

Section 1
148th Lane

148th Lane

Description

As shown on Exhibit 1, a low area exists south of 148th Lane. A 15" outlet pipe drains the low area north and then east to DNR Wetland 658W. The invert of the outlet pipe is at elevation 862.3 and the bottom of the low area is at elevation 859.8. Water in the low area has to rise 2.5 feet prior to discharging. The water below the outlet infiltrates into the soil, which may take days depending on the condition of the soil.

The existing 100-year high water level (HWL) for the low area is 865.5. As shown on Exhibit 2, a drainage easement exists in the rear of Lots 2 through 5, Block 2 of Ramsey Commons 2nd Addition.

Alternatives

The following alternatives address the water elevation in the existing low area.

Alternative 1

In this alternative, a new outlet pipe would be installed between Lot 1 of Ramsey Commons 2nd Addition and Lot 2 of Sunny Ponds, as shown on Exhibit 3. It was assumed that the existing outlet pipe to the north would be removed. By installing an outlet pipe in this location, the invert of the outlet pipe can be lowered from 862.3 to 861.6. The following table summarizes the 100-year HWL's and estimated costs for each outlet pipe:

Outlet Pipe Size	100-Year HWL	Estimated Cost
Existing	865.5	N/A
15"	865.4	\$16,264
18"	865.1	\$31,566 *
24"	864.3	\$45,381 *

* The existing pipe being connected to in Germanium Street is a 15" diameter. Installing the 18" and 24" outlets will require the removal and replacement of this pipe to match the size of the pipe being installed.

Tables 1 through 3 include the individual costs for this alternative.

Alternative 2

In this alternative, a new outlet pipe would be installed between Lots 2 and 3 of Sunny Ponds, as shown on Exhibit 4. It was assumed that the existing outlet pipe to the north would be removed. By installing an outlet pipe in this location, the invert of the outlet pipe can be lowered from 862.3 to 861.4. This alternative would require additional grading and the acquisition of a permanent easement on the property south of Ramsey Commons 2nd Addition and west of Sunny Ponds. The following table summarizes the 100-year HWL's and estimated costs for each outlet pipe:

Outlet Pipe Size	100-Year HWL	Estimated Cost
Existing	865.5	N/A
15"	865.3	\$13,098
18"	865.0	\$18,846 *
24"	864.3	\$32,543 *

* The existing pipe being connected to in Germanium Street is a 15" diameter. Installing the 18" and 24" outlets will require the removal and replacement of this pipe to match the size of the pipe being installed.

Tables 4 through 6 include the individual costs for this alternative.

Alternative 3

In this alternative, the bottom of the low area would be filled to the same elevation as the outlet pipe invert. The pond would then drain dry and would not be sitting with water until it infiltrated. By filling the bottom of the low area, the resultant 100-year HWL will be 866.2, 0.7 feet higher than the existing HWL. This higher HWL would end up outside the existing drainage and utility easement, creating the need for additional drainage easement.

The estimated cost to fill the low area is \$15,321. Table 7 includes the individual costs for this alternative.

Further research is required to determine if this low area was designed to treat a water quality volume. The volume required would dictate if Alternatives 1 and 2 are viable options. Alternative 3 would not be viable, because the water quality volume is being eliminated in this alternative.



870

RAMSEY COMMONS
2ND ADDITION

148TH LANE

DNR
WETLAND
658W

860

SUNNY PONDS

GERMANIUM STREET

NORTHEN BOULEVARD

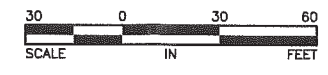
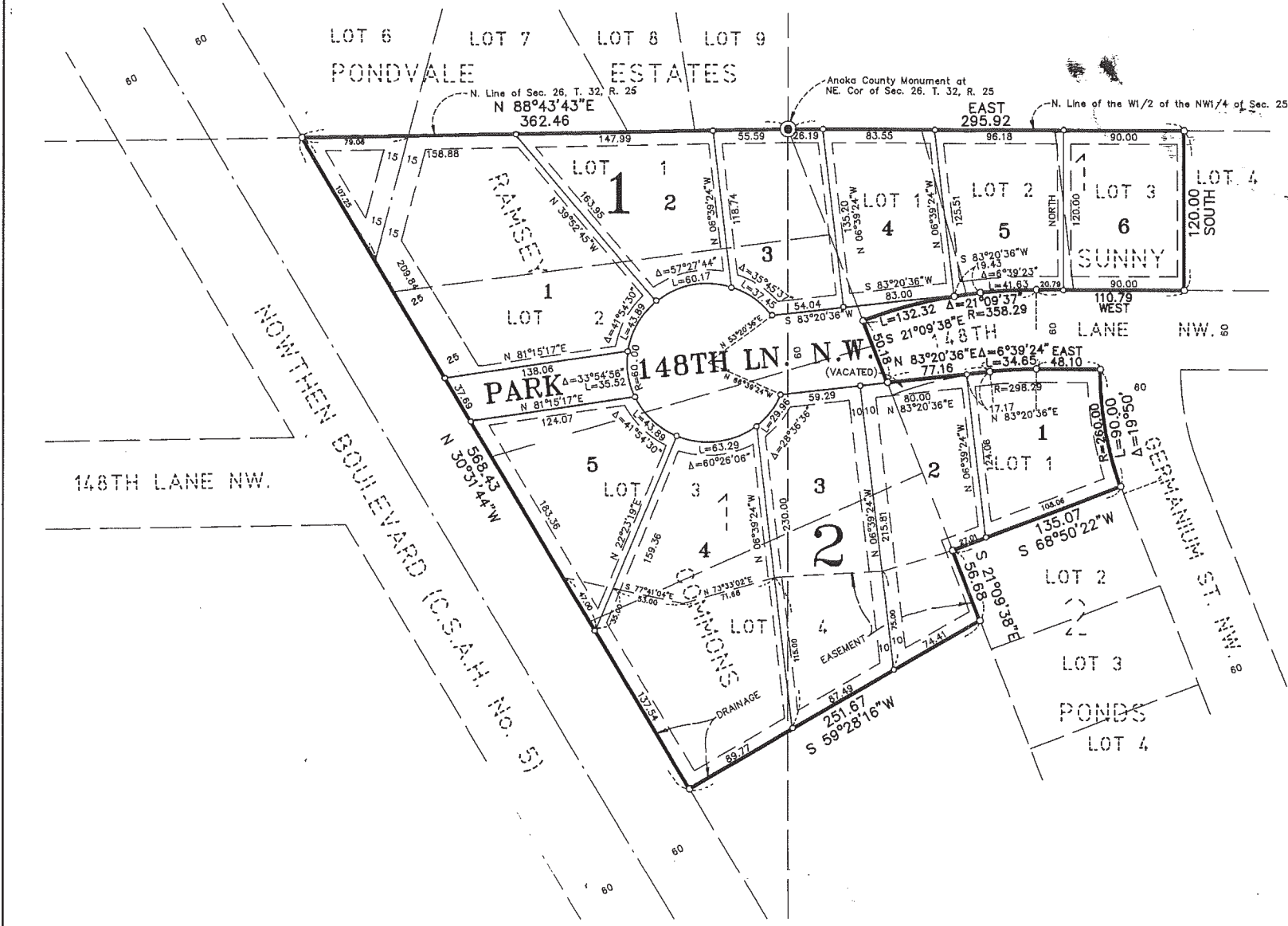


EXHIBIT 1
148TH LANE EXISTING CONDITIONS
CITY OF RAMSEY, MINNESOTA

RAMSEY COMMONS 2ND ADDITION

CITY OF RAMSEY COUNTY OF ANOKA



KNOW ALL PERSONS BY THESE PRESENTS: That North Suburban Development, Inc., a Minnesota Corporation, owner and proprietor, and Dolores S. Fleischer, single, mortgagee of the following described property situated in the County of Anoka, State of Minnesota, to-wit:

Lots 1, 2 and 3, Block 1, and Lot 1, Block 2, all in SUNNY PONDS, according to the recorded plat thereof, Anoka County, Minnesota,

And that part of vacated 148th Lane N.W., as dedicated in the plat of SUNNY PONDS, according to the recorded plat thereof, Anoka County, Minnesota, lying north of the north line of Lot 1, Block 2, in said SUNNY PONDS and lying south of the following described line:

Commencing at the northeast corner of said Lot 1, Block 2; thence on an assumed bearing of West, along the north line of said Lot 1, Block 2, a distance of 48.10 feet; thence westerly continuing along said north line and along a tangential curve, concave to the south having a radius of 298.29 feet and a central angle of 6 degrees 39 minutes 24 seconds, a distance of 34.65 feet to the point of beginning of the line to be described; thence South 83 degrees 20 minutes 36 seconds West, a distance of 77.16 feet to the intersection with the northerly extension of the west line of said Lot 1, Block 2, and said line there terminating.

AND that North Suburban Development, Inc., a Minnesota Corporation, owner and proprietor, and Delano Skeim, single, mortgagee of the following described property situated in the County of Anoka, State of Minnesota, to-wit:

Lots 1, 2, 3 and 4, Block 1, RAMSEY COMMONS, according to the recorded plat thereof, Anoka County, Minnesota.

Have caused the same to be surveyed and platted as RAMSEY COMMONS 2ND ADDITION and do hereby donate and dedicate to the public for public use forever the lanes, as shown on the plat. Also dedicating the drainage and/or utility easements as shown on the plat. Also dedicating to the County of Anoka the right of access onto County State Aid Highway No. 5 from Lot 1, Block 1 and from Lots 4 and 5, Block 2. In witness whereof said North Suburban Development, Inc. has caused these presents to be signed by its proper officer this 26th day of MAY, 1993. Also in witness whereof said Dolores S. Fleischer has hereunto set her hand this 26th day of MAY, 1993. Also in witness whereof said Delano Skeim has hereunto set his hand this 21st day of MAY, 1993.

NORTH SUBURBAN DEVELOPMENT, INC.

J.A. Henkveid
J.A. Henkveid, as President

SIGNED:
Dolores S. Fleischer
Dolores S. Fleischer

SIGNED:
Delano Skeim
Delano Skeim

STATE OF MINNESOTA) The foregoing instrument was acknowledged before me this 26th day of MAY, 1993, by J. A. COUNTY OF ANOKA) Henkveid, President of North Suburban Development, Inc., a Minnesota corporation, on behalf of the corporation.

SHIRLEY D. CHENOWETH
NOTARY PUBLIC-MINNESOTA
ANOKA COUNTY
My Commission Expires 6-24-96

Shirley D. Chenoweth
Notary Public, ANOKA County, Minnesota
My Commission expires 6-24-96

STATE OF MINNESOTA) The foregoing instrument was acknowledged before me this 26th day of MAY, 1993, by Dolores COUNTY OF ANOKA) S. Fleischer, single.

SHIRLEY D. CHENOWETH
NOTARY PUBLIC-MINNESOTA
ANOKA COUNTY
My Commission Expires 6-24-96

Shirley D. Chenoweth
Notary Public, ANOKA County, Minnesota
My Commission expires 6-24-96

STATE OF MINNESOTA) The foregoing instrument was acknowledged before me this 21st day of May, 1993, by Delano COUNTY OF ANOKA) Skeim, single.

MARGARET A. McINERNEY
NOTARY PUBLIC-MINNESOTA
ANOKA COUNTY
My Commission Expires FEB. 22, 1998

Margaret A. McInerney
Notary Public, Anoka County, Minnesota
My Commission expires 2/22/96

I hereby certify that I have surveyed and platted the land described in the dedication on this plat as RAMSEY COMMONS 2ND ADDITION; that the plat is a correct representation of said survey; that all distances are correctly shown on said plat in feet and hundredths of a foot; that the monuments have been correctly placed in the ground as shown; that the outside boundaries are correctly designated on said plat; and that there are no wet lands or public highways to be designated on said plat other than as shown thereon.

Jeffrey N. Caine
Jeffrey N. Caine, Registered Land Surveyor
Minnesota Registration No. 12251

STATE OF MINNESOTA) The surveyors certificate was acknowledged before me a Notary Public, this 19th day of May, 1993, COUNTY OF ANOKA) by Jeffrey N. Caine, Land Surveyor.

MOLLY W. CAINE
Notary Public-Minnesota
Anoka County
My Comm. Exp. 6-13-96

Molly W. Caine
Notary Public, Anoka County, Minnesota
My Commission expires 6-13-96

We hereby certify that the City Council of the City of Ramsey, Anoka County, Minnesota, duly accepted and approved the plat of RAMSEY COMMONS 2ND ADDITION at a regular meeting held this 14th day of May, 1993. If applicable, the written comments and recommendations of the Commissioner of Transportation and the County Highway Engineer have been received by the city or the prescribed 30 day period has elapsed without receipt of such comments and recommendations, as provided by Minn. Statutes, Section 509.03, Subd. 2.

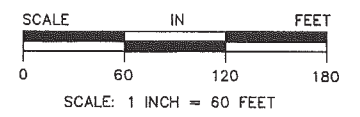
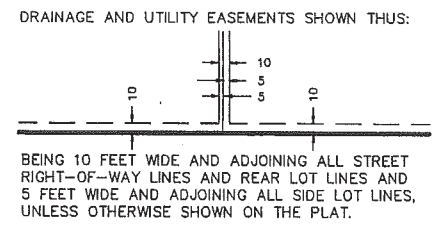
By *James H. ...* Mayor By *Deborah ...* Clerk

Checked and approved this 29th day of June, 1993

By *M. J. D. ...*
Anoka County Surveyor

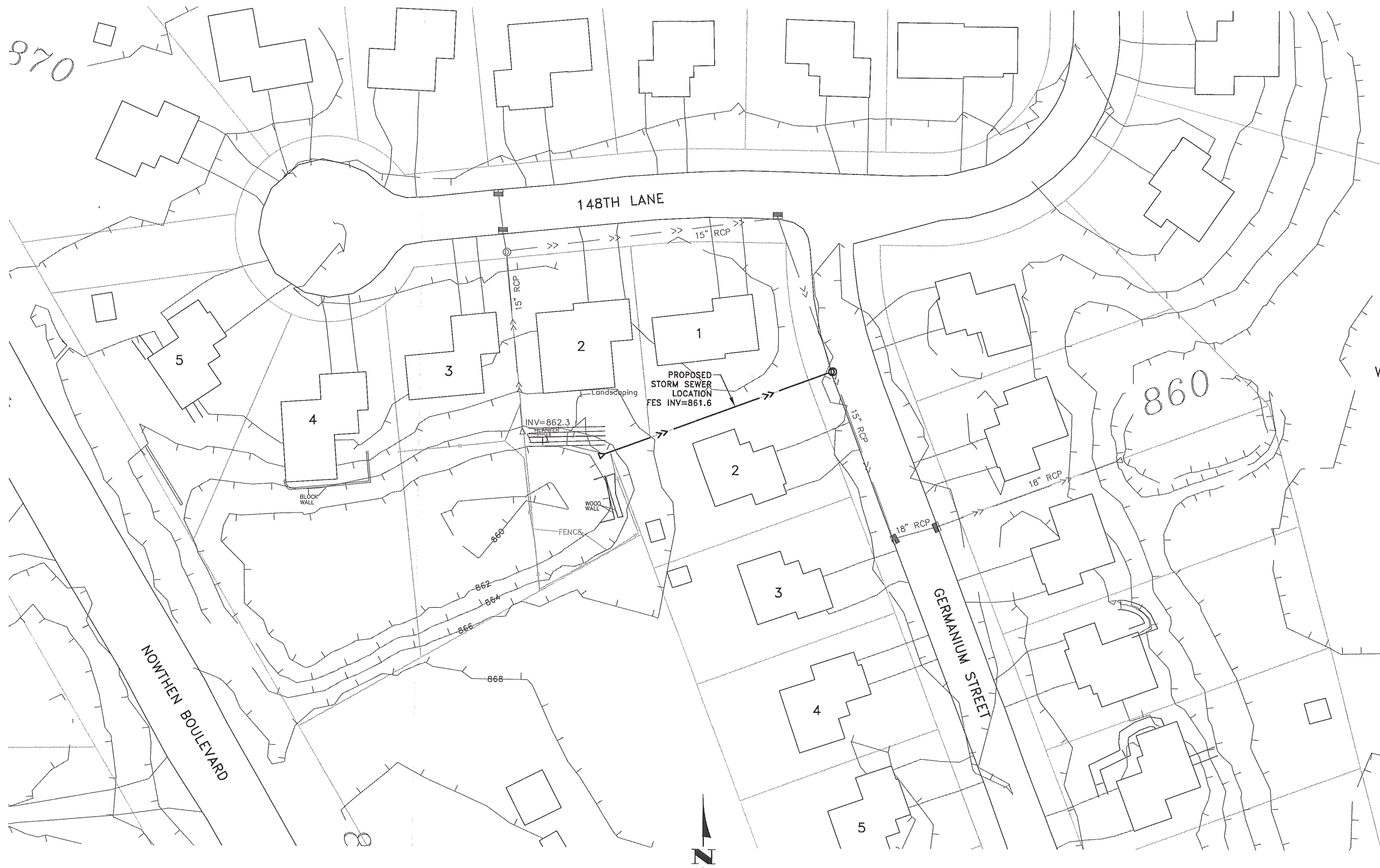
ENTERED
BY DEPU

EXHIBIT 2.
FINAL PLAT-RAMSEY COMMONS 2ND ADD.
CITY OF RAMSEY, MINNESOTA



NOTE: DENOTES 1/2 INCH IRON PIPE SET.
DENOTES ANOKA COUNTY MONUMENT.
FOR THE PURPOSES OF THIS PLAT, THE NORTH LINE OF THE W1/2 OF THE NW1/4 OF SEC. 25, T. 32, R. 25 IS ASSUMED TO HAVE A BEARING OF EAST.

CAINE & ASSOCIATES
LAND SURVEYORS, INC.



870

860

DNR
WETLAND
658W

NOWTHEN BOULEVARD

GERMANIUM STREET

148TH LANE

PROPOSED
STORM SEWER
LOCATION
FES INV=861.6

INV=862.3
HEADWATER

Landscaping

BLOCK WALL

WOOD WALL

FENCES

862

864

866

868

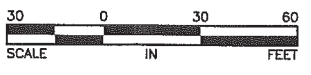


EXHIBIT 3
148TH LANE ALTERNATIVE 1 STORM SEWER
CITY OF RAMSEY, MINNESOTA



DNR
WETLAND
658W

NOWTHEN BOULEVARD

GERMANIUM STREET

148TH LANE

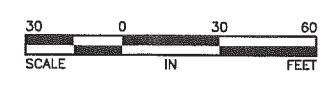


EXHIBIT 4
148TH LANE ALTERNATIVE 2 STORM SEWER
 CITY OF RAMSEY, MINNESOTA

TABLE 1
148TH LANE
ALTERNATIVE 1A - 15" OUTLET

ITEM NO.	DESCRIPTION	UNIT	UNIT COST	TOTAL ESTIMATED QUANTITY	TOTAL ESTIMATED COST
1	MOBILIZATION	LUMP SUM	\$500.00	1	\$500
2	CLEARING	TREE	\$100.00	12	\$1,200
3	GRUBBING	TREE	\$100.00	12	\$1,200
4	REMOVE STORM SEWER	LIN FT	\$5.00	118	\$590
5	REMOVE CONCRETE CURB	LIN FT	\$10.00	20	\$200
6	REMOVE BITUMINOUS PAVEMENT	SQ YD	\$5.00	23	\$115
7	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	\$3.00	40	\$120
8	4" AGGREGATE BASE CLASS 5	SQ YD	\$7.50	23	\$173
9	4" BITUMINOUS PATCH	SQ YD	\$28.00	23	\$644
10	BULKHEAD MANHOLE	EACH	\$500.00	1	\$500
11	15" RC PIPE APRON	EACH	\$300.00	1	\$300
12	TRASH GUARD FOR 15" PIPE APRON	EACH	\$150.00	1	\$150
13	CONNECT TO EXISTING STORM SEWER	EACH	\$1,000.00	1	\$1,000
14	15" RC PIPE SEWER DESIGN 3006, CL V	LIN FT	\$22.00	152	\$3,344
15	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48 - 4020	EACH	\$1,500.00	1	\$1,500
16	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	\$20.00	20	\$400
17	TRAFFIC CONTROL	LUMP SUM	\$300.00	1	\$300
18	CONIFEROUS TREE 4' HT B&B	TREE	\$200.00	12	\$2,400
19	TURF ESTABLISHMENT	ACRE	\$1,500.00	0.1	\$150

Estimated Construction Cost	\$14,786
Contingency (10%)	\$1,479
Total Estimated Construction Cost	<u>\$16,264</u>

TABLE 2
148TH LANE
ALTERNATIVE 1B - 18" OUTLET

ITEM NO.	DESCRIPTION	UNIT	UNIT COST	TOTAL ESTIMATED QUANTITY	TOTAL ESTIMATED COST
1	MOBILIZATION	LUMP SUM	\$800.00	1	\$800
2	CLEARING	TREE	\$100.00	12	\$1,200
3	GRUBBING	TREE	\$100.00	12	\$1,200
4	REMOVE STORM SEWER	LIN FT	\$5.00	233	\$1,165
5	REMOVE CONCRETE CURB	LIN FT	\$10.00	135	\$1,350
6	REMOVE BITUMINOUS PAVEMENT	SQ YD	\$5.00	150	\$750
7	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	\$3.00	155	\$465
8	4" AGGREGATE BASE CLASS 5	SQ YD	\$7.50	150	\$1,125
9	4" BITUMINOUS PATCH	SQ YD	\$28.00	150	\$4,200
10	BULKHEAD MANHOLE	EACH	\$500.00	1	\$500
11	18" RC PIPE APRON	EACH	\$350.00	1	\$350
12	TRASH GUARD FOR 18" PIPE APRON	EACH	\$200.00	1	\$200
13	CONNECT TO EXISTING STORM SEWER	EACH	\$1,000.00	2	\$2,000
14	18" RC PIPE SEWER DESIGN 3006, CL III	LIN FT	\$23.00	267	\$6,141
15	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48 - 4020	EACH	\$1,500.00	1	\$1,500
16	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	\$20.00	135	\$2,700
17	TRAFFIC CONTROL	LUMP SUM	\$500.00	1	\$500
18	CONIFEROUS TREE 4' HT B&B	TREE	\$200.00	12	\$2,400
19	TURF ESTABLISHMENT	ACRE	\$1,500.00	0.1	\$150

Estimated Construction Cost	\$28,696
Contingency (10%)	\$2,870
Total Estimated Construction Cost	<u>\$31,566</u>

**TABLE 3
148TH LANE
ALTERNATIVE 1C - 24" OUTLET**

ITEM NO.	DESCRIPTION	UNIT	UNIT COST	TOTAL ESTIMATED QUANTITY	TOTAL ESTIMATED COST
1	MOBILIZATION	LUMP SUM	\$1,300.00	1	\$1,300
2	CLEARING	TREE	\$100.00	12	\$1,200
3	GRUBBING	TREE	\$100.00	12	\$1,200
4	REMOVE STORM SEWER	LIN FT	\$4.00	388	\$1,552
5	REMOVE CONCRETE CURB	LIN FT	\$5.00	155	\$775
6	REMOVE BITUMINOUS PAVEMENT	SQ YD	\$5.00	195	\$975
7	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	\$3.00	175	\$525
8	4" AGGREGATE BASE CLASS 5	SQ YD	\$7.50	195	\$1,463
9	4" BITUMINOUS PATCH	SQ YD	\$28.00	195	\$5,460
10	BULKHEAD MANHOLE	EACH	\$500.00	1	\$500
11	24" RC PIPE APRON	EACH	\$450.00	2	\$900
12	TRASH GUARD FOR 24" PIPE APRON	EACH	\$300.00	2	\$600
13	CONNECT TO EXISTING STORM SEWER	EACH	\$1,000.00	1	\$1,000
14	24" RC PIPE SEWER DESIGN 3006, CL III	LIN FT	\$29.00	414	\$12,006
15	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48 - 4020	EACH	\$1,500.00	1	\$1,500
16	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60 - 4020	LIN FT	\$2,000.00	2	\$4,000
17	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	\$20.00	155	\$3,100
18	TRAFFIC CONTROL	LUMP SUM	\$500.00	1	\$500
19	CONIFEROUS TREE 4' HT B&B	TREE	\$200.00	12	\$2,400
20	TURF ESTABLISHMENT	ACRE	\$1,500.00	0.2	\$300

Estimated Construction Cost	\$41,256
Contingency (10%)	\$4,126
Total Estimated Construction Cost	<u>\$45,381</u>

TABLE 4
148TH LANE
ALTERNATIVE 2A - 15" OUTLET

ITEM NO.	DESCRIPTION	UNIT	UNIT COST	TOTAL ESTIMATED QUANTITY	TOTAL ESTIMATED COST
1	MOBILIZATION	LUMP SUM	\$400.00	1	\$400
2	CLEARING	TREE	\$100.00	2	\$200
3	GRUBBING	TREE	\$100.00	2	\$200
4	REMOVE STORM SEWER	LIN FT	\$5.00	118	\$590
5	REMOVE CONCRETE CURB	LIN FT	\$10.00	20	\$200
6	REMOVE BITUMINOUS PAVEMENT	SQ YD	\$5.00	23	\$115
7	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	\$3.00	40	\$120
8	COMMON EXCAVATION	CU YD	\$5.00	100	\$500
9	4" AGGREGATE BASE CLASS 5	SQ YD	\$7.50	23	\$173
10	4" BITUMINOUS PATCH	SQ YD	\$28.00	23	\$644
11	BULKHEAD MANHOLE	EACH	\$500.00	1	\$500
12	15" RC PIPE APRON	EACH	\$300.00	1	\$300
13	TRASH GUARD FOR 15" PIPE APRON	EACH	\$150.00	1	\$150
14	CONNECT TO EXISTING STORM SEWER	EACH	\$1,000.00	1	\$1,000
15	15" RC PIPE SEWER DESIGN 3006, CL V	LIN FT	\$22.00	152	\$3,344
16	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48 - 4020	EACH	\$1,500.00	1	\$1,500
17	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	\$20.00	20	\$400
18	TRAFFIC CONTROL	LUMP SUM	\$300.00	1	\$300
19	CONIFEROUS TREE 4' HT B&B	TREE	\$200.00	2	\$400
20	TURF ESTABLISHMENT	ACRE	\$1,500.00	0.1	\$150

Estimated Construction Cost	\$11,186
Contingency (10%)	\$1,119
Permanent Easement (\$1.15/ sq ft)	\$794
Total Estimated Construction Cost	<u>\$13,098</u>

**TABLE 5
148TH LANE
ALTERNATIVE 2B - 18" OUTLET**

ITEM NO.	DESCRIPTION	UNIT	UNIT COST	TOTAL ESTIMATED QUANTITY	TOTAL ESTIMATED COST
1	MOBILIZATION	LUMP SUM	\$500.00	1	\$500
2	CLEARING	TREE	\$100.00	2	\$200
3	GRUBBING	TREE	\$100.00	2	\$200
4	REMOVE STORM SEWER	LIN FT	\$5.00	153	\$765
5	REMOVE CONCRETE CURB	LIN FT	\$10.00	55	\$550
6	REMOVE BITUMINOUS PAVEMENT	SQ YD	\$5.00	61	\$305
7	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	\$3.00	75	\$225
8	COMMON EXCAVATION	CU YD	\$5.00	100	\$500
9	4" AGGREGATE BASE CLASS 5	SQ YD	\$7.50	61	\$458
10	4" BITUMINOUS PATCH	SQ YD	\$28.00	61	\$1,708
11	BULKHEAD MANHOLE	EACH	\$500.00	1	\$500
12	18" RC PIPE APRON	EACH	\$350.00	1	\$350
13	TRASH GUARD FOR 18" PIPE APRON	EACH	\$200.00	1	\$200
14	CONNECT TO EXISTING STORM SEWER	EACH	\$1,000.00	2	\$2,000
15	18" RC PIPE SEWER DESIGN 3006, CL III	LIN FT	\$23.00	187	\$4,301
16	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48 - 4020	EACH	\$1,500.00	1	\$1,500
17	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	\$20.00	55	\$1,100
18	TRAFFIC CONTROL	LUMP SUM	\$500.00	1	\$500
19	CONIFEROUS TREE 4' HT B&B	TREE	\$200.00	2	\$400
20	TURF ESTABLISHMENT	ACRE	\$1,500.00	0.1	\$150

Estimated Construction Cost	\$16,412
Contingency (10%)	\$1,641
Permanent Easement (\$1.15/ sq ft)	\$794
Total Estimated Construction Cost	<u>\$18,846</u>

TABLE 6
148TH LANE
ALTERNATIVE 2C - 24" OUTLET

ITEM NO.	DESCRIPTION	UNIT	UNIT COST	TOTAL ESTIMATED QUANTITY	TOTAL ESTIMATED COST
1	MOBILIZATION	LUMP SUM	\$900.00	1	\$900
2	CLEARING	TREE	\$100.00	2	\$200
3	GRUBBING	TREE	\$100.00	2	\$200
4	REMOVE STORM SEWER	LIN FT	\$4.00	306	\$1,224
5	REMOVE CONCRETE CURB	LIN FT	\$5.00	75	\$375
6	REMOVE BITUMINOUS PAVEMENT	SQ YD	\$5.00	106	\$530
7	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	\$3.00	95	\$285
8	COMMON EXCAVATION	CU YD	\$5.00	100	\$500
9	4" AGGREGATE BASE CLASS 5	SQ YD	\$7.50	106	\$795
10	4" BITUMINOUS PATCH	SQ YD	\$28.00	106	\$2,968
11	BULKHEAD MANHOLE	EACH	\$500.00	1	\$500
12	24" RC PIPE APRON	EACH	\$450.00	2	\$900
13	TRASH GUARD FOR 24" PIPE APRON	EACH	\$300.00	2	\$600
14	CONNECT TO EXISTING STORM SEWER	EACH	\$1,000.00	1	\$1,000
15	24" RC PIPE SEWER DESIGN 3006, CL III	LIN FT	\$29.00	334	\$9,686
16	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48 - 4020	EACH	\$1,500.00	1	\$1,500
17	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60 - 4020	LIN FT	\$2,000.00	2	\$4,000
18	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	\$20.00	75	\$1,500
19	TRAFFIC CONTROL	LUMP SUM	\$500.00	1	\$500
20	CONIFEROUS TREE 4' HT B&B	TREE	\$200.00	2	\$400
21	TURF ESTABLISHMENT	ACRE	\$1,500.00	0.2	\$300

Estimated Construction Cost	\$28,863
Contingency (10%)	\$2,886
Permanent Easement (\$1.15/ sq ft)	\$794
Total Estimated Construction Cost	<u>\$32,543</u>

**TABLE 7
148TH LANE
ALTERNATIVE 3**

ITEM NO.	DESCRIPTION	UNIT	UNIT COST	TOTAL ESTIMATED QUANTITY	TOTAL ESTIMATED COST
1	MOBILIZATION	LUMP SUM	\$500.00	1	\$500
2	CLEARING	TREE	\$100.00	10	\$1,000
3	GRUBBING	TREE	\$100.00	10	\$1,000
4	COMMON EXCAVATION	CU YD	\$5.00	270	\$1,350
5	GRANULAR BORROW	CU YD	\$8.00	1166	\$9,328
6	TURF ESTABLISHMENT	ACRE	\$1,500.00	0.5	\$750

Estimated Construction Cost	\$13,928
Contingency (10%)	\$1,393
Total Estimated Construction Cost	<u>\$15,321</u>