THE CITY OF LAKE ELMO

STAFF REPORT

DATE: December 4, 2018
REGULAR
ITEM #: 25

AGENDA ITEM: County State Aid Highway (CSAH) 19 and Hudson Boulevard Intersection Improvements – Approve Preliminary Geometric Layout and Authorize Final Design

SUBMITTED BY: Jack Griffin, City Engineer

REVIEWED BY: Kristina Handt, City Administrator
Rob Weldon, Public Works Director
Chad Isakson, Assistance City Engineer

ISSUE BEFORE COUNCIL: Should the City Council approve the Preliminary Geometric Layout and Authorize the Final Design for the County State Aid Highway (CSAH) 19 and Hudson Boulevard Intersection Improvements?

BACKGROUND AND PROPOSAL DETAILS/ANALYSIS: In September 2017, Washington County, in coordination with the City of Lake Elmo, began reviewing alternatives and identifying a preferred geometric layout for the installation of a new steel pole traffic signal at the intersection of County State Aid Highway (CSAH) 19 and Hudson Boulevard in the City of Lake Elmo. Washington County had completed traffic studies and analysis and determined that a new permanent traffic signal is required at the intersection to address increasing traffic volumes and growing delays on the Hudson Boulevard approaches. Washington County was the lead agency for project coordination and preliminary design, and through an RFP process, retained the services of Kadmas, Lee & Jackson, Inc (KLJ) as the engineering consultant.

Through the preliminary design process, several key design issues were identified that requires the reconstruction of the Hudson Boulevard approaches for approximately 900 feet both east and west of the intersection. The primary issues being the change of the existing stop condition (stop sign control to a through condition at a 45mph design speed) together with an existing road surface superelevation that does not meet the required design speed, and a complex subwatershed drainage area. In addition, the traffic signal install must be accompanied with dedicated left and right turn lanes constructed along each of the Hudson Boulevard approaches.

At this time the preliminary design phase has been completed including the preparation of a preferred geometric layout, utility coordination, preliminary hydraulics evaluation, and the determination of the project construction limits defining the right-of-way, permanent and temporary easements to be acquired for the improvements. The recommended Preliminary Geometric Layout, dated November 9, 2018, is attached, showing the proposed roadway and drainage improvements for the Project.

A storm water infiltration basin is needed in the northeast quadrant of the intersection, to be located on the Durow property. This will require the acquisition of approximately 1.5 acres of permanent drainage and utility easement and/or right-of-way, and about 0.6 acres of temporary construction easement. Other acquisition needs are minor and include approximately 1,500 sf of permanent drainage and utility easement and/or right-of-way from MFC Properties, and roughly 11,000 sf of temporary construction easement from MFC Properties, the Ebertz property, and Kwik Trip.

To ready the proposed project for construction in 2019, the City Council is being asked to support the recommended Preliminary Geometric Layout, dated November 9, 2018, support the City becoming the lead agency for continuing with the final design and construction of the Project, and direct the City Engineer to oversee the preparation of the Plans and Specifications and construction services for the project. The City would execute an engineering Task Order to retain the services of Kadmas, Lee & Jackson, Inc (KLJ) as the consulting engineering firm to complete the final design services and to support the City Engineer during the construction phase of the project.

FISCAL IMPACT: The Preliminary Estimated Project Cost, dated November 9, 2018 is attached. The Preliminary Estimated Project Cost is $2,084,000 with the City cost share of $1,840,000 and County cost share of $244,000. These costs are estimates without the benefit of final design information and do not include right-of-way/easement acquisition identified above. The actual project costs will be better known upon the completion of the final design for the project. The cost split is based on the County Cost Participation Policy with the County contributing 50% of the traffic signal system.

City staff is reviewing additional funding options for the project.

RECOMMENDATION: Staff is recommending that the City Council approve a Resolution Approving the Preliminary Geometric Layout and Authorizing Final Design for the County State Aid Highway (CSAH) 19 and Hudson Boulevard Intersection Improvements. The recommended motion for the action is as follows:

"Move to approve Resolution No. 2018-139 Approving the Preliminary Geometric Layout and Authorizing Final Design for the County State Aid Highway (CSAH) 19 and Hudson Boulevard Intersection Improvements."

ATTACHMENTS:

1. Resolution Approving the Preliminary Geometric Layout and Authorizing Final Design for the County State Aid Highway (CSAH) 19 and Hudson Boulevard Intersection Improvements.
2. Preliminary Geometric Layout, dated November 9, 2018.
3. Preliminary Estimated Project Cost, dated November 9, 2018.

CITY OF LAKE ELMO
WASHINGTON COUNTY
STATE OF MINNESOTA

RESOLUTION NO. 2018-139

A RESOLUTION APPROVING THE PRELIMINARY GEOMETRIC LAYOUT AND AUTHORIZING FINAL DESIGN FOR THE COUNTY STATE AID HIGHWAY (CSAH) 19 AND HUDSON BOULEVARD INTERSECTION IMPROVEMENTS

WHEREAS, the City of Lake Elmo, in coordination with Washington County, intends to construct intersection improvements, including the installation of a traffic signal together with associated roadway improvements and turn lanes, at the intersection of County State Aid Highway (CSAH) 19 and Hudson Boulevard in the City of Lake Elmo; and

WHEREAS, Washington County has completed traffic studies and analysis and has determined that a new permanent steel pole traffic signal is required at the intersection to address increasing traffic volumes and growing delays on the Hudson Boulevard approaches to the intersection; and

WHEREAS, Washington County was the lead agency for project coordination and preliminary design, and in September 2017, retained the services of Kadmas, Lee & Jackson, Inc (KLJ) as the design consultant for the project; and

WHEREAS, the preliminary design phase has been completed including the preparation of a preferred geometric layout, utility coordination, preliminary hydraulics evaluation, and the determination of the project construction limits defining the right-of-way, permanent and temporary easements to be acquired for the improvements; and

WHEREAS, the recommended Preliminary Geometric Layout, dated November 9, 2018, showing proposed roadway and drainage improvements for the Project has been prepared and presented to the City; and

WHEREAS, a preliminary project cost estimate for the Project, dated November 9, 2018, has been prepared and presented to the City.

NOW, THEREFORE, BE IT RESOLVED,

1. The City Council supports the recommended Preliminary Geometric Layout, dated November 9, 2018, for the traffic signal and related intersection improvements at the intersection of County State Aid Highway (CSAH) 19 and Hudson Boulevard in the City of Lake Elmo.

2. The City of Lake Elmo supports the City becoming the lead agency for continuing with the final design and construction of the Project and hereby directs the City Engineer, to oversee the preparation of the Plans and Specifications and construction services for the making of such improvements.

3. The City Engineer shall retain the services of Kadmas, Lee & Jackson, Inc (KLJ) as the consulting engineering firm to assist, where directed, to prepare Plans and Specifications for the making of such improvement and to assist the City Engineer during the construction phase of the improvement as requested.

ADOPTED BY THE LAKE ELMO CITY COUNCIL ON THE FOURTH DAY OF DECEMBER, 2018.

CITY OF LAKE ELMO

By: ____________________________
Mike Pearson
Mayor

(Seal)
ATTEST:

____
Julie Johnson, City Clerk

LAYOUT NOTES

1. WASHINGTON COUNTY WILL ACQUIRE, OWN, AND MAINTAIN ROW FROM EXISTING MNDOT PROPERTY. THE CITY OF LAKE ELMO WILL ACQUIRE, OWN, AND MAINTAIN ALL R/W AND EASEMENTS NEEDED FROM NON-MNDOT PROPERTY.
2. THE BIOINFILTRATION BASIN WILL BE OWNED AND MAINTAINED BY THE CITY OF LAKE ELMO.
3. CURRENT AND FORECASTED TRAFFIC AND TURNING VOLUMES ARE FROM WASHINGTON COUNTY, COLLECTED ON DECEMBER 8TH, 2016.
4. PAVEMENT RECOMMENDATION WILL COME FROM CITY OF LAKE ELMO ENGINEERING STANDARDS/RECOMMENDATIONS.
5. THE ALIGNMENT SHOWN IS A DESIGN ALIGNMENT AND SHALL NOT BE USED FOR R/W STAKING.
6. ONLY MAJOR UTILITY LINES ARE SHOWN.
7. THE PRELIMINARY DESIGN LAYOUT IS CONTINGENT UPON MEETING VBWD, MNDOT, AND CITY OF LAKE ELMO STORMWATER MANAGEMENT RULES AND PERMITTING.

DESIGN EXCEPTIONS

1. MINIMUM SUPERELEVATION RATE NOT MET FOR CURVES HUDSON BLVD2 AND HUDSON BLVD3

THE CITY OF LAKE ELMO

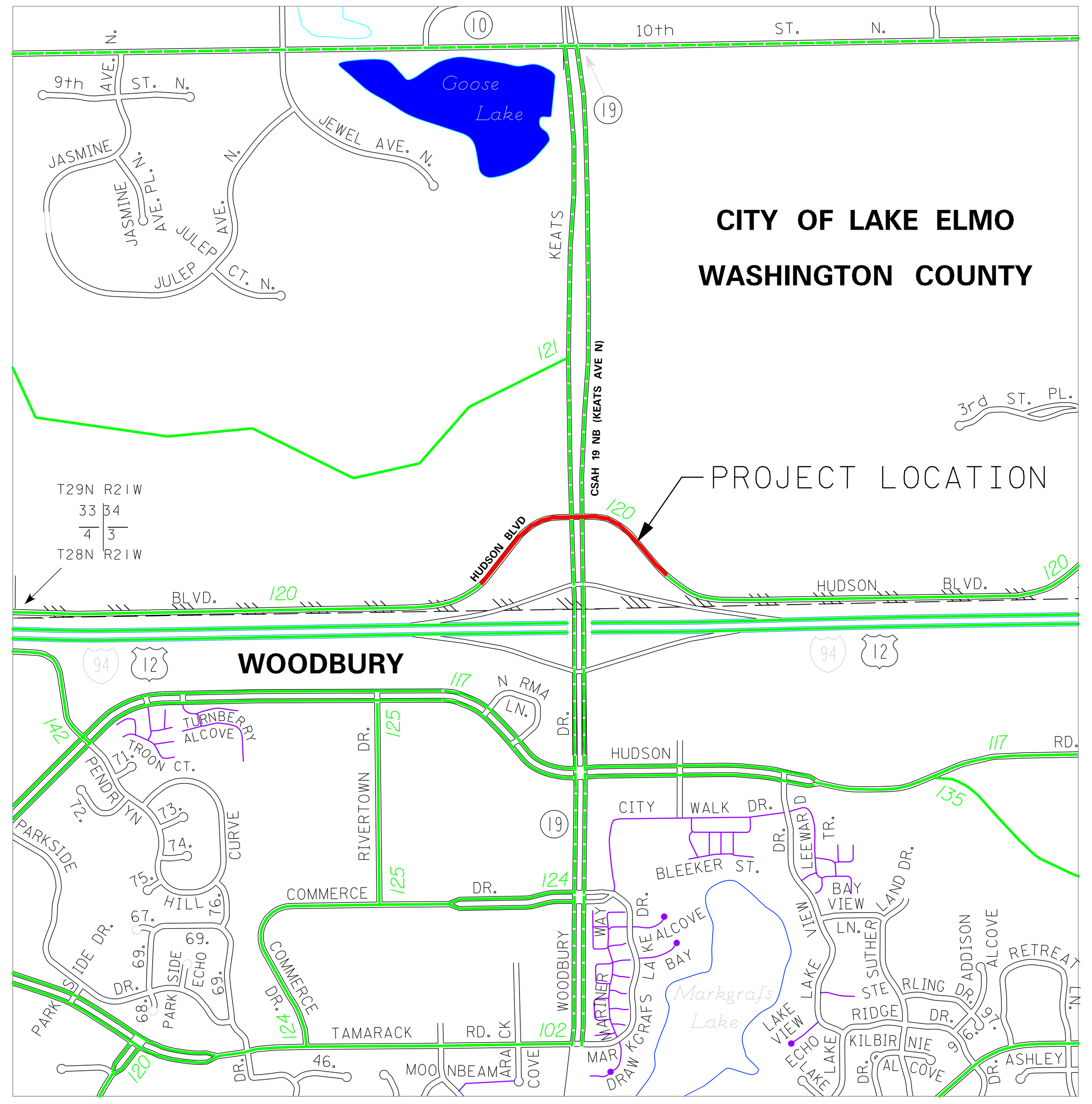
Washington County

KLJ

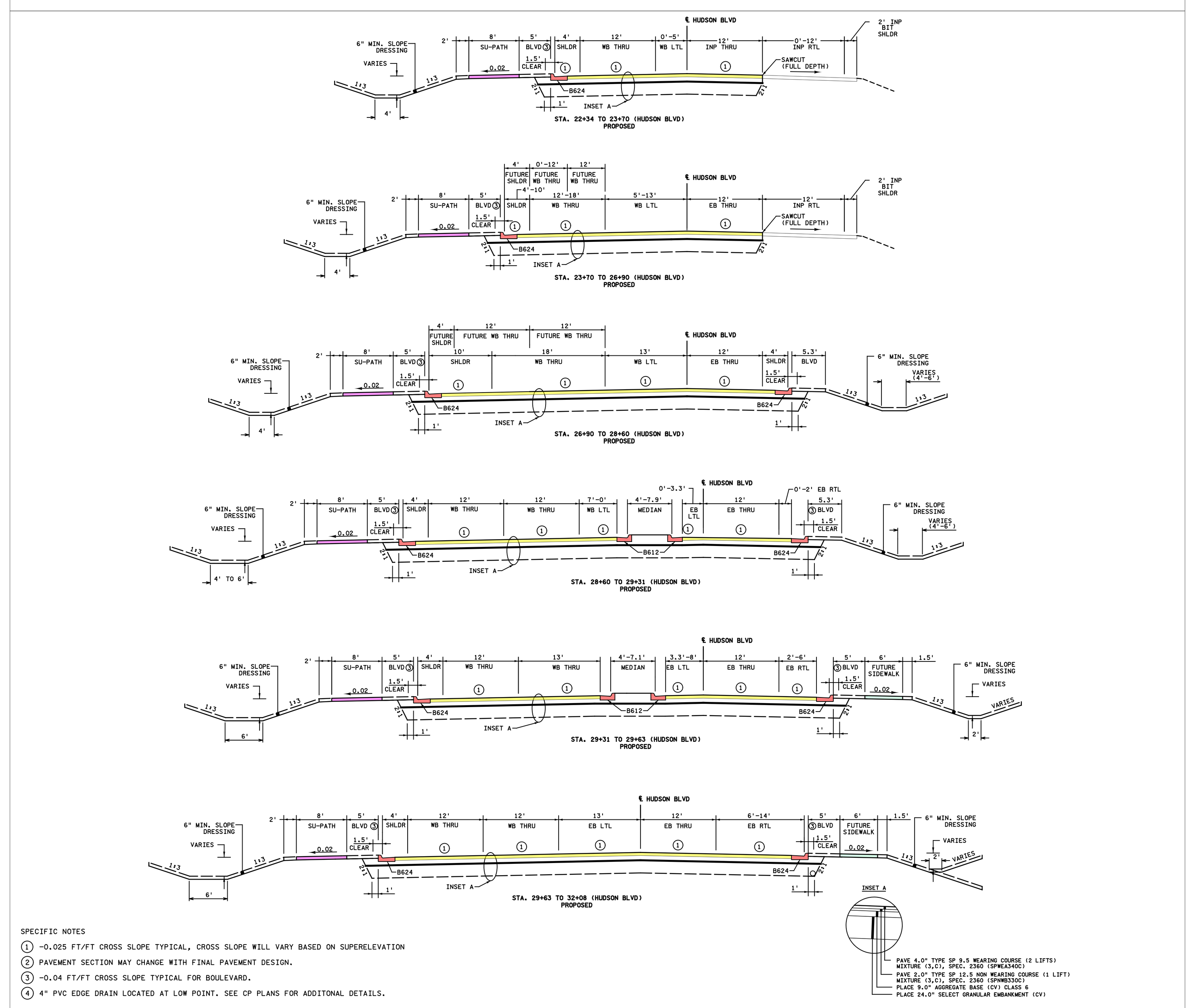
GEOMETRIC LAYOUT

CSAH 19 (KEATS AVENUE) AND HUDSON BOULEVARD
S.A.P. 082-619-028
NOVEMBER 9, 2018

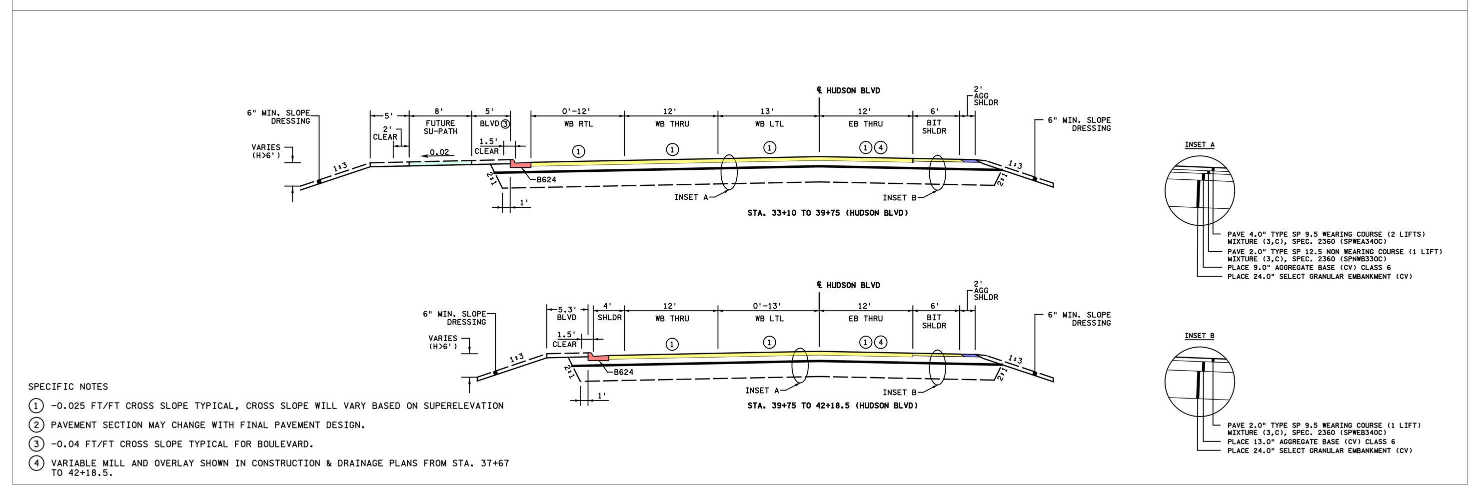
INDEX MAP

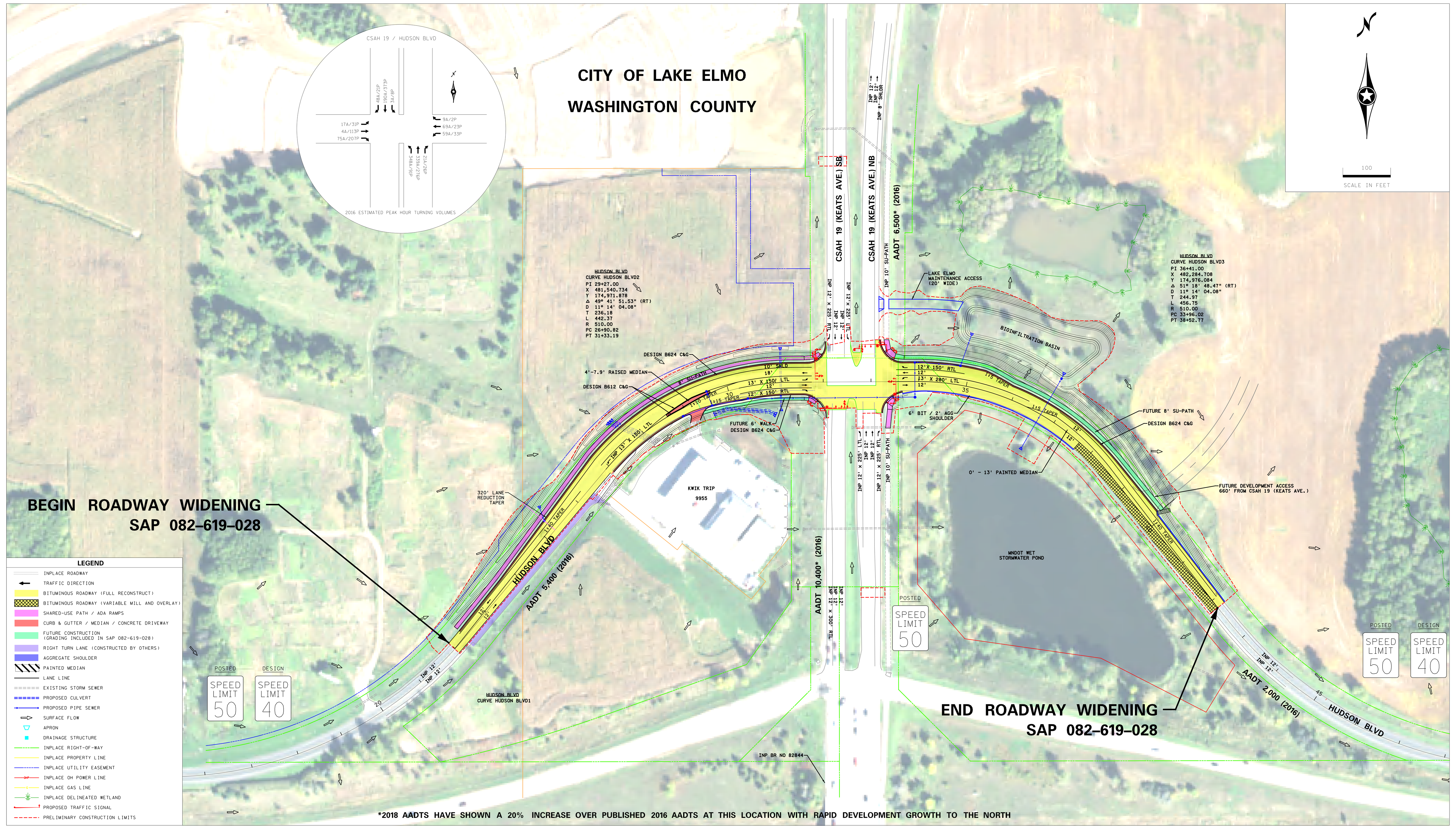


HUDSON BLVD TYPCIAL SECTIONS – WEST OF CSAH 19

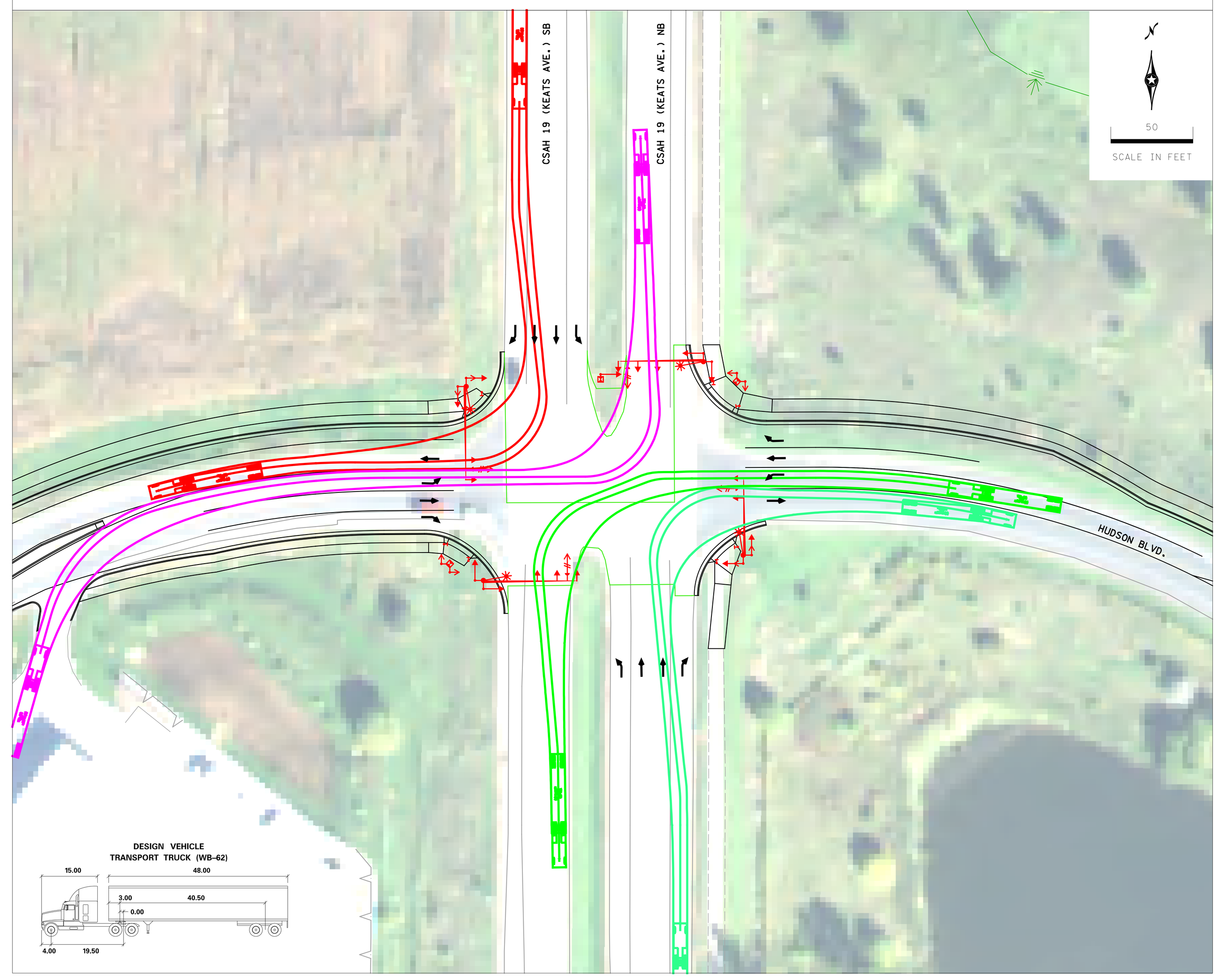


HUDSON BLVD TYPICAL SECTIONS – EAST OF CSAH 19

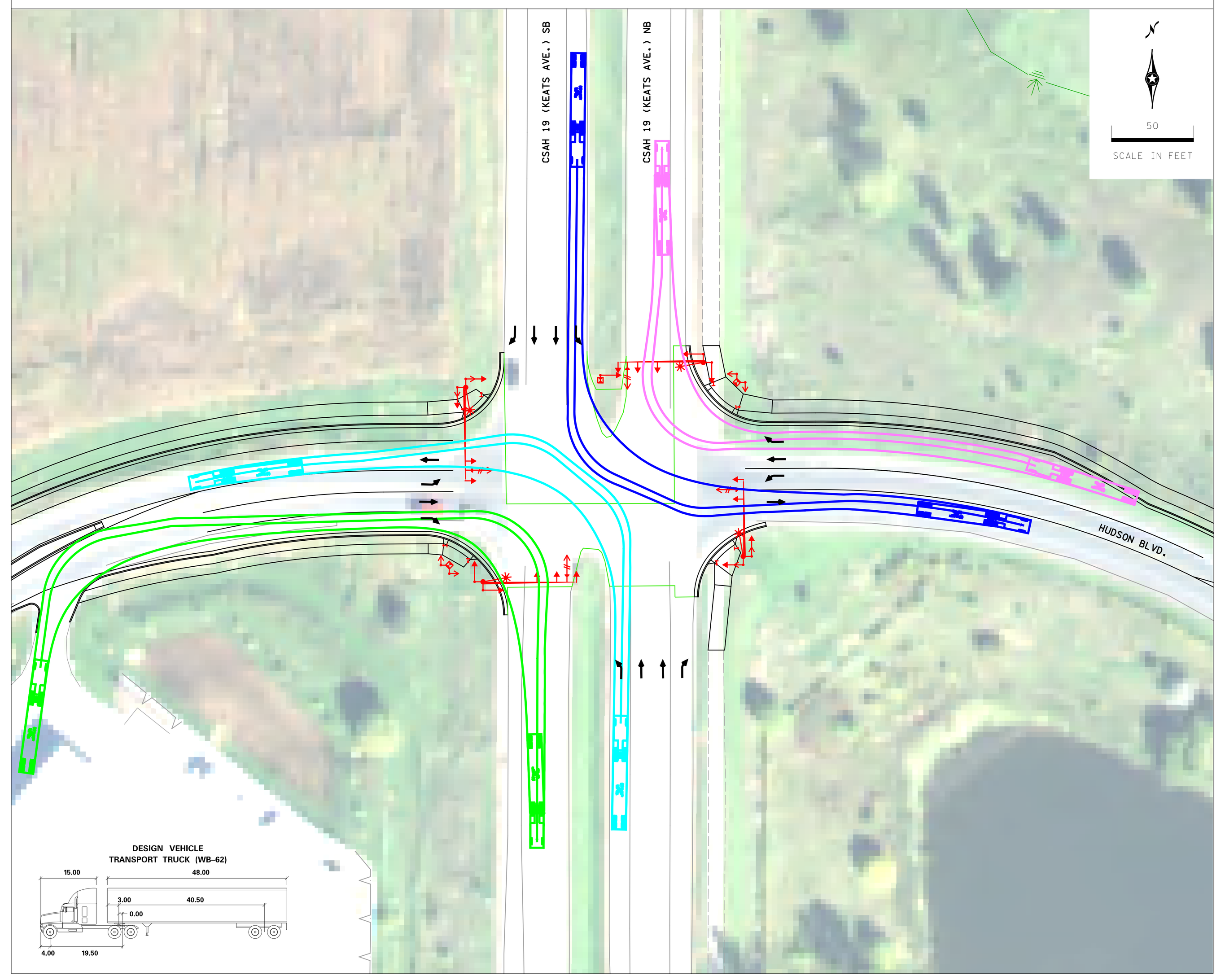




CSAH 19 (KEATS AVE.)



CSAH 19 (KEATS AVE.)



SAP 082-619-028
PRELIMINARY COST ESTIMATE
11/9/2018

ITEM NO.	ITEM DESCRIPTION	UNITS	QUANTITY		TOTAL ESTIMATED	UNIT BID PRICE	ESTIMATED PRICE CITY OF LAKE ELMO	ESTIMATED PRICE WASHINGTON COUNTY	TOTAL ESTIMATED PRICE
			CITY FUNDS	COUNTY FUNDS					
2021.501	MOBILIZATION	LUMP SUM	0.882	0.118	1	$82,000.00	$72,324.00	$9,676.00	$82,000.00
2051.501	MAINT & RESTORATION OF HAUL ROADS	LUMP SUM	1		1	$2,000.00	$2,000.00	$0.00	$2,000.00
2101.501	CLEARING & GRUBBING	LUMP SUM	1		1	$4,000.00	$4,000.00	$0.00	$4,000.00
2101.524	CLEARING	TREE	13		13	$175.00	$2,275.00	$0.00	$2,275.00
2104.502	REMOVE SIGN	EACH	10		10	$50.00	$500.00	$0.00	$500.00
2104.502	SALVAGE DELINEATOR	EACH	4		4	$50.00	$200.00	$0.00	$200.00
2104.502	SALVAGE CONCRETE APRON	EACH	7		7	$375.00	$2,625.00	$0.00	$2,625.00
2104.502	SALVAGE CULVERT MARKER	EACH	4		4	$50.00	$200.00	$0.00	$200.00
2104.502	SALVAGE SIGN	EACH	5		5	$50.00	$250.00	$0.00	$250.00
2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	22		22	$4.50	$99.00	$0.00	$99.00
2104.503	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	1350	197	1547	$2.25	$3,037.50	$443.25	$3,480.75
2104.503	REMOVE CURB & GUTTER	LIN FT	25		25	$4.25	$106.25	$0.00	$106.25
2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	62		62	$9.00	$558.00	$0.00	$558.00
2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	7965		7965	$3.50	$27,877.50	$0.00	$27,877.50
2104.518	REMOVE CONCRETE WALK	SQ FT	131		131	$2.00	$262.00	$0.00	$262.00
2106.507	EXCAVATION - COMMON	CU YD	16220		16220	$9.00	$145,980.00	$0.00	$145,980.00
2106.507	SELECT GRANULAR EMBANKMENT (CV)	CU YD	7700		7700	$12.50	$96,250.00	$0.00	$96,250.00
2106.507	COMMON EMBANKMENT (CV)	CU YD	11150		11150	$5.00	$55,750.00	$0.00	$55,750.00
2111.519	TEST ROLLING	ROAD STA	19		19	$100.00	$1,900.00	$0.00	$1,900.00
2118.507	AGGREGATE SURFACING (CV) CLASS 1 MOD	CU YD	30		30	$50.00	$1,500.00	$0.00	$1,500.00
2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	50		50	$130.00	$6,500.00	$0.00	$6,500.00
2131.604	DUST PALLIATIVE	SQ YD	10000		10000	$0.25	$2,500.00	$0.00	$2,500.00
2211.507	AGGREGATE BASE (CV) CLASS 6	CU YD	3340		3340	$24.50	$81,830.00	$0.00	$81,830.00
2232.504	MILL BITUMINOUS SURFACE (2.0'')	SQ YD	915		915	$5.00	$4,575.00	$0.00	$4,575.00
2331.603	JOINT ADHESIVE	LIN FT	2100		2100	$0.65	$1,365.00	$0.00	$1,365.00
2360.509	TYPE SP 12.5 NON WEAR COURSE MIX (3:C)	TON	1142	6	1148	$70.00	$79,940.00	$420.00	$80,360.00
2360.509	TYPE SP 9.5 WEARING COURSE MIX (3:C)	TON	2486	12	2498	$75.00	$186,450.00	$900.00	$187,350.00
2411.507	GRANULAR BACKFILL (CV)	CU YD	300		300	$15.00	$4,500.00	$0.00	$4,500.00
2451.507	FINE FILTER AGGREGATE (CV)	CU YD	275		275	$36.00	$9,900.00	$0.00	$9,900.00
2501.502	INSTALL CONCRETE APRON	EACH	7		7	$400.00	$2,800.00	$0.00	$2,800.00
2501.502	12'' RC PIPE APRON	EACH	1		1	$800.00	$800.00	$0.00	$800.00
2501.502	15'' RC PIPE APRON	EACH	1		1	$900.00	$900.00	$0.00	$900.00
2501.502	24'' RC PIPE APRON	EACH	2		2	$1,200.00	$2,400.00	$0.00	$2,400.00
2501.503	18'' RC PIPE CULVERT DES 3006 CL V	LIN FT	72		72	$75.00	$5,400.00	$0.00	$5,400.00
2501.503	24'' RC PIPE CULVERT DES 3006 CL V	LIN FT	268		268	$85.00	$22,780.00	$0.00	$22,780.00
2501.503	28'' SPAN RC PIPE-ARCH CULV CL IIA	LIN FT	64		64	$95.00	$6,080.00	$0.00	$6,080.00
2502.503	4'' TP PIPE DRAIN	LIN FT	200		200	$10.00	$2,000.00	$0.00	$2,000.00
2502.602	4'' PVC PIPE DRAIN CLEANOUT	EACH	2		2	$200.00	$400.00	$0.00	$400.00
2503.503	12'' RC PIPE SEWER DES 3006 CL V	LIN FT	28		28	$40.00	$1,120.00	$0.00	$1,120.00
2503.503	15'' RC PIPE SEWER DES 3006 CL V	LIN FT	84		84	$50.00	$4,200.00	$0.00	$4,200.00
2503.503	18'' RC PIPE SEWER DES 3006 CL V	LIN FT	78		78	$70.00	$5,460.00	$0.00	$5,460.00
2503.503	24'' RC PIPE SEWER DES 3006 CL V	LIN FT	752		752	$105.00	$78,960.00	$0.00	$78,960.00
2504.602	ADJUST HYDRANT & GATE VALVE	EACH	1		1	$1,200.00	$1,200.00	$0.00	$1,200.00
2506.502	CASTING ASSEMBLY	EACH	9		9	$750.00	$6,750.00	$0.00	$6,750.00
2506.503	CONST DRAINAGE STRUCTURE DESIGN SPEC 1	LIN FT	11.4		11	$350.00	$3,990.00	$0.00	$3,850.00

SAP 082-619-028
PRELIMINARY COST ESTIMATE
11/9/2018

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			CITY FUNDS	COUNTY FUNDS					
2506.503	CONST DRAINAGE STRUCTURE DES 48-4020	LIN FT	53.8		54	$350.00	$18,830.00	$0.00	$18,900.00
2506.601	INFILTRATION/FILTRATION SYSTEM	LUMP SUM	1.0		1	$7,000.00	$7,000.00	$0.00	$7,000.00
2506.602	CONST DRAINAGE STRUCTURE DESIGN SPEC 2	EACH	1		1	$4,000.00	$4,000.00	$0.00	$4,000.00
2511.504	GEOTEXTILE FILTER TYPE 4	SQ YD	33.4		33	$5.00	$167.00	$0.00	$165.00
2511.507	RANDOM RIPRAP CLASS III	CU YD	27.0		27	$85.00	$2,295.00	$0.00	$2,295.00
2521.618	CONCRETE WALK	SQ FT	839		839	$8.00	$6,712.00	$0.00	$6,712.00
2531.503	CONCRETE CURB & GUTTER DESIGN B612	LIN FT	210		210	$20.00	$4,200.00	$0.00	$4,200.00
2531.503	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	2520		2520	$21.00	$52,920.00	$0.00	$52,920.00
2531.504	CONCRETE MEDIAN	SQ YD	56		56	$80.00	$4,480.00	$0.00	$4,480.00
2531.602	CONCRETE MEDIAN NOSE-SPECIAL	EACH	2		2	$500.00	$1,000.00	$0.00	$1,000.00
2531.618	TRUNCATED DOMES	SQ FT	160		160	$45.00	$7,200.00	$0.00	$7,200.00
2531.504	8'' CONCRETE DRIVEWAY PAVEMENT	SQ YD	73		73	$75.00	$5,475.00	$0.00	$5,475.00
2563.601	TRAFFIC CONTROL	LUMP SUM	0.882	0.118	1	$22,500.00	$19,845.00	$2,655.00	$22,500.00
2564.502	SIGNING	LUMP SUM	1		1	$7,000.00	$7,000.00	$0.00	$7,000.00
2565.501	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	0.5	0.5	1	$8,000.00	$4,000.00	$4,000.00	$8,000.00
2565.501	TRAFFIC CONTROL INTERCONNECT	LUMP SUM	0.5	0.5	1	$22,000.00	$11,000.00	$11,000.00	$22,000.00
2565.516	TRAFFIC CONTROL SIGNAL SYSTEM	SYSTEM	0.5	0.5	1	$273,000.00	$136,500.00	$136,500.00	$273,000.00
2573.501	STABILIZED CONSTRUCTION EXIT	LUMP SUM	2		2	$1,500.00	$3,000.00	$0.00	$3,000.00
2573.502	EROSION CONTROL	LUMP SUM	0.882	0.118	1	$15,000.00	$13,230.00	$1,770.00	$15,000.00
2575.501	TURF ESTABLISHMENT	LUMP SUM	0.882	0.118	1	$12,500.00	$11,025.00	$1,475.00	$12,500.00
2582.503	PAVEMENT MARKING	LUMP SUM	1		1	$15,000.00	$15,000.00	$0.00	$15,000.00
						SUBTOTAL CONSTRUCTION	**$1,275,373.25**	**$168,839.25**	**$1,444,212.50**
						15% CONSTRUCTION CONTINGENCY	**$191,305.99**	**$25,325.89**	**$216,631.88**
						TOTAL CONSTRUCTION	**$1,466,679.24**	**$194,165.14**	**$1,660,844.38**
						RIGHT-OF-WAY ACQUISITION	**$0.00**	**$0.00**	**$0.00**
NOTES: BID PRICES ADJUSTED TO REFLECT YEAR 2019 ESTIMATED CONSTRUCTION COST						**CE / ADMINISTRATION (10% TOTAL CONSTRUCTION)**	**$146,667.92**	**$19,416.51**	**$166,084.43**
						PRELIMNIARY DESIGN ENGINEERING (PD)	**$127,118.68**	**$17,031.02**	**$144,149.70**
						FINAL DESIGN ENGINEERING (FD)	**$86,228.09**	**$11,552.61**	**$97,780.70**
						GEOTECHNICAL ANALYSIS	**$13,227.78**	**$1,772.22**	**$15,000.00**
						TOTAL COST	**$1,839,921.71**	**$243,937.50**	**$2,083,859.21**

PRELIMINARY DESIGN INCLUDES THE INITIAL CONTRACT FOR HUDSON BLVD OF $100,000 AND AMENDMENT 1 OF $44,149.70.