hwy.	60'	CMP	60", #10 gage, 110#/ft.
Lot #1	0-14	Pvt. Rd.	32'	CMP	16'12" material in place 16'12", #16 gage, #10.5, #1 ft.
	30-48	County Hwy.	54'	RCP	20'36" material in place 34'36" Bell type - 8' and 4' lengths
Lot #1-b	7-95	County Hwy.	56'	CMP	30", #14 gage, 31# 1 ft.

Reinforced Concrete Pipe (RCP) shall be of the Bell & Spigot type, 4 foot or 8 foot lengths and conform to ASTM specifications for Reinforced Concrete Sewer Pipe.

Corrugated Metal Pipe (CMP) shall be made of galvanized corrugated sheets, sections 24 inches center to center of rivets, properly riveted with cold drawn rivets, upset to give maximum strength. Weights and gages shall be as specified above, and of the best quality of metal produced. Metals shall be an alloyed iron of highly refined open hearth process, with impurities at a relatively low percentage, and a copper content of from 0.20 to 0.40 percent. The galvanizing shall form a continuous impervious, pure zinc coating uniform in thickness and shall not be less than two ounces.

PRIVATE WORK: During the course of the construction of the project, no outside private work may be done by the contractor's equipment except the placing and covering of culverts in field crossings on the ditch and the moving of excess spoil in conjunction with this County Ditch. The approval of the engineer is required as to location and size of these crossings and culverts. This work is to be done on an hourly basis at standard rate for the type of equipment used and the Contractor shall collect such costs from the individual farmer wishing the work done.

CONTRACTOR'S AGENT: The contractor shall at all times, while construction is in progress, during his absence from the work, have or designate a competent superintendent or foreman upon the job, to whom orders and instructions may be addressed or delivered.

SUB-LETTING: The contractor shall not sub-let any portion of the work without first notifying the Anoka County Auditor in writing, and the Contractor must retain all responsibility for the work done by the sub-contractor. The original contractor only will be recognized in making payment for work done.

CONTRACTOR'S UNDERSTANDING: It is understood and agreed that the contractor has, by careful examination, satisfied himself as to the nature and location of the work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecution of the work, the general and local conditions, and all other matters which can in any way affect the work under this contract. No verbal agreement or conversation with anyone, either before or after the execution of this contract, shall affect or modify any of the terms or obligations herein contained.

PRESERVATION OF STAKES: The Contractor must carefully preserve bench marks, reference points, and stakes, and in case of wilful or careless destruction, he will be charged with the resulting expenses; and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

CHECKING AND INSPECTION: The necessary checking to see that the conditions of the contract and specifications are met with, shall be done by the Engineer in charge or his assistant. All work shall, at all times, be open to the inspection, acceptance or rejection by the Engineer in charge.

DEFECTIVE WORK: Any work rejected by the Engineer in charge shall immediately be rebuilt by the contractor without extra charge. The Contractor shall maintain the job in good condition until it is completed and accepted.

DETERIORATION: Cave-ins, quick-sand, and drifting soils, when encountered, shall be taken care of by the contractor without extra charge so that upon completion of the work the ditch will be in accordance with the specifications herein contained. Should lesser slopes be necessary and ordered constructed by the Engineer in charge, due to soil con-

ditions, the additional yardage moved will be added to the listed yardages.

RESPONSIBILITY FOR PERSONAL AND PROPERTY DAMAGE: The Contractor shall provide his workmen with compensation insurance, and shall protect the County against claims for personal injuries and property damage due to accident or negligence on the part of the contractor or his workmen.

CHANGES AND ALTERATIONS: If any variation in the plans or specifications is made necessary by the exigencies of construction or local conditions, such changes, other than yardages, with costs shall be determined by the Engineer and agreed to in writing by the Contractor and the County Auditor; but without such written agreement approved by the Engineer, no deviation from the plans and specifications will be allowed.

The Engineer may, without notice to the sureties on the contractors bond, make such changes in the design, or in the quantities or character of the work as he may deem advisable. Changes which may be ordered by the Engineer may include alterations, eliminations, and additions in the line, grade, location, and demensions of ditches, and the shifting of locations to suit conditions disclosed as the work progresses. If such changes result in an increase or decrease in the cost to the Contractor, the Engineer will make such additions or deductions in yardage, material cost, and payments.

If the Contractor, on account of conditions developing during the progress of the work, finds it impracticable to comply strictly with these specifications, and applies in writing for a modification of structural requirements or of methods of work, such changes may be authorized by the Engineer, if not detrimental to the project and without additional cost to the County.

CONTINGENCIES AND DELAYS: All risks and uncertainties that may develop in connection with the work are assumed by the Contractor as a part of this contract, and are compensated for in the contract price. He shall, except as otherwise definitely specified in his contract, bear all loss from damages due to hindrance or delays arising out of the nature of the work to be done, to the action of the elements, or to any unforeseen and unexpected conditions or circumstances encountered, and no charges other than that included in the Contract Price shall be made by the Contractor against the County for such loss or damage.

If delays are caused by specific orders to stop work, given by the Engineer; by the performance of extra work not planned or listed under his contract; by unforeseen causes beyond the control of the Contractor; by the failure of the County to provide the necessary instructions for carrying on the work, or to provide the necessary right-of-way; then such delay will entitle the Contractor to an extension of time. Application

for extension of time must be made to the County Auditor and be approved by the Engineer, and shall be accompanied by the formal consent of the Sureties, but an extension of time whether with or without such consent shall not release the Sureties from their obligations which shall remain in full force until the discharge by the Contractor of his Contract.

EXTRA WORK AND MATERIALS -- COST PLUS ESTIMATES: If in the construction of this ditch and other structures, it becomes necessary to change the design specified in the original Contract, such changes may be made upon the written order of the Engineer filed with and approved by the County Auditor. If such change or changes are ordered at any time before the actual work of construction has commenced or the delivery of materials for the same has been made, the cost of the work and materials shall be based on the unit prices submitted in the Contractor's bid for the work and material of the same character and kind.

The Engineer may order work or materials not covered by the Specifications and not included in the Schedule contained in the bid. Such work or material will be classified as extra work. Extra work and such work made necessary by changes in design and material, which in the opinion of the Engineer, are not susceptible of classification under the listed unit prices contained in the Schedule, shall be performed by the Contractor, and he shall be paid therefore the actual cost, as determined by the Engineer, plus 15 per cent thereof. For the purpose of determining the actual cost of said extra work, the Engineer shall have access to all the records on all items of cost incurred on work as kept by the Contractor. The Engineer may, if he believes it advisable, keep separate and independent records of his own, covering said items of expense.

TIME AND PROCEDURE: Excavation of the open ditch shall start within 30 (30) days after the contract has been awarded, commencing at the outlet of the ditch and proceed upstream.

Spoils may be deposited on either or both sides of the ditch and leveled to specifications previously given herein, unless specific instructions are given by the Engineer to confine spoils deposits to certain areas for the betterment of the project.

Cleaning and grubbing can be done at any time proceeding the setting of stakes and therefore the excavation.

Fences that are crossed and run parallel to the ditch shall be removed ahead of the excavating, but not more than eighty (80) rods shall be removed ahead of said work.

Side surface inlets shall be excavated and constructed as they are encountered up the lines of the ditch by the excavator.

Spoil banks shall be leveled within a period of ninety (90) days of excavation at that point of the ditch.

COMPLETION OF PROJECT: The Construction of this project consisting of tree and fence removal, open ditch excavation, spoil bank spreading, highway and private road culvert removal and construction including necessary materials shall be completed as soon as possible not to exceed twelve (12) months from the date of awarding Contract.

ENFORCEMENT OF CONTRACT: Should the Contractor at any time fail or refuse to comply with these specifications, or to furnish sufficient workmen or machinery to complete the Contract within the time specified, or fail or refuse to make such increase in his force as in the judgment of the Engineer shall be necessary, the County Auditor on ten days notice to the Contractor, may declare the Contract forfeited and award the same to other parties, or the work may be completed by force account, and the cost of finishing the work shall be deducted from the amount due the Contractor. If the cost of thus completing the work shall exceed the amount due the Contractor under the terms of his Contract at the time the Contract was declared forfeited by the County Auditor, the Contractor or the Sureties on the Contractor's Bond, or both, shall be held liable to the County for the excess cost. If the cost of thus completing the work shall be less than the amount due the Contractor under the terms of the Contract at the time the Contract was ordered forfeited by the County Auditor, the balance shall be paid the Contractor upon completion of the work.

FAILURE TO COMPLETE WITHIN TIME LIMIT: Should the Contractor fail to complete the work or any part thereof within the time limit, or within such extra time as may be allowed for delays by formal extensions granted by the County Auditor, he shall forfeit and pay to the county the sum of ten dollars (\$10.00) for each day the said work remains incompleted.

ESTIMATES AND PAYMENTS: The Engineer will inspect and make approximate measurements of the work performed by the Contractor including materials furnished, classified according to items named in the Schedule of prices; and will compute the value of the same on the basis of the unit prices named in said schedule.

At such times during the progress of the work or at intervals not exceeding thirty (30) days, the Engineer shall issue Certificates for partial payment for work done and for materials or supplies furnished and delivered along the line of said proposed ditch or otherwise delivered, according to the Contract. These certificates shall not exceed

eighty-five (85) per cent of the contract schedule price for labor performed and seventy-five (75) per cent for materials delivered, as set out by law.

ACCEPTANCE SHALL NOT CONSTITUTE WAIVER: No order, measurement, determination, or certificate by the Engineer, or payments by the Auditor of money, or payment for or acceptance of the whole or any part of the work by the Engineer, or extension of time granted by the County Auditor shall operate as a waiver of any portion of this Contract or of any power herein provided, nor shall any waiver of any breach of the Contract be held to be a waiver of any other or subsequent breach.

FINAL PAYMENT: Final payment shall not be made until the work has been accepted by the Engineer and County Board, or their agent, as complete and satisfactory according to the plans, those specifications on the Contract. Then only shall the bondsman be released.