

Appendix B Surface Drainage Projects Cost Estimates and Maps

Background

The cost estimates for the surface drainage projects are planning level estimates and would be refined during the preliminary design stage of each project. In addition, cost/benefit analyses would be conducted to determine if it is more cost effective to purchase certain homes or businesses rather than construct the project. The estimated Engineering and Inspection Costs are based on the following table:

Estimated Engineering and Inspection Costs

Construction Cost	Engineering Fee (Percent of Construction)	Inspection (Percent of Construction)	Total (Percent of Construction)
\$100,000	14.0	13.0	27
\$200,000	12.2	10.4	23
\$300,000	11.3	8.8	20
\$400,000	10.7	8.0	19
\$500,000	10.3	7.4	18
\$600,000	9.7	6.8	17
\$700,000	9.5	6.4	16
\$800,000	9.2	6.0	15
\$900,000	9.0	5.8	15
\$1,000,000	8.9	5.6	15

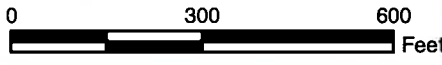
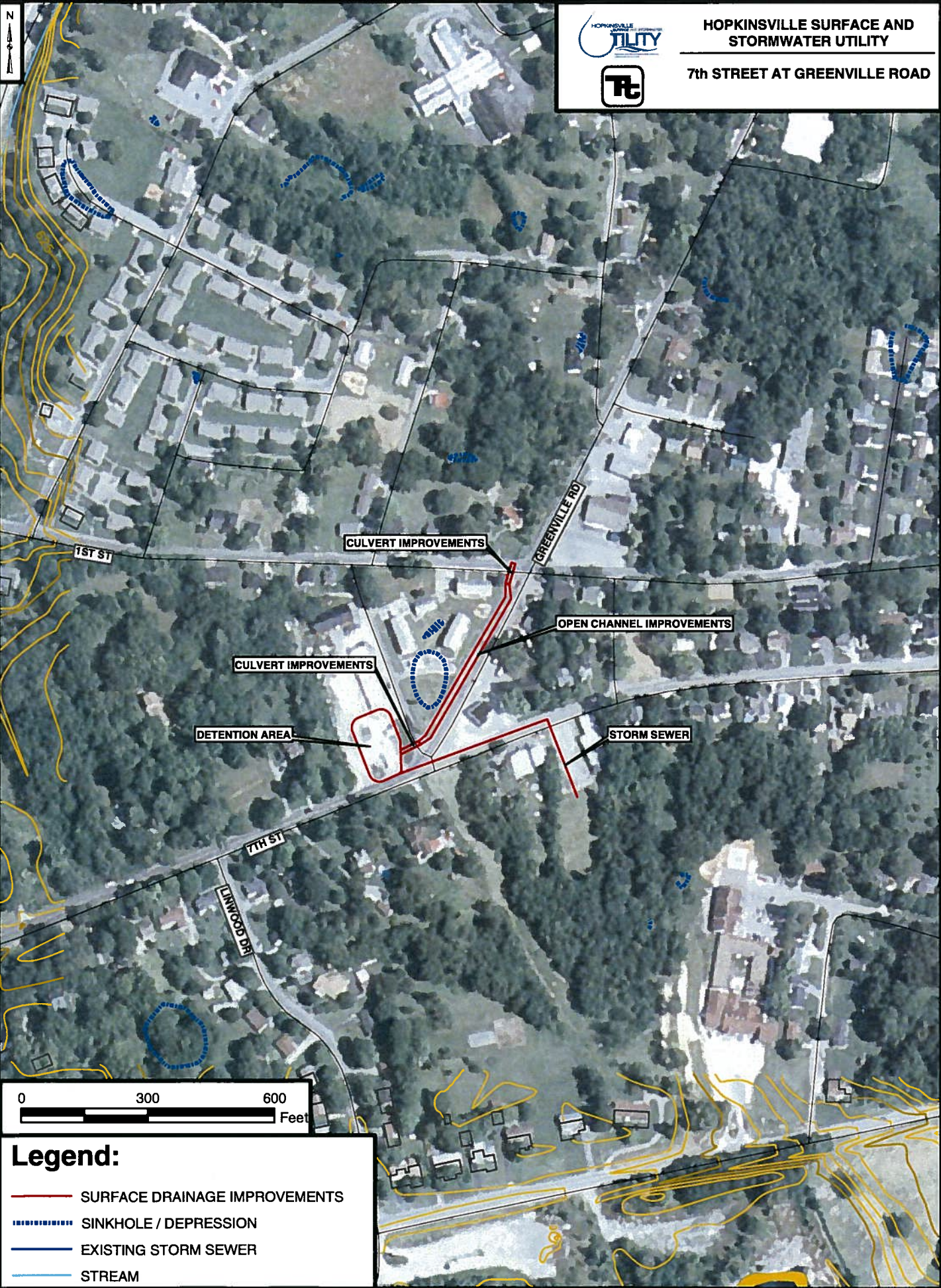
Source: USDA, Kentucky State Office, January 31, 2005

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**7th Street at Greenville Road
Estimated Project Cost**

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Storm Sewer	700	LF	\$ 50	\$ 35,000
2	Surface Inlets	4	EA	\$ 2,500	\$ 10,000
3	Detention Basin	1	EA	\$ 120,000	\$ 120,000
4	Headwall	2	EA	\$ 2,500	\$ 5,000
5	Channel Improvements	400	LF	\$ 30	\$ 12,000
6	Culvert Improvements	2	EA	\$ 25,000	\$ 50,000
7	Land Acquisition	2	Acre	\$ 15,000	\$ 30,000
ESTIMATED CONSTRUCTION COST					\$ 262,000
20% Construction Contingency					\$ 52,400
TOTAL ESTIMATED CONSTRUCTION COST					\$ 314,400
Engineering and Construction Inspection					\$ 60,000
TOTAL ESTIMATED PROJECT COST					\$ 374,400



Legend:

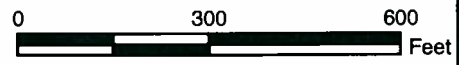
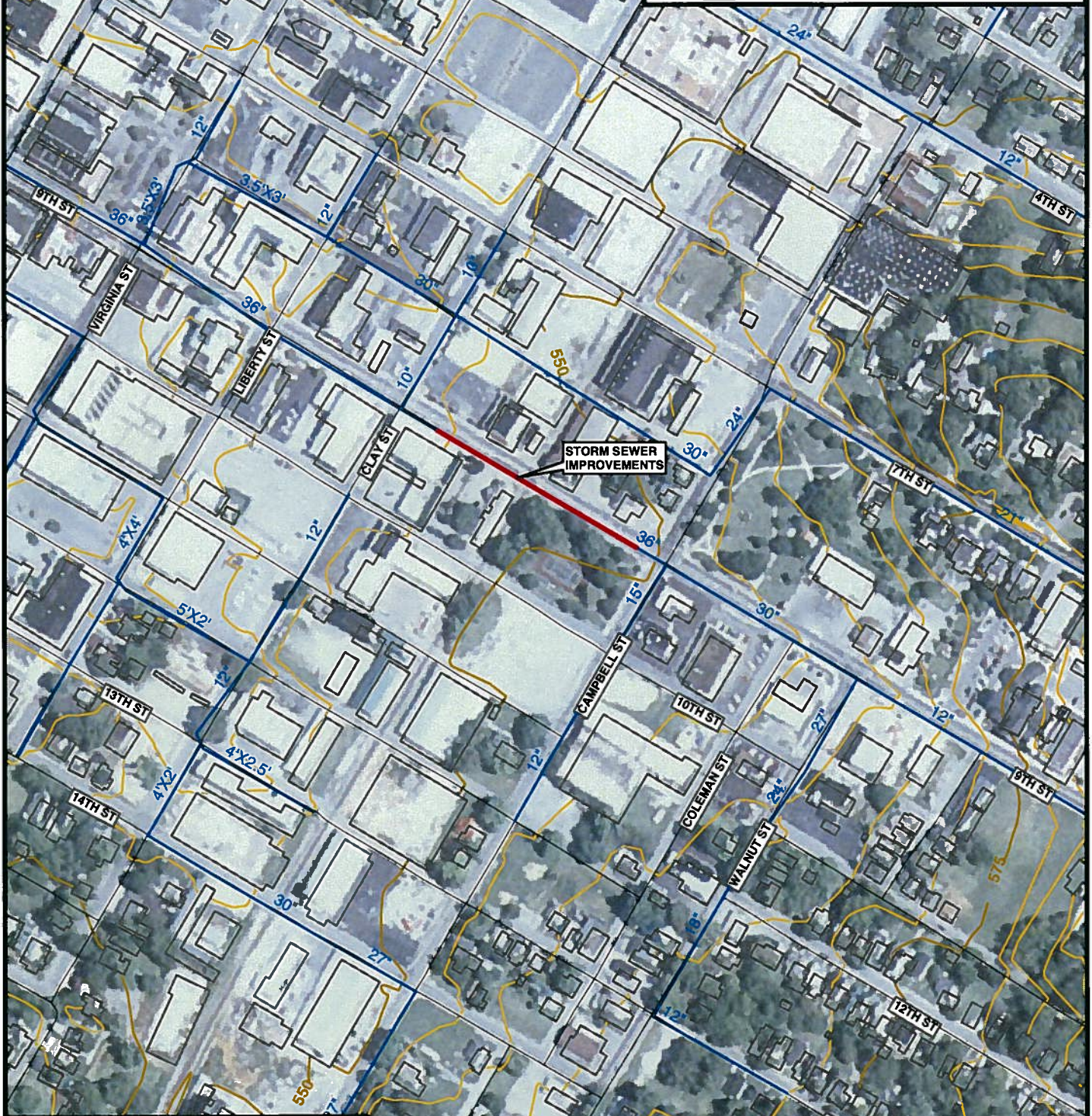
- SURFACE DRAINAGE IMPROVEMENTS
- SINKHOLE / DEPRESSION
- EXISTING STORM SEWER
- STREAM

**East 9th Street at Railroad
Estimated Project Cost**





ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Storm Sewer	400	LF	\$ 100	\$ 40,000
2	Surface Inlets	3	EA	\$ 5,000	\$ 15,000
ESTIMATED CONSTRUCTION COST					\$ 55,000
20% Construction Contingency					\$ 11,000
TOTAL ESTIMATED CONSTRUCTION COST					\$ 66,000
Engineering and Construction Inspection					\$ 18,000
TOTAL ESTIMATED PROJECT COST					\$ 84,000



HOPKINSVILLE SURFACE AND STORMWATER UTILITY
EAST 9TH ST AT RAILROAD



Legend:

-  SURFACE DRAINAGE IMPROVEMENTS
-  SINKHOLE / DEPRESSION
-  EXISTING STORM SEWER
-  STREAM

**West 15th Street at Phelps Avenue
Estimated Project Cost**

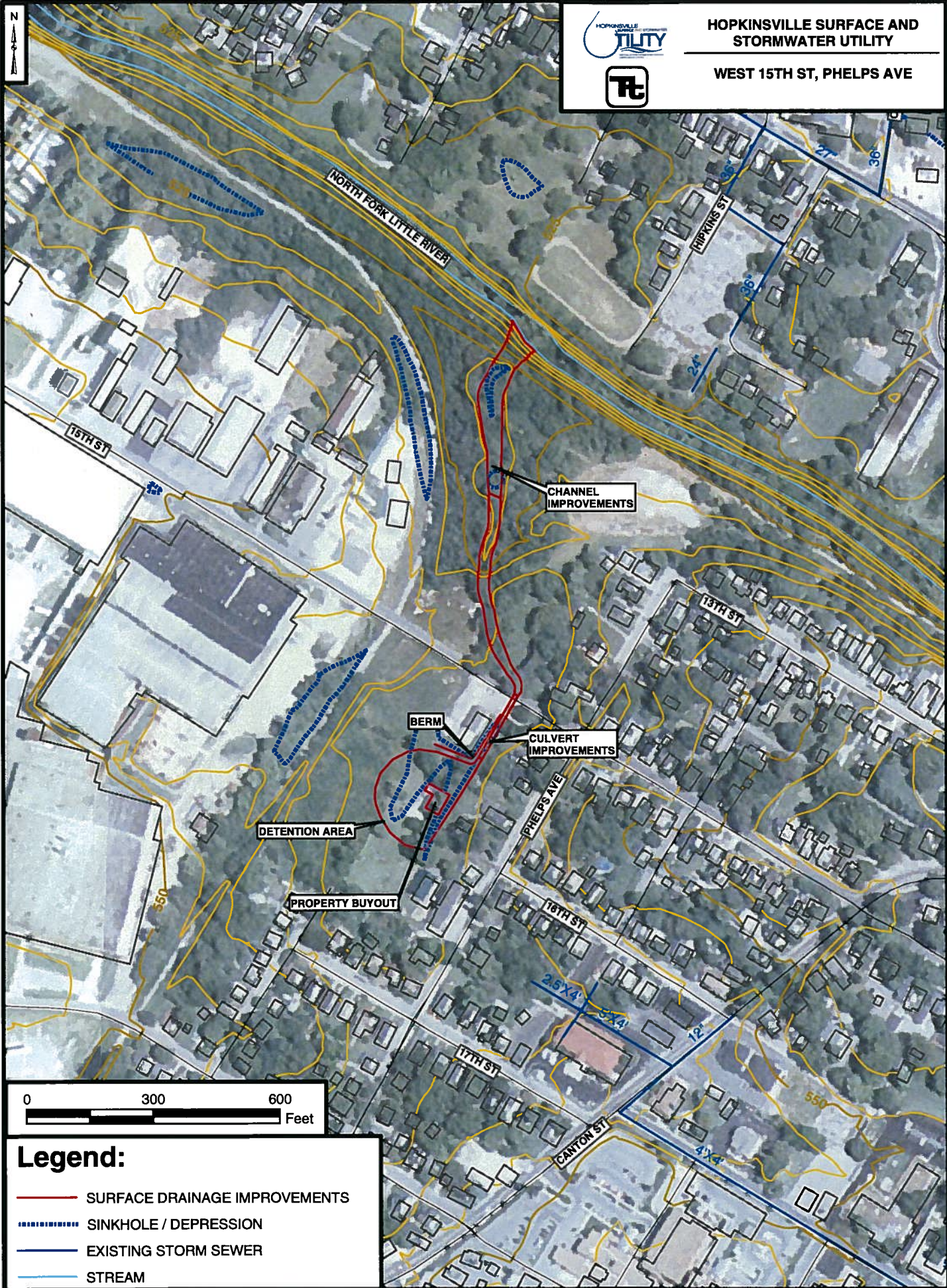
ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Detention Basin	1	LS	\$ 120,000	\$ 120,000
2	Culvert Improvements (West 15th Street)	1	LS	\$ 40,000	\$ 40,000
3	Channel Improvements (cleaning, shaping, lining, and widening)	1,000	LF	\$ 30	\$ 30,000
4	Home Buyout	1	LS	\$ 90,000	\$ 90,000
5	Land Acquisition	3	Acre	\$ 15,000	\$ 45,000
ESTIMATED CONSTRUCTION COST					\$ 325,000
20% Construction Contingency					\$ 65,000
TOTAL ESTIMATED CONSTRUCTION COST					\$ 390,000
Engineering and Construction Inspection					\$ 56,000
TOTAL ESTIMATED PROJECT COST					\$ 446,000



HOPKINSVILLE SURFACE AND STORMWATER UTILITY



WEST 15TH ST, PHELPS AVE



Legend:

- SURFACE DRAINAGE IMPROVEMENTS
- - - - - SINKHOLE / DEPRESSION
- EXISTING STORM SEWER
- STREAM

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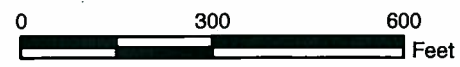
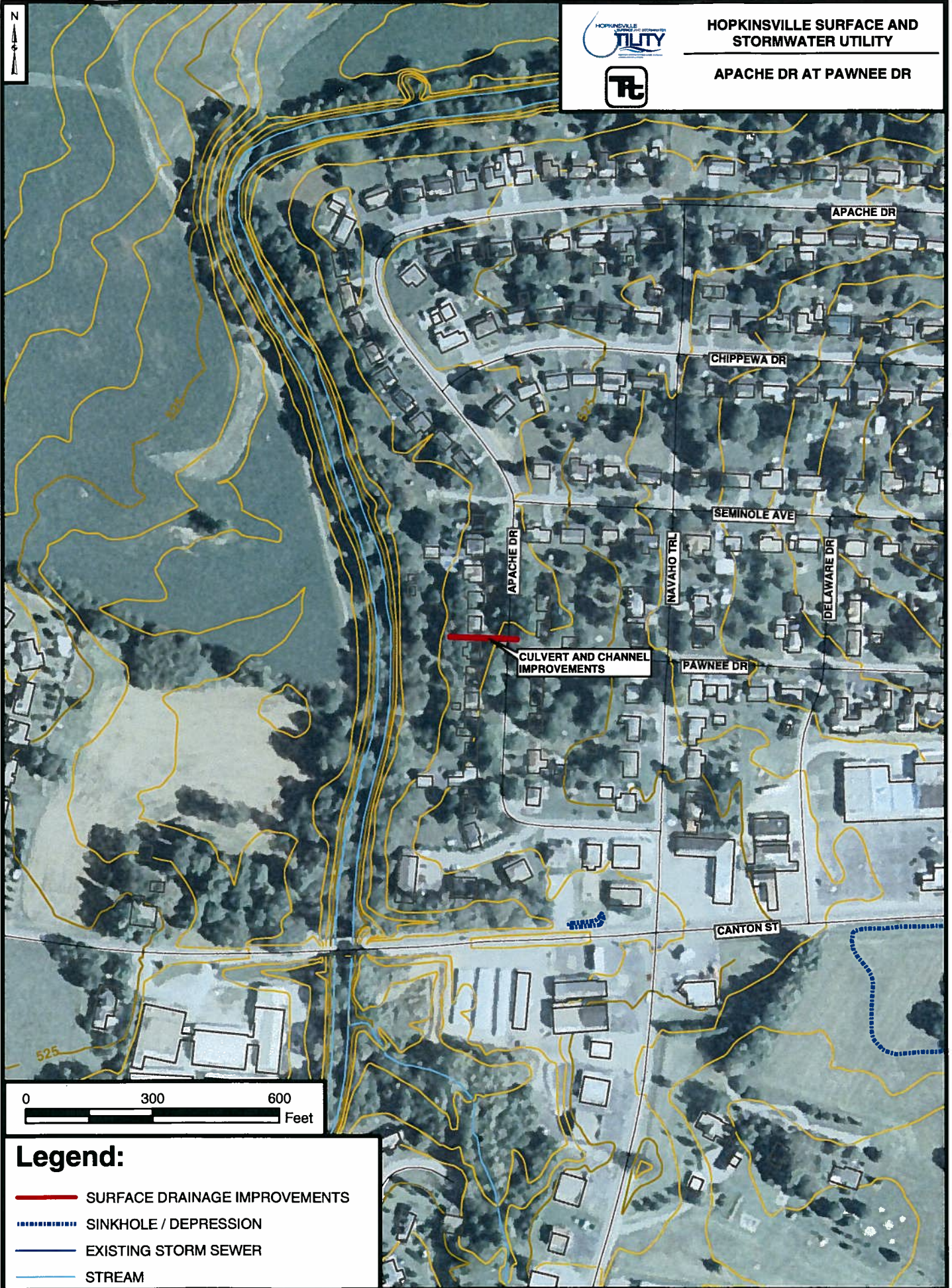
**Apache Drive at Pawnee Drive
Estimated Project Cost**

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Storm Sewer	300	LF	\$ 40	\$ 12,000
2	Surface Inlets	2	EA	\$ 2,500	\$ 5,000
3	Headwall	2	EA	\$ 2,500	\$ 5,000
ESTIMATED CONSTRUCTION COST					\$ 22,000
20% Construction Contingency					\$ 4,400
TOTAL ESTIMATED CONSTRUCTION COST					\$ 26,400
Engineering and Construction Inspection					\$ 7,000
TOTAL ESTIMATED PROJECT COST					\$ 33,400







HOPKINSVILLE SURFACE AND STORMWATER UTILITY

APACHE DR AT PAWNEE DR



Legend:

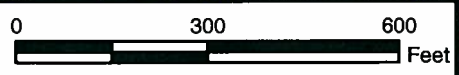
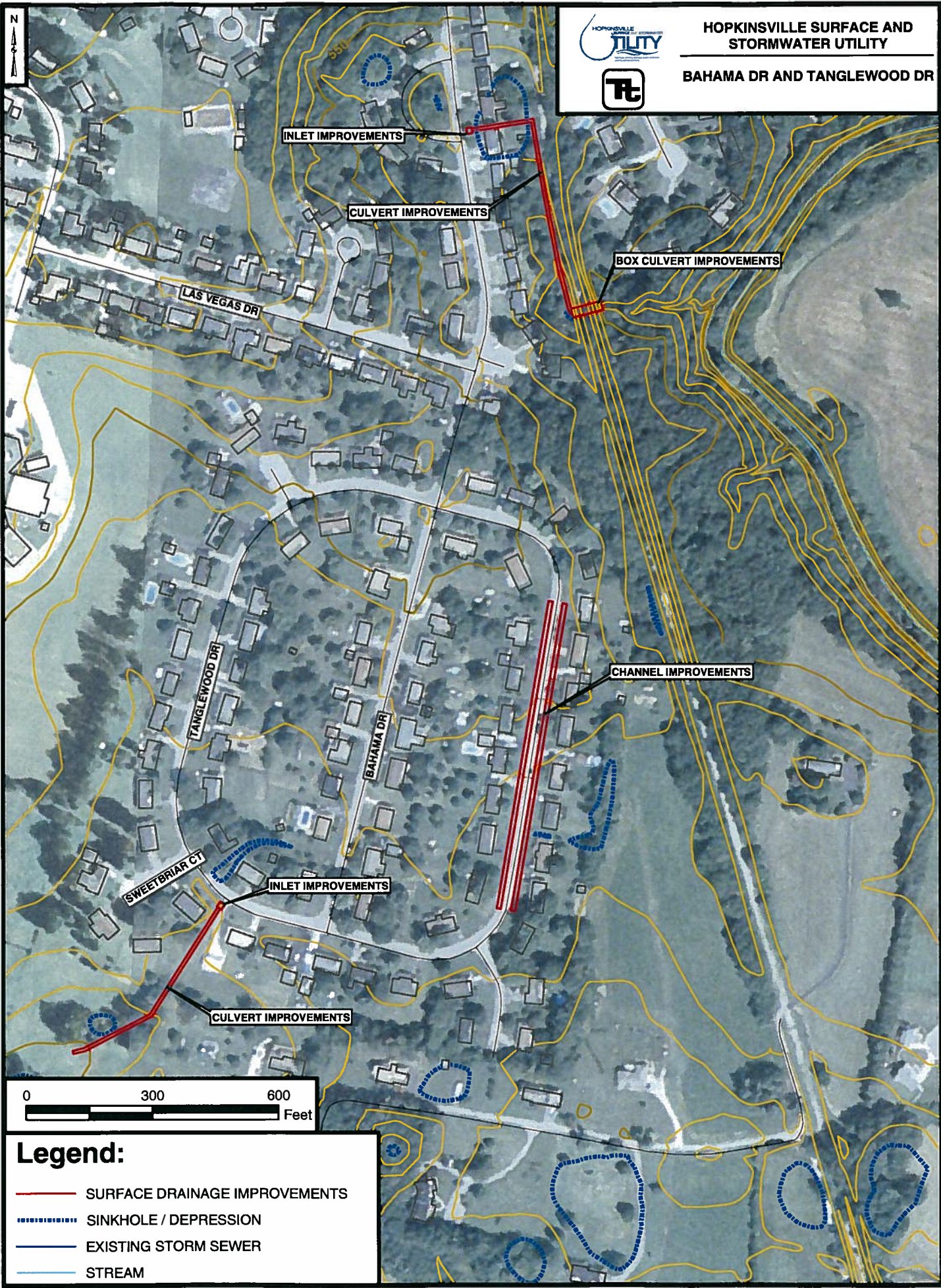
-  SURFACE DRAINAGE IMPROVEMENTS
-  SINKHOLE / DEPRESSION
-  EXISTING STORM SEWER
-  STREAM

**Bahama Drive, Tanglewood Drive
Estimated Project Cost**





ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Culvert Improvements	500	LF	\$ 100	\$ 50,000
2	Roadside Ditch Improvements (cleaning, shaping, lining, and widening)	1200	LF	\$ 30	\$ 36,000
3	Inlet Improvements	2	EA	\$ 2,500	\$ 5,000
4	Culvert Improvements	600	LF	\$ 100	\$ 60,000
5	Box Culvert	1	EA	\$ 12,000	\$ 12,000
ESTIMATED CONSTRUCTION COST					\$ 163,000
20% Construction Contingency					\$ 32,600
TOTAL ESTIMATED CONSTRUCTION COST					\$ 195,600
Engineering and Construction Inspection					\$ 45,000
TOTAL ESTIMATED PROJECT COST					\$ 240,600



HOPKINSVILLE SURFACE AND STORMWATER UTILITY
BAHAMA DR AND TANGLEWOOD DR



Legend:

-  SURFACE DRAINAGE IMPROVEMENTS
-  SINKHOLE / DEPRESSION
-  EXISTING STORM SEWER
-  STREAM

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**Braden Street at Sarah Avenue
Estimated Project Cost**

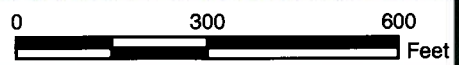
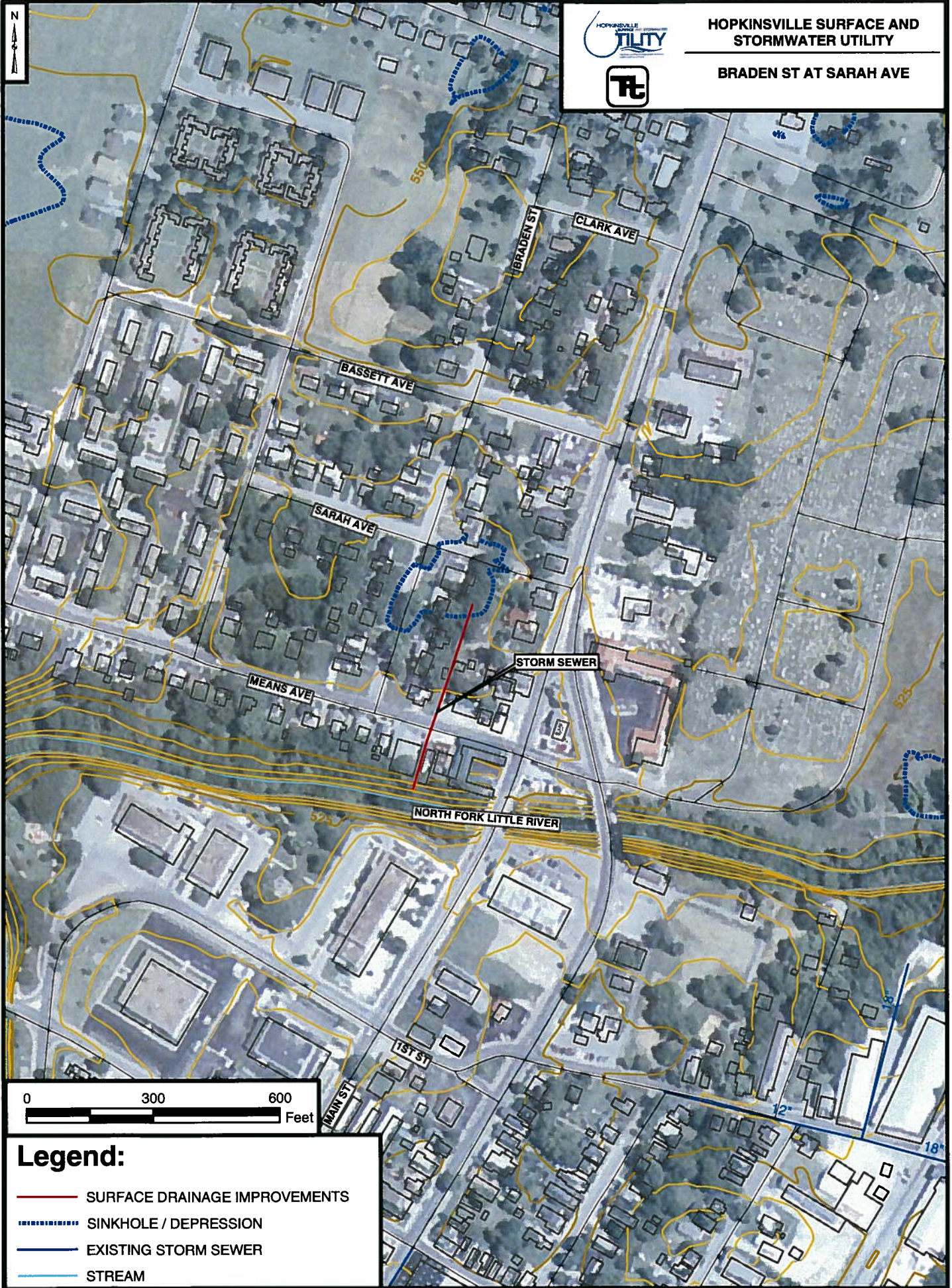
ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Storm Sewer	500	LF	\$ 50	\$ 25,000
2	Surface Inlets	4	EA	\$ 2,500	\$ 10,000
3	Headwall	2	EA	\$ 2,500	\$ 5,000
ESTIMATED CONSTRUCTION COST					\$ 40,000
20% Construction Contingency					\$ 8,000
TOTAL ESTIMATED CONSTRUCTION COST					\$ 48,000
Engineering and Construction Inspection					\$ 13,000
TOTAL ESTIMATED PROJECT COST					\$ 61,000







HOPKINSVILLE SURFACE AND STORMWATER UTILITY



BRADEN ST AT SARAH AVE



Legend:

-  SURFACE DRAINAGE IMPROVEMENTS
-  SINKHOLE / DEPRESSION
-  EXISTING STORM SEWER
-  STREAM

**Calvin Manor Apartments
Estimated Project Cost**

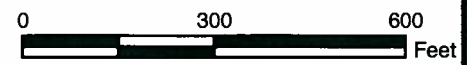
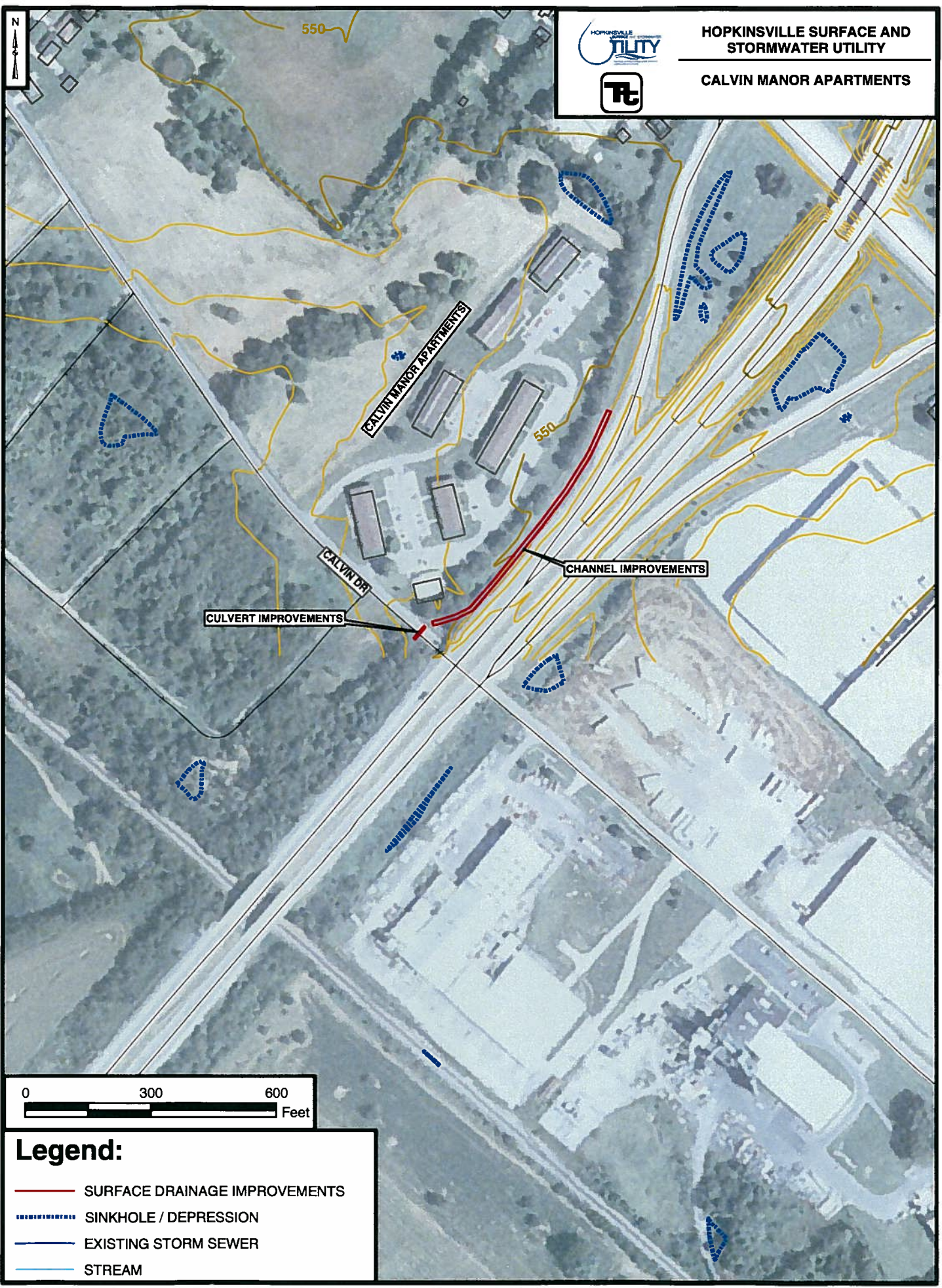
ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Channel Improvements	600	LF	\$ 30	\$ 18,000
2	Culvert Improvements	1	EA	\$ 25,000	\$ 25,000
ESTIMATED CONSTRUCTION COST					\$ 43,000
20% Construction Contingency					\$ 8,600
TOTAL ESTIMATED CONSTRUCTION COST					\$ 51,600
Engineering and Construction Inspection					\$ 14,000
TOTAL ESTIMATED PROJECT COST					\$ 65,600







HOPKINSVILLE SURFACE AND
STORMWATER UTILITY



CALVIN MANOR APARTMENTS



Legend:

-  SURFACE DRAINAGE IMPROVEMENTS
-  SINKHOLE / DEPRESSION
-  EXISTING STORM SEWER
-  STREAM

**Campbell Street at 2nd Street
Estimated Project Cost**

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Storm Sewer	200	LF	\$ 50	\$ 10,000
2	Surface Inlets	2	EA	\$ 2,500	\$ 5,000
3	Manhole	1	EA	\$ 5,000	\$ 5,000
ESTIMATED CONSTRUCTION COST					\$ 20,000
20% Construction Contingency					\$ 4,000
TOTAL ESTIMATED CONSTRUCTION COST					\$ 24,000
Engineering and Construction Inspection					\$ 6,000
TOTAL ESTIMATED PROJECT COST					\$ 30,000

**2611 Cayce Meade
Estimated Project Cost**

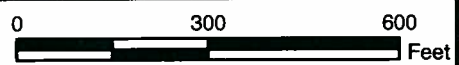
ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Storm Sewer	900	LF	\$ 50	\$ 45,000
2	Surface Inlets	4	EA	\$ 2,500	\$ 10,000
3	Headwall	1	EA	\$ 2,500	\$ 2,500
ESTIMATED CONSTRUCTION COST					\$ 57,500
20% Construction Contingency					\$ 11,500
TOTAL ESTIMATED CONSTRUCTION COST					\$ 69,000
Engineering and Construction Inspection					\$ 19,000
TOTAL ESTIMATED PROJECT COST					\$ 88,000



HOPKINSVILLE SURFACE AND STORMWATER UTILITY



2611 CAYCE MEADE



Legend:

- SURFACE DRAINAGE IMPROVEMENTS
- - - - - SINKHOLE / DEPRESSION
- EXISTING STORM SEWER
- STREAM

**Center Street, Between 18th Street and 19th Street
Estimated Project Cost**

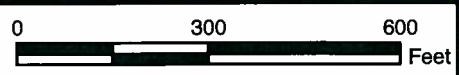
ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Storm Sewer	700	LF	\$ 50	\$ 35,000
2	Surface Inlets	3	EA	\$ 2,500	\$ 7,500
3	Headwall	2	EA	\$ 2,500	\$ 5,000
ESTIMATED CONSTRUCTION COST					\$ 47,500
20% Construction Contingency					\$ 9,500
TOTAL ESTIMATED CONSTRUCTION COST					\$ 57,000
Engineering and Construction Inspection					\$ 15,000
TOTAL ESTIMATED PROJECT COST					\$ 72,000







HOPKINSVILLE SURFACE AND
STORMWATER UTILITY



CENTER ST
BETWEEN 18TH ST AND 19TH ST



Legend:

-  SURFACE DRAINAGE IMPROVEMENTS
-  SINKHOLE / DEPRESSION
-  EXISTING STORM SEWER
-  STREAM

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**Clarence Drive
Estimated Project Cost**

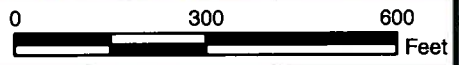
ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Storm Sewer	800	LF	\$ 50	\$ 40,000
2	Surface Inlets	4	EA	\$ 2,500	\$ 10,000
3	Manhole	1	EA	\$ 5,000	\$ 5,000
ESTIMATED CONSTRUCTION COST					\$ 55,000
20% Construction Contingency					\$ 11,000
TOTAL ESTIMATED CONSTRUCTION COST					\$ 66,000
Engineering and Construction Inspection					\$ 18,000
TOTAL ESTIMATED PROJECT COST					\$ 84,000







HOPKINSVILLE SURFACE AND
STORMWATER UTILITY



CLARENCE DRIVE



Legend:

-  SURFACE DRAINAGE IMPROVEMENTS
-  SINKHOLE / DEPRESSION
-  EXISTING STORM SEWER
-  STREAM

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**212 Country Club Lane near Faircourt Street
Estimated Project Cost**

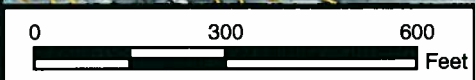
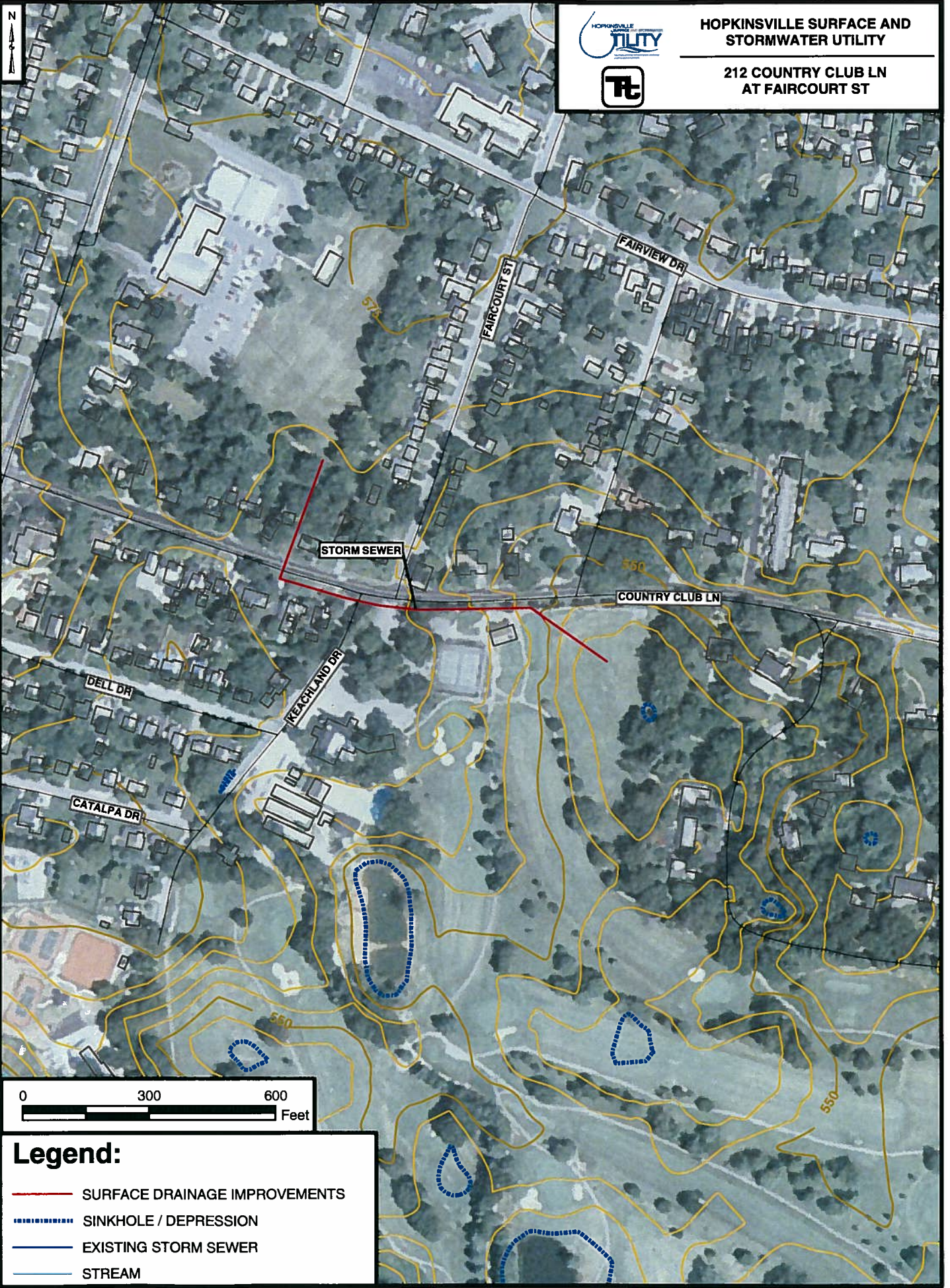
ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Storm Sewer	1,200	LF	\$ 50	\$ 60,000
2	Surface Inlets	2	EA	\$ 2,500	\$ 5,000
3	Headwall	2	EA	\$ 2,500	\$ 5,000
ESTIMATED CONSTRUCTION COST					\$ 70,000
20% Construction Contingency					\$ 14,000
TOTAL ESTIMATED CONSTRUCTION COST					\$ 84,000
Engineering and Construction Inspection					\$ 23,000
TOTAL ESTIMATED PROJECT COST					\$ 107,000



HOPKINSVILLE SURFACE AND STORMWATER UTILITY



212 COUNTRY CLUB LN AT FAIRCOURT ST



Legend:

- SURFACE DRAINAGE IMPROVEMENTS
- - - - SINKHOLE / DEPRESSION
- EXISTING STORM SEWER
- STREAM

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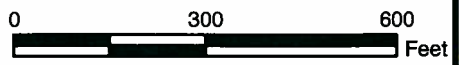
**510.5 Country Club Lane near Nelson Drive
Estimated Project Cost**

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Sinkhole Improvements	1	LF	\$ 25,000	\$ 25,000
ESTIMATED CONSTRUCTION COST					\$ 25,000
20% Construction Contingency					\$ 5,000
TOTAL ESTIMATED CONSTRUCTION COST					\$ 30,000
Engineering and Construction Inspection					\$ 8,000
TOTAL ESTIMATED PROJECT COST					\$ 38,000







HOPKINSVILLE SURFACE AND STORMWATER UTILITY

510.5 COUNTRY CLUB LN AT NELSON DR



Legend:

-  SURFACE DRAINAGE IMPROVEMENTS
-  SINKHOLE / DEPRESSION
-  EXISTING STORM SEWER
-  STREAM

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**130 Donna Drive
Estimated Project Cost**

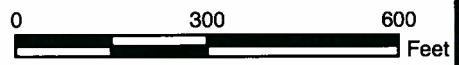
ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Channel Improvements	300	LF	\$ 30	\$ 9,000
ESTIMATED CONSTRUCTION COST					\$ 9,000
20% Construction Contingency					\$ 1,800
TOTAL ESTIMATED CONSTRUCTION COST					\$ 10,800
Engineering and Construction Inspection					\$ 3,000
TOTAL ESTIMATED PROJECT COST					\$ 13,800







HOPKINSVILLE SURFACE AND STORMWATER UTILITY



130 DONNA DR



Legend:

-  SURFACE DRAINAGE IMPROVEMENTS
-  SINKHOLE / DEPRESSION
-  EXISTING STORM SEWER
-  STREAM

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**Evergreen Apartments, Glass Avenue
Estimated Project Cost**

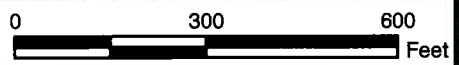
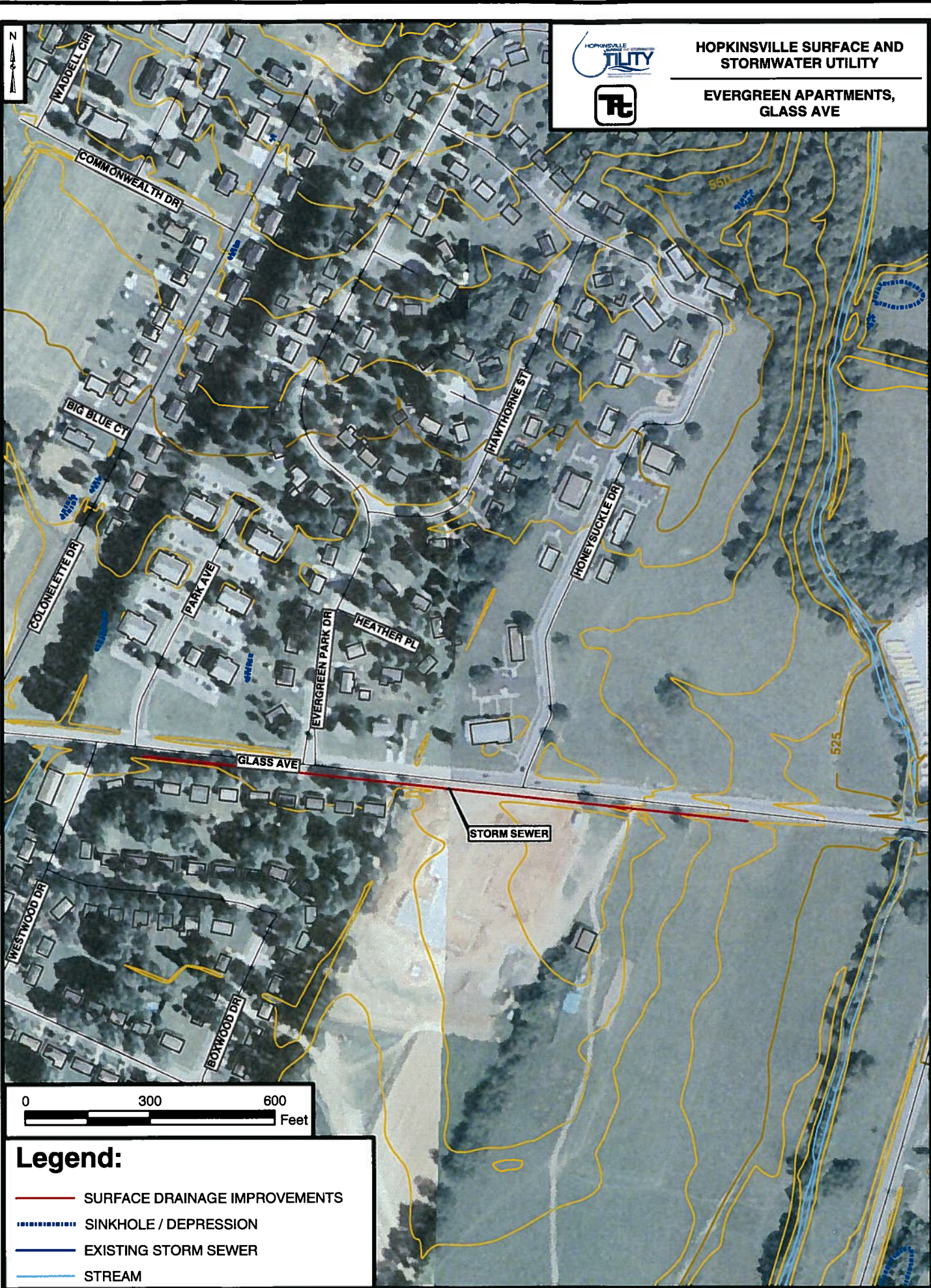
ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Storm Sewer	1,400	LF	\$ 100	\$ 140,000
2	Surface Inlets	4	EA	\$ 2,500	\$ 10,000
3	Headwall	2	EA	\$ 2,500	\$ 5,000
ESTIMATED CONSTRUCTION COST					\$ 155,000
20% Construction Contingency					\$ 31,000
TOTAL ESTIMATED CONSTRUCTION COST					\$ 186,000
Engineering and Construction Inspection					\$ 45,000
TOTAL ESTIMATED PROJECT COST					\$ 231,000



HOPKINSVILLE SURFACE AND STORMWATER UTILITY



EVERGREEN APARTMENTS, GLASS AVE



Legend:

- SURFACE DRAINAGE IMPROVEMENTS
- - - - - SINKHOLE / DEPRESSION
- EXISTING STORM SEWER
- STREAM

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